



**Demo-viewer for SOF2 1.03**

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## **Foreword**

Welcome to ReFrag:2.

This document provides an introduction to ReFrag:2 and helps you getting started. This document does in no way guide you through *all* the features of ReFrag:2 ! You need to try ReFrag:2 out yourself to see all it has to offer.

For technical information such as cvars, commands and controls see appendices A, B, C and D at the end of this document.

There's a file called ReFragQuickguide.pdf in the ReFrag-folder giving a short introduction to the most commonly used function and controls.

## **What ReFrag:2 is... and is not**

ReFrag:2 is the predecessor to ReFrag v1, which was released on August 7<sup>th</sup> 2005.

ReFrag:2 is a mod designed solely for viewing those demos you can record using SOF2. A SOF2-demos is a recording of the action that happened when you played the game – and with ReFrag:2 you can re-live the action in exciting ways.

It's true that a SOF2-demo *can* be viewed using nothing but SOF2 itself but you will then have only little control. There are also plenty of scripts around in the SOF2 community to give you a few extra features like switching to thirdperson and rotating around the player-character but these are all very limited compared to ReFrag:2. ReFrag:2 can what such scripts can do and do much more ... and much better.

ReFrag:2 is a *programmed* modification to SOF2 the same way RocMod, OSP, Sof2-Ext and Goldrush are modifications. It is a modification (mod) that is made by reprogramming part of SOF2. But.... unlike the other mods mentioned ReFrag:2 is not a game-mod ! You cannot set up a server using ReFrag:2 and you cannot find servers where you can play ReFrag:2 !

## **Some definitions**

When I write <SOF2> then it means “wherever you have installed SOF2”. <SOF2>\ReFrag2\ is then the ReFrag2 folder your the SOF2 folder (wherever you have installed SOF2 :) The most common path to the SOF2 folder is 'C:\Program Files\Soldier of Fortune II - Double Helix' but you can have SOF2 installed elsewhere and that is why I in this document just call it <SOF2>.

When I say *SOF2-demo* I mean a demo recorded by SOF2 and not the freely available playable demo of the SOF2 game.

## **A note on SOF2 versions**

ReFrag:2 is for use with SOF2 1.03 ONLY !

- ReFrag:2 CAN ONLY play demos recorded by SOF2 1.03 (also called SOF2 Gold). Those demos have the extension .dm\_2004.
- ReFrag:2 CANNOT be used for demos recorded with SOF2 v.1.00, v1.01 or 1.02 !
- ReFrag:2 WILL NOT ever be able to play demos recorded with SOF2 v.1.00, v1.01 or 1.02 !

## **Features in ReFrag:2**

ReFrag:2 features a lot of things that you don't find in standard SOF2 or any SOF2 mod.

- Easy to use Windows-like interface with customizable colorsscheme.
- Interface with more than 15 subpages giving you info, help, settings and more.
- Quickmenu an quickkeys for fast changes.
- Most features can be changed by keyboard-shortcut too.
- Menu for selecting and starting demos.
- Full set of smooth thirdperson controls built in. Both mouse and keyboard. No need for oldfashioned huge scripts.
- Free-cam ability. Can also be used as in-demo spectatormode. Free-flying or player-tracking mode. 3 fly-speeds always available and can be changed.
- Missile-cam. Follow missile, grenade or even knife from any angle or distance and even rotate around it. Uses same controls as thirdperson. Have camera automatically return to player or stay at the explosion site.
- Death-cam for thirdperson. Camera freezes and shows your death a way normal SOF2 would never do.
- Camera can rotate sideways or even upside-down in many views.
- All views and movements can be given elasticity to make movement smooter (5 settings). You can even get the feeling that the camera is attached by rubberband.
- Built-in fov-control for any view.
- Built-in timescale control using both keyboard and mouse. Start, stop, slow down, speed up as easy as can be.
- Access Scoreboard at any time.
- Extended scoreboard showing playerweapons.
- Special miniscoreboard can show score and rank constantly for DM and team-games.
- Special fragcounter can show frags, deaths and spree.
- Built-in different HUD for ammo, weapon, health and armor.
- Set up to 128 Point-Of-Interest-points per demo so that you can always easily find the same spot again. POI's are automatically saved and reloaded next time you play the demo. You can add comments to POIs making it even easier to see what it was all about.

- Set up up to 128 camera-point interactively and fly smoothly between them. View can – while flying - optionally be focused on player or even a missile. Camera-files are automatically save and loaded next time you play the demo. Add comments to camera-points to make it easy to find your way back when you are about to make your Very-Good SOF2 movie ☺
- Set up up to 128 extra lights per demo. If a map is too dark and you need extra light to make a perfect screenshot then just add the light where you want it an with the intensity and color you want it. Lights are automatically saved and reloaded next time you play the demo.
- Clipping in thirdperson can optionally be turned off.
- Rewind feature. Go back a certain amount of time or even forward. You no longer have to restart the demo to view a scene again. Many preset intervals. You can even jump to the time of a Camera-point or a POI-point.
- Timeline showing position in demo as well camera-points and POI-points for easy Rewind or Fast Forward.
- Three customizable sound-volume setting that are accessible by one keypress. Control music sound volume from within ReFrag:2 too.
- Full screenresolution control. Three preset settings (customizable) for fast resolution change where settings are specified in scripts so it can be individually specified. Useful for moviemakers that want to use one screensetup for watching demos and another for capturing frames for movie.Change fov, brightness etc.
- Widescreen like mode intended for moviemakers. It's not true widescreen but it looks and feels like it.
- Tague screenshots as single screenshots or as automatic series.
- Options for making screenshots .tga or .jpg.
- Customizable name-format for screenshots.
- Use up to 8 userdefined scripts.
- Execute scripts at specific times in the video. Add up to 50 time/script entries using the AddExecAt command.
- Freely designable centered Frag-message that is easily readable i movie. All gametypes. Info such as attacker, victim, weapon, headshot, killingspree, score etc. can be added to the message.
- New-style obituary messages (the lines in the upper left corner). You can specify number of lines, how long they are shown, where they are shown (optionally centered). You can specify that only the player's frags are shown.
- Extended HUD control. Crosshair, Crosshairnames, Health, WeaponInfo display can be turned on/off seperately and independent of cg\_draw2d. Lets you change up to 19 options at once. 2 user-settings that are switchable by keypress as well as optional presets for screenshots and moviemaking.
- Turn off unwanted text (flag-captures etc.) on the screen without having to change cg\_draw2d.
- Optional bullet-tracers added to weapons that did not have them (e.g. the MP5).
- Optional extra amount of tracers.
- See enemies on radar.
- See player-positions with names of all players on the map.
- Control enemy-icons as well as team-icons. Using enemy-icons makes it easier to spot a wallhacker as you can see is he's looking at an enemy through a wall.
- Special aimline shows what everyone is aiming at. Useful for judging aim or for spotting wallhackers or aimbotters.
- Changeable skin for player, enemies and teammates. You can specify up to 5 skins for teammates and 5 for enemies or just use any of the standard 9 player-groups (Civilian, Columbian, Finca, Hospital, Marine, Prometheus, Shop, Snow or Thug). Player-skin can be changed or reset interactively from within ReFrag:2.
- Write your own centered text into the game (mostly useful for movies)
- Turn screen-shake on or off for explosions.
- Turn flash-bang on or off.
- Turn damage-indicator on or off.
- Turn World-draw or entity-draw on or off including players.

- Change speed of death-animations for fun.
- Stop death-animations prematurely to get fun-looking corpses.
- Change player size all the way from miniature to huge.
- Change crosshair settings including color and size easily from within ReFrag:2
- Crosshair names for enemies too.
- Easy way to invoke `cl_avidemo` for moviemaking.
- Follow other players than the recording one (only when close to recording player and no weaponanimation will be shown).
- Automatic logging of action (frags, sprees, chat, gametype, map, server etc.) to textfiles. Useful for finding interesting demos when making movies.
- Fixes OSP no-legswinging bug.
- Easily restore default setting if you mess something it up.
- Most features optional and customizable.

## Installing ReFrag:2

ReFrag:2 is delivered in a zip file. You must unpack ReFrag:2 and place the *ReFrag2* folder in your SOF2 folder (note that there is NO ':' in the *ReFrag2* folder name). When properly installed you have these **folders** and **files**:

- <SOF2>\
- ReFrag2\
  - description.txt
  - disclaimer.txt
  - ReFrag2Quickguide.pdf
  - ReFrag2Documentation.pdf
  - ReFrag2Logo.png
  - ReFrag2.pk3
  - ReFrag2Email
  - ReFrag2Forum
  - ReFrag2Website
  - ReFrag2Start.bat
  - ReFrag2WinStart.lnk
  - additional
    - demorec.cfg
  - data\
    - camera\
    - light\
  - demos\
    - ReFrag\_Testdemo.dm\_2004
  - screenshots\
    - scripts\
      - action\_1.cfg
      - action\_2.cfg
      - action\_3.cfg
      - action\_4.cfg
      - action\_5.cfg
      - action\_6.cfg
      - action\_7.cfg
      - action\_8.cfg
      - refrag\_autoexec.cfg
      - refrag\_defaults.cfg
      - screenmode\_1.cfg
      - screenmode\_2.cfg
      - screenmode\_3.cfg

When you have this setup you are ready to go !

## Starting ReFrag:2

Since ReFrag:2 is a real mod you can just start SOF2 and choose ReFrag:2 in the mod list. I do however recommend that you make a Shortcut that opens ReFrag:2 directly instead of opening standard SOF2 first.

I suggest you copy the shortcut <SOF2>\ReFrag2\ReFragStartWin.lnk to your desktop, right-click it, choose Properties and make sure that it points to "<SOF2>\SoF2MP.exe +set fs\_game ReFrag2". Remember to replace <SOF2> with the real path to your SOF2 folder.

**Warning:** When you're done using ReFrag:2 you should exit SOF2 completely – you should NEVER try to get into some SOF2 server from within ReFrag:2 ! The reason is that ReFrag:2 has added a lot of cvars and if you switch to another mod those ReFrag:2 cvars will be stored in the other mods *sof2mp.cfg*. This is not necessarily a problem but it can be because there is a size-limit on cfg files and a number-limit on cvars.

Recommended procedure for using ReFrag:2 is:

- Open ReFrag:2 directly using a shortcut as described above.
- When done with ReFrag:2 close SOF2 !
- If you then want to play SOF2 start SOF2 again the normal way...

## Entering ReFrag:2

When you start ReFrag:2 you are immediately shown a list of your available demos.

The ReFrag:2 demo menu



For a demo to be shown in the list you must copy it to <SOF2>\ReFrag2\demos\ before loading ReFrag:2. The list also shows demos found in the <SOF2>\base\mp\demos\ folder, but ReFrag:2 prefers having the demos in it's own demos-folder

You start a demo by simply double-clicking on it or by selecting it and then pressing the arrow at the top of the screen.

Your demo will now load and while loading you will see information about the demo, server, game as well as a progress-bar.

The ReFrag:2 loadscreen



The first time you enter ReFrag:2 you will be met by a welcome message.

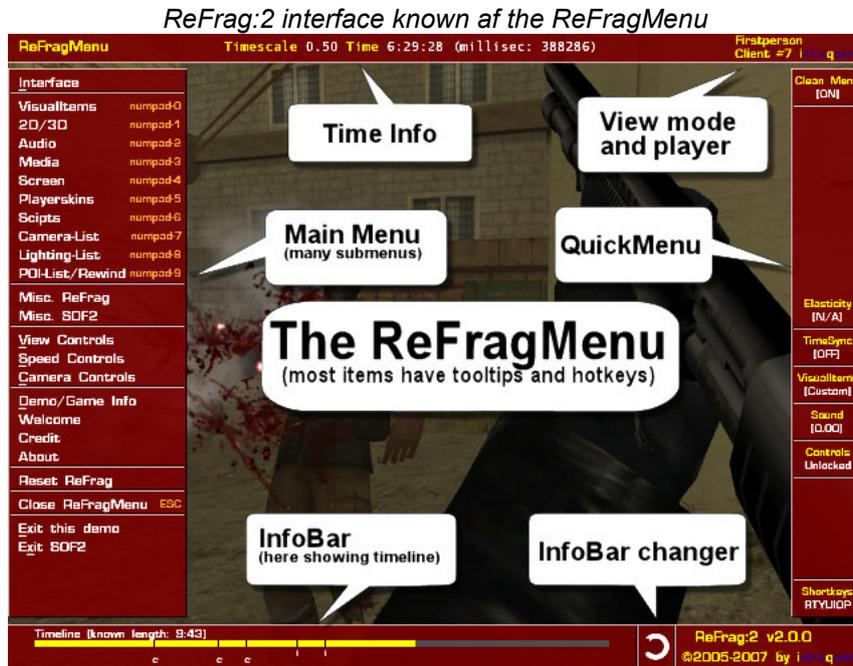
**IMPORTANT NOTES about demos:** Hardcore SOF2 users should be warned that with ReFrag:2 you should NOT start demos using the "demo" command in the console. Always start demos from the list of demos you are shown when you start ReFrag:2.

Also only use demos without spaces in the filename. Instead of "jor1 cbwar.dm\_2004" you should either name your demo "jor1\_cbwar.dm\_2004" (using "\_" instead of space), "jor1-cbwar.dm\_2004" (using "-" instead of space) or "jor1cbwar.dm\_2004". Just don't have spaces in the name !

## The ReFragMenu

The ReFragMenu is a Windows-like interface. You can click on things with the mouse and most things have explanatory tooltip. The whole ReFragMenu can be turned on or off as you wish. The ReFragMenu can be turned on/off using ESC, BACKSPACE or MOUSE3 or by selecting 'Close ReFragMenu' on the menu on the left.

You can always get back to the frontpage (see picture below) by pressing ESC or by clicking on the word in the top left corner.



The ReFragMenu has a bar at the top of the screen and one at the bottom. The two bars are always visible when the ReFragMenu is visible.

The top bar shows name of subpage on the left, time and timescale information in the middle and view-information on the right.



The bottom bar (InfoBar) can show timeline and other information. You switch between the information shown by clicking on the InfoBar changer.



*The Timeline showing 4 camera-points and 2 POI-points.  
Tooltip shows info about the POI-point under the mouse-cursor.*

**POI point at 5:51:33 (millisec: 351339)**

**Comment: Shottykill in midair**

**Press CTRL and click on the line to rewind/fastforward to that POI-point**



The ReFragMenu also either shows the MainMenu on the left together with the QuickMenu on the right .... or shows a selected subpage.

The MainMenu



The QuickMenu



Subpages can be accessed by either selecting a menuitem on the left MainMenu or in some cases by a keypress.

Below is shown one of the simpler subpages – it's one of the subpages just showing information. Notice that the top bar and bottom bar are visible but the MainMenu and the QuickMenu are not. To close the subpage and return to the MainMenu and QuickMenu either press ESC or click on the word (the subpage name – here "Demo/Game") in the top left corner of the top bar.

Simple subpage showing information



## **Keyboard and mouse**

When using ReFrag:2 you can use keyboard and mouse to change views and setting and to execute commands and scripts as well as to maneuver around in the ReFragMenu interface.

One sideeffect of having ReFrag:2 using the keyboard so much is that you cannot bind keys to functions in the normal way using the "bind" command. With ReFrag:2 the keyboard functions are the same for all and not changeable by the user. The fact that you no longer can use "bind" to execute commands can be seen as a limitation but doing it this way solves a lot of problems. You can still get ReFrag:2 to execute your own scripts as you will see later.

Not all the keys on the keyboard are used by ReFrag:2 but some of the used keys are used for more than one thing. The keys are often used in combination with CTRL, SHIFT and ALT which changes the way the key works. Furthermore some keys work differently (or not at all) when the ReFragMenu is shown.

Almost every keyboard.- and mouse-function is documented directly in ReFrag:2 on either the subpages or in the tooltips that are shown when you point to elements of the ReFragMenu. The full list of controls used by ReFrag:2 can be found in Appendix D at the end of this document.

## **Before you really begin**

ReFrag:2 adds a lot of cvars. Cvars are variables used for holding information and status while you're using ReFrag:2 and are stored in the sof2mp.cfg file in the <SOF2>\ReFrag2\ folder between sessions. These cvars control how ReFrag:2 functions and if you experiment a bit you may find yourself in a position where you wished you could start all over. Normally that would require that you delete your sof2mp.cfg but with ReFrag:2 there is a better way. You can simply type the command "ResetReFragCvars" in the console and all ReFrag:2's own cvars will be returned to their default state.

If you use the "ResetReFragCvars" command often you but have some settings you would like to keep then you should put those settings in a script and place it like this : <SOF2>\ReFrag2\scripts\refrag\_defaults.cfg. ReFrag:2 will execute that file after doing ResetReFragCvars.

If you want to see the value of all ReFrag:2's cvars you can use the command ""ListReFragCvars".

# The SubPages

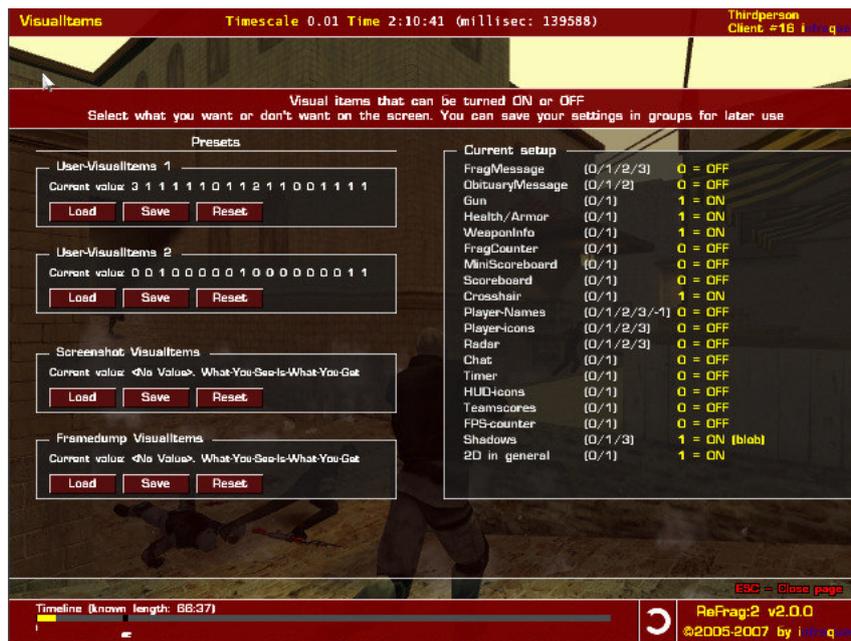
## Interface SubPage



The *Interface* subpage gives information about some of the commands used for manouvering the interface.

This is also where you can turn visual feedback and auditory feedback off if you should want to. The visual feedback is simply messages that you get at the top of the screen when you change some setting. Auditory feedback is used when you start and stop something that (e.g. framedumping) that can not be shown visually. You only get auditory feedback if sound is not turned off !

## VisualItems SubPage



The VisualItems subpage lets you turn on or off many things at once. The things that can be turned on or off can be seen in the list on the right. Simply click on them to make a change.

The entire list can be stored in the 4 groups on the left. At all times while watching a demo you can switch between the two top groups by pressing the F12 key.

The third group is for screenshots. If it's set to something (i.e- not showing What-You-See-Is-What-You-get) then that setting will be applied every time you take a screenshot. If it's not set then your screenshot will show what you see.

The fourth group is for framedumping. Framedumping is taken a series of screenshots with the purpose of later making a them into a movie. As with screenshots the setting is only used if it's set to something. Otherwise the screenshots will just show what you see.

You can load the current settings from any group and save the settings to any group. The reset-buttons reset the groups to the default settings.

It can seem strange to have these groups but if you're making screenshots or movies it's nice to be able to control what is on the screenshots and what is not and thus avoid mistakes or retakes. The two user-groups makes it extremely easy to switch between two settings. Imagine you sometimes want fragmessage, obituarymessage, fragcounter, miniscoreboard and gun and sometimes just want gun and fragmessage. First you turn on fragmessage, obituarymessage, fragcounter, miniscoreboard and gun on the left and save it as User-VisualItems1. Then you turn it off again and only leave gun and fragmessage on ... and now you save this as User-VisualItems2. You can then load these settings any time or you can switch between them at any time using F12.

*Some of the VisualItem options demonstrated. All are optional and customizable.*



## 2D/3D SubPage



ReFrag:2 has special features that are both for fun and for practical purposes.

**HUD Look** - lets you switch that normal SOF2 hud and a more futuristic HUD.

**Tracers** - Tracers are lines showing where your bullets flies and hits. You can here change the amount of tracers and decide if you want tracers on weapons that du normally not have them. *Note that certain weaponmods or effectmods used can cause this not to work !*

**ReFrag Trail** – This is just a special form for tracers. *Note that certain weaponmods or effectmods used can cause this not to work !*

**ReFrag Aim-line** – The aimline is a line drawn from your weapon to where you aim. It's a fun way to judge your aim or it can be used for spotting cheaters using aimbots or wallhacks.

**Allow Camerashake** – Turn this off and there will be no comeshake ehnr something explodes.

**Allow Flashbang** – Turn this off and you will not be blinded by flashbang grenades.

**Allow Damage Indicator** – Turn this off if you don't want the damage indicators that normally show from which direction you are being shot or otherwise hurt.

**Draw World** – Allows you to turn off the drawing of buildings etc.

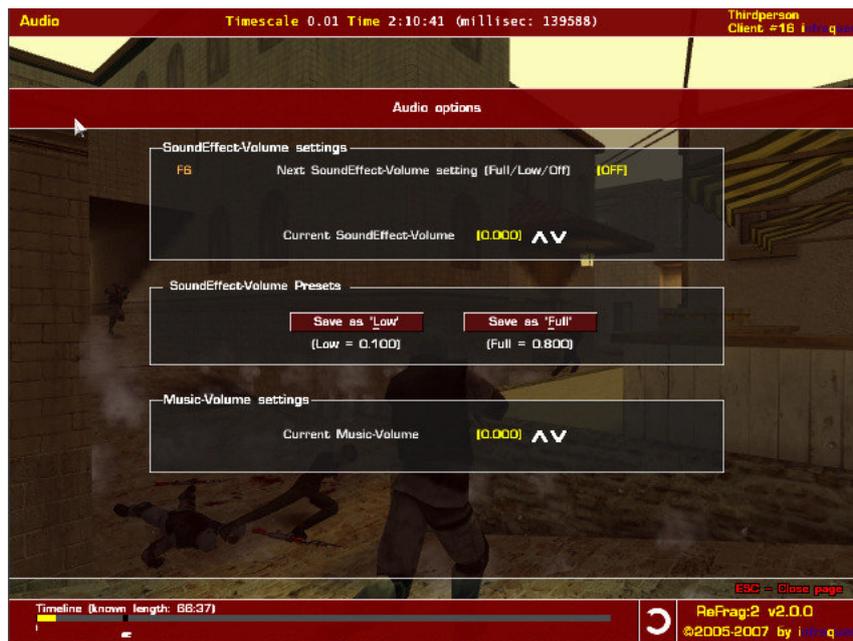
**Draw Entities** – Allows you to turn off the drawing of players etc.

**ShowTris** – Allows you to see the wireframe that makes up players and buildings. This only works if you use the developer-version sof2mpdev.exe instead of the normal sof2mp-exe !

**ShowNormals** – Allows you to see white “spikes” on player and weapon models. This only works if you use the developer-version sof2mpdev.exe instead of the normal sof2mp-exe !

**Thirdperson Clipping** - When clipping in ON there will never be anything blocking the view of the player or missile in sphere-view. Turning it OFF means that the sphere-camera stays at a constant distnce from the camera even if a wall or some other player gets in the way.

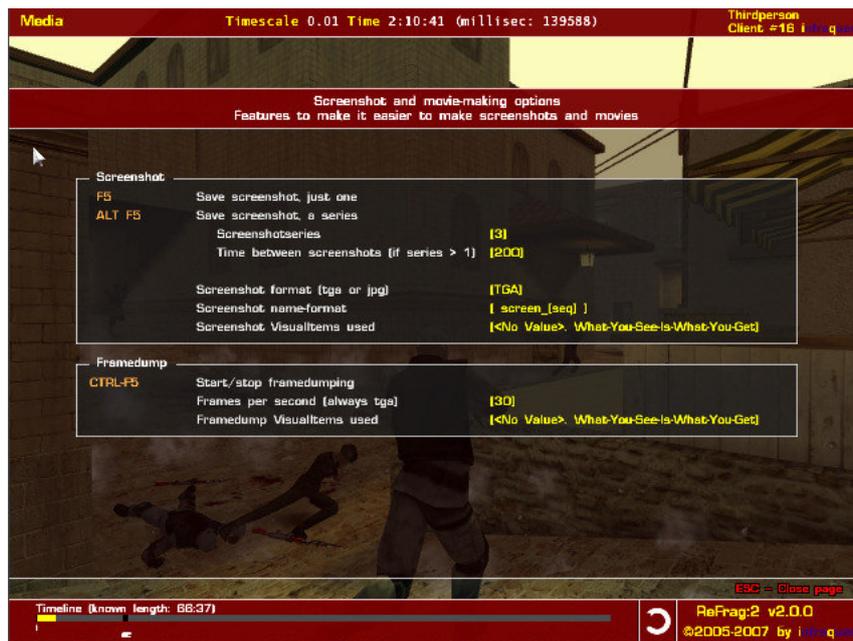
## Audio SubPage



Here you can adjust game sound-volume as well as music sound-volume.

You can also preset a special “low” value and “full” value. You can the at all times switch between low, full and sound-OFF using the F6 button.

## Media SubPage



Here you find options for normal screenshots and framedumping (moviemaking).

You can take single screenshots using F5 or a series of screenshots using ALT-F5. If using a series you can set up how many pictures and how far between.

Screenshots can be stores as jpg or tga files. Jpg files are smaller (compressed) but tga has slightly better image quality.

You can define the screenshot filename using many tokens such as [player],[map],[demo],[nowdate],[nowtime],[nowmilli],[demotimestamp],[demotime],[mod],[gametype] and [seq]. The default setting is "screen\_[seq]" which means filenames like screen\_000001, screen\_000002, etc.

For framedumping you can set how many frames per second (gametime) that should be generated.

## Screen SubPage



Here you control screen resolutions and other screen attributes.

In the top left is the Widescreen option. It does not give true widescreen but a sort of simulated widescreen meant for moviemakers. It removes part of the top and bottom and reduces the size of the weapon in firstperson accordingly. There are three presets of which "4:3" is the normal setting.

In the lower left corner you can play with the FOV setting (field of vision). Remember that ReFrag:2 keeps a setting for every view, so if you change FOV while in firstperson view it does not affect the view in thirdperson on any other view.

In the lower right corner you can adjust the screen brightness.

In the top right corner you can select screen resolution. Every resolution SOF2 handles is there in both fullscreen and windowed. There are three presets that you can use or change. The three button executes the scripts screenmode\_1.cfg, screenmode\_2.cfg or screenmode\_3.cfg in the scripts folder. You can change these scripts anyway you like.

Below you see a screenshot in the normal 4:3 aspect ratio and one with 16:9 ratio. Notice that size of the gun in your hand is smaller to make the widescreen illusion even better.

*A screen at normal 4:3 aspect ratio*



*Same screen at 16:9 aspect ratio*



## Skin SubPage



*This is DM so it does not show skins for teammates*

Here you can change the player-skin of the main player or the skins of team-players or enemies.

The skin of the main player is changed on the right or by using the F8 key. The skins of teamplayers on enemies are changed on the left where you have the normal nine SOF2 groups as well as a group you can define yourself.

Any changes can of course be reset at any time.

## Script SubPage



ReFrag:2 allows you to have 8 scripts that you can use for anything that you like. They are located in the scripts- folder and are named action\_1.cfg .. action\_8.cfg. You can execute these scripts by clicking on them here or by using the keyboard shortcut.

## Cameras SubPage



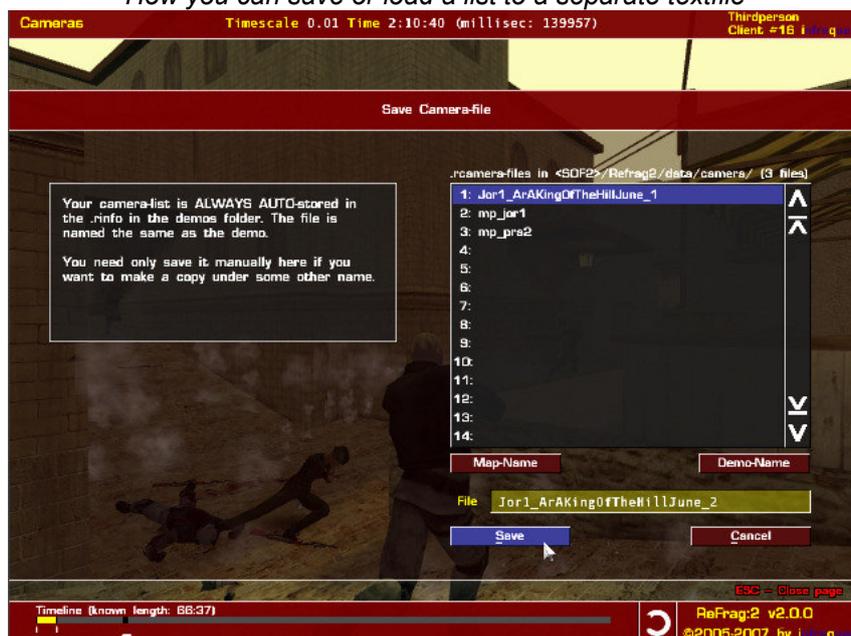
You can set up to 128 camerapoints and have the camera fly between them. You can control the view-angle or have the camera focus on a player, a missile or a fixed point while flying. If you fly the camera timed it will rewind or fast forward to the exact time stored in the marked camerapoint and fly from there. Camerapoint attributes can be changed either by saving current position or time onto an existing camerapoint or by clicking the attribute and typing the value.

You can set camerapoints using this page but you can at any time press the SHIFT-INSERT button on the keyboard to make a new camerapoint or use SHIFT-DELETE to delete the latest made. You can use SHIFT-PGDN and SHIFT-PGUP to move to next or previous camerapoint and use SHIFT-HOME to load it.

Camerapoints can be stored to a separate textfile if you want but normally they are automatically stored in the .rinfo associated with the demo and thus placed in the demos folder.

Camerapoints will be visible on the timeline.

### How you can save or load a list to a separate textfile



## Lights SubPage

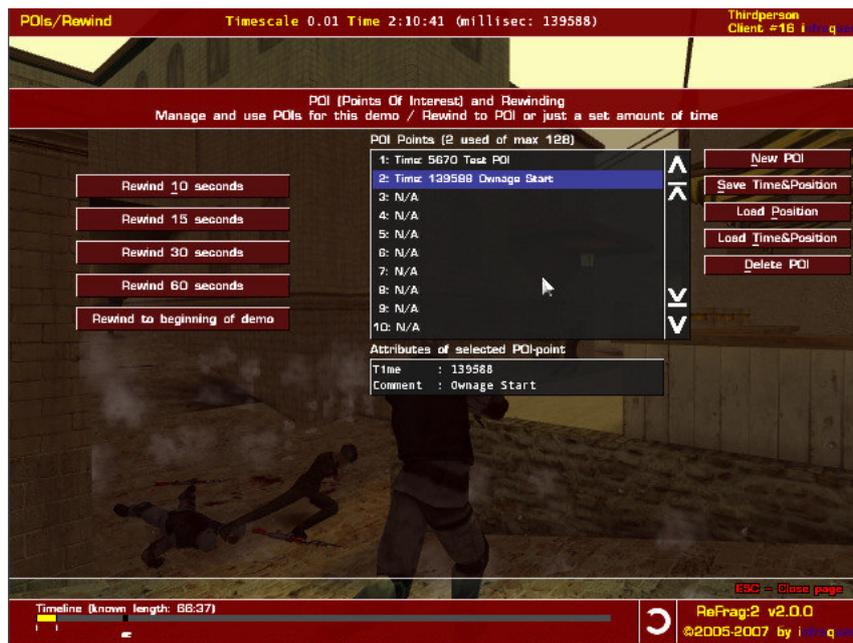


You can define extra lights for the scene. You can set up to 128 lightpoints and customize the intensity or color as you like.

Lightpoint attributes can be changed either by saving current position or time onto an existing lightpoint or by clicking the attribute and typing the value.

Lightpoints can be stored to a separate textfile if you want but normally they are automatically stored in the .rinfo associated with the demo and thus placed in the demos folder.

## POI/Rewind SubPage



POIs are Points Of Interest and simply means times and positions in the demo that you would like to see again later. It could be scene of a great frag for instance. You can store up to 128 POIs per demo and even add meaningful comments to them so they are easier to recognise.

You can set POIs using this page but you can at any time press the INSERT button on the keyboard to make a new POI or use DELETE to delete the latest made. You can use PGDN and PGUP to move to next or previous POI and use HOME to load it.

POI-points are automatically stored in the .rinfo associated with the demo and thus placed in the demos folder.

POI-points will be visible on the timeline.

You can jump directly to a POI in time and place or you can simply rewind the demo a bit or to the beginning if there's something you want to see again.

## Misc. ReFrag SubPage

Misc. ReFrag Timescale 0.01 Time 2:10:48 (millisec: 140032) Freecam

Miscellaneous ReFrag options  
Special ReFrag features that can only be changed directly on CVAR-level

Move Speed for freecam	
Free MoveSpeed	400.00
Free SpeedFactor A (SHIFT)	0.30
Free SpeedFactor B (ALT)	2.00

Chat-text options	
Chat position	X 35, Y 380
Chat time and lines	Time 8000, Lines 5
Chat scalefactor	1.00

Move Speed for thirdperson and missile-cam	
Sphere MoveSpeed	100.00
Sphere SpeedFactor A (SHIFT)	0.50
Sphere SpeedFactor B (ALT)	2.00

Center-text options (including fragmessage)	
Centerprint position	70
Centerprint time	4000
Centerprint scalefactor	1.00

Missile-cam and death-cam options	
Auto Missile-Cam	0
Stay With Missile	2000
Auto Death-Cam	1
Stay With Dead	2000

Obituary-text options	
Obituary position	X 5, Y 1
Obituary time and lines	Time 4000, Lines 5
Obituary scalefactor	1.00

Body options	
Death Animation Speed	1.00
Death Animation Start/Stop	0.00, 1.00
MaxBodies	-8
Bodies kept	0
PlayerScale	1.00

MiniScoreboard options	
MiniScoreboard position	X 0, Y 210
MiniScoreboard max-players	20

CrosshairNames options	
CrosshairNames position	Y 0

ESC -> Close page

Timeline (known length: 86.37)

ReFrag:2 v2.0.0  
©2005-2007 by i337, qmoo

There are many settings in ReFrag:2 that you normally seldom change and there has been made no real interface for you to change them. On this page you can see their current value and you can change them by changing the associated cvars (see the tooltips when you place the mouse-pointer on them).

## Misc. SOF2 SubPage



This is just a page that allows you to easily change the crosshair and its color and transparency.

## View Controls SubPage



You switch between different views using the keys shown.

You use 4 to set a freecam where you are right now and using 3 you can later get back to that spot. Note that you cannot use missile-view unless there is a missile close by (grenade, m205, knife etc.).

The elasticity is about how softly the camera should move and higher values gives softer movement.

Timescale sync means whether movement speed follows the timescale (playback speed) or not.

## Speed Controls SubPage



With these controls you control the speed of the demo playback. Far the easiest way is using the scrollwheel on the mouse.

Note that even if you freeze the demo using F1 the demos does not stop completely but actually runs slowly on ! This is a limitation of SOF2 and the Quake3 engine and cannot be changed.

## Camera Controls SubPage

Camera controls Timescale 0.01 Time 2:10:41 (millisec: 139588) Thirdperson Client =18 i q

Camera Controls  
Keys that you can use to move the camera - Only works when the ReFragMenu is not visible

Controls that work in all views		Controls specific to Thirdperson-/Missile-view	
CTRL-MOUSEMOVE	FOV	MOUSEMOVE	Rotate freely
CTRL-numpad-Plus	Decrease FOV	ALT-MOUSEMOVE	Offset Left/Right
CTRL-numpad-Minus	Decrease FOV	SHIFT-MOUSEMOVE	Range
CTRL-numpad-ENTER	Reset FOV	numpad-1, numpad-2	Rotate Up, Rotate Up
Controls specific to FreeCam-view		numpad-3	Reset Up/Down Rotation
MOUSEMOVE	Look freely	numpad-4, numpad-5	Rotate Left, Rotate Right
W or UpArrow	Forward	numpad-6	Reset Left/Right Rotation
S or DownArrow	Back	numpad-7, numpad-8	Offset Left, Offset Right
A or LeftArrow	Left	numpad-9	Reset Left/Right Offset
D or RightArrow	Right	numpad-Numlock, numpad-/	Offset Up, Offset-Down
C	Down	numpad-*	Reset Up/Down Offset
SPACE	Up	numpad-Minus, numpad-Plus	Decrease Range, Increase Range
Q	Roll Left	numpad-ENTER	Reset Range
E	Roll Right	numpad-DEL	Reset All the above + FOV
Z	Reset Roll angle to 0	SPACE	Reset All the above + FOV

ESC - Close page

Timeline (known length: 86:37) ReFrag:2 v2.0.0 ©2005-2007 by i337, q337

In freecam view and thirdperson- and missile-view you can control the camera using keyboard and mouse. These are the controls you can use.

## Demo/Game Info SubPage



The screenshot displays a game demo viewer interface. At the top, a red status bar shows 'Demo/Game', 'Timescale 0.01 Time 2:10:41 (millisec: 139588)', and 'Thirdperson Client =16 1 q'. Below this is a red banner with the text 'Info about the recorded demo that you're watching'. The main view is a third-person perspective of a character in a combat environment. A semi-transparent window titled 'Demo/Game Information' is overlaid on the center, listing the following details:

Demo/Game Information	
Demo	Jor1_ArAKingOfTheHillJune
Server	.ArA/>OSP   PUBLIC
Pure	YES
Mod	OSP v1.0h
Map	maps/mp_jor1.bsp (Jordan Market Siege)
Game	Deathmatch (dm)
TimeLimit	60
ScoreLimit	N/A
FriendlyFire	N/A
Punkbuster	OFF

At the bottom of the viewer, there is a 'Timeline (known length: 66:37)' bar on the left, a 'ReFrag:2 v2.0.0' logo in the center, and a copyright notice '©2005-2007 by [unreadable]' on the right. A red 'ESC - Close page' button is also visible in the bottom right corner of the viewer area.

This page shows information about the demo, the game and server settings for this particular demo.

## Reset ReFrag SubPage

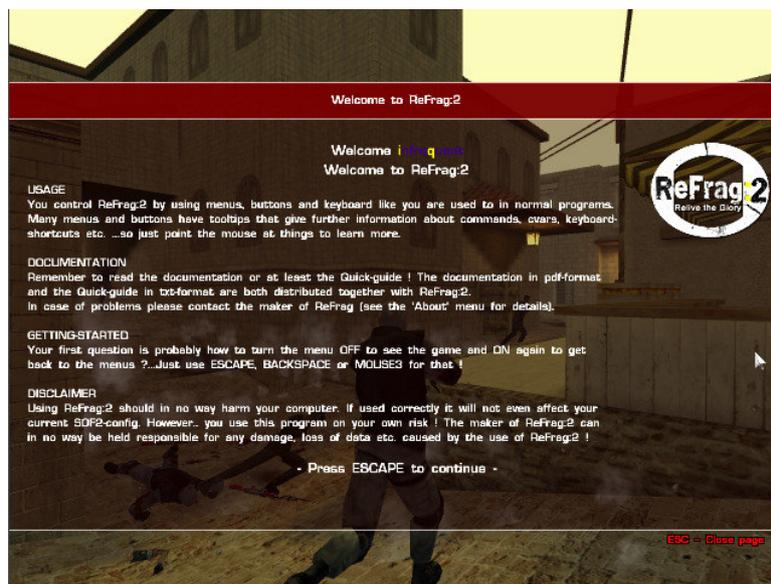


If you mess up the ReFrag settings you can use this page to reset either all on the view-part.

Resetting view resets all cvars related to the views.

Resetting ALL will be like starting all over and you will even get the welcome message again.

# Welcome, Credit and About SubPages



These three pages give information about ReFrag:2 and those having contributed to it. The Welcome subpage is the same page you see the first time you run ReFrag:2 or after resetting ReFrag:2.

## **What is a SOF2-demo really ?**

SOF2 is a game based on the Quake3 engine. It basically has the same demo-recording features as Quake3 and other games based on Quake3 (like RTCW, COD, ET, JK2 etc).

It's a common misunderstanding to think that a recorded demo is some sort of movie – it's not ! On forums it's not uncommon to see people ask questions like "how do I convert my demo to .avi ?". You *can* make movies based on demos but not by *converting* them. You can make movies by *replaying* the demo and then record the action you see on the screen into a movie-

A sof2-demo (or just demo) is a recording of the action that happened while a game was played. It is a recording of the communication between the server-part of the game and the client-part of the game. If you record a demo while playing over the internet the demo is more or less a recording of the data sent your computer and the server that hosts the game. A demo is not a *complete* recording meaning that it does not contain *everything* that happened all around the map, but it does contain everything that happened around the player who recorded the demo. The fact that a demo does not contain *everything* does have some significance, but more on that later.

When you replay a demo you see the action that happened. You either see through the eyes of the player who recorded the demo or you see it in thirdperson meaning you see him from the outside. You cannot do much more than that – except when you use ReFrag:2 !

## **Demos recorded using other mods**

Since ReFrag:2 is a mod itself and since you cannot combine features from different mods you may ask yourself how you use /RocMod/Goldrush/OSP/etc. demos together with ReFrag:2 ?

Playing demos from other mods using ReFrag:2 is not really the problem. The demos recorded by all the mods are the same format. The problem is that other mods like Goldrush and RocMod come with their own files such as maps, sounds, skins and such. If these items are not available to ReFrag:2 it cannot show them in the demo. If you used skins that ReFrag:2 does not have access to it will instead use other skins. The same goes for special HUD's from mods – ReFrag:2 will show the one from your SOF2 installation instead. .... and if you want to play a demo recorded while playing Goldrush on a map that does ONLY exist in Goldrush then you have a problem ! A solution to this problem will often be to extract the necessary files from the other mods pk3 files and place them in either <SOF2>\refrag2\ or in <SOF2>\base\. Doing this may be considered a violation of copyright and I will not show you how to do it.

Certain heavily modified SOF2 mods change so much that they cannot be viewed in SOF2 very well. This is true for UNF104 and a few other. Mods like rocmod and osp generally work fine.

## **How to record your own demos**

To use ReFrag:2 you have to have some recorded demos to view. Either some you recorded yourself or some recorded by others. If you need a demo to test ReFrag:2 on then there is demo installed with the ReFrag:2 package. It's \refrag2\demos\pra2\_testdemo.dm\_2004. This demo has knife- and grenade-throw so you can test the missile-view feature.

Here I'll tell you how to record a demo if you do not already know. ReFrag:2 does not help you with that because ReFrag:2 is all about viewing the demo, not about recording it.

To start recording a demo you have to be in a game and you have to execute these three commands:

1. `g_synchronousClients 1`
2. `record`
3. `g_synchronousClients 0`

To stop the recording you execute these this command:

1. `g_synchronousClients 0`
2. `stoprecord`

Doing this manually is too much work so use a script for it ! I have provided such a script in ReFrag:2 folder. You can find it in <SOF2>\refrag2\additional\demorec.cfg. Copy it to \base\mp\demorec.cfg and when you need to use it the first time you type "exec demorec" in your console. You can now start recording and stop recording simply by



## **What are those files ?**

ReFrag:2 creates and writes data to some files while you're watching demos.

### **Log**

Every time you play a demo ReFrag:2 logs it to the file <SOF2>\refrag2\ReFrag.log. In this file you can see what demos you watched when.

### **.rinfo**

For every demo watched ReFrag:2 also makes a file in the <SOF2>\refrag2\demos\ folder. The file is named the same as the demo you're watching and has the extension .rinfo. If the demo was called demo0052.dm\_2004 then the .rinfo file will be called demo0052.rinfo. The .rinfo file is used by ReFrag:2 to store information about length of demo, list of POI-points, camera-points and light-points. ReFrag:2 reads the information in this file back the next time you watch that demo. If you watch a demo that is placed in <SOF2>\base\mp\demos\ the .rinfo file will end up in <SOF2>\refrag2\demos\ which is why it's recommended that you move demos to <SOF2>\refrag2\demos\ before watching them.

If you have made some camera-points or POI-points in a demo and want to show something in the demo to a friend then just send him both the demo and it's .rinfo file and he will be able to see exactly what you saw.

## **Bugs in ReFrag:2**

Does ReFrag:2 contain any bugs ? Yes, I'm 100% sure it does. However ..... ReFrag:2 is stable and I have not been able to crash it for months.

You might not encounter any bugs but if you do then feel free to report it in email to [infrequent@mail.dk](mailto:infrequent@mail.dk) or to stop by and report it in the forum at <http://infreq.vores-web.dk>.

Besides possible bugs there are a number of things in ReFrag:2 being handled less-than-perfect. This is mostly because ReFrag:2 is made as a clientside mod and thus is subject to the limitations imposed by the SOF2 engine. It is also limited what information is available in a recorded demo and that affects ReFrag:2 as well. Some examples:

- Not all demos can be played. Demos recorded in heavily modified mods using special features or very special files may or may not work. Even if the demos can be loaded they may not function as expected.
- The OSP mod has a way of sending data that causes frag-detection and score-counting not to work. ReFrag:2 can work around it in many demos but in some demos the fragmessage, obituarymessage and scoreboard will not work correctly.
- Stopping a demos does not stop it completely ! Although the picture is frozen the demo runs slowly on. This cannot be fixed.
- Rewinding is done by restarting the demo and running it very fast until it reaches the right point. Real rewind is not possible until the soudcecode for the SOF2 engine is released – if ever.
- Scoreboard is only updated a few times a minute in demos and this the shown information is seldom exactly as when the game was played. ReFrag:2 compensates for it as much as possible though.
- Following other players is not really possible in a recorded demo. A demos is a recording of only the main players actions and data. When you let ReFrag:2 follow another client than the recording one then a few things change:
  - The other client cannot be followed all the time but only when he is close to the recording player. When the other client is far away from the recording players there is NO information about him or his position in the demo and thus nothing to show.
  - In firstperson view weapon and weaponanimation cannot be shown. The needed information is simply not present in the demo.
  - No status for health, armor or ammo can be shown. The needed information is simply not present in the demo.

## **Support**

There is a forum on <http://infreq.vores-web.dk> where you can report any kind of problem with ReFrag:2. The problems will be looked into as soon as possible if other users of the forum cannot give the solution.

## **Disclaimer**

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## Appendix A - Concept-understanding

To understand some the description of the ReFrag:2 features in later chapters you need to have knowledge of some of the basic terms used when talking about ReFrag:2, SOF2 and demos.

- **Main Player** - Main Player is used for describing the player that is the focus of the demo. It's typically the player who recorded the demo. Most view-functions operate on that player although the view can be switch to other players under certain circumstances. Main player is also called the recording player in this document.
- **Timescale** - The speed with which the demo runs. A timescale of 1 means normal speed. Timescale 2 means double speed and timescale 0.5 means half speed. In SOF2 and other Quake3 based games there really is no timescale 0 to stop the demo, but you can slow it down a lot and freeze the picture.
- **HUD** - The things that is drawn on top of the picture. In this document HUD covers most of the 2D things such as text, healthbar, ammo-box, icons, crosshair etc.
- **ReFragMenu** - The ReFragMenu is the main ReFrag:2 graphical interface. When you turn it of you see just the SOF2 gameplay. When you turn it on it's drawn on top of the SOF2 gameplay.
- **QuickMenu** - The QuickMenu is the right side of the ReFragMenu where certain options are easily changeable. Options on the QuickMenu includes sound-volume, view-elasticity, timesync, visualitems and control-lock.
- **POI** - Point-Of-Interest. A situation (time and position) in a demo that you consider interesting. POIs can be marked, saved and later retrieved and reviewed.
- **Identity** - skin that the player is wearing.
- **Script** - A textfile containing commands. A script can be executed using the "exec" command which executes every command in the textfile in turn.
- **Controls** - Controls are the input devices you can use for controlling ReFrag:2. Controls are simply keyboard and mouse in this context.
- **Cvars** - Cvars are variables that you can set to some value and that the game uses to change the way it acts or to change what it shows you. Standard SOF2 has lots of cvars and you can find most of them in sof2mp.cfg. ReFrag:2 adds a lot of cvars too. A cvar keeps it's value even when you quit the game so it is remembered next time you start the game. All cvars added by ReFrag:2 starts with the letters "rf\_".
- **Commands** - Commands are a way of telling the game to do something right now. Commands can be given in the console or added to scripts. ReFrag:2 adds about 40-50 commands.
- **Firstperson-view** - a view where you see through the eyes of the player. Firstperson view is simply the way you see when you play a game.
- **Thirdperson-view** - a view where you watch the player from outside like in the picture below. In thirdperson you can rotate the "camera" around the player.
- **Freecam-view** - a view much like standard spectator mode, where you can fly freely and watch the action from any angle.
- **Missile-view** - a view much like thirdperson-view but where you follow a "missile" instead of a player. "missile" is used a term that covers any kind of flying object in the game. Thus missile can be RPG missile, M203 granade, any handthrown granade and even knife.
- **Sphere-view** - Sphere-view is sometimes used for describing a view where there is an object that the camera is attached to and where you have yaw, pitch, horzoffset, vertoffset and range controls for placing the camera relative to that object. Both thirdperson-view and missile-view are sphere-views in that respect.
- **Transition-view** - Transition-view is used for describing the view when the camera is flying between camera-points made with the Camera-List. In transition-view you cannot really do anything but watch.
- **Death-view** - Death-view is where the camera freezes and shows you the main players death-animations. In death-view you cannot really do anything but watch.
- **View-elasticity** - ReFrag:2 uses a feature I call view-elasticity. View-elasticity is about making camera movements smooth. Then you watch a demo in thirdperson in normal SOF2 you will notice that if the player jumps then the camera jumps too. This happens instantly and it is not smooth at all.

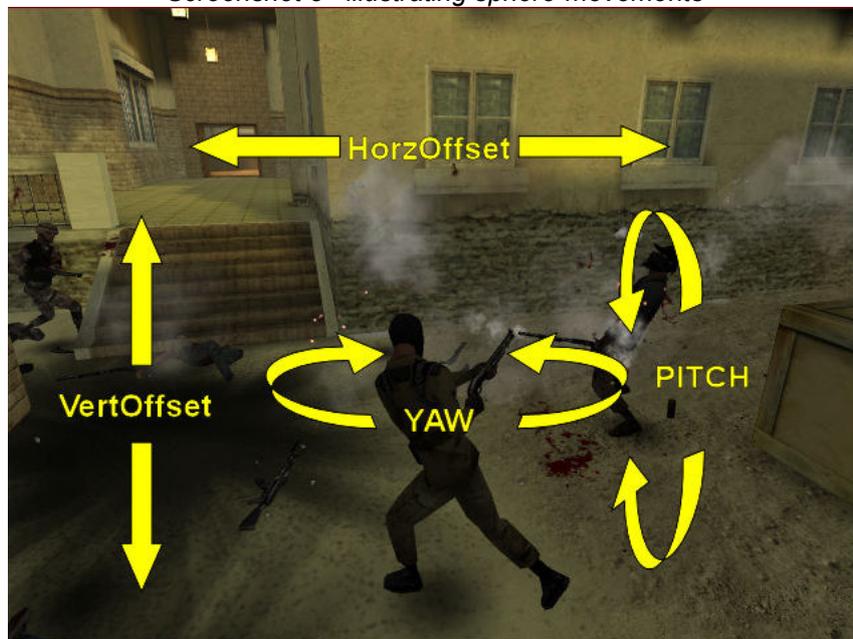
In ReFrag:2 view-elasticity changes that. There are 5 elasticity presets that you can choose and the lowest (0) turns view-elasticity off completely. The higher a view-elasticity value you use the more lazy the camera becomes. It's like the camera follows the player/missile/whatever attached by a soft rubber-band. When the player starts moving the camera follows but not immediately. And when the player stops moving the camera stops smoothly a moment later. The distance to the followed object thus varies with the speed of the player. It is also view-elasticity that makes the freecam movement and turns seem so smooth and sluggish.

Every kind of view in ReFrag:2 has it's own preset setting for view-elasticity. You can change the elasticity using cvars or using the built-in controls or simply change it using the QuickMenu.

For sphere-view and -movement you need to understand the following terms:

- **Yaw** - Rotation left or right
- **Pitch** - Rotation up or down
- **HorzOffset** - Offset left or right
- **VertOffset** - Offset up or down
- **Range** - Distance to the object

*Screenshot 3 –illustrating sphere-movements*



## Appendix B - List of Cvars

ReFrag:2 is controlled by a lot of cvars. Cvars are variables and most cvars can be changed by the user and are stored in sof2mp.cfg. In most cases you don't have to change a cvar directly but can do it through the ReFrag:2 interface. But the list of cvars is here in case you want to know about the cvars and possible values.

### Hud cvars

Cvar	Description	Default value
rf_drawReFragMenu	0 = ingame view 1 = show ReFragMenu interface on top of game	1
rf_cleanReFragMenu	0 = show game-text, icons, crosshair, etc. when showing the ReFragMenu. 1 = don't show game-text, icons, crosshair, etc. when showing the ReFragMenu.	0
rf_hudStyle	Change between the normal hud and a built-in ReFrag:2 hud. 0 = standard hud 1 = ReFrag:2 hud	0
rf_auditoryFeedback	Auditory feedback is simply that you hear a sound when certain things happen. It's used for making a sound when a screenshot has been taken or when framedumping is starting and stopping.  0 = never give auditory feedback 1 = give auditory in the cases mentioned above	1
rf_visualFeedback	Visual feedback is a message you get at the top of the screen telling you what changes you have done. This is usually as a response to when you change a setting using the mouse or a keyboard shortcut. 0 = never give visual feedback 1 = give visual feedback (recommended)	1
rf_drawFragMessage	0 = don't draw centered FragMessage, 1 = draw FragMessage when you kill someone, 2 = draw FragMessage when someone kills you, 3 = Always draw FragMessage when you kill or die.  See rf_fragText, rf_deathText, rf_suicideText and rf_headshotText for info on how to customize FragMessage.  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	3
rf_drawObituary	0 = don't draw obituary messages 1 = draw all obituary messages 2 = only draw obituary messages involving the main player  Obituary messages are the 3 lines you normally see in SOF2 in the upper left corner of the screen. The standard SOF2 obituary messages does not work in ReFrag:2 but ReFrag:2 can print them anyway and in a more flexible way.  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_obituaryX	The X coordinate where to print the lines. -1 means draw the lines centered horizontally on the screen.	5
rf_obituaryY	The Y coordinate where to print the lines.	1
rf_obituaryLines	In SOF2 you normally only have 3 lines shown at once. With this cvar you can have up to 8.	5
rf_obituaryTime	The amount of time an obituary line is shown. Time is in milliseconds.	4000
rf_obituaryScaleFactor	The size of the obituary messages relative to normal size.	1
rf_drawGun	0 = don't draw weapon in firstperson 1 = draw weapon in firstperson  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawHealth	0 = don't draw health-bar 1 = draw health-bar  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawWeaponInfo	0 = don't draw weaponinfo 1 = draw weaponinfo  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawFragCounter	FragCounter is a small addition to the hud showing the players kills, deaths and spree. 0 = don't show 1 = do show  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	0
rf_drawMiniScoreboard	0 = don't draw special miniscoreboard 1 = draw special miniscoreboard  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	0
rf_miniscoreboardText	This defines the format of the text shown in the miniscoreboard	"^3 [score] ^7[player]"

rf_miniScoreboardX	The X coordinate on the special miniscoreboard.	0
rf_miniScoreboardY	The Y coordinate on the special miniscoreboard.	210
rf_miniScoreboardMax	Maximum number of players to show on the miniscoreboard. In teamgames it show max rf_miniScoreboardMax/2 players per team	20
rf_drawScoreboard	0 = don't automatically draw scoreboard when you die 1 = automatically draw scoreboard when you die  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	0
rf_drawCrosshair	0 = don't draw crosshair in firstperson 1 = do draw crosshair in firstperson  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawPlayerNames	Draw playernames on the players in the game ? -1 = show names on all players always 0 = don't draw playernames 1 = draw playername when crosshair aims at friend 2 = draw playername when crosshair aims at enemy 3 = draw playername when crosshair aims at friend or enemy  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_crosshairNamesY	Where the playername is shown when you point crosshair at at player.  0 = centered on screen -1 = at the bottom of the screen  Any other value is considered an Y coordinate su you can place name where you want vertically.	0
rf_drawPlayerIcons	Draw playericons above the head of the players in the game ? 0 = don't draw playericons 1 = draw playername on friends (normal teamicon) 2 = draw playername on enemies 3 = draw playername on friends and enemies  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	0
rf_drawRadar	0 = don't show radar 1 = show radar with friends 2 = show radar with enemies 3 = show radar with friends and enemies  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	3
rf_drawChat	0 = don't draw chat 1 = draw chat  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_chatX	The X coordinate determinating where to draw chat.	35
rf_chatY	The Y coordinate determinating where to draw chat.	380
rf_chatScaleFactor	The size of the chat messages relative to normal size.	1
rf_drawTimer	0 = don't show timer 1 = show timer  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawHUDIcons	0 = don't show gametype icons 1 = show gametype icons  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawTeamScores	0 = don't draw teamscore 1 = draw scores at normal SOF2 position 2 = draw scores above the healthbar 3 = draw scores at the top of the screen 4 = draw scores at he right of the screen  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_drawShadows	Draw player-shadows or not. This replaces the SOF2 cg_shadows 0 = don't show shadows 1 = show shadow as a blob 2 = 2 does not work in SOF2 3 = draw projection shadows  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_draw2D	rf_draw2D can turn off many types of text and icons in ReFrag:2 but not as many as cg_draw2d does in normal SOF2. This is because in ReFrag:2 some items are controlled by other cvars. Some SOF2 text does not have a specific cvar to control it so you can use rf_draw2D to force it off. 0 = don't show shadows 1 = show shadow as a blob 2 = 2 does not work in SOF2 3 = draw projection shadows  See rf_userVisualItems1 for an easier way to control what to see and what not to see.	1
rf_showCameraPoints	0 = don't show camera-points floating in the air when working with camera-list and transitions	0

	1 = show camera-points floating in the air when working with camera-list and transitions	
rf_showLightPoints	0 = don't show position of light-points floating in the air when working with added light 1 = show position of light-points floating in the air when working with added light	0
rf_showAddedLights	0 = don't show added light 1 = show any added light	0
rf_showMinLight	0 = Turn off normal SOF2 minimum lighting 1 = Show normal SOF2 minimum lighting	1
rf_centerPrintScaleFactor	The size of the centerprint messages relative to normal size. Used for FragMessage etc.	1
rf_centerPrintTime	Number of seconds centered text like the FragMessage is shown. Standard SOF2 centered messages are controlled by cg_CenterTime and not by rf_centerPrintTime ! Note that rf_centerPrintTime is in milliseconds !	4000
rf_suicideText	This defines the text shown when you commit suicide and rf_drawFragMessage is not 0.  See rf_fragText for detailed explanation.	"\scale\0.60\space\5\text\^1[attacker]&\scale\0.40\text\^,self-frag&\scale\0.40\space\6\text\^3( ^b[weapon] ^3)"
rf_deathText	This defines the text shown when you die and rf_drawFragMessage is not 0.  See rf_fragText for detailed explanation.	"\scale\0.60\space\5\text\^,Fragged by ^1[attacker]&\scale\0.40\space\6\text\^3( ^b[weapon] ^3)&\scale\0.55\space\10\text\[headshot]"
rf_fragText	This defines the text shown when you kill someone and rf_drawFragMessage is not 0.  The overall format of the text (including size and colorcodes) is explained in the description of the WriteCenterText command.  For both rf_fragText, rf_deathText and rf_suicideText you can add dynamic tags that will be replaced by real values when the frag/death/suicide happen. The possible tags are:  [user] = name taken from the 'name' cvar [timestamp] = timestamp [attacker] = Name of killer [victim] = Name of victim [spreemsg] = Spree message [spreecount] = Spree Count [weapon] = weapon [headshot] = Headshot [hitlocation] = Hit Location [scoremsg] = Score (SOF2 message) [scorecount] = Score count [playerplacement] = Place (scorewise) [maplocation] = position on the map. Usually only works in teamgames  & = Insert NewLine	"\scale\0.45\text\^1[spreemsg]&\scale\0.60\text\^,You fragged ^+[victim]&\scale\0.40\space\6\text\^3( ^b[weapon] ^3)&\scale\0.55\space\10\text\[headshot]"
rf_headshotText	This defines the text shown when a headshot happens and is used in a FragMessage. The text specified by rf_headshotText is used for replacing the [headshot] explained in the description of rf_fragText.	" ^1[ ^3HeaDShoT ^1]"
rf_userVisualltems1	The first of two values you can switch between using F12  The value consists of the value of 18 cvars to be set in one operation. The string is built like this "a b c d e f g h i j k l m n o p q r" and represent these cvars (in that order): a = rf_drawFragMessage b = rf_drawObituary c = rf_drawGun d = rf_drawHealth e = rf_drawWeaponInfo f = rf_drawFragCounter g = rf_drawMiniscoreboard h = rf_drawScoreboard i = rf_drawCrosshair j = rf_drawPlayerNames k = rf_drawPlayerIcons l = rf_drawRadar m = rf_drawChat n = rf_drawTimer o = rf_drawHUDIcons p = rf_drawTeamScores q = rf_drawShadows r = rf_draw2D // Note that setting rf_draw2D to 0 overrules most of the other settings above !	"3 1 1 1 1 1 0 1 1 2 1 1 0 0 1 1 1 1"
rf_userVisualltems2	The second of two values you can switch between using F12  See rf_userVisualltems1 for explanation.	"0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1"

### Freecam and sphere cvars

Cvar	Description	Default value
rf_yaw	These value are used for almost every view. All are used for sphere-view, some are used for firstperson-view, some are used for freecam-view.	0
rf_pitch		0
rf_roll		0
rf_horzOffset		0
rf_vertOffset		0
rf_range		0
rf_fov		80
rf_elasticity		1
rf_firstpersonFOV	The fov value to be used when switching to firstperson-view	80
rf_thirdpersonYaw	These values are the ones used when switching to thirdperson-view. Changing these WHILE in thirdperson-view will have no effect !  See the rf_yaw, rf_pitch, rf_roll, rf_horzOffset, rf_vertOffset, rf_range, rf_fov and rf_elasticity above for an explanation.	0
rf_thirdpersonPitch		15
rf_thirdpersonRoll		0
rf_thirdpersonHorzOffset		0
rf_thirdpersonVertOffset		0
rf_thirdpersonRange		120
rf_thirdpersonFOV		80
rf_thirdpersonElasticity		1
rf_missileYaw,	These values are the ones used when switching to missile-view. Changing these WHILE in missile-view will have no effect !  See the rf_yaw, rf_pitch, rf_roll, rf_horzOffset, rf_vertOffset, rf_range, rf_fov and rf_elasticity above for an explanation.	0
rf_missilePitch		0
rf_missileRoll		0
rf_missileHorzOffset		0
rf_missileVertOffset		0
rf_missileRange		90
rf_missileFOV		80
rf_missileElasticity		1
rf_transitionFOV	These values are the ones used when switching to transition-view. Changing these WHILE in transition-view will have no effect !	80
rf_defaultYaw	These values are the ones used when resetting any missile-view using the NUMPAD reset keys (see description of Controls).	0
rf_defaultPitch		0
rf_defaultRoll		0
rf_defaultHorzOffset		0
rf_defaultVertOffset		0
rf_defaultRange		120
rf_defaultFOV		80
rf_cameraX	These values are used for the Freecam-view. The X-Y-X and Yaw-Pitch-Roll are mainly used by ReFrag:2 for remembering the coordinates and viewangles between sessions.  rf_cameraElasticity determines the lazyness of the movement and the turns in freecam-view.	0
rf_cameraY		0
rf_cameraZ		0
rf_cameraYaw		0
rf_cameraPitch		0
rf_cameraRoll		0
rf_cameraFOV		80
rf_cameraElasticity		1

Note for advanced users: the standard SOF2 cvars cg\_thirdperson, cg\_thirdpersonYaw, cg\_thirdpersonPitch, cg\_thirdpersonHorzOffset, cg\_thirdpersonRange, and cg\_fov do not exist in ReFrag:2 and cannot be used. Use the equivalent ReFrag:2 cvars instead if you must.

### Freecam and sphere speed cvars

Cvar	Description	Default value
rf_freeMoveSpeed	speed for forward/back/left/right freecam movement	400
rf_freeSpeedFactorA	factor for changing freecam turn, roll and move speed when SHIFT is pressed	0.3
rf_freeSpeedFactorB	factor for changing freecam turn, roll and move speed when ALT is pressed	2.0
rf_sphereMoveSpeed	speed for moving around/rotating around thirdperson or any other sphere-view mode	100
rf_sphereSpeedFactorA	factor for changing sphere-view moves and rotations SHIFT is pressed	0.5
rf_sphereSpeedFactorB	factor for changing sphere-view moves and rotations ALT is pressed	2.0

### View cvars

Cvar	Description	Default value
rf_view	1 = firstperson 2 = thirdperson 3 = previously set freecam (only works if a freecam is set. Otherwise it switches to thirdperson.  Values 0, 4, 5 and 6 exist but can only be set by ReFrag:2 itself.	2
rf_autoFollowMissile	0 = ignore missiles until you press a key to follow it 1 = jump onto the missile as soon as it exist	0
rf_stayWithMissile	Time in milliseconds for how long the camera should stay where the missile ended before returning to the previous view. If rf_stayWithMissile is -1 the camera will turn into a freecam and stay where the missile ended and not return automatically to previous view.	2000
rf_autoDeathCam	0 = behave as in normal SOF2 when players is being killed while in thirdperson 1 = freeze the camera when the main player dies and see how he falls	1
rf_stayWithDead	Time in milliseconds for how long the camera should stay in the frozen camera when main player dies and rf_autoDeathCam = 1. If rf_stayWithDead is -1 the camera will turn into a freecam and not return automatically to previous view.	2000
rf_noClip	0 = in thirdperson the following camera is positioned relative to main player so that walls and other things never get between player and camera. 1 = camera is not bothered but walls and other items on the map. This makes it possible to achieve thirdperson angles that are not normally possible.	0

### Identity cvars

Cvar	Description	Default value
rf_cidEnemy1 rf_cidEnemy2 rf_cidEnemy3 rf_cidEnemy4 rf_cidEnemy5	Specifies current skinnames to be used for enemies when rf_autoSetIdentity cvar or the SetIdentity command is used	"prometheus1" "prometheus2" "prometheus3" "prometheusguard" "prometheustech"
rf_cidFriend1 rf_cidFriend2 rf_cidFriend3 rf_cidFriend4 rf_cidFriend5	Specifies current skinnames to be used for teammates when rf_autoSetIdentity cvar or the SetIdentity command is used	"civilianmale1" "civilianmale2" "civilianmale3" "civilianmale4" "directormichaels"
rf_didEnemy1 rf_didEnemy2 rf_didEnemy3 rf_didEnemy4 rf_didEnemy5	Specifies default skinnames to be used for enemies. There are the normal 9 team setups for enemies plus a team that you specify using these cvars.	"prometheus1" "prometheus2" "prometheus3" "prometheusguard" "prometheustech"
rf_didFriend1 rf_didFriend2 rf_didFriend3 rf_didFriend4 rf_didFriend5	Specifies default skinnames to be used for teammates. There are the normal 9 team setups for friends plus a team that you specify using these cvars.	"civilianmale1" "civilianmale2" "civilianmale3" "civilianmale4" "directormichaels"
rf_cidPlayer	Specifies skinname to be used for the main player when rf_autoSetIdentity cvar or the SetIdentity command is used. Is automatically set if you use the NextIdentity and Previdentity commands or change skin using the built-in equivalence keyboard shortcuts	"shopguard1"
rf_autoSetIdentity	Automatically change skins for certain players.  0 = Every player uses the normal skin from the demo 1 = Main player is forced to use skin specified by rf_identityPlayer 2 = Enemies are forced to use skin specified by the cvars rf_cidEnemy1 to rf_cidEnemy5 4 = Teammates are forced to use skin specified by the cvars rf_cidFriend1 to rf_cidFriend5  The values 1, 2 an 4 can be added. 5 = 4+1 meaning that we force new skin on teammates and main player.	0
rf_identityIndex	Counter keeping track if current skin when you walk through skins using F8	0

### Demo cvars

Cvar	Description	Default value
rf_demoFile	Contains the name of the current demo when the demo is started through the menu as it should	""
rf_mtp rf_mti rf_mtt rf_mts rf_demoAppendAction	These cvars are used for keeping internal values during rewind. They should not be touched !	""
rf_demoRewindTime	Time in milliseconds telling ReFrag:2 how far to rewind the demo when using the SHIFT-TAB rewind feature. Default is 5000 which means 5 seconds	5000

### Media cvars

Cvar	Description	Default value
rf_screenshotVisualItems	An overlay in the format described under rf_userVisualItems1 and rf_userVisualItems2. This is used for screenshots. If it's not a not a full string of values the screenshot is made with the current setting. The default value is "WYSIWIG" which by definition is not really a valid value.	"WYSIWYG"
rf_screenshotFormat	0 = screenshots will be .tga format 1 = screenshots will be .jpg format  .tga pictures are bigger and in slightly better quality than .jpg's which are compressed.  This is for screenshots ONLY and does not work for framedumping !	0
rf_screenshotSeries	Number of screenshots made in a row when you take screenshots using ALT-F5 (instead of the normal F5)	3
rf_screenshotInterval	Time between screenshots when you take screenshots using ALT-F5 (instead of the normal F5). This is in milliseconds, i.e. 200 = 1/5 of a second.  Note that the time is in realtime and not in gametime ! ... and so the distance between the pictures depends on the timescale.	200
rf_screenshotName	The format of screenshot-names can be user-defined using this cvar. The default value is "screen_[seq]" which gives screenshot names screen_000001, screen_000002 etc.  Possible tags are. [player] [map] [demo] [nowdate] [nowtime] [nowmilli] [demotimestamp] - full mmm.ss.hh (minutes, seconds, hundreds) [mod] [gametype] [seq]  This is for screenshots ONLY and does not work for framedumping !	"screen_[seq]"
rf_framedumpVisualItems	An overlay in the format described under rf_userVisualItems1 and rf_userVisualItems2. This is used for framedumping. If it's not a not a full string of values the framedumping is made with the current setting. The default value is "WYSIWIG" which by definition is not really a valid value.	"WYSIWYG"
rf_framedumpRate	rf_framedumpRate is the number of frames to dump as tga-files per second when dumping frames for moviemaking. rf_framedumpRate is the value used for the SOF2 command cl_avidemo.	30

## Fun cvars

rf_forceMoreSkins	<p>0 = standard number of selectable skins 1 = skins that are normally not available are now available</p> <p>Note: After changing this value you have to load exit the demo and reload it or do a rewind for the change to take effect.</p>	0
rf_maxBodies	<p>In normal SOF2 the maximum number of dead bodies lying around is 8. Using this cvar you can increase that number (up to 100).</p> <p>Setting rf_maxBodies very high can cause graphical errors in model-rendering because the SOF2 engine has limitation. Those error are harmless though !</p> <p>Note that ReFrag:2 handles bodies in a way that is totally different from standard SOF2 ! If that causes problems (should not) the setting rf_maxBodies = -1 uses the normal SOF2 way !</p>	8
rf_bodiesKept	<p>With rf_bodiesKept you can define that certain bodies should dissapear and not lie around. This can be useful if you want to make screenshots where you control which bodies to see. This cvar is only in effect when rf_maxBodies &gt; 0 !</p> <p>1 = don't make dead bodies out of players dying where you don't see it. 2 = don't keep the main players body when he dies. 4 = don't keep the bodies of enemies when they die. 8 = don't keep the bodies of friends when they die.</p> <p>These values can be added.</p> <p>Note: Changing this cvar does not cause existing bodies to dissapear, it simply decides if they should be kept at the time of the death.</p>	0
rf_deathAnimSpeed	<p>This controls the speed of deathanimations and can be used for making more intense screenshots when using low values. Value from 0 to 1.</p>	1
rf_deathAnimStart	<p>This controls where the deathanimation that start – e.g. how many percent should bes skipped at the beginning. Value from 0 to 1. A value of 0.2 means the first 20% if the deathanimation is cancelled. This cvar is only in effect when rf_maxBodies &gt; 0 !</p> <p>This cvar is only added for the purpose of making intense screenshots.</p>	0
rf_deathAnimStop	<p>This controls the where the deathanimation should stop. Value from 0 to 1. A value of 0.8 means the deathanimation stops 20% before it normally would. This cvar is only in effect when rf_maxBodies &gt; 0 !</p> <p>This cvar is only added for the purpose of making intense screenshots.</p>	1
rf_playerScale	<p>Makes the players smaller or bigger ranging from 1/10 to 10x normal size.</p> <p>This cvar is only added for fun.</p>	1
rf_missileLight	<p>Adds light to a grenade or a thrown knife. Positive values add light on the missile position whereas negative values add light at groundlevel below the missile and thus shows the missile-path on the ground.</p> <p>0 = off &gt;0 = intensity of light following the missile &lt;0 = intensity of light following the missile on the ground</p> <p>The value is two things in one. The number before the decimal point is the light intensity and the number after the decimal point is the number of added lights. A value of 20.2 means a light of intensity 20 and that you want 20 (not 2) lights of this kind. A value of 20.02 gives you 2 lights of the intensity 20.</p>	0

### Misc cvars

Cvar	Description	Default value
rf_allowCameraShake	0 = don't allow camera-shakes when explosions happen near by 1 = allow camera-shakes when explosions happen near by 2 = allow camera-shakes excet when in freecam	1
rf_allowFlashBang	0 = don't allow flashbang grenades to blind you 1 = allow flashbang grenades to blind you  In any case flashbang only blinds you in firstperson view	1
rf_allowDamageIndicator	Damage indicator is the red on-screen flashes that show you from what direction you are being hit.  0 = don't show damage indicator 1 = show damage indicator when damage happens	1
rf_killSound	0 = All sound normal 1 = Turn off local sound. Local sound are sound that only you hear, like the self-frag sound, the frag-sound, talk-sound, go-sound etc... 2 = Turn off global sound. Global sound is game sound that both you and others hear. Glass breaking, bullets flying, water, global voice, pain, footsteps, item- and health pickup, respawn, bouncing grenade.  4 = Turn off looping sound. Looping sound is sound fron RPG missile flying, knife turning through the air, items giving off sound, etc.  The values 1, 2 an 4 can be added. 3 = 2+1 meaning that we have turned off local + global sound.  Note that you cannot control sound very detailed by this and that certain effects in the game have their own sound that is not affected by rf_killSound !	0
rf_volumeLow	In ReFrag:2 you can easily switch between three soundvolume settings off/low/full. With rf_volumeLow you set the value for Low.	0.1
rf_volumeFull	In ReFrag:2 you can easily switch between three soundvolume settings off/low/full. With rf_volumeFull you set the value for Full.	0.8
rf_tracers	Some weapons like the AK74 sometimes show trace of the bullets flying through the air. rf_Tracers 1 adds tracers to guns that do not have tracers in standard SOF2. Tracers are added for M1911A1, USSOCOM, SILVER TALON, M3A1 SUBMACHINEGUN, UZI SUBMACHINEGUN, MP5, MSG90A1 and M60 MACHINEGUN. The amount of tracers are determined by rf_tracerChance.	1
rf_tracerChance	Determines the probability that a shot causes a tracer to be shown. Value is fron 0.00 to 1.00.	0.6
rf_drawReFragTrail	A special kind of tracer 0 = off 1 = on	0
rf_drawReFragAimLine	Draws lines showing where players are aiming. 0 = off 1 = on for main player 2 = on for other players 3 = on for all players	0
rf_turnOffPlayers	Automatically make certain players invisible  0 = Every player is visible 1 = Main player is invisible 2 = Enemies are invisible 4 = Teammates are invisible  The values 1, 2 an 4 can be added. 5 = 4+1 meaning that teammates and main player are invisible.	0
rf_turnOffEntities	Automatically make certain entities invisible. This cvar is of little use.  0 = Everything is visible 1 = Turn off fragments 2 = Turn off movescalefade 4 = Turn off fallscalefade 8 = Turn off fadeRGB 16 = Turn off scalefade 32 = Turn off showrefentity 64 = Turn off line 128 = Turn off gib  The values can be added.	0
rf_followPlayer	Value is the clientnumber for the player to follow or -1 for the main player. Note that due to the nature of SOF2 demos other players exist ONLY when they are visible from the player who recorded the demo !  Setting rf_followPlayer 2 will make the camera follow client #2 only when he is near the main player. Otherwise the view will follow the main player as always.  You can use the scoreboard to easily select player to follow !	-1
rf_screenFadeTime	Adds a movie-like fade-in effect when you change between view (firstperson, thirdperson,	200

	camera, etc). Value is realtime milliseconds so 2000 is 2 seconds, 0 turns it off.	
rf_UseCGameTime	Makes all internal time calculations using either game-time or real-time when calculation camera movement. You should probably not worry about this.  Note: When framedumping game-time is ALWAYS used. If you wan't to make movies using a programs like Fraps you probably get better results keeping it at 0. Freecamera cannot move if rf_UseCGameTime is 1 and demo is stopped (F1) !	0
rf_UseTimescaleSync	Make the camera-movement using keyboard and mouse dependent or independent of timescale. Does not affect the transition-camera which is always dependent on timescale.	0
rf_bottomSelection	Cvar used by ReFrag:2 internally. Value determines what you see at the bottom of the ReFragMenu. It's easily changed clicking the InfoBar changer.  0 = Show timeline 1 = Show resolution, fps, framedump rate and screenshotseries. 2 = Show view cvars.	0
rf_lockInterface	Cvar used by ReFrag:2 internally Locks mouse and keyboard in regard to camera-moves. Easily changed through the QuickMenu or by pressing CTRL-SHIFT-L. 0 = unlocked 1 = locked	0
rf_viewWidth	Can be used for limiting the game-picture horizontally. 100 means use full width.	100
rf_viewHeight	Can be used for limiting the game-picture vertically. 100 means use full height.  Note: This is used for the widescreen feature !	100
rf_viewOffsetTop rf_viewOffsetBottom	These are used	
rf_timescaleFadeSpeed	Setting rf_timescaleFadeSpeed > 0 means that your changes in timescale does not happen immediately. This gives smooth timescale-changes over time but it's probably not useful in any way.	0
rf_transitionTimescale	The timescale used when you start a camera transition using the camera-list. You set this indirectly through the Cameras Subpage.	1
rf_startTimescale	The timescale being used when you start a new demo.	0.5
rf_resumeTimescale	The maximum timescale being used after a rewind. If the current timescale is less than rf_resumeTimescale when you do a rewind then the current timescale is the one used after the rewind also. Otherwise timescale is lowered to rf_resumeTimescale.	1
rf_FixOSPLegs	Most OSP demos have a bug that makes the main players legs appear stiff in thirdperson. The legs simply never swing sideways. This cvar fixes that. 0 = don't fix legs 1 = fix legs	1

**Internal cvars (you have no use changing these !)**

rf_usageCount	This counts how many times you have started watched a demu using ReFrag:2, This cvar is NOT reset when you reset all cvars using the interface or the ResetReFragCvars command !	0
rf_viewOffsetTop rf_viewOffsetBottom	These are used communicating between the cgame and ui part of ReFrag:2	0
rf_InternalState	Keeps certain internal values during rewind	0
rf_debugging		0

## Appendix C - List of Commands

ReFrag:2 adds the following commands for use in the console or in scripts. Most commands can be directly performed from within the ReFrag:2 interface too.

### Demo-handling commands

These commands run, restart and rewind the demo you watch.

Command	Description
Demorestart	Restart the demo from the beginning
Demorewind	Rewinds the demo by the time given in milliseconds.  Example: DemoRewind 15000  rewinds the 15 seconds
Demomoveto	Moves the demo to the specified time. The time is in milliseconds. The time can be seen in ReFrag:2-HUD on page 1.  Example: Demomoveto 123000  moves the demo to the time 123000
Demorun	Starts a demo and sets rf_DemoFile to the name of the demo.  Example: Demomoveto demo0009  starts demo demo0009.dm_2004
RunLatestDemo	If used as parameter in the shortcut used for starting ReFrag:2 then ReFrag:2 will start showing the most recently shown demo again rather than showing the list of possible demos. This can be useful for moviemakers or others having to watch the same demo over and over again.  Example: "+set fs_game refrag2 +RunLatestDemo"

### Informational commands

These commands dump information about ReFrag:2 or the demo you watch.

Command	Description
ListReFragCvars	Lists all ReFrag:2s cvars and their current value
ListIdentities	Lists the names of all the player-skins you have installed.
ListPlayers	Lists the players playing in the demo. It lists their name, client-number and identity (name of their skin)
DumpConfigStrings	This will dump the SERVERINFO and the SYSTEMINFO to the textfile "ConfigStrings.txt" in the ReFrag:2 folder. The SERVERINFO and the SYSTEM info gives detailed information about server cvars and other info available from the demo.

### Misc commands

Command	Description
ResetReFragCvars	ResetReFragCvars restores all ReFrag:2 cvars to their default value.  If the file <SOF2>\refrag2\refrag2_defaults.cfg exists it will be executed after restoring the cvars.
WriteCenterText	This command can be used for printing a centered text on the screen in the game.  The format of the string allows you to specify text to print, the size of the text, and line-space. You can even make print a multi-line text and uses colors (normal SOF2 colorcodes).  In the text you use \scale\ to specify the size of the text. You use \space\ to specify empty lines and you use \text\ to specify the text you want to print. '&' adds a new line.  Example: \scale\0.45\text\This is line 1&\scale\0.55\space\1\text\This is line 2&\scale\0.60\text\This is line 3  The example above would print something like this:  This is line 1  This is line 2 This is line 3  The size of the lines are different size and there is a blank line between line 1 and 2.  You can use SOF2 colorcodes in the \text\ section and the overall size og the text can be changed easily by

	changing rf_centerPrintFactor. The Y position of the text is set in cg_centerY.
FollowPlayer	Basically the same as setting rf_followPlayer but it test to make sure the players exist. Example: FollowPlayer 2 – follows player 2 FollowPlayer -1 – follows main player
SetIdentity	Changes the main players skin to the one specified. Also sets rf_autoSetIdentity so the the skin is remembered when you restart demo or rewind demo. Example: SetIdentity shopguard1
Firstidentity	Changes to the first skin in the list of skins
NextIdentity	Changes to another skin for the main player (next one in the row)
PrevIdentity	Changes to another skin for the main player (previous one in the row)
ResetIdentity	Changes the main player back to the skin he had in the demo you watch. Resets rf_autoSetIdentity to 0
AddExecAt	Adds a script to be executed when the demo reaches a certain time. Example: AddExecAt 20000 XXX - executes script XXX.cfg at time 20000  You can add up to 50 scripts this way at a time.
builduserVisualItems1	Take the current setup and save it in rf_userVisualItems1.  This can be done through the interface too.
builduserVisualItems2	Take the current setup and save it in rf_userVisualItems2.  This can be done through the interface too.
buildscreenshotVisualItems	Take the current setup and save it in rf_screenshotVisualItems.  This can be done through the interface too.
buildframedumpVisualItems	Take the current setup and save it in rf_framedumpVisualItems.  This can be done through the interface too.
ResetExecAt	Empties the list of waiting scripts set up by AddExecAt
SetSpeed	SetSpeed acts much like old fashioned timescale. The difference is that SetSpeed 0 slows demo down as much as possible and freezes the picture. Example: SetSpeed 0 - Practically stops the demo SetSpeed 11 - Runs the demo at 11x normal speed
ShakeCamera	Shake the camera as if a grenade exploded near by.
Screenmode1	Executes the \scripts\screenmode_1.cfg script. The same as pressing ALT-1
Screenmode2	Executes the \scripts\screenmode_2.cfg script. The same as pressing ALT-2
Screenmode3	Executes the \scripts\screenmode_3.cfg script. The same as pressing ALT-3
SetReFragColor	The elements of the ReFrag:2 interface can be customized color-wise using this command.  Format: SetReFragColor <item> <red> <green> <blue> <alpha>  Values for <item>: TEXT1 Most text including menus, headlines, etc. TEXT2 "Body" text on pages TEXT3 "Value" text. Mostly used for option values TEXT4 "Key" text. Mostly used for keyboard shortcuts MENUBACK The color used for the ReFragMenu PAGEBACK The color used for pages in the ReFragMenu BUTTONBACK The color used for click-buttons LISTBACK The color used for list-controls MSGBOXBACK The color used for msgbox background FRAMEBACK The color used for framed areas FRAMEBORDER The color used for border around framed areas LIGHTBORDER The color used for top and left border on buttons etc. DARKBORDER The color used for bottom and right border on buttons etc. EDITLINEBACK The color used for editable textboxes TOOLTIPBACK The color used for helping tooltips TOOLTIPTXT The color used for helping tooltips SELECTBACK The color used when selecting things  Example: SetReFragColor MENUBACK 0.39 0.00 0.00 0.95  See other examples in \scripts\refrag_autoexec.cfg

## Appendix D - List of Controls

This appendix lists controls (keyboard and mouse) that work in ReFrag:2. Some things work only when the ReFragMenu is shown and some only when it's not shown. Some work whether the ReFragMenu is shown or not.

### System-controls

Control	Description	Related cvars/commands
ESC	Turns the ReFragMenu interface on and off.	rf_drawReFragMenu
BACKSPACE	Turns the ReFragMenu interface on and off.	rf_drawReFragMenu
MOUSE3 (middle mouse button)	Turns the ReFragMenu interface on and off.	rf_drawReFragMenu
SHIFT-TAB	Rewind demo the default amount of time	rf_demoFile rf_demoRewindTime
CTRL-TAB	Opens the POI Subpage	
CTRL-SHIFT-L	Lock or unlock Cvar mouse and keyboard in regard to camera-moves.	rf_lockInterface
CTRL-SHIFT-Q	Exit demo and return to demo-list	Disconnect
CTRL-SHIFT-ALT-Q	Exit ReFrag:2 completely	Quit
F6	Next sound-volume setting (full/low/off)	rf_volumeLow, rf_volumeFull, s_volume
F7	Toggle drawworld	r_fastsky r_clear r_drawworld
CTRL-F7	Toggle drawentities	r_drawentities
SHIFT-F7	ShowTris (only when using SoF2MPDev.exe);	r_showtris
ALT-F7	ShowNormals (only when using SoF2MPDev.exe);	r_shownormals
F8	Next identity for main player	rf_autoSetIdentity rf_cidPlayer rf_identityIndex
SHIFT-F8	Previous identity for main player	rf_autoSetIdentity rf_cidPlayer rf_identityIndex
ALT-F8	Go to first identity in the list	rf_autoSetIdentity rf_cidPlayer rf_identityIndex
CTRL-F8	Reset to demo identity for main player	rf_autoSetIdentity rf_cidPlayer
F9	Toggle thirdperson clipping	rf_noClip
F10	Toggle crosshair	cg_drawCrosshair
F11	Toggle FragMessage	rf_drawFragMessage
SHIFT-F11	Toggle Obituary-messages	rf_drawObituary
F12	Toggle between the two user settings for visual items.	rf_userVisualItems1 rf_userVisualItems2

### View-switch controls

Control	Description	Related cvars/commands
1	Switches to firstperson view	rf_view
2	Switches to thirdperson view	rf_view
3	Switches to last freecam view if one is defined. Otherwise you get thirdperson view	rf_view
4	Detaches the camera making it a freecam-view	rf_view
SHIFT-4	Detaches the camera making it a freecam-view and places it high above the map. Press SHIFT-4 repeatedly to view map from any corner.	rf_view
5	Detaches the camera making it a freecam-view but it always looks at the main player. Also called TRACKING camera.	rf_view
6	If you have just thrown a grenade or knife or fired a m203 or RPG then pressing 6 once switches to missile-view. Pressing 6 again before the missile is "dead" returns you to the previous view.	rf_view
7	Next damping setting for this view	rf_Elasticity
0	Next elasticity setting for current view	rf_Elasticity
SHIFT-0	Toggle timescale sync	rf_UseTimescaleSync

## Sphere-view controls (thirdperson-view and missile-view)

These controls work ONLY when the ReFragMenus is OFF !

Control	Description	Related cvars/commands
NUMPAD-1	Pitch up	rf_pitch
NUMPAD-2	Pitch down	rf_pitch
NUMPAD-3	Reset Pitch	rf_pitch
NUMPAD-4	Yaw left	rf_yaw
NUMPAD-5	Yaw right	rf_yaw
NUMPAD-6	Reset Yaw	rf_yaw
NUMPAD-7	HorzOffset left	rf_horzOffset
NUMPAD-8	HorzOffset right	rf_horzOffset
NUMPAD-9	Reset HorzOffset	rf_horzOffset
NUMPAD-NUMLOCK	VertOffset up	rf_vertOffset
NUMPAD-8	VertOffset down	rf_vertOffset
NUMPAD-9	Reset VertOffset	rf_vertOffset
NUMPAD-PLUS	Increase Range	rf_range
NUMPAD-MINUS	Decrease Range	rf_range
NUMPAD-ENTER	Reset Range	rf_range
NUMPAD_DEL	Reset Pitch, Yaw, HorzOffset, VertOffset, Range and Fov	rf_pitch, rf_yaw, rf_horzOffset, rf_vertOffset, rf_range, rf_fov
SPACE	Reset Pitch, Yaw, HorzOffset, VertOffset, Range and Fov	rf_pitch, rf_yaw, rf_horzOffset, rf_vertOffset, rf_range, rf_fov
SHIFT	SHIFT combined with the sphere controls above changes the speed by the factor set in rf_sphereSpeedFactorA	rf_sphereSpeedFactorA
ALT	ALT combined with the sphere controls above changes the speed by the factor set in rf_sphereSpeedFactorB	rf_sphereSpeedFactorB
MOUSEMOVE	Yaw + Pitch	rf_pitch, rf_yaw
ALT-MOUSEMOVE	HorzOffset + VertOffset	rf_horzOffset, rf_vertOffset
SHIFT-MOUSEMOVE	Range	rf_range
CTRL-MOUSEMOVE	Fov	rf_fov

## Freecam-view controls

These controls work ONLY when the ReFragMenus is OFF !

Control	Description	Related cvars/commands
W or ArrowUp	Forward	FreeForward
S or ArrowDown	Back	FreeBack
A or ArrowLeft	Left	FreeLeft
D or ArrowRight	Right	FreeRight
C	Down	FreeDown
Space	Up	FreeUp
Q	Roll anti-clockwise	FreeRollRight
E	Roll clockwise	FreeRollLeft
Z	Reset roll	
SHIFT	SHIFT combined with the freecam controls above reduces the speed by the factor set in rf_freeSpeedFactorA	rf_freeSpeedFactorA
ALT	ALT combined with the freecam controls above increases the speed by the factor set in rf_freeSpeedFactorB	rf_freeSpeedFactorB
CTRL-MOUSEMOVE	Fov	rf_fov
NUMPAD_DEL	Reset Fov	rf_fov

## Demo-speed controls

Control	Description	Related cvars or commands
F1	Set speed to 0 (stop demo as much as possible)	timescale cl_freezedemo
F2	Decrease demo speed	timescale
F3	Increase demo speed	timescale
F4	Set demo speed to normal speed	timescale
MOUSE1	Switch speed between 0% and 50% of normal	timescale cl_freezedemo
MOUSE2	Switch speed between 100% and 50% of normal	timescale
SHIFT	If the ReFragMenu is ON MOUSE1 and MOUSE2 does not control speed unless combined with SHIFT.	
MOUSE SCROLLWHEEL	Adjust speed up or down	timescale

## Script controls

Control	Description	Related cvars
CTRL-1	Execute the scripts \refrag2\scripts\action\script_1.cfg	
CTRL-2	Execute the scripts \refrag2\scripts\action\script_2.cfg	
CTRL-3	Execute the scripts \refrag2\scripts\action\script_3.cfg	
CTRL-4	Execute the scripts \refrag2\scripts\action\script_4.cfg	
CTRL-5	Execute the scripts \refrag2\scripts\action\script_5.cfg	
CTRL-6	Execute the scripts \refrag2\scripts\action\script_6.cfg	
CTRL-7	Execute the scripts \refrag2\scripts\action\script_7.cfg	
CTRL-8	Execute the scripts \refrag2\scripts\action\script_8.cfg	
ALT-1	\refrag2\scripts\setting\script_screenmode1.cfg	
ALT-2	\refrag2\scripts\setting\script_screenmode2.cfg	
ALT-3	\refrag2\scripts\setting\script_screenmode3.cfg	

## Media controls

Control	Description	Related cvars
F5	Take a screenshot. Uses rf_screenshotVisualItems if set.	rf_screenshotVisualItems rf_screenshotFormat rf_screenshotName
ALT-F5	Take a series of screenshots. Uses rf_screenshotVisualItems if set.	rf_screenshotVisualItems rf_screenshotFormat rf_screenshotName rf_screenshotSeries rf_screenshotInterval
CTRL-F5	Start/stop dumping frames using cl_avidemo. Uses rf_framedumpVisualItems if set.	cl_aviDemo rf_framedumpVisualItems rf_framedumpRate

## POI and Camera controls

Keys for adding, deleting and using camerapoints and POI-points without having the Subpages open.

Control	Description	Related cvars
INSERT	Adds a new POI using the current time and position.  This can be done through the interface on the POI subpage also.	
DELETE	Deletes the last made POI.  This can be done through the interface on the POI subpage also.	
PGUP	Moves to previous POI.  This can be done through the interface on the POI subpage also.	
PGDOWN	Moves to next POI.  This can be done through the interface on the POI subpage also.	
HOME	Loads time and position from the current POI. This usually causes a rewind or a fast-forward.  This can be done through the interface on the POI subpage also.	
SHIFT-INSERT	Adds a new CameraPoint using the current time and position.  This can be done through the interface on the Camera subpage also.	
SHIFT-DELETE	Deletes the last made CameraPoint.  This can be done through the interface on the Camera subpage also.	
SHIFT-PGUP	Moves to previous CameraPoint.  This can be done through the interface on the Camera subpage also.	
SHIFT-PGDOWN	Moves to next CameraPoint.  This can be done through the interface on the Camera subpage also.	
SHIFT-HOME	Loads position (not time !) from the current CameraPoint.  This can be done through the interface on the Camera subpage also.	

## RTYUIOP controls

The RTYUIOP is just a row of keys on the keyboard that are used as a quick way of turning certain features on just while the key is being pressed. The features can be controlled in detail and turned on permanently on the subpages or by pressing CTRL at the same time.

R	Part of the RTYUIOP quick-key override feature.  Pressing R shows a Player Movement Display that shows how the player moves.	
T, CTRL-T	Part of the RTYUIOP quick-key override feature.  Pressing T shows the PlayerRadar whether or not it's already turned on permanently. The displayed radar is equivalent to rf_drawRadar 3.  CTRL-T turns the setting on permanently (rf_drawRadar 3).	rf_drawRadar
Y, CTRL-Y	Part of the RTYUIOP quick-key override feature.  Pressing Y shows the PlayerNames whether or not it's already turned on permanently. The displayed PlayerNames is equivalent to rf_drawPlayerNames 3.  CTRL-Y turns the setting on permanently (rf_drawPlayerNames 3).	rf_drawPlayerNames
U, CTRL-U	Part of the RTYUIOP quick-key override feature.  Pressing U shows the PlayerIcons whether or not it's already turned on permanently. The displayed PlayerIcons is equivalent to rf_drawPlayerIcons 3.  CTRL-U turns the setting on permanently (rf_drawPlayerIcons 3).	rf_drawPlayerIcons
O, CTRL-O	Part of the RTYUIOP quick-key override feature.  Pressing O shows any added light whether or not it's already turned on permanently. This is equivalent to rf_showAddedLights 1.  CTRL-O turns the setting on permanently (rf_showAddedLights 1).	rf_showAddedLights
P, CTRL-P	Part of the RTYUIOP quick-key override feature.  Pressing P shows any added light whether or not it's already turned on permanently. This is equivalent to rf_showCameraPoints 1.  CTRL-P turns the setting on permanently (rf_showCameraPoints 1).	rf_showCameraPoints

## Misc controls

Control	Description	Related cvars
ALT-R	Reset the spree-counter on the FragCounter display	
ALT-G	Shake the screen just as when a grenad explodes close by	
ALT-H	Stops the main player from moving while keys are pressed (just for fun)	
ALT-J	Toggle snapshots (just for fun). Press it again to turn it off !	
ALT-K	Duplicate clien (just for fun)	