

CnC Tools and Resources

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None

None

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1. Tools

1.1 Required Map Editors

1.1.1 [FA2] Final Alert 2:

The Map Editor for Yuris Revenge.

Contains patches which have been developed by multiple members of the community
 The patched FA2 link provides a clean working FA2 setup for the vanilla game (RA2/YR Unmodded)
 The FA2Sp link directs you to the extension itself, which can be dropped into a mod's FA2, and should work fine assuming you check the changelog under releases

Topic	Source + Link
Patched FA2 [Vanilla]	PPM - Forum
FA2SP [Mods]	Github - Main Page
FA2SP [Mods]	Github - Releases

1.1.2 [FS] Final Sun:

Description: The necessary Map Editor for Tiberian Sun + Firestorm

The Patched FS option is directly compatible with TS. It contains some of fa2sp's features, so it is a massive improvement over the unmodded editor. The toolkit option attempts to provide a direct application using several of the tools listed below. The forum contains a link to an older fork of FS that may be useful to some. The Tiberian Sun Client [TSC] also includes a build.

Topic	Source + Link
Patched FS [Vanilla]	PPM - Forum
"Toolkit" + Clutter	CnCNet - Forum
Tiberian Sun Client	ModDB

1.1.3 Editor Modifications:

DDraw Renderer

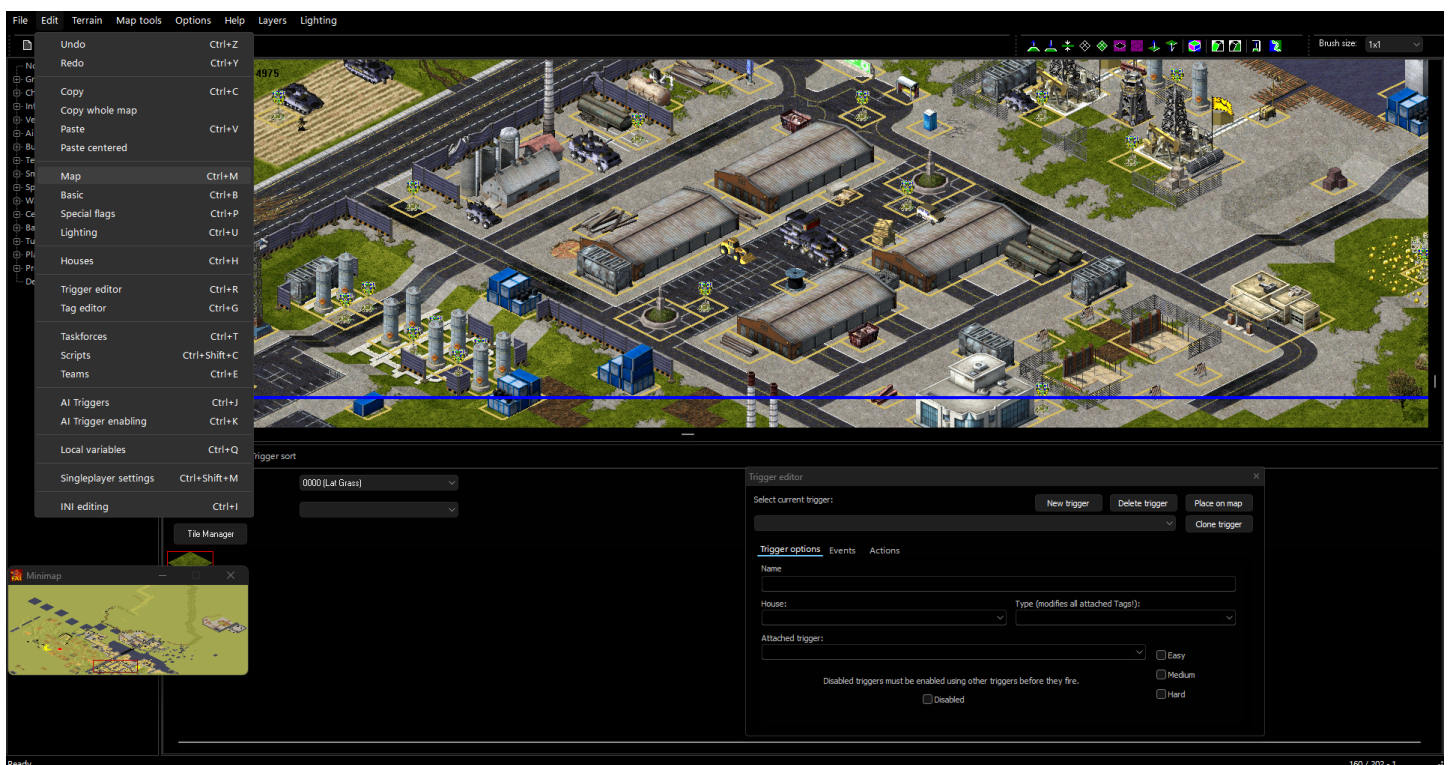
Instead of using the system DDraw, FA2 and FS can instead use a local proxy DDraw.dll, improving the editor's speed considerably, which is especially useful for resource-heavy maps. Several of the *patched* map editors have this included but not in use, so check your map editor's folder as the files may already exist, such as in a "ForWindows10" folder, containing a pre-configured setup. if you want an un-configured setup for

unknown reasons, or simply want to know more about the wrapper, check the unconfigured link below. I also included a direct download, although i have lost which thread this is on so i am unable to verify if it is the latest download.

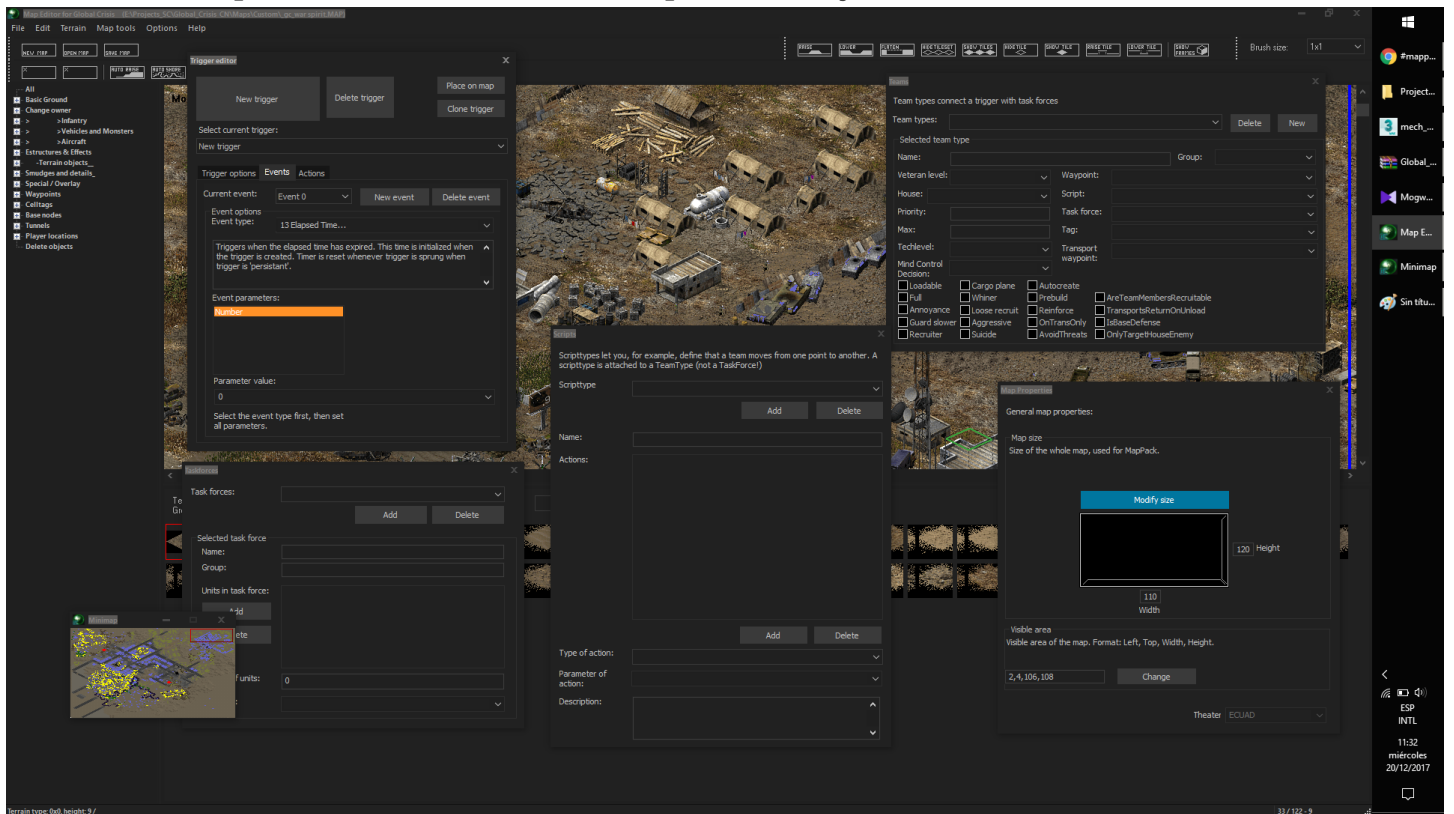
Topic	Source + Link
Unconfigured	BitPatch
Pre-Configured	PPM

Dark and Custom themes

Assuming you use the Sp version of the editor, it is certainly possible to modify the theme. This comes with a risk however, as on windows you have to modify your entire system's theme in order to achieve this, and if you install the wrong theme for your windows version, your windows updates and therefore becomes incompatible with the theme you are using, or of course simply mess something up you could easily break your system and be left to the mercy of restore points or a fresh boot. There are a number of windows 'ricing' tutorials and lists online, but a lot of recommendations from major publishers seem to only use what windows 10+ already allows you to do, which doesn't really help you. I found and recommend [this](#) as it describes most options available for modernising windows 10, with a lot being applicable to Windows 11 as well. While you are of course free to read the entire section, you should focus on the **Before Starting** and the themes section. I have included below an example of what FA2 looks like using dark theme from [rectify11](#) on Windows 11.



Another example is After Dark CC Blue, provided by SCIPCION on Windows 10



Ultimately it is your decision if you wish to risk modifying windows in such a way, especially with WAE as a modern alternative. I have also written advice on applying a dark theme in [linux](#), however the options are more limited.

1.2 Modern Alternatives:

1.2.1 World Altering Editor :

Author: Rampastring + Contributors

Description: The World Altering Editor (WAE) is an open source replacement to the traditional editors. unlike the originals, it is built using a modern code base, and as a result of being open source it does not require the use of dll injection to improve. Formerly known as the DTA Scenario Editor, as it was built for [Dawn of the Tiberium Age](#), it has since been growing in compatability for TS/YR. A release for TSClient and

Vanilla YR both available on the the releases page. As of v0.9.6 the editor now has a voxel renderer, meaning that the editor can effectively replace FA2 for all quality PCs using win7 or later, although it is arguably still behind in a few areas.

Topic	Source + Link
World Altering Editor	Github - Main Page
World Altering Editor	Github - Releases
Mod Haven Channel	Discord



1.2.2 Others:

Relert ++ : <https://github.com/secsome/relertplusplus>

Relert Sharp Private Thread : <https://github.com/FrozenFog/relertsharp>

<https://github.com/FrozenFog/rs-dev-public-snapshot/blob/dev/pic/preview-migdal.png>

<https://github.com/FrozenFog/rs-dev-public-snapshot>

1.3 Additional Tools:

1.3.1 Trigger Analyser (html/java)

Author: Whensons

Description: A tool in javascript to analyse and map out triggers in a graph. This shows the connections, links and is useful for spotting issues within your triggers, and is excellent for collaborative projects.

Although it is hosted on GitHub you can download the page and use it offline.

Topic	Source + Link
Self-documentation	Github - Main Page
Hosted Tool	Github Pages

1.3.2 Trigger Analyser (Python)

Author: FrozenFrog

Description: A script to generate a trigger map graphically on the TS/RA2 Engine.

Topic	Source + Link
Self-documentation	Github - Main Page

1.3.3 Map Conversion Tool

Author: Starkku

Description: A tool which can convert the theatre, tiles, rules and overlay of maps based off user-configurable scripts. Essential if you wish to change the theatre of a map.

Topic	Source + Link
General Information	Github - Main Page
Preset Documentation	Github - Main Page
Preset Download	Github - Releases
Forum Thread	PPM - Forum

1.3.4 Tunnel Drawer

Author: Q45

Description: A tool to generate tunnels in TS/YR Maps.

This allows customisation of coordinates, direction, path, ect

However, it is .SWF so requires a flash player.

WARNING: No longer supported as it requires flash, i recommend using WAE's tunnel tools instead.

Topic	Source + Link
Forum Thread	PPM - Forum
Flash Player	Adobe

1.3.5 Wavemaker

Author: PTapioK

Description: A brilliant tool which streamlines the production of mission and survival maps

It allows manipulation of Triggers, Scripts, Taskforces, Teams and Variables on both a single and batch scale through an easy-to-see user interface.

Topic	Source + Link
Forum Thread	PPM - Forum
Source Code	Github - Main Page

1.3.6 Map Renderer

Author: zzattack + Others

Description: A Full Map Preview Renderer for maps

Also contains other features such as height maps, position markers as well as debug features!

Topic	Source + Link
Forum Thread	PPM - Forum
Source Code	Github - Original Source

1.3.7 Map Resize Tool

Author: E1 Elite

Description: A tool to resize maps. Unlike the standard map editor this moves everything, including tunnels and smudges. The UI is also very simply to understand.

Topic	Source + Link
Forum Thread	PPM - Forum
Source Code	Github - Main Page

1.3.8 Final Sun Toolkit

Author: Holland (and various other authors for the tools)

Description: Software which contains multiple tools with it, as well as other optimisations. TS Only

Topic	Source + Link
Forum Thread	PPM - Forum

1.3.9 Map Rename Tool

Author: Snark

Description: This program will convert your .map file names to the map name written internally. It's useful for organizing the maps that you download inside the cncnet client that are given a random file name, and means you can tell which map is which

Topic	Source + Link
Direct Download	Google Drive

1.3.10 Trigger Index Parameter Tool

Author: Starkku

Description: A simple GUI program for adjusting numerical index values used as parameters for map trigger events & actions aswell as AI team scripts in Command & Conquer: Tiberian Sun & Red Alert 2. Useful for Mod / Mission developers to fix any issues that occur after a house index change.

Topic	Source + Link
Source Code	Github - Main Page

1.3.11 Map Tool

Author: vananasun

Description: A command line tool to manipulate Red Alert 2 Yuri's Revenge maps

Topic	Source + Link
Source Code	Github - Main Page

1.3.12 MISTEST Map Checker

Author: GE

Description: "Mission Tester is designed primarily to help troubleshoot mission maps, but is useful for quickly resolving trigger or object placement errors on mutiplayer maps as well. It will warn of errors like objects outside of the map bounds, often caused by resizing maps, it will find errors like missing waypoints for actions, or even nonexistent sounds being played."

Topic	Source + Link
Forum Thread	PPM - Forum

2. Map Resources

2.1 Map Tutorials:

I have outlined several useful mapping tutorials and mapping archives that i have either found to be useful, notable or just generally good workflow examples.

Description	Source + Link	Author
FA2 Tutorials Playlist	YouTube	Burg
FA2 Tutorials Playlist	YouTube	YosefAnan
FS Tutorials Playlist	YouTube	Holland
FA2 Written Guide	CnCNet Forums	RaVaGe
Scripting Index	PPM Forums	McPwny
FA2 Tutorials Playlist	YouTube	[FC]
TS Written Guide	CnCNet	LucasSK
YR Mod Mapping Timelape(s)	YouTube	CatTanker
Brief tutorials and resources	Custom	FlyingZ

2.2 Community Mapping Archives:

Relevance	Source + Link
Public Map Archives	PPM Forums
MadHQ's Maps + Resources	MadHQ's Graveyard
Public Map Archives	CncNet
Temporary Map Archives	CnCNet
Tutorials and Resources, WAE channel	Discord - C&C Mod Haven
Map Downloads and discussions	Discord - Yuri's Revenge

2.3 Noteworthy Projects:

MadHQ has remade the RA2 Allied and Soviet Campaigns entirely, designed for the vanilla game. These are significantly larger than their predecessors, and do offer a long playthrough. These are hosted in [MadHQ's Graveyard](#)

Almost Perfect Red Alert 2 (APRA2) is a fan project to produce a Red Alert 2 campaign in Mental Omega.

The team has made a nearly complete lineup of high quality work that is publicly available, and consists of quite a few skilled and experienced mappers who can likely offer experience and advice. An excellent benchmark for any modern campaign developers who intend to use a mod's features (including assets and engine extensions) to create something adventurous. You can find out more on their [discord](#)

Dawn of the Tiberium Age has been working on recreating the [original TD Campaigns](#) Co-Op maps, which is representative of what can be achieved even on TS and with online limitations. You can also find out more on their [discord](#)

Flipped Missions is a mod for YR which reverses the roles of original YR missions so you play as the other side, of course with some methods to make this playable and not an instant win against an Ai conyard. You can find out more on their [ModDB](#) and [discord](#)

3. Linux

3.1 Introduction

This guide gives mostly step-by-step instructions, useful tips and advice on running Yuri's Revenge, the Map Editor and indirectly Tiberian Sun on Linux. These guides all assume *you are using the cncnet client, either officially or on a mod*

The first step you will need to do is to figure out which client version you are using. Most pre-2024 CnCNet clients use the .NET framework. This includes, but is not limited to:

- Mental Omega 3.3.6
- Rise of the East 3.0.0j
- RA20XX
- Red Ressurrection
- C&C Reloaded
- Mods forked off [TSClient](#)

According to the build instructions of the cncnet client in 2020:

The client has 3 builds: Windows (DirectX11), OpenGL and XNA. The Windows and OpenGL builds rely on .NET Framework 4.5 and MonoGame. The XNA build relies on .NET Framework 4.5 and MonoGame.

The above lines are where most of my reasoning lies for the dependencies installed.

Despite a later (2023) push towards updating the client to use dotnet7, as of early 2024 these changes are being rolled back due to dotnet 7 providing [a considerably worse user experience](#). Although a major part of this initial push was for better support on Mac / Linux, the vast majority of the userbase is on windows, and so the profits of this are limited. I also noticed that dotnet 7 clients tended to have a lot of bugs when run on linux, but looked/worked fine on windows, included strange placements of objects inside the client and no maps or scenarios even being listed in the client. The client also has a few minor oversights, such as the fact that the client runs your global wine rather than a dedicated prefix, causing issues such as extremely poor fps for several users, and in some cases an instant desync upon entering a game through linux, but without any issues if entered from the same files on windows. Any advice provided from the dotnet 7 builds is as a result less-well tested and in the future may be kept for legacy support. While there are much fewer mods that use the dotnet 7 client, there may be cases where such support is needed. Example cases include early builds of TS Rubicon, Rote's Beta (formerly), and Project Phantom's client.

The reason you will often see a ddraw or cnc-ddraw package mentioned as this means the game will use the ddraw supplied by the [client](#), which will improve your experience significantly. I *highly recommend* you perform this recommendation.

3.2 Bottles Instructions

I find bottles seems to give me the most reliable result on my many re-installs, find information about it [here](#) and download it to your OS.

Most guides seem to recommend using Flatpack for the download, which may help if you are experiencing issues, as well as providing some areas such as sandboxing, but I have tested on the non-flatpack version.

Below I have included the configuration that I use for Bottles so that you can produce the bottle in steps following the GUI. You should complete the main initial steps and then follow either Config 1 or Config 2 (Recommended). There are also runner options included in a table a little further down.

If you would prefer, I now include a bottles configuration .yml that you can [download](#) and then import back into bottles as a configuration.

3.2.1 Dotnet 4.* Clients + OpenGL (ogl) Build - Manually Entered

Create new --> *Application*

In Settings:

- Runner: Check Runner Compatability Table
- DXVK/VKD3D : Disabled
- LatencyFleX : Disabled
- Windows Version: Windows 10 (since some builds of phobos and other extensions require Windows 7 or higher)

Config 1: Manually Entered

Dll Overrides: (Assume :Native, then Builtin, unless specified otherwise)

- ddraw as a DLL Override *Enter Manually*

Installed Dependencies:

- arial32/times32/courie32 [By Default]
- Mono (Wine Mono) [Install Yourself]

Config 2: CnC-DDraw dependency (Recommended)*Installed Dependencies:*

- arial32/times32/courie32 [By Default]
- Mono (Wine Mono) [Install Yourself]
- CnC-DDraw as a dependency [Install Yourself]

After following all of the steps above, enter your bottle, click "Run Executable", and guide it to your client folder / Resources, and then try "clientogl.exe", and the client should run fine, as well as the game. In some cases the xna client also seems to work, but try the ogl build first. **Do not expect the exe included in the root of the mod folder, eg. 'MentalOmegaClient.exe' to work, use the .ogl build!**

3.2.2 Runner Compatibility

Recommended	Runner	Client Compatibility	Offline Compatibility	Online Compatibility	Notes
<input checked="" type="checkbox"/>	Soda-7.0.9	Fully Functional	Functional	Functional	Pressing esc --> Game Controls instantly closes gamemd
<input checked="" type="checkbox"/>	Soda-8.0.2	Fully Functional	Launches Incorrectly	Unaccessible - launch Issue	
<input checked="" type="checkbox"/>	Vanigilla-8.6	Not Functional	Unnacesible	Unaccessible	Error upon launching the client
<input checked="" type="checkbox"/>	Lutris-7.2	Fully Functional	Functional	Fails to connect to gamesurge - Error Denied	Port/ICMP Issue?
<input checked="" type="checkbox"/>	wine-ge-proton8-25	Fully Functional	Launches Incorrectly	Unaccessible - Launch Issue	Pressing esc --> Game Controls instantly closes gamemd
<input checked="" type="checkbox"/>	Sys-Wine-9.1 (From package Manager)	Fully Functional	Syringe Issue	Unaccessible - Syringe Issue	Pressing esc --> Game Controls instantly closes gamemd
<input checked="" type="checkbox"/>	Caffe-8.21	Fully Functional	Fully Functional	Fully Functional	
<input checked="" type="checkbox"/>	kron4ek-wine-8.20-amd64	Fully Functional	Fully Functional	Fully Functional	

This table has been tested using the Bottles Config 2 specifically on MO 3.3.6, with fully functional runners also tested on other mods. You will need to install most of these runners from inside bottles, through the 'Main Menu' button in the top-right corner, 'Preferences', and then from the 'Runners' tab.

3.3 Winetricks Instructions

[Winetricks](#) is another method we can use to run TS and YR through cncnet. While it is possible to perform all of this using wine only, it is not recommended and will require a few extra steps and alterations. It is mostly run from the command line with a very limited GUI, so i recommend Bottles instead, although winetricks should be fully functional.

- Install `wine` (Ideally a modern version, as this is a dependency for winetricks), through your package manager.
- Install `winetricks` for greater control over individual prefixes (just do it)

3.3.1 Dotnet 4.* Clients + OpenGL (ogl) Build

Instillation of prefixes

After installing relevant dependencies listed above, open up a command line and put in

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_4_X_ddraw" winetricks cnc_ddraw
```

The next step is to see if wine-mono is installed or not. Run

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_4_X_ddraw" wine uninstaller
```

If you see Wine Mono Runtime & Wine Mono Windows Support, you have wine-mono installed and you should be safely able to move on to running the application (skip to the next section)

If you do not have Wine Mono Runtime & Wine Mono Windows Support listed, you can either install [wine mono](#), which i recommend doing through your distribution's package manager, *or* you can run:

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_4_X_ddraw" winetricks dotnet48
```

Okay, you have your prefix set up. There are several ways tha you can run your client's exe. Two methods require some terminal usage.

Running through your prefix completely in the terminal

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_4_X_ddraw" wine "Absolute path to your client's /... /resources/clientogl.exe"
```

You can navigate to your mod's resources folder through a file explorer, right click to find "Open Terminal Here", and then simply use the line above but with clientogl.exe only rather than the entire absolute path.

Running through your prefix completely in the terminal

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_4_X_ddraw" winetricks
```

Run this inside the terminal and a basic GUI will open up. Select "Select Default Wineprefix", and at the top of the GUI it should have a path that matches the WINEPREFIX= line. Scroll down to find the "Run Arbitrary Executable" option. Select it and click ok, then navigate to your client's clientogl.exe executable inside the resources folder, run it and it should open fine.

User Interface Only

In some installs you may be able to search for a `winetricks` application from your system's menu. From here you a GUI called `Winetricks - choose a wineprefix` will appear. Scroll down the list until you find the wineprefix you just made, `cncnet_4_X_ddraw`, and select ok. Scroll down to find the "Run Arbitrary Executable" option. Select it and click ok, then navigate to your client's clientogl.exe executable inside the resources folder, run it and it should open fine.

3.3.2 Dotnet 7+ Client: Native

Running it natively

First of all, make sure you have the [dotnet runtime](#), either from microsoft directly or downloaded through your [Distribution](#). The Dotnet7 Client should be able to run natively with linux, only using wine for running the game itself. Most mods using dotnet 7 should provide a .sh script alongside the main exe, which should run the client if run through your command line. if it exists, you should be able to run it with bash if your file explorer allows it, or you can simply open up that folder in terminal and type `bash scriptname.sh`. If it does not exist, use this:

```
#!/bin/sh dotnet Resources/Binaries/UniversalGL/clientogl.dll
```

Although wine has very little support for running dotnet 7, mostly due to it's advertisement of running natively, and how recent dotnet 7 is, I have recently noticed that lutris and winetricks both have a dotnet 7 dependency. I have tried this prefix installation and had **no success**, although I am leaving this here in case someone wishes to try further, or if in the future it works.

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/cncnet_7_ddraw" winetricks cnc_ddraw dotnetdesktop7
```

Game Compatibility

One issue that I noticed several of the dotnet 7 builds have is that in order to run the game they use a .sh script to run a .bat script to run the game. While this works fine in principle, it uses the default wine prefix, which will not have any ddraw modifications, and therefore means that the game will run extremely slow and may even have graphical artifacts.

If you notice this, first of all make a new prefix which just contains the ddraw dependency. I am listing ddraw manually as an override for this instance, although the cnc_ddraw method I used earlier should work fine.

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/only_ddraw_override" winecfg
```

This should take a moment and then open wine configuration. Once this opens, you need to head to the Libraries tab and write `ddraw` into the entry box below "New Override for library", then click add, apply, and then ok. You then need to go into the Resources/Compatibility/Unix folder of the game/mod, there should be a gamemd.sh script or something similar. Edit this with a text editor of your choosing so that it matches the text below.

```
#!/bin/sh export WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/only_ddraw_override" wineconsole Resources/Compatibility/Unix/gamemd.b
```

Be warned, most mod updaters *Will Override This File* - Back it up to save you repeating this process later on.

Try launching the game again, and it should be a bit smoother. You may still notice some major artefacts/glitches when using the esc menu and returning to the game. Go into the client options and try all of the renderers in there, and hopefully (as with windows) one runs like a charm. For me, most tend to work (Default/CnC-DDraw), but TS-DDraw GDI fixes the esc menu breaking and lets me enter/exit between my game and other applications as I please.

3.4 General Compatability and Troubleshooting Advice

3.4.1 Connection Issues

if your game works fine in skirmish but upon connecting to cncnet or upon entering an online match you either can't connect or get a desync, follow these [instructions](#). Also check your firewall is open and that it allows you to send/recieve packets.

3.4.2 Permission Errors

Getting an error complaining about permissions? `chmod +x ...` all of the exes in the game/mod folder. For the later client, i found this fixed a permissions issue on the dotnet 7 client. Also check you as a non-root user actually have access to the files and folders

Do Not run wine as root however, this will cause more consequences and fix nothing. Administrator-related fixes tend to be as a result of permissions being incorrect. make sure to open the mod or game's folder and check everything has both read and write permissions, and make sure you apply any fixes to subfolders and subfiles too.

3.4.3 Dotnet Not Found

if you get an error message, especially while attempting to run the dotnet7 client (specifically the client, not the game), complaining something similar to "dotnet not a known command" or "dotnet unrecognised script", then you *need* to install dotnet 7 runtime. Check [Arch Wiki](#) for further details.

3.4.4 Wine-Introduced Limitations

- Often with 'mono' it appears that the client is without sound.
- With some renderers the minimap is black and appears very glitchy ingame. Works in functionality though.

Changes between renderers.

- I usually listen to my own music while i play, but i have noticed that multiple runners seem to *fail* to load *music* from theme files, so while you can hear structures being built and "conscript reporting", you may not be able to listen to hell march through the game itself. *Requires Investigation.*

3.4.5 General Support

As a general word of advice, if there is a known and trusted fix for an issue in a formal location, then it's alternative will likely work in linux. If your having an issue with a **specific** mod, i advise looking at their discord and asking for help there, just don't ask in another mod's support channel. [Mental Omega's Discord](#) has a Support Solutions FAQ, as well as an active support channel, so if you are struggling to run **MO** then i recommend seeking help there. [CnCNet also has a FAQ](#) webpage that you may find useful, as well as an active support channel in their discord.

3.4.6 Renderer Advice

Most cncnet clients offer only one build of CnC-DDraw, and often limited builds of other renderers such as TS-DDraw. If you want to test your renderer options thoroughly, check your game's main folder for a file called `ddraw.ini`. Open it through a text editor, and look for a tag called `Renderer=`. This is likely set to Auto, but i recommend manually changing this for each option on CnC-DDraw and TS-DDraw.

`; Select the renderer, opengl,dx, gdi, auto. Default = auto = if OpenGL fails automatically use GDI renderer=auto`

3.5 Final Alert 2 (and FS)

Linux provides several new opportunities for people using FA2(SP) and FS(SP) The map editor can be run straight out of wine / bottles without any dependencies.

3.5.1 FA2SP with a Dark Theme

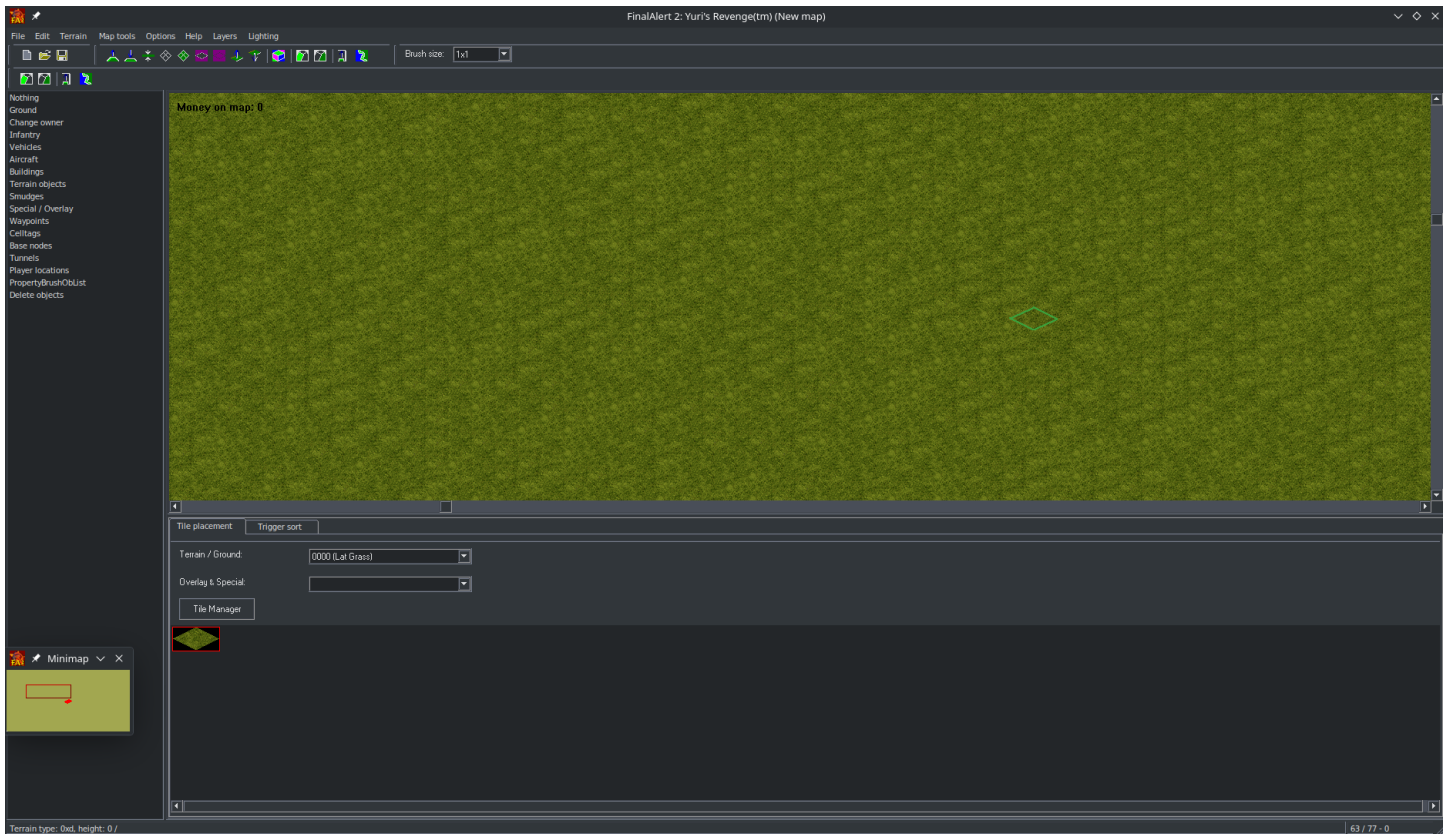
A Word of warning: there are a LOT of windows themes out there, i tried a few on my previous install and some seemed to work but most were a little dodgy (Some panels didn't change, some didn't sit nicely, some were too sharp....).

You can change themes using winecfg through the terminal (better yet through a wineprefix)

`WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/map_editor" winecfg`

I believe this *only works* on recently [patched Fa2s](#). Mental Omega 3.3.6, RR 2.2.13 and any mod which has not been updated since 2020 do not have this patch, and so you will need to add it yourself if you want a dark theme.

I found this [gist](#) which on my system seems to provide a fully functioning dark theme based on Breeze, guidance for usage is included. As i run KDE Plasma this worked fairly well for me, matching the theme i used.



Note that the missing + icons to the left are a result of running it through my system's wine, but if you use [Bottles](#) the glitch no longer occurs.

I seem to recall [this](#) working as well, providing a more modern light theme option. Sadly this was a while back and i am unable to confirm so. The script also downloads off discord rather than a formal file source, and given discord's proposed changes to stop external download links, this may need to be mirrored.

Wine supports the theme engine of **XP**, so a lot of your choiches are limited, although any modifications you make only apply to your wineprefix, so unlike windows you cannot brick your system with it.

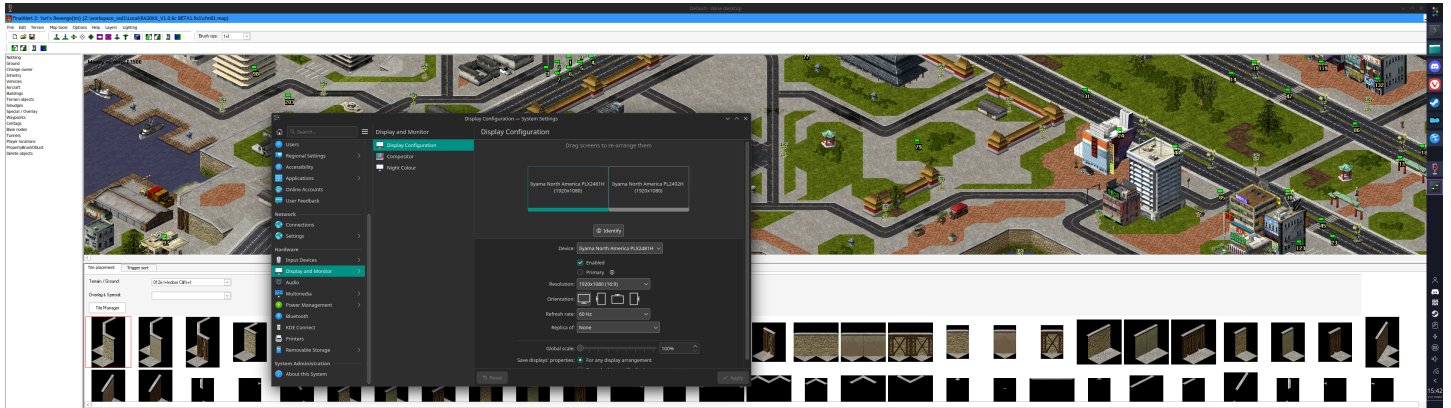
3.5.2 Multi-Monitor Support

While i am unsure if this is simply an original bug in FA2, or as a result of patches, but the application simply cannot be stretched between two screens.

```
WINEPREFIX="/home/YOUR_USERNAME_GOES_HERE/.local/share/wineprefixes/map_editor" winecfg
```

This will take a moment and open wine configuration. head to [Graphics](#) and click emulate a virtual desktop. Make sure the size is decent, you can move the virtual desktop around like a window, but make sure it does not have a length/width too large

or you may have clipping issues, such as the screenshot above where the bottom banner is completely cut off. You then run the map editor from this wineprefix like as I recommended in the Winetricks section. Alternatively you can use bottles to do the same.



3.6 External Sources and Notes

I have looked around into other guides for running CnC games on linux. There are quite a mix of methods, some requiring snap, some lutris and some just being general guidelines.

A generic Linux Gaming post summarising all of the CnC Games https://www.reddit.com/r/linux_gaming/comments/mtixee/a_linux_users_guide_to_command_conquer/

Advice on using CnCnet YR with linux, marginally outdated due to a change in client, but it is a useful reference <https://www.speich.net/articles/en/2021/12/19/how-to-install-the-cncnet-client-on-linux/>

Snap Package Github for CnCnet YR] - <https://github.com/mmtrt/cncra2yr>

When looking at Linux tutorials, you will find a lot of outdated sources. This is important because:

- Wine has improved significantly in the past few years, especially with enhancements from proton due to the steam deck
- Anything that uses packages can become unmaintained and quickly out of date, or is broken in dependency hell
- Linux distributions can change and drop out of favour, or the guide may advise on dependencies that no longer exist E.g. a guide may specify wine 4.5, when 8.xx is the current latest. Generally, use the latest wine where possible.
- Sadly most of the CnC games are not on steam, but if they are then check <https://www.protondb.com> for how well they run on linux from people's experiences, including

computer specs and comments. wineHQ's application database <https://appdb.winehq.org> is fairly limited, often outdated, but may be worth a check. Same applies to CrossOver <https://www.codeweavers.com/compatibility>

In theory, running the client and game through lutris is an option, however i have heard people who have tried this have noticed the game always instantly desyncs

3.7 Next Steps

Although i have covered most of the *basics*, I am unable to test and approve everything myself. Parts may not work 100% consistently, and i only have EndeavourOS (Arch) to test on, and i am testing on an 13 y/o Desktop PC. This means that i am unable to test some new possibilities, such as combining vkd3d and cnc-ddraw.

Any support from experienced users to expand this guide, such as tests with vulkan and certain graphical alterations would be greatly appreciated. Contributions to this [repository](#) for any fixes and new methods or scripts would also be greatly appreciated.