

HEX OF STEEL: OFFICIAL MANUAL

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Keybindings and shortcuts

CAMERA:

Move camera up: W
Move camera down: S
Move camera left: A
Move camera right: D
Zoom in: KeypadPlus
Zoom out: KeypadMinus

GAME:

Pause the game: P
Quicksave: F5
Toggle air / ground view: TAB
Move unit: LEFT MOUSE BUTTON
Attack unit: LEFT MOUSE BUTTON
Hide all units on the map: H
Show all buildings on the map: SLASH
Toggle NATO ON or OFF: N
Open / Close minimap: M
Open / Close objectives panel: O
Hide / Show all units: H
Swap two units positions: LEFT SHIFT + LEFT MOUSE BUTTON
Show damage breakdown: LEFT SHIFT or LEFT CTRL

UNITS:

Disband selected unit: DELETE
Focus camera on selected unit: F
Make unit sleep: Z
Skip unit: SPACE
Show unit history: RIGHT MOUSE BUTTON
Undo move with selected unit: U
Disengage: LEFT ALT
Add waypoint: LEFT CTRL + LEFT MOUSE BUTTON

Repair selected unit: KEYPAD0
Resupply ammo for selected unit: KEYPAD1
Resupply fuel for selected unit: KEYPAD2
Resupply ammo and fuel for selected unit: KEYPAD3

Select next unit: RIGHT BRACKET
Select previous unit: LEFT BRACKET
Select next land unit: ALPHA1
Select next air unit: ALPHA2
Select next naval unit: ALPHA3

EDITOR:

Eyedropper for selected tile: i
Set unit to be killed as objective: G
Set unit as defensive: D
Change paratrooper state: P
Lock camera: LEFT ALT
Move overlay up: UpArrow
Move overlay down: DownArrow
Move overlay left: LeftArrow
Move overlay right: RightArrow
Scale overlay up: PageUp
Scale overlay down: PageDown
Increase overlay opacity: E
Decrease overlay opacity: Q
Speed up overlay resizing: LEFT SHIFT

Note:

- Almost all of these keybindings can be modified in the settings.

Victory points

Victory points (will be called 'VPs' for the rest of the manual) come in 3 flavors:

- Normal/Regular (black outline).
- Secondary (silver outline).
- Major (gold outline).



In order to complete a scenario, you will often need to capture all **major** VPs (unless indicated otherwise).

Secondary VPs will grant you extra XP as a commander in the campaign mode (ultimately bringing you closer to the next rank, which will allow you to have more core-units under your command).

Regular victory points don't do anything special, they are here only to fill up the map, and produce income/manpower.

Capturing Victory Points

In order to capture a VP, all you have to do is move one of your unit onto that enemy controlled VP.

Upon entering the tile, you will be able to see this green text showing up and going up telling you how much money you earned from the capture of this particular VP.

Money you'll get from capturing a VP is based on the value of the tile coming from the tile editor.



Before you can deploy units at and around the newly captured VP, you will have to wait:

- 1 turn for smallest cities.
- 2 turns for medium and large cities.
- 3 turns for factories.

This is to prevent abusive use of rushing and capturing everything, but also for some realism where as capturing a city was not made like instantly and you'd need some time before sending reinforcements and other stuff there. So don't freak out if you can't deploy anything during your turn, it is normal.

Notes:

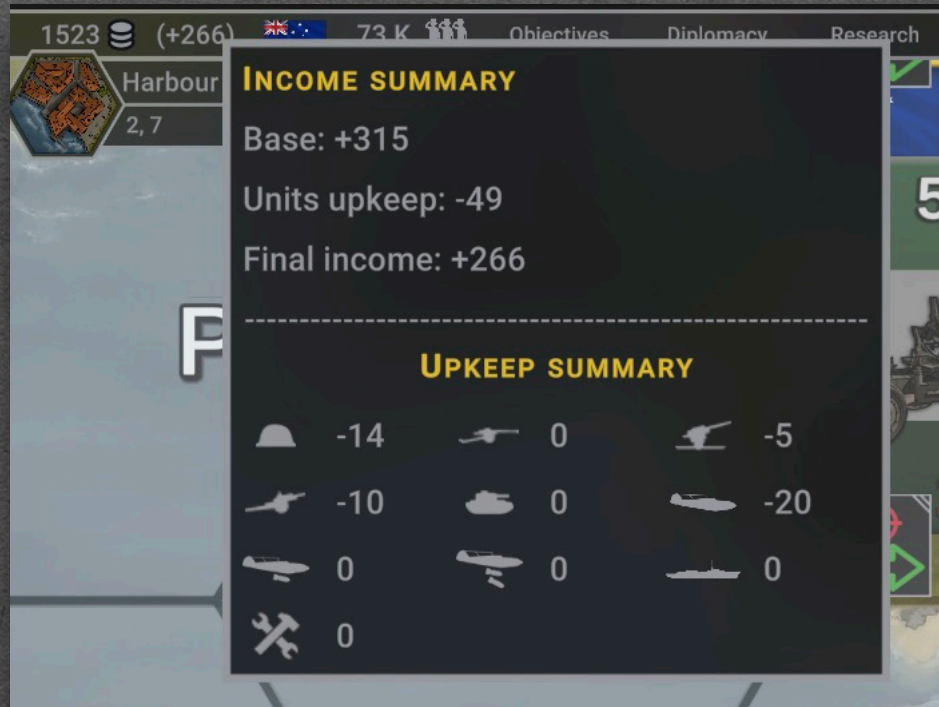
- Reinforcement tiles cannot be captured.

Income

At every beginning of a new turn, you will earn money.

The amount of money you will get is based on a couple of things:

- Your base production (+)
- Any potential money another player sent you (+)
- The total of your army upkeep (-)



Each victory point you own may produce some income (you can see how much by placing your cursor above any tile).

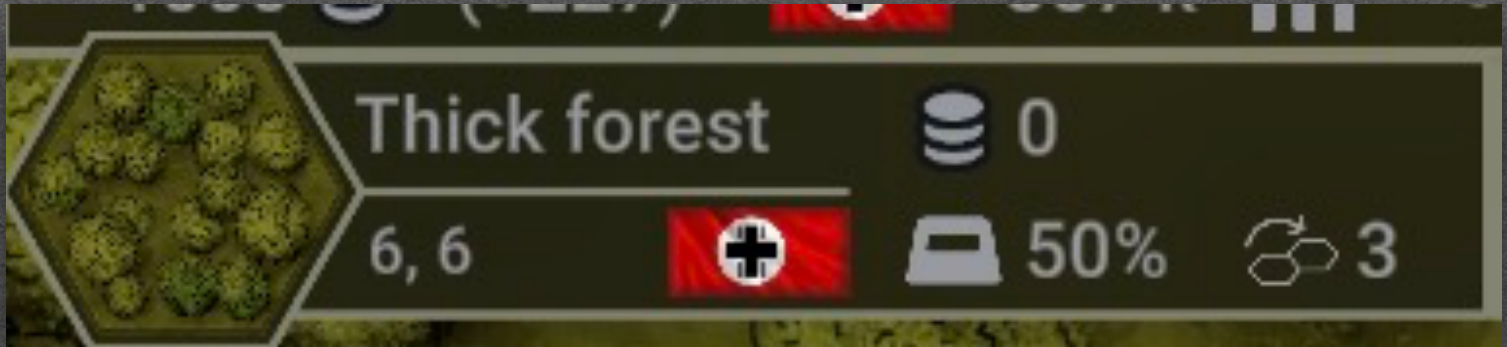


Your base production simply is the sum of all of the production of your tiles.

Tiles and their modifiers

You can see what modifier a tile gives when turning on the "Show tile info" in the settings in the main menu. The tile's info will be shown this way in the top left corner of the screen with the tile's type, MP (Movement Cost) and a visual representation of the tile itself.

The tile's coordinates will also be shown under the tile's type. (x, y)



The tile modifier is also shown somewhere else on the UI:



When selecting one of your units by left clicking on it, click on the three horizontal bars that will bring up the small window with more stats about the unit. There you will find the same icon as for the tile's info, representing the tile's modifier.

The tile modifier is a percentage, and is applied at the end of damage calculation. So, if your unit is about to deal 10 damage, and the tile where the targeted unit is has a tile modifier with a 30% terrain modifier, your unit will therefore deal $10 - 10 * 0.3 = 10 - 3 = 7$ damage.

Notes:

- **Hills** give a +15% damage modifier (Calculated from the base damage value of the unit).
- **Bridges** give a defensive bonus to the defender, so the unit being on the bridge tile.

Commander's rank and experience points (XP)

When playing campaign scenarios, you are playing as a commander.

You, just as units do, have a **rank**, and **experience points** (XP). Unlike units, you can't lose any.

Base value of new available core unit per rank is 2.

Formula to calculate XP to get to next rank is the following: $15 + (\text{currentRank} - 1) \times 3$

About what core-units are, please read the section talking about them, information is there.

So, as you start with rank 1, you have a limit of 5 core-units at all time. Then for each new rank, you will have the possibility to get 2 more core units. meaning if you are rank 2, you can have 7 core units. And so on. But this is for the base game's campaigns. If you are playing a modded campaign, those values may be different. See with them in this case, as it is fully editable when making your own campaign.

You can't see your rank / XP at any point in the game, it is shown to you only when you finish a scenario.

If you read the topic which covers VPs (if not, go read it, it's at the very beginning), secondary VPs will give you extra XP as a commander. But they also come with an extra challenge.

There are ways to earn extra XP during a scenario aside from secondary VPs, such as:

- Not losing a single unit during the scenario (+5 XP).
- Finishing the scenario in under 30 turns (+5 XP).
- Playing in hard or hardcore (+5 XP).
- Losing 5 or less units (+5 XP).

Note:

- This only applies to campaign scenarios.
- Max rank is 15.

Unit types

There are: Infantry, artillery, antitank, anti air (AA), tanks, fighters, light bombers (tactical/CAS), heavy bombers (strategic) and ships.

(Screenshot from the store illustrating all units types)



Infantry is what it says. There are different types: you have the light infantry (basically what's most basic in the game), the heavy infantry, the anti tank infantry, the engineers (full dedicated section), paratroopers and cavalry.



Artillery also includes armored artillery (SPG), so not only field guns. Such as the Sturmtiger for example. Their range varies from 1 to 4. Artillery takes into account 20% of the target armor. Artillery units can provide supportive fire.

See the proper section for more info about supportive fire.



Antitank is what it says, so anything from the PaK 36 to the Jagdtiger and in between. It can be a 17 pdr, as it can be a self propelled AT gun. AT units will provide supportive fire. See the proper section for more info about supportive fire.



Anti air, I guess this is pretty straightforward. They are good against planes. Though, some might be good against infantry, and others against lightly or even heavily armored vehicles, such as the famous german 88 mm,



Flak 36/37. AA units can provide supportive fire. See the proper section for more info about supportive fire.

Armored vehicles / tanks is anything from the small recon car to the almighty Maus, or IS-3 / Super Pershing, depending what side you like to play. Some have flamethrowers and have attack bonuses against bunkers. See the engineers section for more info about flamethrowers.



Fighters, they are good against other planes. Some can be equipped with drop tanks for an increased range, others with bombs or rockets for better effects against ground / armored targets. They also usually are the fastest. Recon planes are classified as fighters, mostly, but not all. Some countries have bombers as recon planes (ex: PBY Catalina, or other Japanese seaplane, or the Petlyakov PR for the soviets). Fighters take into account 50% of the enemy's armor value. Fighters do provide supportive fire. *See the proper section for more info about supportive fire.*



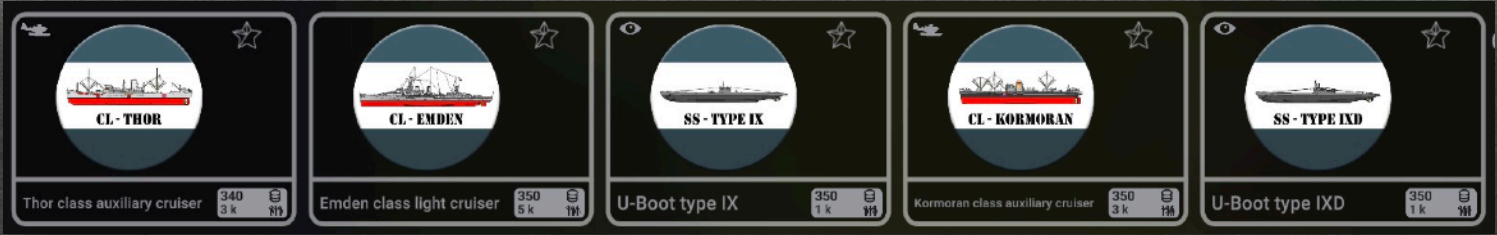
CAS (Close Air Support) planes, those are used for tactical use against ground targets. They have good attack stats against both infantry, and armored vehicles. They too can be equipped with drop tanks, and even with torpedoes. They take 15% of the enemy armor value into account when attacking. They also create attrition to attacked units, removing fuel, ammo, as well as 1 entrenchment level.



Heavy bombers, those are the heaviest planes, often the slowest, but what's great about them is that they ignore totally the tile's modifier. They ignore any terrain modifier when attacking, and always deal the same damage. They also ignore 100% of the target's armor. But that's not all, every city and factory, refinery, harbour produces some income per turn, the heavy bombers will bring this production down to 0 for 3 turns. They can be used to cripple an opponent's income if you have enough of them. Some can also be equipped with torpedoes and drop tanks, but not all. Heavy bombers also create attrition to attacked units, removing fuel and ammo. Heavy bombers will always defend themselves from enemy fighters attacks even when their ammo is 0.



Ships: Submarines, destroyers, auxiliary cruisers, light cruisers, heavy cruisers, battleships and carriers are all in the same category.



For more information about : submarines, destroyers, and carriers go to the appropriate section.

Buildings: They can mostly be built by engineers (at the exception of naval mines which are deployed by destroyers, and coastal batteries which are built as regular units but with specific deployment rule (next to water)).



Unit stats

All units have different characteristics.
Let's go over the different type of attack first.

Soft attack:



This type of attack is used against non armored vehicle (infantry, non armored artillery).

Hard attack:



This type of attack is used against armored vehicles of any type, and ships too.

Air attack:



This type of attack is used against planes and anything that flies.

Visibility:



This is at how many hexes the unit can see through the fog of war. Base value is 1, recon units have 2.

Attack range:



This is at how many hexes you can hope to attack a unit there's no terrain modifier for this, ex. : Forest or mountain preventing to shoot through.

Ammunition:



How many times the unit can attack before it needs to be resupplied.

Fuel / supplies:



Not exactly how many tiles your unit can go in total, but almost. The thing is all tiles have a different cost to go to. A road has a cost of 1. Meaning you will use 1 unit of those supplies to move 1 tile on the road. A forest costs 3. Grass/plain costs 2, etc. But if you were going on road the whole time, then you would go 60 tiles.

Health points (HP):



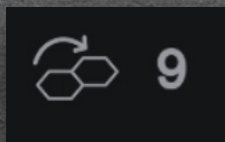
When this value reaches 0, the unit is destroyed.

Armor:



How many armor points the unit has.

Movement points:



This is how much of your total fuel / supplies you can use per turn. If you are on road only, as explained above, you could move up to 9 tiles per turn. But this will change as all tiles don't have a MP cost of 1. Ammo and fuel and HP can be resupplied during the unit's turn, as long as it did not attack. If the unit attacked, the resupply buttons will go grey, meaning you can't click on them. For more info about how resupplying works, please go check this section.

Unit counters



From top left to bottom right:

35: Soft Damage

95: Hard Damage

0: Air Damage

100: HP (Health Points, current)

1: Attack Range

6: Movement Points (Max)

Colored bar on the left represents the current morale level of the unit (*check out the Morale section for more informations*).

SS symbol indicates that the unit is a german political unit (SS division).

Some more extra informations can be displayed on the counters, such as:

- Veterancy (level of the unit)
- Loadout (bomb, fuel tank, torpedo, rockets, etc)
- Winter gear equipped
- Mountaineer (specialization)

Action points

Every unit in the game is granted 2 action points per turn.

Those action points can be used to: Attack, move, repair, or performing other actions specific to that unit.

You can attack then move, or move then attack, order doesn't matter.

You cannot perform the same action twice, except:

- If the unit is a recon unit, then it can move twice.
- If the unit has overran an enemy, it is granted a second attack action, for free.

Notes:

- Diving / going to surface with a submarine does not use any action point.
- Dropping paratroopers doesn't use any action point.
- Resupplying ammo and fuel doesn't use any action point.

Unit rank and experience

Every single unit in the game has a rank, and experience points (called XP).



It starts from rank 1 (recruit) and 0 XP. This is the lowest rank and lowest XP possible in the game.

You can buy veteran/elite units in the store though if you need some hardened and experienced units. Read the topic about those if you want more information.

To get higher ranks, you will need XP. There are several ways of earning XP with your unit :
Attacking an enemy unit. Your unit will earn 2 XP. Destroying an enemy unit. Your unit will earn 5 XP. Capturing a VP, you will get 3 XP, making your paratroopers jump from a plane, you will get 2 XP.

Rank 1: 0 XP
Rank 2: 15 XP (+10 HP and +4% damage)
Rank 3: 40 XP (+10HP and +4% damage)
Rank 4: 75 XP (+10 HP and +4% damage)
Rank 5: 120 XP (+10 HP and +4% damage)

When reaching rank 5, if there are any heroes available for your country, the unit will receive one. Read the hero section for more information.

Now, about losing XP:

When resupplying a unit's manpower (your unit's HP/health point, seen as manpower), you will lose 1 XP per 10 HP healed. This is because you are basically bringing some new recruits to your unit, and thus you end up losing experience. A unit can thus downgrade from rank 5 to 4, or from any to another lower one. It won't lose its hero once acquired.

Notes:

- For every new rank (>1) your unit will be granted an additional 10HP and 4% damage.
- Max rank is 5, max XP is unlimited.

Heroes

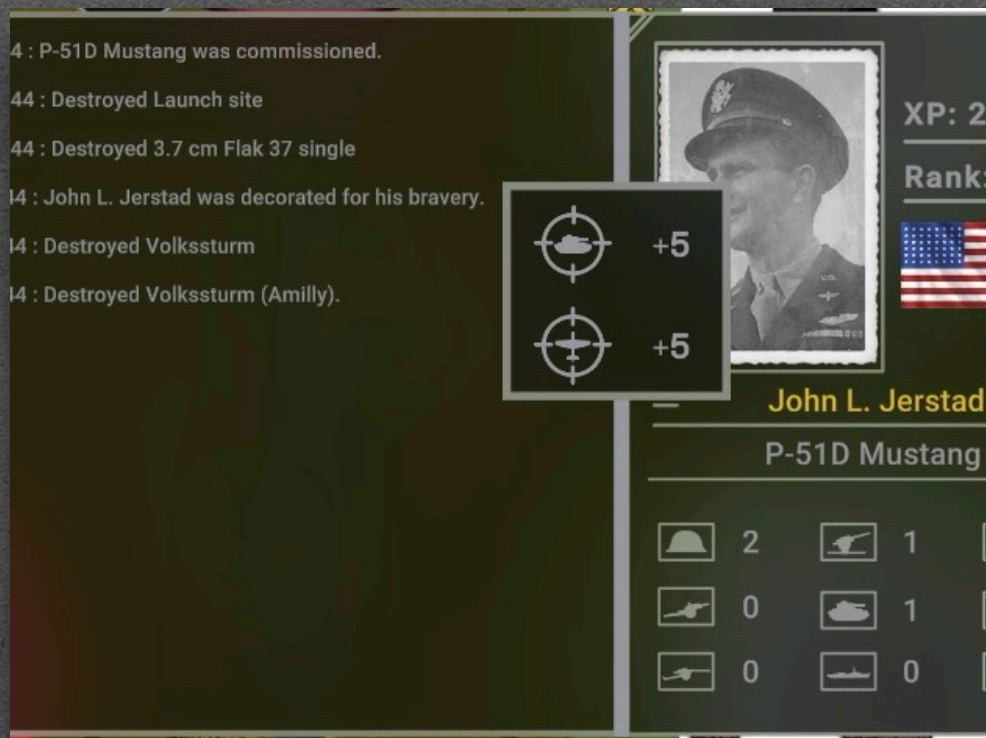
Whenever a unit reaches rank 5, it will be randomly attributed a hero from its type.

There are 3 types only: air, land, naval.

The hero's picture will be displayed when right clicking on the unit :



And when hovering the unit with the mouse, it's bonus stats will be displayed as such :



Notes:

- Stats are generated randomly per type of unit (artillery won't get air damage bonus for example).
- Heroes are not commanders. You won't find Manstein, Guderian or Montgomery in those.
- Heroes are men that were awarded medals in real life.
- They are just soldiers that showed great fighting capabilities.

Unit's history

When right clicking on a unit, you will be shown its history/kill records.

You will find when the following events happened:

- Unit was commissioned.
- Unit captured a victory point.
- Unit destroyed another unit.
- Unit captured another unit.
- Unit surrendered.

The screenshot displays a game interface with a unit's history and statistics. The background is a green, textured map with yellow hexagonal tiles.

History Panel (Left):

- 16 April 1945 : KV-85 was commissioned.
- 25 April 1945 : Captured Görlitz
- 28 April 1945 : Destroyed Panzer III Ausf. N

Unit Information Panel (Middle):

- Image:** A black and white photograph of a KV-85 tank.
- XP:** 23
- Rank:** 2
- Flag:** A red flag with a yellow hammer and sickle.
- Unit Name:** KV-85
- Statistics Table:**

KV-85					
	0		0		0
	0		1		0
	0		0		0

Unit Card (Right):

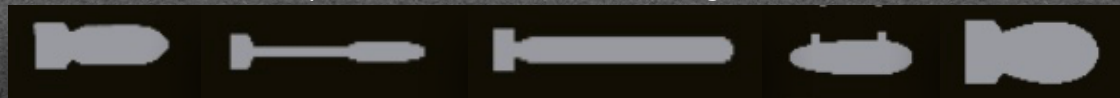
- Top Row:** 36 94 0
- Image:** A green KV-85 tank with a yellow chevron on its turret.
- Bottom Row:** 110 1 5

Unit customizations

Starting with planes, planes can be equipped with: Bombs, rockets, torpedoes, drop tanks, A bomb. There is a limitation to how many equipments can be put on a single plane, this limit is 2. For example, you can have rockets and bombs, or rockets and a torpedo, or a torpedo and bombs, but not a drop tank rockets and bombs.



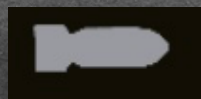
Here are the different options listed above, but in the game :



Those icons are buttons. You can click on them, and it will add the option to your plane, increasing its price, and altering its stats. Play with it, and you'll see exactly how each variant modifies the plane's stats.



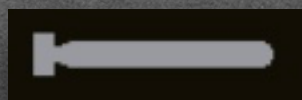
Drop tanks will increase the plane's action range to 30, meaning an extra 30 tiles he can go to. But this increases weight, and will do -1 to its MP (movement points), meaning it'll be slower. Costs 50.



Bombs will increase the plane's attack by 10 (both soft and hard damage, go to this section if you need info about that), decrease its action range by 10, decrease its speed by 1, increase its ammo by 1. Costs 60.



Rockets will increase its hard damage by 10, soft damage by 5, air damage by 5 and its ammo by 1. Costs 50.



Torpedoes give an attack bonus of 30 against targets of type ship, decrease its action range by 10 and its MP by 1. Costs 60.



A bomb, will deal 100 damage to any unit on the tile it was dropped and 75 damage in a 1 tile radius (total of 7 tiles including the tile it was dropped on). Costs 5000.

Since we covered the store options for the planes, we can now move onto the ground units. That's how it's looking in the store. You are going to have the option to mechanize your unit, motorize it, have it be a veteran unit, mountaineers, or winter trained (artillery will additionally have the horse-towed option).



Here are the different options listed above, but in the game :



The way your unit is going to move can be only one. Either on foot (slowest), towed by horses (not for the infantry), mechanized (average speed), or motorized (fastest).

You will find those icons on the map as well, so you can spot what unit move how :



Now, here's what everything does :



Horses will set the max MP to be 3, and the total fuel at 80.



Trucks will set the max MP to be 6, and the total fuel to 50.



Halftracks will set the max MP to 5, armor to 10, total fuel to 30, increase soft damage by 5.



Veterans will spawn with a rank of 3 (+30HP and +8% damage).



Mountaineers will be able to move to mountain tiles, and will get an attack bonus when fighting in mountain or hill tiles.



Winter trained units will not suffer any casualty from winter attrition.

Political units

Political units come in two sorts. The German SS or the Soviet Guards.

Having a unit be political gives it a bonus to its damage when fighting against units from another country's ideology.

Example: German unit, Germany has 'National Socialism' ideology vs a Soviet unit, the USSR has the Communism ideology. German political unit will be granted a +15% damage.



Core units

What are core-units?



When playing the campaign, you can see your amount of core units in the store menu:

And if you happen to play without the tooltips on (which i recommend to turn on if it's your first time playing), this is the number of core units you have / number of max core units for the scenario.

So the special thing about core units, is that you can carry them over from one scenario to another, and they will keep all their stats and history. As for units on the board, or when playing a quick game, well they will be left there forever.

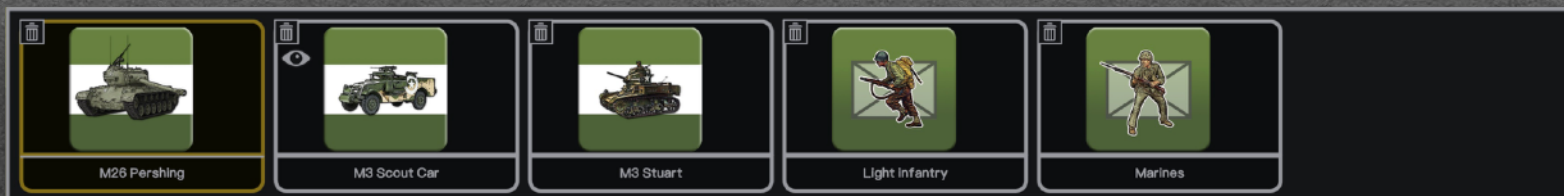
There is base limit of 5 in my campaigns (if you're playing someone else's campaign, it might be different values) and expandable to 2 more per commander rank (go check the commander XP and rank section for more info about it).

Meaning you can't have more than 5 core units at any given time.

Once on the board they will have a golden stroke just like this :



and also in the deploy panel:



You can choose to set the unit you buy to a core unit by hitting this button in the store before adding the unit to your basket:

Map 18553 (450/t) 2/5 Diplomacy Import overlay Hide all units Chat Order of Battle 1/2 1

SET CORE UNIT UPGRADE ALL

Unit Name	Price
Vought O2U Corsair	246
Stinson L-5 Sentinel	249
Vought OS2U Kingfisher	269
Curtiss SC Seahawk	287
Brewster F2A Buffalo	333
Grumman F4F Wildcat	361
P-39 Airacobra	371
P-38 Lightning	380
P-40 Warhawk	390
P-47B Thunderbolt	398
F4U Corsair	404
Grumman F6F Hellcat	404
P-51D Mustang	437
P-47N Thunderbolt	447
P-51H Mustang	455

Statistics
Used from : July 1941

100	0
4	65
25	25
38	1
1	9

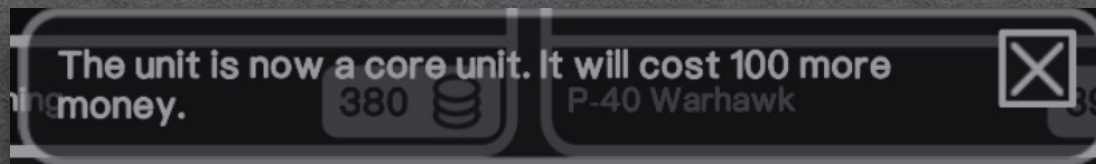
Basket

Name	Price
------	-------

Total:

BUY ALL

So basically, any unit you buy WONT be a core unit. You need to set it yourself if you want one. Core units come to an extra cost of 100 money.



When upgrading a unit that already is a core unit, you don't need to press the button again.

Upgrading / downgrading a unit

First, select the unit on the board you want to upgrade, and then open the store.

You can't upgrade a tank into a plane, or vice versa. Unit has to be of the same original type. Infantry -> infantry.

Now if you have selected an infantry type of unit on the map, then opened the store, then left clicked on the unit you want in the store and customized that unit if needed (upgrade doesn't mean changing the whole unit, you might just want to mechanize it for example which is totally fine), press the "upgrade" button in the top right of the store.

Here:



If you have enough money to perform the upgrade (if it's a downgrade it's not gonna be a problem, as the money will even be given back to you), the cost for the upgrade really is simple, it is the price of the new unit - price of your unit. You want to buy a unit that cost 500 and yours cost 250, final cost will be $500 - 250$. So when you downgrade, meaning your unit costs more than the one you want instead.

Once you pressed the button, you will be taken out of the store automatically and a message will let you know the upgrade / downgrade went fine !

That's it ! That's everything there is to know about upgrading / downgrading a unit !

Your unit won't lose any XP or rank for upgrading / downgrading.

Unit's customizations will be kept throughout upgrade / downgrade process, to no additional cost.

Note:

- The unit you want to upgrade needs to be on the appropriate tile (the same tile where you can deploy it).

Damage and Modifiers

Pro tip: Holding down SHIFT while showing the potential battle outcome will bring up the damage calculations breakdown. Meaning all of the modifiers having an impact on the damage will be listed.

Damage type depends on the target:

- **Infantry:** Soft attack value.
- **Armored:** Hard attack value.
- **Air:** Air attack value.

List of modifiers:

- **Health:** Damage is proportional to HP. E.g., 50% HP = -50% damage.
- **Armor:** Reduces damage based on unit type:
 - Infantry vs. Infantry: 100% of armor applies.
 - Infantry vs. vehicles: 10% of armor applies in open terrain, 5% in forest/marshes or cities etc.
 - Artillery: 20% (30% vs. ships) of armor applies.
 - Ships vs. non-naval: 15% of armor applies.
 - Ships vs. ships: 75% (Destroyers: 25%, Gunboats: 100%) of armor applies.
 - Bunkers: 15% of armor applies.
- **Terrain:** Applies a tile-based modifier (e.g., thick forest = -50%). See the terrain section for details.
- **Recon:** +15% damage per adjacent recon unit (max +30% with air and ground recon).
- **Commanders:** Provide a percentage-based damage bonus.
- **Hills:** Defending units gain +15% damage.
- **Fighters:** Take 50% of the armor of their target into account. Require bombs/rockets/torpedoes for submarines.
- **Landings:** Marines: +15% damage. Other units: -15% damage.
- **Morale:** Excellent: +10%, Good: +5%, Average: 0%, Bad: -5%, Awful: -10%.
- **Encirclement:** -15% damage per surrounding enemy, starting at 2 (up to 6).
- **Entrenchment:** -15% damage per level (ignored by flamethrowers).
- **Flamethrowers:** +35% in urban tiles, ignore 85% of bunkers' armor.
- **Ships:** Base damage modifiers for land targets: Destroyers: 50%, Light Cruisers: 65%, Heavy Cruisers: 70%, Battleships: 80%, Others: 60%. No modifier for naval targets.
- **Siege units:** Ships and artillery will remove 1 level of entrenchment per attack.
- **Submarines:** x2 damage vs. landing craft/transport ships.
- **Planes:** With torpedoes: +35 damage vs. ships; without: -50% damage.
- **Tanks:** Suffer penalties in unfavorable terrain (urban, forest).

There are more modifiers, but they are dynamic and are based on doctrines/policies and are clearly explained when you pick one. For example, Desert Tactics provides a 30% damage bonus when fighting in desert tiles.

Morale

Morale is an optional mechanics that can be turned ON or OFF in the settings.

There are 5 different morale levels:

- Bright green: Excellent.
- Dark green: Good.
- Grey: Average.
- Orange: Bad.
- Red: Awful.



When the unit has an **Excellent** morale, it gets a **+10% damage bonus**.

When the unit has an **Good** morale, it gets a **+5% damage bonus**.

When the unit has an **Average** morale, it gets a **+0% damage bonus**.

When the unit has a **Bad** morale, it gets a **5% damage penalty**.

When the unit has an **Awful** morale, it gets a **10% damage penalty**.

There are different ways to **influence a unit's morale** :

- Attacking an enemy unit and winning the fight will make your unit feel confident and they will have a higher morale. Winning a fight means when attacking another unit, you have MORE attack point than the enemy.
- Capturing a victory point will make all your units more confident.
- Losing a victory point will bring all of your unit's morale down.
- Resupplying a unit in manpower (HP) will bring the morale of the unit up.

Supportive fire

When being attacked, a unit will look at adjacent tiles to see if there are any friendlies eligible for supporting its defence.

AA, artillery, fighters, destroyers, light cruisers (only AA for ships) and antitank units are eligible for supportive fire.

Examples : When a fighter attacks a bomber or a ground attack plane, if there is an enemy fighter around this plane you are attacking, the enemy fighter will attack you.

If you attack some enemy land units with a bomber, if that enemy land unit has AA friendly units on adjacent tiles, they will attack you.

And now with ground vs ground, if you attack with tanks, enemy antitank units will attack you. They won't if the unit isn't armored.

Artillery will always support even if it doesn't deal damage, because it creates attrition (Removes fuel and ammo).

So to be on the safe side, always send some recon up before attacking, in case there is enemy troops in the fog of war ! Your offensive could be brought to a halt because of that.

Notes:

- Destroyers provide supportive AA fire.
- Light cruisers provide supportive AA fire.

Entrenchment

Entrenchment is seen when you select a unit, or have your mouse over it.

It is displayed here, next to the shovel icon:



Only land units can get entrenched.

Each unit will gain 1 level of entrenchment per turn if it doesn't move.

Max level of entrenchment is 3 (4 if the right policy is chosen).

Each level of entrenchment applies a -15% damage to the attacker.

Notes:

- Moving the unit will reset its entrenchment level automatically.
- Entrenchment damage penalty is ignored by the following units: Ships (gunboats excluded), Partisans, or any unit being equipped with a flamethrower.
- Artillery, ships (gunboats excluded), units equipped with a flamethrower and bombers will remove 1 level of entrenchment per attack.

Engineers

Engineers are great ! They are capable to perform many actions :

- act as a bridge for your units to cross rivers
- Lay land mines
- Build bunkers
- Build launch sites
- Blow up / repair bridges
- Build R.A.D.A.R s

Acting as a bridge for you and your allies :



Lay land mines:



Build bunkers:



Build launch sites (to launch V1s/V2s):



Blow up / repair bridges:



Notes:

- Engineers ignore entrenchment (See *Entrenchment* section for more infos).
- Engineers cannot build things outside of allied territory.

Blowing up / repairing bridges

As we just saw in the previous section, engineers (and paratroopers) can blow up bridges.

But how to repair them ?

You will simply need to have an engineer on the destroyed bridge, and press the “Blow up / repair” button. Done !
Bridge is repaired.



Supplies

You can skip this section if you play either without the 'Complex Supplies' or with 'Unlimited supplies' settings.



Supplies act as a modifier applied to how much ammo, fuel, or repairs a given unit can get in a single turn. It ranges from 0% (lowest) to 100% (highest).

For example: a unit having 100 max HP with a 44% supplies rate means at maximum, it can heal 44 HP per turn.

Now, for fuel and ammunitions, the calculations ends here.

But for HP, there is an additional modifier that was introduced to prevent one turn full heal that would make combats endless.

A 'heal speed' modifier is applied on top of the supplies rate, ranging from 0% to 100% as well.

The default and highest value for that 'heal speed' modifier is 35%.

When doing the maths, this translates as: $100 \text{ (HP max)} \times 0.44 \text{ (supplies)} \times 0.35 \text{ (heal speed)} = 15.4 \text{ (HP/turn)}$.

Ships have the harshest 'heal speed' modifier, going down to 20%.

The path your supply road will pick will always be the one that brings the most supplies (both from the source output, and final path value). That means it will often use railroads or roads, as these have the lowest penalty for supplies. Use this to your advantage when trying to block supplies from your enemies, block roads and railroads whenever possible to force the supply lines to find alternative paths, ultimately leading to lower final numbers.

Notes:

- Supplies diminishes proportionally to the amount of enemy units around you and the amount of available tiles. If your unit has a total of 4 walkable tiles, but 2 contains enemy units, that means a -50% supplies penalty.
- Destroyed cities will provide a base output of 30% max only (-70% compared to default).
- Airfields provide a base output of 50% (-50% compared to default).
- Airplanes need to be on a tile adjacent to an allied airfield to get supplies (or a friendly carrier for compatible planes).
- Ships need to be on a tile adjacent to an allied harbour to get supplies (sending a supply ship to them will work as well if you are stuck at sea).
- Bad weather applies a -20% to the final supplies output, and -30% during winter time.
- Terrain directly influences the supplies rate on a per tile basis (based on the movement point cost).

Weather

Dynamic weather is an optional mechanics which can be turned ON or OFF in the settings.

There are 3 types of weather in the game:

- Clear.
- Rainy/Storm.
- Snowy/Blizzard.



Bad weather will remove 1 MP to all unit's on the map for the current turn (except infantry). Meaning all units will move less far during the turn.

Planes are not allowed to attack, and won't see anything around them. They can still fly. AA will not be able to attack planes during bad weather.

Bad weather applies a -10% damage modifier to all sides in battle.

Rain come with a sound effect and will make the game darker. More clouds will spawn. Now in winter, when the date is after the 15th of November and before the 15th of March, and the tile is covered in snow, your units will suffer from the cold weather. Meaning for every tile you move, you will lose as many HP as the tile's movement points value (this can be changed in the settings).

In order not to suffer from the cold, you need to winterize your unit. Go to the unit's customization section for more info.

Weather table (default probabilities, can be edited in the editor):

January:	35%
February:	30%
March:	35%
April:	40%
May:	15%
June:	8%
July:	5%
August:	15%
September:	35%
October:	50%
November:	35%
December:	40%

The Zzz or “sleep” button

This button is here to gain time when playing long games when you have units staying idle, and often use the “prev” “next” unit button.

The button in question (left side of the UI when you have a unit selected)

Pressing it once will mean the unit will be skipped for one turn, but will become active at the beginning of the next turn. Clicking it again will put it in sleep mode, this one is not reset after the beginning of a new turn. I recommend turning this ON for units that are garrisoned or far away from the front line.



When setting your unit asleep, what actually happens is simple. The unit won't appear in the list of units the game will circle through when using "prev" and "next" buttons.

The “prev” and “next” buttons take you to the next unit, or the prev unit that still can do stuff during the turn. Personally, I use it at the end of my turn to double check I didn't forget to play a unit.

So the real use for this is to not go through garrisoned units, AA at home or stuff like that that you know won't be moving for a long time.

ALSO, any sleeping unit will automatically wake up when there is an enemy around it. So don't worry, if there's an invasion somewhere you didn't notice, the unit will pop back in the list !

Spawning units



What you can spawn and where can be summed up with the above screenshot.

In the very small cities, only conscripts / militia can be spawned.

In medium cities and harbours, light armored vehicles as well as light artillery, and regular infantry can be spawned.

In big cities and factories, heavy tanks / artillery and regular infantry can be spawned.

At airfields, only planes and paratroopers can be spawned.

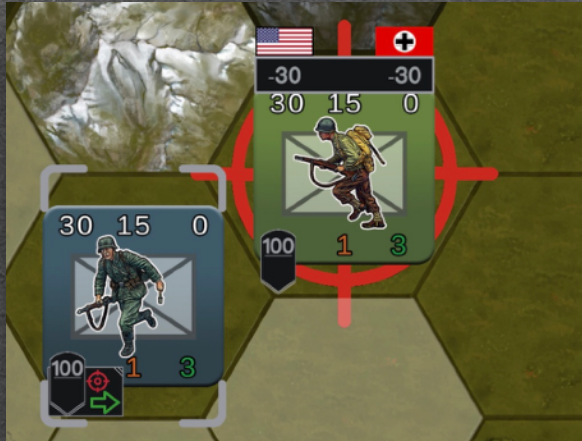
Notes:

- If the tile is destroyed, you can't spawn anything.
- You need to wait 5 turns before you can deploy at and around a captured factory / capital (biggest city).
- You need to wait 3 turns before you can deploy at and around medium sized cities.
- You need to wait 2 turns before you can deploy at and around captured airfield or village (recruit militia).

Encirclement

The more friendly units around an enemy unit, the more its retaliation damage is reduced.

In a 1v1 situation, damage is even. No encirclement applied.



When a second unit comes in, we can see retaliation damage starts dropping.



And when bringing another unit, retaliation damage drops even more.



Notes:

- The more units around an enemy, the more its supplies drop (proportionally to the amount of free tiles around it).
- For each additional unit, retaliation damage are reduced by 15%.

Retreat

A defending unit **may retreat** during an enemy attack if all base conditions are met and the incoming damage is “critical” relative to its current HP.



A unit will consider retreating from eligible attackers (*see notes below*) when it's not blocked by anti-retreat rules/policy; it will auto-retreat if out of ammo, otherwise it compares incoming damage (as a share of its current HP) against a threshold that starts at 30% and is modified by role, objectives, quality, morale, and veterancy—retreating either immediately (if it can't fight back) or after it retaliates (if it can).

Concrete example:

A Tiger attacking a M3 Lee, dealing 57 damage, with no other modifier will force it to retreat.
 $57 \text{ (damage received)} / 100 \text{ (M3 Lee current health points)} = 57\% \text{ received damage}$, which is over the 30% base threshold. Modifiers listed below will modify the base retreat threshold (increase/decrease) it.

Notes:

- The following units cannot trigger a retreat: ships, planes, towed guns.
- NKVD soviet units will prevent retreat of friendlies on surrounding tiles.
- High rank reduces retreat chance.
- High morale reduces retreat chance.
- Bad morale increases retreat chance.
- Towed guns have much higher retreat chance.
- Lower quality infantry units have higher retreat chance: Volkssturm, Militia, Conscripts...
- Political units (SS/Guards) have reduced retreat chance.

Surrender

Let's take the following situation:



What here is different, is that the unit basically is surrounded (Look at the encirclement section for more info about it, especially in how it modifies the damage). It is not 100% surrounded, but we already know the unit cannot cross / go over mountain tiles. So now, if I do the same thing and attack with my Tiger, what is going to happen ? How will the unit retreat ?

It won't! Because it can't! So it is now surrendering.



What does surrendering mean? Well, first you destroy it completely, regardless of its HP. even if it had 1000, it cannot fight ! So you instantly destroy it, PLUS you capture what's left of it, the vehicles or guns. You are capturing the unit instantly when it surrenders to you. Go to the section "Capturing" for more info about it and how it works / what happens.

Note:

- If a unit cannot retreat because all available tiles are busy and allies are on those tiles, the unit will **not** surrender, but its attack and movement actions will be cancelled for its next turn.

Capturing a unit

A captured unit basically is an enemy unit that you can use as if it was yours.

To capture a unit, you need to force it to surrender. Surrendering can be achieved in various ways. Please refer to this section for more info.

Here's a situation, when attacking with my tiger, the unit would surrender :



I attack, and once the unit surrendered, I captured it. It now is part of my army, and I can use it and deploy it. As you can see on this screenshot:

Deployment process:



Tanks or guns only can be captured. Infantry, planes and ships are not capturable (at the exception of a capitulation).

Once captured, the unit will not have its health full, it will be up to you to repair it. It also comes as a core-unit by default in campaign scenarios if you have available slots (in order for you to keep it).

Surface radar

The surface radars aren't a unit, but a feature for some units. The surface radar feature can be enabled for a given unit in the unit editor :

Has surface radar :



In the current version of the game, only destroyers are automatically equipped with surface radars.

They will detect (just like radars) enemy ships in an area (3x3 hexes)

On the map, it will appear like this:



You will not know what type of ship it is, but you will know where they are.

Reinforcement tiles

There are two types of reinforcement tiles in the game: naval and land.



What is their in-game use?

In a few scenarios, some nations have a really important war economy that cannot be represented at the scenario's scale.

Example: The USA in the Kasserine Pass battle. Or the USA on the Europe 1943 scenario.

They have a really strong economy but it isn't representable because of the size of the map.

In order to represent this, and provide deployment of reinforcements, these tiles were being added.

Any naval unit/aircraft can be deployed at and around a land reinforcement tile.

Any land unit/aircraft can be deployed at and around a land reinforcement tile.

Note:

- Those tiles cannot be captured / lost. Do not lose your time trying to capture them, you cannot. One thing you can do though is occupy all neighbouring hexes, and this will prevent any reinforcements from appearing.

Trains

Sooner or later, you will need to move some of your units from one front to another. One cheap and fast way to do this is to move your units by train.

In order to embark a unit in a train, you need to place your unit on an urban tile adjacent to a railway tile.

The transport button will light up if your unit is able to embark/disembark.



And when clicking on that same button, your unit will automatically be placed in a train.

After that, the unit's movement points will be greatly extended to better reflect the distances covered in a single turn when moving in a transport train.

Notes:

- Units in transport trains cannot retaliate when attacked.
- Units in transport trains will take double damage when attacked.

Transport ships and landings

In order to move your units across the ocean and perform a landing, you will first need to embark.

You can embark at any allied harbour tile.

Once you are on the tile, you can press the 'embark/disembark' button.



The stats of the unit have changed to reflect its current transport mode (transport ship).

You can land on any tile that the unit can usually move on.

Keep in mind that transport ships are very vulnerable to enemy attacks, and will not retaliate when attacked.

Notes:

- When attacking a land unit, a -15% damage will be applied (at the exception of Marines).
- Units in transport ships will take double damage from submarine attacks.

Commanders

Commanders are a special type of unit that are non-combatant.

A commander presence on the battlefield translates by various bonuses applied to all friendlies in a given area.



The commander's range stat is used to define the radius in which the bonus is applied. In this case, the commander Claude Auchinleck is giving a bonus to all friendlies that are within 7 tiles from him.

Since commanders are non-combatant units, their stats do not work as they do on other units.

The damage / armor stats are going to be translated into bonuses for friendlies.

In our example, Claude Auchinleck has 14 soft damage, 12 hard damage, and 5 air damage. This means that friendlies will be getting a buff of 14% on their soft damage, 12% on their hard damage, and 5% on their air damage.

Notes:

- Commanders cannot be bought in campaign scenarios.
- Commanders can be bought only once.
- Death for commanders is final.
- Commanders can't attack or retaliate.
- Commanders only give bonuses to units within the showcased area.
- Bonuses from many commanders in a single area do not stack, highest is kept.
- Commanders cost for purchase will either be regular cash, or HQ points when playing with the Policies setting.

Recon units

Recon units are recognizable with their "eye" icon in the store, just like this:



Recon units can move twice, in comparison with other / usual units that can move only once. They also have a visibility of 2 hexes. Meaning they see twice as far as usual units in the fog of war. Recon units also give a +15% damage bonus to any friendlies attacking the unit that the recon is around. Placing your recon units in the frontline actually makes sense. Though most of the time, they are not heavily armored, and not heavily armed. Use them with care, and they will do just great!

Note:

- Recon planes or submarines don't give any attack bonus when the weather is bad.

Partisans

Partisans is an optional setting and can be turned ON or OFF in the game's settings.

They will spawn randomly (according to a formula) behind your lines, for countries that have partisans. You can create your own partisans units using the in game unit editor if you wish.

Partisans will start spawning once you occupy cities of a country that has partisans.

Partisans cannot be bought through the store. They are a simple reaction of occupation.

Every time the country will be playing, there will be a percentage of it spawning partisans.

The percentage is calculated as follows:

+0.5% chance if the tile is a small harbour / village.

+1% chance if the tile is a harbour or a town.

+5% chance if the city is the capital of the country.

+1% chance per turn of occupancy for the longest occupied city.

Partisans will randomly spawn around occupied cities (within 3 hexes), their number will be proportional to the total amount of percentages calculated above.

Let's say after checking all the occupancy you are at a total of 35% chance, there will be one partisan spawned per 10% chance of spawning them. So 3 partisans will be spawned.

Partisans ignore entrenchment.

Partisans ignore terrain modifier.

Example of partisans spawning near a former soviet owned city and blowing up a bridge :



Marines

Marines are a special unit in the game that will ignore the landing penalty (-15% damage applied to any unit in a landing craft when attacking another unit that is on the ground).

Marines can also be deployed on and around naval reinforcement tiles as well as harbours of medium size.



Paratroopers

Paratroopers are a great unit. They are a powerful and mobile unit that can be used to take key position when needed. They can be used without limits, dropped, sent back to airfield, re dropped etc.

When spawning, they will be in a plane. When placing them on the map after you bought them, you will be able to deploy them only around owned airfields.



When in the plane, they will move just like planes and behave just like planes. Meaning that when under attack, because they are inside transport planes, they won't be able to retaliate. Leaving them pretty vulnerable to anti air or enemy fighters. You might want to consider escorting them with fighters, as the same escort rule as for bombers will apply (Check the supportive fire section for more info).

Now how to drop them, well it's pretty easy, first maybe you noticed the parachute button in the bottom left corner.



It will most likely be greyed out all the time, unless the selected unit is a paratrooper that can be dropped. You can click on it, aaand... Voila.

Your paratroopers are dropped on the same tile your transport plane was.

Notes:

- Paratroopers can blow up bridges !
- You cannot drop paratroopers above other ground units.
- You cannot drop paratroopers at sea.
- You cannot drop paratroopers during bad weather.

Aircraft Carriers



Carriers are acting as mobile airfields in the game. You can launch and rearm/repair compatible planes on all tiles directly adjacent to them.

Carrier-compatible planes are identifiable with the “Anchor” logo.

Destroyers

Destroyers and auxiliary cruisers can lay naval mines, just like this:



Notes:

- Destroyers have a damage bonus vs submarines.
- Destroyers are the only unit that can attack subs when they are under water.

Submarines

When a submarine attacks a ship, the ship won't retaliate. They are to be used in a sneaky way. Not in a frontal attack, as they would most likely be spotted and destroyed, pretty much like in real life. Submarine can't attack planes directly, they can however in a defensive way, if the sub has an anti air weapon, it will retaliate.

Submarines can dive deep under water, and be untouchable. But they also cannot attack, or even see. Their visibility will be reduced to their own tile.

Whenever you have a submarine unit selected on the board, you will see the button on the left light up.



Notes:

- Submarines cannot attack when they are deep under water (You know when a submarine is under water because its opacity is reduced to 30 % just like on this screenshot above).
- When being attacked by a submarine, the player will receive a notification, you'll be taken by surprise, but I'm not a bastard, so the game will let you know!
- Submarines cannot dive when their HP are under 15%. This is to simulate damage done to the sub.
- Submarines cannot stay longer than 3 turns under water, they will have to resurface every 3 turns, wether you like it or not. This is to simulate the fact they needed to recharge their batteries.
- Destroyers can still attack submarines even while it is underwater (simulating the use of depth charges). This has for effect to randomly force the sub to the surface (simulate mechanical damage on the sub).

Convoys

Convoys are a regular ship unit, with a special ability.

They will transfer the cost of the convoy unit to any allied player owning a harbour it comes near by.

This is a role-play alternative to using the diplomacy menu to transfer funds to another player.



RADARs

RADARs are units that cannot move or attack.

RADARs are placed by engineers, same way as mines, bunkers, or launch sites.

RADARs will spot enemy planes through the fog of war (FOW), just like this :



You will not know what type of plane it is, but you will know where they are.

The RADAR's range is its range in tiles, this can be changed in the unit's editor.

Supply depots

Supply depots can be purchased from the 'building' category in the purchase menu.



They can be built only by and around engineers.



The specificity with supply depots is that they act as a supply source (100% base output), useful when you are not in your home territory, or performing a landing, or when supplies are scarce (far from good supply source).



Mines

Go to the engineers section for how to place mines, since only engineers / destroyers can place mines.

Mines are units just like any other, that can be stepped ON. They can be cleared out ONLY by engineers / destroyers (naval mines).

WARNING: You can step on your own mines !

When walking on a mine, the unit will stop, and won't be able to attack or heal for the current turn.

You will need to move on the mine using your destroyer or your engineer (depending on what type of mine it is, naval or land) in order to clear the mine field. Your unit will not take any damage.



Notes:

- Mines can't move or be upgraded.
- Mines aren't included in the "prev" "next" list of units.
- Mines are invisible by the enemy.

Barrage Balloons

Barrage Balloons are a regular air unit that has the specificity of not being able to move, and has no damage stats.

Their only role is to block enemy planes from bombing specific tiles without having to send in fighters and shoot down the balloons first.



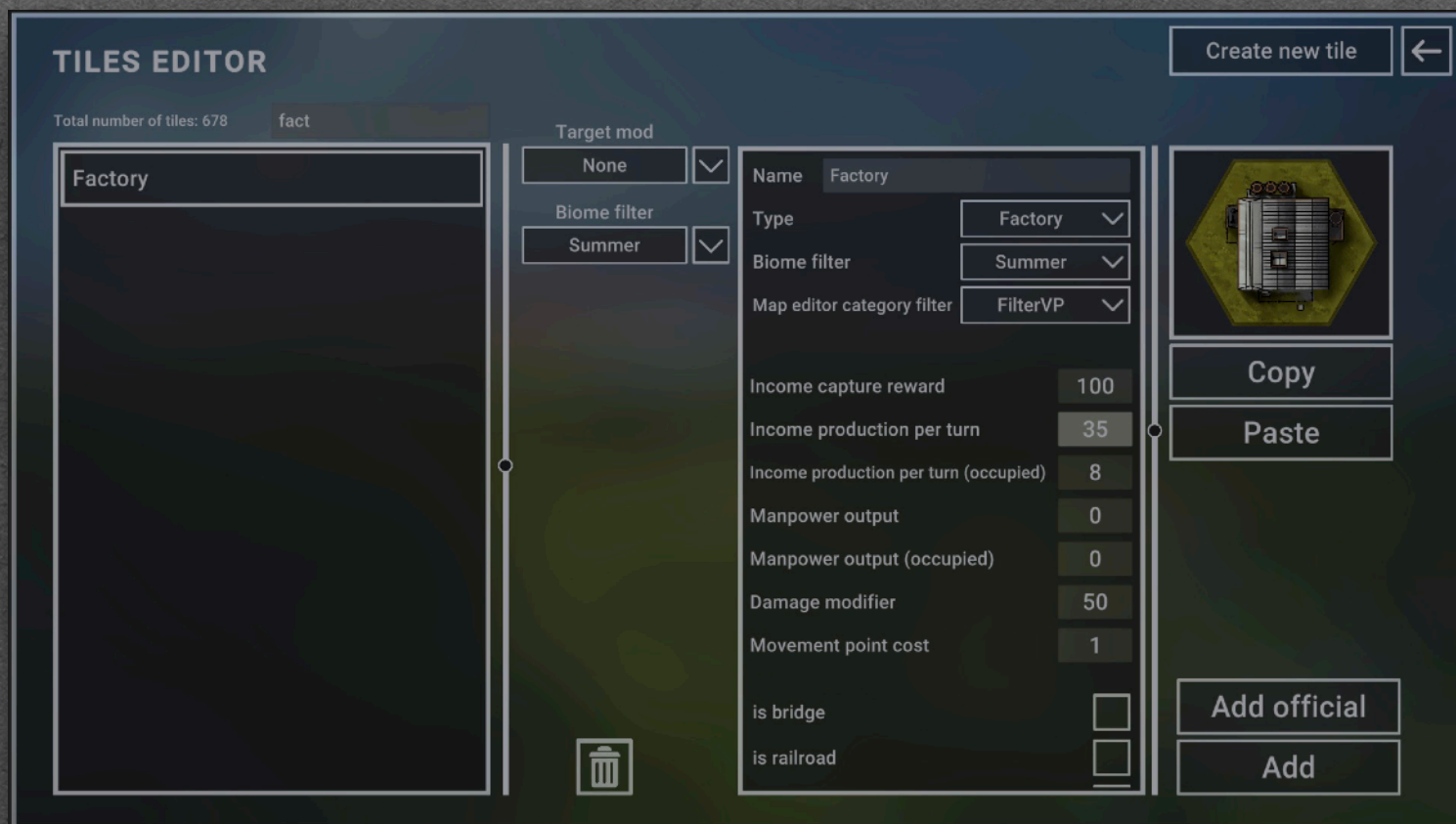
Factories and Refineries (buildables)

When lacking money to fund your war economy, your only solution aside of grabbing more land is to boost your economy.

You can do so by purchasing factories or refineries through the Buildings category in the purchase menu.



The income production coming from those newly built tiles is directly taken from the income production of the original tile itself (factory/refinery), from the Tiles Editor.



Notes:

- In order to prevent snowball effect, for every newly built factory, the next one becomes more expensive.
- The Factory/Refinery units are empty units that are turned into tiles, matching their actual name once deployed.

Policies and High Command points

Policy is a setting that is optional and can be turned ON or OFF in the game's settings.

Policies are split in several categories, each category containing several policies to choose from. You can pick only one policy per category. You are free to change policy at any given time, given you have enough HQ points to do so.

HQ points are earned at a stable +5 per turn. This number cannot be altered, it is the same for every countries in the game.

Some policies come with downsides, so be sure to check what each policy does (bonuses vs penalties) before choosing a policy.



Notes:

- When playing with the Policy option ON, commanders (unit type) will cost HQ points instead of the regular in game currency. This is for balance purposes.
- Capturing an enemy VP will grant you +1 HQ point.

Zone of Control

Zone of Control is an optional game mechanics added with version 7.0.0, you can play with or without it.

When Zone of Control is ON, enemy units will be 'locking' your units movement when trying to move around them.



ZoC = ON



ZoC = OFF

ZoC is not applied by every unit, every time. Here are the cases when ZoC is not applied:

- Unit is militia / volkssturm / garrison.
- Unit is a recon.
- Unit is a plane.
- Unit is a commander.
- Unit is a land/naval mine.
- Unit has no damage at all (soft=0, hard=0, air=0).
- Unit ammunition has been depleted (ammo=0).
- Units has less than 30% of health.

Upkeep

Upkeep is an optional mechanics that came into the game with version 7.1.0.

With this option ON, all units will now have an upkeep cost.

Upkeep is deducted from your main income.

If your upkeep is superior to your income, you will start losing money.

252)		207		Objectives	Diplomacy	Research
INCOME SUMMARY						
Base: +475						
Destroyed infrastructures: 0						
Units upkeep: -223						
Final income: +252						

UPKEEP SUMMARY						
	-61		0		-13	
	-19		-22		-17	
	-10		-9		-69	
	-3					

Manpower

Manpower is an optional mechanics that was introduced with version 6.3.2.

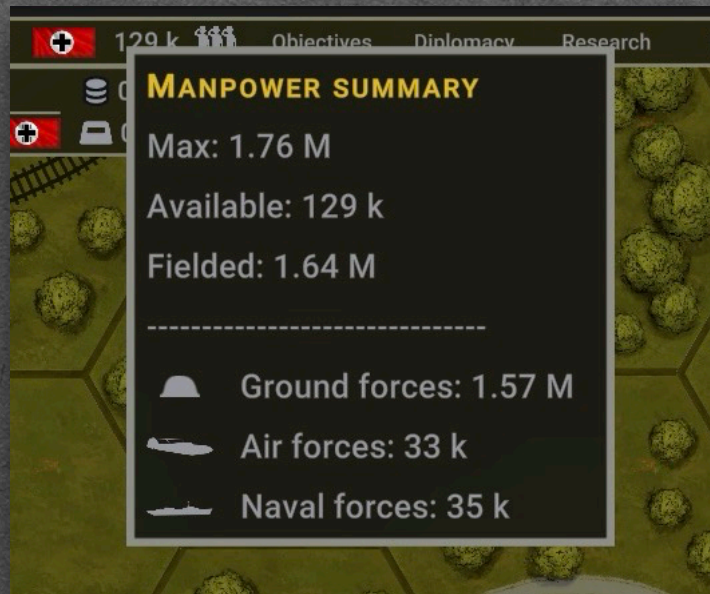
With this option ON, you add a soft cap to how many units can be fielded at a time.

Your max manpower limit increases every month by 1% for minor countries (Romania, Bulgaria, Finland, etc) and 2% for major countries (Germany, USA, UK, France, etc).

Every unit has a manpower cost, which will be deduced from your available manpower pool once purchased.

Once a unit dies, the manpower goes back into the pool.

You can see a summary of your manpower status by placing your mouse/finger over the manpower number on the UI.



Territory Management

Territory management was introduced with version 7.6.0.

This feature is available through the Diplomacy button, by clicking on the 'Territory Management' button.

When the menu is open, you will have the possibility to click on any victory point on the map, and they will be listed on the left.

When the victory point belongs to you, it will be listed under the 'Transfers' category, otherwise, under the 'Requests' category.

This way, you can transfer any tile of your choice to any player of your choice, or request any tile from any player.

The cost to request a tile is fixed by your relationship with the owner of the tile.

