



GPGNet / SupCom Basics FAQ

[for Beta version 52]

Document version 1.3

Last updated January 7th, 2007

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**This document's goal isn't to explain everything about the beta, but to get new players started.
As such, it doesn't cover a lot of things, and does expect the player to experiment a bit.**

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FAQ

General Info

Who is publishing *Supreme Commander* ? When will it be out ?

A: *Supreme Commander* is being published in North America by THQ. In other countries, THQ may license the game's distribution to other publishers. *Supreme Commander* is currently scheduled for release in early 2007. There is no specific, fixed date yet.

Who will be doing the music? The sounds?

A: Jeremy Soule is writing and orchestrating the music. Frank Bry is creating the sound effects.

Are the armies made up of people, or robots with people in them?

A: The army is made up of robots, but only the Commanders have people inside them. Humans still exist in the world of *Supreme Commander*, making up the 3 factions of the game, but the fighting is done by robots. Since the units are fabricated on the battlefield, it makes sense there's no one inside the robots (the humans inside Commanders, though, are teleported onto the battlefield).

All 3 factions in the beta has a different default color. Which color is what faction?

A: Blue = United Earth Federation (UEF)
Orange = Cybran Nation
Green = Aeon Illuminate

All 3 groups are human.

Will the minimum system requirements for the full retail game be the same as for the beta ?

A: Most likely the retail game's system requirements will be different from the beta's. At the beta stage, the game is almost completely un-optimized (it is not smart to optimize until you have all of the final content and gameplay nailed down, which the beta will help us determine).

Are there any “basic gameplay” tutorials?

A: There are some video tutorials to cover gameplay basics, at [http://www.fileplanet.com/169530/160000/fileinfo/Supreme-Commander-Tutorial-Movies-\[FilePlanet-Exclusive\]](http://www.fileplanet.com/169530/160000/fileinfo/Supreme-Commander-Tutorial-Movies-[FilePlanet-Exclusive]) In addition, you can find replay files on the web, where you can watch battles others have played out.

I've heard *Supreme Commander* requires DirectX10 and Vista. Is this true?

A: No. SupCom does not *need* or *require* Vista (DirectX10 is built into Vista and will not be available to Windows XP users). The game runs fine on Windows XP and DirectX9, including features like split / dual screen mode and spiffy special effects. Vista and DirectX10 users might receive some spiffier effects, though. The current DX9.0c can be found at <http://www.microsoft.com/windows/directx/default.msp>

I've heard that *Supreme Commander* requires two monitors – is this true?

A: No, not at all. It supports dualhead (two monitors run from a single video card), but does not require it. It even allows a single monitor to run in *split-screen* mode. See the *SupCom-Specific* section later in this document for info on how to set up dual monitors in the SupCom beta.

Can I do both split-screen AND dual monitors?

A: By default, the game starts on one screen with a mini-map.

- If you split the screen, you get two views + mini-map.
- If you instead turn on the second monitor, you lose the mini-map

Can I run two monitors, with each monitor on a different video card ?

A: Supreme Commander does not support two video cards, only dualhead (2 video ports on a single video card).

Can I run in SLI mode ?

A: Currently, SLI operation isn't supported, but that might change with future nVidia drivers. For now, you'll need to disable SLI In the nVidia drivers to run Supreme Commander. It's a simple check-box and won't require re-booting.

Are dual-core processors supported ?

A: Yes. Anyone with a multi-core CPU will get a boost. If you don't have many units in the game doing anything, then other cores won't be doing much. In a dual-core, one core is dedicated to unit and AI simulation and the other to rendering. Boxes with even more than 2 cores are supported because it allows things like the audio engine and helper threads to move to other cores.

Are you using the same network system as TA?

A: No. TA was an asynchronous system. SupCom is synchronous communication, syncing about once every 0.1 seconds.

Beta-specific

How do I submit bugs on the beta?

A: In GPGNet, go to **Help** at the top of the screen and click on REPORT A BUG.

How do I submit suggestions or comments on the beta?

A: In GPGNet, go to **Tools** at the top of the screen and click on FEEDBACK.

Is there a list of bugs being worked on?

A: No, we don't publish the list. Don't worry about what's been submitted before. Multiple submissions often include new information.

How long does the beta last?

A: The beta will end some time before the game goes gold. Beta keys are then disabled and the beta ladder/rankings are erased.

Will I be able to use my beta key in the retail version?

A: No. Beta accounts and keys will be disabled at the end of the beta and won't carry over to the retail version.

Can I get another beta key?

A: No, sorry. All the available keys have been distributed by GPG (as of December 5^h, 2006). We won't be creating any more.

Can more than one person use the same key?

A: No. Each beta key can only be associated with one account and two people cannot use the same account simultaneously. Be warned that players that abuse beta keys, or perform other shenanigans, will be booted from the beta and have their keys de-activated.

What online game modes can I play in the beta?

A: 1v1, 2v2, 3v3, 4v4 and Free-For-All (FFA)

Are there ladders or rankings in the beta ?

A: Yes. Rankings are based on a modified "ELO" system. **Note that all ladders and rankings will be cleared when the beta ends.**

How does the ranking system work?

A: The rankings are based on a modified ELO rating system, similar to rankings for chess and other online games. The ratings for the Supreme Commander Multiplayer Beta essentially boil down to just a few simple concepts.

Every player starts with a provisional rating, just to get the ball rolling.

If you win games, your rating goes up.

If you lose games, your rating goes down.

If you win games against higher-rated opponents, your rating goes up faster, and vice-versa.

Only auto-matched, ranked games are counted toward a player's rating. Custom games are not rated, but they do count against a player's total win/loss record.

What about arbitrating wins and losses in ranked games ?

A: Since the games are played online, with natural Internet lag and other problems, it's important to have a robust system that determines valid wins, losses, draws and disconnects. And actually, a major part of the multiplayer beta is working out the kinks in the system. In other words, the Multiplayer Beta will allow GPG to manage and detect disconnects more accurately for the full release of the game.

Victories and losses are determined by automatic reports from the game once a player has achieved a specific victory condition (e.g. killing the enemy's ACU, AKA the "Commander.")

It is also possible to receive a draw under certain conditions, such as one offered from the diplomacy window, or a rare scenario where one player gets his ACU close enough to directly attack and kill his opponent's ACU, but is himself unable to escape the resulting blast.

What about disconnects in ranked games – how does that affect ranking?

A: Disconnects in ranked games are also detected automatically. To prevent abuse, during the Multiplayer Beta, the disconnecting party is automatically assigned a loss, regardless of the reason for the actual disconnect. That won't be reversed, for any reason.

So, it currently breaks down like so:

- If you leave first, and did not yet receive the victory message, you will lose (victory message may take about 20 seconds – victory is **not** immediate)
- If you leave after the victory message, you are fine
- The Ladder system is based on the idea of Commander Win:
 - If you've killed your opponent's Commander and you haven't gotten a victory message after a minute, it's likely a bug .
 - If both Commanders die, then no one wins. To win, your Commander must survive for a certain amount of time after the opposition's Commander dies.

GPGNet-specific

When reporting a bug about GPGNet (not about SupCom itself), what should I include?

A: Like SupCom bugs, GPGNet bugs should be submitted to the bug database (**Help** → *REPORT A BUG*, on GPGNet).

The log files in *C:\temp* are good to include. There might be several files there:

Quazal.log – normally 0 if you don't do any matchmaking. This log is for communications to the Quazal servers.

GPGNet0.log – the current GPGNet log. Can't be edited or moved if GPGNet is running. Size is 0 until you enter chatroom

GPGNet1.log – previous log, a renamed GPGNet0.log when the new GPGNet0.log is started

If the bug is visual, please also include a screenshot if possible.

The bug database allows only 1 file attachment, so zip up multiple files first.

Do I use my GPG Garage forum username and password for GPGNet?

A: No (unless you want to). The two systems are separate. When you get a key, you first create a new username and password, then you'll be asked to enter your key. The key is then linked permanently to that username, so be very careful to spell it correctly – it can't be changed!

Can I change my username / password in GPGNet?

A: Yes, look for the appropriate red link on the GPGNet login page.

How do I get to the FilePlanet beta testers' forum?

A: In GPGNet, go to **Help** at the top of the screen and click on VISIT BETA FORUM, or go to <http://www.forumplanet.com/SupremeCommander/>

What port should be open for GPGNet itself?

A: Ports 30340 and 30341 opened for UDP and also Port 9103 for UDP (used for matchmaking).

Where can I read about what's changed in a new beta patch ?

A: Release notes will likely be on <http://www.forumplanet.com/SupremeCommander/> in the **Supreme Commander Beta Forum**.

How come I can't get into a Main chat room ?

A: The usual reason for this is the chat room's at maximum user capacity. Each chat room has a maximum number of users that can be in it. Players may also be banned from certain chat rooms, by the chat room creator or an admin).

How do I scroll through the chat window ?

A: The **Page Up** and **Page Down** keys will scroll through the GPGNet chat window one page at a time (hold *Shift* key down too, to scroll a line).

Can I create a personal chat room ?

A: Yes. To create a chat room, type

/join <name>

In the main chat room, where *<name>* is the name of the chat room. For example: */join <test chat>*

You can then invite others to join you there. They would use the same command to join your existing chat room.

How do I do a private chat (aka Private Messaging) with someone ?

A: Right-click on their name in the list on the right side of GPGNet, and select SEND PRIVATE MESSAGE. A new chat window will pop up on their machine as soon as you type a message and press *Enter*. The chat window will stay up until you close it.

How do I ignore someone ?

A: Right-click on their name in the list on the right side, and select IGNORE THIS PLAYER.

How do I add someone to my Friends list ?

A: Right-click on their name in the list on the right side, and select the INVITE PLAYER. You can also remove people from the list.

You can also use a command within the chat room: */friend <name>* where *<name>* is the username of the person to invite.

How do I create a clan ?

A: */Createclan <name>* where *<name>* is your clan's name. Note that the obscenity filter will prevent certain names from being used.

/claninvite <name> to ask someone to join the clan

What other chat-room commands are there ?

A: Type */* (don't press Enter) in the text entry window and you'll get a list.

SupCom-specific

How do I report a bug about SupCom?

A: In GPGNet, go to **Help** → *REPORT A BUG*. As part of your bug, please include an attachment that is a zip/rar of an output from DXDiag (if it's a technical bug) or a screenshot if it's a graphical bug. If a gameplay bug, also include the game's **LastGame.SupremeCommanderReplay** file found in a folder with your GPGNet username located in:

Windows XP: *Documents and Settings\<user>\Local Settings\Application Data\GasPoweredGames\SupremeCommander\replays*

Windows Vista: *Users\<user>\AppData\Local\Gas Powered Games\SupremeCommander\replays*

What ports should be open to play a Supreme Commander beta game?

A: Open **port 6112** set for UDP traffic (this is the most common port used by online multiplayer games). A good tester for the 6112 port is at <http://forums.relicnews.com/showthread.php?t=63593>

A more general-purpose one, called *Shields Up!*, can be found at <http://www.grc.com/intro.htm>

Port 9103 must also be open for UDP, for the multiplayer matchmaking to work.

Also make sure that **Supreme Commander** and **GPGNet – Supreme Commander** appears on your Windows Firewall exception list (*Control Panel* → *Windows Firewall* → *Exceptions Tab*), as well also showing up as exceptions in any third-party firewalls (including those in anti-virus and anti-spam software). This list is EXE-centric and since SupCom and GPGNet have different EXEs, you need both entries.

Where can I get a list of basic key commands ?

A: See the end of this document, or press **F12** while in-game.

How do I join a game ?

A: From GPGNet, click on either **Game** on the top menu and then Host Custom Game, or click on the Host Game (person on a hand) button at the bottom. This will take you to the multiplayer lobby, where you pick your color and faction. When you are ready, click the **Ready** button and wait for the host to launch the game.

How do I host a game ?

A: From GPGNet, click on either **Game** (on the top menu) and then Host Custom Game, or click on the Host Game  button at the bottom. This will take you to the multiplayer lobby, where you can configure the settings, wait for your party (if any) and then launch the game.

Isn't there any way to just play around, without being attacked?

A: The Sandbox area is a place where you, or you and companions, can experiment with SupCom to learn how it works.

To get to the Sandbox, you have to host a game. You do so by clicking on the **Game** menu item at the top of the GPGNet screen and clicking

on HOST CUSTOM GAME (or on the Host Game  button at the bottom of the screen. This takes you to the multiplayer lobby. People coming to the sandbox with you can now JOIN (also from the **Game** menu) you here. This is also where you choose your map.

In the lower right side, the host then changes the *Victory Condition* to SANDBOX. Once everyone has clicked the READY column, the host clicks LAUNCH and the game begins.

How do I take screenshots ?

A: While in a game (i.e. not in GPGNet), press **Ctrl-F** and a .BMP screenshot is generated – the filename is based on date and time. Starting in versions after v38, the screenshots will be dumped into:

Windows XP: *Documents and Settings\<user>\Local Settings\Application Data\GasPoweredGames\SupremeCommander\screenshots*

Windows Vista: *Users\<user>\AppData\Local\Gas Powered Games\SupremeCommander\screenshots*

How do I make a recording of my game?

A: This is actually done automatically while you play, and saved as **LastGame.SupremeCommanderReplay**. Every time you play a game, the old recording is deleted and a new version of the file is made. The file is located in a folder (with the GPGNet username), found at:

Windows XP: *Documents and Settings\<user>\Local Settings\Application Data\GasPoweredGames\SupremeCommander\replays*

Windows Vista: *Users\<user>\AppData\Local\Gas Powered Games\SupremeCommander\replays*

How do I run the game in a window ?

A: To run the game in windowed mode, start up GPGNet, Go to *Tools* → *Options* → *Supreme Commander* then click on the empty text box to the right of *CommandLineArgs*. Now enter this:

/windowed x y

where *x* and *y* are the window resolutions to use.

You won't be able to re-size the window, by stretching it.

NOTE: You can also set the game to windowed mode from the *Video* tab of the **Options** screen within *Supreme Commander*.

How do I set up dual screen mode ?

A: First, we should be clear that this is dualhead mode – two video monitors on a single video card with two video ports. Supreme Commander does not support multiple video cards.

As of v44, you can now set up dualhead mode from the *Video* tab in the **Options** menu from within *Supreme Commander* (note that this will require you to restart SupCom afterwards) – the *Secondary Adapter* pull-down menu won't be set to Disabled if the Windows drivers are set to dual monitors for the video card.

Alternatively, you can do this via GPGNet. Click on the **Tools** button at the top, then click on **Options**.

Now click on **Supreme Commander** and on the right side you'll see a list of entries - one of them is **CommandLineArgs**. Click on the empty blue text box to the right of it. Here you can enter any command-line argument.

The one for dual screen in Supreme Commander is:

/dualhead x y a b

where you replace ***x y*** with the resolution for the primary screen, and replace ***a b*** with the resolution for the secondary screen.

For example, if you want your PC set up as:

- primary screen to run at 1600x1200
- second monitor to run at 1280x1024

type:

/dualhead 1600 1200 1280 1024

Bear in mind that dual screen mode has increased system requirements, and you'll likely experience a hit on the game's frame rate. Starting with betas after v38, the game's UI control focus will be on whichever monitor the cursor is over (instead of manually switching).

How do I play a “replay” recording of my game, or one I’ve downloaded?

A: This is actually fairly easy and can be done either of two ways:

(1) Once the beta is installed, the extension **.SupremeCommanderReplay** is recognized by Vista / XP as being a SupCom replay file (you can change a file’s prefix, but don’t change the extension). Just double-click on the replay file itself to automatically launch SupCom and play the replay.

(2) You can also play the replay via the Supreme Commander’s Main Menu *Extras* screen. In this case, it needs to be in the full default filename (LastGame.**SupremeCommanderReplay**) and be in the folder with your GPGNet username, at

Windows XP: *Documents and Settings\<user>\Local Settings\Application Data\GasPoweredGames\SupremeCommander\replays*

Windows Vista: *Users\<user>\AppData\Local\Gas Powered Games\SupremeCommander\replays*

If you can not see Windows’ *Local Settings* folder (which can be hidden), see the **Problems** section later in this document.

Is there a traditional mini-map available in the beta?

A: Click on the Strategic View icon  in the lower left corner.

Can I tell engineers to automatically reclaim?

A: Kind of. Set them on patrol. Select the engineer, click on the Patrol icon  , hold down the **Shift** key and left-click in route you want the Engineer to travel. It will patrol and auto-reclaim if your economy’s storage is below 90% full of Energy or Mass.

You can also tell them to Attack Move (Alt Right-click) and they’ll reclaim as they travel, if the storage is low.

What do the colored ping numbers mean, in multiplayer?

A: When you’re in the multiplayer lobby, you’ll see a ping column (you can also see player ping by pressing **F11** when in-game). The number is the round-trip time - in milliseconds – of signals from one computer to another. This includes the reply delay that the system itself introduces.

“xxx” means no reliable ping value for them yet.

This happens when the host tells us they have joined but we haven’t established communications with them yet.

The colors display who’s actually connected / communicating to whom.

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red means that we have not succeeded in "establishing" a connection to them.

If a packet or two makes it though, a ping time is reported, but for the connection to be established we have to have successfully exchanged a couple of *handshake* messages.

Yellow means that your machine has an established connection to them, but they do not yet have an established connection to everyone else in the game.

Green means that you an established connection to them and they have established connections to everyone else in the game.

Here's an example, using a player 'A' that hosts the game and 3 other joining players B, C and D:

Player A hosts a game.

- You see no ping time displayed for yourself, because you don't ping yourself.

Player B (first joiner) joins the game

- Both A and B ping time start out already *green*, because their number isn't displayed until after the $A \leftarrow \rightarrow B$ connection is established.

Now player C joins the game, connecting first to the host (player A)

- Computers B and C have not established connections to each other, so A draws both their pings in *yellow*. (so B goes from green to yellow)
B and C display each other in *red* (no connection yet).

Computers B and C then establish their connections to each other and report this to computer A.

- Everyone (A, B and C) show *green* pings, since everyone has established connections to everyone else now.

Finally, player D joins the game, connecting first to host A

- Computer A (host) displays everyone *yellow* (i.e. A has connections to everyone, but they haven't all connect to each other).
- Computers B and C display D in *red*, but they display A in *green* (A has connections to everyone), and everyone else in *yellow*.
- Computer D displays A in *green* (as mentioned, D is connected to A) and displays B and C in *red* (no connections established yet).

Computers B and D ($B \leftarrow \rightarrow D$) now establish their connection.

- Computer A displays B in *green*. (as B now has a connection established to everyone)
- Computer B now displays D and C in *yellow*.
- Computer D now display displays B in *green*.
- Computer C still displays D in *red*. (no connection established $C \leftarrow \rightarrow D$ yet)

Computers C and D ($C \leftarrow \rightarrow D$) now establish their connection.

- everyone has now established connection with everyone else, everyone now display pings in *green*.

Bear in mind, although this is broken out in steps, these steps hypothetically could take a split second.

Gameplay Info

Resources

Like most real-time strategy (rts) games, *Supreme Commander* needs resources. The resources in *Supreme Commander* are used to build new items or power existing items. To keep resource management simple, *Supreme Commander* has only two resources.

The two resources in the game are called “Mass” and “Energy”. All things in the game are built out of these two resource, and some items require Mass and/or and Energy to operate; radar structures, for example, constantly use Energy. Other items will create resources; the Power Generator, for example, constantly generates Energy without consuming any resources.

At any time, you can click on the Economy icon , in the lower left corner, to get an indication of how much Mass and Energy each item in your military structure is consuming/generating.

Mass

“Mass” is just a generic term for the material used to create things or power certain devices.

Mass needs to be either “mined” or created, but is essential to developing your army. When the game starts, your Commander teleports in with some stored Mass and Energy, which you’ll start using as soon as you have the Commander build something. The first thing most players do is look for more Mass.

As you play the game, keep an eye on the green bar graph located in the upper left of your screen.



Current Mass Use bar graph

This graph shows you how much Mass you have, while the numbers underneath indicate *current value / maximum storage*. The number on the far right indicates the status vs current consumption:

- **positive and green** = you’re going very well and collecting a lot more Mass than you’re using.
- **positive and yellow** = you’re barely collecting more than you’re using - if you increase your Mass usage, look out!
- **0** = you are using as much as you are collecting. Any additional use will result in things slowing down.
- **Negative and red** = Uh oh, you’re spending more than you’re making.

The bar graph will start going down, and if this situation doesn’t change (you stop or limit unit or structure construction - or create more Mass-producing structures) then you’ll run out of Mass. If you run out of Mass, all construction stops - it will lurch along in a start/stop fashion as Mass is gathered.

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NOTE: You may have noticed the Mass graph, when you first start, says +1. That's because the Supreme Commander will actually generate a small amount of Mass while it is idle.

When you first start a game, you'll see the graph go down as you expend Mass to build things, so the first thing to do is replenish that Mass. The basic way to do this is to mine it, to extract it from the ground.

Mining Mass

When you first start a game, you usually start by mining Mass.



Close-up of icon marking a "Mass Deposit"

and Strategic View version



On any map, you will find some yellow/green icons that can be seen from any height. These icons are a broken circle, with a stylized upper torso and head in the middle. These icons mark where "Mass" is located, the basic building block of the game. You want to control those locations! And quickly, too, because you need Mass (and Energy) to construct units and to make the structures that make those units. The standard way of getting Mass is to extract it from these spots with Mass Extractors.

Mass Extractors (ME)

The way to get the Mass out of the ground and into your "pockets" is to use a **Mass Extractor**. The ME pumps the Mass out of the Mass Deposit at a given rate and directly into storage, where it can be accessed and used. That's about all the MEs do.

Once built, put your cursor over the Mass Extractor to get an info pop-up in the HUD. Here's a UEF T1 ME pop-up:



Here we see that it still has all of its 1200 "hit point" (how much damage it can take, if attacked), that it constantly generates +2 Mass, but that it also constantly consumes 2 Energy units (-2) to operate, while mining those 2 units of Mass.

NOTE: a Mass Extractor starts *On* when it is built. **Since MEs use Energy to operate, they can be turned off for those moments when you really need a few extra bits of Energy.**



The On/Off Production toggle can be seen in the lower right if you select a ME. When a ME is turned off, it will stop moving, stop producing Mass and also stop consuming Energy.

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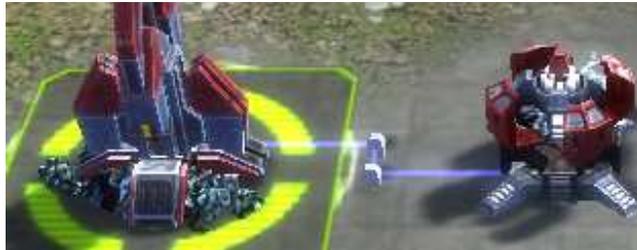
You can rapidly select ALL Mass Extractors by double-clicking on any one of them. This selects them all.

When building MEs, you can get a build-time bonus of 50% if you build over the wreckage of an existing ME. These look like normal Mass mines, except they have wreckage on them like this: Building on this spot will result in the ME building in half the time. Note that this works for any kind of structures, but only applies when building the same kind of structure.



Since Mass Extractors use Energy, what happens if we put a Power Generator right next to a ME? Good question.

You receive an Adjacency Bonus (because putting the two structures adjacent - i.e. next to - each other gives you a bonus) that reduces the amount of Energy required. This bonus is represented visually in the game with a pale colored line, like so:



glowing red line indicating adjacency bonus

Selecting the ME, we see the ME still generates 2 units of Mass, but now it only takes 1 unit of Energy to do it. So, it now consumes $\frac{1}{2}$ the resources, due to the adjacency bonus! →



The adjacency bonus only affects adjacent structures, so building Power Generators at a remote location does not give any bonuses.

Upgrading

One other thing you can do with MEs is upgrade them. Upgraded MEs produce more Mass at the same spot but also consumes more Energy. To upgrade, click on the ME and select the icon that appears in the “build” window.

NOTE that any ME that is being upgraded (from T1 to T2, for example) can't be paused.

Mass Fabrication (MF)

At some point, there just aren't enough Mass mines on the map to give you the resources to make that 4-story massive attack unit you want. What's a poor Supreme Commander to do – can't wait until next Tuesday for the Mass Storage container to fill up!

That's where the **Mass Fabricator** comes in. The MF is actually a converter that takes in Energy and converts it to Mass. It uses a LOT of Energy and generates even less Mass than the Mass Extractor. So, if you're weak on Energy, you need to buff your Energy production up first, before using MFs. But once you've got excess Energy, the MF is a huge benefit: there is no limit to the MFs you can build - with enough Energy generators you can have a self-contained Resources generation system of staggering amount. Then just stand back and sneer at those still digging in the dirt for their Mass! At least until they blow up all your MFs.

NOTE: Because they use a **lot** of energy, MFs can be shut off by clicking on their The On/Off Production  toggle

NOTE: Since MFs use Energy, it's likely there is an *adjacency bonus* that can be obtained.

Reclaiming

There is one other way of getting Mass – Reclaiming it. Reclaiming is converting stuff back into raw Mass and Energy. Unit/structure wreckage, rocks and trees can be reclaimed.

Reclaiming is done by engineers or Commanders, using the Reclaim  icon. You can also do a kind of auto-reclaim, by

setting engineers on patrol. Select the engineer, click on the Patrol icon , hold down the **Shift** key and left-click in route you want the Engineer to travel. It will patrol and auto-reclaim if your economy's storage is below 90% full of Energy or Mass.

Mass Storage

When you start the game, the Mass (and Energy) is stored in the Commander, but there is a limit for how much Mass your Commander can store. If you generate more Mass than you are using and can store, any extra Mass is just lost.

So, the key here is to either finely balance how much Mass you use vs how much you're creating... or get more storage.

Supreme Commander is designed to have you focus on the battle and not on the economy, so the better option is to create more storage. **Mass Storage** structures can be built that will increase the storage capacity for your game. You can build as many of these as you wish, but of course they take resources to build too. The extra storage will be necessary to build more complex structures and more units at one time. It also comes in very handy if you ever need an immediate, huge amount of mass ...say to upgrade a factory or build an Experimental unit – or frantically crank out units to defend your borders.

Energy

One half of the *Supreme Commander's* resource equation is Energy (the other part is Mass). All items used in the game are made from either Mass or Energy, and most items use these to operate. Power Generators can be constructed almost anywhere on land, while HPPs can only be built on specific locations.

When the game starts, your Commander teleports in with some stored Mass and Energy, which you'll start using as soon as you have the Commander build something. So, the first thing most players do is try to get more resources.

As you play the game, keep your eye on the orange bar graph located in the upper right of your screen.



Current Energy Use bar graph

This graph shows you how much Energy you have, while the numbers underneath indicate *current value / maximum storage*. The number on the far left indicates the status vs current consumption:

- **positive and green** = you're going very well and generating a lot more Energy than you're using.
- **positive and yellow** = you're barely generating more than you're using – if you increase your Energy usage, look out!
- **0** = you're using as much as you are making. Any additional increase in use will result in things slowing down.
- **Negative and red** = Uh oh, you're spending more than you're making.

The bar graph will start going down and if this situation doesn't change (you stop or limit unit or structure construction or create more Energy-producing buildings) then you'll run out of Energy. If you run out of Energy, all construction stops, and it will lurch along in a start/stop fashion as Energy is generated. Structures, such as radar or Energy-based weapons, will stop working without Energy.

When you first start a game, the graph will go down as you expend Energy to build things, so the first thing to do is replenish that Energy. The basic way to do this is to build Power Generators.

NOTE: You may have noticed the Energy graph, when you first start, says +10. That's because the Supreme Commander will actually generate a small amount of Energy when idle.

Power Generators (PG)

Engineers (or Commanders) can build **Power Generators** almost anywhere on land; there is no need to look for any special markings on the map. If you put your cursor over the Tech 1 PG, you see that it generate a constant amount of



Energy (+20) and doesn't use any Mass (+0) while running. Since they don't consume anything, there's no reason to ever turn PGs off and thus here's no On/Off switch like Mass-producing structures have.

By placing a structure that uses Energy next to Power Generators, you get an *adjacency bonus*. This bonus results reduces the amount of Energy the structure needs in order to operate. The bonus is visually represented by a ghostly colored Energy connection between the Power Generator and the structure.

Hydrocarbon Power Plant (HPP)

This structure generates much more Energy than a Power Generator, but the HPP can only be built over a Hydrocarbon Deposit. These Deposits are marked on the map by a circle with a lightning bolt inside it.



Close up of Hydrocarbon Deposit



Strategic View version

If you try to place the HPP anywhere else, it won't be built (you can tell if a structure can't be built at a given spot because the "build" square attached to the cursor will be red instead of green).

Like Power Generators, HPPs do not consume any Mass when operating, so they don't have On/Off switches.

Energy Storage

As noted, the amount of Energy available is indicated in the upper right of the screen, on the Energy bar graph, next to the Energy icon. If you generate more Energy than you are using, any amount after the bar graph is max-ed out is just lost.

Your Commander can store a limited amount of Energy. But because building units and structures takes Energy, you can either micro-manage and finely balance your Mass/Energy needs vs generation,... or get additional storage facilities. Since *Supreme Commander* is designed to have you focus on the battle and not on the economy, you want to create more storage. **Energy Storage** structures will increase the amount of Energy stored. You can build as many of these as you wish, but they do require resources to construct (there is no "cost" to use for them to store or release Energy, however).

This additional, stored Energy will also come in handy if you ever need an immediate, huge amount of Energy.

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NOTE: There is an *adjacency bonus* you can get for placing Energy Storage units next to Energy generators, like the PG or HPP. Below, we see the colored glowing line between a Cybran Tech 1 Power Generator (left) and Energy Storage unit (right).



red, glowing line indicating an adjacency bonus

The T1 PG normally generates 20 Energy units. With the adjacency bonus factored in, the PG now generates 22 units! →



In fact, in some cases you can get more than one bonus - or the bonus might vary depending on placement. For example, if we add yet another Energy Storage unit next to the PG, we would see that the PG's output has increased again.



two adjacency bonuses on Cybran Power Generator

Selecting stuff

Before you can give any commands in the game, you have to identify to the game what you want to control and/or issue commands to. You do this by selecting the things you want to control (of course, you can only control things that belong to you).

Selecting a unit/structure – Left-click (i.e. Lclick). You'll see a set of blue brackets around the unit indicated it's selected.

Select a group – Hold left mouse button down and drag to create a white transparent box. When you release the button, everything fully inside the "box" will be selected.

Adding to current selection – hold down either of the **Shift** keys and Left-click

Select all of the same kind of unit that are currently visible on-screen- double Left-click on a unit.

You can also select the Commander or idle Engineers from the thumbnails on the upper right edge of the screen.

Right-click on the Commander thumbnail and the camera will pop over to it.

Right-click on the Engineer thumbnail to jump to the nearest idle Engineers on the map, moving on to the next one for each Right-click. **The Engineer thumbnails exist ONLY if engineers are idle**; there will be a separate thumbnail for each tier (T1 – T3).

To the right is an example, showing an Aeon Commander (top), a single idle T1 Aeon Engineer, and three T3 Aeon Engineers.

You can “minimize” these HUD icons by clicking on the ► arrow above the Commander icon.



Grouping Units

Groups are a way of setting up pre-defined configurations of units that, with one command, are all selected. The group can be made up of all of the same unit, or any mix. For example, you could have a group comprised of any number of tanks and anti-aircraft units - the AA can protect the tanks from bombers while the tanks protect the AA from ground fire.

Supreme Commander allows for 10 groups to be defined.

Setting up a group is easy. Select the units you want in the group and press **Ctrl-<n>**, where <n> is a digit from 0-9. For example, to assign some units to Group 1, you'd select the units and then press Ctrl-1.

Units in a group will all display the group number below the unit.

To select a group (often referred to as Recalling a group), just press the number assigned to the group and all units in that group will be automatically selected. To recall Group 1, you'd merely press '1'.

Moving

Structures (buildings, weapons platforms, Power Generators, etc) can't move. But “units” are mobile and can be ordered to move, attack, patrol or build on-location. Different units move at different speeds, depending on their weight, size and how they travel (water, land, air, feet, wheels, jets, etc). This speed difference can be a critical issue if you order units of different types to attack a certain position.

Moving is normally accomplished by selecting a unit and then right-clicking (i.e. clicking with the right mouse button) on the destination.

Reminder:

To select a unit, Left-click on it.

To select a group of units, hold the left mouse button down, drag to make a box and release.

Basic movement

To move a selected unit somewhere, Right-click on the destination.

Moving in formation

Formation Move

Ctrl + Right-click – or - hold down Right-click for 1 seconds until formation preview shows up

NOTE: With the Right button held down, you can Left-click to change the formation.

Attack Move

Alt + Right-click

Formation Attack Move

Ctrl + Alt + Right-click

Moving in a Coordinated Attack

It was mentioned earlier that different types of units travel at different rates of speed. That means if you tell a bunch of light infantry units, heavy tanks and aircraft to all attack a structure, the tanks are going to get there last. Unfortunately, if the tanks were required to eliminate the enemy's anti-aircraft and defensive guns, by the time they show up the rest of your forces will have probably been wiped out. What's needed is an attack that coordinates all units so that they arrive at the same time.

First select a group of units - ideally, this initial group is your slowest group.

Click on the target, telling this selected group to attack. Now, hold down **Shift** and select another group and hold over the current target - you'll get a "*double-click to coordinate attack*" message. Do so and your two attack groups are all set.

You can add as many groups as you like. If you hold down the **Shift** key, you will see the path and the ETA for the attack.

Guarding

If you select one or more offensive units and then Right-click on another unit (or structure), you're telling the selected offensive unit(s) to Guard the second. A guard will automatically protect the unit it is guarding, if the unit is fired on.

If the guarded unit stays still, the guards will stand around it. A whole group of guards will stand so as to try to create a defensive shield around the guarded unit.

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If the guarded unit is mobile and starts moving, so will the guards. One thing to consider for guarding a mobile unit is speed: how fast can the guards move in relation to the guarded unit? If the guards are much slower, they'll always be lagging behind until the guarded unit stops. This particular situation will make the guards kind of useless, so be sure to consider unit speed.

Way points

Let's say you take a trip from *Edmonton, Alberta Canada* to *Buenos Aires, Argentina*, and your plane stops in *Dallas, Texas* and *Lima Peru*. Dallas and Lima are waypoints, places you travel through on the way from Canada (start) to Argentina (end). You don't end up in the waypoints, you merely travel through them. It's the same in *Supreme Commander* – you can indicate places to travel through.

Waypoints are specific locations you mark for mobile units to travel to (but not necessarily stop at). You're basically directing the path land, sea or air units will take as they travel. You might want them to go around an obstruction in a specific direction, or swing around behind a base and then attack, instead of hitting the base head-on.

Waypoints can be seen and manipulated by holding down the **Shift** key (either one). The paths connecting waypoints, and the waypoints themselves, are blue. The waypoints themselves are circular and can be moved around.



Whenever you tell a selected unit to move (by Right-clicking on a destination), you're actually giving it a single waypoint (which in this case, is also the destination). If you do a normal Right-click while it is moving, the old waypoint is erased and the new destination you've indicated now becomes the single waypoint and destination.

You can add additional waypoints to a selected unit (or group), by holding down the **Shift key** before Right-clicking. Each additional right-click, with the Shift key held down, adds another waypoint to the end of the last waypoint. The unit(s) will travel through the waypoints in order; as you add each waypoint, a blue "path" line will connect them.

You can also move an existing waypoint, by holding down **Ctrl-Shift** - when you put your cursor over the blue, circular waypoint the cursor will turn into a hand. With the hand over the waypoint, press the left mouse button and drag to move the waypoint.

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Finally, you can also delete waypoints by also holding down **Ctrl-Shift**, but this time Right-clicking on the waypoint to remove it. The blue “path” lines will re-connect any remaining waypoints.

Patrolling

You can have mobile units patrol a user-set path (using waypoints), which performs two goals. One, they gain intel on the area they patrol. Two, they will attack (unless told not to, or don't have any weapons) any enemies they come across. Engineers, set to patrolling, won't attack but will Reclaim if the economy starts going downhill.



To tell units to patrol, select them and click on the Patrol icon . Holding down the SHIFT key, create as many waypoints for the patrol as you like. The patrolling units will travel from waypoint to waypoint in a never-ending loop. Like any other waypoints, you can move, add, and delete patrol waypoints.

To cancel a patrol, just give the unit(s) a new command (Move, Stop, Attack, etc).

You can also have units in more than one group - they'll react to the most current group's commands

Building Stuff

In *Supreme Commander*, you basically build two types of things: (mobile) units and (stationary) structures.

The mobile units are created from structures called factories. The factories cannot move. Units, such as mobile artillery, fighting units or aircraft or Engineers, can exit out of the factory and travel around on their own power.

Structures, on the other hand, can not move, so they must be created by telling a mobile construction unit (a Commander or engineer) where you want the structure to be built. Structures include factories, gun emplacements, Mass Fabricators, Power Generators, walls, etc.

In both types of construction, you start by Left-clicking on the builder (factory or engineer) to select it. When you do, a list of possible items that can be built is displayed and – below that – the build queue for that construction unit is shown, below the list. For example:



Build-able Items list on the top

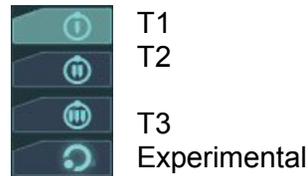
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and “To Build” queue on bottom

In this case, the player had selected a factory (because only factories build units that can move) and the player clicked on the top row to tell the factory to build 4 units – and in what order. Notice the white ‘1’ on each unit icon in the “To Build” queue. That indicates how many of each item to make. If the player had clicked on a particular item more than once, that ‘1’ would have incremented (more on that in the Factory section).



Note that the list of possible items might be long, so there are up/down scroll arrows on the left side. Also, the list varies, depending on what you’ve clicked on.



Note that - to the left of the list - are four stacked tabs, each representing a technology tier (Tiers 1-3 and Experimental). Click on the tab to get a list of items that structure can build in that tier. A Tier x constructor can create items in its own tier and also any lesser tier items. For example, a T2 factory can create any units on its T2 tab and also any on the T1 tab. Factories can be “upgraded” to higher tiers, giving them access to the more advanced units.

Note that if you hold your cursor over any item in the factory’s build list, you’ll get a pop-up describing the item, how much time it takes and how much Energy and Mass is required to construct. The time can be reduced, if you order an additional Engineer or two to *Assist*. If you’re not generating enough Mass or Energy, the factory will “stall” or slow down while the necessary materials are generated. It’s a good idea to always have Mass- and Energy-producing buildings cranking away (and build them early in the game).

NOTE: If you build a structure on top of a destroyed structure (of the exact same type), your construction will start at 50% completed, which is a nice time savings.

Building with a mobile unit

For an Engineer or Commander, you not only need to select what to build but also to indicate where it should be built. To start, select the Engineer or Commander. A list of items will be displayed (image below is from the Commander), with a build queue area below it:



Left-click on a structure in the unit's build list that you want to build.

There will be a square, the size of the area required for the structure, under the cursor as you move the cursor

A **green** square means you can build here, while a **red** one means you can't.

Left-click to place the square build marker on a location

Nothing else will be allowed to build there now, even if the Engineer hasn't started building there yet.

Press the **Shift** key to see locations already marked for future construction.

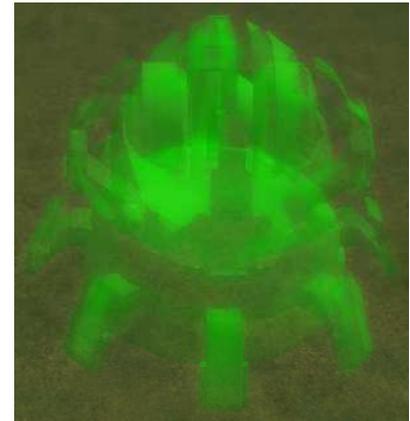
If the Engineer or Commander is too far away, it will have to travel to the location before starting to build.

Hold down the **Shift** key as the unit is building and you'll see an ETA for completion (including any travel time).

If you decide not to place the square (and thus not build), press the **Esc** key to abort.

Once you place the item, a green transparent image of that structure will appear on the ground at all times, as a reminder of what you've placed there →

The image on the right shows an Aeon T3 Mass Fabricator image, marking the spot that the player has designated for the engineer to build the structure. Note that it does not show the blue boundary box – use **Shift** to see that.



Queuing build orders, using Engineers (or commander)

Normally, you just Left-click to place a build command and that's the end of it. The unit goes off to start construction immediately. If you give it a new build command, it will stop whatever it is doing and go do this new command (Hey, you're the Supreme Commander after all, so it obeys!).

You can also give the construction unit a whole list of things to build, and indicate where to build them. That means you can tell the unit to build up your base, then ignore it while the tasks get done without supervision.

To make a list (or queue), hold down the **Shift** key. As you select and mark what and where things should be made, you'll also see all the locations the unit will be working at (marked as **blue squares**). The "work list" will show up in the selected unit's queue box below the build-able item list; you can view the current state of this queue any time you select the unit.

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Using this method, you can tell it to make as much stuff as you'd like - it will finish each "build" request, in order, and then automatically move to the next location you marked and build the next item.

If you want to make rows / columns / diagonals of the same item, that's even easier.

Instead of clicking, hold down the left mouse button and drag the mouse. This places structures next to each other wherever the mouse is moved to. This is ideal for things like Power Generators or Mass Fabricators; the items making the raw materials your war machine needs! Just assign an Engineer to spend its time making a row or two, to bolster your economy. Maybe set two Engineers making rows of Power Generators, with another Engineer making a row of Mass Fabricators between them (for adjacency bonus). Or create long stretches of walls.

NOTE: If you interrupt an Engineer's work, its queue is cleared and current work is halted.

Assisting

Engineers can also help build, even if they have not been given any direct build orders, by assisting other Engineers, the Commander or even factories. Using the Assist  feature speeds up the construction of your army.

There are two basic ways to do this.

- If you select the Engineer and Right-click on a construction project, the Engineer will assist in its construction. When construction of that specific project is complete, the Engineer will have no tasks and will just sit idle.
- If you select the Engineer and right-click on a factory or other Engineer, the Engineer will be assigned to assist that target. Whenever the other Engineer or factory start building something, the assisting Engineer will automatically help.

Engineers can also assist combat units, although this is really just Repairing .

Building with a factory

Left-click on a factory to select it. To tell a selected factory to build, simply left-click on an item in the list of things it can build. That will put the item in the factory's *build queue*. If the queue is empty, the factory starts building the new item right away - otherwise it finishes the current build task and then gets the next (left-most) build task from the queue. You can add more items to the queue even before the first item is finished.



Build list here on top

Build queue on bottom

NOTE: You can start filling a factory's queue up even while the factory itself is being built.

Factory Waypoint

If you select a factory and Right-click on the ground, the factory's waypoint is set to that location. When items finish being build, they will move out of the factory and head to the a spot close to that location (depending on what other units or structures might appear there).

Factory queues

Left-click on a factory to see its current build queue.

You can start filling the queue once the factory itself starts being built (although the factory won't start building units until it is completed).

- Left-click on queue items to increment by 1 how many of that item to build (before going to the next item in the queue)
- **Shift**-Left-click on a queued item to increment the number by 5.
- Right-click on items in the build queue to subtract 1 of that item to build (before going to the next item in the queue)
- **Shift**-Right-click on a queued item to decrement the number by 5 (or remove it, if current count is less than 6).

NOTE: You can first build a queue of items and then set the factory to Repeat  - the factory will go through the queue, but instead of throwing each build task away when completed, it puts it back at the end of the queue. The factory will just keep cranking out units, in the order they're listed, forever. You can combine this with Factory Assisting to generate units very quickly.

Factory Assist

Just as Engineers can be told to *Assist* factories in building units, other factories can also be told to help out. This speeds up the helped factory's production, at the lost of separate production from the assisting factories. But, the assisting factories will build

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the items in their own factories (Engineers helping a factory just help the factory produce faster, they don't make units themselves). So you could have one main factory with a looping/repeating queue, that gives all the other factories their build orders. And those factories don't even have to be sitting next to the primary factory. Maybe you have a single, well-fortified factory that you set up the queue in, and multiple factories scattered around the battlefield that then build items from this queued factory.

To tell factories to assist, select the factories to do the assisting, then click on the Assist  icon and then click on the factory you want to assist.

For example:

Factory A has a list of items to do.

Factory B and C are idle.

Select both B and C, click on the Assist icon in the lower right and then Left-click on Factory A.

Now, Factory B and C should start building the next items in the Factory A queue. This will continue as long as Factory A's queue is not empty (or until you manually tell Factory B or C to build something).

A few restrictions on Factory Assists:

- Assisting factories have to already be able to build the units in the queue. For example, a Tier 1 Aircraft Factory set to assist a Tier 1 Land Factory can only generate the Engineer unit - the unit they can both make. A Tier 1 factory can not assist in producing Tier 2 units. A Tier 2 factory, which can make both T2 and T1, can assist a T1 factory.
- Factories cannot assist a factory as it upgrades. Engineers can assist in the upgrade, however.
- If the assisted factory is destroyed, the assisting factories will have nothing to do until you give them more build orders.

Transports

Transport craft are very useful for getting past mountain ranges or water obstacles (you can even seal off your own base and move out all your units with ferries). Depending on unit size and weight, transports can carry multiple units. Although transports have weaponry themselves, any offensive units hanging from a transport can also still shoot, making the transport even more deadly. Carrying a shield unit will also keep the transport and its passengers shielded.

Loading a transport aircraft.

- Select one or more units you want.

- Right-click on a transport to load them and you'll see the Transport icon  appear.

Once loaded, select the transport, Left-click on the Transport button and click on the destination. The craft will fly there and drop off the units it is carrying. It will then hover above.

Ferrying units

Ferrying is a very versatile option, but not too flexible. Like a ferryboat, the transport will only travel on a pre-determined path; if you manually move the ship, it will no longer be in ferry mode.

Essentially you set up a start and end point, and as long as units are told to go to the start, transport ships on that designated route will move the units to the destination, and automatically drop them off and come back for more.

You can tell the system to ferry a large group, taking many trips and the transport will continue until the entire group is moved.

You can also tell the system to grab units coming right off a factory and ferry them. If you set the factory on automatic, you'll have a constant re-stocking of units at the front line.

Setting up the route is the only complex part:

- Select a transport 
- Click on the purplish Ferry icon
- Move your mouse to the destination location, zooming out if need be
- Hold down the **Shift** key and left-click on the destination.

You've now got a path for the transport to ferry units, one at the spot where you clicked and another under the transport where there is now a flashing beacon

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NOTE: Do **not** move the transport manually. If you do, the ferry route you've created is destroyed (because you're no longer using the transport as an automated ferry).

Now that that is done, you need to tell the transport what to move.

If you want to ferry a group of existing units over:

- Select the entire group and right-click on the beacon
- The transport will pick up all it can, ferry them over, drop them off, and go back for more until all selected units are relocated.
- ONLY those units that were selected are carried over.

If you want to ferry a continuous output from a factory (or group of factories), then you want to connect the factory's waypoint to the beacon. To do this:

- Select the factory
- Hold down the **Shift** key and you'll see any existing waypoint for the factory

- Right-click on the beacon. You should now see a large TRANSPORT icon  while the **Shift** key is down. All units now generated will run to the beacon and they will be transported immediately. The transport will **not** wait to fill up before leaving.

You can also attach multiple factories to the same beacon.

You can also move the drop-off point by selecting the transport, pressing **Shift** and putting the cursor over the endpoint so it turns into a hand and pressing down the left mouse button and dragging the mouse.

For example, you can go back and adjust the drop-off point to always keep it just behind the front line if you want.

Although only the end is the drop-off location, you can use that same "hand" with the SHIFT key to create waypoints and bend the path, so you can have the transport take an indirect path.

The beauty of this system is that if you have the factories set to automatic, the transports will continue shuttling the newly-created units to the destination without any interaction on your part.

You can also attach additional transports to the beacon, and they'll all travel the route and pick up whatever units are told to go to that beacon. Simply select the additional transports and Right-click on the beacon.

Bear in mind that if a unit is too big or too heavy for a transport to lift, it won't be transported.

Camera

The “camera” is the view of the game playing field (i.e. the ‘map’). You have a certain amount of control over this view.

Zooming in/out

- Mouse wheel
- **Q** (in) and **W** (out) are the keyboard equivalents

Panning the camera

- Arrow cursors
- Hold middle-mouse button (often, this is also the wheel on top of the mouse) down and move mouse

Tilt (angle) camera

- Hold down the Space bar and move the mouse (won't work in strategic view)

Defining camera locations (for example, over multiple bases, to rapidly jump around your map)

- **Shift-Tab** – add/save the current camera map position to a list of camera locations. You can record multiple positions. The focus, zoom, pitch and rotation are all recorded. However, if you have the Ctrl-V "cam_free" turned off (the default), pressing Tab to recall the recording will only move the camera to the position and will not adjust the pitch or rotation. If you enable "cam_free" (ctrl-v) and recall a position, the exact position the camera was in will be set.
- **Tab** – jump to the next saved camera spot in the list
- **Ctrl-Tab** – delete the current recorded camera spot from the list of recorded spots

Tracking a unit

If you select a unit and press **T**, the camera will constantly follow (i.e. track) that unit. Press **T** again (with the tracked unit selected) to turn tracking off.

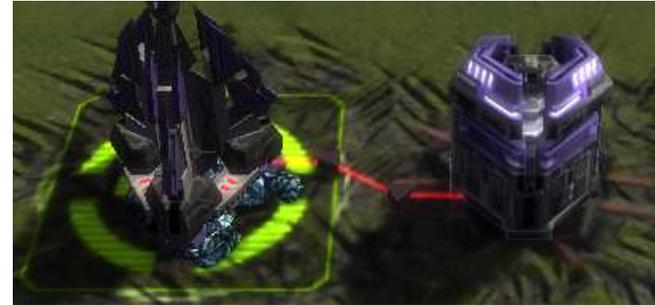
If running in dualhead/2-monitor mode, you can track on the 2nd monitor by using **Ctrl-Alt-T**.

Adjacency bonus concept

Most structures in the game consume resources - either Mass, Energy or both, even if they generate resources themselves. How much they consume depends on their function and their technology tier.

However, you can reduce this consumption with an adjacency bonus. This is accomplished by putting resource generators - of the resource type the structure consumes - right next to the structure. If a bonus is in place, you'll see an ethereal, colored conduit between the two units (a red line, in this example photo →)

This colored conduit indicates an adjacency bonus is in effect. If you put your cursor over the unit, you'll see a resource change indicated in the structure's info pop-up.



In this case, the Mass Extractor – which normally uses **-2** Energy units when digging out **+2** unit of Mass, will still generate **+2** but now only take 1 unit (**-1**) of Energy – so it's now cheaper to operate.



So it now takes less Energy to run that specific ME, just by building a Power Generator next to the Mass Extractor – yet the Power Generator will still generate it's normal power too. The adjacency bonus only affects adjacent structures, so building Power Generators instead at a remote location does not give any bonus.

Generally speaking, you want to put an Energy-producing structure next to an Energy-consuming structure in order to lower the Energy cost. Or place a Mass-producing structure next to a Mass-consuming structure to reduce the Mass cost of operation. Even putting an Energy Storage structure next to an Energy producer helps.

For example, factories consume Energy (and Mass) when they build. So building Power Generators next to the factory will actually reduce the amount of Energy the factory needs to build things. Notice that it doesn't make building faster per se, just reduces the build costs.

Putting Power Generators next to any Mass Fabricators is always a good idea.

Adjacency bonuses are something to experiment with, to see what combinations will give you the best benefits.

HINT: It sometimes helps to build more than one adjacent item, on different sides of the structure.

Upgrading

Upgrading – converting an existing structure for Tier **x** to Tier **x+1** – will increase the primary purpose of certain structures (causing damage, constructing units or generating resources), but also cause an increase in resource consumption. So, not only is upgrading itself expensive but – once upgraded – the operating cost is much higher too. You must be careful not to upgrade too much or too soon or your nicely balanced economy can come crashing down on you.

Not all structures can be converted and only those in Tech Tier 1 and Tech Tier 2.

Starting with betas after v49, there is a visual indicator displayed on the HUD if a structure can be upgraded, whenever you put the cursor over the structure.

Indicator →



To upgrade a structure, first select it and you'll get a factory-like build list that has the upgraded version in it →

(in the case of factories, there might be other build items in the current tier too).



Tell the selected structure to build that upgrade, just like with any other build queue item.

In the case of upgrading a factory to Tier **x+1**, you can feed the factory's build queue with Tier **x+1** unit build orders once the upgrading starts (but, of course, they won't be built until after the factory is upgraded). Engineers can assist a factory in upgrading, just like any other factory build process. A Tier **x+1** factory can still build Tier **x** units too, of course.

Customizing your Supreme Commander

Your Supreme Commander can be customized with special parts that make it the kind of war machine that you want.

To start customizing, select the Commander a.k.a. Armored Command Unit (**ACU**) and click on the Enhancement icon 

You'll see an image of your ACU, and different locations will be outlined. Click on any of these upgradeable location and a build list of enhancements will appear on the right side.

Note that only one upgrade per location (chest / right arm / left arm) can be in use at any time.

Here we see a Cybran Commander, with 3 different enhancements for its chest plate: You could also upgrade its left and right arms.

Put your cursor over any of the upgrades to get a description and cost for that upgrade. Let's look at the middle one:



Notice the amount of time (in minutes) it takes to do this upgrade and the cost to upgrade **and** the constant resource drain – under the Yield column – that will this upgrade will cause once it is built. In the case of the Private Cloaking Generator, there will be a constant drain of 500 Energy units as long as the shield is On.

Personal Cloaking Generator Back	
	Build Cost (Rate) -112500 (-750) -3000 (-20)
Yield -500 0	

The Personal Cloaking Generator allows their ACU to become invisible to Optical Sensors. Like other cloaking fields, it does not work against radar and is broken by Omni-Sensors.

Once you've selected what you want added, click on it and it will appear in the "To Build" queue below. You can queue up multiple upgrades...but given the amount of resources required for each, don't do so unless you have a very large economy in place.

NOTE: While upgrading, do not move or give the commander any orders or the upgrade will abort.

A progress bar will appear under the commander's health bar (unless you've toggled that feature off, with **Alt-L**) Plus, if you put the cursor over the commander, a pop-up will appear by the HUD that also shows the progress bar.

As you can see, these upgrades aren't cheap so always check the cost vs your economy consumption & generation before starting one.

Problems

As with any beta, we expect there are bugs. Here are the most common issues we've seen (as of beta v49), and some possible workarounds:

- **GPGNet won't start:** GPGnet uses Internet Explorer to launch the window with GPGNet in it. If you don't have IE, you can't run GPGNet. Also, if Microsoft Framework .NET 2.0 isn't installed, it may not start. .NET 2.0 should be installed along with the beta, but sometimes things block it from being installed (see "*Can't find MultiplayerClient.exe*" below on how to manually install it).
- **GPGNet won't let me make an account, or just does "....." and never goes anywhere:** Port 30340 and 30341 UDP are used by GPGNet itself for logging in. Getting the "....." or not being able to create an account can be caused by GPGnet not being able to connect to the server. Try opening those ports for UDP on your firewall. Note: GPGNet also uses port 9103 UDP for matchmaking and SupCom uses port 6112 configured for UDP, but they won't affect GPGNet not logging in.
- **Can't find MultiplayerClient.exe:** This is usually caused by GPGNet not installing for some reason. Usually, it's because Microsoft Frameworks .NET 2.0 isn't installed (or an incompatible version), that it somehow failed to install during the beta installation.. First step is to un-install the beta.
Try manually running the dotnetfx.exe .NET 2.0 installer from the beta download and then see if it shows up in the Windows Control Panel's "*Add or Remove Programs*" as **Microsoft .NET Framework 2.0**. If so, then re-install the beta – for this test, be sure to install in the default directory (you can re-install later, if it works). If that doesn't work, you may need to uninstall .NET 2.0 from your machine and download the latest .NET 2.0 from Microsoft.
If it was installed, or won't install, there must be a conflict with another application (anti-virus, maybe) keeping it from being properly installed. NOTE: If you have Windows **x64**, you might want to install the new .NET 2.0 for x64 users.
- **GPGNet says my key is in use, and I've never logged on (or only logged on once):** What this "in use" message means is NOT that someone is online right now with that key, but that the key has already been attached to a username. The key is bound to whatever username is typed in at the time when the key is entered. Chances are very good that you yourself did it, by spelling the username wrong the first time.
- **GPGNet says there's my account is already on:** The beta GPGNet may not have completely shut off last time. If you haven't powered off your computer since the last time you were on, bring up the Task Manager (by hitting Ctrl-Alt-Del) and click on the Processes tab. If you see one or more *GPG.Multiplayer.Client.exe*, then GPGNet is still running. You can safely select and end the process. Bear in mind that after dropping unexpectedly, it might take a few minutes for the service to realize this and reset, so wait a few minutes before trying to log back in.
- **Changing username / password:** Starting with v44, there are options to change these on the GPGNet login screen.
- **SupCom complains about not finding *D3Dx9_31.dll*:** Beta 44 and higher require the December 06 version of DirectX, or later. You can download the latest version of Direct X at <http://www.microsoft.com/windows/directx/default.mspx>.

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NOTE: Install this v9.0c version even if running Vista (which has DX10). Any file that already exists on Vista will not be overwritten (because it's a higher version) so 9.0c will only add missing files.

- **Create a DXDiag report, for including in bug reports:** Click on the Start button on the taskbar, then click on "RUN" then type *dxdiag* in the text window. Wait for the load bar in the lower left to go completely green, then click on the *Save All Information* button. Now merely type a filename – your GPGNet account + "dxdiag.txt" for example – and click on *Save*.
- **Patching never ends:** If GPGNet repeatedly tries to patch the beta, then the patch is possibly failing (on failure, the beta reverts to pre-patch status. In this case, one thing to try is to NOT do anything else on the computer – including going into the GPGNet chat room, until the patching is complete. Make sure nothing is running on the internet in the background, including streaming audio/video or torrents. You can also check and see if Patch.exe exists in either the Supreme Commander or GPGNet folder wherever you installed the beta. This is the actual patch file (normally removed once patching is done – you can try running this directly. NOTE: Modifying any files in the beta will likely make the patch system unsuccessful.
- **"Old file not found":** Often this is due to trying to manually patch a version that is already patched.
- **Video card drivers:** Please ensure you have the latest video card drivers. Common ones include Nvidia (<http://www.nvidia.com>) and ATI (<http://www.ati.com>) products.
- **Audigy sound cards:** Some players with Audigy sound cards have reported extremely poor performance. We are still trying to track down the issue (as of beta v30) and provide a good workaround, but if you have an Audigy card and/or experience slowness, try beta testing the game with */nosound* enabled. The easiest way to enable the */nosound* setting is from within GPGNet. Go to *Tools* → *Options* → *Supreme Commander* and enter */nosound* in the *CommandLineArgs* field. Another option, if you're so inclined, is to disable the sound card drivers for now and use the motherboard sound device if you have one.
- **Can't find MultiplayerClient.exe:** This is usually caused by GPGNet not installing for some reason. First, uninstall the beta. The most likely cause is that .NET 2.0 isn't installed, that it somehow failed to install during the beta installation. Try manually running the dotnetfx.exe file from the beta download and then see if it shows up in the Windows Control Panel's "Add or Remove Programs" as **Microsoft .NET Framework 2.0**. If so, then re-install the beta – for this test, be sure to install in the default directory (you can re-install later, if it works). If that doesn't work, you may need to uninstall .Net from your machine and download the latest .NET 2.0 from Microsoft (XP version at <http://www.microsoft.com/downloads/details.aspx?FamilyID=0856eacb-4362-4b0d-8edd-aab15c5e04f5&displaylang=en> while XP64 version at <http://www.microsoft.com/downloads/details.aspx?familyid=B44A0000-ACF8-4FA1-AFFB-40E78D788B00&displaylang=en>)
- **Resetting the game's graphics settings:** If you alter the resolution in-game and can't run any more, try deleting the **Game.prefs** file located at *Documents and Settings\[username]\Local Settings\Application Data\GasPoweredGames\SupremeCommander*

□ **The "black screen" issue, when you try to Host or Join a game:**

Several things can cause this, from simple blocking by firewall / anti-virus software to stack interference. We are currently investigating the causes of these (and there are more than one cause) – v49 implemented some possible fixes. Some folks have also had the problem go away if they remove or truly disable certain anti-virus programs. These may include:

AVG
CA Antivirus
eTrust EZ
Fix It utilities
McAfee Antivirus
NOD32
Panda Internet Security
Zone Alarm Suite

A few folks have reported removing (or regressing to an older version of) the latest version of *Kerio Personal Firewall* has solved this problem for them.

In the case of NOD32, you might be able to just do this:

In the NOD control panel, click IMON and click the "Quit" or "Stop" button.
Reboot and your TCP stack will be cleaned out and SupCom will work (AMON will still run).
When done, go back and Start IMON and restart again.

For advanced users only:

We've received some reports that the 'black screen' issue might be at least partially attributable to the **Nvidia ForceWare Network Access Manager**, which sometimes comes installed with NForce chipset motherboards and similar products. If you have this installed, try uninstalling it and evaluating your beta performance. Typically, you can re-install this software from the CDs or DVDs that ship with your hardware. **Please note** that this is an unsupported suggestion and we do not warrant any increase in performance. Moreover, please refer to the Terms of Service and the EULA before attempting to modify your hardware and software configurations.

- **Desync errors during gameplay:** This error is caused by a mis-match between the game files on one or more players. We believe that most of these occurrences are fixed in beta build v52 and later. They can still happen, due to the multiplayer being synchronous, but shouldn't happen often. It basically means that all the machines in the match do not have identical data any more.

NOTE: v49 has a bug in it that checked for SSE2 code in the processor, that resulted in those with processors that were above min-spec but didn't have SSE2 micro-code (basically, AMD processors before Athlon64), not able to interact with those that had SSE2. This is hopefully resolved now.....Desyncs can still (hopefully rarely) happen, but not due to this particular reason.

- **Hosting problems:** Open port 6112 for UDP.

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- ❑ **Crashing when keyboard is pressed:** This is still under investigation and hopefully is resolved for most people as of v49. We've also had favorable responses that by removing Dell QuickSet, or a shareware program called Stickies eliminated the problem, because the program was capturing the keyboard signal to allow user-configurable hotkeys. Others have said that holding down the Ctrl key (while the map is loading) prevents it, for them.
Please submit bug reports from GPGNet (**HELP**→ **Report a bug**) on this and include both DXDiag output and a list of what's running in the taskbar (including right-side icons).
- ❑ **Gray screen on SupCom startup, with DeviceD3D9.cpp error about out of RAM:** If you have the DirectX SDK installed, check to make sure it's not set to "debug" mode, which basically loads up about 3-4 x your video card RAM into System RAM. So, if you have a 512M video card, DX could be sucking up 2Gigs of system RAM – leaving very little for the beta.
- ❑ **GPGNet won't uninstall:** The un-installer in *Start button* → *All Programs* → *THQ* → *Gas Powered Games* → *Supreme Commander Beta* is strictly for the Supreme Commander files. To uninstall GPGNet, go to *Start* → *Control Panel* → *Add/Remove Programs* and look for GPGNet and remove it.
- ❑ **I can't find the Game.prefs file,**
- ❑ **I can't find the Replay file,**
- ❑ **I can't find *Documents and Settings*\[user]\Local Settings\Application Data\GasPoweredGames\SupremeCommander folder:**
The *Local Settings* folder is often hidden by Windows XP. To see it, first go to *Start button* → *Control Panel* → *Folder Options* → *VIEW Tab* and under the Advanced Settings, make sure the *SHOW HIDDEN FILES AND FOLDERS* button is "checked".

NOTE that for Vista, the location is: *Users*\[user]\AppData\Local\Gas Powered Games\SupremeCommander\replays

- ❑ **I can find a LastGame file, but not LastGame.SupremeCommanderReplay:** It's the same file. Windows often is set to hide the file extension of those it knows about. When you install the beta, the beta tells Windows that the .SupremeCommanderReplay file extension belongs to it. So, when you double-click on a file with that extension, it automatically launches *Supreme Commander*.
If you want to change this Window setting, you can – go to the Control Panel → Folder Options → "Hide Extension for Known Files Types" and uncheck the box.
- ❑ **How can I check my Windows Firewall:** The Windows XP Firewall can be examined by going to the Control Panel and clicking on the Windows Firewall icon. If it's Off, then you can stop now as the firewall isn't active (it's not be an issue).

If it's On, then make sure the "Don't Allow Exceptions" is unchecked.

Now click on the Exceptions tab. GPGNet should be listed here, as should Supreme Commander Beta.

Might also try doing this manually:

- Click on ADD PORT button
- Enter any name, enter 30340 and click on UDP then click OK
- Do the same thing for 30341

Key Bindings

Press **F12** key while in-game, to see most of these keys

Units

A	Attack (then click on target)
C	Capture (then Left-click on target)
D	Dive (submersibles only)
E	Reclaim (then click on target – ‘R’ is used for Repair)
F	Ferry (transports only)
I	<u>Guard</u> (then Left-click on unit to guard) / <u>Assist</u> (for engineers or factories, Left-click on unit/structure to assist)
L	Launch a tactical missile
M	Move (then Left-click to select destination). Same as Right-clicking with a unit selected
N	Nuke (then click on target – tell selected nuclear weapon to fire a nuke)
O	Overcharge (commanders only)
P	Patrol (then hold Shift down and Left-click the waypoints you want the unit(s) to go through
R	Repair (then click on target)
S	Stop (and cancel all orders)
U	Transport (done with a transport selected, then Left-click on unit(s) to carry)
Z	Pause a structure’s operation (stops resource use, as well)
Ctrl-K	Self-destruct selected unit(s)
Ctrl-N	Rename the selected unit (is not retained, when game ends)
[Units will return fire, but not pursue

Overlays

Ctrl-E	Toggle the Defense overlay on/off
Ctrl-R	Toggle the Economy overlay on/off
Ctrl-T	Toggle the Intelligence overlay on/off
Ctrl-W	Toggle the Military overlay on/off

Groups

#	Select Group #, where # is a digit from 0 – 9 (for example, press ‘1’ to select Group 1)
Ctrl-#	Assign all selected units to group #, where # is a digit from 0 – 9 (for example, press Ctrl-1 to create Group 1)
,	<i>The comma key</i> will move the camera to your Supreme Commander and select it
Alt-,	<i>Alt-comma</i> will select your Supreme Commander, but not move the camera
.	<i>Period key</i> will cycle through all in-game engineers, moving the camera to another each time the key is pressed
Alt-.	<i>Alt-period</i> will select the nearest <u>idle</u> engineer, but not move the camera there
Shift-.	<i>Shift-period</i> will select the nearest <u>idle</u> engineer and also move the camera there.
Ctrl-B	Select all engineers
Ctrl-.	Select all engineers currently on the screen
Ctrl-Z	Select all units similar to those currently selected
Ctrl-C	Select all units currently visible on-screen
Ctrl-A	Select all Air units
Ctrl-L	Select all Land units
Ctrl-S	Select all Sea (naval) units
Ctrl-X	Select all units on map
Ctrl-H	Select all factories currently on-screen
H	Select the nearest factory
Ctrl-Shift-A	Select the nearest Air factory
Ctrl-Shift-L	Select the nearest Land factory
Ctrl-Shift-S	Select the nearest Sea (naval) factory
Ctrl-Right-click	Set Formation on a group of selected units
Alt-Right-click	Attack Move
Ctrl-Alt-Right-click	Formation Attack Move

Game Speed (numeric keypad keys only)

*	Reset game speed to normal (0)
+	Increase game speed (maximum is 10)
-	Decrease game speed (maximum is -10)

UI Controls

Esc	Brings up the in-game menu
Ctrl-Alt-F1 Alt-UpArrow	Toggle the UI displaying on/off (turning it off is great for screenshots too) Move the UI from left side, right side, and bottom of screen. (Alt-DownArrow also does the same thing)
Pause	Pause the game (this is a toggle – press Pause again to un-pause the game)
Home End	Turn on split-screen mode Turn off split-screen mode
Alt-L	Toggle unit/structure life bars on/off
F2	Toggle the Score overlay on/off
Ctrl-F	Screen capture, generating a .BMP file – see <i>SupCom-specific</i> section for folder location.
F12	Toggle the Key Binding listings screen

Multiplayer

Enter Shift-Enter	All Chat; chat with <u>all</u> users Chat only with allies, if any – does All Chat if no allies are present (Enter and Shift-Enter functions can be swapped, by clicking on the boxes at the top of chat window)
PageUp PageDown	Scroll up chat window a screen/page at a time Scroll down chat window a screen/page at a time
Shift- PageUp Shift- PageDown	Scroll up chat window by 1 line Scroll down chat window by 1 line
F4	Toggle the Diplomacy window on/off (can configure to Share Resources here)
F11	Toggle Connectivity screen on/off (shows who's connected in-game and their ping)

Camera

Q	Zoom in (mouse wheel will also do this)
W	Zoom out (mouse wheel will also do this)
Shift-Q	Zoom in fast
Shift-W	Zoom out fast
cursor keys	Scroll the camera across the map (can also hold down the mouse-wheel button and move mouse)
Spacebar	Hold down and move the mouse to temporarily tilt the camera (doesn't work when zoomed out all the way)
V	Reset camera toggle. Press once to lock in default position, again to allow zooming in/out normally
Ctrl-V	Toggle "camera_free" mode on and off. When off, camera locks to whatever angle camera is at.
Tab	Jump to pre-recorded camera position (say, one over your main base)
Shift-Tab	Record current camera position. You can record up to 10 positions and Tab will cycle through them
Ctrl-Tab	Delete current recorded camera position
T	Track (i.e. follow) the selected unit with the camera. This is a toggle
Ctrl-Alt-T	Track selected unit on the 2 nd monitor (when running in dualhead/2-monitor mode only)
Ctrl-Shift-T	Track selected unit in the Strategic View

Basic Command Icons

Icon Key Command

Unit commands:



A Attack (then click on target)



C Capture (then Left-click on target)



D Dive (submersibles only)



E Reclaim (then click on target – ‘R’ is used for Repair)



F Ferry (transports only)



I Guard (then Left-click on unit to guard) / Assist (for engineers or factories, Left-click on unit/structure to assist)



Build a tactical missile



L Launch a tactical missile



M Move (then Left-click to select destination). Same as Right-clicking with a unit selected



Build a nuclear missile (available on a selected unit/structure that can launch nukes)



N Nuke launch (then click on target – tell selected nuclear weapon to fire a nuke)

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- O** Overcharge (commanders only)
- Production On/Off toggle, for Mass generators
- P** Patrol (then hold Shift down and Left-click the waypoints you want the unit(s) to go through)
- R** Repair (then click on target)
- S** Stop (**and cancel all orders**)
- U** Transport (done with a transport selected, then Left-click on unit(s) to carry)
- [Units will return fire, but not pursue

Overlays (default location is lower left side of HUD):



- Ctrl-E** Toggle Defense overlay on/off (you're blue, allies are green, enemies are red, neutrals are yellow)
- Ctrl-R** Toggle the Economy overlay on/off (display consumption/generation for all units/structures)
- Ctrl-T** Toggle the Intelligence overlay on/off
- Ctrl-W** Toggle the Military overlay on/off