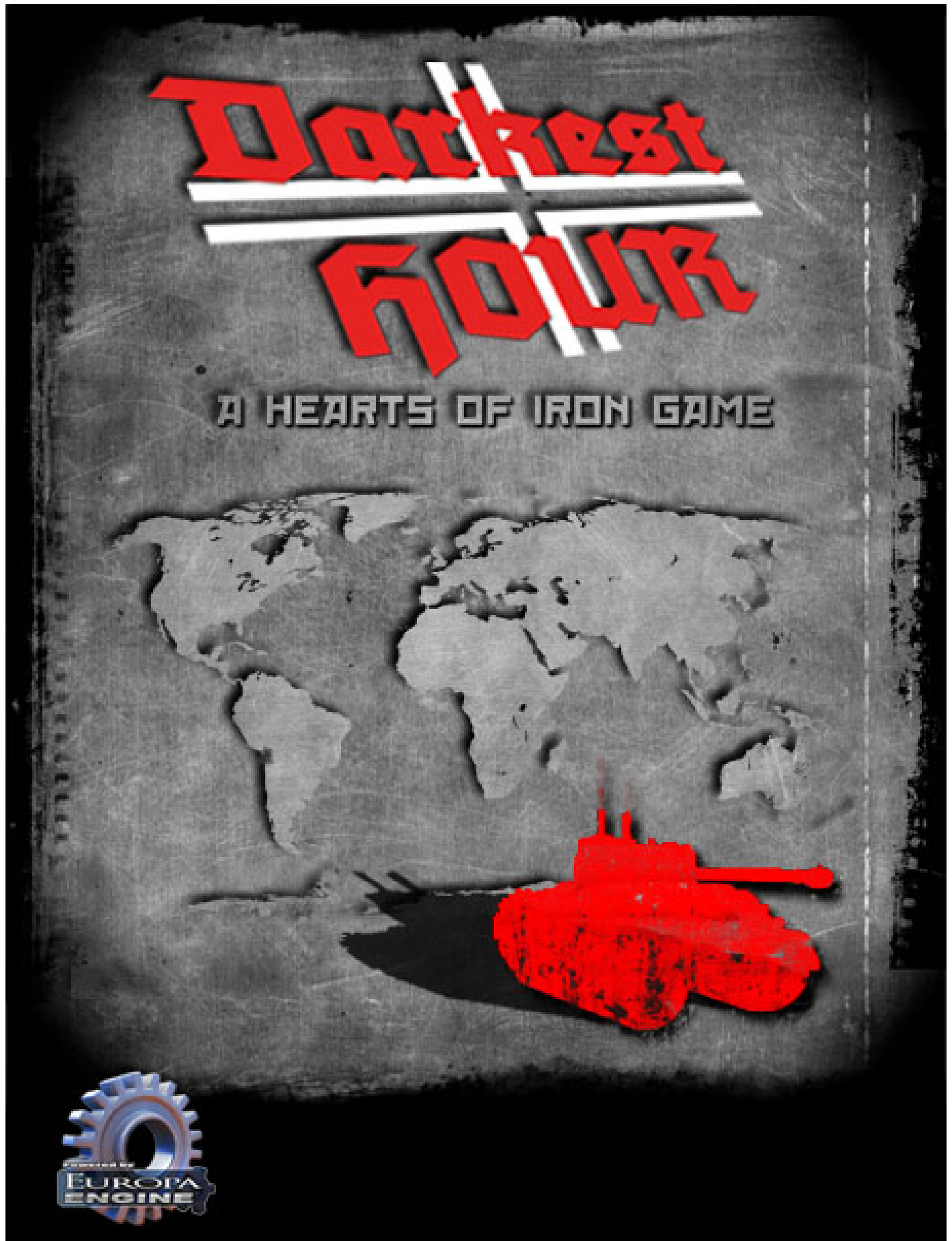


# Guide to Darkest Hour



# Index

Introduction.....	4
New concepts.....	5
Claims.....	5
Decisions.....	6
New Spying System.....	7
Improved trade system and stockpiles.....	8
Mobilization system.....	8
Automatic release of nations.....	10
Changes to the rebel system.....	11
Actions and commands with triggers.....	11
Events with only one action.....	12
Events with saved date.....	13
Hints & Tips.....	13
Changes in modding from HOI2 Armageddon.....	14
Changes to setting.cfg.....	14
Changes to misc.txt.....	14
Economy.....	14
Diplomacy / Government.....	19
Intelligence.....	20
Combat / Missions.....	20
Units.....	24
AI.....	25
Map.....	26
Other changes to misc.txt.....	27
Changes to diplo_costs.txt.....	29
Changes to spy_costs.txt.....	29
Changes to policy_effects.csv.....	29
Changes to Triggers.....	30
Changes to Commands.....	34
Decisions.....	36
Other Changes.....	38
Map.....	47
DH specifics for map editing.....	47
DH specifics for distance.csv.....	47
DH specifics for province number.....	48
DH specifics for map debug logs.....	48
How to port a HOI2 Arma Mod to Darkest Hour.....	49

The Darkest Hour Mods Pack.....	49
Usual 1.3 Mods porting steps.....	50

# Introduction

**Darkest Hour: A Hearts of Iron Game**, or **DH**, is a grand strategy wargame that is based on Paradox Interactive's Europa engine. It is described as a 1914-1964 Grand Strategy Game and it allows the player to take control of and manage nearly any nation-state during the 1914-1964 timeframe including its political, diplomatic, espionage, economic, military, and technological aspects.

Darkest Hour is, at its core, an evolution of Heart of Iron 2 Armageddon. The DH Development Team took this decision in order to make it easy to port community-made modifications from HOI2 to DH. This means the Core version of the game has many of its new features disabled or set as close as possible to HOI2 Arma values. However, to take full advantage of the many new features and improvements, two mods have been created by the DH Team to use the full potential of the new code right from scratch, "Darkest Hour Light" and "Darkest Hour Full":

- **Darkest Hour (core game)**: this version is focused on compatibility with Heart of Iron 2 Armageddon and all mods available for it. The number of changed files has been kept as low as possible and all new options are disabled or set as close as possible to the original settings.
- **Darkest Hour Light**: this version is available as a mod with only a few changes from HOI2, but nearly all new features are enabled.
- **Darkest Hour Full**: this version is available as a mod without any compatibility with HOI2 and implements or reworks many new features, the most visible difference being the new map.

Another important characteristic of Darkest Hour is full Moddir support. Thanks to its launcher, it is possible to choose a specific Mod before launching the game, without having to make multiple installation: a single installation of Darkest Hour will be enough to choose each time among different mods.

The following chapters will contain useful information on these subjects:

- the new concepts introduced with Darkest Hour;
- the changes in modding introduced by Darkest Hour;
- the new map;
- instructions on how to port a Mod from HOI2 Arma to Darkest Hour;

## New concepts

Darkest Hour introduces some new interesting concepts:

- claims
- decisions
- new spying system
- improved trade system and stockpiles
- mobilization system
- automatic release of nations
- changes to the rebel system
- actions and commands with triggers
- events with only one action
- events with saved date
- hints & tips

### Claims

Claims have been introduced. Claims are basically used for **diplomatic purposes** and are useful to assert the desire of a country to own and control a province. There are **no economic benefits** of claiming provinces: they are counted as non-national when it comes to IC/MP/Resources or revolt risk and there will be **no way to transform those claims into cores**.

However, claimed provinces are counted as national when it comes to diplomacy or country release. That means that a claimed province appears in the "Have claims against..." section and can be asked with the "Demand Territory" mission in the Diplomatic tab. The **AI won't secede provinces** it has claims on to allies/puppets even if those provinces are cores to that ally. In most cases claims will be used by players just to "redraw" the map in the way they wanted it to be after a successful war, especially in case of partition.

Via the right-click menu it is possible to add and remove claims to single provinces, areas or regions. Claiming non-owned province increases belligerence and removing claims from such provinces decreases it (both values are set in misc.txt). Claimed provinces can be seen best on the Diplomacy map mode - they use lighter green than cores and also a black dot as opposed to the red one used for cores.

However, there are some **limitations to avoid exploiting** this new mechanism: it is not always possible to claim provinces of another country. New claims can be freely set to war enemies, but can be set to neutral countries only if policy allows that (interventionism must be high enough). Moreover claims cannot be demanded from countries that you are guaranteeing at the same time.

Another new useful feature is that **peace negotiations now take into account cores and claims**:

- "Insist on Demands" automatically adds all claims and cores the initiating country has to the demanded provinces list;
- "Beg for Peace" automatically adds all claims and cores the receiving country has to the demanded provinces list;

This new concept of course requires new triggers, commands and configurations:

- Manual claims can be enabled or disabled from misc.txt (diplomacy section :  
Allow manual claims change in-game for players: 1 - Enabled, 0 - Disabled );
- It is possible to set in misc.txt the increase and decrease of belligerence for

- adding and removing claims (does not apply for owned by enemies or claimed province via event command);
- There is a new provinces list named "claimedprovinces" available for countries which can be set in scenario (INC) files and in revolt.txt (claims = { } list);
- New trigger: claims = { province = a [data = tag ] } # check if that province is claimed by TAG (or country in question if not specified);
- New event command: type = addclaim which = [prov id] # Add province to country claims;
- New event command: type = removeclaim which = [prov id] # Remove province from country claims;
- Added restrictions to demand and set new claims:
  - \* new claims can be set to war enemies or allies/puppets/masters
  - \* new claims can be set to neutral countries only if policy allows that (new policy modifier in policy\_effects.csv)
  - \* claims cannot be demanded from guaranteed at the same time countries

## Decisions

Darkest Hour implements a unique **"Policy decisions" concept** that allows players to take a specific decision when they think the time is right (provided that they match all requirements). As an example, when playing the 1936 Grand campaign as Germany, a "Reoccupation of Rhineland" decision will be available with specific requirements to be activated. As soon as the player activates the decision, a newspaper notification appears, offering him a little bit of historical background.

From the point of view of the code, a decision is an event with two new clauses:

- decision = { ... *insert normal triggers here* ... } : if these triggers are fulfilled the decision appears in the decision list for the human player;
- decision\_trigger = { ... *insert normal triggers here* ... } : if these triggers are fulfilled the decision can be taken by the human player;

When the decision is taken, it fires as a normal event. Please beware that for AI nations decisions are treated as events, this means that only the usual *trigger* = { ... } section is checked! This means that all three sections (decision = {}, decision\_trigger = {} and trigger = {}) must be correctly compiled to make the decision work. Moreover, the decisions appear and can be taken only during the chosen date-deathdate, so that part of the code must always be compiled too!

Here are more technical informations on decisions:

### Decisions concept:

- \* new modifier in misc.txt ("mod" section): #Enable decisions for players. 0
- Disabled, 1 - Enabled

### Basics

1. Decisions will be just slightly modified events.
2. They will differ from regular event only by the presence of a new section: decision = {}
3. New entry in the event : decision\_trigger = { }. It is optional and will be used instead of trigger = { }. When it is true the decisions will be active for selection. When not present trigger = {} section will be used for that.
4. Decisions will be treated as regular events by the AI (only the trigger = {} section will be checked).
5. Players will have the power to choose when a decision could be applied.
6. Decisions will be hidden until all triggers in decision = { } section is true.
7. Decision will be available for selection when all triggers in decision\_trigger = { } section (if available, otherwise trigger = {}) in the event are true.
8. Once selected the decisions will fire as regular event via standard event window with all the usual information and actions on it.
9. Decisions will be logged in event history as regular events.
10. Decisions list will be populated on game start and updated daily.
11. Decisions can be enabled/disabled via a new setting in misc.txt ("mod"

section).

12. New entry in the event : `decision_desc = "...."`, optional decision specific text (used on tool-tips instead of event description).
13. New entry in the event : `decision_picture = "picture_name.bmp"`. Optional (there will be a generic picture loaded by default - `gfx\event_pics\decisions_empty.bmp`), placed on the decision plate

#### UI

1. Available decisions will be listed in a new list similar to units/provinces list.
2. Decisions list can be selected via a new button (next to Provinces/Army... buttons).
3. Decisions that cannot yet be taken will have a red X to mark them.
4. Active decisions can be selected and applied.
5. Tool tips:
  - a) Decision Name = event title
  - b) Decision description = event text
  - c) Triggers - already valid triggers will have a green "+" or "\*" as prefix, while inactive will have a red one.
  - d) Action name + effects.
  - e) Decision only text - specified in the event as `decision_text = "...."`. Optional, will be used in place of decision description text on the tool-tip.
6. There will be notification when new decision is added to the list.
7. The decision list button should change state to inactive when there are no visible decisions.
8. The decision list button should not be visible when Decisions are disabled from `misc.txt`.
9. Add decision mini-picture - optional, specified in the event (`decision_gfx = "picture_name.bmp"`)
10. Added cancel button to decision's event panel.

#### Limitations

1. Decisions should not use random elements in any triggers so tool-tips to be correct. EDIT No problem to use random trigger in AI only actions or commands
2. For better formatting on tool-tips `NOT = { trigger1 ... triggerX }` should be used for individual triggers only `NOT = { trigger1 } ... NOT = { triggerX }`

## ***New Spying System***

Darkest Hour's Spying System is based on the Arma 1.3 Spying System, but is further improved and enhanced. Its main features are:

- fixed spying AI - it can do any mission now
- send/kill spies missions removed and replaced with Spy Network levels (0...20)
- increased game speed
- all modifiers exported for better modding!

The first thing that you need to know is that there two modes: **manual** and **semi-automatic intelligence**. While the manual mode has many similarities with HOI2 spying system, the semi-automatic is much more interesting. There you can allocate a certain part of the national income to intelligence operations. There are also others factors that you can play with such as **spy activity** or the **minimum level of infiltration required prior to any foreign operation**. Furthermore, as the Head of your State, you can **assign generic or specific priorities** to your intelligence services. Specific country priorities can therefore be set in that regard. But there are also missions specific priorities which allow you tell your intelligence services what specific mission to perform (either globally or in a certain country). You will for instance be able to perform only industry sabotage in one country or couple it with industrial espionage, provided that you need two times more sabotage missions.

#### Automation:

- Can be enabled or disabled
- Even when enable players still can do any mission to any country manually if they want
- auto-increase of spy levels to manually set Max level (0...20)
- set spy money threshold (use money above XXX)
- Min. spy level threshold before try to do any foreign missions (0...20)
- Spy activity
- Min chances for every spy mission (do not try a mission if chances are less than threshold)
- Can add/remove countries from spying list
- Can set country priority for each country in the list
- Can set missions priority for each country in the list
- Can apply same priorities to all countries at once
- Can clear countries list at once

#### Spy reports, added:

- Convoy/Escorts
- Resources
- Submarines, Transports
- HQ

## ***Improved trade system and stockpiles***

In the **Trade Policies** section it is possible to set the behavior of the AI regarding each resource. If a resource can be imported, the AI will try to obtain it, whereas if it can be exported the AI will be able to give it to other countries in exchange for other resources. A resource that we want to stockpile is a resource that the AI will not export and will do its best to acquire from the market.

Each resource (with the exception of money) cannot be stockpiled *ad infinitum* anymore, but there are three different levels:

- if a resource is below the **critical stockpile level**, the trade AI will try to acquire this resource instead of giving it away;
- the AI will try to bring each resource above the **desired stockpile level**;
- if a resource is over the **maximum stockpile level**, the AI will not try to import that resource anymore and some of it will be lost because of the “over stockpile limit loss”;

The “over stockpile limit loss” is proportional to the quantity of resource over the maximum stockpile level: if you're just above the threshold the loss will be minimal, but it will soon grow.

How are the stockpile levels calculated? First of all, they are **dynamic** and are set by the engine two days after the start of each game. The levels for energy, metal and rare materials are based on the IC whereas the levels for supplies and oil are based on the size of your Army. This means that the stockpile levels grow with the growth of the Industrial Capacity and the size of the Army of your country.

## ***Mobilization system***

The ManPower distribution on the map in DH follows the actual distribution of the world population around 1936 (at least between the countries, inner distribution is sometimes less accurate, depending on the sources we found), something that can be easily modded with the scenario files or the province.csv file. To make things simple, we used the ratio 1 on-map MP = 1,000,000 inhabitants IRL.



Once this was done, it was possible to set realistic recruitment and mobilization systems. Once we logically agreed that 1 in-pool MP (the manpower actually used to make units) should stand for 1,000 men, we could make calculations to set realistic growth rates, and MP availability.

For that purpose, we used the now defunct “professionalism/conscription” slider. Now called “mobilization/demobilization”, **it reflects the level of militarization of a country**, ranging from having no armed forces at all, to a fully mobilized population. Each step reflects a particular military system:

1. Demilitarized: the country has no standing army, its defense generally relies only on police forces or militia (i.e. Costa Rica).
2. Fully professional army: the country has a professional force of volunteers, it can build any military unit (i.e. USA at the start of the game).
3. Selective conscription or part-time military service: only a part of a class of age is incorporated for military service (i.e. USA after the Selective Service Act), or the whole class but for short instruction periods (i.e. Switzerland).
4. Conscription – normal term: the situation of most European countries in 1936. A whole class is incorporated for, generally, 1 year.
5. Conscription – extended term: the same as the previous but with a longer term – typically 2 years, (i.e. Germany from 1937 or 1938).
6. Conscription – long term: conscription of a whole class for 3 years (i.e. France in 1913) or even longer (but in that case it was often coupled to a selective conscription, i.e. USSR or at least Tsarist Russia IIRC).
7. Partial mobilization: often an immediate pre-war measure. Classes that had just accomplished their military service term are recalled under the flag, as they are generally liable for such a thing for a few years after the end of their term (in France it was called “availability” and lasted three years). Some reserve units are activated, reservists are sometimes called back too.
8. General mobilization: the standard wartime measure of that era. All men between 20 and 45/50 are mobilized (though in practice many remain in the civilian life, at least for some time), all reserve units are activated.
9. Extended mobilization: a further effort to face the bloody needs of war. Men previously left back in their factories are transferred to the front, age limits for military service is often pushed to 18-50/55 years old.
10. Total mobilization: the supreme sacrifice, the last effort to put men on the battlefield. Every man fit for military service is mustered in, with teenagers of 15/16 and old men up to 60 or 65 also incorporated – often as a militia.

The principle is that, when you need MP to expand your military and recruit new units while at peace, you must extend the duration of the military service. By doing so, you’ll receive a new class of age, that is, a small part of your male population that will be conscripted in your military – thus being available to form new units (in exchange for some dissent of course). Thanks to the new on-map distribution, **the amount of manpower given by this will be proportional to the country’s population**.

To accomplish this we improved the existing manpowerpool command: now it can add a percentage of the total manpower available in all the controlled national provinces:

Improved manpowerpool command – added optional [when = 1/[0]] switch. When set 1 add the MP as percentage (value = x.x) of the MP in all controlled national provinces.

So for example passing from one-year conscription (level 4) to two-years conscription (level 5) will give you a quantity of manpower equal to 0.45% of the population of the national provinces under your control.

To avoid adding complexity to the engine, these reforms of the military system are driven by decisions, rather than by moving the slider directly. The generic decision will be available as soon as you’ll run low on MP. In peacetime, you can’t go beyond partial mobilization. General mobilization was an exceptional measure, only taken in case of serious crises, and the “mobilization is not war” principle most often proved delusional, as in 1914. Thus, except in specific situations simulated by events, you need to be at war to enact general mobilization and further steps.

Since the mobilization-demobilization slider should only be moved by events, we added the ability to

prevent a user from moving a slider:

Added another option to policy\_effects.csv for each policy slider: MANUAL\_OR\_BY\_INFLUENCE\_MOVES (0 - no slider moves are possible except by events, 1

Once the country mobilizes, its reserve units are filled with soldiers (if they have enough manpower). This can be done thanks to a new command that lets you set, add or subtract strenght to a unit and take/return manpower to the pool. Here's the code:

Added new event command to change unit's current STR (MP taken/returned from/to the pool). Applies to unit in redeployment or sent as expeditionary forces too:

```
command = { type = strength which = all/land/air/naval/unit type when = 0/1 where = 0/1 [org = x.xx] value = +/- x.xx }
which - specifies unit type(s)
when - 0 - set STR value (if value = 0.0 then the this unit will be instantly deleted), 1 - add to STR value (final STR cannot be less then 0.01 or 1% and more then max unit STR, usually 1.0 or 100%)
where - 0 - take/return MP from/to the pool. If there is not enough MP then the command is skipped. 1 - Ignore MP pool (MP not taken/added to it).
value - 0.0 (0%) to 1.0 (100%). Can be negative if when = 1
org - Percentage of the current ORG that should remain if when = 0 (0.0 - set ORG to 0%, 1.0 - keep current ORG unchanged. Default is 1.0. NOTE:
```

It is a very powerful command, with many uses. First of all, it can add manpower to units and subtracts it from the manpower pool and viceversa. Units are processed from a sorted list (ARM, MECH, MOT and some others get priority; reinf. priority check-box is also taken into account) one by one (some take MP, others could return MP, so the list is always processed to the end even if the current MP is 0), so if you have enough manpower for only 10 divisions out of 50, then only 10 will be reinforced. Moreover if a unit receives strenght it can lose organization (to simulate the arrival of reserves), but this change is proportional to the strenght added: a division that receives only 10% of its strenght will lose half the organization lost by a unit which receives 20% of its strenght.

Moreover, setting strenght = 0 will delete the units, so with a single command you can instantly delete for example all the militias or all the air units of a country.

## ***Automatic release of nations***

Another very interesting new feature introduced by Darkest Hour is the Automatic Release of Nations. First of all, claims are taken into account when a new nation is released and are considered like extra provinces. Moreover, Darkest Hour reviewed the automatic release of countries done by the AI, which suffered many limitations: the AI could release a country in its *release = { }* list only if it was a democracy, it was at peace and there were no more Axis powers. These limitations were removed and now even Germany or the Soviet Union can release countries during the war.

Moreover, if it no more necessary to control all the provinces in the minimum list in revolt.txt: minimum, extra and claimed provinces are all taken into account and if enough of them are already under the control of the AI nation, it will release that country. No more bundled by fixed events, the AI will be able to release nations as soon as possible.

New misc.txt parameters ("ai" section):

\* Use new AI release rules - all countries can release puppets even when at war.  
1 - Yes, 0 - No

\* Masters become master of new puppet's puppets too. 1 - Yes, 0 -No

New parameters for country creation (revol.txt):

\* claims = { PROV\_ID ...} - populates claimedprovinces list

\* min = X - allows release if at least X provinces of minimum list are controlled by releaser country. By default (no min\_prov entry or min\_prov = -1) it is equal to provinces in minimum list.

\* min\_extra = X - allows release if at least X provinces of extra list are controlled by releaser country. By default (no min\_extra entry) it is 0.

\* value = X.X (0.0 - 1.25) - used by the old release model (when no min or min\_extra are defined).

If a country owns or occupies a province which is a core for one of its allies (and is not a core of a claim for the owner/occupier), it will automatically secede that province to its ally over time;

- a country can be liberated if at least X provinces (where X is the min = X parameter set in revolt.txt) from it's minimum = {} list are owned or occupied;
- no countries will be released if any of the provinces they need changed hands in the last XXX days (set in misc.txt);
- if minimum list is empty, but extra is not, then extra list will be used in place of the minimum. Otherwise extra list is not used.
- rebels still require all provinces in minimum = {...} list to be controlled by them to create the country and at least one province must be controlled for at least XXX days (set in misc.txt – this was hard-coded to 3 months);

## ***Changes to the rebel system***

- rebels army composition - chance for infantry over militia: 0 - only militia, 100 - only infantry, 50 - 50%/50% and so on (new modifiers in misc.txt - mods section);
- rebels army tech level, based on the available model in the country that controls the province (new modifiers in misc.txt - mods section):
  - -1: only model 1
  - 0: only the Latest model
  - other positive values: random model in the range from (latest model - THIS) to (latest model);

So, for example if the controlling country has infantry model 6 as its most advanced model and in misc.txt we set value 2, the rebel unit will be assigned a random model in the range 4 - 6 (from latest model minus 2 models to the latest model). We hope it's clear enough, please ask if you have doubts.

- revolt risk is now tied to province manpower: introduced max base (unmodified) revolt risk (optional, set in misc.txt);
- higher chance to rebel next to rebellious province;
- occupied provinces have higher rebel chance too;
- chance of rebellion is also influenced by the terrain type and the presence of airbases and navalbases (see misc.txt)
- rebellious province return to the original owner after X months if there are no rebel armies into the province anymore. - 30

## ***Actions and commands with triggers***

This means that you can add triggers to actions or even single commands. This is very useful to avoid writing many events to take into account every possible situation.

*Example 1 - you can have different actions based on the government:*

```
action = {
    trigger = { government = democracy }
    command = { ... }
}
action = {
    trigger = { government = communist }
    command = { ... }
}
action = {
    trigger = { government = nazi }
    command = { ... }
}
```

*Example 2 – a command can be executed only if the trigger is satisfied (surrender of France):*

```
action = {
  command = { type = secedearea which = GER value = "Bourgogne_Champagne" }
  command = { type = secedearea which = GER value = "Lorraine_Alsace" }
  command = { type = secedearea which = GER value = "Pas de Calais" }
  command = { type = secedearea which = GER value = "Paris" }
  command = { type = secedearea which = GER value = "Normandy" }
  command = { type = secedearea which = GER value = "Loire" }
  command = { type = secedearea which = GER value = "Brittany" }

  command = { trigger = { control = { province = 87 data = ITA } } type =
secedeprovince which = ITA value = 87 } # Nice
  command = { trigger = { control = { province = 86 data = ITA } } type =
secedeprovince which = ITA value = 86 } # Toulon
  command = { trigger = { control = { province = 90 data = ITA } } type =
secedeprovince which = ITA value = 90 } # Grenoble
  command = { trigger = { control = { province = 91 data = ITA } } type =
secedeprovince which = ITA value = 91 } # Chambéry
  command = { trigger = { control = { province = 94 data = ITA } } type =
secedeprovince which = ITA value = 94 } # Corsica
}
```

## **Events with only one action**

This means that when this option is selected, even if an event has more than one action, only one of the possible actions will be displayed to the player (who therefore will be forced to accept it). The choice of the action is based on the defined AI chance for each action. In this way the player cannot choose the action and is forced to accept whatever happens to him.

Example: the effects of the attack on Pearl Harbour can be written as a one\_action event, so that neither the Japan nor USA can choose the amount of losses:

```
event = {
  id = 1122334455
  random = no
  country = USA
  one_action = yes
  name = "Attack on Pearl Harbour!"
  desc = "4062desc"

  action = {
    ai_chance = 10
    name = "We suffered very heavy losses"
    ...
  }
  action = {
    ai_chance = 50
    name = "We suffered heavy losses"
    ...
  }
  action = {
    ai_chance = 15
    name = "We suffered light losses"
    ...
  }
  action = {
    ai_chance = 5
    name = "We suffered very light losses"
    ...
  }
}
```

## Events with saved date

It is possible to save the date in which an event fired and then use it as a trigger in another event, for example to make an event fire at least 100 days after another event fired.

Example: the first event will have `save_date = yes`:

```
event = {  
    id = 1234567890  
    random = no  
    save_date = yes  
    country = GER  
    ...  
}
```

The second event will have:

```
trigger = {  
    event = { id = 1234567890 days = 100 }  
}
```

## Hints & Tips

About event AI chances calculation

- Sum of AI chances of all valid actions could be any positive number (removed fixed sum = 100 prerequisite)
- Invalid actions are skipped in AI chances calculations
- Actions without specified AI chances are ignored by the AI if there is at least one valid action with AI chance set
- If no AI chance is set for valid action, random action is chosen from all valid actions (removed increased chance to pick 1st action)

Here are some performance hints that should be taken into account when events are created

1. Triggers (no matter if these are for events, actions or commands) should be as simple as possible and those that are most likely to fail should be first.
2. If there is at least one action that has no own triggers it should be on top of the actions - that's because action triggers are now considered as continuation of the event trigger and there should be at least one valid action in order for the event to fire. Actions without triggers are considered as always valid (no matter what commands they have in opposite to 1.2/1.3).
3. If all actions has triggers, actions with triggers that are most likely to be true should be on top. This will allow for faster event validation (if main trigger is true and there is at least one valid action the event is good to go).

The following two rules have smaller impact, but should be followed too as a good practice.

4. Commands in actions should be arranged so most likely to be valid commands to be on top of the list.  
`command = { type = addcore which = 300 } #Invalid for Germany. Province #300 is Berlin`  
`command = { type = money value = 10 } # Always valid command - good to have it on top!`
5. Command without own triggers should be prioritized in commands list over commands using triggers.

# Changes in modding from HOI2 Armageddon

## Changes to *setting.cfg*

- New settings in *settings.cfg*:
  - 1) Display resolution: 0 = do not change (default: 1024x768), 1 = 1152x864, 2 = 1280x768, 3 = 1280x1024, 4 = 1440x900, 5 = 1600x1024, 6 = user specified - see below; NOTE: Some of these works only in Windowed mode and other might not work at all; *load\_user.bmp* is used for all new resolutions.
  - 2) Screen Width (used if 6 is selected as screen resolution - see above) - For advanced users only! Change on your risk!
  - 3) Screen Height (used if 6 is selected as screen resolution - see above) - For advanced users only! Change on your risk!
  - 4) Display mode: 0 = do not change (default: full screen), 1 = windowed.
  - 5) Start-up movie: 0 = skip it, 1 = play it (default).
  - 6) Extra debug logs (*savedebg.txt*): 0 = disabled (default), 1 = enabled, 2 = enabled + extra map statistics.
  - 7) Enable/Disable game sounds: 0 = no sounds, 1 = load sounds (default).
  - 8) Enable/Disable unit sprites: 0 = no sprites, 1 = load unit sprites (default).
  - 9) Enable/Disable country specific unit and brigade pictures/models: 0 = load only generic pictures/models, 1 = load all available (default).
  - 10) Refresh map on resolutions higher then 1024x768 when not on Map mode. Enabling this will decrease game speed a bit (on higher resolutions only!), but resolves some cosmetic problems. 1 = Enabled (default), 0 = Disabled
- Added MODDIR entry to *settings.cfg*. Mods should be placed in a sub-folder to "Mods" folder. It will be used if no moddir is specified from command prompt. Delete the entry or use "#" as first character to disable it
  - \* Mods #MODDIR folder. Default is Mods
  - \* Darkest Hour Full # Selected mod (must be a folder into MODDIR)

## Changes to *misc.txt*

### Economy

- Trades that cannot be canceled by AI now can be canceled by players only by diplomatic deal that reduces relationships (set in *misc.txt*).
- Resources from single trades can now be delivered in X days (specified in *misc.txt*) instead instantly. To avoid exploits cancellation is disabled for non-cancelable trades that will expire in less then days required for delivering resources from

single trade deals. Delay treaty with 1 day for each day treaty is inactive because resource lacking.

- Added optional stockpiles limit (can be set from misc.txt ("economy" section)).
- New trade parameters in misc.txt ("trade" section):
  - \* Days between trade offers to a country
  - \* Delay in days on each game start/reload before allowing any new trades (AI, auto-trade and Diplomacy) 2 #0
  - \* Desired stockpile threshold
  - \* Critical stockpile threshold
  - \* Desired supply stockpile (for X days)
  - \* Desired oil stockpile (for X days)
  - \* Days to deliver resources from single trades
  - \* Percentage of max supplies that can be produced (using [total IC - IC for CG] as a base) and traded away by auto-trade (0.20)
  - \* Percentage of produced money that can be traded away by auto-trade (0.20)
  - \* Merge trade deals. 0 = do not merge, 1 = merge all active trade deals except those that cannot be canceled
  - \* Manual trade deals (players only, Diplomacy). -1 = Disable manual trade deals, [0 to 100] = Offer value threshold - AI returns 0 accept chance if below this
  - \* Percentage to over-import when below the desired threshold (0.20)
  - \* Stockpile. Values: > 0.0 - extra import (Percentage) on top of what is needed when "Stockpile" option is enabled for that resource, else export all other exceeding resources in order to import more; -1 = export all exceeding resources; -2 = export all exceeding resources and supplies; -3 = export all exceeding resources and money; -4 = export all exceeding resources, supplies and money; 0.30 #0.0
  - \* puppets send supplies and money to masters. 0 - disabled; 1 - send only supplies; > 1 -send supplies + money (when more then this value).
  - \* Auto-merge trade deals (optional - misc.txt).
  - \* Puppets max pool for oil, energy, metal and rare materials - give all above this value to the master. Use negative number to set max pool as percentage of the critical stockpile (for example -1.2 sets the max pool to 1.2 \* critical stockpile). -1.2 #1000
  - \* Multiplier on puppets critical supply stockpile - all supplies above THIS \* puppet's critical supply stockpile can be sent to Master. Used when the previous setting is above 0.1.5 #1.5
- New modifiers in misc.txt (trade):
  - \* Critical oil stockpile threshold (in days). 30 # 1 month
  - \* Critical supplies stockpile threshold (in days). 15
  - \* Should puppets send supplies and money to masters? 0 - disabled; 1 - send only supplies (NOTE - only for neighboring countries!) when above the desired stockpile; > 1 -send supplies + money (when more then this value).0 # 0.
  - \* Puppets max pool for oil, energy, metal and rare materials - give all above this value to the master. 1000 # 1000
- New trade parameters in misc.txt ("diplomacy" section)
  - \* Relationship hit for cancel of a trade deal. Not used for trades

between allies, puppet<->master, inactive trades or trades with efficiency less than 45%.

\* Relationship hit for cancel by players of trade deals that are set as permanent. Not used for trades between allies, puppet<->master, inactive trades or trades with efficiency less than 45%.

\* Force puppets to join their master's alliance (creating a new alliance if Master is not already in one). Check alliances each day. 0 - No

- New modifiers in misc.txt ("economy" section):

\* Peacetime Manpower Multiplier (multiplied on the other) 1.0 # 1.0

\* Wartime Manpower Multiplier (multiplied on the other) 1.0 # 1.0

\* Daily retired Manpower - percentage of the current MP pool 0.0 # 0.0

\* Military Strength to Total IC ratio during Peacetime for AI countries (do not build new units if above this ratio). Use -1.0 to disable this. -1.0 # -1.0

\* Military Strength to Total IC ratio during Wartime for AI countries (do not build new units if above this ratio). Use -1.0 to disable this. -1.0 # -1.0

\* Military Strength to Total IC ratio for AI major countries (multiplied on the other). 1.0 # 1.0

\* Stockpile limit. -1 = Disable, else = stockpile for days. -1 # -1

\* Over stockpile limit daily loss (percentage of the exceeding resource). 1.0 = 100%. 0.0 # 0.0

- New/changed modifiers in misc.txt:

\* Wartime Desired Stockpile multiplier - multiplier on the Desired Stockpile for all resources and supplies when at war 1.0 # 1.0

\* New trade deals min effectiveness threshold - do not make new trades if effectiveness is below this value (0..100). Used by auto-trade 45 # 45

\* Cancel trade deals if effectiveness is below this value (0..100). Used by auto-trade 33 # 33

\* Stockpile limit multiplier for industry resources (energy, metal, rare materials). -1 = Disable, else = Desired Stockpile \* this -1 # -1

\* Stockpile limits multiplier for supplies and oil. -1 = Disable, else = desired stockpile \* this -1 # -1

\* Extra import (Percentage) on top of what is needed when "Stockpile" is selected for that resource. This also increases the Desired Stockpile for that resource 0.30 # 0.0

\* Stockpile limit multiplier for industry resources (energy, metal, rare materials). -1 = Disable, else = Desired Stockpile (unmodified) \* this -1 # -1

\* Stockpile limits multiplier for supplies and oil. -1 = Disable, else = Desired Stockpile (unmodified) \* this -1 # -1

- New modifiers in misc.txt (trade section)

\* Peacetime modifier on desired oil import (it is a function of the max possible daily consumption which in peacetime is about 10 times more than actual consumption). 0.15 # 1.0

\* Wartime modifier on desired oil import (it is a function of the max possible daily consumption which in wartime is about 20-50% more than actual consumption). 0.75 # 1.0



- Improved trade effectiveness recalculation for landlocked countries during war (trading through neutral countries or ports) and use closest ports between countries in the calculation. This model can be enabled from misc.txt ("mod" section).
- New modifiers in misc.txt (mod section):
  - \* Trade Efficiency calculation system and re-calculation interval selection. Any negative integer is number of days between trade efficiency calculations using default Armageddon system (-3 = 3 days). Any positive integer is the number of days between trade efficiency calculations using the new more intelligent but CPU demanding system. 0 is default Armageddon system, set to 1 day. 5 #0
  - \* Merge and relocate provincial depots to the best province in the area. This is new and more intelligent but CPU demanding system. 0 - Disabled (use the old system). Any positive integer is the number of days between areas analyzing using the new system. 7 #0
- New modifiers in misc.txt (economy section):
  - \* Max provincial energy/metal/rare materials depot size. 9999 #9999
  - \* Max provincial oil/supplies depot size. 9999 #9999
  - \* Max Manpower. 9999 #9999
  - \* Desired provincial stockpiles for oil and supplies (needed to supply friendly units in that area for X days). Used by auto-convoying. 7 #7
  - \* Modifier on convoy transports capacity - higher this modifier is, more resources could be transported. 1.0 #1.0
- Corrections to auto-trade oil and supply needs calculation - these are based on the actual needs now (multiplied by modifiers from misc.txt) instead on the max possible consumption.
- New (modified) option in misc.txt (trade section) - Puppets max pool for oil, energy, metal and rare materials - give all above this value to the master. Use negative number to set max pool as percentage of the critical stockpile (for example -1.2 sets the max pool to 1.2 \* critical stockpile). -1.2 #1000
- New modifier in misc.txt (trade section):
  - \* Multiplier on puppets critical supply stockpile - all supplies above THIS \* puppet's critical supply stockpile can be sent to Master. Used when the previous setting is above 0. 1.5 #1.5
  - \* Auto-trade (and AI) single resource trade deals (only at war when an ally badly needs a resource/oil/supplies and trade effectiveness is high enough). 0 - Disabled, 1...100 - Trade deal effectiveness threshold. 0.75 #0
- New modifiers in misc.txt (economy section):
  - \* Land Units - supply consumption modifier 1.0 #1.0
  - \* Land Units - supply consumption modifier when in combat 1.0 #1.0
  - \* Land Units - fuel consumption modifier 1.0 #1.0
  - \* Land Units - fuel consumption modifier when in combat or in bombardment 1.0 #1.0
  - \* Air Units - supply consumption modifier 1.0 #1.0
  - \* Air Units - supply consumption modifier when in combat or in bombardment 1.0 #1.0

- \* Air Units - fuel consumption modifier 1.0 #1.0
- \* Air Units - fuel consumption modifier when in combat or in bombardment 1.0 #1.0
- \* Naval Units - supply consumption modifier 1.0 #1.0
- \* Naval Units - supply consumption modifier when in combat 1.0 #1.0
- \* Naval Units - fuel consumption modifier 1.0 #1.0
- \* Naval Units - fuel consumption modifier when in combat or in bombardment 1.0 #1.0
- Code optimizations to current fuel and supply consumptions functions. Changed some of the supply and fuel modifiers in misc.txt:
  - \* Land Units - supply consumption modifier when in redeployment pool or not moving 1.0 #1.0
  - \* Land Units - supply consumption modifier when in combat 2.0 #1.0
  - \* Land Units - fuel consumption modifier when not moving 0.25 #0.25
  - \* Land Units - fuel consumption modifier when in combat or in bombardment 2.0 #1.0
  - \* Air Units - supply consumption modifier when in redeployment pool or at air base 1.0 #1.0
  - \* Air Units - supply consumption modifier when in combat or in bombardment 1.5 #1.0
  - \* Air and Naval Units - fuel consumption modifier when at air base or port 0.01 #0.01
  - \* Air Units - fuel consumption modifier when in combat or in bombardment 3.0 #1.0
  - \* Naval Units - supply consumption modifier when in redeployment pool or in port 0.5 #0.5
  - \* Naval Units - supply consumption modifier when in combat 2.0 #1.0
  - \*- Naval Units - fuel consumption modifier when not moving and not in port 0.25 #0.25
  - \*- Naval Units - fuel consumption modifier when in combat or in bombardment 3.0 #1.0
- New parameter in misc.txt ("economy" section):
  - \* If Blue Prints can be sold to non-allied countries. 0 = No, 1 = Yes (player could offer BP), 2 = Yes (player could offer and ask for BPs) 0 #0
  - \* If owned (!) provinces can be sold/transferred to non-allied countries. 0 = No, 1 = Yes (player could offer such provinces), 2 = Yes (player could offer and ask for such provinces) 0 #0
  - \* Allow non-owned (just controlled) provinces to be transferred to allied (!) countries if provinces are cores for that ally. 1 - Enabled, 0 - Disabled (default). 1 #0
- Fixed bugged misc.txt parameter: "If units can be sold/transferred to non allied countries". Changed to:
  - \* If units can be sold/transferred to non allied countries. 0 = No, 1 = Yes (player could offer units to all countries and ask for units from allied countries), 2 = Yes (player could offer and ask for units from all countries) 1 #1
- New parameter in misc.txt ("trade" section):

- \* Limit new trade deals to allies, preferred countries (AI), current trade partners or neighbors for X days on every game start or reload. 5 #0
- New modifiers in misc.txt ("economy" section):
  - \* Min. Available IC as percentage of the final IC (applied in case of resource lack) 0 #0
  - \* Min. final Available IC (modified by negative free IC only) 0.0 #0.0
  - \* TP to convoy transports conversion ratio 0 #0
  - \* DD to convoy escorts conversion ratio 0 #0
  - \* CL to convoy escorts conversion ratio 0 #0
  - \* CVL to convoy escorts conversion ratio 0 #0
  - \* Nationalism per MP (added to starting value) 0.0 # 0.0
  - \* Max unmodified nationalism = starting + MP\*mod + added by events or partisan funds 20 # 30
  - \* Max final province revolt risk = THIS + current country dissent 40 # 100
- New modifiers in misc.txt ("economy" section):
  - \* IC multiplier for puppets 0.3 #1.0
  - \* Resource multiplier for non-national provinces 0.5 #0.5
  - \* Resource multiplier for occupied provinces (overrides non-national) 0.4 #0.4
  - \* Resource multiplier for non-national provinces for AI countries (replaces both above). Use -1 disable this AI cheat. -1 #0.75
  - \* Resource multiplier for puppets 0.5 #1.0
  - \* MP multiplier for puppets (multiplied on the other) 0.4 #1.0
- New modifiers in misc.txt ("economy" section):
  - \* Modifier on dissent reduction - higher this modifier is, longer it will take to reduce dissent. - 4.0 #4.0
  - \* Modifier on dissent taken from nukes in national provinces. Dissent = (MP + IC\*0.5) \* Nuke Power \* THIS. - 0.5 #0.5

## **Diplomacy / Government**

- Make alliance between puppets and masters - checked daily. This can be disabled from misc.txt. Disabled "Ban from alliance" option for puppet states.
- Each minister personality has a value that can be either auto-calculated on game start or can be specified in minister\_personalities.txt. This value is used by AI to target ministers for assassinations and to assign best ministers to posts (optional - set from misc.txt)
- Ministers are assigned to Gov. Positions based on their personality value (optional - set from misc.txt)
- Added a new modifier in misc.txt for days between diplomatic missions.
- Puppets with neutrality 150+ (set in misc.txt - see #617) that are not allied to their master will not join automatically master's wars anymore
- New modifiers in misc.txt ("ai" section):

\* Puppets should join Master's war if AI Neutrality is equal or greater than THIS. Note: this works only if puppet is not part of Master's alliance! 0 = always join Master's wars 150 #0

- New misc.txt parameter ("diplomacy" section):
  - \* Masters become master of new puppet's puppets too. 1 - Yes, 0 - No
- New parameter in misc.txt ("economy" section): - # Allow non-owned (just controlled) provinces to be transferred to allied (!) countries if provinces are cores for that ally. 1 - Enabled, 0 - Disabled (default): 1 #0).
- New modifiers in misc.txt ("diplomacy" section):
  - \* Allow manual claims change in-game for players: 1 - Enabled, 0 - Disabled
  - \* Added belligerence for every manually claimed non-national and not owned province. Does not apply for owned by enemies or claimed province via event command. 0.2 #0.0
  - \* Added belligerence on manual claims removal for every not owned province. Does not apply for owned by an enemy province or when claims are removed via event command. -0.1 #0.0
- New option on misc.txt ("diplomacy" section):
  - \* Should not aligned countries join automatically Allies/Axis when DoW by Axis/Allies and both alliances are at war? 1 = Yes, 0 = No

## **Intelligence**

- Added new key in misc.txt and to select mode of IC modifier on spy mission cost (enabled/disabled + 2 IC modes).
- New modifier in misc.txt (intelligence section):
  - \* percentage\_on\_spies to money modifier #100.0

## **Combat / Missions**

- New parameter in misc.txt - movement bonus on terrain trait when moving on such terrain (jungle rat in jungles and marshes, hills fighter on hills and so on) or weather (winter specialist gives bonus on frozen, snowing and blizzard weather)
- New parameter in misc.txt - movement bonus on terrain trait when moving on similar terrain (Ranger in jungles, Mountaineer on Hills and so on)
- New parameter in misc.txt - combat bonus from terrain traits on similar terrain (Ranger in jungles, Mountaineer on Hills and so on)
- Added a new combat modifier in misc.txt: Days in offensive supply (was hard-coded at 30).
- Added a new combat modifier in misc.txt: Hours for Air-to-Air battles (was hard-coded at 4).
- Added a new combat modifier in misc.txt: Hours for Naval and Port bombing (was hard-coded at 5).
- Added a new combat modifier in misc.txt: Hours for Strategic

bombing (was hard-coded at 5).

- Added a new combat modifier in misc.txt: Hours for Ground attack bombing (was hard-coded at 4).
- Added a new combat modifier in misc.txt: Wartime oversea MP modifier (was hard-coded at 0).
- Moved "Requirement for Influence Nation" from economy to diplomacy section in misc.txt.
- Added a new combat modifier in misc.txt: Should fleets on convoy riding missions return to port because of low Organization or not.
- New combat modifiers in misc.txt:
  - \* Land vs. Land - Org dmg - Increasing this will increase ORG damage land unit takes in battle with other land units
  - \* Land vs. Land - Str dmg - Increasing this will increase STR damage land unit takes in battle with other land units
  - \* Air vs. Air - Org dmg - Increasing this will increase ORG damage air unit takes in battle with other air units
  - \* Air vs. Air - Str dmg - Increasing this will increase STR damage air unit takes in battle with other air units
  - \* Air vs. Land - Org dmg - Increasing this will increase ORG damage land unit takes from air units
  - \* Air vs. Land - Str dmg - Increasing this will increase STR damage land unit takes from air units
  - \* Air vs. Land - Ground Attack Org dmg - Increasing this will increase ORG dmg land units take from Air unit on this mission
  - \* Air vs. Land - Ground Attack Str dmg - Increasing this will increase STR dmg land units take from Air unit on this mission
  - \* Air vs. Land - Interdiction Org dmg - Increasing this will increase ORG dmg land units take from Air unit on this mission
  - \* Air vs. Land - Interdiction Str dmg - Increasing this will increase STR dmg land units take from Air unit on this mission
  - \* Air vs. Navy - Org dmg - Increasing this will increase ORG damage naval units take from air units
  - \* Air vs. Navy - Str dmg - Increasing this will increase STR damage naval units takes from air units
  - \* Air vs. Subs - Extra ORG damage multiplier to subs in combat vs. air units
  - \* Air vs. Subs - Extra STR damage multiplier to subs in combat vs. air units
  - \* Navy vs. Air - Org dmg - Increasing this will increase ORG damage air units take from naval units
  - \* Navy vs. Air - Str dmg - Increasing this will increase STR damage air units take from naval units
  - \* Navy vs. Navy - Org dmg - Increasing this will increase ORG damage naval units take from other naval units
  - \* Navy vs. Navy - Str dmg - Increasing this will increase STR damage naval units take from other naval units
  - \* AA to Air - Org dmg - Increasing this will increase ORG damage air units take from province AA
  - \* AA to Air - Str dmg - Increasing this will increase STR damage air units take from province AA
- New economy, diplomacy and research modifiers in misc.txt:
  - \* Province buildings repair modifier - how fast damaged or just

built province buildings will reach max level

\* Province resource repair modifier - how fast resources output is increasing to the max (after bombing or conquering)

\* Days between policy slider moves

\* Research Post-Historical Date Mod ( $1 + \text{value} * \text{days post historical year}$ ). Highest possible value is equal to Blueprint Bonus. This bonus do not apply on Nuclear or Rocketry components research time

- New parameter in misc.txt ("combat" section):

\* AA to Air night modifier. 1 - no change, 0 - no attack, 0.5 - 50% effectiveness and so on 1 #1

\* AA to Air Radar bonus. ( $1 + \text{Radar size} * \text{Radar Efficiency} * \text{THIS}$ ). 0 - no radar bonus 0 #0

- New modifiers in misc.txt (combat section)

\* Naval units range modifier when on Sea transport mission. 3.0 #3.0

\* Naval units range modifier when on Convoy raiding mission. 2.0 #2.0

- New modifiers in misc.txt (combat section):

\* Organization regain bonus for units on friendly soil. It depends on infra and is capped (see below) ( $\text{infra} * 2 + \text{THIS} \leq \text{cap}$ ). [0.0 = 0%, 1.0 = 100%] 0.0 #0.0

\* Organization regain bonus for units on friendly soil cap. 1.2

- New parameter in misc.txt (combat section):

\* AA to Air firing rules: 0 - fire only to passing enemy units on bombing missions, 1 - fire to all passing enemy units: 1 #0

- New modifiers in misc.txt (combat section):

\* Movement speed modifier to land units in combat 1.0

\* Movement speed modifier to land units in bombardment 1.0

\* Convoy interception by naval units on Interdiction, Combat Patrol, Shore Bomb., and ASW missions: 0 disabled for all, 1 - optional for players only (disabled by default), 2 - optional for players (enabled by default) and enabled for AI 0 #0

\* Auto-return transport fleets to base on Amphibious assault and Sea transport missions (players only): 0 - enabled, 1 - enabled by default, optional, 2 - disabled by default, optional 0 #0

\* Allow single province and region targeting for air and naval units (players only): 0 - disabled, 1 - enabled 0 #0

\* Removed # Should fleets on convoy raiding missions return to port because of low Organization or not: 1 = yes, 0 = no (return only for low strength) 1#1 - The Project 0.5

\* Night hours during winter - used in land unit speed calculations. Values: 0.0 (Disabled) to 24.0 14 #0 - Addition to \* Night hours during spring and fall - used in land unit speed calculations. Values: 0.0 (Disabled) to 24.0 12 #0

\* Night hours during summer - used in land unit speed calculations. Values: 0.0 (Disabled) to 24.0 8 #0 - Addition to \* Fleet size range penalty - for every ship above the max threshold (see below) 0.0 #0.0

\* Fleet size range penalty - apply for every ship in the fleet above this. -1 = Disabled -1 #-1

\* Fleet size range penalty - max penalty value. 0.0 to 1.0 (no

penalty) 0.5

\* Apply air and naval unit's range limits on missions to Areas and Regions. 0 = Disabled, 1 = Enabled, 2 = enabled for Ai countries too (Not recommended!!!) 0 #0

\* Radar bonus on detection - used to guide friendly air units on Air Superiority and Scramble missions (This \* Radar level \* Radar efficiency). Higher the better 5.0 #0.0

\* Bonus on detection of enemy air units when they are over a friendly province (added to radar and mission bonuses) - used to guide friendly air units on Air Superiority and Scramble missions. Higher the better 10 # 0.0

- Exported all mission modifiers to misc.txt (new section "mission"):
  - \* mission availability at game start (1/0)
  - \* default (starting) mission efficiency (0.05 - 10.0)
  - \* detection modifiers to Convoy Raiding, Sea Transport, Naval Rebase and Sneak move
  - \* detection bonus to Air Scramble and Air Supperiority
  - \* distance modifier to Convoy Raiding, Sea Transport and Sneak move
  - \* speed modifier to Attack, Support Attack, Reserves, Support Defense and Naval Scramble
  - \* suppression modifier to Anti partisan duties
  - \* Org. and Str. Damage for Interdiction and Ground Attack (moved from "combat" section)
  - \* Shore Bombardment multiplier (moved from "combat" section)
- misc.txt - transferred to "mission" section modifiers from other sections:
  - \* Combat Modifier: Shore Bombardment Multiplier (Applies to the SB value of ships for org damage)
  - \* Naval units range modifier when on Sea transport mission.
  - \* Naval units range modifier when on Convoy raiding mission.
  - \* Air vs. Land - Ground Attack Org dmg - Increasing this will increase ORG dmg land units takes from Air unit on this mission
  - \* Air vs. Land - Ground Attack Str dmg - Increasing this will increase STR dmg land units takes from Air unit on this mission
  - \* Air vs. Land - Interdiction Org dmg - Increasing this will increase ORG dmg land units takes from Air unit on this mission
  - \* Air vs. Land - Interdiction Str dmg - Increasing this will increase STR dmg land units takes from Air unit on this mission
- Refined enemy detection for units on Air Superiority missions - see new mission and radar modifiers in misc.txt
- New modifiers in misc.txt (combat section):
  - \* Air dogfight XP gain factor 1.5 #1.5 - use that one for air combats
  - \* Recalculate land units arrival times when not in combat. 0 - Disabled, 1 - recalculate each hour and so on. (see #409) 0 #0
- Mission control (air and naval units) - added colors to provinces covered by selected mission. Unit's ranges are taken into account too (when set so in misc.txt).
- New modifiers in misc.txt ("combat" section):
  - \* "Synchronize arrival" time modifier - Players only! (Stack

arrival time = slowest unit move time \* THIS). 1.5 #1.0  
 \* "Synchronize arrival" time modifier - AI only! (Stack arrival time = slowest unit move time \* THIS). 1.0 #1.0  
 \* Recalculate arrival times for units in "Sync. arrival time" mode after combat/bombardment. *NOTE: enabling this could de-synchronize arrival times! 0 - Disabled, 1 - Enabled for players only, 2 - Enabled for players and AI. 0 #0*  
 \* AA to Naval - Org dmg - Increasing this will increase ORG damage a fleet takes from province AA. 0.15 #0.15

- New optional (misc.txt, ai section) conquer province rules. AI masters can be set to get all provinces conquered by AI puppets:
  - \* #AI masters get all provinces conquered by AI puppets. 1 - Yes, 0 - No (old rules) 1 #0
  - \* Note: This setting is only about who will get control over a newly conquered province. Provinces conquered by puppets will be actually instantly given to master when this setting is On. Cores/claims would be most probably given back to allied countries later.

## Units

- New parameter in misc.txt used to modify convoy escorts models in convoy battles (using researched DD model as a base)
- The hard-coded 50% penalty for hard units (Softness < 50%) on attacking urban provinces was moved as parameter in misc.txt
- New option in misc.txt about interaction between division and brigade minister bonuses: 1 = use division bonus if any else brigade; 2 = Use average of both; 3 = use Sum of all; 4 = Use min; 5 = use Max
- New parameter in misc.txt ("mod" section):
  - \* Allow brigade attaching as long as the unit is in supply no matter on whom territory it is. 1 - Enabled, 0 - Disabled (default): 1 #0
  - \* Multiple deployment - preferred unit size for armies. This could be overridden in-game by holding SHIFT (deploy all in a single group) or CONTROL (deploy each in own group) keys. 3
  - \* Multiple deployment - preferred unit size for fleets. This could be overridden in-game by holding SHIFT (deploy all in a single group) or CONTROL (deploy each in own group) keys. 6
  - \* Multiple deployment - preferred unit size for air. This could be overridden in-game by holding SHIFT (try to deploy all in a single group) or CONTROL (deploy each in own group) keys. 2
- New modifiers in misc.txt ("mod" section):
  - \* Rebels army composition - chance for infantry over militia. 0 - only militia, 100 - only infantry, 50 - 50%/50% and so on.
  - \* Rebels army tech level (based on the available model in the country that controls the province). -1 - Only model 1, 0 - Only the Latest model, else random model in the range from (latest model - THIS) to (latest model).



## AI

- New section in misc.txt for AI modifiers (ai):
  - \* Overproduce of supplies when below desired supplies level (percentage of max needed supplies)
  - \* Multiplier on overproduce supplies when at war
  - \* Military Strength to Total IC ratio during Peacetime for AI countries (do not build new units if above this ratio). Use -1.0 to disable this.
  - \* Military Strength to Total IC ratio during Wartime for AI countries (do not build new units if above this ratio). Use -1.0 to disable this.
  - \* Military Strength to Total IC ratio for AI major countries (multiplied on the other).
  - \* Disables AI Peacetime offensive spy missions: 0 = all are allowed; 1 = Assassination, Coup, Fund Partisans and Nuclear sabotage are disabled; 2 = (1) + Delay TT and Disrupt Prod. are disabled.
  - \* AI spy missions cost modifier: 1.0 = No change; 0.5 = 50% discount; 2.0 = doubled cost.
  - \* AI diplo missions cost modifier: 1.0 = No discount; 0.5 = 50% discount; 2.0 = doubled cost. Note: Demand territory and Trade deals are for free.
  - \* AI influence modifier. Reduce or increase number of Influence missions AI does: 1 = no change; 0 = No influence missions; 2 = doubled.
- New modifiers in misc.txt (ai section):
  - \* Do not produce supplies when current supply stockpile is greater than THIS \* max supply production. This overrides all other settings. 7.0 # 10000
  - \* Do not start producing any new units when more than THIS percentage of the total IC is needed to supply existing units (0.0 to 1.0; 1.0 = 100%, disabled). Enabling this will encourage AI to build more IC when this ratio is exceeded.
- New modifiers in misc.txt (ai section):
  - \* Do not use Offensive supply when supplies stockpile is below THIS \* critical supply threshold. 1.0 #1.0
  - \* Do not use Offensive supply when oil stockpile is below THIS \* critical oil threshold. 1.0 #1.0
  - \* Do not Offensive supply unit if its ESE is greater than THIS. 0.8 #0.8
  - \* Do not Offensive supply unit if its average (for all divisions) ORG or STR damage (in % of max) is above THIS. 0.2 #0.2
  - \* New DoW rules (AI only) - disallow DoW between alliance members if alliance leaders have NAP. Disallow DoW to or by puppets. 1 - Enabled, 0 - Disabled. 0 #0
- Improved event AI chances calculation (misc.txt):
  - \* Sum of AI chances of all valid actions could be any positive number (removed fixed sum = 100 prerequisite)
  - \* Invalid actions are skipped in AI chances calculations
  - \* Actions without specified AI chances are ignored by the AI if there is at least one valid action with AI chance set
- New modifiers in misc.txt ("ai" section) AI events action

selection rules:

- \* 0-100 : Chance for the first valid action to be chosen.

Remaining valid actions have equal chances. Used for events that do not have valid action with AI chance set, else AI chances are used

- \* -1 : Random - every valid action has the same chance. Used for events that do not have valid action with AI chance set, else AI chances are used

- \* -2 : Historical - First valid action is always selected. Used for events that do not have valid action with AI chance set, else AI chances are used

- \* -3 : Forced historical - First valid action is always selected if there is no AI chances set for a valid action, else - (first) valid action with the highest AI chance set is selected

- New modifiers in misc.txt ("mod" section):

- \* Auto reply to events (players). 0 - Disabled, 1 - Enabled (using AI event action selection rules - see "ai" section) 0 #0

- \* Force actions to show even if there are no valid commands as long as action trigger is valid (or there is no action trigger at all). Ignored for random and persistent events!

- # 0 - Disabled

- # 1 - Enabled only for actions that have valid triggers

- # 2 - Enabled for actions without triggers too

- New modifiers in misc.txt ("ai" section):

- \* Force strategic redeployment if movement time is longer then X hours. This setting will override default AI settings. -1 - Disable, Else time in hours

- \* Use quick area check (Garrison AI) - could be inaccurate in some rare cases. 1 - Enabled, 0 - Disabled 1 # 0

- Added new modifier in misc.txt (ai section):

- \* min. days after last province controller change required for the AI to release a country using that province.

## Map

- New section in misc.txt - "map":

- \* Total provinces. There is a hard-coded limit to 10000.

adjacent.tbl must be updated after any change here (just rename/delete it and restart the game) 2608 #2608

- \* Distance calculation model. 0 - use the old, map based calculation (slower and incorrect); 1 - use real world distances from airdist.tbl (based on distances.csv) and navaldist2.tbl files 1 #0

- \* Map Width. Should be multiple of 32! NOT USED YET! 29952 #29952

- \* Map Height. Should be multiple of 32! NOT USED YET! 11520 #11520

- Map provinces limit change. Max provinces are set to 10000, but currently used provinces are set in misc.txt. Except for increased memory usage (up to 10MB), there is no performance drop.

- Selectable game maps:

- \* load all map related files including province.csv, province\_names.csv from a user defined folder (map\Map\_X)

- \* load all province and city pictures from a user defined folder

(map\Map\_X\gfx)

\* set used map in misc.txt (0 - use default map, 1 - load map from map\Map\_1 and so on)

- New modifier in misc.txt ("map" section):

\* Map: 0 - use default map, else load a new map from "map\map\_X" folder where X = THIS.

## **Other changes to misc.txt**

- Two new sections in misc.txt: intelligence and diplomacy.
- New section in misc.txt for modding tools (mod)
  - \* AI spy (LogSpyAI.csv) and diplomatic (LogDiploAI.csv) mission loggers: 0 = disabled (default), 1 = enabled
  - \* Country logger (LogCountry.csv): 0 = disabled (default), >0 = enabled, days between logs, -1 = log only player's country
- New modifiers in misc.txt (mod section):
  - \* Use new auto-save file format:  
AutoSave\_Country\_Year\_Month\_Day.eug. 1 - Enabled, 0 - Disabled. 1 #0
  - \* Load new AI settings on AI file switching to all clients in MP games. 1 - Enabled, 0 - Disabled. 0 #0
  - \* - Switched AI files logger (SwitchAI.txt): 0 - Disabled, 1 - Enabled. 1 #0
- New modifiers in misc.txt ("mod" section):
  - \* In-game losses logging (statistics). 0 - Disabled, 1 - Enabled: 1 #0
- New parameter in misc.txt ("mod" section):
  - \* Allow unique pictures to all land provinces. 1 - Enabled, 0 - Disabled (only urban provinces may have unique pictures) 1 #0
- Optional (misc.txt) - Fixed a bug preventing an action in event to show if all commands in it are invalid. This sometimes prevented the entire event from firing.
- New policy modifiers in policy\_effects.csv:
  - \* MODIFIER\_RELATIONSHIPS\_DOW - Additive. Relationship needed to DoW - new, enabled from misc.txt
- New misc.txt parameters ("ai" section):
  - \* Use new AI release rules - all countries can release puppets even when at war. 1 - Yes, 0 - No
- Max active tech teams made moddable from misc.txt (up to 50).
- New modifiers in misc.txt ("research" section):
  - \* Use new Technology page layout - allow for more techs and better view. 0 - use vanilla; 1 - use new 1 #0
  - \* Max active tech teams at a time (cannot be more than 50). Note: New Technology page layout will be auto-set for values above 5! 5 #5
  - \* Min active tech teams at a time 1# 1
  - \* Required IC for each tech team above the min 20 #20
- Tie revolt risk to province MP. Introduced max base (unmodified) revolt risk. Optional, set in misc.txt

- Decisions concept:
  - \* new modifier in misc.txt ("mod" section): #Enable decisions for players. 0 - Disabled, 1 - Enabled
- New setting in misc.txt (Mods section): Use new minister files format and End years for ministers; All minister files should have End Year column (after "Pool"); Pool should use absolute year (1936 instead of 36): 0 - Disabled, 1 - Enabled 0 #0
- New modifiers in misc.txt ("mods" section):
  - \* Rebels army min. STR on creation: 1.0-100.0 - 100.0 #100.0
  - \* Rebels army max. STR on creation: 1.0-100.0- 100.0 #100.0
  - \* Rebels ORG regain (including when in combat) - 0.2 #0.2
  - \* Extra bonus for rebelling for every rebel controlled neighboring province - 5 #0
  - \* Extra bonus for rebelling for occupied enemy provinces - 5 #0
  - \* Extra rebel bonus for mountain terrain - 0 #0
  - \* Extra rebel bonus for hill terrain - 0 #0
  - \* Extra rebel bonus for forest terrain - 0 #0
  - \* Extra rebel bonus for jungle terrain - 0 #0
  - \* Extra rebel bonus for swamp terrain - 0 #0
  - \* Extra rebel bonus for deserts - 0 #0
  - \* Extra rebel bonus for plains terrain - 0 #0
  - \* Extra rebel bonus for urban provinces - 0 #0
  - \* Extra rebel bonus for provinces with Air or Naval bases - 0 #0
  - \* Return rebellious province to the original owner after X months if there are no rebel armies into the province anymore. - 30 #1000000 (never)
- Exported many starting values of country modifiers to misc.txt. New section "country":
  - \* Land Fort Efficiency - 1.0 #1.0
  - \* Coastal Fort Efficiency - 1.0 #1.0
  - \* Ground Defense Efficiency - 0.8 #0.8
  - \* Convoy Defense Efficiency - 0.0 #0.0
  - \* MP boost - 0.9 #09
  - \* Transport Capacity modifier - 1.0 #1.0
  - \* Transport Capacity (occupied) modifier - 1.0 #1.0
  - \* Attrition modifier - 1.0 #1.0
  - \* MP Trickle back modifier - 1.0 #1.0
  - \* Supply distance modifier - 1.0 #1.0
  - \* Repair modifier - 1.0 #1.0
  - \* Research modifier - 1.0 #1.0
  - \* Radar efficiency - 1.0 #1.0
  - \* HQ Supply efficiency bonus - 0.01 #0.01
  - \* HQ Combat events bonus - 1.0 #1.0
  - \* Combat event chances: 0.01 = 1%, 1.0 = 100% - 0.01 #0.01
  - \* Friendly army detection chance - 40 #40
  - \* Enemy army detection chance - 80 #80
  - \* Friendly intelligence chance - 50 #50
  - \* Enemy intelligence chance - 50 #50
  - \* Max amphibious army size - 3 #3
  - \* Energy to Oil - 0.0 #0.0
  - \* Total production efficiency - 1.0 #1.0
  - \* Supply production efficiency - 0.0 #0.0
  - \* AA power - 0.1 #0.1

- \* Air surprise chance - 1.0 #1.0
- \* Land surprise chance - 1.0 #1.0
- \* Naval surprise chance - 1.0 #1.0
- \* Peacetime IC mod - 1.0 #1.0
- \* Wartime IC mod - 1.0 #1.0
- \* Buildings production mod (applied to all buildings!) - 1.0 #1.0
- \* Convoys production mod (applied to both convoy transports and escorts) - 1.0 #1.0
- \* Min ships positioning in battle (applied to all naval units!) - 0.1 #0.1
- \* Max ships positioning in battle (applied to all naval units!) - 0.2 #0.2
- \* Peacetime modifier on stockpiles for industry resources - 1.0 #1.0
- \* Wartime modifier on stockpiles for industry resources - 1.0 #1.0
- \* Peacetime modifier on stockpiles for oil and supplies - 1.0 #1.0
- \* Wartime modifier on stockpiles for oil and supplies - 1.0 #1.0
- Added new settings in misc.txt ("mods" section):
  - \* Load sprites from Moddir only. Setting this to 1 prevents reading of sprite files from the main game folder. 0 #0
  - \* Load unit icons from Moddir only. Setting this to 1 prevents reading of unit icon files from the main game folder. 0 #0
  - \* Load unit pictures from Moddir only. Setting this to 1 prevents reading of unit picture files from the main game folder (except for the generic ones - ill\_YYY\_XX\_0.bmp). 0 #0
  - \* Load AI files from Moddir only. Setting this to 1 prevents reading of AI files from the main game folder. 0 #0

### ***Changes to diplo\_costs.txt***

- Changed diplomatic costs to positive numbers.

### ***Changes to spy\_costs.txt***

- Changed "diplomacy" section name in spy\_costs.txt to "intelligence". A bug on error reporting on parsing has been fixed.
- spy\_costs.txt format has been optimized. Most of the new spy system modifiers were moved to misc.txt.

### ***Changes to policy\_effects.csv***

- All policy modifiers are moddable from policy\_effects.csv. (Use "policy\_effects.csv" file in game checksum calculation.)
- Added new policy modifier \_MODIFIER\_RESEARCH\_SPEED\_.
- Added new policy modifier \_MODIFIER\_INTEL\_COST\_.
- Added new policy modifier \_MODIFIER\_INTEL\_MAINTENANCE\_.

- `_MODIFIER_UPGRADE_TIME_AND_COST` modifier was split in two:  
`_MODIFIER_UPGRADE_TIME` and `_MODIFIER_UPGRADE_COST`.
- `_MODIFIER_PRODUCTION_TIME_AND_COST` modifier was split in two:  
`_MODIFIER_PRODUCTION_TIME` and `_MODIFIER_PRODUCTION_COST`.
- Enabled `_MODIFIER_RESOURCE_PROD` modifier.
- Policy modifier on stockpiles limit `MODIFIER_STOCKPILES` - set is `policy_effects.csv`
- New policy modifiers in `policy_effects.csv`:
  - \* `MODIFIER_USE_BELLIGERENCE_FOR_DOW` - Additive. Use belligerence in "is DoW allowed" calculation - replacing old hard-coded threshold (democracy  $\geq 5$  -> use belligerence based on Interventionism). Use Belligerence when sum of all sliders for is above 1.
  - \* `MODIFIER_BELLIGERENCE_DOW` - Additive. Belligerence needed to DoW. Used only when `MODIFIER_USE_BELLIGERENCE_FOR_DOW` is greater than 1
  - \* `MODIFIER_RELATIONSHIPS_DOW` - Additive. Relationship needed to DoW - new, enabled from `misc.txt`
  - \* `MODIFIER_COUNTERINTELLIGENCE` - Additive. Used as bonus to current counter-intelligence. The recommended max value from all sliders is 15!
  - \* `MODIFIER_INTELLIGENCE` - Additive. Added to spy levels in distance calculations. Higher it is - distance will have less impact on mission chances. The recommended current values from all sliders are from -5 to +4!
- 603. New policy modifiers in `policy_effects.csv`:
  - \* `MODIFIER_RELATIONSHIPS_DOW` - Starting value: -200
- Added new policy modifiers in `policy_effects.csv`:
  - \* `CAN_ALLY_WHILE_AT_PEACE`
  - \* `CAN_ADD_CLAIMS_TO_NEUTRALS`
  - \* `CAN_DEMAND_CLAIMS`
  - \* `CAN_BREAK_NAP`
  - \* `CAN_GUARANTEE`
- Added restrictions to demand and set new claims:
  - \* new claims can be set to neutral countries only if policy allows that (new policy modifier in `policy_effects.csv`)
- Added another option to `policy_effects.csv` for each policy slider: `MANUAL_OR_BY_INFLUENCE_MOVES` (0 - no slider moves are possible except by events, 1 - manual slider moves are allowed too, 2 - moves by Influence are allowed too)

## Changes to Triggers

- Trigger: `access = { country = TAG } # check if the country in question has access to TAG`
- Trigger: `alliance = { country = TAG } # check if the country in question is allied to TAG`
- Trigger: `area = { area = name [country = TAG/-1/-2/-3] [data =`

1/2] [value = X] } # check if all provinces in the area are controlled (data = 1 or no data) or owned (data = 2) by the current country (country = -1 or no country), enemy countries (country = -2) or allied/friendly countries (country = -3)); optional value = X (0 to 100, default is 100) - percentage of provinces (cannot be less than 1 province)

- Trigger: building = { province = ID type = building\_type value = X [when = now] } # check if in the specified province that building\_type is at least at level X; when = now for current size, else - max size
- Trigger: capital = { province = a [data = tag] } # check if that province is the capital of TAG (or country in question if not specified)
- Trigger: claims = { province = a [data = tag ] } # check if that province is claimed by TAG (or country in question if not specified)
- Trigger: control = { province = a [data = tag] } # checks if province is controlled by country x. If data = -1 or no data then it's for country receiving event; -2 is Enemy; -3 is allied (war or diplomatic alliance) or event receiver
- Trigger: convoypool = X # changed to check for total convoy transports instead just for unassigned
- Trigger: core = { province = a [data = tag ] } # check if that province is core for TAG (or country in question if not specified)
- Trigger: embargo = { country = [tag1] country = [tag2] [value = 0/1/2]} # checks if tag1 has trade (value = 1), tech (value = 2) or any (value = 0 or no value) embargo to tag2. If no tag 2 check for current country against tag1
- Trigger: escortpool = X # changed to check for total escorts instead just for unassigned
- Trigger: guarantee = { country = TAG } # check if the country in question has GoI by TAG
- Trigger: ic = X / ic = { [country = TAG] value = X [when = now] } # check if TAG (or country in question if not specified) has X or more Total IC ([when = now] ) or Base IC; ic = X checks if current country has at least X total IC
- Trigger: intelligence = X / intelligence = { [country = TAG] value = X [data = 1/2/3] } # True if intel level is at least X in the current country (intelligence = X, or no TAG) or country in question (TAG); data: 1 (default) intell level, 2 - foreign intelligence, 3 - counter espionage
- Trigger: intel\_diff = { country = TAG1 [country = TAG2] value = X [data = 1/2/3] } # True if TAG1 intel efficiency in TAG2 - TAG2 intel efficiency in TAG1 is at least X (data = 1 or no data), TAG1 intel level - TAG 2 intel level is at least X (data = 2), or TAG1 intell efficiency in TAG 2 is at least X. If no TAG2 check for current country in TAG1. value could be negative.
- Trigger: ispuppet = [yes/no/TAG] # improved trigger, use ispuppet

= yes to check if the country in question is puppet to another country.

- Trigger: lost\_IC = { value = X } # X% or more of national IC of the country in question is in enemy hands
- Trigger: lost\_national = { value = X } # X% or more of national provs of the country in question are in enemy hands
- Trigger: lost\_VP = { value = X } # X% or more of \_owned\_ VPs of the country in question are in enemy hands
- Trigger: military\_control = { country = TAG1 [country = TAG2] } # True if TAG1 has military control over TAG2, or country in question has military control over TAG1 (when no TAG2)
- Trigger: non\_aggression = { country = TAG } # check if the country in question has NA pact with TAG
- Trigger: nuclear\_reactor = X / nuclear\_reactor = { [country = TAG] value = X [when = now] } # check if TAG (or country in question if not specified) has nuclear reactor at X or more current size ([when = now] ) or max size; nuclear\_reactor = X checks if current country has at least nuclear reactor with X current size
- Trigger: nuked = X / nuked = { country = TAG1 [country = TAG2] data = X [where = Y] }
  - \* nuked = -1 # True if against that country have been used more the 1 nukes
  - \* nuked = 1 # True if that country has used at least one nuke against any country
  - \* nuked = { country = FRA country = GER data = 1 where = 300 } # True if France(FRA) has used at least 1 nuke to Germany (GER) in Berlin (ID #300)
  - \* nuked = { country = FRA data = -1 } # True if against France(FRA) has been used at least 1 nuke by any country
  - \* nuked = { country = GER data = -2 where = 300 } # True is against Germany have been used at least 2 nukes (by any country) at Berlin
- Trigger: owned = { province = a [data = tag] } # checks if province is owned by country x. If data = -1 or no data then it's for country receiving event; -2 is Enemy; -3 is allied (war or diplomatic alliance) or event receiver
- Trigger: participant = { [country = TAG] value = 1/2/3/4 } # check if TAG (or country in question if not specified) is part of Allies (1), Axis (2), Comintern (3) or any alliance (4)
- Trigger: policy = { [country = TAG] type = [policy] value = X } # true if the policy of TAG (or country in question if not specified) is equal or greater then X. Value is 1 to 10
- Trigger: puppet = { country = TAG } # check if the country in question has country TAG as puppet
- Trigger: region = { region = name [country = TAG/-1/-2/-3] [data = 1/2] [value = X] } # check if all provinces in the region are controlled (data = 1 or no data) or owned (data = 2) by the current country (country = -1 or no country), enemy countries



(country = -2) or allied/friendly ); optional value = X (0 to 100, default is 100) - percentage of provinces (cannot be less than 1 province):

- Trigger: rocket\_test = X / rocket\_test = { [country = TAG] value = X [when = now] } # check if TAG (or country in question if not specified) has rocket test sites at X or more current size ([when = now] ) or max size; rocket\_test = X checks if current country has at least rocket test site with X current size
- Trigger: tech\_team = ID / tech\_team = { id = X [country = TAG] } # checks if team with id X is active (current year is in between team's start/end year) in the current country (no country entry), in a specified country (TAG) or in any country (country = -1, or just team = ID)
- Trigger: trade = { country = TAG } # check if the country in question has a trade deal with TAG
- Trigger: war = { country = TAG } # check if the country in question is at war with TAG
- Trigger: [div type] = { [country = TAG] value = X [when = now] } # check if TAG (or country in question if not specified) has X or more of that type of division. when = now counts only already built divisions.
- Extend garrison trigger to support [country = TAG/0/-1/-2/-3] (0 - all countries, current country (country = -1 or no country), enemy countries (country = -2) or allied/friendly countries (country = -3); optional area values: 0 = (no) / 1 = area / 2 = region / 3 = (yes) owner area ):
  - \* garrison = { [country = TAG/-1/-2/-3] province = [province] type = [air/land/naval] size = [number of divisions] area = [0/1/2/3] }
- New trade system triggers:
  - \* stockpile = oil/energy/metal /rare\_materials/supplies/money # Returns true if Stockpile is set for the given resource.
  - \* import = oil/energy/metal /rare\_materials/supplies/money # Returns true if Import is enabled for the given resource.
  - \* export = oil/energy/metal /rare\_materials/supplies/money # Returns true if Export is enabled for the given resource.
  - \* resource\_shortage = oil/energy / metal / rare\_materials / supplies / money/all # Returns true if there is resource shortage for that resource or for any resource when used with "all". NOTE: This trigger is not very reliable because it is set correctly on the second game day on every game session.
- Additions to event trigger: event = { id = EVENT\_ID days = X } # Check if event with EVENT\_ID has fired at least X days ago
- Added (optional) triggers to individual commands or event actions.  
Example 1: action = {
  - trigger = {
    - NOT = { war = { country = GER country = AUS } }
- ...

```
Example 2: action = {
    command = { trigger = { ai = no } type = dissent
    value = 10 }
    ...
}
```

## Changes to Commands

- Fixed units stats added by events (example "command = { type = soft\_attack which = infantry value = 10 }" ) - those were not applied to newly built units.
- Added "when = XXX" entry to build\_division event command to allow serial builds (default value is 1)
- Fixed a CTD bug with undocumented change country TAG command (command = { type = country which = TAG }) - tech-teams currently researching were not removed from research pool. On click game CTD
- Fixed a bug in change TAG command - only minimum provinces were added to nationalprovinces list. Add provinces from extra list too and also claims to claimedprovinces list.
- Addition to inherit command - added value = 1/0(default) argument. When set country will receive all units and production queue too.
  - type = inherit which = [tag] [value = 1/0 (default)]
- New commands and country specific modifiers on max stockpiles:
  - \* command = { type = stockpile which = (industry / supplies (used for oil too) / all) when = ( war / peace / all ) value = XX }
- New event commands to toggle auto-trade options.
  - \* command = { type = auto\_trade which = (oil/energy/metal /rare\_materials/supplies/money) when = (import/export/stockpile) value = 1/0 }

Notes:

  - a. Enabling Stockpile will disable Export and enable Import
  - b. Enabling Export will disable Stockpile
  - c. Disabling Import will disable Stockpile
  - \* command = { type = auto\_trade\_reset } - reset auto-trade options to defaults ( Stockpile disabled, Import and Export enabled for all resources)
- New event command - add/remove tech/trade embargoes:
  - \* command = { type = embargo which = TAG where = TAG [value = -2/-1/0/1/2/3] } # which - enforcer; where - subject; value: -2 - clear tech embargo; -1 - clear trade embargo; 0 or no value - clear all embargoes; 1 - enforce trade embargo; 2 - enforce tech embargo; 3 - enforce both trade and tech embargoes; If which = where then value = 0 (clear all embargoes the country has), -1 (clears all trade embargoes the country has), -2 (clears all tech embargoes the country has)
- New event command - trade:
  - \* command = { type = trade which = TAG where = TAG [energy = x] [metal = x] [rare\_materials = x] [oil = x] [supplies = x] [money = x] [when = Days duration / default is 100 years] [value = 1/0 -

default, can be broken, 1 = not] }

- New event command - change flag/shield/counter name and skin:  
\* command = { type = flag\_ext where = TAG [which = "string"] } #  
where - change flag of TAG; which - add that string to  
flag/shield/counter name and skin folder; use empty string ("") or  
no which to clear.
- New event command - change country name:  
\* command = { type = name where = TAG [which = "string"] } # where  
- change name of TAG; which - new country name; use empty string  
("") or no which to reset name to default.
- New event command - military\_control:  
\* command = { type = military\_control which = TAG where = TAG  
value = 1/0 } # which - controlling country; where - controlled  
country; value - 1 (assume MC), 0 (relinquish MC)
- New event command - secederegion:  
\* command = { type = secederegion which = TAG value =  
REGION\_NAME }
- New event command - secedearea:  
\* command = { type = secedearea which = TAG value = AREA\_NAME }
- New event command: type = addclaim which = [prov id] # Add  
province to country claims
- New event command: type = removeclaim which = [prov id] # Remove  
province from country claims
- Improved manpowerpool command - added optional [when = 1/[0]]  
switch. When set 1 add the MP as percentage (value = x.x) of the  
MP in all controlled national provinces.
- Corrected event command: type = carrier\_level value = XXX.X  
#country-independent bonus to every carrier into a naval combat  
(Bonus = (OurCarrierLevel - TheirCarrierLevel) / 10). Specified  
value replaces currently used (it is not additive command). By  
default this value for all countries is 0.0 (and so the bonus is  
0%).
- Extended alliance command (added Axis, Allies, Comintern  
alliances): type = alliance which = [tag] [where = 1/2/3] # This  
country enters in an alliance with country = [tag], [-1] for  
random country, where = 1 - Axis / 2 - Allies / 3 - Comintern
- Added a new command to change leader of a major alliance: command  
= { type = alliance\_leader [which = TAG] where = 1/2/3 } #sets TAG  
(or country in question if no which is specified) as the new  
leader of Axis (where = 1), Allies (where = 2) or Comintern (where  
= 3)
- Added a new command to change major alliances name, strings,  
pictures: command = { type = alliance\_name which = "XXXXX" where =  
1/2/3 } #sets Axis (where = 1), Allies (where = 2) or Comintern  
(where = 3) name to defined as ALLIANCE\_XXXXX in a CSV file,  
victory string - GAME\_END\_XXXXX\_VICTORY, total victory string -  
GAME\_END\_XXXXX\_TOTAL, alliance picture used on game quit/scenario  
end - gfx\interface\XXXXX\_ledg.bmp and background picture used on

*alliance victory - gfx\interface\frontend\endgame\_XXXXX.bmp*

- Added new command to increase leader skill: `command = { type = add_leader_skill which = [leader id/-1] value = [X] }`
- Added new event command to change unit's current STR (MP taken from / returned to the pool). Applies to unit in redeployment or sent as expeditionary forces too:
  - \* `command = { type = strength which = all/land/air/naval/unit type when = 0/1 where = 0/1 [org = x.xx] value = +/- x.xx }`
  - \* `which`: specifies unit type(s)
  - \* `when`: 0 - set STR value (if value = 0.0 then the this unit will be instantly deleted), 1 - add to STR value (final STR cannot be less than 0.01 or 1% and more than max unit STR, usually 1.0 or 100%)
  - \* `where`: 0 - take/return MP from/to the pool. If there is not enough MP then the command is skipped. 1 - Ignore MP pool (MP not taken/added to it).
  - \* `value`: 0.0 (0%) to 1.0 (100%). Can be negative if when = 1
  - \* `org`: Percentage of the current ORG that should remain if when = 0 (0.0 - set ORG to 0%, 1.0 - keep current ORG unchanged. Default is 1.0. NOTE: This value is modified by the actual STR change for each division). Set ORG to percentage of max. Org if when = 1
- Changed independence command to not transfer leaders attached to units to new countries anymore. Those units are permanently transferred now.

## Decisions

- Decisions concept:
  - \* new modifier in `misc.txt` ("mod" section): #Enable decisions for players. 0 - Disabled, 1 - Enabled

### Basics

1. Decisions will be just slightly modified events.
2. They will differ from regular event only by the presence of a new section - decision
3. Decisions will be treated as regular events by the AI.
4. Players will have the power to choose when a decision could be applied.
5. Decisions will be hidden until all triggers in `decision = { }` section is true.
6. Decision will be available for selection when all triggers in `trigger = { }` section in the event are true.
7. Once selected the decisions will fire as regular event via standard event window with all the usual information and actions on it.
8. Decisions will be logged in event history as regular events.
9. Decisions list will be populated on game start and updated daily.
10. Decisions can be enabled/disabled via a new setting in `misc.txt` ("mod" section).
11. New entry in the event : `decision_desc = "...."`, optional decision specific text (used on tool-tips instead of event

description).

12. New entry in the event : `decision_picture = "picture_name.bmp"`. Optional (there will be a generic picture loaded by default - `gfx\event_pics\decisions_empty.bmp`), placed on the decision plate

13. New entry in the event : `decision_trigger = { }`. It is optional and will be used instead of `trigger = { }`. When it is true the decisions will be active for selection. When not present `trigger = { }` section will be used for that.

## UI

1. Available decisions will be listed in a new list similar to units/provinces list.

2. Decisions list can be selected via a new button (next to Provinces/Army... buttons).

3. Inactive decisions will be grayed out.

4. Active decisions can be selected and applied.

5. Tool tips:

a) Decision Name = event title

b) Decision description = event text

c) Triggers - already valid triggers will have a green "+" or "\*" as prefix, while inactive will have a red one.

d) Action name + effects.

e) Decision only text - specified in the event as `decision_text = "...."`. Optional, will be used in place of decision description text on the tool-tip.

6. There will be notification when new decision is added to the list.

7. The button should change state to inactive when there are no visible decisions.

8. The button should not be visible when Decisions are disabled from `misc.txt`.

9. Add decision mini-picture - optional, specified in the event (`decision_gfx = "picture_name.bmp"`)

10. Added cancel button to decision's event panel.

## Limitations

1. Decisions should not use random elements in any triggers so tool-tips to be correct. EDIT No problem to use random trigger in AI only actions or commands

2. Preferable decisions should have only one action. EDIT No problem to have many actions

3. Triggers for action(s) should be avoided. EDIT No problem to have triggers

4. Triggers for commands should be avoided. EDIT No problem to have triggers

5. For better formatting on tool-tips `NOT = { trigger1 ... triggerX }` should be used for individual triggers only `NOT = { trigger1 } ... NOT = { triggerX } NEW`

## Notes

1. Limitations - these are not stoned yet and most probably they could be ignored when this is needed, but as a rule should be

avoided and when used should be extensively tested to ensure correct in-game results.

-

## Other Changes

- Changed absolute game years from 1935/1965 to 1/3000
- Hide triggered AI\_EVENT events on tool-tips (decisions, events).
- Unlimited\* event actions (\* - limited by screen size only): action = { ... }
- Added new option to events and decision used to define countries which this event/decision is available for. No *country = TAG* should be specified for such events/decisions. Format: *tag = { TAG1 TAG2 TAG3 ... TAGX }*. The event/decision will be available only for the specified countries. This will greatly improve game speed when a lot of generic events are used for just few countries (set in event's triggers).
- New event settings:
  - \* *save\_date = yes / no (default); If set saves date when this event has fired and that date can be used as a trigger by other events (delay event B to fire at least X days after event A).*
  - NOTE!!! Valid event IDs range is 0 to 2,147,483,647!!!*
  - \* *one\_action = yes / no (default); If set show just one (random) action to the player. The action is chosen based on AI chances (if present), else it is random using the same rules as for the AI (set in misc.txt).*
- Added 8 new event display sizes: *paper\_400\_576.bmp*, *paper\_400\_624.bmp*, *paper\_400\_672.bmp*, *paper\_400\_736.bmp*, *paper\_400\_800.bmp*, *paper\_400\_864.bmp*, *paper\_400\_928.bmp*, *paper\_400\_992.bmp*
- New event display format:
  - \* *style = 1 - allow bigger pictures to be used*
  - \* *smaller action buttons*
- Added new event style (*style = 2* in events):
  - \* *Header picture 400 x 48 pixels. Generic (news\_header.bmp) or country specific (news\_header\_TAG.bmp)*
  - \* *Display current game date and capital name*
  - \* *Event picture*
  - \* *Event title*
  - \* *Event text*
  - \* *Event Effects - if only one action with less then 5 effects*
  - \* *Event Action buttons*
- New country IC modifier - *wartime\_ic\_mod*. Works like *peacetime\_ic\_mod*, but when at war.
- Enabled unlimited unit models (was fixed to 10). To use just add a new model = {...} entry in the respective txt file in "units" folder. As a bonus this change will decrease loading time and memory usage for unit types that use less then 10 models.

- Added new (optional) parameter for units: max allowed brigades. This overrides default hard-coded values. Add to division files in "\db\units\divisions". Format: max\_allowed\_brigades = X. Currently it is allowed to have up to 5 brigades for naval units and up to 1 brigade for land and air units.
- Made upgrade to model and type moddable for every brigade/unit:
  - \* Upgrade type and model can be specified in brigade/division files. For example to upgrade LArm-2 to ARM-2 add armor = 2 into the model = { } entry for L-Arm-2 in light\_armor.txt:
 

```
# 2 - Improved Light Tank
model = {
    armor      = 2    # Upgrade to ARM-2
    ...
}
```
  - \* This is optional and can be skipped. By default every unit/brigade is upgradeable to the next model of the same type with 2 exceptions:
    1. LArm-2 by default upgrades to ARM-2
    2. All ships by default do not upgrade
  - \* It is possible to specify upgrade to a model of the same type too. For example INT-4 can be set to upgrade to INT-7 directly and skip the two rocket interceptor models in interceptor.txt:
 

```
model = { # Advanced Interceptor - 4
    interceptor = 7    # Upgrade to Basic Turbojet Interceptor -
7 directly
    ...
}
```
  - \* It is also possible to forbid a specific model to be upgraded at all. To do that set its upgrade model to -2. For example INT-6 could be set as non-upgradeable event if there is INT-7 model:
 

```
model = { # Improved Rocket Interceptor - 6
    interceptor = -2    # Forbid upgrading of that model
    ...
}
model = { # Basic Turbojet Interceptor - 7
    ...
}
```
- Added new optional division/brigades models parameter: upgrade\_time\_boost = yes/no. When it is set to yes (default value) upgrade time for models 2 or more levels obsolete will be reduced (as in vanilla). When set to NO there will be no upgrade time reduction for older models. Useful with the options added above to prevent too cheap upgrades of really obsolete models.
- Changed default values of upgrade\_time\_factor and upgrade\_cost\_factor from 0.0 to 1.0.
- Added 10 new research types: avionics, munitions, vehicle\_engineering, carrier\_design, submarine\_design, fighter\_design, bomber\_design, mountain\_training, airborne\_training, marine\_training.
- Added 20 more Research Type (components):
  - \* Maneuver Tactics, Blitzkrieg Tactics, Static Defense Tactics and

Medicine

\* rt\_user\_x (x = 1..16)

- activate\_unit\_type and deactivate\_unit\_type effects are now reversible on doctrine abandon.
- Added new optional parameter for technology applications: picture = "file\_name" (max name length is 64 characters, no file extension!). If not specified the old picture naming will be used (picture name = TechApplicationID.bmp)
- Added possibility to define new minister personalities with unique effects, including personalities that could be assigned to all government positions.
- All minister modifiers are moved to a moddable file (db\ministers\minister\_personalities.txt; used also in game checksum calculation). Moddable effects:
  - \* Leader skill
  - \* Research time - per tech or for all
  - \* Research cost - per tech or for all
  - \* Resource production bonuses - oil, energy, metal, rare materials, money
  - \* Production bonuses - foreign IC, national IC, reinforce, upgrade, consumer goods, supplies
  - \* Units - build time, build cost, attack bonus, defense bonus, morale (org. regain), organization
  - \* Brigades - build time, build cost, attack bonus, defense bonus, morale (org. regain), organization
  - \* Land unit speed
  - \* Belligerence - required for DoW, wartime and peacetime
  - \* Transport capacity modifier
  - \* Provincial buildings (IC, coastal and land forts, flak, infrastructure, air and naval bases, radar stations, nuclear reactors and rocket test sites) time and cost
  - \* Detection - naval, land and convoy
  - \* Dissent
  - \* Manpower growth - total and non-national
  - \* Supply consumption
  - \* Spying networks bonus - intelligence (home) and counterintelligence (foreign). Limited up to 5% each!
  - \* Intelligence reports accuracy - land/air units, navy/convoys and production/research. Values from -10 to 10
  - \* Diplomatic action chances - trade (used also for trade agreements), alliance (offer, join and bring), non-aggression pact, demand territory, ask for military access, sue for peace (insist on demands, white and beg for peace), assume military control and influence
  - \* Diplomatic action chances extra modifiers - weak target (Total IC is less than ½), same alignment, opposite alignment, democracies, dictatorships, close government type (difference +/- 2)
  - \* Diplomatic action cost for each action. The final value can be no less than 0.0
  - \* Diplomatic action cost extra modifiers - weak target (Total IC is less than ½), same alignment, opposite alignment, democracies,



dictatorships, close government type (difference +/- 2), national (actions against us: cost modifier = 1 + Sender's modifier + Target's modifier).

- \* Convoy transports and escorts build time and cost (using transport ships and destroyers modifiers)

- \* Intelligence mission cost for each mission - 2 modifiers: for sender and for target (Final cost modifier for a mission = 1 + Sender's cost modifier + Target's defense cost modifier). The final value can be no less than 0.0

- \* Intelligence funding and maintenance cost modifiers

- \* Intelligence mission chances for each mission - 2 modifiers: for sender and for target (Summary chance for a mission = Sender's modifier + Target's defense modifier)

- Minister modifier on stockpiles:

- \* stockpile - modifiers on stockpiles limit

- \* which = industry / supplies (used for oil too) / all (default)

- \* when = war / peace / all (default)

- \* value = x.xxxx

- Added optional End Date column to minister files:

- \* new setting in misc.txt (Mods section): Use new minister files format and End years for ministers; All minister files should have End Year column (after "Pool"); Pool should use absolute year (1936 instead of 36): 0 - Disabled, 1 - Enabled 0 #0

- \* ministers won't be loaded if End year is less or equal to the current game year or Start year is greater than scenario End year. No need to set such ministers as dormant anymore

- \* Pool column (start year) in minister files should have absolute year like 1936 instead of just 36; This allows any valid year to be used

- \* End Year column should be present in all minister files when this option is enabled. It is right after "Pool" column and should have absolute year like 1936 instead of just 36.

- Difficulty modifier on stockpiles limit STOCKPILES - set in difficulty.csv

- Modified, new text CSV files (config folder):

- \* mods.csv - for use by modders

- \* expansion\_core.csv (renamed expansion.csv) - used for strings required by Darkest Hour's core

- \* expansion\_extra.csv - used for new techs, minister traits descriptions and events

- Added Famous Quotes to loading screen (config\famous\_quotes.csv)

- Increased predefined map colors from 26 to 32 (UserColor1 to UserColor6 in "map\colosrcalses.csv")

- Added HQ icon to units in units list (icon\_unit\_HQ\_active.bmp and icon\_unit\_HQ\_inactive.bmp)

- Added unique colors on units list for more unit types:

- I. Land:

- 1. plate\_unit\_land\_gar.bmp - the unit has at least one GAR division

- 2.1 plate\_unit\_land\_mobile\_hard.bmp - the unit contains only ARM,

LArm, MECH (+HQ) divisions

2.2 plate\_unit\_land\_mobile\_soft.bmp - the unit contains only MOT, CAV (+HQ) divisions

2.3 plate\_unit\_land\_mobile\_mixed.bmp - the unit contains only mobile divisions

3. plate\_unit\_land\_mixed.bmp - the unit contains mix of mobile and foot divisions

4.1. plate\_unit\_land\_mtn.bmp - the unit contains only MTN divisions (+HQs)

4.2. plate\_unit\_land\_mar.bmp - the unit contains only MAR divisions (+HQs)

4.3. plate\_unit\_land\_para.bmp - the unit contains only PARA divisions (+HQs)

4.4. plate\_unit\_land\_commando.bmp - the unit contains only commando divisions (+HQs)

5. plate\_unit\_land\_commando\_mixed.bmp - the unit contains commando divisions mixed with other foot divisions (INF, MIL) (+HQ)

6. plate\_unit\_land\_foot.bmp - the unit contains only regular foot units (MIL, INF) (+HQ)

II. Air:

1. plate\_unit\_air\_ftr.bmp - the wing contains only FTRs

2. plate\_unit\_air\_int.bmp - the wing contains only INTs and FTRs

3. plate\_unit\_air\_tac.bmp - the wing contains only TAC bombers

4. plate\_unit\_air\_nav.bmp - the wing contains only NAV bombers

5. plate\_unit\_air\_str.bmp - the wing contains only STR bombers

6. plate\_unit\_air\_cas.bmp - the wing contains only CAS bombers

7. plate\_unit\_air\_tra.bmp - the wing contains only TRA planes

8. plate\_unit\_air\_rocket.bmp - the wing contains only rockets and fl. bombs

9. plate\_unit\_air\_mixed.bmp - all mixes

III. Naval:

1.1.plate\_unit\_sea\_ctf.bmp - fleet contains at least on CV

1.2. plate\_unit\_sea\_ctf\_tp.bmp - the fleet has at least one CV and at least one TP

2.1. plate\_unit\_sea\_sag.bmp - fleet contains at least on BB, BC, CA or CVL

2.2.plate\_unit\_sea\_sag\_tp.bmp - the fleet has at least one capital and at least one TP

3. plate\_unit\_sea\_tra.bmp - fleet contains only TPs

4. plate\_unit\_sea\_sub.bmp - fleet contains only submarines

5. plate\_unit\_sea\_screen.bmp - fleet contains only screens

6. plate\_unit\_sea\_mixed.bmp - for mixed screens/TP/submarines

- Added 4 buttons to show/hide leaders in Available leaders list by rank (btn\_medium.bmp).
- Replaced buttons on production screen check-boxes with smaller one (btn\_small.bmp).
- Replaced buttons on policy auto-slider check-boxes with smaller one (btn\_small.bmp).

- Replaced buttons for Auto-promote and Auto-assign leaders with smaller one (btn\_small.bmp).
- Added unique icons on unit plates:
  - I. Land:
    - 1.1. icon\_unit\_HQ\_active.bmp - only HQ in the unit
    - 1.2. icon\_unit\_HQ\_inactive.bmp - only HQ in the unit (no or low rank leader)
    - 2.1. icon\_unit\_land\_tank.bmp - only ARM, LArm (and HQs)
    - 2.2. icon\_unit\_land\_combined\_fast.bmp - only ARM, LArm, Mech, Mot, Cav (and HQs)
    - 2.3. icon\_unit\_land\_combined.bmp - ARM, LArm, Mech (and HQs) mixed with other divisions types
    - 3. icon\_unit\_land\_par.bmp - at least one PARA
    - 4. icon\_unit\_land\_mar.bmp - at least one MAR
    - 5. icon\_unit\_land\_mtn.bmp - at least one MTN
    - 6. icon\_unit\_land\_mot.bmp - at least one MOT
    - 7. icon\_unit\_land\_cav.bmp - at least one CAV
    - 8. icon\_unit\_land\_inf.bmp - at least one INF
    - 9. icon\_unit\_land\_gar.bmp - at least one GAR
    - 10. icon\_unit\_land\_mil.bmp - at least one MIL
    - (11. icon\_unit\_none.bmp - no divisions (yet))
  - II. Air:
    - 1. icon\_unit\_air\_ftr.bmp - FTR only
    - 2. icon\_unit\_air\_int.bmp - INT or FTR + INT only
    - 3. icon\_unit\_air\_tac.bmp - TAC only
    - 4. icon\_unit\_air\_nav.bmp - NAV only
    - 5. icon\_unit\_air\_str.bmp - STR only
    - 6. icon\_unit\_air\_cas.bmp - CAS only
    - 7. 1. icon\_unit\_air\_tra\_l.bmp - TRA only, at least one loaded with land units
    - 7. 2. icon\_unit\_air\_tra\_e.bmp - TRA only, all empty
    - 8.1. icon\_unit\_air\_flying\_rocket.bmp - at least one Flying rocket
    - 8.2. icon\_unit\_air\_flying\_bomb.bmp - Flying bombs or Flying bombs +Flying rocket

For mixed bombers with other aircraft type the is choosing in this order: STR, NAV, TAC, CAS, FTR, INT
  - III. Naval:
    - 1. icon\_unit\_sea\_cv.bmp - fleet has at least one CV
    - 2.1. icon\_unit\_sea\_bb.bmp - fleet has at least one BB
    - 2.2. icon\_unit\_sea\_bc.bmp - fleet has at least one BC
    - 2.3. icon\_unit\_sea\_ca.bmp - fleet has at least one CA
    - 2.4. icon\_unit\_sea\_cvl.bmp - fleet has at least one CVL
    - 3.1. icon\_unit\_sea\_tra\_l.bmp - TPs only, at least one is loaded with troops
    - 3.2. icon\_unit\_sea\_tra\_e.bmp - TPs only, all empty
    - 4. icon\_unit\_sea\_sub.bmp - SS/SSN only
    - 5.1. icon\_unit\_sea\_screen.bmp - at least one DD/CL in fleets with screens or screens + TP + SS/SSN
    - (5.2. icon\_unit\_sea\_sub.bmp - SS/SSN + TPs)
  - IV. Special:
    - 1. icon\_unit\_none.bmp - transparent icon used on empty units
- Added engineer icon on unit plates when at least one division of the unit has an engineer brigade (icon\_unit\_engineer.bmp and

icon\_unit\_no\_engineer.bmp)

- Added extra Transport icon on unit plate for fleets that have TPs (icon\_unit\_sea\_tra\_l.bmp and icon\_unit\_sea\_tra\_e.bmp)
- Added extra Transport plane icon on unit plate for mixed air fleets that have Transport planes (icon\_unit\_air\_tra\_e.bmp and icon\_unit\_air\_tra\_l.bmp)
- Added extra Escort icon for air wings having at least one ESC brigade attached (icon\_unit\_air\_escort.bmp)
- Added extra INT/FTR icon for air wings of mixed bombers and INT/FTR (icon\_unit\_air\_int.bmp and icon\_unit\_air\_ftr.bmp)
- Added extra FTR icon for mixed INT/FTR only air wings (icon\_unit\_air\_ftr.bmp)
- 'EF' and 'MC' text on foreign units):
  - \* Changed to icons (icon\_unit\_EF.bmp, icon\_unit\_MC.bmp, icon\_unit\_own.bmp)
  - \* Allowed country flags to be used instead icons (gfx\map\flags\icon\_TAG.bmp)
  - \* When Flags are used two more icons are available (as a second layer) to allow easy recognition between EF/MC forces (icon\_unit\_EF\_shade.bmp, icon\_unit\_MC\_shade.bmp)
- Added new province category and list: claimedprovinces = { PROV\_ID ...}
- Added second frame to gfx\interface\map\_circle.bmp which to be used for claimed provinces in Diplomacy map mode.
- Added restrictions to demand and set new claims:
  - \* new claims can be set to war enemies or allies/puppets/masters
  - \* new claims can be set to neutral countries only if policy allows that (new policy modifier in policy\_effects.csv)
  - \* claims cannot be demanded from guaranteed at the same time countries
- Added new AI parameter - liberate\_nation = { }. It is similar to liberate = { }, but determines which countries the AI is going to relieve from puppet status (give them independence). Liberate chances are: 15% in peace, 10% in war, 5% for colonial countries.
- New parameters for country creation (revol.txt):
  - \* claims = { PROV\_ID ...} - populates claimedprovinces list
  - \* min = X - allows release if at least X provinces of minimum list are controlled by releaser country. By default (no min\_prov entry or min\_prov = -1) it is equal to provinces in minimum list.
  - \* min\_extra = X - allows release if at least X provinces of extra list are controlled by releaser country. By default (no min\_extra entry) it is 0.
  - \* value = X.X (0.0 - 1.25) - used by the old release model (when no min or min\_extra are defined). When "score" is above that value the country will be available for release. By default (no value) it is 0.51.
- Added to country revolt record (revolt.txt) a list of countries that can liberate that country (no other countries can liberate

it): *country* = { TAG1 TAG2 ... TAGx }

- Added to country revolt record (revolt.txt) a list of countries that prevent this country creation if any of those exist at the moment (so if one of the countries in the NOT list exists in the entry for a country, that country cannot be liberated - e.g. You can't liberate VIC if FRA exists). *not* = { TAG1 TAG2 ... TAGx }
- Allowed (optional) unique province capital/city icons. Gfx\map\city\_PROVID.bmp (city\_55.bmp for Paris and so on). Code optimization.
- Added optional fonts support for each language. Fonts are expected to be found in \gfx\fonts\X folder where X is the language set in settings.cfg (0 - ENG ... 5- Polish). If not found in numbered folder fonts are read from fonts default location (\gfx\fonts\).
- Added options to major alliances (Axis, Allies, Comintern):
  - \* new optional alliance parameter: name = "XXXXX". It is used to set alliance name defined as ALLIANCE\_XXXXX in a CSV file, victory string - GAME\_END\_XXXXX\_VICTORY, total victory string - GAME\_END\_XXXXX\_TOTAL, alliance picture used on game quit/scenario end - gfx\interface\XXXXX\_ledg.bmp and background picture used on alliance victory - gfx\interface\frontend\endgame\_XXXXX.bmp
  - \* skip inexistent major alliances on scenario end statistics screen.
- Fixed many AI bugs with production of provincial AA:
  - \* AA\_batteries = atwar and not\_atwar are correctly read from AI files now (only no/yes were read before)
  - \* AA\_provs was not used at all. Fixed so AA will be built only on provinces in that list
  - \* max\_AA\_level was not used at all. It is taken into account now.
- Tweaked AI IC builds rules:
  - \* replaced min 20 MP requirement with check for just available MP to start the build
  - \* added extra penalty for building IC in non-national provinces (even if those are into the IC list of the AI)
- Tweaked Nuke AI targeting:
  - \* nukestriketolerance now is used as starting value in Nuke evaluation - higher it is, more often the AI will use nukes. It is recommended to be set a bit under 0.0 to order AI to nuke bigger enemy core provinces. Good values: -50 to -20
  - \* check if NukeStrikeDesirability is less or equal to 0 and do not use nukes if so.
  - \* Starting value set to -100
  - \* National provinces get targeting bonus equal to:  $(MP + IC/2) * 0.5 * 10$
  - \* Provinces with Nuclear reactors get target bonus equal to:  $Reactor\ Size * 20.0$
  - \* Units in province target bonus =  $Total\ Units * 0.5$
  - \* Only if result target bonus is > 0:
    - # multiply it by  $\sqrt{total\ IC\ of\ the\ targeted\ country}$
    - # if province owner is allied, multiply by 0.2 - reduced chance to bomb allied provinces
  - \* If result target bonus is less or equal to 0 skip province

\* Multiple target bonus by NukeStrikeDesirability and return the final value. Good value for NukeStrikeDesirability seems to be about 50.0. If set to 0.0 or less AI will not use nukes.

- Added 10 new areas and 4 new regions in European Russia:
  - \* Areas: Belgorod, Kola, Petrozavodsk, Mozyr, Poltava, Nalchik, Grozny, Engels, Orenburg, Vorkuta
  - \* Regions: Eastern Russia, Western Russia, Southern Russia, Northern Russia
- Removed Fog of War for Masters over Puppets' provinces even when the puppet is not allied to the master.
- Removed hard-coded Min/Max positioning for SSN (was set to be equal to SS) and CVL (was set to be equal to CV). NOTE: Modders should check and update doctrines!!!!
- Fixed a bug with lost air units on civil war outbreak (destroyed all air fleets located on revolted provinces). Air units will switch side on air base capture by revolted/regular ID countries.
- Allow province name change (the one used on tool-tips/events, not on the map!) from province records in scenario files. The name can be stored in a csv file and can be set in the inc files of a scenario. Example: *PROV\_PETROGRAD;Petrograd;;;;;;;;;;X* is stored in *darkest\_hour.csv*. In *1914\bases.inc* the following line sets the name of the province: *(province = { id = 553 name = "PROV\_PETROGRAD" } # Leningrad to Petrograd)*

# Map

## DH specifics for map editing

The general editing for DH is identical to all other Europa-engine games, but we did some changes to the folder structure in regard to map files that make it easier for "normal" mods to use new maps, and also cuts down on the size of the game.

All in all a great improvement for everyone except for those working on the map, but when you can handle the mapmaker you can handle this too. All map related files are now in the map folder, or in the subfolders there.

If you want to use the object editor to edit a new map in a subfolder, you need to move the db files to their vanilla location, province.csv to db, province\_names.csv to the configfolder, and the mapfiles out of the subfolder directly to the /map folder.

*Make a backup before you do that or mods using the vanilla map will no longer work!!*

The object editor doesn't work with the topographic map for DH, it simply can't handle a patchwork of different maps without throwing errors around. As a workaround you have to use a Zoom level 1 full map and use it for the work with the object editor. Remember to save all your files from Zoom 1.

You can find the additional layers of the DH Full map in the Map Modding thread in our modding forums:

[http://forum.paradoxplaza.com/forum/for ... ifications](http://forum.paradoxplaza.com/forum/for...ifications)

You should already have copied the mapfiles from the /map/map\_1 folder to the /map folder, now copy the three layers in the archive into the /map folder as well. If you have setup your maptools right (pointing at the Darkest Hour root folder). If you have done everything right, you can now use the object editor, and the mapextractor again.

*Remember to copy the changed province.csv back to the map/map\_x subfolder once you are finished!!*

*Remember to copy your backup of the /map folder back once you are finished!!*

## DH specifics for distance.csv

This is something new for DH, it means a lot of extra work for you, but it's worth it in the long run. At the end of the misc.txt you will find the following line:

```
# Distance calculation model. 0 - use the old, map based
calculation (slower and incorrect); 1 - use real world distances
from airdist.tbl (based on distances.csv) and navaldist2.tbl files
0 #0
```

If you leave it at 0 you won't need a distance.csv file at all, so this is basically how other games work, the distance are calculated via pixel distance. This means however that you have totally wrong distances in the oceans and everywhere else where provinces are scaled up for better playability. This gets more extreme in mods that use new scenario maps for individual regions.

The new calculation model also handles distance calculations considerably faster, which means the game runs faster in situations with lots of units moving around. Mid-war situation like when the allied bombing campaigns start will benefit from this.

When you turn it to 1 in the misc.txt you will need a distance.csv file. It's pretty straightforward:

```
2761;Total Provinces;ID;ENG;Region
Latitude;Longitude;;
0.00000000;0.00000000;PROV0;(Embarked);Embarked
63.15248611;-21.05238056;PROV1;Reykjavik;Iceland
62.01770833;-6.77187778;PROV2;Torshavn;Iceland
```

```
65.01720000;-18.10212778;PROV3;Akureyri;Iceland
58.21600000;-6.38593056;PROV4;Stornoway;Scotland
58.98036944;-2.95631389;PROV5;Scapa Flow;Scotland
```

Simply get the necessary data out of goggle earth or your preferred GIS. Once you are finished, delete the airdist.tbl and the navaldist2.tbl from your map/map\_x folder. Once you start the game, the exe will generate a new airdist.tbl. This should be pretty quick, but might take a few minutes depending on your hardware. Once you load a scenario, the exe will generate a new navaldist2.tbl. This will take some time, even on a fast system around 5 minutes, or considerable longer on old systems.

*WARNING: the engine will also recompile the navaldist2.tbl when you change seaprovinces assigned to landprovinces and harbors in the province.csv.*

## DH specifics for province number

There are three values that need to be IDENTICAL.

Maptools folder:

/settings.txt

```
#The max province number
MaxProvinceNumber=XYZW
```

Example: MaxProvinceNumber=2761

/mods/x/db/misc.txt

```
# Total provinces. There is a hard-coded limit to 10000.
adjacent.tbl must be updated after any change
XYZW
```

Example: 2761

/map/map\_x/distances.csv

```
XYZW;Total Provinces;ID;ENG;Region
```

Example: 2761;Total Provinces;ID;ENG;Region

The distances.csv file will only work when its not longer then XYZW+3 lines.

So when you have a map with 2761 provinces, the distance.csv has to be 2764 lines long.

## DH specifics for map debug logs

In file settings.cfg you can activate debug logs specifically added for map editing.

2 # Extra debug logs (savedebug.txt): 0 = disabled, 1 = enabled, 2 = enabled + extra map statistics

This will give you pretty much all the information you will need while setting up your db files properly:

- warnings when map icons like AA and forts are placed in the wrong provinces;
- warnings when coastal provinces have no or the wrong seaprovince defined;
- warnings when something is wrong with the distance between two provinces;
- warnings when the amount of connections for a province seems wrong;
- warnings when a province ID is not used on the map;
- and many more useful reports (even on resources and climates!);



# How to port a HOI2 Arma Mod to Darkest Hour

Porting a HOI2 Armageddon Mod to Darkest Hour is very simple, because **DH Core is fully compatible with Armageddon**. There are only a few things that need to be changed for a mod to start properly because some bugfixes and new features introduced by DH were not possible without modification that affect basic files.

## The Darkest Hour Mods Pack

In the main folder of Darkest Hour there is a folder called **Modding documentation** which, among many useful things (this Guide included!), contains another folder called **Darkest Hour Mods Pack** that can be used for easy Armageddon 1.3 to DH mod conversion. It contains the following files:

```
\config\Buttons.txt
\config\mods.csv
\db\difficulty.csv
\db\diplo_costs.txt
\db\leaders.txt
\db\ministers.txt
\db\misc.txt
\db\spy_costs.txt
\db\teams.txt
\gfx\interface\ill_prov_overlay.bmp
\gfx\interface\map_circle.bmp
\gfx\interface\plate_division.bmp
\gfx\interface\tc_icons.bmp
```

These are the files that need to be in the new DH format in order for the game to work and are the only files that modders should worry about when porting their mods to DH.

- `\config\Buttons.txt` - new button definition \*we changed certain interface elements for new features, and of course those need new buttons\*
- `\config\mods.csv` - the file where all modders should put mod specific texts to ensure compatibility with further game patches. This file will never be modified by any patch.
- `\db\difficulty.csv` - new difficulty settings \*some of our new features are influenced by the difficult settings and got their own entry here\*
- `\db\diplo_costs.txt` - only one change here from 1.3: removed "-" sign from all costs
- `\db\spy_costs.txt` - some changes from 1.3 as most spy system modifiers are moved to misc.txt now. Only cost and chances are left here.
- `\db\misc.txt` - tons of new modifiers here, but all are set to Armageddon 1.3 defaults, so you have only to edit those values you changed for your mod for 1.3
- `\db\teams.txt` - list of all tech team files that should be loaded by the game. These files could be either in MODDIR or in main game folder. By default it is populated with all 1.3 file names so you just need to add your new file names and (optionally) remove those you don't see need to be loaded by your mod
- `\db\leaders.txt` - list of all leader files that should be loaded by the game. These files could be either in MODDIR or in main game folder. By default it is populated with all 1.3 file names so you just need to add your new file names and (optionally) remove those you don't see need to be loaded by your mod
- `\db\ministers.txt` - list of all minister files that should be loaded by the game. These files could be either in MODDIR or in main game folder. By default it is populated with all 1.3 file names so you just need to add your new file names and (optionally) remove those you don't see need to be loaded by your mod
- `\gfx\interface\ill_prov_overlay.bmp` - changed file.
- `\gfx\interface\map_circle.bmp` - changed file.
- `\gfx\interface\plate_division.bmp` - changed file.

- `\gfx\interface\tc_icons.bmp` - changed file.

Notes:

- 1) This pack is supposed to be Merged with the mod.
- 2) Only files that were actually changed by the mod, which are included in this pack should actually be updated/replaced by files from the pack. The rest (except 3 - see next) can be skipped as they are identical to DH Core files already installed in the game's main folders.
- 3) The **only files that must be included** into mod's folder are `\db\ministers.txt`, `\db\leaders.txt` and `\db\teams.txt`

## Usual 1.3 Mods porting steps

- 1) Create a new folder for your mod in Mods folder;
- 2) Extract all mod files into that folder preserving original game folders tree;
- 3) Using a program like WinMerge compare mod's folder with Darkest Hour Mods Pack folder and update files as required:
  - Copy `db\ministers.txt`, `db\leaders.txt` and `db\teams.txt` and add any mod specific file names there;
  - Copy and update `\config\Buttons.txt`, `\db\difficulty.csv`, `\db\diplo_costs.txt`, `\db\misc.txt`, `\db\spy_costs.txt` ONLY if these are changed by your mod from vanilla 1.3 values;
  - Copy `\gfx\interface\ill_prov_overlay.bmp`, `\gfx\interface\map_circle.bmp`, `\gfx\interface\plate_division.bmp` and `\gfx\interface\tc_icons.bm` ) ONLY if these are changed by your mod;
- 4) Create an empty "save games" folder in your mod's scenarios folder;
- 5) Select your mod from DH game Launcher;
- 6) Play;