

# Parameter Data

**Minutes per Turn: 6**

**Meters per Hex: 250**

**Maximum Units per Hex: 6**

**Maximum Strength Points per Hex:  
24**

**Maximum Strength Points per Road: 12** (more than this number of SPs in the hex negates any road/railroad/path in the hex)

**Minimum *Non-Wreck* Strength Points per Hex that Block LOS: 13**

**Minimum *Wreck* Strength Points per Hex that Block LOS: 6**

## COMBAT RESULTS TABLE

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>
1	6	0	0	0	0	0
1	5	0	0	0	0	5
1	4	0	0	0	5	5
1	3	0	0	0	5	10
1	2	0	0	5	10	10
2	3	0	0	5	10	20
1	1	0	0	10	15	20
3	2	0	0	10	20	25
2	1	0	0	15	25	25
3	1	0	5	15	25	30
4	1	0	10	20	30	30
5	1	5	15	20	35	20
10	1	10	25	25	25	20
15	1	35	25	25	10	5
20	1	60	25	15	0	0
25	1	75	25	0	0	0
30	1	90	10	0	0	0

**Column A:** net attack strength\*

**Column B:** net defense strength\*

**Column C:** % chance of inflicting a loss of 3 SPs

**Column D:** % chance of inflicting a loss of 2 SPs

**Column E:** % chance of inflicting a loss of 1 SP

**Column F:** % chance of causing Disruption

**Column G:** % chance of causing a Morale Check

When a unit attacks, the program actually conducts a number of attacks equal to the unit's SPs, then takes each individual result and determines the net result vs. the defender.

\* Attack-vs.-defense strengths *between* those listed above are calculated individually by the program on a pro-rated basis, based on the result probabilities of the two CRT lines the attack falls between. For example, a net attack strength of 11 vs. a net defense strength of 4 has slightly lower result probabilities than an attack of 3 vs. a defense of 1, but higher probabilities than an attack of 2 vs. a defense of 1.

### TERRAIN COMBAT MODIFIERS

The amount of the otherwise-applicable attack strength that is allowed to 'hit' a target occupying such terrain. If two or more apply, they all have an effect; e.g., a unit attacking a target in a forest hex behind a hedge would use .72 (.8 x .9) or 72% of its 'normal' attack strength.

#### FULL-HEX

Open: 1.0	Building: .6	Water: 1.0
Field: 1.0	Village: .7	Marsh: .95
Orchard: .9	Suburb: .7	Swamp: .8
Rough: .8	City: .6	Uphill/downhill: .9
Forest: .8	Industrial: .5	Shallow Water: 1.0
Beach: 1.0		

#### HEXSIDE

Hedge: .9	Embankment: .8	Other: 0
Bocage: .65	Stone Wall: .8	High Wall: N/A

#### SPECIAL

**Improved Position:** .75

**Trench:** .56

**Bunker/Pillbox:** .75 (Also adds 20 to the defense strength of each occupant. In addition, a bunker is a soft target; a pillbox is a hard target. Neither can provide any benefit to vehicular units.)

**Beach Obstacles:** 1.0

### TERRAIN MORALE MODIFIERS

These apply to a unit's morale when it must take a Morale Check to see if it will retreat.

Open & Beach: -1*	Building: +3	Shallow & Deep Water: -1
Field: 0	Village: +2	Marsh: -1
Orchard: 0	Suburb: +2	Swamp: 0
Rough: 0	City: +3	Bunker/Pillbox: +4**
Forest: +1	Industrial: +4	Trench: +2**
Improved Position: +1**		

\* Does not apply to armored (hard) units.

\*\* These are cumulative with all other applicable morale modifiers, to a maximum of +5.

## TERRAIN HEIGHT (in meters)

Open: 0	Building: 15	Water: 0
Field: 3	Village: 10	Marsh: 3
Orchard: 8	Suburb: 10	Swamp: 25
Rough: 0	City: 25	Smoke Ammo: 20
Forest: 25	Industrial: 20	

Base Elevation Change: depends on scenario

## COMMANDERS

**LEADERSHIP:** When a commander is stacked with a friendly unit whose morale is less than that commander's Leadership value, that unit's morale becomes equal to that Leadership value. If the commander's Leadership value is less than or equal to the unit's, its morale is increased by one. (Morale increased due to Leadership is displayed in red.)

**COMMAND:** The strength of an attack is increased by an amount equal to the highest Command value of the friendly commander(s) stacked with the attacker(s), provided the commander has at least as many Action Points as that attack costs.

**INCREASING HQ RANGE:** When the Optional Rule for Command Control is enabled, the Leadership value of a leader who is stacked with "his" HQ (e.g., his regiment's HQ if he is a regimental leader) will increase the "supply range" of that HQ (see below) by his Leadership value.

## SUPPLY RANGES

Resupply attempts at the given hex range have a 50% chance of success. The distance between a unit and its HQ is directly proportional to its chance of successful resupply. An HQ that is out of supply cannot resupply any of its units.

Army HQ: infinite  
Corps HQ: 90  
Division HQ: 30  
Brigade HQ: 15  
Regiment HQ: 15  
Battalion HQ: 8

**VARIED HQ RANGES:** When the Optional Rule for Command Control is enabled, the above "base" values for the HQ ranges are multiplied by the modifier listed in the charts below. These multipliers abstractly represent the increased or lessened range that the HQ will have, depending on the year-date of the scenario and the nationality.

The "Mod" column lists the modifier for the year listed in the "Year" column. When the "base range" (as listed above) for that HQ type is multiplied by the modifier, the new "50% range" for that HQ type can be found.

<b>Russia</b>		<b>50% Range</b>			
<b>Year</b>	<b>Mod</b>	<b>BTLN</b>	<b>RGT/ BDE</b>	<b>DIV</b>	<b>CORPS</b>
39	0.60	5	9	18	54
40	0.60	5	9	18	54
41	0.60	5	9	18	54
42	0.70	6	11	21	63
43	0.80	6	12	24	72
44	0.85	7	13	26	77
45	0.85	7	13	26	77

<b>German</b>		<b>50% Range</b>			
<b>Year</b>	<b>Mod</b>	<b>BTLN</b>	<b>RGT/ BDE</b>	<b>DIV</b>	<b>CORPS</b>
39	1.00	8	15	30	90
40	1.10	9	17	33	99
41	1.20	10	18	36	108
42	1.20	10	18	36	108
43	1.00	8	15	30	90
44	0.90	7	14	27	81
45	0.85	7	13	26	77

<b>Italy</b>		<b>50% Range</b>			
<b>Year</b>	<b>Mod</b>	<b>BTLN</b>	<b>RGT/ BDE</b>	<b>DIV</b>	<b>CORPS</b>
40	0.80	6	12	24	72
41	0.75	6	11	23	68
42	0.70	6	11	21	63
43	0.65	5	10	20	59

<b>U.S.A.</b>		<b>50% Range</b>			
<b>Year</b>	<b>Mod</b>	<b>BTLN</b>	<b>RGT/ BDE</b>	<b>DIV</b>	<b>CORPS</b>
42	0.70	6	11	21	63
43	0.80	6	12	24	72
44	0.90	7	14	27	81
45	1.00	8	15	30	90

## **MISCELLANEOUS**

Action-Point cost to assault: 20 (in addition to the cost to enter hex)

Action-Point cost to enter a blocked hex: 65

Action-Point cost to dismount from non-transport vehicles (e.g., from tanks or assault guns): 10

Per-turn % chance of creating an Improved Position: 10

The % chance that a commander will be killed during an attack: 4

Maximum elevation change (in meters) that a vehicle can make across one hexside: 50

