BRABBIN

The Game of Armored Warfare on the Eastern Front 1941-45

"PANZERBLITZ" IS AVALON HILL'S TRADEMARK NAME FOR ITS WORLD WAR II GERMAN/RUSSIAN TACTICAL GAME

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Explanation

X=Unit eliminated.

Subtract 1 from die roll of subsequent attacks upon it during that turn. Becomes "undispersed" at the end of that players next D=Unit dispersed (turn counter face down) may not move in next player turn, may not fire. turn. See PLAY SEQUENCE.

DD=Special dispersed. If defender already dispersed by fire in that turn, unit is destroyed. If unit was undispersed treat as normal dispersal. -=No Effect. Odds are always simplified and rounded off in defender's favor. No attacks permitted at worse than 1-4. Odds greater than 4-1 are treated as 4-1.

Die roll additions and/or subtractions affecting a given attacker due to terrain or position or weapons characteristics, are combined into one net figure and applied to the die. Example: +2 and -1 combined means add one to die roll. A unit may conceivably be attacked as many as three times in any one turn: first by a attack; third by Close Assault Tactics. An attacking unit may never take part in more minefield "attack"*; second by a normal than one attack per turn.

*Note: If the defending unit is not in a minefield, it could also be attacked by the Overrun method. The sequence of this series of attacks would be: Normal Attack-Overrun Attack-Close Assault.

TEC TERRAIN EFFECTS CHART

1

UNITS FIRING	FROM	atever are LEVEL	s one SLOPES		WEC	CLASS OF WEAPON BEING		-	A	
EFFECT ON DEFENSE (DEFENDING unit on a given terrain)	NONE	NONE—(other terrain in road-hex has whatever effect would have had without the road).	Add one to attacker's die roll. Units stacked together in towns must be treated as one combined DF.	llos als sincipates of the A	Add I to attacker's die roll.	See rules.	MONT	AUN	Associated of 5 to be and one with	ALLACKELS AL IS HAIVED. SEE ICI.
EFFECT ON MOVEMENT	Costs 1 MF to enter.Costs truck units 2 MF to enter.	Costs 1/2 MF to enter. If entered from non-road hex, MF cost is that of other terrain road hex.	Costs 1/2 MF to enter (even from non-road hexes)	Costs 1 MF to enter. Vehicular units may not move through green hex-side symbols except on roads. Costs truck units 2 MF to enter.	Costs 1 MF to enter. Vehicular units may not enter except on roads.	Apply MF cost to that of accompanying terrain for entry and movement along gullies Costs trucks 5 MF to LEAVE. Costs other vehicles 3 MF to LEAVE.	Treat as CLEAR terrain (no "leaving" penalty)	NO units may cross pond-hex sides.	Costs 4 MF for trucks to enter. Costs all other vehicles 3 MF to enter.	
TERRAIN FEATURE	CLEAR	ROADS (TOWNS	Moods (2)	SWAMPS	GULLIES & I	STREAM FORD	SCINO4	SLOPES	(

TET TARGET ELEVATION TABLE

	IANGEI ELEVATION TABLE	I I ON TABLE	
UNITS	INTERVENING O OBSTRUCT THE	INTERVENING OBSTACLE/HEX-SIDE SYMBOLS WHICH OBSTRUCT THE LINE-OF-FIRE WHEN TARGET IS ON	ABOLS WHICH ARGET IS ON
FROM	GROUND LEVEL	SLOPES	HILLTOPS
GROUND	ALL	BROWN ORANGE See Note B	see Note B see Note D
SLOPES	BROWN ORANGE see Note A	BROWN ORANGE see Note E	NONE
SHOTLUPS	see Note C	NONE	NONE
WEC	WEC WEAPONS EFFECTIVENESS CHART	ECTIVENESS CH	ART
10000 10		TYPE OF TARGET	
WEAPON BEING	ARMORED VEHICL (including Halftracks)	ARMORED VEHICLES (including Halftracks)	ALL OTHERS (including trucks)
FIRED	At Half-Range or Less	At Greater Than Half-Range	At All Ranges
-	May attack only when using Close Assault	Attacking not allowed	Normal AF
A	Double AF	Normal AF	Half AF

Normal AF

Half AF

Normal AF

WHERE THE INFORMATION CAME FROM

For a project of this type the list of source publications is quite small. The type of data needed is not the sort which is normally considered "popular". The two basic sources are US Army intelligence publications issued during 1945. They contain the result of four year's work in gathering data on the Russian and German armies. This data was obtained from captured documents (from the Germans) and information provided by the Russians. Much of the Russian data could be authenticated by using documents captured from the Germans (who in turn had captured them from the Russians). These two manuals (TME E 30-451 HANDBOOK ON GERMAN MILITARY FORCES and TM 30-430 HANDBOOK ON USSR MILITARY FORCES), each containing over 600 pages, cover every aspect of their respective military forces (with the exception of weapons in the USSR manual). Organization, tactics, equipment, training are all covered in detail, although you must be careful to keep in mind that these manuals were published in somewhat of a hurry and that mistakes did occur. But overall they were invaluable. For the larger aspects of the war one had to resort to "official" histories. Neither Russia nor Germany have, in the American sense, actually published an "official history" vet. The Russians published, between 1960 and 1963, ISTORIYA VELIKOY OTCHESTVENNOY VOYNY SOVETSKOYO SOYUZE ("The History of the Great Fatherland War of the Soviet Union"). It contained many, many pictures and references to a certain N. S. Krushcov, who played a rather minor part in the war but who was, during the time the "official" history was being prepared, the Prime Minister of the USSR. Using this series of six volumes is like walking on a minefield Instead of a mine detector you need a "B.S. detector", for these volumes contain much that can be described no other way. However, it does contain some "hard" data as well as a few rather well done descriptions of small unit actions. If you are either vigorous or desperate enough these volumes can prove very valuable. Shortly after the publication of this series an East German translation was published. It is "basically" a word for word translation with a bit of editing. On the German side there is not yet anything that even pretends to be an "official" history. There is, however, available the KRIEGSTAGBUCH DES OBERKOMMANDOS DER WEHRMACHT (War Diary of the Armed Forces High Command). This multi-volume set was published between 1961 and 1965. It contains more bulk than the Russian history and is certainly more honest. This is mainly due to its being nothing more than an edited version of

the actual "operational" documents of the German High Command during the war. Although it does not contain as much "color" as the Russian volumes it does contain a much greater volume of useful data. Further "technical" data on weapons and operations were obtained from FM 101-10-1 STAFF OFFICERS' FIELD MANUAL ORGANIZATION, TECHNICAL AND LOGISTICAL DATA, and the following publications: German language DIE DEUTSCHEN PANZER 1926-1945 (F. M. von Senger und Etterlin, 1965), DIE PANZERGRENADIERE (F. M. von Senger und Etterlin, 1961), DIE DEUTSCHEN GESCHUTZE 1939-1945 (Bohm, Kosar et al. 1960), DIE ARMEEN DER OSTBLOCK STAATEN (F. Wiener, 1967: this supplied much data on WW II Russian weapons, many of which are still in use. I have notes taken from Department of Defense publications of the early 50's which I have since lost track of. These contained very complete data on Russian WWII armament.), KAMPFPANZER 1916-1966 (F. M. von Senger and Etterlin, 1966), DIE ROTEN PANZER (Andronikov and Mostowenko, 1963; a German translation of an earlier Russian work). Perhaps the only general history of the "war in the east" was recently published by the American Office of the Chief of Military History: STALINGRAD TO BERLIN: THE GERMAN DEFEAT IN THE EAST (Earl Ziemke, 1968). It is the first volume published of a three volume series on the Russo-German war. It gives a good review of the first two years of the war plus more detail on the period of the title. Further data was collected from dozens of other titles. Of particular use were articles published in such magazines as the FIELD ARTILLERY JOURNAL, ARMOR and INFANTRY. However, most of these other titles (plus many unmentioned here) provided mainly confirming or supplementary data to the titles already mentioned.

The two manuals mentioned; are available only through microfilm reproduction from the National Archives. The other books are probably still in print (or even in paperback) and any book seller worth his salt should be able to run them down for you should you be interested. The list of reference material given here is obviously not exhaustive. It has not been given to either impress you or to prod you in the direction of historical research. The main function of WHERE THE INFORMATION CAME FROM was just that, to show you that the data presented in this project did not come out of thin air. It's always been around. It's just a matter of rearranging it to suit your needs. That's what historians are for.

Campaign Analysis Panzar Pitto

Designer's Notes &

The Game of Armored Warfare on the Eastern Front 1941-45



Designer's Notes

A glance at the PANZERBLITZ game components gives you the impression that you can pick up a considerable amount of historical data by just studying the game, much less actually playing it. There is a certain amount of truth to this, for a considerable amount of historical data was incorporated into the components of the game. Unfortunately, you cannot take this data, as modified in the game design, at face value. Instead you must understand some of the decisions that were made about this data before it was incorporated into the game.

Take, for example, the "factors" assigned to the units in the game. Speed and range factors were relatively easy to compute. The "scale" of the game is such that each hexagon measures 250 meters across. Each "turn" equals about six minutes. For speed all we needed to know was the top speed of the vehicles and the horsepower to weight ratio. Already we can see that a "simplification" was performed at this point, as some vehicles should have had special restrictions placed on them because of a very low horsepower to weight ratio. But to do this would have added still more "dirt" to the mechanics of the game. It is little "simplifications" like this which spell the difference between a playable game and an unplayable one. Rules covering the differences in horsepower to weight ratios were tested and found to add little to the game, had their effect been decisive such rules would have been kept.

Computing the range factors was somewhat more complex. Considerable data was available on the range and effectiveness of the various high velocity guns used in the game (particularly on the tanks). What was not generally known was the capabilities of the sighting equipment on these guns. When this data was considered it was found to reduce the range of some weapons considerably. This was particularly true for the Russians, who in general had optical sighting equipment inferior to the German devices. In addition the Germans would mount anti-aircraft type optical equipment on certain anti-tank guns (usually the 88mm guns) which were well suited for long range fire. The same restrictions were applied to all types of weapons. In addition, the generally accepted tactics and training had to be considered also. Certain weapons were simply not employed at extreme ranges, although they were capable of it. This usually applied to Russian "H" class weapons (such as 122mm howitzer).

The above range factor had an important bearing on the computation of the "attack" factor. But more important were such factors as weapons effectiveness, ammunition supply, crew training and tactical doctrine. Usually we associate a weapon's effectiveness with little more than the data on the size of shell and what it can do. But this is only a part of it. The rate of fire is important (most German tanks had a power traverse for their turret, as did MOST Russian tanks, but the Russian system was more primitive and subject to breakdown) and this is dependent not only on such things as the design of the gun and whether or not it has power traverse in the turret but also on the size of the ammunition (larger sizes, like 122mm and 128mm came in two parts). Crew training and the general educational level of the crews had an important bearing on this also, as did the quality and availability of radio equipment (for example, Soviet tanks used an AM radio while the Germans used a more efficient FM set). Throughout most of the war only one Soviet tank in ten had a radio while all German ones did. German radios were simpler and easier to maintain although by the end of the war some 30% of Soviet radios were of the more efficient American type (we also sent the Soviets some five million radio tubes during the war). By now you should be able to see how important the usually "unrecognized" details are in evaluating a unit's effectiveness.

Overall, you could say that the unit's attack factor was mainly a function of the penetration of the gun's shell. But we must also consider the other factors mentioned. Depending on the weapon being evaluated the other factors' effect may vary. Each weapon had to be evaluated individually. In addition the turretless tanks (assault guns) had to be handled with particular care, for their lack of a rotating turret was particularly important in an offensive situation. In this case the maneuverability and tactical doctrine played a decisive role.

For the other types of weapons (H and M class) an overriding factor was ammunition supply. One reason for the short number of turns in the game situations is due to the ammunition limitations which actually existed and was usually the cause of a battle being terminated. Each weapon had an assigned "unit of fire" and usually carried that number of rounds into action, although more than one unit of fire would be carried into different types of action (two or three for offensive operations, less for defense of a quiet sector). The German unit of fire was invariably larger

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than the Russian. For example, the Germans carried 690 rounds for each SMG while the Russians carried only 300. German 120mm mortars each had 150 rounds (4 tons) while each Russian one had 80 rounds (2.2 tons). German MG's had 3450 to 6300 rounds while Russian ones had 800 to 2500. Of course, this was one reason why German units usually had more transport in their units. It is also the major reason why German weapons of equal caliber to Russian ones have a higher combat factor.

The weapons class system and the Weapons Effect Chart point up another important factor which has already been covered above. if you haven't already noticed it. Obviously, anti-tank ("A" class) weapons are most effective against armored vehicles. One shell will knock out a tank. But against something like infantry (which has a more highly developed sense of self preservation than do the inanimate tanks) one shell would have little effect. In fact, armor piercing ammunition would have no effect at all unless it actually hit a man. Tanks also carried high explosive ("H" class) shell (as well as other types, for example, the German StGIII usually carried 22 rounds of armor piercing shell, 27 rounds of HE and 5 rounds of smoke shell). Weapons such as the 120mm mortar usually carried only HE. This shell could not knock out a tank directly, but a shell landing on or near a tank could disable it (usually by damaging the running gear, turret or engine), As our game situations are too short for repairs to be made, this little amount of damage effectively puts the tank out of action. HE shell, which upon exploding releases hundreds of metal fragments, is most effective against unarmored weapons and infrantry. Most of the damage is done by either injuring the men or equipment or, almost as important, by "disrupting" the organization of the unit. It was found that a unit coming under fire would often be so disrupted as to be totally ineffective for hours. This is often what "X" and "D" outcomes on the combat results table indicate.

The defense factors were somewhat easier to compute than the attack factors. Defense depended on two primary factors: cover and concealment. The first of these was, for armored vehicles, simply armor and how thick it was. For other types of targets it depended on "dispersion". This applied very well to infantry, where each individual could easily "disperse" himself as soon as the shooting started. Other types of weapons could also benefit from this factor, depending on how mobile they were. The second factor, concealment, was similar to dispersion. It dealt primarily with how small a unit was, or how "concealed" it normally was while operating. Certain weapons, such as anti-aircraft guns, were difficult to conceal while in place (like the tube pointed "up"). Other heavy weapons varied in their "concealment" factor in relation to their size.

One further complication is that we have three basic types of DIFFERENT units in the game each is different in decisive ways, making each. type of unit basically incompatible with the other. The first type is the infantry, and its associated heavy weapons (machine guns, mortars, infantry howitzers and, to a limited extent, anti-tank guns). This type is little different from the original masses of firearms equipped men raised over three hundred years earlier. All weapons are direct fire and all operate, more or less, within sight of each other. The next type is armored fighting vehicles. While these weapons were originally developed for dealing with infantry heavy weapons, they had now grown so potent that their main task was to destroy each other (or enemy artillery, the third type of weapon), Matters were further complicated by the presence of numerous anti-tank weapons in the hands of the infantry. These not only included guns of various caliber, but also anti-tank weapons that were portable enough for use by one man. The Russians had an obsolete anti-tank rifle (14.5mm) which they continued to issue in large numbers throughout the war while the Germans had, from 1943 on, an excellent series of anti-tank rockets (similar to the US "bazooka"). True, the tanks could still "overrun" the infantry using little more than machineguns and their own imposing bulk. But basically the tanks took care of the tanks while the heavy weapons took care of the infantry (which tried to take care of itself). The third class of weapons was really a "type" all by itself. The artillery depended entirely on firepower. The artillery batteries depicted in the game are second only to the infantry units in the number of men they contain. All this just to keep the shells going into the cannon. For example, a Soviet 122mm battery carries around with it 18 tons of ammunition (compared to 5.5 tons for a rifle company). Establishing workable relationships between these three quite different "types" was accomplished through a series of trial and error tests of various approaches to the game. You just keep looking until you find the one that works. There are, of course, "destruction tables" and other such collected data on weapons effectiveness. These were applied where appropriate. But since we had to

calculate ammunition expenditures so that each weapon would, theoretically, be able to fire nearly every turn of the game, these various destruction tables had to be modified considerably. And, of course, the element of chance had to be added also. It wasn't all that complicated, there was just a lot of work and petty detail to be attended to.

To try and tie all the above together let us once more review the weapon's class system. "A" class weapons are PRIMARILY armor piercing shell fired from either armored vehicles or non-mobile anti-tank guns. These weapons are also supplied with HE (High Explosive) shell for use against infantry and other non-armored targets. In addition, the ammunition supply of tanks is limited. As a compensation of sorts the armored vehicle has the dubious advantage of being able to stand in the "open" and fire from the most favorable position. When operating against non-armored targets these weapons are naturally at a disadvantage due to lack of ammunition (as well as the proper type). "I" class weapons are mainly the SMG and machineguns of the infantry (plus hand grenades and small mortars). Rifles and pistols are not really counted, as during the Second World War they played a very minor role as casualty causing agents (a few percent at most). These infantry weapons, as well as the infantrymen themselves, were most effective at very close ranges. Their main problem was to get that close to the enemy without being destroyed in the process. "H" and "M" class weapons were practically identical in that both fired an HE (High Explosive) shell. These weapons had much greater range than "I" (and often "A") class weapons. But their accuracy also declined as their range increased thus reducing their effectiveness.

The board provides its own explanation for the symbolization used on it. Most of Russia was devoid of any large elevations beyond those shown on he board. Many areas did, however, contain numerous gullies (often in the form of streambeds) which provided terrain problems of a different kind. The player who neglects to keep an eye on these depressions may have problems with his opponent.

The movement system is somewhat unrealistic. Movement should be simultaneous. But such a system would be too difficult to reproduce in a playable game. However, the present system has been structured so as to reproduce a rather realistic movement system. First of all, you can't move AND fire in the game. This prevents many unrealistic occurrences. In fact, this rule changes the entire "complexion" of the game. For example, if a force moves up too close to enemy units it exposes itself to enemy attack. As long as you block roads and "easy" approaches to your own units your opponent will always have to plan one move ahead. All this because you cannot move and fire in the same turn.

A FEW NOTES ON TACTICS

If you haven't already figured it out for yourself, this game is primarily concerned with small unit tactics. If you want to get anything out of the game, if you want to learn how to play it well, you had better keep your mind on tactics. It's what the game is all about.

The scale of the game (1:12200) can be given as one hexagon = 250 meters (measured from one side to another). In general, the tactics finally adopted by both sides conformed remarkably well to the advantages and limitations inherent to the various units and weapons involved. The Germans, for the most part, had superior training and weapons on their side. Their training was better thought out and more thorough in its application. The outcome of all this was that the average German small unit could "think for itself." German weapons were designed with this in mind. The superiority of German weapons was not absolute, or even pronounced, much of the time. Usually it was just a matter of the German troops being able to do things most Russians simply were not trained to do. An excellent (and widespread) example can be found in German signal and optical equipment. When available (although it was always authorized "on paper") most German platoon size units were equipped with a radio. Russian radios (of inferior construction to most German models) were not usually found below battalion level (except in armored units). Optical equipment was decisive in armored vehicles. Germany's optics industry was the most advanced in the world and their high velocity guns and artillery were more accurate at longer ranges as a result. The combination of more highly trained personnel, better signals and optical equipment also made the German artillery considerably more efficient than the Russian. It also made the German artillery the backbone of their defensive tactics. You can easily see this in the game. The Wespe and Hummel SP guns were more important than you would think from reading most accounts of armor actions in the east.

And then there is the bread and butter aspects of defense. The following defensive frontages

are given in PANZERBLITZ hexagons (each equaling 250 meters). GERMAN: Platoon = 1-2 hexes, Company = 2-4 hexes, Battalion = 3-8 hexes. Regiment = 8-12 hexes. Division = 24-40 hexes. Unit in question is the '44 infantry division. Motorized units were not normally used for defense, if they were, usually only the infantry units were put in the line, RUSSIAN: Company = 1-2 hexes. Battalion = 4-8 hexes. Regiment = 12-24 hexes. Division = 37-72 hexes. Again, the unit is the rifle division. One readily apparent difference between German and Russian defensive doctrine is the Russian practice of "expending" rifle divisions in the defense. Almost all their strength was "up front" while the German unit was deployed in more depth. This was due to the greater German reliance on their vastly superior artillery. The Russians also used artillery in the defense, but usually in a shorter range "direct fire" application. Offensive frontages were usually half of the defensive frontages. In this case the Russians did use depth. A regiment would attack on a frontage of 2-5 hexes, a division on a frontage of 4-10 hexes. The Russians also used heavily reinforced assault teams. Tanks, SP guns and other artillery units, as well as combat engineers, were added to the attacking rifle

units. This was normally done (when possible) even in "mobile" situations. Although, in cases like this, motorized rifle units were usually the only ones available and these units were normally supplied with "reinforcing" units.

When clearly defined frontages were in effect it was usually because there were so many friendly units in action that to ignore unit boundaries would harm you more than it would help. Thus some of the PANZERBLITZ situations using the long narrow board configuration accurately portray this. In "open" situations there is still the aspect of "frontage" if only because the mobile unit advancing is usually headed for a clearly defined geographical objective (particularly in the case of the Russians, who did not have the sophisticated radio nets or command staffs to allow for quick changes in plan).

Rather than go on with a list of tactical "do's and dont's" it would be better to advise you to develop your own. The game is accurate enough to allow you to use the tactics of the original battles in order to be successful. After a few games you should be on your way to developing your own tactics, or at least the ones that suit you best.

A NOTE ON THE UNIT COUNTER PROFILES

Almost all of the vehicular silhouettes used on the counters are in constant scale with each other. The Wagons and Russian Cavalry are shown in a slightly larger scale to maximize recognition. Certain extremely large vehicles are shown in a slightly smaller scale (They are: JgdPz V, JgdPz VI, Tiger II, SU-100, JSU-122, KV-85, JS-II and JS-III) See the profiles in the Campaign Analysis booklet for strictly accurate visual size comparison.

Experimental Games

EXPANDED GAME

Combine two or more sets of the game boards into "macro-boards" of various configurations. Use additional units to make larger forces.

REAL-TIME GAME

Allow each player only six minutes to complete his turn from start to finish (including combat resolution).

Factor Readout 'Z'



When describing a unit by its factors, read the units factors in a "z" pattern. For example; 14-H-10/6-8 describes the factors of a German Wirbelwind counter.

A NOTE ON THE "SEQUENCE-OF-PLAY" (see the Rules Folder)

Usually the German player moves first (as outlined in the sequence-of-play). Some situations, however, call for the Russian Player to move first. When the Russians move first, the Germans move second: that is, EVERY turn in EVERY Situation is a Complete Turn consisting of two Player Turns.



FINDING THE BATTLES IN THE WAR As you may have already noticed, all but one of the game situations given occurred between July '43 and July '44. Why this particular period? Simply because before July '43 the Germans were almost always able to defeat the Russians in a rather one sided fashion while after July '44 it was the Russians who were winning most of the battles. This period, then, was the mid-point of the war, the period in which both sides were roughly "equal", particularly in a tactical sense. In a strategic sense the Russians had assumed superiority in the first half of 1943. But tactical superiority was harder to come by. Yet the German forces in the East took a terrible beating from the middle of '43 to the middle of '44 and it was this type of warfare that they could not sustain and still maintain the high standards they had previously attained for their combat troops. The Stalingrad campaign had been the

beginning of the end for the Germans. After that campaign was over the front was as shown on the map above (as of 5/7/43). Then came the battle of Kursk. A mistake on the part of the Germans. And because they attacked where the Russians were waiting for them they were driven back past the Dnieper during the Russian's 1943 Summer Offensive. This campaign is covered by game situations 5, 6, 7, 9 and 12, Situations 2, 8 and 11 cover the Russian Winter and Spring 1944 Offensives. These operations left the front line as shown above (23/6/44). The final battle, which finally destroyed the power of the German armies in the east was the Destruction of Army Group Center (situations 1 and 4). In this campaign the Germans lost three times as many men as they did in the West during the same period. At the end of this push the front was just outside of Warsaw. The next stop was Berlin.

LARGE UNIT COMPOSITION

Players may use the platoons and companies of one or more counter-sets to form higher echelon units as per the illustration below, and other higher echelon units as per the charts on pages 10 to 13.



ADDITIONAL UNITS





TAKE NOTE! - There are a number of units in these charts which are NOT included in the game. Two of them, the BRIDGE units, require special rules for use. The "B" class bridge requires two engineer units and 10 turns to emplace. You simply move the bridge (on a vehicle) up to the obstacle to be crossed, along with the engineer units (who must remain adjacent and take part in no other action, like attacking or moving, although they may be attacked) for 10 turns. The "J" class bridge requires four engineer units and 15 turns to emplace. The mines, which are carried like any other unit in trucks or wagons, require 16 turns to emplace using one engineer unit. Two units can do it in eight turns and, four units in four turns. Mines may not be emplaced any faster,-Does NOT apply to mines in Situation Cards

24

8 H 12

These extra units are NOT available from Avalon Hill. You must make them up yourself.

GERMAN DIVISIONAL ARTILLERY

Add the indicated number of platoons to the Divisions shown on page 12.

DIVISIONS			NAL LOW			UNITS
(HIGH ECHELON UNIT)	40 H 32	60 H 24	50 H 80	60 # 36 2 0	40 H 32	60 H 16
44 Infantry				2	6	
Panzergrenadier	2	1		2	2	
SS Panzer	2	1	2	2	2	3
Panzer	2	1		2	2	

SIA Ge	N	/	5	2	3	6		TY & TY	2			T			2	2	RECTL				11	2			
S	/	13	MT.		3		2		-		_		5	1	3	-						11		-	
/	HE	POR	ju. 000		3		2			8		-	5	1	3							11			
HIGH		Riffe	MIDDLE ECHELON																						
			Rifle Battalion								1						3								
			Motor/Rifle Battalion		1					1							3					5			
			Motor/SMG Battalion		1					1								3				5			
	2	2	Recon Battalion												1.	4						3	1		
			Motorcycle Battalion								1							2				3			
3			Rifle Regiment		2			1			3		1			1	9	1			3	1			
			Guards/Rifle Regiment		2			1			3		1					2	9		3	1			
	1	1	Anti-Tank Regiment			6																6			
			Cavalry Regiment		1			1		2										4	4				
	2ª	2ª	SP Artillery Regiment													1		1						2 ^b	
		1	Motor/Rifle Brigade	1	3	3				3	1		1		1	3	9	1				26			
	3		Mech/Rifle Brigade	1	3	3			-	3	1		1		1	4	9	2				27			4
	1	3	Tank Brigade	1	1	1					15-2					1						7			6
			LOW ECHELON		7 A 3 3 4 0		8 H 12 1 12 0	3 H 10 ¹⁶² === 2 01 0	40 H 20 1 ²² 1 ¹⁰ 1 ¹⁰ 1 ¹⁰	2 M 12 3 m 1	3 M 12 3 M 12		M 20	40 24	3 1 2 8 ··· 1	3 1 4 ^{Alton} 1	5 1 4 16 ¹⁰¹ 1	8 1 12 ¹⁰⁰ 1	6 5 18 1 1	10 3	0 C 0	0 C 0	2 C(I) 1 2************************************	14 A 8	12 A 6
			PIC No.	1	11	31		61	71	81	84		91		111	131	141	181	161	301	411	421	441	821	931

a - 1 SU-85 Regt. and 1 SU-152

e-see page 9

b-In SPA Regt: SU-152, SU-100, JSU-122, KV-85, JS II, or JS III may replace SU-85

11

G	IA		-	LON UNITS									8		20														8	1	
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1				44 Infantry Battalion							1	1		9		2															T
				Motorized Infantry Battalion (same for SS)			2				1	1	D	9		13															
				Armored Infantry Battalion			2				1	1		9		1	11								2						
	1			Tank Battalion				1									1										10 _{or}				
				SS Tank Battalion																		1						12 (or			
	1	1	1	Reconnaissance Battalion							2		1	3			6	1	1	3					2	1					
				Infantry Division Anti-Tank Battalion	3		2	E h							T I X	5									2						
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				Assault Gun Battalion													0.0						1		4						
	1	1	1	Mobile Division Engineer Battalion									10			17	3												10		
	1	1	1	Army FLAK Battalion		2	2	2								4	2														
3				44 Infantry Regiment	1				3	1	2	2		18	4	3				-											
	2			Motorized Infantry Regiment (PG Div)	2		3				3	3	0-2-0	27		38					3				0.0				Sec.		
			1	Motorized Infantry Regiment (Pz Div)			3				2	2		18		28					3										
-			1	Armored Infantry Regiment (Pz Div) Tank			2	2			2	2		18		15	11				3			2							+
-			1	Regiment				2						1			2					1				NOR OF	10	10			+
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Campaign Analysis

MOBILE FORCES

Before 1943 the Soviet tank forces, while important, had to take second place to the infantry. In such a defensive war, and without competent artillery to back them up, the only effective defense against the numerous and well executed German advances was masses of infantry. For example, at the end of 1943 when the Russian "mobile offensive" was really getting into gear, only some 320,000 of the 4,000,000 Russian "ground combat troops" at the front were in the "mobile forces." That's only 8%. The German figure for the same period was 14%, and they had seen better days. The organization of Soviet mobile forces had changed little since 1941. The main problem was that it was only in early 1941 that the Russians realized what the Germans had known since the mid '30's. The key to mobile warfare was the "balanced combined arms team." And this was just the sort of unit the Soviets were least able to create. Most of the large mobile formations the Russians had in early 41 were wiped out during the first German advances. After that, as more armored vehicles came off the production lines, small armored units were formed that would later be combined into the Russian equivalent of the German "panzerdivision." The Soviet Tank Corps was, for all practical purposes, a tank division. And a particularly well organized one at that. It avoided one glaring error of all the early western tank divisions; too many tanks and not enough infantry. By 1943/44 most armies had realized their error and their tank divisions were about 30% infantry. The Tank Corps was the same, 32% of its strength was infantry, almost all of it SMG armed. It also contained 240 armored fighting vehicles (AFV= tanks and other gun armed and armored vehicles). Its one main weakness was a lack of artillery, for all practical purposes there was none. Thus if the tank corps came up against any organized (backed up by artillery) resistance it had to either try and smash its way through (a risky undertaking), go around the resistance or pull back and wait for friendly infantry and artillery to show up. This last option usually signalled the end of whatever "offensive" the tank corps was participating in.

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Another deficiency of the Soviet tank forces was the lack of an efficient supply service, particularly a motorized one. One of the things which prevented the Germans from overrunning all of Russia in 1941 was a truly "motorized" supply service.

To a certain extent this was also true of the Allied advance across France i 1944. But in this area, where the western A' , were best equipped and the Germans somewhat less well off, the Russians were really in trouble. One has only to look at the proportions of "combat" troops to other "support" troops to see the difference. In the Soviet army 80% of the troops were in combat units, in the German army 40% were in combat units. In the American army only 23% were getting shot at. However, during the war the Americans had the finest artillery force ever put into the field, the Russians the least efficient. They needed every man at the front. Thus Russian "offensives" were usually limited to the amount of mileage the tanks could get out of one or two loads of fuel. But the tank corps had plenty of good points. It was a relatively small force with a large "punch." The German '44 panzerdivision had 13,700 men, 5200 infantry, 213 artillery weapons and 150 AFV. The Soviet tank corps had 13% fewer men (to be fed and supplied and replaced when wounded), 27% fewer infantry (but all were armed with automatic weapons), an equal amount of artillery weapons (although the German ones were often more efficient), and 60% more AFV (of equal if not superior design). Moreover, by the end of 1943 the Russians had more tank corps (26) than the Germans had panzerdivisions in the east (25). At this point the Russians were also beginning to overtake the Germans in total number of AFV available on the entire front (5628 to 5400 for the Germans).

Both the Germans and the Russians also used AFV in other types of units. The Germans had their "panzergrenadierdivision" while the Russians had Mechanized Corps. Again, the Russian mechanized corps was nothing more than a motorized infantry division. But it was a very large division, as large as the original 1939 Soviet rifle division. It was the largest "division" size unit the Russians used. There were never very many of them, as it was extremely difficult to obtain the large number of specialists required to man them. A comparison with the German panzergrenadierdivision is illuminating. The German unit had 13,800 men, 7100 infantry, 243 artillery weapons and 92 AFV. The mechanized corps had 26% more men, 2% more infantry, 22% more artillery weapons and 150% more AFV. The mechanized corps was a truly

"specialized" unit. Its specialty was following up breaks created in the German line and moving forward as far as possible and then, when it could go no further, digging in with its abundant infantry and holding off everything the Germans could throw at them (which was often considerable as the mechanized corps had the habit of occupying critical communications centers far in the rear of the German lines) until the Soviet infantry could catch up. During 1943, and even occasionally in 1944, many tank corps in similar positions were wiped out. This rarely happened to the "heavier" mechanized corps. But, as we mentioned before, there were never enough experienced and technically trained Russian troops available to form more than a dozen of these units.

The drain of talented manpower into the mechanized forces (as well as into the airforce, navy and artillery) naturally left the infantry with the least talented manpower (this happened in all other armies also). Thus the Soviet "Motorized Ground Forces" became, as in the German army, the "elite" of the ground forces. They had the best manpower, the best training and the best and most powerful equipment. While the Soviet infantry did most of the fighting (and dying) throughout the war, it was the mechanized forces which delivered the "knockout punch" and provided the "last line of defense" during German breakthroughs (although this was not generally true during the first year and a half of the war).

The infantry was not without mechanized forces altogether. During the first year of the war most of the Soviet AFV were distributed in small units (20 to 60 vehicles) to rifle divisions. This practice accounted for some 60% of the 10,000 AFV (mostly light and/or obsolete) available in June 1941. A year later most of these vehicles were gone, and were replaced with newer models already in mass production. In the first three months of 1942 Russia produced 4700 AFV (Germany produced 5800 for the entire year). Only 30% of these were the "medium" T-34 and KV models, while 85% were of the heavier class. These new AFV were invariably formed into independent Tank Brigades, which were usually only employed in mass formations. The Germans, capable of more efficient "combined arms" operations, employed about 25% of their AFV in non-divisional tank and anti-tank units. As the war progressed, the Germans tended to spread their AFV out among infantry divisions in the form of assault gun and anti-tank units. This "stiffening" was necessary because of the enormous fronts being held by the infantry divisions (20 kilometers was common), frontages which were too great

to be adequately covered by artillery alone. So the AFV (primarily "assault guns," 24% of all German AFV in '42, 38% in '43 and 50% in '44) were freely distributed among the infantry. The rest of the AFV went to the panzer/panzer grenadierdivisions, and these were primarily tanks. but the Soviets had such masses of infantry (usually at least TWICE as much as the Germans and their "allies") that they could afford to place almost all of their AFV into large units; the Tank and Mechanized Corps. At the beginning of the war there were 78 tank and mechanized brigades (the basic units for the larger "Corps") and, although most of these were wiped out during 1941 and '42, new ones were constantly raised and, as they survived (many didn't) they were eventually formed into Tank Corps, Independent Tank "Regiments" (of 40 vehicles) were also formed, but these were stopgap measures and most were either upgraded to brigades or converted to a few special "heavy tank" regiments. When the first large quantities of Russian "assault guns" (the SU and JSU series) became available in early '43 they were also formed into "regiments," although most went into the Tank and Mechanized brigades instead of independent regiments. There were always more independent tank brigades than tank corps, and these brigades would be used to provide whatever "stiffening" (usually for attacks) the rifle divisions might need.

Aside from their lack of efficient organic artillery, the Russian Tank and Mechanized Corps were probably the most efficiently organized "division size" armored formations to see action during the war. This was so primarily because of the efficient integration of AFV, infantry and support weapons. And finally, there was the ability of the Russians to master the "art" of mobile warfare. It took them two years to do it, and the organization of their mobile units contains many hints on how they were able to achieve what the Germans thought was an impossibility.

The German campaign against Russia between 1941 and 1945 was, to a significant extent, the only one that really mattered during World War Two. Beginning in June 1941, this campaign occupied the total effort of some 71% of all German ground forces at that time. This included 88% of Germany's 41 motorized divisions. By the end of 1942 the total number of German divisions available had risen from 209 to 262, and 77% of them were in the east. This included 79% of Germany's armored divisions. By mid 1944, when the "second front" in the west was opened, Germany still devoted over 60% of her ground forces to the eastern front. And throughout the fighting in the east the German's sole opponent was the Soviet army.

The Russians beat the Germans in one of the most brutal and costly military campaigns ever fought. Close to 25 MILLION people died during those four years of fighting in the east. Most of them were Russians, and many of those were civilians. The Germans, the "guardians" of "western civilization" slaughtered civilians and (captured) Russian soldiers with a ruthlessness never seen before or since. They fought a total war with one of the most efficient, best equipped, trained and led armed forces ever put into action. And still the Russian ground forces beat them, virtually unaided.

That last point is an important one to remember. In all classes of military equipment, except motor transport, the Russians produced nearly all of the equipment they used. For example, the western Allies supplied the Soviets with 14,000 aircraft during the war, this was about 10% of Russian production. Some 12,000 armored vehicles were supplied, this was about 10% of Russian production. The western Allies also provided some 470,000 motor vehicles, which was about equal to the total German production and considerably more than the Russians themselves produced. The western Allies also provided considerable amounts of ammunition, raw materials, clothing and food. But the Russians defeated the Germans using Russian weapons, Russian organization, Russian tactics, Russian leadership and, above all, Russian manpower.

In 1941 Russia contained some 170 million people, about 25 million of them were available for military service. All adult males were liable for two years of service and each year's "class" (minus 8 to 25% as "unsuitable" depending on army needs) went into the reserves after completing their training. A certain amount of the army was composed of "regulars" and many units were mere skeletons (with more equipment than manpower) to be filled out by recalled reservists when mobilization was declared. In 1941 the "pool" of trained reservists numbered some eleven to twelve million men. The "active" army contained some nine million men, although only 4.7 million were in European Russia (there was still a danger of war with Japan in the Far East, where many of the best Soviet units were then stationed). At the time the Soviet ground forces contained some rifle (infantry) divisions, thirty calvary divisions and 78 tank and motorized brigades.

As infantry alone, the Russian infantry was much respected by the Germans from the very start of the war. But as part of a combined arms team they never really got the upper hand over the Germans. In reading accounts of Russian infantry actions one gets the impression that the Russians "over-rated" units (calling full strength tank units with 147 men and 20 tanks a tank battalion) while being "underled" (the above "tank battalion" led by a lieutenant). Fact is, the Russians did "overrate" their units. What western armies would call a battalion they would call a regiment or brigade. But they still promoted officers from the bottom up. You started out a lieutenant and worked your way up. Until the end of 1944 it was very common to see most "combat" units (the ones that got shot at a lot) commanded by men two, three or more grades lower than the position called for. So brigades were commanded by lieutenants and captains and divisions by majors or lieutenant colonels. Most of these men were capable, but untrained to cope with the "impossible" situations they were often faced with. Their superiors were not as competent as their German opposite numbers, their subordinates were not as well prepared as the average German soldiers. Thus the Russian brigade, regiment and divisional commanders suffered heavy casualties, as such units were often totally destroyed (as units that is, half or more of the men would often survive as wounded, captured or unharmed). The Battle of Kursk in mid '43 proved to be the turning point of the war, the Russians were now perpetually on the offensive and were able to "control" the employment of their units. Gone were the days in which entire Russian brigades or divisions would be wiped out by superior German mobile units and tactics. From that point on the Russians had the initiative, and Germans were kept busy responding to Russian actions.

Thus far we have dealt primarily with Russian units of division size and smaller. These were the largest "standard" units the Russians organized. Controlling these units were armies, corps, and fronts. Attached to each of these higher headquarters, in addition to the divisional sized units already mentioned, were numerous other "non-divisional" units.

Although these larger units did not have a "standard" organization, there was an "average" organization and general limits beyond which these units would not grow. The basic higher organization of the Soviet armed forces was the Army. In June 1941 it was organized much like the armies in western armies. Each army had two to four corps while each corps had

two to four divisions. Usually an army had about twelve divisions. Attached to each army were artillery and tank units as well as numerous service units (engineer, signal, supply, replacement, repair, transportation, etc). Total strength would average 150-200,000 men. The service elements ammounted to only 20-30,000 men. The German invasion guickly made this organization obsolete. The first change was the abolition of the Rifle Corps which controlled rifle divisions within the army. There was simply not enough "organization" (or for that matter, commanders) for a corps to be used and divisions were controlled directly by the army. Another corps which came into use after 1943 was the artillery corps, which was used to control the enormous amounts of artillery employed for the "artillery offensives". An artillery corps was more independent than the rifle corps. It contained two or more artillery divisions as well as three or more artillery brigades. Some artillery corps were anti-aircraft. A third type of corps calls for special treatment. This was the Cavalry Corps, a unit unlike any other found in any army during the war. It was actually a division size force of mounted infantry supported by light artillery weapons and tanks. It was used in much the same way as the Mechanized Corps (a division size unit). The Cavalry Corps, however, was customarily employed in areas too difficult to support a mechanized force.

The "basic" army was an infantry army. In mid-1944 there were 79 of them, of which 48 were on the main battle front between the Baltic and the Black Seas. Many of the remaining "armies" were little more than headquarters with a few units attached. The 48 on the main front contained 405 rifle divisions, which averages out to 8 divisions per army. There were also six Tank Armies, which also contained some rifle divisions but were primarily composed of tank and mechanized corps. "Shock" Armies also showed up occasionally. But these were only temporary affairs. A regular army would be strengthened with tank, artillery and mechanized units for the purpose of punching a hole in the German line. A Tank Army would then exploit the breach made. Numerous armies of all types were given the title "Guards" (any size unit could be given this title). It was bestowed on those units which had particularly distinguished themselves. Somewhat like a US Presidential Unit Citation, But in the Russian case the citation also carried with it an upgrading of the unit in terms of men, weapons and pay. This put it more in a class with the German SS units, although without the racial or political overtones.

The strength of these "new" armies varied between 60,000 and 120,000 men. This was

"normal" strength, and took into account the "normal" understrength condition of the rifle divisions. For an offensive the army's rifle divisions would usually be brought up to strength while numerous artillery units (sometimes one artillery corps per rifle division) and independent tank and assault gun brigades would be temporarily attached. In cases like this the army's strength would temporarily rise to over 200,000. The Tank Armies were normally smaller, about equal in strength to a German "Panzerkorps" They would contain three or four tank and mechanized corps (usually-more of the former) plus a brigade or two of anti-tank guns and three or four artillery brigades. There would also be an extra strong contingent of combat support troops (such as a brigade of engineers and a signal regiment). Average strength would be 40,000 to 65,000 men and 700-1100 AFV. Of course, more artillery and infantry might be added if the tank army was making the main assault.

The armies (of all types) were formed into "fronts." These were something like western "Army Groups" although a bit smaller because of the smaller size of the average Soviet infantry army. In mid 1944 there were ten of them on the "main" front with a further five in other parts of Russia. Each of the "Main Battle Fronts" contained from 400,000 to 500,000 men, four to eight thousand guns and 200 to 2,000 AFV (depending on where the Tank Armies were).

SUMMING UP

A maximum of 35 million Soviet men were available for service in the armed forces. Somewhat more than 25 million probably served. Of these 13.7 million were killed. Another 7 million civilians died. The Germans lost about 2 million dead on the eastern front. Another 2 million civilians were "lost" (and presumed dead) during the mass flight from eastern Germany as the Soviet armies advanced. According to the figures, the Russians should have lost the war. They didn't. And that's what makes the story of why they didn't so important. This article tells only a small part of the story. Without effective organization in their army the Soviets would surely have fallen to the German invaders, as had the French a year earlier. But the Russians adapted to the situation. They made the best of what they had and held on until all seemed lost. Both sides made mistakes, and there were times in 1941 and '42 when the Germans might have come closer to succeeding. But as one German general said of the Russians, "They were first class FIGHTERS from the start, and in time they learned to become first class soldiers."

Armored Vehicles: **Profiles & Data**

ABBREVIATIONS-TYPE = The nomenclature usually employed by the using nation. For German vehicles Pz = Panzerkampfwagen (armored fighting vehicle), WEIGHT = The combat weight in short tons. GUN = the main artillery weapon followed by the length of the tube in terms of the caliber of the weapon. For example; 75/48 means a 75mm (millimeter) gun whose tube was 48x75mm (or 3600mm) long. Long tubes could fire higher velocity shells. PEN. = Penetration of the GUN's shell at 500 meters range using APC or APCBC shell. The heavier the weapon the less its penetration declined at longer ranges. However, most gun duels took place at less than 500 meters. AMMO = the number of shells normally carried for the GUN. AB-F = Armor Basis Front, the thickness of the frontal armor with the function of the slope and the percentage of hull and turret exposed taken into account. AB-S = same for side armor. AB-R = Same for rear armor. GPres = Ground pressure, the pounds per square inch exerted by the tank's tracks. An infantryman standing up exerts about 3 pounds. The lower this number the more maneuverable the vehicle will be in soft ground. HP/Wt = The HorsePower to Weight ratio. The number of horsepower per ton of tank's weight. The higher this number the more "lively" the tank will be, particularly when off the road. Crew = The number of men in the tank's crew. Mg's = The number of machineguns normally carried by the tank. One was usually mounted in the turret so that it could fire at whatever the GUN was aiming at, Prod. = The number of vehicles of this type produced. In the case of Russian vehicles "guesstimates" had to be made on some vehicles as the Russians have never published complete figures. The ones given can be assumed to be reasonably accurate.

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MG's 1

Prod. 2000

GUN 50/60

PEN 3.1'

AB-F 1.2"

AB-S .5"

Crew 4

MG's 1

Prod. 200

Armored Car (234/2) - As TYPE AC/50 WEIGHT 12.1t the war progressed German recon units proved less and less able to "blitz" their AMMO 55 way through enemy units. Thus heavier weapons were AB-R .5" placed on the armored cars GPres --(which were not meant to HP/Wt 16 be tanks).

#	5	
Armored Car (234/4) – This was the heaviest weapon to be mounted on an armored car and was of questionable value. It did, of course, add considerably to the car's firepower.	TYPE WEIGHT GUN PEN. AMMOO AB-F AB-S AB-R GPres HP/Wt Crew MG's Prod.	AC/75 13t 75/40 5" 30 1.2" .5" 5" 5" 16 4 1 100



SPW - The SchutzenPanzerWagen (armored infantry vehicle). First large scale use in 1940. Slightly inferior to US M-3. Also carried mortars and other heavy weapons. Panzerdivision had about 200 (50% of infantry had them).

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TYPE SPW WEIGHT 9.4t GUN -PEN ... AMMO AB-F .5" AB-S .3" AB-R .3" GPres --HP/Wt 13 Crew 12 MG's 1 Prod. 34052



TYPE Maultier MAULTIER - Special WEIGHT 2.2t motorization of the highly GUN 150Bkt successful "Nebelwerfer" PEN rocket launcher. Used in AMMO 10 AB-F .5" separate rocket battalions AB-S .5" to provide "instant" AB-R .5" firepower for mobile units. GPres --HP/Wt 40 Appeared in mid-'44. Crew 6 MG's -



TYPE PzFH 18 PzFH 18 - A field artillery WEIGHT 12.6t piece mounted on a Pz II GUN 105/26 chassis. Although PEN. mediocre armored vehicle, AMMO 32 AB-F .7' it was outstanding as AB-S .5" mobile artillery. Its AB-R .4" 105mm howitzer was thus GPres 11 HP/Wt 10.7 more flexible than the Crew 5 towed version. First used MG's 1 in '42 by mobile divisions. Prod. 682 Also known as "Wespe"



GW38 (m) · Introduced in '43 to give mobile direct support to mobile infantry regiments ("panzergrenadiere"). Replaced the towed 150mm howitzer in those units. Built on Pz 38 chassis. Clumsy but effective.

TYPE SIG 33/1 WEIGHT 13.2t GUN 150/12 PEN. AMMO 24 AB-F 1.5' AB-S .5" AB-R .5" GPres 8.4 HP/Wt 9.5 Crew 6 MG's Prod. 370

Prod. 300

PzFH 18M - Similar to the PzFH 18, but with thicker armor and mounting a 150mm howitzer. First appeared in '43 and served same function as PzFH 18. Built on hybrid Pz III/IV chassis. Best mobile artillery produced during the war. Also known as "Hummel"



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FlakPz	IV	- -	An	 FlakPz IV

FIGNEZ IV - All	ITFE	FIGKFZ IV
anti-aircraft weapon built	WEIGHT	24.2t
on a Pz IV chassis.	GUN	20/55x4
	PEN.	
Appeared in late '44 and	AMMO	400
used in flak platoons of	AB-F	1.9"
panzer regiments.	AB-S	.9''
	AB-R	.7"
	GPres	11
increased Allied air power.	HP/Wt	11
Very effective against	Crew	5
ground targets.	MG's	1
ground targets.	Prod.	150
Also known as "Wirbelwind"		



20

21

TYPE JgPz IV/L

GUN 75/70

PEN, 6.3"

AB-S 1.3"

GPres 12.4

AB-R .8"

Crew 4

MG's 2

Prod. 673

TYPE Nashorn

GUN 88/71

PEN. 8.1'

AB-F .9"

AB-S .6"

AB-R .6"

GPres 11.6

HP/Wt 11.5

Crew 5

MG's ...

Prod. 473

TYPE JgPzVI5

GUN 128/55

PEN 8'

AB-F 9"

AB-S 3.3"

AB-R 3.3"

GPres 15

HP/Wt 8.9

Crew 6

MG's 1

Prod. 77

	0000000
JgPz38– Known as (Bushwacker)TYPEJgPz38and built on same chassis asMarder3MostGUN75/48economical and successful turretless tank of the war. Superbly sloped armor.AB-F3.7"Used asStGIII for anti-tank and infantry support.HP/Wt8.5economicaland successful modeAB-F3.7"GPres11.6 modeCrew4MG's1 prod.2700	PzKw III - A final development of the pre-war Pz II. In this form it was used exclusively as a recon vehicle. Called the with the analysis of the difference
KV-85 - The last of the KV line of tanks. These were the original Soviet "heavy" tanks out of which the superior JSTYPE KV 85 WEIGHT 51t GUN 85/51 PEN. 4.5""heavy" tanks out of which the superior JSAMMO 52 AB-F 4.2" AB-S 4.2" AB	PzKwIVh–The final developmentTYPE of the gre-warTYPE PzIVh WEIGHT 95.73 GUN 75.48 PEN. 5"Inferior to the Russian T-34/85 as well as the USAB-F AB-S 1.2" AB-S AB-S 1.2" AB-S 1.2" AB-R AB-R 1.1 HP/Wt 11.1 per panzer division.TYPE PzIVh WEIGHT 27.5 GUN AB-S AB-S Crew 5 MG's 3 Prod. 5007
M-48a2 – Chief US tank of late 50's and 60's. Typical of post WW II tanks. Comparing this to the German Pz V "Panther" You can see that tank design reached a dead end during 1944. Also, the power of anti-tank weapons has increased Considerably since the war.	PzKw V - Better known as the "Panther," first appeared in mid-43. Best tank in world until mid-50's. Excellent design, used extra long 75mm gun.TYPE Pz V WEIGHT 49.5t GUN 75&70 PEN. 6.3" AMMO 79 AB-F 4.8" AB-S 1.7" AB-S 1.7" AB-S 1.7" AB-S 1.7" AB-S 1.22 tank in '44. One battalion per panzer division.PzKw V - Better known as USE Prod. 50'sTYPE Pz V WEIGHT 49.5t GUN 75&70 PEN. 6.3" AB-F 4.8" AB-F 4.8" AB-S 1.7" AB-S 1.7" AB-S 1.7" AB-S 1.22 HP/Wt 14 Per panzer division.



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"PanzerBlitz" is a fast moving, exciting twoplayer game which simulates in a realistic manner the essential elements of tactical-level armored warfare. The flexibility built into the game through the use of the Situation Cards enables players to experience a variety of mobile combat "encounters." Also the wide selection of weapon systems represented, accurately conveys some of the strengths and weaknesses inherent in the German and Soviet armies. Not only is the game an enjoyable and challenging experience but it is also a valuable source of historical data which can be felt and understood in a manner more dramatic and meaningful than a simple written account of Eastfront combat. To gain an insight into the basis of the game, players should read the "Designer's Notes" section of the Campaign Analysis booklet.

IMPORTANT: READ FIRST BEFORE EXAMINING THE RULES-

A Note to Players Unfamiliar with Avalon Hill Battle Games:

The game PanzerBlitz is a "tactical-simulation"-which simply means that real, smallscale combat events have been translated into a manageable symbolic format which permits them to be re-created as a two player game. The rules of play provide a framework for this re-creation. The rules are basically commonsense backed-up by historical research and game theory.

While at first the game may seem complex to you, you will find that with familiarity comes a sense of the overall scheme of play which enables you to make an intuitive use of the rules rather than having to commit them to memory letter-by-letter. So, read the rules once and then play a practice game or two, referring back to the written rules as questions come to mind. In this way the game itself becomes a learning device to help you absorb the details of play. Above all, remember; you control the game and the rules are simply a logical framework for your use.

ESPECIALLY IMPORTANT:

A Note to "Veteran" Players of Previous Avalon Hill Battle Games: Although at first, "PanzerBlitz" may look familiar to you as a wargame, appearances can be deceiving! Many of the concepts, techniques and details of play are totally unlike other Avalon Hill games.

We. therefore, strongly advise you to thoroughly read, from start to finish, ALL the rules of play! Try to clear your mind of all your old wargaming preconceptions and assumptions. "PanzerBlitz" is a NEW game, with NEW rules, based upon NEW concepts and parameters! Assume nothing; read the rules with a fresh mind and pretend you never saw a wargame before!

GAME EQUIPMENT:

- 1. Outer box sleeve
- Inner box lid (with play-charts printed on top)
- 3. Inner box and plastic tray
- Mapboard playing surfaces: 3 sections which can butt together in a variety of ways to form many different terrain configurations.
- 5. Plastic clips: 4 each (to hold board sections together)
- 6. German die-cut counter sheet (176 pieces)
- 7. Russian die-cut counter sheet (176 pieces)
- 8. Situation cards (6) and Situations Introduction card
- 9. Rules of play folder
- 10. Campaign Analysis booklet
- Die (1) Note; The die used in the game has nothing to do with MOVEMENT-it is only used in conjunction with the Combat Results Table.
- 12. Examples -of-Play card (1)

Spread out all the game components on a table and just generally familiarize yourself with them before reading any further.

DO NOT PUNCH OUT THE PLAYING PIECES BEFORE YOU HAVE READ ALL THE RULES!

For current replacement parts price list send a stamped, self-addressed envelope to: PanzerBlitz, The Avalon Hill Company, 4517 Harford Road, Baltimore, Md. 21214

Particularly important rule

GENERAL OUTLINE OF PLAY

Each side maneuvers its forces (playing pieces) on the terrain map seeking to destroy the enemy units and/or gain a specific territorial objective as outlined in one of the scene-setting Situation Cards. Players move their pieces and have combat by taking turns. Each complete turn represents six minutes of real time.

The forces in a given Situation may be unequal and one side may have a better chance of winning than the other, but it is primarily the skill of the individual player which determines the outcome of the game. The chance element introduced by the use of the die-roll/Combat Results Table is only that degree of chance consistently present in any real-life combat event. The probabilities of combat outcomes have been worked out using historical and technical data.

THE MAPBOARD

The three section mapboard represents a varied sampling of typical terrain in the Soviet Union. Each section has a number (1, 2 or 3) located just above fold-line. The board is "geo-morphic" i.e. capable of being changed by re-arranging the three sections in a variety of juxtapositions. The long edge of each two panel section will line up with the long edge of any other section no matter which way they are butted together. The short edges mate with each other in a similar fashion. Use the plastic clips provided to hold the sections together.

THE PLAYING PIECES

The square, cardboard pieces represent platoon or company sized military units of several different types (e. g. Infantry platoons, Tank platoons, Assault Gun platoons, etc), which are the playing pieces used in PANZERBLITZ. Hereafter they will be referred to as "units" or "unit-counters". The numbers on the unit-counters represent that unit's capabilities with respect to movement, attack, defense, and range of weapons. The other symbols or silhouettes identify what type of unit that counter represents.



Defense Factor (DF) T Movement Factor (MF)

Type of unit(Armored Vehicle, Pz IV tank)

Notice that all vehicle units are symbolized with an appropriate silhouette and all other (non-vehicular) units are symbolized with standard military-planning symbols.

FACTOR DEFINITIONS

Movement Factor (MF)—The basic, maximum number of hexagons (hexes) which a unit may move in one turn. This capability can be reduced or increased by terrain features.

Attack Factor (AF)—The basic offensive power of a given unit.

Defense Factor (DF)-The basic defensive strength of a given unit.

Range Factor (RF)-The maximum effective distance (in hexagons) that a unit's Attack Factor can be used against enemy units.

For example, a unit with a RF of 8 could fire its weapons (use its attack factor) against any enemy unit within that 8 hex range.

For a full display of all the counters in PanzerBlitz see the Unit Identification Table.

\square			19	UNIT IDENTIFICA
		RUS		UNITS ★
Categ- ory	Тур	e & Code-Group	Quan Given	Unit Composition
BM		12.7mm (1-2)	2	48 men, 1 SMG, 9 12.7mm MG, 9 trucks.
GUNS	7 A 3 3 4 0	45mm (11-14)	4	55 men, 12 SMG, 6 45mm guns, 2 horsedrawn wagons and 26 horses.
hundred) ANTI-TANK GUNS	9 A 4 3 J an 3 21 0	57mm (21-22)	2	55 men, 12 SMG, 6 57mm guns, 2 horse drawn wagons and 26 horses.
TOWED GUNS (Sub-hundred) HOWITZERS ANTI-TA	12 A 5 162 A nm 2 31 0	76.2mm (31-36)	6	52 men, 10 SMG, 4 76mm guns, 8 trucks.
/ED GUNS (Si HOWITZERS	3 H 10 ^{16 2} en 2 61 0	76.2mm (61-62)	2	74 men, 15 SMG, 4 76mm howitzers, 13 horse drawn vehicles, 49 horses.
WED G	40 H 20 1 ¹²² 1 ⁷¹ 0	122mm (71-72)	2	129 men, 24 SMG, 6 MG, 6 122m howitzers, 4 trucks, 11 horse drawn vehicles, 80 horses.
	2 M 12 3 at 1	82mm (MOT.) (81-83)	3	45 men, 6 SMG, 6 82mm mortars, 6 trucks.
MORTARS	3 M 12 ¹² mn 3 ⁸⁴ 1	82mm (84-89)	6	61 men, 5 SMG, 9 82mm mortars, 9 horse drawn wagons.
Σ	24 M 20 170 mm 2 91 0	120mm (91-93)	3	65-70 men, 14-16 SMG, 7-8 120mm mortars, 8 trucks.
	3 1 2 8 1	Engineers (111-112)	2	About 100 men armed with an odd assortment of SMG, flamethrowers and mine-clearance equipment.
(100's)	3 1 4 ¹ 131 1	Reconnaisance (131-135)	5	37 men, 15 SMG, 5 MG, 3 trucks or half tracks.
NFANTRY (100's)	5 4 16 141 1	Rifle (141-149)	9	156 men, 42 SMG, 23 MG, 2 50mm mortars, 3 horse drawn wagons.
INFAN	6 5 18 ^{GUARES} 1	Guards (161-169 & 171)	10	170 men, 55 SMG, 25 MG, 2 50mm mortars, 3 horse drawn wagons.
	8 1 12 ³⁸⁶ 12 ¹⁸¹	Submachinegun (181-186)	6	(various types) 78-100 men, 60-100 SMG, 6-9 MG in units of less than 100 men, 1-10 trucks
CP's (200's)	0 1 201 0	Command Post (201-202)	2	6 men and communications equipment
CAV (300's)	10 3 ***** 8 Gavanter 3	Cavalry (squadron) (301-304)	4	171 men, 100 SMG, 12 MG, 6 ATR, 8 horse drawn vehicles, 180 horses.
(400's)	O C O	Wagons (411-418)	8	11 men, 4-6 horse drawn vehicles, about 24 horses.
TRANSPORT (400's)	0 C 0 TRUCK 1 421 12	Truck Transport (421-429 / 431-438)	17	8 men, 8 SIS-5 three ton trucks or 8 US Lend-Lease 2½ ton trucks or combination thereof.
TRAN	2 C(I) 1	Halftrack SIS 33 & M3 (441-446)	6	16 men, 8 halftracks (combination of Soviet SISS-33 and US Lend-Lease M3 halftrack vehicles).

AG (700's)	40 H 10 16 ^{50 352} 7	SU-152 (741-742)	2	80 men, 70 SMG, 10 SU-152 SP guns, 1 motorcycle.
ERS	12 A 5	SU-76 (811-812)	2	70 men, 60 SMG, 10 SU-76 SP guns, 1 motorcycle.
TROYE	14 A 8	SU-85 (821-822)	2	70 men, 60 SMG, 10 SU-85 SP guns, 1 motorcycle.
TANK-DESTROYERS (800's)	16 A 8	SU-100 (841-842)	2	80 men, 70 SMG, 10 SU-100 SP guns, 1 motorcycle.
TA	17 A 10	JSU-122 (851-852)	2	52 men, 21 SMG, 10 JSU-122 SP guns, 1 motorcycle.
	15 A 8	KV85 (921-922)	2	52 men, 26 SMG, 10 KV 85 tanks.
	12 A 6	T-34c (931-939 / 941-943)	12	42 men, 22 SMG, 10 T-34c tanks.
(s,006)	15 A 8	T-34/85 (951-956)	6	42 men, 22 SMG, 10 T-34/85 tanks.
TANKS (900's)	18 A 8	JS-11 (971-972)	2	52 men, 26 SMG, 10 JS II heavy tanks.
	18 A 12	JS III (981-982)	2	52 men, 26 SMG, 10 JS III heavy tanks.
	50	Fortification (1121-1128)	8	

UNIT IDENTIFICATION TABLE AND THE PROGRAM IDENTITY CODE SYSTEM (PICS)

The Unit Identification Table shows a full "breakout" of all the units in PanzerBlitz grouped according to general category and function. Unless otherwise stated, all Russian units are COMPANIES and all German units are PLATOONS. The Unit Composition portion of the table shows what actually went into the make-up of the various units. (Note: Although the non-vehicular units had organic transport assigned to them, the game-counters symbolize them without this transport—the trucks and wagons being given as separate counters in each Situation.)

Each specific unit has been assigned a specific code number (example: Hetzer No. 832). Each specific TYPE of unit has a common second digit code number (example: all German "Hetzers" have the number "3" as their second digit). Each FUNCTIONAL CATEGORY is expressed by the left-most number (example: all Tank Destroyers are in the 800 series).

Roughly comparable Russian and German units have been assigned the same TYPE code number group. Towed guns have been assigned two-digit numbers (although they may be thought of as having a FUNCTIONAL CODE of "0"). To fully identify a given unit, write "G" or "R" (nationality) followed by its PIC number: Thus "G/832" means: German/Tank-Destroyer/Hetzer/2nd Platoon.

Note: the right hand digit will only be a zero if there is only one counter of that type supplied. The second digit will only be a zero if there is only one TYPE in that category.



The Program Identity Code System is simply a shorthand method of positive unit identification for use in play-by-mail games and noting the position of units in games which must be interrupted and re-started ION TABLE Note: All vehicular units are ARMORED, except Wagons & Trucks

Categ- ory	Тур	e & Code-Group	Quan. Given	Unit Composition			
SUNS	8 A 5 3 21 0	50mm (21-22)	2	45 men, 7 SMG, 4 MG, 4 50mm guns, 6 trucks.			
d) ANTI-TANK GUNS	13 A 6 35 mm 2 31 0	75mm (battery) (31-33)	3	45 men, 7 SMG, 4 MG 4 75mm guns, 6 trucks.			
ed) ANTI-	20 A 20 1 4 1 1 0	88mm (battery) (41-42)	2	111 men, 10 SMG, 4 LMG, 4 88mm guns, 24 trucks.			
b-hundr FLAK	4 H 10 1 51 0	20mm (51-52)	2	40 men, 8 SMG, 6 20mm guns, 8 trucks.			
JNS (Sub-hund LIGHT FLAK	14 H 10 2014 1 53 0	20mmQUAD (53-54)	2	45 men, 4 SMG, 2 MG, 3 quad 20mm guns, 10 trucks.			
TOWED GUNS (Sub-hundred) HOWTIZERS LIGHT FLAK AI	2 H 12 2 m 2 m 15 m 17 0	75mm (61-64)	4	36 men, 6 SMG, 1 MG, 2 75mm howitzers, 5 horse drawn vehicles, 15 horses.			
TOV	20 H 12 150 min 2 71 0	150mm (71-72)	2	39 men, 6 SMG, 1 MG, 2 150mm howitzers, 6 trucks.			
MORTARS	3 M 12 3 m 12	81mm (81-84)	4	66 men, 6 SMG, 6 81 mortars, 15 horse drawn vehicles, 19 horses.			
MOR	15 M 20 120 mm 2 91 0	120mm (91-94)	4	47 men, 7 SMG, 2 MG, 4 120mm mortars, 7 trucks.			
(s,0	3 <u>1</u> 4 10 ··· 1	Engineers (111-113)	3	63 men, 10 SMG, 9 MG, 8 flamethrowers, mine clearing equipment, 4 horse drawn vehicles, 6 horses.			
INFANTRY 9 (100's)	2 .1. 4 5 SHEERIN 1	Security (121-123)	3	46 men, 12 SMG, 4 MG, 2 horse drawn vehicles.			
ANTR	3 1 6 8 1 1	Rifle (141-149 / 151-159)	18	59 men, 11 SMG, 6 MG, 3 horse drawn vehicles, 4 horses.			
INI	6 1 3 6 1 3	Submachinegun (181-186)	6	52 men, 30 SMG, 4 MG, 3 horse drawn vehicles, 4 horses.			
CP's (200's)		Command Post (201-203)	3	6 men and communications equipment			
(400's)	0 C 0	Wagons (411-414)	4	6 men, 4 horse-drawn vehicles, about 16 horses.			
TRANSPORT (4	0 C 0	Truck Transport (421-429 / 431-437)	16	6 men, 5 Ford G 997T or Opel 6700A 3 ton trucks.			
TRAN	2 C(I) 4	Halftrack Sdkfz 251 (441-449 / 451-452)	11	6 men, 10 MG, 5 SPW halftrack armored vehicles.			
ORED CARS (500's)	6 A 5 Ruma 3 510 14	Puma-SdKfz 234/2 (510)	1	38 men, 14 SMG, 11 MG, 7 234/2 ("Puma") armored cars (50mm gun).			
10RED (500's)	13 A 8	SdKfz 234/4 (520)	1	38 men, 14 SMG, 11 MG, 7 234/4 armored cars (75mm gun).			

ARM	2 H 4 3 ^{500,230} 16	SdKfz 234/1 (531-533)	3	38 men, 14 SMG, 11 MG, 7 234/1 armored cars (20mm gun).
(8,009) (600's)	50 H 12	Maultier (battery) (610)	1	135 men, 12 SMG, 6 MG, 6 Maultier self-propelled rocket launchers, 25 trucks.
SELF-PROPELLED ARTILLERY (600's)	40 H 32	Wespe (battery) (621-623)	3	125 men, 22 SMG, 17 MG, 6 PzFH 18 (WESPE) guns, 28 trucks.
SELFARTIL	60 H 24	Hummel (battery) (631-632)	2	131 men, 22 SMG, 17 MG, 6 PzFH 18M (HUMMEL) guns, 28 trucks.
SNUS	10 H 12	Gw 38 (M) (710)	1	29 men, 5 SMG, 2 MG, 2 SIG 33/1 guns, 6 trucks.
ASSAULT GUNS (700's)	14 H 10	Wirbelwind (721-722)	2	40 men, 4 SMG, 3 FlakPz IV (4 20mm guns), 6 trucks.
ASS	14 H 12	Stu H 42 (battery) (730)	1	31 men, 14 SMG, 6 StuH 42 guns, 4 trucks.
	12 A 8	Marder III (battery) (811-812)	2	31 men, 14 SMG, 6 Marder III guns, 4 trucks.
(s,00	12 A 8	StuG III (75mm) (bat.) (821-824)	4	31 men, 14 SMG, 6 StG III guns, 4 trucks.
TANK-DESTROYERS (800's)	12 A 8	Hetzer (battery) (831-832)	2	31 men, 14 SMG, 6 JgPz 38 guns, 4 trucks.
STROY	16 Å 12 9 ^{jule} IV 9 ^{om} 8	JgdPz IV (battery) (840)	1	31 men, 14 SMG, 6 StG IV/L guns, 4 trucks.
NK-DE	20 A 20 6 ****** 8	Nashorn (battery) (850)	1	45 men, 18 SMG, 6 JgPz NASHORN guns, 6 trucks.
TA	20 A 12	JgdPz V (battery) (861-862)	2	38 men, 16 SMG, 6 JgPz V guns, 5 trucks.
	22 A 12 18 Herr 5	JgdPz VI (battery) (870)	1	45 men, 18 SMG, 6 JgPz VIb guns, 6 trucks.
	2 A 4 6 ¹¹¹¹¹ 10	Lynx (910)	1	25 men, 5 SMG, 5 PzKw IIL tanks.
(s,(14 A 8	PzKpfw IV (931-939 / 941-943)	12	25 men, 5 SMG, 5 PzKw IVh tanks, 2 trucks.
(s,006) SX	16 A 12 12 ^{Mart} 10	Panther (951-959 / 961-963)	12	25 men, 5 SMG, 5 PzKw V tanks, 2 trucks.
TANKS	15 A 12 12 971 8	Tiger I (971-972)	2	35 men, 9 SMG, 5 PzKw Vla tanks, 2 trucks.
15	20 A 12	Tiger II (981-982)	2	35 men, 9 SMG, 5 PzKw VIb tanks, 2 trucks.
	40	Fortification (1111-1118)	8	
SYMBO	OL LEGE		linht	flak, howitzer anti-tank gun mortar
-	platool		ingint	flak, howitzer anti-tank gun mortar

Movement Note; The die used in the game has nothing to do with MOVEMENT

TERRAIN FEATURES

The hexagonal grid superimposed upon the mapboard is used to determine movement and to delineate the boundaries of the various terrain features. A hex is considered to be a given type of terrain if all or any part of it contains that terrain feature. Terrain affects movement and defense as outlined in the Terrain Effects Chart (TEC).

The "heavy-hex-side" symbols (different colored bars superimposed upon some hex-sides) are explained in the OBSTACLE AND ELEVATIONS section of the rules.

The single hexagon on board section No. 3 which is completely covered by the pond is unenterable for ALL units. Units may use the hexes partially covered by the pond.

The half-hexes on the outer edges of the board are considered playable and may be utilized as if they were complete hexagons.

HOW TO MOVE UNITS

- A- In any one turn a player may move as many or as few of his units as he desires.
- B- Units which have fired (used their AF)
 may not move in that turn. "Dispersed" units may not move (see How to Have Combat and the Combat Results Table).
- C- Units may move as much or as little as the player desires within the limits of their MF's and the terrain effects. Units with a MF of 1 may move one hex

per turn regardless of terrain. D- Units may move through friendly units.

- E- Units may not move through enemy units (Exception: see OVERRUN RULE)
- F- Units may not stop on top of enemy units.
- G- There is no movement penalty when moving into or through hexes adjacent to enemy units (i.e. there are no "zone of control" such as in other games)
- H- No enemy movement is allowed during friendly movement.
- I– No combat, enemy or friendly, takes place during movement (Exception: see OVERRUN RULE)

TRANSPORTING UNITS

The "C" class vehicular units (wagons, trucks and halftracks) have the capability of carrying non-vehicular units (guns, infantry and command posts). Each "C" unit has the capacity to carry one non-vehicular unit. To symbolize that a unit is a passenger in a "C" unit, place the unit being carried UNDER the "C" unit. Players should never place non-vehicular units unless they are being transported by that unit. elimination, both are eliminated. If dispersed, both are dispersed.

- G- Armored vehicle units (tanks, assault guns, etc.) may carry non-vehicular units in a fashion similar to "C" units. Each armored unit may carry one passenger unit.
- H– If an armored unit is destroyed while transporting, both passenger and carrier are destroyed. Units traveling on armored units may be attacked exclusive of the armored unit in which case the passenger unit has a DF of 1. The armored unit is unaffected if only its passengers are attacked.
- Armored units may fire when loading, unloading or carrying passengers. All other transport rules, however, apply.
- J- Russian cavalry units may NOT be transported by "C" units or armored units.

ROAD MOVEMENT

Units traveling along roads do so at the road movement rate regardless of the other terrain in the road hexes. All units may travel over all roads of the board regardless of accompanying terrain in which they might otherwise be prohibited. Roads do not alter the defense effects of surrounding terrain.

- A- All units move along roads at a cost of ½ movement factor per road hex. Entering a road hex through a non-road hex side is done at the MF cost of the other terrain in the road hex being entered.
- B- Units may freely combine road and non-road movement in the same turn.
- C- Units may not stack while moving along a road at the road movement rate.
- D- Units may not move through or onto other units on a road when moving at the road movement rate.
- To move through or onto a friendly unit on a road costs the full non-road movement cost of the other terrain in that hex. Also when moving into the NEXT road hex, the moving unit incurs the non-road MF cost of the other terrain in that hex as well. In effect, you are "passing" the unit sitting on the road by swinging off the road and maneuvering around it. Terrain hexes or hex sides through which a unit would be prohibited to travel when off the road cannot be traveled upon when performing this "passing" maneuver. For example, a vehicular unit could NOT move through a unit on a swamp/road hex. It could, however, move ONTO such a unit (and move off in the next turn).

- A- In any one turn a "C" unit may either
 "Load" or "Transport" or "Transport and Unload." It may only perform one of these operations per turn.
- B- "C" units and the unit(s) to be loaded must begin their turn on the same hex. The passenger unit may not fire (use its AF) in the turn of loading, while being transported or when unloading. Dispersed units may not load or unload. Units are "loaded" when they are under the "C" unit.
- C- Passengers may not move independently on the turn in which they unload from transporting units.
- D- A truck or wagon unit and the unit it is transporting have a combined defense factor of 1.
- E- When using halftracks as transport, the defense factor (DF) of the halftrack unit is used when attacked. Elimination affects both carrier and passenger. The halftrack unit may fire while loaded.
- F- Passengers and carriers are treated as one unit for stacking purposes (see Stack Limitations). Units are "Loaded" when under the "C" unit. Passengers and their carriers are treated as one unit for combat results purposes. If combat results call for

- F- Units may stack with other units and move along roads at the NON-road movement rate (and a unit in such a stack could split off and move ahead by itself at the road movement rate).
- G- Remember: a vehicle with passengers is considered as one unit and may therefore travel together at the road movement rate.

Stacking (more than one unit per hex)

- A- The Russians may stack two units per hex.
- B- The Germans may stack three units per hex.
- C- When a unit is being carried by another unit, the passenger and the carrier is considered as one unit for stacking purposes.
- D- Stacking limitations do not apply during movement. They only apply before and after movement (except as qualified by the road movement rules).
- E- Minefield counters and Fortification counters do not count towards stacking limits.
- F- Block counters and Wreck counters ARE counted towards stacking limits.
- G– Vehicle units may not stack with other vehicle units on swamp-road hexes.

TEC TERRAIN EFFECTS CHART								
TERRAIN FEATURE	EFFECT ON MOVEMENT	EFFECT ON DEFENSE (DEFENDING unit on a given terrain)						
CLEAR	Costs 1 MF to enter.Costs truck units 2 MF to enter.	NONE						
ROADS	Costs 1/2 MF to enter. If entered from non-road hex, MF cost is that of other terrain	NONE-(other terrain in road-hex has whatever effect would have had without the road).						
TOWNS	Costs 1/2 MF to enter (even from non-road hexes)	Add one to attacker's die roll. Units stacked together in towns must be treated as one combined DF.						
WOODS	Costs 1 MF to enter. Vehicular units may not move through green hex-side symbols except on roads. Costs truck units 2 MF to enter.							
SWAMPS	Costs 1 MF to enter. Vehicular units may not enter except on roads.	Add 1 to attacker's die roll.						
GULLIES & STREAMBEDS	Apply MF cost to that of accompanying terrain for entry and movement along gullies Costs trucks 5 MF to LEAVE, Costs other vehicles 3 MF to LEAVE.	See rules.						
STREAM FORD	Treat as CLEAR terrain (no "leaving" penalty)							
PONDS	NO units may cross pond-hex sides.	NONE						
SLOPES	Costs 4 MF for trucks to enter. Costs all other vehicles 3 MF to enter.							
HILLTOPS	MF cost as per other terrain on hilltop-hex.	Attacker's AF is halved. See TET.						

Positional Defenses



The BLOCK counters represent tank traps, road blocks, barbed wire, felled trees and anything else that might impede movement.

- A- Blocks may be placed anywhere on the board, no more than one Block per hex. Once placed they may not be moved or removed.
- B- A unit may only enter a hex with a Block in it if it begins its turn directly adjacent to the Block. Upon entering the Block-hex, the unit must stop and go no further that turn. In their NEXT turn they may move off the Block at the normal movement rate.
- C- Blocks do not obstruct the Line-of-Sight and have no effect upon combat.
- D– When a Fortification is destroyed, replace it with the Block counter.
- E– A Block counter on a road negates the road in that hex. VEHICULAR UNITS may not enter Block-road hexes in Swamps nor traverse directly adjacent Green hex-sides when moving off a Block-road hex.

FORTIFICATIONS



(Bunkers, Redoubts, prepared trenches, etc.) A- Fortifications are placed wherever on the board the player desires (except swamp hexes) or as directed by the Situation

Game Procedure

SEQUENCE OF PLAY

The game is played in turns, each player moving and having combat sequentially. Two "Player-Turns" equals one complete "Game-Turn."

GERMAN PLAYER-TURN

- STEP 1-German player resolves any Minefield attacks against Russian units.
- STEP 2-German player announces which of his units are attacking which Russian units, and what attack techniques are being used.
- STEP 3-German player resolves all Normal combat, rolls the die once for each attack. German player flips face-down all firing units, as they are fired, to signify that they may not move.
- STEP 4-German player moves as many face-up VEHICULAR units as he desires, executing any Overrun attacks as he does so,
- STEP 5–German player moves any face-up NON-VEHICULAR units and makes Close Assaults after doing so.
- STEP 6-German player turns ALL his units
- FACE-UP, including those dispersed by Russian attacks in the previous turn.

RUSSIAN PLAYER-TURN

- STEP 7-The Russian player repeats Steps 1 through 6 using his own units.
- STEP 8-Indicate the passage of one complete Game-Turn on the Turn Record.

Players repeat Steps 1 through 8 for as many turns as the Situation Card indicates or until one player concedes.

Card. Once placed they may not be moved.

- B- Fortifications do not affect movement or stacking.
- C- Units in fortifications defend using the defense factor of the fortifications only. Their own DF's do not count. Fortifications are treated as an ARMORED target. Terrain and Weapons Effectiveness are taken into account when a fortification is defending. Any type of unit(s) may occupy a fortification within normal stacking limitations.
- D- Units may fire from fortifications using their normal attack factor (AF).
- E- If a fortification is destroyed, any units in it are also destroyed.
- F- The fortification counter itself, has no attack factor and it may only defend.
- G- If abandoned or unoccupied, fortifications may be "captured" and used by the opposing player. To capture a fortification, simply move a unit into the unoccupied fortification counter.
- H– Unwanted fortifications may only be destroyed by attacking them with one's own fire weapons.
- I— The fortification unit is not an obstacle to fire, whether units are in it or not.
- J- Units are indicated as being IN the fortification by placing them UNDER the fortification counter. Friendly units ON TOP of fortifications (i.e. "outside" the fortification) and the fortification counter on which they are sitting, may be attacked using any one of the three Normal attack techniques as well as Close Assault Tactics.

- K- Enemy units may be actually ON the fortification counter while friendly units are still in it. In this case you may fire on that hex. But you must roll the die twice for this attack, once for the attack on the enemy units and then for the effect on your own fortified units. In this case it is possible to destroy the enemy unit and not your own, or both. Or you may simply have a combination of dispersals. Enemy units may not enter a fortification hex if there are friendly units ON TOP of the fortification.
- L- When enemy units are sitting on top of a fortification, friendly units inside the fortification may not leave. The friendly units may still attack any enemy units within range, including the units sitting on the fortification: when attacking the units sitting on the fortification the units inside attack as if they were adjacent to the enemy. Similarly, the enemy units may attack the fortification as if they were adjacent to it. The units inside, in this case, may NOT use Close Assault Tactics; the enemy units on top may use CAT.
- M- Fortifications may suffer "dispersal" in which case the units occupying them are dispersed also.
- N- No more than one fortification may be placed in a given hex.
- O- Armored vehicles may NOT make Overrun Attacks against fortifications.
- P- Destroyed fortifications are replaced with Block counters.
- Q- Fortifications may NOT be placed on top of Mines.

HOW TO WIN

See Sitution Cards for conditions of victory.

SETTING UP FOR A GAME

Each game variant is outlined in a Situation Card. Select one of these cards by mutual agreement (it would be better to take a situation with a low number of unit counters until you have gotten used to the game). Punch out the die-cut unit counters (keep them segregated by type and side), and take only those units indicated by the Situation Card and set them up as outlined on the card. Make sure you have the correct mapboard configuration.



THE MAPBOARD LOCATION SYSTEM

The letters running down the length of each of the three board sections identify that particular row of hexagons running straight across the short width of that section. The individual hexes in that row are identified by counting out the number of hexes (starting with and including the one with the row-letter in it). To identify a given hex on the map (regardless of configuration) give the board section number first; row-letter second and hex number last. Thus: 1-P-6 is that hexagon on board No. 1 which contains the board number itself (No. 1). The town-name "Uschas" is in 1-Z-10. Hill designation "135" is at 1-O-6. Note that this system is NOT a co-ordinate system. In some configurations the row-letters of two boards will be in the same hex: those hexes may be identified as belonging to either section. The system may be used in conjunction with PICS for play-by-mail and experimental rules.

PanzerBlitz Design Credits GAME DESIGN, HISTORICAL RESEARCH AND CAMPAIGN ANALYSIS James F. Dunnigan GRAPHIC DESIGN, SLIPCASE & BOX ART AND EQUIPMENT DESIGN Redmond A. Simonsen RULES EDITING AND INTEGRATION James F. Dunnigan & Redmond A. Simonsen CAMPAIGN ANALYSIS PROFILE DRAWINGS George Bradford

GAME PLAY-TESTING

Robert Champer and staff of Strategy & Tactics Magazine

Optional Rules

Players may employ as many or as few of the Optional Rules as desired.

INDIRECT FIRE

German SPA units (Maultier, Wespe and Hummel) and all German and Russian mortar units (M) may use Indirect Fire: i.e. they may fire at units which they cannot "see"; firing over all obstacles to the limit of their ranges. A- Indirect Fire may only be used in

- conjunction with CP units (200's). B- The CP unit must be able to "see" the
- target: i.e. trace a clear Line-of-Sight to the target.
- C- Targets in towns or woods must still be "spotted" (but not necessarily by the CP unit itself). The spotting unit would radio or flare-signal the CP, which in turn would radio the target information to the unit firing indirectly.
- D- SPA units may only use Indirect Fire against targets which are at more than half the SPA units' range.

REAL-SPACE LINE OF SIGHT DETERMINATION

Use a straight-edge (ruler, stiff cardboard, etc.) to determine the Line of Sight. Determine range in the normal way but to calculate Line of Sight place a straight edge between the center of the firing hex and the center of the target hex. Only those hex-side symbols intersected by the straight-edge need be taken into account. If the straight edge bisects a hex-side symbol through its LENGTH, take that symbol into account UNLESS it is a Brown symbol which connects with an Orange symbol. The defender gets the benefit of the doubt if the straight-edge cuts exactly through the "corner" of a hex where a symbol-side and a non-symbol side meet. In any other ambiguous cases, use "common-sense" to decide, keeping in mind the fact that the board is representing a three-dimensional space.

PANZERBLITZ ASSAULT

Infantry units riding on Armored vehicles may "jump off" in the hex immediately in front of a unit about to be Overrun by those Armored vehicles. The infantry may then Close Assault the units which were just Overrun by the vehicles.

AMMUNITION RULE

Anytime he desires, a player may fire one or more of his "H" or "M" class units "intensively." Intensive fire allows such units to TRIPLE their normal attack factor.

- A- A given unit may fire intensively only once per game, immediately after which it is removed from play (its ammunition has been expended and its gun tubes burned out).
- B- Units removed from play under this rule are counted as units lost.
- C- Players may exercise this intensive fire option as many times as they wish during a game, limited only by the quantity of "H" and "M" units available.
- D- "H" CLASS ARMORED VEHICLE UNITS MAY NOT USE INTENSIVE FIRE AS PART OF AN OVERRUN ATTACK.
- E- MAULTIER unit may not use intensive fire.

Experimental Rules

The following experimental rules are just that: experiments! The game factors and mapboard are not necessarily designed to accommodate them.

HIDDEN DEPLOYMENT

Utilizing one of the low unit-count Situations or one of your own devising, allow one player to secretly deploy his units on the board, marking their positions of separate pieces of paper using the Map Location System, and remove the units from the board. The other player is not shown where a given enemy unit is until it fires its weapons or until the second player has a clear Line of Sight to the unit's position. Once hidden units are moved, fired or spotted, they must be placed on the board and left in view. Minefields may be hidden anywhere; combat units may only be hidden in woods, swamps, towns, or behind hills.

EXPERIMENTAL INDIRECT FIRE

Allow any German unit(s) to perform the fire-direction function of a CP unit. Allow Russian Guards Infantry this capability.

IMPULSE MOVEMENT & RETURN FIRE

This rule is a "meshing" of the two player turns which breaks down the simulated event into smaller bits of time called "impulses." Players use the following sequence for a complete turn:

- gA- German moves units / executes Minefield attacks.
- gB- Russian fires (do not flip firing units).
- gC- German fires (does flip firing units).
- gD- German moves non-firing units / executes Overruns.
- gE- German makes Close Assaults / Flips ALL units right-side-up.
- rA- Russian moves units / executes Minefield attacks.
- rB- German fires (do not flip units).
- rC- Russian fires (does flip firing units).
- rD- Russian moves non-firing units / executes Overruns.
- rE- Russian makes Close Assaults / flips ALL units right-side-up.

In this system, all units with a movement factor of MORE than 1 may only move HALF their movement factor in any movement impulse. Units with an ODD movement factor use the greater "half" of their factor in impulse "D." Units with a movement factor of 1 may move one hex EACH movement impulse (A&D) but they may not move at the road movement rate in impulse "A."

Combat

HOW TO HAVE COMBAT

 A- Basically, to have combat, the attacking unit compares its Attack Factor (AF) to the defending unit's Defense Factor (DF). The comparison is stated as a ratio: AF to DF; then rounded off in the defender's favor to conform to the ratios given on the Combat Results Table (CRT). Example: 11 to 3 rounds off to 3 to 1. Roll the die and take the action indicated by the CRT.

NORMAL ATTACKING

- B Attack takes place before the movement portion of a player's turn. Only the player whose turn it is may attack, the other player is considered the "defender."
- C- Only enemy units within the Range Factor (RF) of the attacking unit may be fired upon by that unit.
- D- A player may make as many or as few
- attacks per turn as he desires (within the restrictions of the rules of combat). A player is never forced to attack. Attacking is an act of volition.
- E- Every firing unit firing on the same defending unit must combine their Attack Factors into one large Attack Factor before computing odds. Units may fire only once per turn.
- F- Units which fire (attack) in the combat portion of the turn may NOT move in the movement portion of the same turn.
- G- Different attacking units may fire at the same target unit. Each firing unit is announced to be firing at a common target, and the combined attack is resolved all at once.
- H- Units may not split their attack factor (i.e.
- a given attacking unit could not apply part of its factor to one attack and part to another). Attack and defense factors are not "transferrable" from one unit to another. Each unit is treated as an indivisible set of factors.
- I– When there is more than one defending unit in a hexagon, attacks against that stack of units may be prosecuted in one of three <u>mutually exclusive</u> ways:
 - 1. SELECTIVE ATTACK: Only one unit (the weakest) in the defending stack is attacked; the others are ignored and may not be attacked in the normal attack phase of that turn. The "weakest" unit is defined as being that unit in a defending stack against which that particular attacking unit(s) can attack at the highest odds ratio. Selective Attacks may be made at odds as low as 1 to 4.
 - 2. MULTIPLE ATTACK: More than one unit in the defending stack is attacked. Each unit attacked is treated as a separate battle with the die being rolled once for each battle. In this type of attack the WEAKEST unit is attacked first at at least 1 to 1 odds; then the next weakest unit is attacked at at least 1 to 1 odds; then the next weakest unit is

only case in which an attack may be made during_the movement phase of a turn.

D- Overrunning units attack with an increased combat effect. Figure the odds ratio of the attack using the basic AF to DF system then increase the odds by one in favor of the attacker (e.g. a ratio of 3 to 1 increases to 4 to 1). Also subtract 2 from the die roll results (e.g. a die roll of 3 is treated as if it were a roll of 1).

A defending stack is treated as one combined defense factor when being overrun. More than one armored unit may overrun an enemy stack and the overrunning units do not have to enter and exit through the same hexes. They must, however, combine their attack into one large attack factor. In other words, a defending unit or stack may not suffer more than one overrun attack per turn.

- E- In determining overrun odds use only the factors printed on the units (for attacker and defender). Do not halve or double the attack factors as shown on the Weapons Effectiveness Chart. Use only the overrun "bonus" as outlined in rule "D."
- F- You may not fire overrunning units during the usual combat portion of the turn in which the overrun is made.
- G- Units on Block, Wreck, Minefield or Fortification counters may <u>not</u> be overrun.
- H– The German SPA units (Maultier, Wespe and Hummel) may NOT make overrun attacks. Halftracks may not overrun Armored Vehicles (including enemy halftracks).
- Units may only be overrun when they are in clear terrain or clear terrain-road hexes.

CLOSE ASSAULT TACTICS (CAT)

All types of Russian and German infantry and engineer units as well as Russian cavalry units have the option of using Close Assault Tactics instead of making a normal attack. Close Assault takes place AFTER movement.

- A- Close-assaulting units must be directly
- adjacent to the defending unit or stack of units (i.e. in one or more of the six surrounding hexes).
- B- CAT attacks take place after all movement, normal attacking and overrun attacks are finished.
- C- Units utilizing CAT may NOT make normal attacks in the same turn. They may, however, move in the same turn, (NOTE: Overrun and CAT attacks are the only exceptions to the general rule which forbids movement and combat by the same unit in the same turn.)
- D- Close Assaulting units have their effectiveness increased by subtracting 2 from their die-roll result: e.g. a die-roll of "2" becomes a die-roll of "0." The defending stack must be treated as one combined defense factor, and may suffer only one Close Assault per turn.
- E If infontry and ongineer units are stacked

Note: Half range is always rounded off to the nearest whole hex; the attacking unit loses fractional RF's (for example; half of 9 is 4).

- A- When making a normal Combination Attack against a mixed stack of units, determine what type of target (Armored or Non-armored) predominates in the stack and then treat the entire stack as if all the units in it were that type of target. If the target stack is divided evenly between Armored and Non-armoed targets, treat the whole stack as if it were that type of target least favorable to the particular attacking unit(s).
- B- Units in towns are considered as Armored
- targets whether or not such units actually are armored. Units stacked together in towns MUST be attacked as one combined DF.
- C– Fortifications are considered as Armored targets.
- D- WEC is not used in determining overrun odds.

Obstacles and Elevations

The PanzerBlitz mapboard is a two-dimensional representation of a three-dimensional space. The various terrain features, aside from affecting movement and defense, also affect the ability of attacking units to fire at given defending units. Since the weapons used in PanzerBlitz are direct-fire weapons, an attacking unit may not fire at any target which it cannot "see." The terrain symbols on the map show the location of potential obstructions and the obstacle-hex side symbols show in which direction fire is obstructed. These "heavy" hex-side symbols are color-coded according to the type of obstruction they represent.

There are three general types of obstacle/hexsides which cut off the line of sight and therefore prevent fire:

- Low Obstacles: Ground-level Green (woods) hex-sides and ground-level Gray (town) hex sides. 10 to 20 meters.
- Medium Obstacles: Dark Brown (Slope) hex-sides. 60 to 70 meters.
- High Obstacles: Orange (hilltop) hex-sides. 100 to 140 meters.

Whether or not a firing unit can "see over" these Obstacles depends upon the elevation at which the firing unit and its potential target are. Units themselves are not considered as obstacles, and players may fire over or through all units, enemy or friendly.

There are three elevations at which a unit may be:

- 1. Ground Level: 0 meters.
- 2. Slope Level: 50 to 60 meters.
- 3. Hilltop Level: 100 to 140 meters.

The elevation at which a unit is, is of course determined by the terrain it is on. The Target Elevation Table shows, in a general way, what hex-side symbols obstruct the line-of-fire in different cases. The table, however, does not attacked at at least 1 to 1 odds: finally the strongest unit (defense factor) may be attacked (at at least 1 to 1). By definition, at least TWO of the defending units in a stack must be attacked to use this method. Of course, to be able to make a Multiple Attack against a defending stack, the attacker must use at least one different attacking unit against each defender. Remember a unit may <u>never</u> use its attack factor more than once per turn.

3. COMBINATION ATTACK: The defending units are treated as one combined defense factor and the attacker totals his units into one combined attack factor. The die is rolled once for the entire stack and the result applies to all the defending units in that stack. Combination attacks may be made by as few as one attacking unit and at odds as low as 1 to 4. See Weapons-to-Target Relationships rule.

OVERRUN ATTACK

- A- Armored vehicle units may overrun enemy units in clear terrain.
- B- To overrun a unit or stack of units, move
- 8 the attacking armored vehicle unit(s) straight through the enemy-occupied hex, exiting into the hex DIRECTLY opposite the hex of entry. Overrunning units must stop in the "exit-hex" and may move no further that turn. If the exit hex is occupied by enemy units, the overrun may not be made. Overrunning units may not travel at the road-movement rate during that turn. Overrunning units must have sufficient movement factors available to reach the exit hex. The exit hex does not have to be a clear terrain hex, nor does the entry hex: only the target hex must be clear terrain.
- C- As you move over the enemy unit or stack of units, execute your attack. This is the

- E- If infantry and engineer units are stacked together when Close Assaulting the same defender, the effectiveness of that Close Assault is further increased by raising the odds in their favor to the next highest ratio (as in the Overrun rule). At least one engineer unit must be stacked with at least one infantry or cavalry unit, on at least one of the hexes of Assaulting units.
- F- Units capable of using Close Assault do
- not HAVE to use it to attack adjacent enemy units (they may attack them normally in the normal attack phase if the player so desires).
- G- Close Assault is the only way in which "I"
- units may attack Armored Vehicle units.
- H– Any type of defending unit may be attacked using Close Assault Tactics, CAT may be used in any type of terrain.
- I- Russian cavalry may not move more than one hex in a turn in which it is to be used for a Close Assault. No unit may use the road movement rate and make a Close Assault in the same turn.
- J- Halftracks may not use CAT.

Weapon-to-Target Relationships

The class-key letter symbols determine what type of weapons a unit is armed with.

- "I" = Infantry weapons (rifles & machineguns) Note: Halftracks have "I" type weapons.
- "A" = Armor Piercing Weapons (high velocity tank & anti-tank guns).
- "H" = High Explosive Shells (low velocity howitzers, etc.).
- "M" = Mortars (similar to "H").

WEC WEAPONS EFFECTIVENESS CHART

The effectiveness of these weapons changes in relation to target type and range from target. This is reflected in the WEC by doubling and halving a unit's attack factor accordingly.

cover all the situations which might arise.

HOW TO DETERMINE THE LINE OF SIGHT/LINE-OF-FIRE (LOS/LOF)

For all practical purposes the Line-of-Sight is equivalent to the Line-of-Fire. In "real life" the Line-of-Sight would be a perfectly straight line. In the game, however, the Line-of-Sight is traced through the hexagons in a manner similar to the way units are moved. First, determine the range to the target. Then plot the route through the hexagons which your Line-of-Sight takes. The Line-of-Sight should trace through the exact same number of hexes as the range to the target. The Line-of-Sight, in other words, should be as short and as straight as possible while still conforming to the hexagonal grid. Whenever there is more than one possible "shortest and straightest" route, choose the one least favorable to the attacker: i.e. if one route is clear and an alternate route is obstructed, the obstructed route is considered to be the one through which the Line-of-Sight must be traced. In other words, the defender gets the benefit of the doubt. Using the TET and the special notes, determine whether or not any hex-side symbols encountered in tracing the Lineof-Sight, actually obstruct the Line-of-Sight.

SPECIAL NOTES (TO BE USED IN CON-JUNCTION WITH TET)

- A- When firing FROM a slope or a hilltop TO a ground-level target, the Line-of-Sight is obstructed if the target unit is directly behind a Gray or a Green hex-side: i.e. "directly behind" means that the intervening Gray or Green hex-side(s) forms one or more of the hexagon sides of the target hex itself.
- B- When firing FROM ground-level TO a target on a hilltop or a slope, the Line-of-Sight is obstructed if the FIRING

CR	T	сом	BAT F	RESUL	TSTA	BLE		
DIE			OD	DS RAT	IOS			DIE
ROLL	1-4	1.3	1-2	1.1	2-1	3-1	4-1	ROLL
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0	-	D	DD	DD	Х	Х	Х	0
1	-	D	D	DD	X	X	X	1
2	-	-	D	D	DD	Х	Х	2
3	-	-	- 1	D	DD	X	X	3
4	-	-	-	-	D	DD	х	4
5	-	-	-	-	D	DD	X	5
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Explanation

X=Unit eliminated.

D=Unit dispersed (turn counter face down) may not move in next player turn, may not fire. Subtract 1 from die roll of subsequent attacks upon it during that turn. Becomes "undispersed" at the end of that players next turn. See PLAY SEQUENCE.

DD=Special dispersed. If defender already dispersed by fire in that turn, unit is destroyed. If unit was undispersed treat as normal dispersal.

-=No Effect.

Odds are always simplified and rounded off in defender's favor. No attacks permitted at worse than 1-4. Odds greater than 4-1 are treated as 4-1.

Die roll additions and/or subtractions affecting a given attacker due to terrain or position or weapons characteristics, are combined into one net figure and applied to the die. Example: +2 and -1 combined means add one to die roll.

A unit may conceivably be attacked as many as three times in any one turn: first by a minefield "attack"*; second by a normal attack; third by Close Assault Tactics. An attacking unit may never take part in more than one attack per turn.

*Note: If the defending unit is not in a minefield, it could also be attacked by the Overrun method. The sequence of this series of attacks would be: Normal Attack-Overrun Attack-Close Assault.

TET TARGET EL

UNITS	INTERVEN OBSTRUCT
FROM	GROUND LEV
GROUND	ALL
SLOPES	BROWN ORA see Note A
HILLTOPS	see Note C

UNIT is directly behind a Gray or a Green hex-side,

- C- When firing FROM a hilltop TO a ground-level target, the Line-of-Sight is obstructed by intervening Brown hex-side symbols if such a symbol is closer to the TARGET UNIT than to the firing unit or if the symbol is exactly mid-way between the two. To determine the relative position of the Brown symbol, count the number of hexagon SIDES through which the Line-of-Sight is traced (including the side of the firing hex and the side of the target hex).
- D- When firing FROM ground-level TO a target on a hilltop, the Line-of-Sight is obstructed by intervening Brown hex-side symbols if such a symbol is closer to the FIRING UNIT than to the target, or exactly midway between the two.

(Note B is the converse of Note A and Note D is the converse of Note C.)

- E- The ONLY case in which a unit may trace an unobstructed Line-of-Sight through <u>more</u> than ONE Orange (hilltop) hex-side symbol is when both the target and the firing unit are on hilltops. In all other situations, the LOS is obstructed if it must be traced through <u>more</u> than <u>one</u> Orange hex-side.
- F- No matter what the obstacle or the terrain, a unit may ALWAYS fire at a target to which it is directly adjacent (regardless of elevation).
- G- Notice that in some cases there are towns and woods on top of hilltops. The Green and Gray symbols in these cases obstruct ALL fire, no matter what the elevation of the target and the firing unit (except when directly adjacent to each other as per note "F").
- H– Note that when both the target and the attacker are on ground-level, ALL hex-side symbols (Gray, Green, Brown, and Orange) obstruct the Line-of-Sight (except as per note "'F").
- I— (MAPBOARD NOTES:) The interior hexes on the large plateau-like hilltop on Board No. 2 are <u>all</u> hilltop hexes even though they do not have Orange hex-sides superimposed upon them, (For practical and esthetic purposes the board designer felt it would have been redundant to so outline those hexes.

You will notice that in some cases, slope hexes do not have Brown hex-side symbols. This is because the Brown symbols actually represent the way in which the slopes curve and form "corners" to obstruct the LOS. Consequently, whenever a slope is relatively straight, it does not obstruct the LOS along it.

In some instances, two or more slope hexes meet without a hilltop being formed at by) units on slopes and hilltops. In these cases treat the unit in the gully as if it were at ground-level for TET purposes.

- C- "Fords" represent exposed (not depressed) areas of a streambed. They are equivalent to clear terrain for all purposes. The hexagons on which a road crosses a gully are also considered as clear terrain (even if for some reason the road becomes unusable.
- D- Hexagons containing the end or beginning of a gully are treated as full fledged gullies.

Spotting

When a defender is in a Woods or a Town hex, he may not be fired upon by units which are not directly adjacent to him unless he has been "spotted."

- A- To "spot" a unit in a town or woods hex, the attacker must have a friendly unit directly adjacent to the defender.
- B- The unit doing the spotting does not necessarily have to be involved in the attack upon the spotted unit.
- C- Dispersed units may not be used for spotting.
- D- The same unit may spot any number of adjacent enemy units.



WRECKAGE

Whenever an ARMORED vehicle unit (including halftracks) is destroyed in combat, remove it from the board and replace it with a Wreck counter.

- A- Wrecks may not be moved or removed.
- B- Wrecks count as a unit for stacking purposes.
- C- A Wreck on a road hex NEGATES THE
 ROAD, and that hex is treated as a non-road hex. Vehicle units may not enter swamp/road hexes containing Wrecks, nor may they cross Green-hex sides <u>from</u> a road hex with a Wreck in it.
- D- The presence of Wrecks has no effect on combat.
- E- It is possible to have as many as three German or two Russian Wrecks in a hex, or a combination of German and Russian Wrecks not exceeding a total of THREE.
- F- Units may enter hexes containing enemy and/or friendly Wrecks as long as they do not exceed stacking limits.

MINES

A- The player with the minefield pieces positions them anywhere on the board he desires unless otherwise directed by the Situation Card. One mine per hex, between them. This represents a ridge or "razorback" hillock. The Brown hex-side symbols represent the "spine" of these ridges.

HILL AND SLOPE DEFENSE EXCEPTIONS As indicated on the TEC (Terrain Effects Chart) a unit attacking an enemy unit defending on a slope or hilltop, attacks at half-attack-factor. There are some exceptional cases, however, in which the attacker is NOT halved. They are:

- A- When the defending unit is on a hilltop, an attacking unit is NOT halved if it is also on a hilltop (not necessarily the same hilltop). A defender on a hilltop could conceivably be attacked by units not on hilltops and units on hilltops as part of the same attack; in which case the attackers not on hilltops would STILL be halved.
- B- When a defender is on a slope, the attacking unit is NOT halved if the attacker is directly adjacent to the defender (regardless of elevation). If, however, there is a Brown hex-side symbol between an adjacent attacker and defender, the attacking unit's factor IS halved. Units on slopes can conceivably be attacked by attacking units which are halved and units which are not halved as part of the same attack.
- C- In all situations other than those described in "A" and "B" above, an attacking unit (regardless of elevation) is halved when firing at units defending on slopes or hilltops.

GULLIES AND STREAMBEDS

The gullies and streambeds shown on the board are DEPRESSIONS (minus 5 to 7 meters). The terms "streambeds" and "gullies" are interchangeable.

- A- Units in gullies may not fire at (or BE fired at by) units at ground level or in other gully -hexes (unless they are directly adjacent to each other).
- B- Units in gullies may fire at (and BE fired

- Situation Card. One mine per hex.
- B- Once positioned, mines may not be moved.
- C- Minefields have no friends-they affect both sides.
- D- As soon as a unit moves onto a minefield, it must stop.
- E- The opposing player, during the combat portion of his turn rolls the die for the "attacking" minefield. The minefield attacks ALL units at 2 to 1 odds no matter what the terrain. Surviving units may move off in their next turn.
- F- A minefield is never "used up." It remains active until removed by an Engineer unit.
- G- Engineers remove mines by moving adjacent to them and on the turn after moving adjacent rolling the die. A roll of "1" removes the mines. If unsuccessful, the Engineers may remain adjacent and roll each turn until they get a "1."
- H– Units "dispersed" by minefields may not move off them, and suffer minefield attack in their next turn again.
- Minefields do not count against stacking limits.
- J- Minefield "attacks" take place BEFORE normal attacks.

HOW TO "FACTOR" A GIVEN BATTLE The alterations a unit's attack factor may undergo are cumulative. Therefore, when attacking:

- A- First consider Weapon-to-Target effects.
- B- Then consider defensive terrain effects.
- C- E X A M P L E : O n e G er m a n "Panther"(16AF) at ground level attacks one Russian Recon infantry company (4 DF) defending in a Woods/hilltop hex. Panther's 16AF is halved to 8AF (as per WEC) and then halved again to 4AF (as per TEC). Odds are 4 to 4 (or 1 to 1). German rolls a "3" which is increased to "4" due to woods hex. Combat Results Table indicates "no effect."

ELEVA	TION TABLE		WEC WEAPONS EFFECTIVENESS CHART					
	STACLE/HEX-SIDE SY				TYPE OF TARGET			
DLEVEL	SLOPES	HILLTOPS	CLASS OF WEAPON BEING	ARMORED VEHICLES (including Halftracks)		ALL OTHERS (including trucks)		
LL	BROWN ORANGE See Note B	see Note B see Note D	FIRED	At Half-Range or Less	At Greater Than Half-Range	At All Ranges		
ORANGE lote A	BROWN ORANGE see Note E	NONE		May attack only when using Close Assault	Attacking not allowed	Normal AF		
lote C	NONE	NONE	A	Double AF	Normal AF	Half AF		
			H& M	Normal AF	Half AF	Normal AF		











 Ger moves first Turn
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 9
 END 10

















MOVEMENT EXAMPLE: The numbers in the hexagons indicate the movement-factor cost incurred when moving into that hex. Note the loss of road-movement rate when "passing" the Wreck. Note the additional 3-factor cost when moving out of the Gully.



NORMAL COMBAT (MULTIPLE ATTACK TECHNIQUE): Ger Lynx attacks Russ halftrack (with passenger). The Lynx's attack factor is doubled due to range and target type. Odds are 4 to 2 (2 to 1). Ger Marder unit attacks Russ T-34c. Marder AF is halved due to range and target type. Ger 150mm Howitzer joins the Marder's attack in order to bring the odds up to (and over) the required 1 to 1 for Multiple Attack. Howitzer is close enough to use its full attack factor. The odds are 26 to 9 (2 to 1).

Lynx rolls a "1" on the die for its attack, which means the halftrack (and its passenger) are destroyed. Howitzer-PLUS-Marder get a "4" on their die-roll which means Russ T-34c is dispersed (flipped over).



OVER the two Ger Security units. Simultaneously, Russ T-34c moves OVER same Ger units. Security units must be treated as one combined defense factor (a total of 10 DF). Russ armored units combine their attack factors (total of 26). The odds are 26 to 10 (2 to 1). The odds are raised to 3 to 1. Russ rolls a "2" on the die, which is reduced to a "0". Result: Security units are destroyed.

NOTE: The Russ armored units MUST stop on their respective Exit hexes. The EXIT HEX MUST BE DIRECTLY OPPOSITE THE ENTRY HEX!

Situations Introduction

USING THE SITUATION CARDS

On each Situation card, players will find small reproductions of the actual counters to be used by each side. Whenever a number preceded by a multiplication sign (e.g. "x6") appears below a unit's picture, it means that that player gets that quantity of that particular unit-type. When no number appears, take only ONE of that particular type.

Set up the mapboard in the arrangement shown by the map configuration diagram found on each card. Use the "N" arrow counter to indicate which edge of the board is "north." Use the "turn" counter to indicate what turn is being played by placing it in the appropriate box on the card's Turn Record strip.

Players are advised to store the many different kinds of counters in small envelopes or plastic bags in order to keep them segregated by type and side and to speed subsequent setting-up of the game.

HOW TO USE THE GAME SITUATIONS

Each of the 12 game situations is a complete game. Each game re-creates an actual battle that occurred in Russia between 1941-44. The battles are not, of course, re-created exactly. It was impossible to obtain precise data on both sides for 12 battles. Most detailed accounts were only detailed for one side. Also, we had to use the same mapboard for all the battles, although the use of a geomorphic board improved this situation somewhat. In order to get more out of this format we chose 12 situations which portrayed different tactical situations. Tactical warfare is, if you can possibly ignore the pain and loss of life, something of a mechanical exercise. The situations that arise fall into classifications which can then be dealt with using a known and tested 'solution." The Germans were most adept at this and taught their troops the "solutions" before commiting them to combat. The Germans also made something of an art of studying various tactical situations in order to devise improved solutions. The Russians, not having the military tradition and depth of training of the Germans, were forced to learn these same lessons the hard way. But they

eventually learned. One of the chief functions of PANZERBLITZ is to allow you to learn for yourself these same lessons in a bloodless manner. In doing this you can gain a greater understanding of what went on during the largest land war in history.

Each of the 12 game situations presents a different tactical "problem." The "solution" is up to the two players. The principal variable is the skill of the two players. All other aspects of the two armies have been built into the game. We have not given the "correct solutions" to each of the situations as these "solutions" were largely dependent on the manner in which each side's commander reacted. Basically, each situation is "balanced," although some might appear unbalanced until you have played and studied them a few times. Actually, both the Russians and (more frequently) the Germans used games "similar" to PANZERBLITZ to train tactical commanders and for developing new or improved tactics.

Each situation follows the following format. First there is the DESCRIPTION OF THE SITUATION giving the name of the battle, the date and the type of action it involved as well as a few notes. Then the forces available for each side are given, as well as instructions on which of the three boards each side sets up or enters on. Usually the Germans move first, but in some situations the Russians do, and this data is given in the "order of battle" section also. Finally, the "victory conditions" are given for each side. Usually they are defined as "Marginal," "Tactical" or "Decisive" for each side. Obviously, a marginal victory carries less weight than a decisive one.

In many cases it is possible for both players to achieve a level of victory in the same game. In that case, the player with the higher level of victory is declared the winner. If both achieve the same level of victory, the game is declared a Draw. Players may concede a Decisive victory to an opponent before the game is actually over. Keep the Situation card in view at all times.

Abbreviations are sometimes used. For example: Pz=Panzer, Div=Division, Bgde=Brigade and so on. The major components of the units are given when known for sure. The data on Russian units is scanty, which is why their detailed organization is not given.

Unless stated otherwise in a given Situation: all units enter game on Turn 1 and may not be witheld or withdrawn from the board.



OBSTACLES & ELEVATIONS AND LINE OF SIGHT (LOS) DETERMINATION EXAMPLES:

When referring to a particular Line-of-Sight between two units shown in these examples, we will use the two appropriate diagram letters (in much the same way as a line-segment is described in geometry). Thus "VW" describes the LOS between unit "V" and unit "W". The solid Black lines indicate clear, unobstructed Lines-of-Sight. The dotted Black lines indicate OBSTRUCTED LOS. The solid Red Lines indicate UNOBSTRUCTED LOS which may NOT be used because an OBSTRUCTED LOS takes precedence. Use the SPECIAL NOTES section of the OBSTACLE & ELEVATIONS rules in conjunction with the following examples:

UZ illustrates Notes A and B.

UV illustrates Notes C and D.

WV & TV illustrates the Gully rule. UW illustrates Note E.

YZ illustrates Note F.

XZ illustrates Note H.

WV illustrates a situation where Notes C&D do not apply (i.e. the LOS is unobstructed).

WS illustrates a situation where Notes A&B do not apply.

For U or X to be able to fire at Y, unit Z would have to be friendly to U or X to perform the "spotting" function.

WT illustrates the necessity of tracing the STRAIGHTEST route possible. There are alternate OBSTRUCTED routes available (dotted Red lines) which are as short as the solid Black UNOBSTRUCTED routes, but the Red routes are not as "straight" as the Black lines and are, therefore, NOT used. This is especially important to consider in long-range firing, in cases where there "shortest and straightest" route may not be obvious.



Introductory Game

TO GET YOU INTO THE PLAY OF THINGS

PANZERBLITZ isn't all that complicated once you've played a few games. However, the first game or two can be something of a drag while you try to put all the pieces together at the same time. To ease this introductory phase we have concocted an INTRODUCTORY GAME. Make things easier on yourself and use it. PANZERBLITZ uses a rather unique game system with which you are probably completely unfamiliar. So a little caution and forethought will probably pay off in your being able to get into the game more quickly using the Introductory Game.

INTRODUCTORY GAME: MODIFICATIONS Basically, the Introductory Game consists of two elements. First, certain basic game rules are not used. Secondly, you are urged to use the lower number game situations (which are somewhat easier to handle than the higher number ones).

Ignore the Following Rules for the Introductory Game:

OVERRUN ATTACK CLOSE INFANTRY ASSAULT GULLIES AND STREAMBEDS SPOTTING RULE TARGET ELEVATION TABLE (if anything is in the way you can't hit your target)

By not using these rules the game will, of course, take on a different feel. But the point is to help you learn it. Introduce the ignored rules during the play of the game. After one or two games you should have no trouble.

"Situation 13" MAKING YOUR OWN SITUATIONS

One of the most interesting aspects of PANZERBLITZ is the ability to devise your own situations, or to re-create ones that actually occurred. Given in the Campaign Analysis booklet are charts showing you how you can form most of the combat units used in the East during the war. These include not only the ones actually given in the game situations but also many others. You will notice that the organizations given in the booklet are for full strength units (less service and support units). During most actions during the war units were not at full strength. This has been reflected in the situations given. But at least you'll now know what each unit was supposed to have. Also given are division size organizations. It is not recommended that you play this game with division size units unless you are prepared to go to a considerable amount of extra effort and expense. For one thing, there are not enough units included in the game for building of divisions. Additional sets of counters may be purchased from Avalon Hill, as well as additional boards. Again, we are not encouraging the use of the game as high as the division level. By using your imagination you can easily expand the game as it now exists. You will notice that many units included in he game (JS II, JS III, SU 100, JSU 122, JgPz V, JgPz VI, PzKw VIb, etc.) were not included in any of the situations given. This was mainly due to the production of most of these more modern

weapons near the end of the war. There were many situations in which these weapons were used, but none of them were as representative of the most crucial periods of the war as the ones actually given in the game.

When putting together your own situations from actual battles you should first realize that it will be impossible (in most instances) to obtain detailed data on what each side actually had. Therefore you must take what data you can dig up and put together as accurate an "order of battle" as you can. You will learn more about what each side "probably" had after playing out the situation. Also important is the layout of the boards (which, of course, can be modified considerably) and the victory conditions. The time limits on our games usually go from 48 to 72 minutes. The on-board ammunition carried by mobile units did not allow for actions much longer than that. There was also a problem of individual stamina. There were, of course, certain types of actions that would drag on for hours. But these would require rather complex ammunition supply rules as well as more boards to give the units sufficient room for maneuver. Thus you can see that the situations included in PANZERBLITZ have been somewhat restricted. You must work under the same restrictions when designing new situations.

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F

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Vehicular	1 ^{TRUCK} 12	1 ^{TRUCK} 12	1 TRUCK 12	1 ^{TRUCK} 12	1 ^{TRUCK} 12	1 437 12
H	000	2 C(I) 1	2 C(I) 1	2 C(I) 1	2 C(I)-1	2 C(I) 1
Russian V	1 TRUCK 1 438 12	2 HALFTRK 10	2 HALFTRK 10	2 HALFTRK 10	2 HALFTRK 10	2 ^{HALFTRK} 10
'is						
SIS	2 C(I) 1	40 H 10	40 H 10	12 A 5	12 A 5	Turn
×	2 ^{HALFTRK} 10	16 SU-152 7	16 SU-152 7	9 ^{SU-76} 9	9 ^{SU 76} 9	iuiii
Blitz	X	X	X	X	X	X
E						
PanzerBlitz	X	X	X	X	X	X

	0 C 0 TRUCK 1 435 12		
-	2 C(I) 1 2 HALFTRK 10	-	

6	0 C 0	0 C 0 0 C 0 1 WAGON 3	0 C 0	0 C 0	0 C 0 WAGON 3 1 415 3	0 C 0
	0 C 0	0 C 0 WAGON 3	0 C 0		0 C 0 TRUCK 1 423 12	0 C 0 TRUCK 1 424 12
	0 C 0 TRUCK 1 425 12	0 C 0 TRUCK 12	0 C 0 TRUCK 1 427 12	0 C 0 TRUCK 1 428 12	0 C 0 TRUCK 1 429 12	0 C 0 TRUCK 1 431 12

10 ^{134/85} 11	10 ^{°34/03} 11	10 953 11	10 '954' 11	10 '955" 11
15 A 8	18 4 8	18 A 8	18 Å 12	18 A 12
10 ^{1-34/85} 11		-	14 JS III 14 981 8	14 ^{JS III} 8
	12 9/1 0	12 9/2 0		
1 Xy	Yey.	2 mg	Y	1 All
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2 2	B-B	8 8	E	

12 Å 6	12 A 6	12 Å 6	12 A 6	12 A 6
9 ^{1-34 C} 938 11	9 ^{1-34 c} 939 ¹¹	9 941 11	9 ^{1.34 c} 942 11	9 ^{1-34 C} 9 ⁴³ 11
15 A 8	-		15 A 8	
10 ^{-134/85} 11	10 ^{1-34/85} 11	10 ^{+34/85} 11	10 ^{+34/85} 11	10 ^{1-34/85} 11

14 A 8	14 A 8	16 A 8	16 A 8	17 A 10
12 SU-85 12 821 11	12 SU 85 11	15 841 8	15 ^{SU-100} 8	15 ^{JSU-122} 7
17 A 10	15 A 8	15 A 8	12 A 6	12 A 6
15 JSU-122 7	13 ^{KV 85} 10	13 ^{KV 85} 10	Q ¹⁻³⁴ [11	Q 1.34 C 11
12 A 6	12 A 6	12 A 6	12 A 6	12 A 6
9 ¹⁻³⁴ (11	9 ¹⁻³⁴ ^c 11	Q 1-34 C 11	9 ¹⁻³⁴ C 9 ³⁶ 11	9 ^{134 C} 9 ⁹³⁵ 11
9 933 11	9 934 H	3 937 11	9 936 H	9 935 11

ł	82 mm	82 mm	82 mm	82 mm	3 m 12 82 mm	82 mm
	3 81 1	3 82 1	3 83 1	3 84 1	3 85 1	3 86 1
	3 M 12	3 M 12	3 M 12	24 M 20	24 M 20	24 M 20
	3 87 1	3 88 1	3 89 1	2 91 0	2 92 0	2 93 0
	312	3 I 2	3 I 1	3 I 1	3 1 1	3 I 1
	8 111 1	8 112 1	4 131 1	4 RECON 1 132 1	4 133 1	4 134 1
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	4 RECON 1	16 RIFLE 1	16 RIFLE 1	16 RIFLE 1	16 RIFLE 1	16 ^{RIFLE} 1
	NES	NINAS	NINAS	NINAS	NES	NRS

2 M 12 2 M 12 2 M 12 3 M 12 3 M 12 3 M 12

3 H 10

76.2 mm 2 61 0

7 A 3

3 H 10

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7

3

7 A 3

45 mm 14 0

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122 mm 1 72 0

10 I 3

8 CAVALRY 3

50 1125

ANO 2-1

3

8 I 1 12 ^{SM6} 1	8 1 1 12 ^{SMG} 1	8 I 1 12 ^{SMG} 1	8 I 1 12 ^{SMG} 1	8 Î 1 12 ^{SM6} 12 ^{SM6} 185 1
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NNKS NO 2-1

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NNKS NOS 2-1

5 1 4	5 1 4	5 1 4	514	6 1 5
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			6 I 5	6 1 5
18 ^{GUARDS} 1 6 1 5	18 ^{GUARDS} 1 6 1 5	18 GUARDS 1	18 GUARDS 1	18 GUARDS 1
			6 1 5	
18 GUARDS 1	18 GUARDS 1	18 GUARDS 1	18 GUARDS 1	12 ^{SMG} 1

PanzerBlitz & Russian Non-vehicular Unit Counters

6 1 6

2

9 A

6 16

12.7 mm 2 2 0















... from the other side of the ridge comes the clanking thunder and the ominous dust-cloud that heralds the arrival of an onrushing wave of deadly steel: German armored columns on the attack.

... Russian tank commanders slam shut the hatches of their dreaded T-34's ... gun crews prime their weapons and infantrymen hug the earth

... and there-topping the rise! ... a glint of dawn reflecting off the muzzle of the first German tank ...

PanzerBlitz, is about to begin!

The game of PanzerBlitz enables you to re-create the drama and furious action of tactical-level armored warfare. Battlesimulations take place on a realistic mapboard which reproduces about twenty square miles of typical Russian terrain. The playing pieces are accurate symbolizations of the platoon and company sized soits which fought on the Eastern Front in World War II. More than a dozen different "scenarios" are given, each of which allows you to re-create a completely new game-situation in which to exalicise your skill as an armor tactician. Prior military knowledge or experience, however, is not needed to play PanzerBlitz-just common sense, clear thinking and a competitive spirit.

IN EACH PANZERBLITZ GAME, YOU GET .

- 352 authentic unit counters
- Big 22"x24" mapboard in full color
- Comprehensive illustrated Rules-of-Play
- Game Situation Cards
- Campaign Analysis Booklet
- Plastic Components Tray

PLUS SPECIAL FEATURES THAT MAKE PANZERBLITZ A NEW DEPARTURE IN THE FIELD OF BATTLE-SIMULATION GAMES!

 Tactical level combat with weapon range and fire-overdistance.
 Three section "Geo-morphic" mapboard which can be re-arranged to form dozens of different terrain configurations.
 Platoon and company sized units which can be combined to form many distinctly different battle formations.
 Situation cards which allow the playing of several dissimilar games using the same basic rules.
 Easy-to-handle oversized unit counters with authentic armored vehicle recognition silhouettes.
 Rules which include such considerations as: Range; Elevation; Obstacles to Fire; Fortifications; Close Infantry Assault Tactics; Weapons Interrelationships; Motor transport; Mines; Anti-Tank Guns; Mortars; Spotting; Indirect Fire . . . and much more!

A	1
$\Box \Lambda$	Ш
$I\Lambda$	
	11

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14 A 8

Panzerkampfwagen IVh-Mein Valitie Link Lit to entry an Inferior armor and mobility to T-343 but P2 IV's Sam Jun uperior to Russian 85mm 5007 produced.



T-34/85-Many appeared in early '44. 12% more armor and 25% more firepower than "c" model. 19,000 produced during war, 48% of all T-34 models produced.



Panzerkampfwagen V ("Panther")-Best tank in world until early '50's. Better armor and equal mobility to T-34, its 75mm. gun superior to Russian 122mm. 5460 produced.



SU-100-Final tank destroyer version of T-34. Armor not sloped as well as T-34's. 100mm. gun nearly equal to "Panther's" 75mm. Appeared in late '44, 1200 produced during war.



"Jagdpanzer V ("Jagdpanther")-Tank destroyer (Jagd=hunting) version of Pz V: Its 88mm. gun able to defeat thickest Russian armor. Best weapon of its class during the war. 230 produced.

"Panzerblitz" is a German word which literally means "armored-lightning."