WHEN SUPERPOWERS COLLIDE

Germany 1985 ™

SSi

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1.0 INTRODUCTION

GERMANY '85 is a battalion level simulation of two possible engagements between NATO and Russian forces in West Germany. A 39×28 hexagonal grid map representing 1 mile per hex is used to regulate movement and resolve conflict. Each turn represents four hours of real time with night requiring two turns. A Terrain Effects Table (see 4.4) summarizes how the features on the map affect movement and combat of the units. Tables (see Appendix) have been provided to explain in detail the combat systems, although the computer automatically calculates, displays and implements combat results as they occur. Only legal moves will be displayed and accepted, so the details involved in movement and combat could be studied as play proceeds, with the player(s) consulting the rules as the need arises.

2.0 GETTING STARTED

When first starting this game it is suggested that the sample turn be followed and the keys on the game information card examined.

2.1 Unit Types

NATO

TANK BATTALION

ARMOURED INFANTRY BATTALION (APC)

SELF-PROPELLED ARTILLERY BATTALION (SPG)

RECONNAISSANCE BATTALION

STACK SYMBOL

ENGINEER BATTALION

AIR CAVALRY UNIT

AIR STRIKE MARKER

RUSSIAN

TANK BATTALION

MECHANIZED INFANTRY BATTALION (BMP)

ARTILLERY BATTALION

KATUSHKA BATTALION

INFANTRY BATTALION

ENGINEER BATTALION

STACK SYMBOL

AIR STRIKE MARKER

2.2 Starting Up

Insert the disk in drive #1 and turn on the computer. Users without Autostart will have to boot the disk manually. Apple III owners must first go into Apple II emulation mode. Once the disk has been booted the menu will appear listing the game options and scenarios.

2.3 Game Menu

When the game menu appears the player(s) can decide on a scenario and options by hitting the keys 0–9. Words appearing in INVERSE are in effect. (That is, the computer is initially set up in SOLITAIRE, LEVEL 1, with the computer playing the RUSSIAN forces).

By selecting the DEMONSTRATION and starting the game the player(s) can watch the computer play itself. This is a useful way to become familiar with the features of the game.

Once the options have been selected, (including DEMONSTRATION which shows the computer playing itself until the space key is hit, or RESTART, to reload a saved game), the game may be started by hitting the space bar.

The sample turn demonstrates the setting up of one scenario.

2.4 Command Keys

All commands in the game are made by hitting a single key or single key with the CONTROL key held down. The keys 1 to 6 are used to indicate the direction of movement of a unit or the cursor.
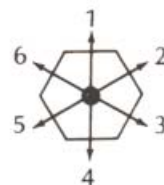
A summary of the keys used in the game can be found on the game information card and a more complete description of their use can be found later in the rules in the appropriate sections.

The keys which are used during the various phases are:

THE GLOBAL KEYS

These keys can be used during the game when a cursor is flashing on the screen. All global keys are reversible; the game will be restored if the key is hit twice.

NOTE: c/KEY indicates that the key is hit with the control (CTRL) key held down:

KEY : DESCRIPTION

B : night turns will be indicated by white terrain unless this key is hit

F : switch to text/full screen

P : draw the strategic (full map) screen

T : clear units and smoke from the screen

D : causes units of the same division to change color (even if hidden) and the HQ unit to flash

◄ : speeds up the computer movement

► : slows down the computer movement

c/S : sound on/off

c/P : combat pause on/off

c/L : global leave (cycle round all units)

c/D : divisional leave (cycle round division until all moved)

NOTE: (SPC) indicates the space bar. By hitting (SPC) the player will return the game to a flashing cursor (such as during the scrolling operation or a mode change). The (SPC) key will never cause a fatal action to occur.

Another set of keys which may be used when the white cursor is flashing is called the:

NORMAL GAME KEYS

1 to 6 : movement keys

0 : will center the screen on the cursor

(S)croll key

When S is hit the scroll mode is activated. The following keys can then be used to move round the map:

1..9 A..C : will draw the appropriate screen and return from scroll mode. The screens are numbered from left to right and from top to bottom.

0 will center the screen on the cursor and return.

I,J,K and **M** will scroll the map in the direction indicated. This scrolling can be paused by hitting the **S** key again. (**SPC**) will return from scroll mode.

(**E**)xamine

The characteristics of the friendly unit the cursor is on will be displayed on the text screen.

(**M**)ove

The unit the cursor is on will enter the movement phase (if legal).

(**ESC**) : will switch the auto-move on and the computer will find the closest unit (of the division if **c/D** is in effect) and go to the movement phase.

c/A : will activate the air power phase (see 8.0).

c/B : activate save game option

c/E : will allow a player to end that turn.

c/V : will display the status of friendly, enemy or neutral villages, towns and airfields.

The following keys can be used to move a unit:

MOVEMENT KEYS

M : will switch movement to the second unit in a stack if both units can be moved.

I to 6 : movement keys

0 : will center the screen on the unit.

(**S**)croll

Use this key as described before except that the moving unit will be kept on the screen.

I,J,K and **M** will move the screen in the direction indicated.

0 will center the screen on the unit.

(**SPC**) will return to the unit being moved.

Q : exits unit from the movement phase without combat

(**ESC**) : will also exit from the movement phase but, if the unit has not moved, the unit will be able to move at a later stage.

C : will allow a unit to change its mode (see 4.2).

L : will allow an unmoved unit to be left (see 4.9).

O : allows a player to issue the unit with an order (see 4.5).

c/C : allows continued combat without moving.

c/H : will hide or expose a unit (see 4.6).

2.5 Sample Turn

When the game menu appears, the computer is set up to play SOLITAIRE, LEVEL I (the most difficult), ADVANCE TO CONTACT scenario with the computer playing the Russian forces.

Hit (**3**) twice to change the computer to level 3. In level 3 the computer is instructed to play with its forces exposed, while the player's forces have been reinforced. (At level I, the computer's forces are reinforced).

In this game, therefore, the solitaire option has been chosen with the computer playing the Russian forces on level 3. All units are exposed with the NATO forces reinforced. The scenario is ADVANCE TO CONTACT.

Hit the space bar to continue. Randomized terrain is not required for this game, so hit the space bar and the units will be placed on the map ready for play.

When the map appears, the cursor may be moved around by using the keys I–6. By moving the cursor, the player can become familiar with the map, and should also refer to the mapboard. (Note that roads are represented by white hexsides rather than lines).

Hit (**S**), then (**I**) to return the cursor to the starting point. Move the cursor over the nearest unit by hitting (**5**), (**5**) and (**6**).

Hit (**M**) to start the movement phase for that unit. (See section 4.0 for an analysis of the movement screen). Hit (**3**), (**3**), (**3**) to move the tank down the road. The objective is to 'capture' towns, villages and airfields by moving units into them. The village the tank has just passed through is now identified as a NATO village as it has a small cross in the centre. (A Russian controlled village would have a small square in the centre). Hit the right arrow (►) repeatedly until the error sound occurs. This causes the computer to slow down all automatic movement. Hit (**O**), as in Order, and the order menu will appear. Hit (**5**) to instruct the computer to move the tank to screen 5 in the middle of the map. Hit (**C**), then (**N**) to change the tank from transport to normal mode. Hit (**Q**) and the cursor will reappear. Hit (**ESC**) and the computer will present the next unit to be moved. (When (**ESC**) is hit the computer will automatically find the next unit to be moved.) Hit (**0**), then (**2**) to order the unit to screen 2. As the unit will run out of movement allowance before it gets there, the computer will terminate its movement phase and move on to the next unit. Hit (**ESC**) again and the cursor will reappear. Hit **c/E** (hold the **CONTROL** key down and then **E**) to instruct the computer to end the turn. The computer will then move the Russian forces before the 2nd turn begins.

3.0 SEQUENCE

Each game is played in Game-Turns, each of which consists of Player-Turns (one NATO and the other Russian). The NATO player always moves first. The player whose Player-Turn is in effect is called the Phasing Player.

3.1 Initial Setup

If the INVASION scenario is chosen the NATO player will be able to set up the units and, once moved, the Russian player will be able to position the drop zones for the two airborne divisions and they will be deployed around the drop zone when (**RETURN**) in hit. There is a small possibility that a parachute battalion will not arrive, and the error sound will occur. This can be avoided by placing the drop zones apart and keeping them from the side of the board.

NOTE: if the HIDDEN option is in effect the units will not be displayed but will become exposed when sighted during the first movement phase.

3.2 NATO Player-Turn

The NATO Player may move as many of his units as he wishes according to the restrictions outlined in section 4.0, and may activate the air allocation phase at any time (using **c/A**).

When the turn has finished **c/E** may be hit and the player will then have the option of:

ending the turn; or,

allowing the computer to move any of the remaining units.

3.3 Russian Player-Turn

The Russian Player now repeats the phases outlined in 3.2

The save game option may be activated at any time by hitting **c/B** and following instructions.

The game will end on the 20, 21st or 22nd turn and victory decided (see 14.0).

4.0 MOVEMENT

During the movement phase the Phasing Player may move as many or as few units as desired. Each unit has a number of Movement Points (MP's) that may be expended in various ways during the phase.

At any time the unit may be given an order that the computer will then carry out (see 4.5).

If a unit enters an Enemy Controlled Hex (ECH) it must engage in combat and if, after combat, it still has MP's remaining it may move and/or engage in combat again.

A unit's mode will affect the number of MP's it has and the way they will be expended.

The number of enemy units that can sight a moving unit affects the cost of movement and the results of combat.

During the movement phase the following information is displayed on the screen:

TERN : the type of terrain the unit is in
TYPE : of unit moving
MODE : of unit moving
TURN : of game (in inverse if at night)
SM : MN : NC indicate (if in inverse) if the hex contains smoke, mines or nuclear contamination
EF : efficiency of unit
DV : number of division the unit is in
HQ : distance to the division HQ unit ('★' if it is HQ, '—' if over 9 hexes)
MVL : MP's remaining
STN : strength of unit
RAN : range of artillery fire

On the right hand side of the screen the possible directions are displayed with the hexside type indicated in

NORMAL : If movement is possible
INVERSE : if movement is not possible
FLASHING : if the unit is in an ECH with an enemy unit that may be engaged in combat

There are 2 numbers in the middle of the direction indicator. The top one indicates the number of sighting enemy units (SEU) that can sight the moving unit, and thus affect movement cost and combat, and the bottom one indicates the number of enemy units the moving unit can sight.

4.1 Movement Points

The following table indicates the maximum MP's available to a unit during its move.

NATO	MP's	Russian	MP's
TANK	25	TANK	25
A.P.C.	25	B.M.P.	25
S.P.G.	20	ARTLY	18
AIRCV	30	KATCH	18
RECON	30	INF	15
ENG	20	ENG	20

At night an AIRCV unit has a maximum of 15 MP's. If a unit has retreated during the previous Player-Turn its maximum movement allowance will be halved (exception 6.4). If a unit begins the Player-Turn in DEFN mode its maximum movement allowance will be halved. These effects are not cumulative.

The actual number of MP's available to a unit at the start of its movement phase depends on the mode it is in, and whether its maximum movement allowance has been halved. The following ratios are used to calculate the initial movement allowance for that turn (i.e., a tank in NORM mode would have 25 ★ (3/4) = 18 MP's). Values are truncated, not rounded up.

MODE	RATIO	MODE	RATIO
DEFN	0	RIVER	1/2
REOR	1/4	FIRE	1/2
SUPPRT	1/4	NORM	3/4
ATTCK	1/2	TRANS	1

4.2 Mode Change

To change mode a unit must expend MP's based on its efficiency and the number of sighting enemy units (SEU).
The cost of change is:

EFFICIENCY	COST
6 – 7	SEU/2
3 – 5	SEU + 1
0 – 3	SEI ★ 2 + 1

When changing mode, '★ ★' indicates that the unit may not change to that mode either because it does not have the MP's remaining or that mode is prohibited to the unit (see APPENDIX). 'OP' indicates that it is legal for that unit to expend its total movement allowance switching to DEFN mode.

HQ units may not change to DEFN, SUPPRT, FIRE or ATTCK modes.

The movement points available to the unit after the change takes place are displayed, with the present mode outlined in inverse.

The formula used to derive these values is:

NEW MOVEMENT ALLOWANCE = (MAXIMUM MP's – CHANGE COST) ★ (NEW MODE RATIO) ★ (NUMBER OF MP's REMAINING / NUMBER OF MP's AT START)

EXAMPLE:

A tank in normal mode with efficiency 5 and strength 11 has 4 sighting enemy units (SEU):

When changing mode at the start of its movement phase the following screen will be displayed:

MOVE ALLW = 18 CHNG COST = 5
(D)EFN OP (S)UPPRT 5 (N)ORM 18
(T)RANS 20 (R)IVER 10 (A)TTCK 10
R(E)ORG 5 (F)IRE 10 (SPC)

The change cost is 5 (4 SEU + 1) and the formula for R(E)ORG mode is calculated as
5 = (25 – 5) ★ (1/4) ★ (18/18)

NOTE: It is expected that few people would want the formula, as it is rather difficult to calculate during movement but it should give you an idea of the costs involved. Basically, the more enemy units around, the harder it is to get anything done.

4.3 Modes

There are eight modes used in the game. They are:

DEFN : (defense) which is available as an option before the unit has moved. It requires the complete movement allowance. Combat cannot be conducted by a unit in DEFN mode. If a unit switches out of defense mode it will have only half the normal movement allowance for the remainder of the turn.

SUPPRT : (support) allows a unit to support the defense and/or attack of another unit from the same division.

NORMAL : indicates the normal deployed state of a unit.

TRANS : (transport) indicates that the battalion is taking advantage of the road network and is in a vulnerable combat condition.

RIVER : allows a unit to cross river hexsides.

ATTCK : (attack) gives the unit an increased combat ability but its losses in combat will also increase.

FIRE : allows any unit with an artillery range above zero to fire its heavy weapons at units within range.

REOR : (reorganization) indicates that a unit is refitting and increasing its strength and efficiency.

4.4 Terrain

The following types of terrain are used in this game:

TERRAIN	MP's	SIGHTING DISTANCE	COMBAT BONUS
OPEN	2	5	0
L. ROUGH	3	3	1
ROUGH	4	2	3
FOREST	4	2	2
SWAMP	5	3	1
VILLAGE	3	3	2
TOWN	4	2	3
SAND	3	3	1
RIVER	4	5	0

Airfields and numbered hexes are treated as open hexes for movement and combat purposes.

Movement in TRANS mode costs 1 MP per hex.

AIRCV units pay 1 MP per hex in any terrain.

In addition it costs:

+2 MP's to enter a smoked hex.

+1 MP for each SEU (+2 MP if the unit is in TRANS mode).

+1 MP if the unit is in TRANS mode and the opponent has air superiority.

4.5 Order Phase

When moving a unit it is possible, at any time, to give an order that the computer may, or may not, carry out.

To exercise this option hit O (as in "order") and the following choices will be displayed.

I ◄ – ► C : will move the unit to the appropriate point utilizing the road net if possible, but the presence of enemy units will negate this order.

D : will cause units in NORM and FIRE mode to be able to move during the opponent's movement phase (see 4.8).

X : will cause the unit to exit the map, if the unit is on the edge of the map, with 25% chance of either coming back at the same spot as a reinforcement 1, 2 or 3 turns later, or being eliminated.

V : will cause the unit to capture any village within 5 hexes and continue until no further villages are left within 5 hexes, unless negated by the presence of enemy units.

F : will cause the unit to fire at the best target of opportunity within range.

R : will cause the unit to run until it is out of sighting range where it will then change to REOR mode if it needs to, and can, reorganize.

S : will call in fire from artillery units and airstrikes, within range on any units within 3 hexes of the moving unit.

M : will cause the unit to advance and fire on enemy units.

N : will cause the unit to advance and attack enemy units.

If the order cannot be carried out for any reason, the end-of-order sound will occur and control will be passed back to the player.

4.6 Hidden Movement

A unit, at any time during its movement phase, may be hidden (using c/H) as long as it is:

not stacked with another unit.

not adjacent to another unit.

not in TRANS mode.

not sighted by an enemy unit.

Hidden units may not stack with another unit, nor may an exposed unit enter the same hex as a hidden unit. Hidden units cannot sight non-adjacent, hidden, enemy units.

If a unit enters TRANS mode or fires, it will become exposed. c/H can also be used to expose a hidden unit.

If the HIDDEN option is in effect then units moving under order, or during the solitaire turn, may be hidden.

When c/H has been used to hide a unit it must then continue with the remainder of its movement phase. It cannot then be left or switched to DEFN.

NOTE: c/H and ◄ produce the same code to the computer and may be interchanged.

4.7 Sighting

A hidden unit that is sighted by an exposed enemy unit, or moves adjacent to a hidden enemy unit, will become exposed.

An exposed friendly unit will sight, and cause to become exposed, hidden enemy units.

The distance at which a hidden unit becomes sighted depends on:

the terrain it is in (see 4.4).

whether it is night (a maximum of 2 hexes).

whether it is in smoke (a maximum of 2 hexes).

and the mode it is in (DEFN is 1 hex, REOR 2 hexes).

When a unit becomes sighted the speaker will sound.

During the combat phase, enemy units may sight friendly hidden units.

4.8 Delayed Move

A unit that is given a (D)elayed order may move during the opponent's player-turn. Only units in FIRE or NORM mode may use the (D)elay option. Units in FIRE mode will attempt to fire at the unit that initiated the attack and units in NORM mode will then carry out an attack. A unit may move, and then, before movement has been completed, be given a (D)elayed order and thus be able to move during the opponent's player-turn.

A unit will stay in delayed mode until it moves, changes mode or is involved in combat.

The probability that an enemy unit will activate a delayed attack depends on the number of delayed units within 5 hexes. This means that more than one unit should be left in delayed mode in the same area to raise the chance of a delayed attack being carried out.

The attack will be carried out on the unit that initiated it. If the unit survives the attack, and has not retreated during the attack, it will be able to continue its movement phase.

4.9 The 'L' Key

While in auto-move (by using the (ESC) key to initiate movement) a player can cycle around all unmoved units by hitting the (L) key.

The cycle normally takes in all unmoved divisional units but, by hitting c/L, all unmoved units can be included. The divisional cycle is reset at the end of the player-turn.

At the start of the turn all non-artillery units are left so that the artillery units will be chosen to move first.

A unit may be left only if it has not moved, changed mode or performed any other action.

4.10 Movement Restrictions

There may be no more than two units in any hex (exception 10.0). No unit may enter a hex occupied by a hidden unit, nor may a hidden unit enter a hex occupied by any other unit.

AIRCV units cannot enter Russian controlled village, town or airfield hexes. Only AIRCV and ENGIN units may enter RIVER hexes unless the hex has been bridged (see 12.0).

Units in TRANS mode may only travel through open hexes (unless moving along a road) or non-enemy controlled villages, towns and airfields.

A unit in DEFN mode may not move.

4.11 Night Movement

During a night turn sighting is restricted to 2 hexes. AIRCV units have their movement halved during night turns.

Night turns will be identified by white terrain, unless the (**B**) key is hit, in which case the terrain will appear in normal color.

The turn counter will be in INVERSE during a night turn.

Night occurs on turns 5 & 6, 11 & 12 and 17 & 18.

NOTE: Units are more likely to penetrate an enemy line at night as the number of SEU will be lower.

4.12 Randomized Terrain

Before the game is set up the player(s) will be asked if they wish to use the random terrain feature. By hitting (**Y**) the terrain will be re-arranged, but TOWN, RIVER and SWAMP hexes and RIVER or ROAD hexsides will not change; so the structure of the map will be basically unchanged.

5.0 ZONES OF INFLUENCE

A unit can exert an influence up to 5 hexes away. Any unit within this zone may be affected in terms of movement costs or combat results.

5.1 Enemy Controlled Hexes

A hex that is adjacent to an enemy unit, but does not have an intervening river hexside, is classified as an Enemy Controlled Hex (ECH).

Only a unit in RIVER mode may attack across a river hexside. *(Exception: AIRCV units may always attack across river hexsides).*

6.0 COMBAT

When a friendly unit enters an ECH (or the **c/C** key is used) combat is initiated.

The computer resolves combat, taking into account:

the number of enemy units sighting the attacker.
the number of friendly units sighting the defender.
the terrain the defender is in.
the number of friendly units supporting the attack.
the number of enemy units supporting the defense.
the distance from combat of the respective HQ units.
the efficiencies, strengths, modes and types of units engaged.
the amount of artillery fire the defender has suffered.

All adjacent defending units are attacked first before the attacking unit will suffer losses. A unit supports the attack by being in SUPPRT mode, within 3 hexes of the attacker (or RANGE – 1 if it is an artillery unit), unmoved and with no enemy units adjacent to it.

Units support the defense by being in SUPPRT mode, within 3 hexes of the defender (or RANGE – 1 if it is an artillery unit) and with no friendly adjacent units.

HQ units support the attack if they are within 9 hexes of the attacker (with a bonus if within 4 hexes) and have no enemy units adjacent.

HQ units support the defense if they are within 9 hexes of the defender (with the bonus if within 4 hexes) and have no friendly units adjacent.

NOTE: see APPENDIX for details.

6.1 Restrictions

Only units in RIVER mode may attack across river hexsides *(Exception: AIRCV units).*

Units in ATTCK mode cause losses of attacker and defender to be increased.

A unit which has yet to move, in an ECH, will not be involved in combat. **c/C** must be used to initiate combat in this case.

6.2 Combat Resolution

After combat has been resolved the following results can occur:
Both units suffer step losses in both strength and efficiency.
The defender is forced to retreat.
The attacker and/or defender is eliminated.

6.3 Artillery Bonus

An enemy unit hit by artillery fire will suffer a loss of combat efficiency. For the benefit of friendly combat, only the first two barrages each turn will have an effect. Artillery does not have any effect, for combat purposes, on a retreated unit.

The (**F**) order takes into account all the above factors before allocating fire.

6.4 Retreats After Combat

After combat, a defending unit may also be required to retreat. In that case it will switch to NORM mode (or FIRE mode in the case of an artillery unit) and retreat.

A retreating unit must obey the normal movement restrictions and must not exceed its normal movement allowance.

A retreating unit cannot initiate combat while retreating.

A retreating unit that fails to retreat the required number of hexes, for any reason, will suffer additional losses and may then be eliminated. If the unit cannot retreat at least one hex then the unit will enter defense mode.

A unit may retreat only once per player-turn. If required to retreat again it will, instead, take additional losses.

During the next movement phase a retreated unit, with the exception of AIRCV units, will have only half the normal movement allowance.

6.5 Combat Display

The following information will be displayed in combat:
UNIT : type
STRN : of defender (Light, Medium, Heavy)
RSLT : 0–8 (See Combat Damage Table in Appendix for interpretation of shift *∤*)

7.0 ARTILLERY

All units with a range greater than zero can enter the artillery phase. This phase represents long range artillery, as well as heavy weapons and missiles possessed by most units.

7.1 Procedure

A unit may be fired by:

using (O)rder (F)ire during its movement phase.
being called in as (S)upport fire during an order phase.
operating manually by entering FIRE mode and typing **c/F**, then positioning the cursor over a sighted hex and hitting:
c/F to fire artillery or,
c/S to fire smoke or,
c/X to return to the movement phase.

When firing manually, the three commands will be displayed in inverse if they are illegal. It is not possible to fire artillery on a friendly unit. Russian artillery must use units in the same division

to sight a hex. NATO artillery can use any unit to sight hexes.

When the artillery unit fires, all units in the target hex, whether hidden or exposed, will be affected.

If an artillery unit moves, or changes mode, its ability to inflict damage will drop considerably.

7.2 Artillery Sighting

A unit may only fire on a sighted hex. A friendly unit, whether hidden or exposed, may sight for artillery. Russian artillery units may only use units from the same division to sight.

A hex is sighted for artillery purposes if a friendly unit, either hidden or exposed, is within sighting distance of it (see 4.4). At night sighting is reduced to 2 hexes.

The automatic fire will not pick up hidden units even though it may be legal to fire on that hex. In this case the fire will have to be placed manually.

7.3 Fire Resolution

Damage is caused taking into account the strength, efficiency and mode of the attacked unit and the terrain it is in. If the firing unit has not moved or changed mode during that movement phase then its strength is also taken into account.

Only the first two barrages will affect the strength and efficiency of the attacked unit. Further barrages will affect its efficiency only.

A retreated unit will suffer damage to its efficiency only. (See APPENDIX.)

8.0 AIR POWER

When c/A is hit during a player-turn the following menu will appear:

```
NATO : / : / RUSSIAN :          : ALC : KEYS
(A)IR SUPERIORITY    : SPARE./ : / : 0–9
(T)AC. AIR SUPPORT   : STRKE./ :   / : c/F
```

(where '/' indicates a number between 0 and 9).

If a side is printed in INVERSE then it has established air superiority for that player-turn. If both sides are printed in NORMAL then neither side has superiority. The numbers (/) between the sides are the number of air points in operation for that player-turn. On turns 1 & 2 the air superiority is fixed by the scenario. In Advance to Contact neither side has air superiority for the first two turns and in Invasion the Russian player has superiority for the first two turns.

8.1 Air Superiority

When the menu is showing, the player may allocate 0 to 9 air superiority points (depending on the number that are available that turn) by hitting (A) followed by the number. Points allocated on NATO turn 3 will be active during Russian turn 4 and NATO turn 5. The points allocated on turn 3 will be available again (with some random fluctuation) on turn 5.

Superiority will be allocated to the side which has the greater number of MODIFIED air points in action during any player-turn. If an equal number of modified points are in action then neither side establishes superiority. A player receives 1 or 2 additional air points which are not displayed but are taken into account when superiority is calculated if superiority has been held for 1 or 2+ player-turns.

8.2 Tactical Air Strikes

In each player-turn 0–3 air strikes are available for the player to allocate for the next turn. This number is increased by 1 or 2 points depending on the number of turns that player has had air superiority. (Thus the maximum air strikes available is 5.)

To allocate the air strikes hit (T) and move the cursor to the required position and hit c/F. Repeat this procedure until all air strikes have been allocated and when finished hit c/X to return to the menu. A player may reallocate the air strikes by repeating the above procedure as long as all air strikes are allocated at one time.

On the player's next player-turn, when c/A is hit, airstrike symbols will appear at their designated position and they may be called in by using (O)rder (S)upport fire by any unit within 3 hexes of the symbols. The air strikes will then land on the best target within 3 hexes of the unit that called for the support fire. Each air strike will have the effect of a strong artillery unit. The strikes will be called in before any supporting artillery fire is considered.

If the opponent has air superiority during that player-turn then the strikes will fail to arrive (and the symbols will remain). As the strikes are used the symbols will disappear and the player can see (by hitting c/A) whether any strikes remain.

9.0 MINES/NUCLEAR OPTION

There is provision in the game system for mines and tactical nuclear strikes. These may be implemented in later scenarios but have no effect on this game.

10.0 REINFORCEMENTS

During the course of the game both sides will receive reinforcements which will arrive on specified hexes at the beginning

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EXAMPLE: AIR SUPERIORITY

Scenario: Advance To Contact

	Turn 1		Turn 2		Turn 3		Turn 4		Turn 5		Turn 6		Turn 7	
Air Superiority	★	★	★	★	R	R	★	N	R	R	R	R	R	R
Displayed Numbers	0/0	0/0	0/0	4/0	4/8	6/8	6/4	5/4	5/7	5/7	5/4	4/4	4/4	4/4
Spare Air Points	9	9	8	4	5	7	6	4	4	4	5	4	6	3
Allocated Air Points	4	8	6	4	5	7	5	4	4	4	4	4	6	3

On Russian turn 2 the NATO player does not have superiority, as neither side can attain superiority until turn 3.

On turn 4 the NATO player first establishes equality (as the Russian player has a 2-point advantage for having had superiority

for 2 player-turns) and then establishes superiority.

On turn 5 the Russian player gains superiority as the NATO player only has a 1-point advantage.

of a player-turn. The units will normally arrive in one oversized stack so that they may be moved off, one at a time, until all units have been moved.

If a reinforcement arrives on, or beside, an enemy unit or a hidden unit occupies the hex, the reinforcements will be shifted and will arrive some hexes away from the designated hex, and, in some cases, may be delayed. (Exception — parachute units may arrive adjacent to enemy units).

11.0 REORGANIZATION

Most NATO and Russian units can reorganize (see TYPE MODE TABLE in APPENDIX) at a rate which is determined by the distance from their HQ unit.

The unit will increase its strength and efficiency by:
3 if within 0-4 hexes of HQ (or if it is a HQ unit)
2 if within 5-9 hexes of HQ
1 if the distance is 10+, or if the HQ unit is absent from the board (for whatever reason).

A unit will fail to reorganize if it has an enemy unit adjacent to it at the start of a player-turn.

A hidden unit in reorganization mode has a sighting distance of 2 hexes.

A unit will increase to a maximum of 12 strength points and 7 efficiency points.

12.0 BRIDGING

The engineer unit can be used to aid units crossing rivers. If an engineer unit, in RIVER mode, is next to a river hexside then any friendly unit may cross the river hexside, from either side, taking into account the normal terrain restrictions.

In the Invasion scenario an ENGIN unit may enter a RIVER hex and act as a bridge for friendly units. Units may not cross the ENGIN unit, on a RIVER hex, in TRANS mode.

To attack an enemy unit across a river hexside a friendly unit must be in RIVER mode (exception: AIRCV units).

EXAMPLE:

A TANK unit, in NORM mode, can use the ENGIN unit, in RIVER mode, to get across the river hexsides by moving (5) and then (1) rather than changing to RIVER mode and moving (6).

13.0 SAVING THE GAME

The game may be saved at any point by hitting c/B and following instructions. To save a game, a special disk must be initialized and 16 situations may be stored on it.

To save the game, position the arrows to an empty location (or to a named location if you wish to overwrite it), type a name in and hit return. The situation will then be saved.

To reload a situation, repeat the above process (or use the RESTART GAME option on the game menu), position the arrows next to the saved game, and hit c/R. Hit the space bar to return to the game.

If a saved game is presented on the menu in NORMAL then it is able to be loaded. The saved game will appear in INVERSE if it has been saved from a different scenario disk and will not be able to be loaded using c/R.

If a disk error occurs at any time the error sound will occur and the computer will wait for you to try again.
NOTE: As with any disk access operations, care should be taken.

14.0 SOLITAIRE

If a player chooses the solitaire option the computer will play either the NATO or Russian forces.

14.1 The Level Structure

There are 3 levels of computer play. Some of the changes (reinforced divisions, hidden option) will be obvious from the menu and may be overridden when setting up. Other changes occur in the way in which certain situations are interpreted.

It is also possible to change from two player to solitaire by utilizing the options in the save game routines.

15.0 SCENARIOS

In both scenarios the game will end after the 20th, 21st or 22nd Russian player-turn. There is a 50% chance that the game will end on the 21st turn and a 25% chance that the game will end on the 20th or 22nd turns.

The NATO player moves first in both scenarios.

15.1 Advance To Contact

Neither player can establish air superiority for the first two turns.

15.2 Invasion

The Russian player has air superiority for the first two turns.

The NATO player will be given the option of setting up his forces in turn 0.

Their movement is not restricted, although the normal terrain restrictions are in effect. To stop a unit hit (Q)(you may also press (ESC) so that the unit may be moved again during the set-up phase).

After the NATO forces have been set up, and c/E (E) has been hit to change player-turns, the Russian player will be able to position the two dropzones and the two airborne divisions will arrive (hidden if the HIDDEN option is in effect). If there is a lack of landing spaces some units may fail to arrive, and the error sound will occur, but a player can minimize this by keeping the landing zones apart and away from the side of the board.

If the computer is playing either side then the units will be placed and control handed back.

15.3 Victory Conditions

Victory is attained by controlling (by moving into them) villages, towns and airfields. These hexes will remain controlled until an enemy unit moves into them.

AIRCV units cannot enter Russian controlled hexes.

A NATO controlled hex is identified with a small cross and a Russian controlled hex by a small square.

16.0 BASIC TACTICS

At all times keep in mind the many options that are available such as exiting units from the board, and delayed and hidden units so that the opponent can be kept off guard. Smoke can be used to aid attacks by keeping the SEU down and may also allow a weak unit to be withdrawn from a dangerous position. Note the length of the game and do not rush into an offensive that will quickly wear the forces down but rather build up attacks with clear objectives in mind. Keep divisional integrity so that mutual support and swift reorganization can be achieved.

17.0 DESIGNER'S NOTES

GERMANY '85 is an extension of the Southern Command game system. The scenarios represent roughly equal forces where NATO units attempt to hold and frustrate the Russian advance.

The difficulty units have in operating in close contact with the enemy is used to represent the firepower any unit is able to exert over a large area in modern combat.

The fluid nature of the engagements and the supportive ability of other divisional units are important elements in any modern battle, but, at the same time, the game was designed to be simple to operate without losing the essential nature of that combat.

18.0 ACKNOWLEDGEMENTS

19.0 CREDITS

APPENDIX

TYPE MODE TABLE

'—' indicates the mode is legal and '★' indicates it is not legal.

NATO	DEFN	SUPPRT	NORM	TRANS	RIVER	ATTACK	REOR	FIRE
TANK	—	—	—	—	—	—	—	—
SPG	★	—	★	—	—	★	★	—
APC	—	—	—	—	—	—	—	—
AIRCV	★	—	★	—	★	★	★	—
RECON	★	★	—	—	—	★	★	★
ENG	★	★	—	—	—	★	★	★

RUSSIAN	DEFN	SUPPRT	NORM	TRANS	RIVER	ATTACK	REOR	FIRE
TANK	—	—	—	—	—	—	—	—
BMP	—	—	—	—	—	—	—	—
ARTLY	★	—	★	—	—	★	★	—
KATSH	★	—	★	—	—	★	★	—
INF	—	—	—	—	—	—	—	—
ENG	★	★	—	—	—	★	★	★

HQ units may not enter DEFN, SUPPT or FIRE mode.

COMBAT TABLES
TERRAIN SHIFT TABLE

OPEN	0		
L. ROUGH	1	VILLAGE	2
ROUGH	3	TOWN	3
FOREST	2	SAND	1
SWAMP	1	RIVER	0

(airfields and numbered hexes are treated as OPEN)

MODE SHIFT TABLE

	RETREAT	ATTACK	DEFENSE	ARTILLERY
DEFN	0	0	8	0
SUPPRT	3	3	4	3
NORM	2	5	5	2
TRANS	4	2	2	4
RIVER	4	2	2	5
ATTCK	3	8	2	3
REOR	5	0	0	5
FIRE	3	3	3	3

TYPE VS TYPE TABLE

NATO	TANK	BMP	ARTLY	KATSH	INF	ENG
TANK	0	1	3	3	-1	-1
SPG	-3	-3	-2	-2	-3	-3
APC	-1	0	2	2	1	-1
AIRCV	-4	-3	-5	-5	-5	-5
RECON	-4	-3	-2	-2	-4	-5
ENG	1	1	4	4	1	1

RUSSIAN	TANK	SPG	APC	AIRCV	RECON	ENG
TANK	0	3	1	4	5	-1
BMP	-1	2	0	3	4	-1
ARTLY	-4	-3	-4	-2	-2	-5
KATSH	-4	-3	-4	-2	-2	-5
INF	0	3	0	3	3	-1
ENG	1	4	1	5	4	0

COMBAT DAMAGE TABLE

SHIFT 0 1 2 3 4 5 6 7 8

DEFENDER:

STRN ★ ★ ★ 1 2 3 4 5 6 (+1 if in ATTCK mode)

EFF ★ ★ ★ 1 1 1 2 2 2

(★ indicates no loss, even if in ATTCK mode)

ATTACKER:

STRN 5 4 4 3 3 2 2 1 1 (+2 if in ATTCK mode)

EFF 2 2 2 1 1 1 0 0 0

(the attacker suffers a movement loss equal to (9—shift)

COMBAT PROCEDURE

Combat is calculated in three parts: the attack factor, the defense factors (which are then implemented), and the attack losses.

8

The Attack Factor

Points are allocated for various elements, All divisions are truncated so that 8/3 = 2. The attack factor is:

ATTACK MODE SHIFT
+STRENGTH/4
+EFFICIENCY/2
—THE NUMBER OF SEU
+4 IF THE HQ IS WITHIN 0-4 HEXES OF THE ATTACKER or
+2 IF THE HQ IS WITHIN 5-9 HEXES OF THE ATTACKER (as long as the HQ unit has no enemy units adjacent)
+3 FOR EACH NON-ARTILLERY SUPPORT UNIT (which must be within 3 hexes of the attacking unit, unmoved, and have no enemy units adjacent)
+2 FOR EACH ARTILLERY SUPPORT UNIT (which must be within RANGE-1 of the attacking unit, unmoved and have no adjacent enemy units)

This value is then used for all combats.

The Defense Factor

For each defending unit a defense factor calculated as:

DEFEND MODE SHIFT
—TYPE VS TYPE TABLE
+STRENGTH/4
+EFFICIENCY/2
—THE NUMBER OF SIGHTING FRIENDLY UNITS
+4 IF THE HQ IS WITHIN 0-4 HEXES OF THE DEFENDER or
+2 IF THE HQ IS WITHIN 5-9 HEXES OF THE DEFENDER (as long as the HQ unit has no friendly unit adjacent)
+VALUE FROM THE TERRAIN TABLE
+3 FOR EACH NON-ARTILLERY SUPPORT UNIT (which must be within 3 hexes of the defending unit and have no friendly units adjacent)
+2 FOR EACH ARTILLERY SUPPORT UNIT (which must be within RANGE—1 of the defending unit and have no friendly units adjacent)
—4 IF ONE BARRAGE HAS HIT THE UNIT BEFORE COMBAT or
—8 IF TWO OR MORE BARRAGES HAVE HIT THE UNIT BEFORE COMBAT or
—12 IF THE UNIT HAS RETREATED DURING THAT PLAYER-TURN

After each defense factor has been calculated a combat shift is calculated and the COMBAT SHIFT TABLE consulted for DEFENSE damage.

The shift is equal to:

(ATTACK FACTOR — DEFENSE FACTOR +4) / 2

Once damage has been implemented by consulting the COMBAT DAMAGE TABLE a retreat value is calculated as:

THE COMBAT SHIFT (between 0 & 8)
+ RETREAT MODE SHIFT
+ A RANDOM NUMBER (between 0 & 3)
—8

If the number is positive then the unit must retreat that number of hexes +1.

This is carried out immediately and the results displayed.

If the unit fails, for any reason, to complete its retreat it will suffer one additional point loss from its strength and efficiency (and may be eliminated). If the unit cannot retreat at least one hex than the unit will enter defense mode.

After all defending units have been dealt with the attacking losses are calculated.

COMBAT LOSSES

The average shifts of all attacks carried out during that combat are averaged and the COMBAT DAMAGE TABLE consulted and the results implemented, and if any MP's remain the attacking unit may move and/or conduct combat again.

COMBAT EXAMPLE

A TANK unit in ATTCK mode has combat with a BMP unit in NORM mode. The combat is calculated as:

The attack factor;

8	ATTACK MODE SHIFT (for ATTCK mode)
+4	STRENGTH (18/4)
+2	EFFICIENCY (5/2)
—3	THE NUMBER OF SIGHTING ENEMY UNITS
+2	AS THE HQ UNIT IS 7 HEXES AWAY
+3	FOR 1 NON-ARTILLERY SUPPORT UNIT
= 16	FOR THE ATTACK FACTOR
5	DEFENSE MODE SHIFT (for NORM mode)
—1	TYPE VS TYPE (TANK vs BMP)
+3	STRENGTH (12/4)
+3	EFFICIENCY (6/2)
—2	NUMBER OF SIGHTING FRIENDLY UNITS
+0	AS HQ UNIT ELIMINATED
+2	FOR BEING IN VILLAGE
+5	FOR 1 NON-ARTILLERY AND 1 ARTILLERY SUPPORT UNIT
—4	FOR BARRAGE HIT
= 11	FOR THE DEFENSE VALUE

SHIFT IS (16—11+4) /2 = +4

Therefore the BMP suffers 2 strength and 1 efficiency point loss and the TANK suffers 5 strength and 1 efficiency point loss. (Two are added because the TANK is in attack mode.)

The defender's retreat is calculated as:

4 (combat shift) +2 (retreat mode shift for NORM mode) + random number (between 0 & 3) — 8

so that a retreat will take place if the random number is 3, i.e. a 25% chance of retreating 2 hexes.

ARTILLERY PROCEDURE

Artillery losses are calculated as:

ARTILLERY MODE SHIFT (of attacked unit)
— TERRAIN BONUS
(and if the unit has not moved or changed mode, +STRENGTH/4 of the firing unit)

This value is then divided by 2 and implemented as a strength point loss on the unit concerned.

If the value is greater than 2 then the unit also loses 1 efficiency point.

IMPORTANT: *If a unit has zero efficiency it will take strength point losses instead of efficiency losses.*

EXCEPTIONS:

A unit that has retreated, or has been hit by two barrages of artillery that player-turn, will only suffer the loss of 1 efficiency point irrespective of the value of the artillery strike or the vulnerability of the target.

TANK, BMP, INF and APC units in DEFN, SUPPRT, NORM or FIRE mode will automatically lose:

1 strength and 1 efficiency point if the firing unit has not moved and 1 efficiency point if the firing unit has moved or changed mode.

ARTILLERY EXAMPLE

A 12 strength point artillery unit in FIRE mode fires on a RECON unit in NORM mode.

The value is calculated as:

+2	ARTILLERY MODE SHIFT (for NORM mode)
—2	AS RECON IS IN VILLAGE
+3	STRENGTH/4 (as firing unit has not moved)
= 3	points

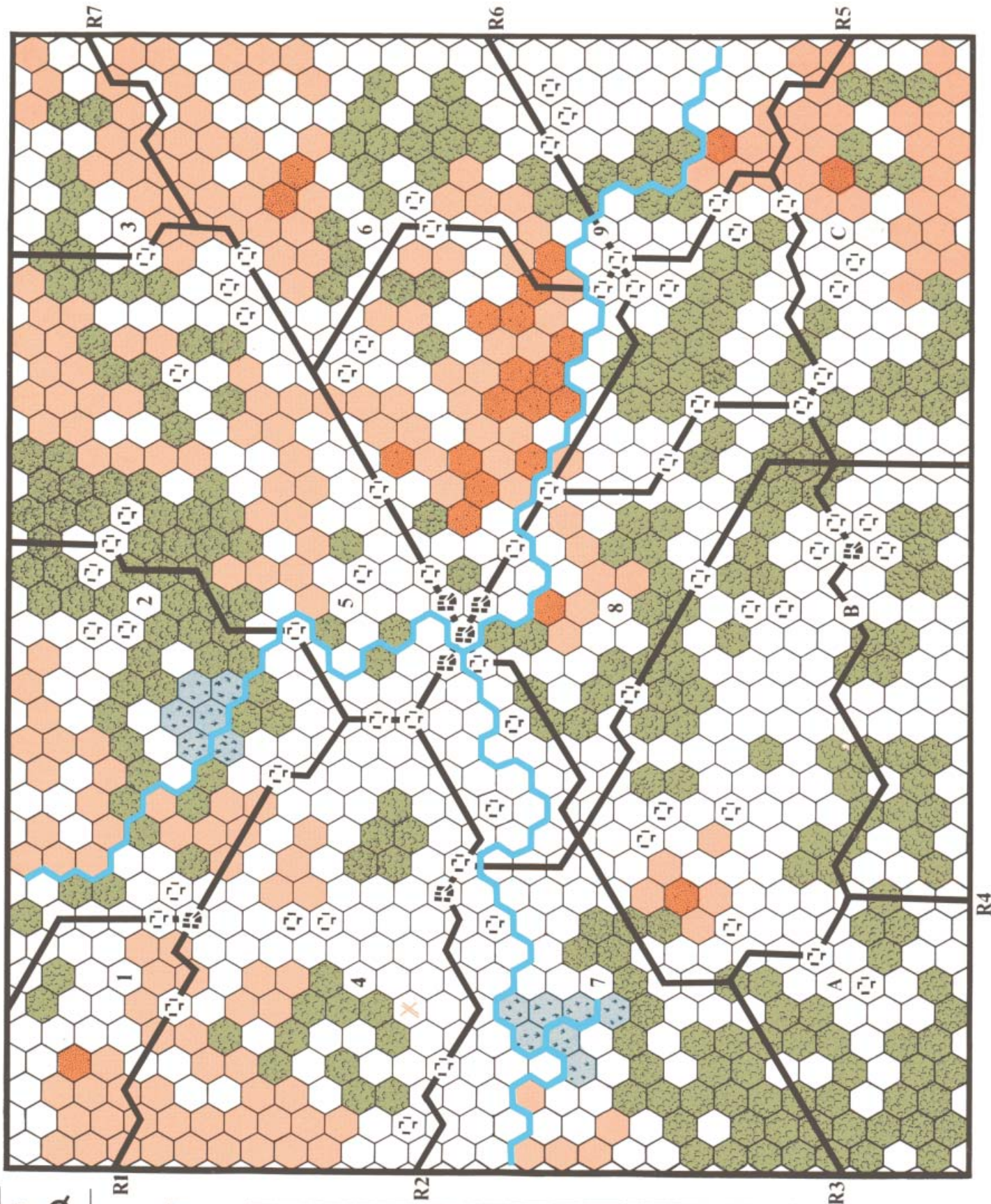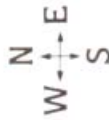Therefore the RECON unit suffers a 1 strength point loss (3/2).

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Germany 1985

ADVANCE TO CONTACT SCENARIO

TERRAIN KEY

City	
Town	
Lt Rough	
Rough	
River	
Swamp	
Forest	
Open	
Airport	
Bridge	
Road	
R4	Reinforcement Entry Hex
B	Label (Open)

N
W — E
S

R7 R6 R5 R1 R2 R3 R4

Germany 1985

INVASION SCENARIO

TERRAIN KEY

City	
Town	
Lt. Rough	
Rough	
River	
River	
Sand	
Forest	
Open	
Airport	
Bridge	
Road	
R4	Reinforcement Entry Hex
B	Label (Open)

Compass: N / W–E / S
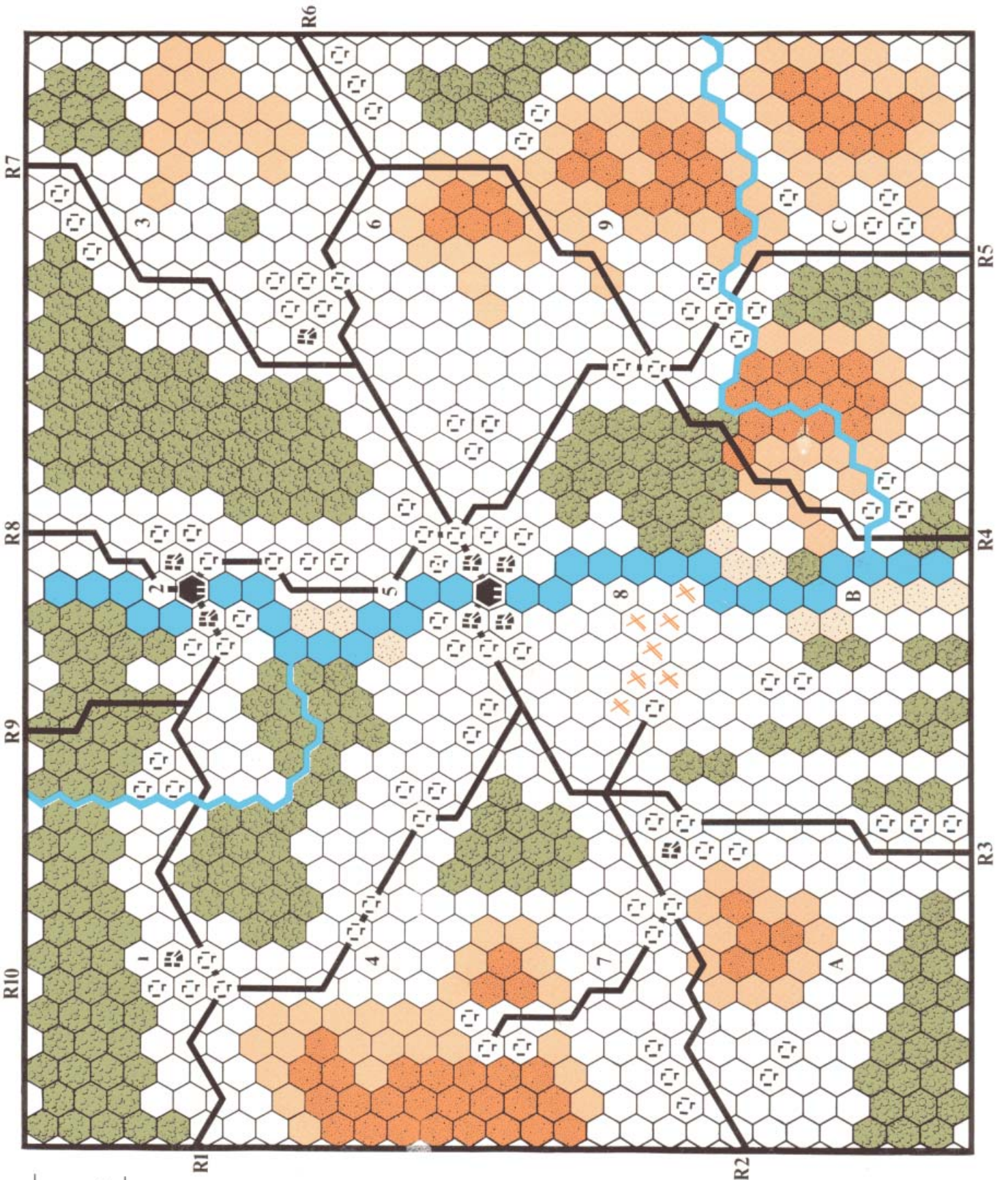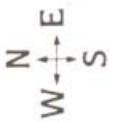
WHEN SUPERPOWERS COLLIDE
Germany 1985 ™

REINFORCEMENT SCHEDULE

ADVANCE TO CONTACT SCENARIO		INVASION SCENARIO	
USA	**USSR**	**USA**	**USSR**

ADVANCE TO CONTACT — USA	ADVANCE TO CONTACT — USSR	INVASION — USA	INVASION — USSR
AT START 2 TANK 2(1) APC 2 SPG 2 AIRCV 2 HQ	**AT START** 3(1) TANK 3(1) BMP 3 ARTLY 2 HQ	**AT START** 5 TANK 3 APC 2 SPG 1 ENGIN 1 HQ	**AT START** 8 INF 2 ARTLY 2 HQ
TURN 3 R1 1(1) TANK R2 1 TANK (1) APC 1 SPG R3 3 APC 1 SPG R4 2 TANK	**TURN 3** R5 2 TANK 1 BMP 1 ARTLY R6 (1) TANK 2 BMP 1 ENGIN R7 2(1) TANK 1 BMP 1 ARTLY 1 ENGIN	**TURN 3** R10 1 AIRCV	**TURN 3** R3 2(1) TANK 2 BMP R4 3 TANK 1 BMP
TURN 5 R1 2 TANK R2 1 APC 1 SPG 1 ENGIN R3 1 TANK 1 APC (1) SPG R4 1 TANK 2 APC 1 ENGIN	**TURN 5** R5 1 TANK 2 BMP 1 KATSH R6 1 TANK (1) KATSH 1 BMP R7 3 TANK 1 BMP 1(1) KATSH	**TURN 4** R1 1(1) TANK 2(1) APC 1 SPG R2 2 TANK 2 APC **TURN 5** R9 1 AIRCV	**TURN 4** R3 1 TANK 2(1) BMP 2 ARTLY R4 1(1) TANK 1 KATSH (1) ARTLY 1 ENGIN 1 HQ
TURN 7 R1 1 TANK R2 1 TANK R4 (1) APC	**TURN 11** R6 1 TANK 1 BMP 1 ARTLY R7 1 TANK 1 BMP	**TURN 6** R7 (1) TANK (1) APC R8 2 TANK	**TURN 7** R5 1 TANK 2(1) BMP 1 ARTLY 1 ENGIN 1 HQ R6 1 TANK 2(1) BMP
TURN 12 R2 1 TANK 1 APC R3 1 TANK	**TURN 12** R6 1 TANK (1) BMP 1 HQ R7 (1) TANK 1 BMP 1 ARTLY 1 KATSH	**TURN 9** R7 1 TANK 3 APC (1) SPG 1 HQ R8 1 TANK 1(1) APC 1 RECON 1 ENGIN	
TURN 13 R2 1 TANK 1 RECON R3 (1) TANK (1) SPG 1 HQ	**TURN 13** R6 2 TANK 1 BMP 1 KATSH R7 1 TANK 1 BMP (1) ARTLY	**TURN 11** R7 1 TANK 1 APC R8 1 TANK 2 APC 2 SPG	**TURN 9** R5 1 TANK 1 BMP 1(1) ARTLY 1 KATSH R6 1 TANK 2 BMP
TURN 14 R2 1 TANK 1 APC 1 SPG R3 1 TANK (1) APC			

( ) = reinforcements which only arrive when side is given Reinforced Divisions.

VICTORY CONDITIONS

In both scenarios victory is attained by occupying the greater number of town, village and airfield hexes. If each player occupies an equal number of hexes the result is a draw. A decisive victory occurs if the winning player occupies at least 10 more hexes than the opposing player.

The Victory Display

The victory display will indicate the result of the game as well as unit and occupied hex data and will display options to continue. Eliminated units include units which exited the map and were eliminated, parachute units which failed to arrive in the INVASION scenario and unwanted units if the reinforcement option is not in effect. A player may continue the game, although the system is only designed to handle 240 turns. A player may decide to examine the map in which case all hidden units will be exposed but no further movement will be possible.

GLOBAL KEYS
(may be used anytime a cursor or unit is flashing)

D: Causes units in division to change color and HQ unit to flash
F: Switch to full screen map/text
P: Draw strategic map
T: Clear units and smoke from screen
c/M: Turn automatic move on/off
c/L: Global leave (cycle round all units)
c/D: Divisional leave (cycle round division until all division units are moved)

c/S : Turn sound on/off
c/P: Turn combat pause on/off
ESC: Turn on auto move and enter the movement phase or turn off auto move and exit the movement phase
← : Speeds up computer movement
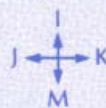**→ :** Slows down computer movement

NORMAL KEYS
(use when a flashing cursor is showing and not in the movement phase [normal phase])

0: Center screen on cursor
1-6: Move cursor in indicated direction

E: Examine units in cursor's hex
M: Enter movement phase for unit in cursor's hex (or if in auto move mode, enter movement phase for closest unit to cursor's hex).

S: Scroll map
0: Center screen on cursor
1-9, A-C: Move to indicated map section
I, J, K, M: Scroll map in indicated direction

Space bar: Stop scrolling   **S:** Pause scrolling

c/A: Activate air power phase
  A: Allocate air superiority points
  T: Allocate air strikes
    c/F: Place airstrike
    c/X: Exit phase
    1-6: Move cursor
c/B: Activate save game option
c/E: End current player turn
c/V: Display victory status

MOVEMENT KEYS
(used during the movement phase)

0: Center screen on unit being moved
1-6: Move unit in indicated direction
C: Change mode to:
  N: Normal **T:** Transport **R:** River **S:** Support
  E: Reorganize **A:** Attack **F:** Fire
  Space bar: No change **D:** Defense
L: Leave unit/exit unit's movement phase (unit may be moved later in turn)
M: Move second unit in stack
Q: End movement without combat
S: Scroll map

  0: Center screen on unit being moved
  I, J, K, M: Scroll map in indicated direction but leave moving unit on screen

  S: Pause scrolling   **Space bar:** Stop scrolling

c/C: Engage in combat but do not end unit's movement phase (if possible)
O: Enter order phase
  D: Set for delayed move/fire
  X: Exit map
  SPC: Return without order
  V: Move to capture nearby villages
  F: Fire at best enemy target
  R: Withdraw and reorganize
  S: Call in supporting fire
  M: Move toward enemy and fire at enemy target
  N: Move toward enemy and attack
c/H: Enter/exit hidden mode
c/F: Enter fire phase
  1-6: Move cursor in indicated direction
  c/F: Execute fire
  c/X: Return control to firing unit
  c/S: Execute smoke fire
SPC: Return to a flashing cursor/unit