

# ReFrag 1.0.0

## Demo-viewer for SOF2

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### Table of contents

<b>What ReFrag is</b>	<b>2</b>
<b>Some definitions</b>	<b>2</b>
<b>What is a SOF2-demo really ?</b>	<b>2</b>
<b>Help to record demos</b>	<b>2</b>
<b>Features in ReFrag</b>	<b>4</b>
<b>Installing ReFrag</b>	<b>6</b>
<b>Starting ReFrag</b>	<b>7</b>
<b>Concept-understanding</b>	<b>8</b>
<b>The ReFrag-HUD</b>	<b>10</b>
<b>Keyboard and mouse</b>	<b>15</b>
<b>Before you really begin</b>	<b>15</b>
<b>Using ReFrag</b>	<b>16</b>
<b>Demos recorded using other mods</b>	<b>16</b>
<b>Bugs in ReFrag</b>	<b>16</b>
<b>Support</b>	<b>16</b>
HUD cvars	17
Freecam and sphere cvars	20
Freecam and sphere speed cvars	20
View cvars	21
Identity cvars	21
Demo cvars	21
Media cvars	22
Misc cvars	22
<b>List of Commands</b>	<b>23</b>
View commands	23
Camera-List commands	23
Demo-handling commands	24
Informational commands	24
Misc commands	25
<b>List of Controls</b>	<b>26</b>
System-controls	26
View-switch controls	26
Sphere-view controls (thirdperson-view and missile-view)	27
Freecam-view controls	27
Demo-speed controls	27
Camera-List	28
Script controls	28
Media controls	28
<b>Disclaimer</b>	<b>29</b>

## **What ReFrag is**

ReFrag is a 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 is not a game-mod ! You cannot set up a server using ReFrag and you cannot find servers where you can play ReFrag. ReFrag is something else !

ReFrag is a mod designed solely for viewing those demos you can record using SOF2. A SOF2-demo can be viewed using nothing but SOF2 itself and there are plenty of scripts around to give you a few extra features like switching to thirdperson and rotating around the player-character. ReFrag can do that too and much much much more and much much much better.

ReFrag is for use with SOF2 1.03 ONLY !

## **Some definitions**

When I write <SOF2> then it means "wherever you have installed SOF2". <SOF2>\ReFrag\ is then the ReFrag folder in the SOF2 folder (wherever you have installed SOF2 :)

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

## **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).

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 !

## **Help to record demos**

To use ReFrag 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 on then there is demo installed with the ReFrag package. It's \ReFrag\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 does not help you with that because ReFrag 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 folder. You can find it in <SOF2>\ReFrag\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 pressing F8. If you want to use another key instead of F8 then just change it in the script.

The demos that you record are placed in your SOF2 folder. If you play normal SOF2 without any modifications then the demo is placed in <SOF2>\base\mp\demos\. If you play while recording RocMod then it is placed in <SOF2>\rocmmod\demos\. If you play Goldrush then it is placed in <SOF2>\goldrush\demos\ and so on. The demo files have the extension ".DM\_2004".

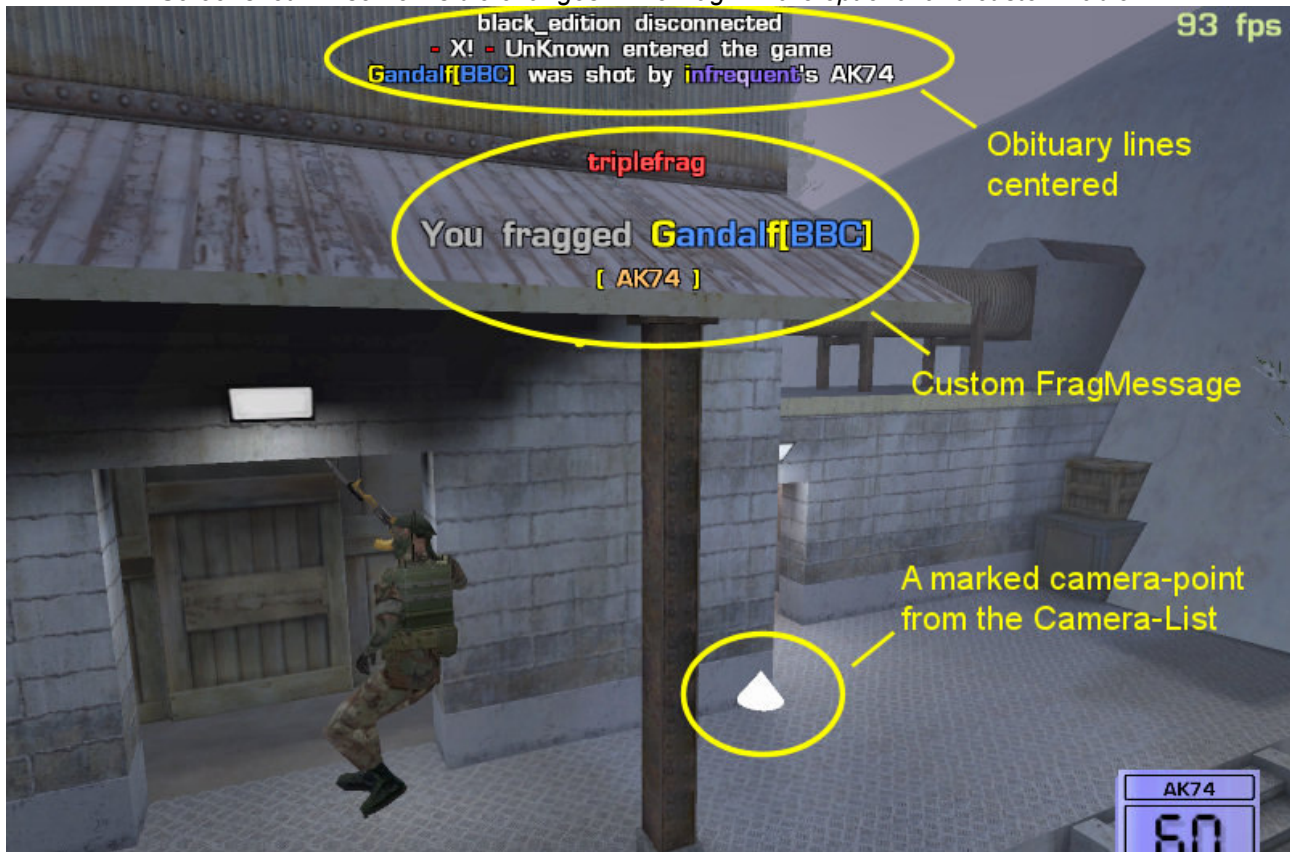
## ***Features in ReFrag***

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

- Special 9-page HUD giving you status, camera-functions and help for controls.
- 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-speed 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.
- Set up up to 28 camera-point interactively and fly smoothly between them. View can optionally be focused on player or missile while doing this. Camera-files can be saved for re-use.
- Camera can rotate sideways or even upside-down in many views.
- All views and movements can be dampened (5 settings) so you can even get the feel that the camera is attached by rubberband.
- Builtin fov-control.
- Builtin timescale control using both keyboard and mouse. Start, stop, slow down, speed up as easy as can be.
- Clipping in thirdperson can optionally be turned off.
- No keys on the keyboard break demos except for ESC.
- 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.
- 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, Healt, WeaponInfo display can be turned on/off seperately and independent of cg\_draw2d. Special overlay cvar lets you change up to 15 options at once.
- 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)
- Changeable skin for player, enemies and teammates. You can specify up to 5 skins for teamates and 5 for enemies. Player-skin can be changed interactively from within ReFrag.
- Write your own centered text into the game (mostly useful for movies)
- Turn screen-shake on or off for explosions.
- Crosshair names for enemies too.
- Two settings for taking screenshots. You can automatically turn on or off whatever part of the HUD you want before the screenshot is taken.
- Easy way to invoke cl\_avidemo using the right setting.

- Builtin switch between 3 different screensettings including fullscreen/windowed view. Setting 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.
- Turn of drawing of the map, items, player, teammates or enemies.
- Automatic logging of action (frags, sprees, gametype, map, server etc.) to textfiles. Useful for finding interesting demos when making movies.

*Screenshot 1 – some visible changes in ReFrag. All are optional and customizable.*



## Installing ReFrag

ReFrag is delivered in a zip file. You must unpack ReFrag and place the ReFrag folder in your SOF2 folder. When properly installed you have these **folders** and **files**:

- <SOF2>
  - ReFrag
    - ReFrag.pk3
    - ReFrag.pdf
    - StartReFrag.lnk
    - description.txt
    - disclaimer.txt
    - general info.txt
  - additional
    - demorec.cfg
  - cameras
  - demos
    - pra2\_testdemo.dm\_2004
  - screenshots
  - scripts
    - action
      - script\_1.cfg
      - script\_2.cfg
      - script\_3.cfg
      - script\_4.cfg
      - script\_5.cfg
      - script\_6.cfg
      - script\_7.cfg
      - script\_8.cfg
    - setting
      - script\_screenmode1.cfg
      - script\_screenmode2.cfg
      - script\_screenmode3.cfg

When you have this setup you are ready to go !

## Starting ReFrag

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

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

**Warning:** Although it is possible it is not recommended that you switch from the ReFrag mod to any other mod without closing SOF2 first. The reason is that ReFrag has added a lot of cvars and if you switch to another mod those ReFrag 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.

Recommended procedure for using ReFrag is:

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

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

Screenshot 2 – the ReFrag demo menu



For a demo to be shown in the list you must copy it to <SOF2>\ReFrag\Demos\ before loading ReFrag.

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...

## Concept-understanding

To understand some the description af the ReFrag features in later chapters you need to have knowledge of some of the basic terms used when talking about 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.
- **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.
- **ReFrag-HUD** - The ReFrag-HUD is a layer of text that show you information about ReFrag settings while Viewing a demo. It also consists of a number of pages that give you information about the controls you can use to manipulate ReFrag and the demo. The ReFrag-HUD is split into 9 pages.

Things such as Frag-message, Obituary-text, crosshair and other HUD items are not shown while the ReFrag HUD is on !

- **Identity** - skin that the player is wearing. In the picture above the character in the center is using the standard skin called "shopguard1".
- **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. 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 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 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 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 grenade, any handthrown grenade 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-damping** - ReFrag uses a feature I call view-damping. View-damping 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.

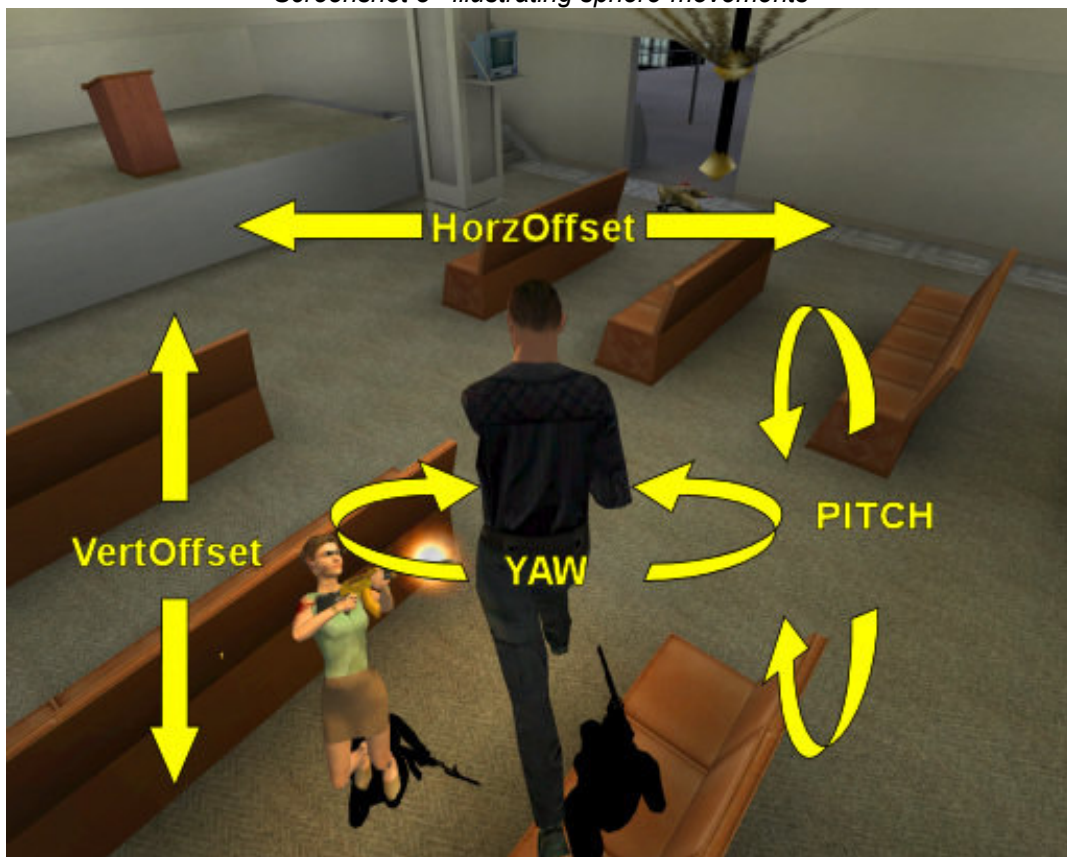
In ReFrag view-damping changes that. There are 5 view-damping presets that you can choose and the lowest (0) turns view-damping off completely. The higher a view-damp value you use the more lazy the camera becomes. It's like the camera follows the player/missile/whatever attached by a soft rubber-band. 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 and the speed of the demo (timescale). It is also view-damping that makes the freecam movement and turns seem so smooth and sluggish.

Every kind of view in ReFrag has it's own preset setting for view-damping. You can change the damping using cvars or using the builtin controls but be aware that high damping values can produce unexpected results when you use Yaw, Pitch, HorzOffset and VertOffset.

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*



## The ReFrag-HUD

As mentioned above the ReFrag-HUD is a series of textpages with information regarding ReFrag. Below you can see some of the pages of the HUD. The rest of the pages are mostly help-pages describing the keyboard shortcuts etc.

The main page (first page) is showing info about the demo and about many settings.

At the top you see the **INFO** section. This section shows:

- **Time:** Time is shown in 2 ways. As minutes, seconds and hundreds of a second and as milliseconds in (). The time in the () is what you must use if you use the AddExecAt and DemoMoveTo commands.
- **Controls:** This shows if you use the builtin ReFrag-controls (keyboard and mouse) or whether you use the standard SOF2 way. You can turn off the ReFrag-controls by pressing ESC or by using the KeyOff command. Why you should do that I don't know but you can :D When the builtin controls is active – and they are every time you start ReFrag – then it shows you that you can press ESC to quit the demo (press ESC twice !) and that you can press ENTER to go to the next page in the ReFrag-HUD, where you can get help about other controls.
- **Sound:** While viewing a demo you can have the sound-volume as normal or you can have it set low or turned off completely. You need to set the cvar rf\_defaultVolume properly to use this feature.
- **Video:** This is the resolution with which you currently watch the demo. ReFrag has builtin controls for quickly switching between 3 resolutions.
- **Map:** This is simply the name of the map the demo was recorded on.
- **Game:** This is the gametype used in the demo.
- **Server:** This is the name of the server that the demo was recorded on.
- **Demo:** This is the name of the demo you are watching.

Next you see the **VIEW** section. This section shows:

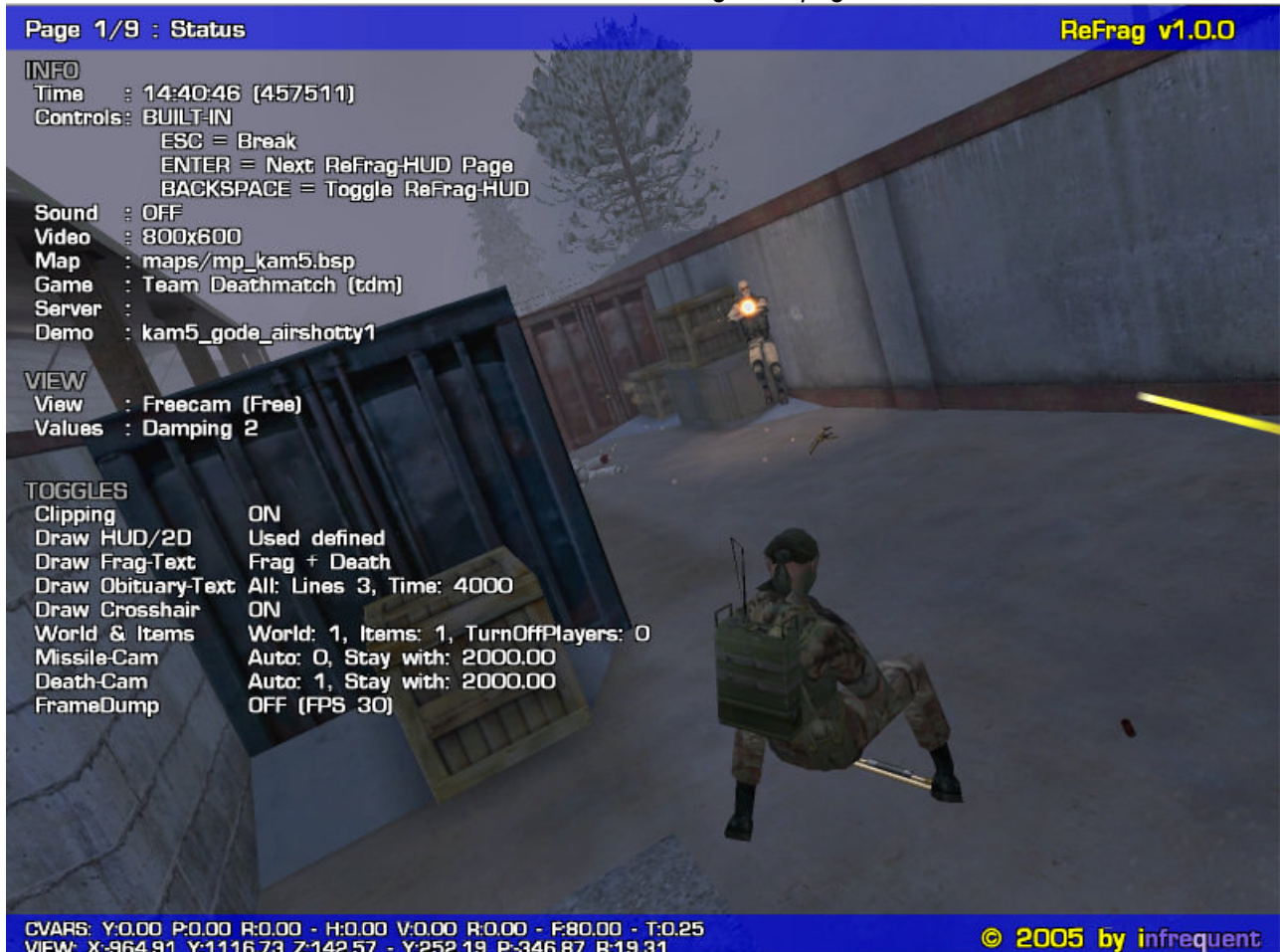
- **View:** This shows what kind of you the camera shows at this moment. This can be firstperson-, thirdperson-, freecam- (free or tracking), missile-, transition- or death-view.
- **Values:** This line primarily shows the damping value. See the chapter 'Concept-understanding' for an explanation.

Next you see the **TOGGLES** section. This section shows settings and status that you can easily change by the press of a few keys. It is all about things that can be turned on or off and it is shown here so that you do not have to examine cvars to see why something might be or not be as you expect it.

- **Clipping:** When clipping is 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 can go through walls, players, and items. The advantage of OFF is that you can achieve camera-angles that are not possible when clipping is ON.
- **Draw HUD/2D:** There are 5 settings that you can switch between regarding what is drawn on top of the display. 4 of the settings are preset and cannot be changed. The fifth setting is user-defined using the cvar rf\_overlay (also see the BuildOverlay command). See the cvar rf\_hudState for an explanation of the 5 settings.
- **Draw Frag-Text:** Frag-text is a centered message that is displayed when the main-player kills someone or dies. What is displayed is fully customizable. See *Screenshot 1* for an example and see the cvar rf\_drawFragMessage for an explanation.
- **Draw Obituary-Text:** Obituary messages are the 3 lines you normally see in SOF2 in the upper left corner of the screen. With ReFrag the obituary messages can be placed where you want and show all frags or only those involving the main player. See *Screenshot 1* for an example and see the cvar rf\_drawObituary for an explanation.
- **Draw Crosshair:** In ReFrag crosshair can be turned on or off independently of cg\_draw2D. This shows if it is on or off.
- **World & Items:** In ReFrag you can turn off the drawing of the world (map), some items and even players. World-draw is controlled by standard SOF2 commands r\_drawworld, r\_clear and r\_fastsky and is controlled by keypress only. Items-draw is controlled by the SOF2 command r\_drawentities and is also controlled by keypress only in ReFrag. Player-draw is controlled by the cvar rf\_turnOffPlayers. For World and Items 0 = OFF and 1 = ON. For player-draw see rf\_turnOffPlayers.

- **Missile-Cam:** There are 2 special options for missile-cam. **Auto** refers to rf\_autoFollowMissile and 0 = OFF and 1 = ON. **Stay With** is a time in milliseconds and refers to rf\_stayWithMissile.
- **Death-Cam:** There are 2 special options for death-cam. **Auto** refers to rf\_autoDeathCam and 0 = OFF and 1 = ON. **Stay With** is a time in milliseconds and refers to rf\_stayWithDead.
- **FrameDump:** FrameDump is mostly shown here as a kind of warning. When it is ON you are dumping frames to files using the cl\_avidemo command. Normally you would never do that while the ReFrag-HUD is on though :D The number in () is the value of cvar rf\_aviFPS and is the number of frames dumped per second when FrameDump = ON.

Screenshot 4 –The ReFrag-HUD page 1



At the very bottom of the ReFrag-HUD you always see two lines with a lot of numbers. These numbers show values regarding cvars and camera-position and angles and more.

Line 1 starts with the word CVARS and shows these values:

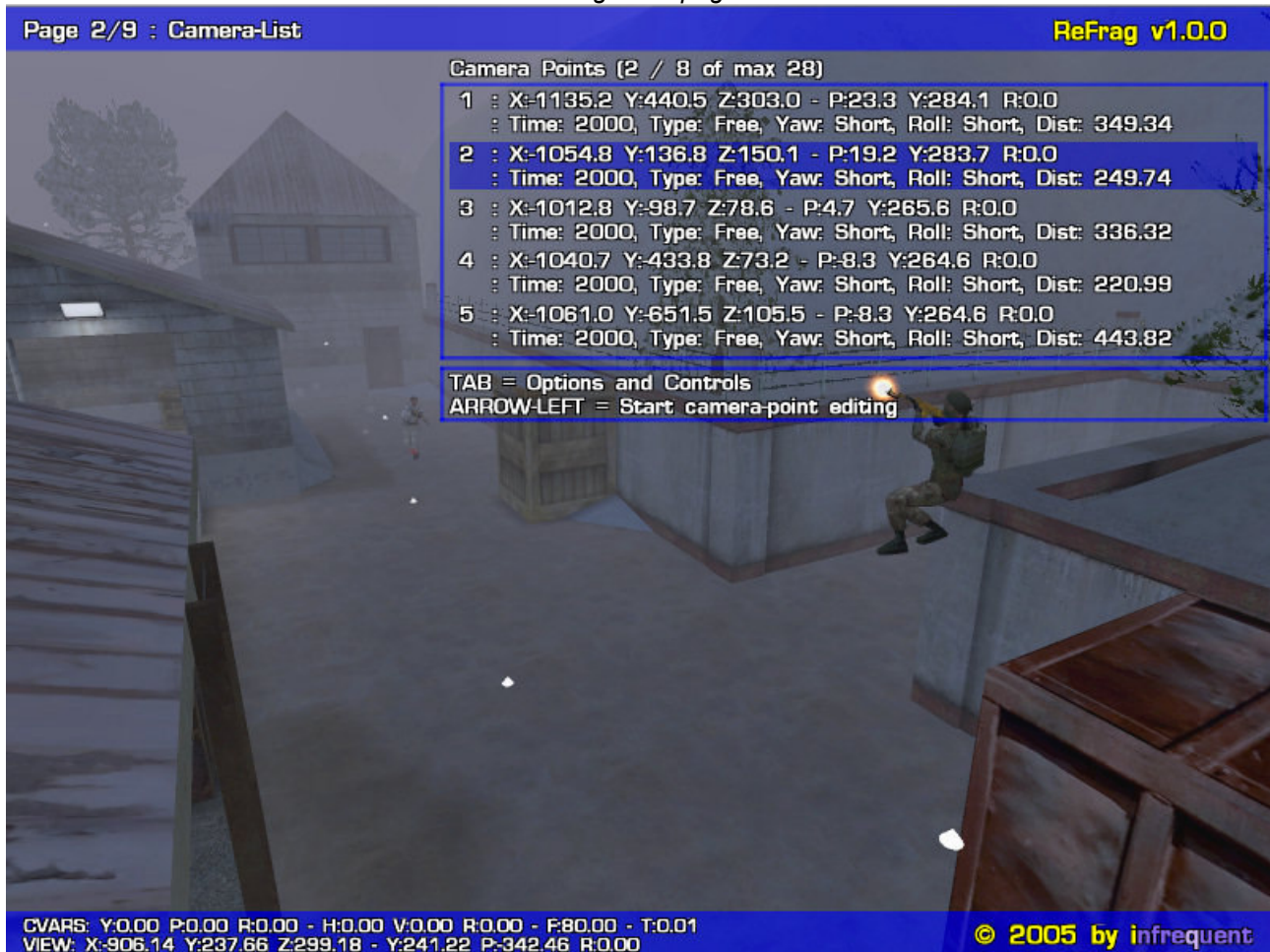
**Y** = rf\_yaw, **P** = rf\_pitch, **R** = rf\_roll, **H** = rf\_horzOffset, **V** = rf\_vertOffset, **R** = rf\_range, **F** = rf\_fov, **T** = timescale

Line 2 starts with the word VIEW and shows these values regarding the current camera-view:

**X** = x-coord, **Y** = y-coord, **Z** = z-coord, **Y** = yaw, **P** = pitch, **R** = roll

The Camera-List page (second page) contains a list of camera-points that you can set and delete interactively. You can also fly automated through the points. The picture below shows the Camera-List with a series of camera-points and also shows the camera-points floating in the air as small triangles.

Screenshot 5 –The ReFrag-HUD page 2 – The Camera-List





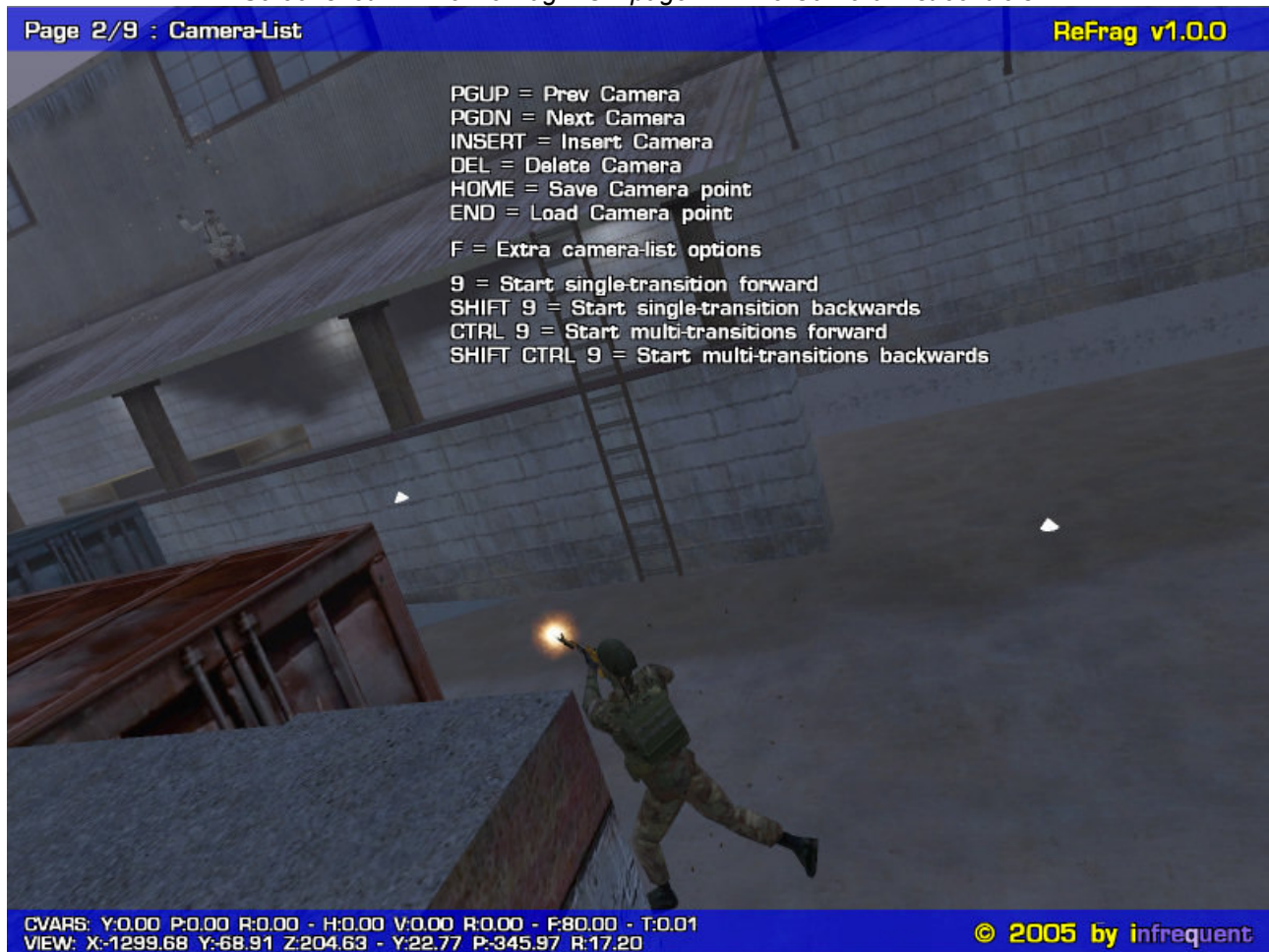
The next picture shows the a camera-point being edited. You can change the transition-time, whether or not the camera should focus on the main player, and if rotation in Yaw and Roll should take the shortest or the longest way.

Screenshot 6 – The ReFrag-HUD page 2 – The Camera-Point editing



The next picture shows the control used for manipulating the Camera-List. This list is shown when you press 'TAB' while on the Camera-List page (shown in *Screenshot 5* above). Pressing 'F' gives you even more options.

*Screenshot 7 – The ReFrag-HUD page 2 – The Camera-List controls*



## ***Keyboard and mouse***

When using ReFrag you can use keyboard and mouse to change views and setting and to execute commands and scripts.

When using standard SOF2 to view a demo you will discover that pressing a key or a mousebutton will almost always cause the demo to quit. There were a few keys like the function keys and others that could be used for binding scripts but most keys and the mouse could not be used. In ReFrag that is changed ! In ReFrag only one key causes the demo to quit and that is ESC. You actually need to press ESC twice to exit a demo. Pressing ESC only once causes ReFrag to stop using it's built-in keyboard and mouse functions.

You can press any other key without having the demo quit but a lot of the keys have been assigned functions by ReFrag. One sideeffect of having ReFrag using the keyboard so much is that you cannot bind keys to functions in the normal way using the "bind" command. With ReFrag 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 to execute your own scripts as you will see later.

Not all the keys on the keyboard are used by ReFrag 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. For instance pressing ENTER moves you to the next page in the ReFrag-HUD but SHIFT-ENTER moves to the previous page and CTRL-ENTER always moves you to the first page. SHIFT, CTRL and ALT are also used in together with the mouse to perform special viewchanges.

Almost every keyboard.- and mouse-function is documented directly in ReFrag on the ReFrag-HUD pages and they are explained in detail later in this document.

## ***Before you really begin***

As mentioned ReFrag adds a lot of cvars. These cvars control how ReFrag functions and if you experiment a bit you will soon 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 there is a better way. You can simply type the command "ResetReFragCvars" in the console and all ReFrag's own cvars will be returned to their default state. If you use this command often but have some settings you would like to keep then you should put those settings in a script and place it like this : <SOF2>\ReFrag\refrag\_defaults.cfg. ReFrag will try to execute that file after doing ResetReFragCvars.

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

To use the sound-volume normal/low/off feature you should set rf\_defaultVolume to the setting of the SOF2 cvar s\_volume. When in ReFrag type 's\_volume' in the console, see what value it has and do a 'set rf\_defaultVolume <that-value>'.

**IMPORTANT NOTES about demos:** Demos used with ReFrag should be started using the main menu instead of using the "demo" command in the console. The reason is that if you start the demo using the "demo" command then ReFrag does not know the name of the demo and cannot perform actions such as rewind.

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".

## ***Using ReFrag***

The first time you enter a demo using ReFrag you are placed in thirdperson view.

When in thirdperson view you rotate around the player using the mouse or you can do it using the keys on the numeric keypad. Simply moving the mouse will rotate you around the player.

You can also switch to firstperson view or even to a view that followed a missile that you have just thrown. You can also detach the camera and fly freely around the map or you can fly around while the camera automatically focuses on the player. You can also set up camerapoints and fly between while camera rotates like you want – or while camera still focuses on the player.

All the features mentioned and much much more is left for you to explore. Most of what ReFrag can do can be adjusted by you changing ReFrag's cvars. Many of those cvars can be changed simply by pressing a few keys. There are also a number of new commands for your convinience and to make it possible to control ReFrag from your own scripts.

The cvars, the commands and the keyboard- and mouse-controls will be described on the following pages.

## ***Demos recorded using other mods***

Since ReFrag 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 ?

Playing demos from other mods using ReFrag 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 it cannot show them in the demo. If you used skins that ReFrag does not have access to it will instead use other skins. The same goes for special HUD's from mods – ReFrag 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>\ReFrag\ or in <SOF2>\base\. Doing this may be considered a violation of copyright and I will not show you how to do it.

## ***Bugs in ReFrag***

Does ReFrag contain any bugs ? Yes, I'm 100% sure it does. However ..... ReFrag 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>.

### ***Known bugs:***

- Using high view-damping values may cause unpredictable effect such strange rotations. Just hit the Reset keys to fix it. The damping code may be changed in future versions of ReFrag.
- When being in freecam-view or transition-view you hear sound as if you were in firstperson-view. This "bug" has been known for a long time but a suitable solution has not been found yet.
- Changing the scale values so that Frag-message or Obituary-text does not fit the screen may cause a crash. ... so just don't do that ;-)

## ***Support***

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



## List of Cvars

### HUD cvars

Cvar	Description	Default value
rf_drawReFragHUD	0 = standard view, 1 = show ReFrag-HUD	1
rf_drawHealth	0 = don't draw health-bar, 1 = draw health-bar	1
rf_drawWeaponInfo	0 = don't draw weaponinfo, 1 = draw weaponinfo	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.	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 but ReFrag can print them anyway and in a more flexible way.	1
rf_obituaryX	The X coordinate where to print the lines. -1 means draw the lines centered horizontally on the screen.	2
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.	
rf_obituaryTime	The amount if time an obituary line is shown. Time is in milliseconds.	4000
rf_obituaryScale	The size of the obituary messages.	0.43
rf_drawScoreboard	0 = don't draw scoreboard when you die 1 = draw scoreboard when you die	0
rf_drawCameraPoints	0 = don't draw camera-points floating in the air when working with camera-list and transitions 1 = draw camera-points floating in the air when working with camera-list and transitions	1
rf_drawScoreboard	0 = don't draw scoreboard when you die 1 = draw scoreboard when you die	0
rf_drawCameraPoints	0 = don't draw camera-points floating in the air when working with camera-list and transitions 1 = draw camera-points floating in the air when working with camera-list and transitions	1
rf_centerPrintFactor	a value determining the size of the centered text such as the FragMessage.	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 !	4
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\0.55\space\1\text\[headshot]&\scale\0.60\space\5\text\^,Fragged by ^1[attacker]&\scale\0.40\space\6\text\^3(^b[weapon] ^3)"
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:  [timestamp] = REFRAG_Demo_UserTime [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) & = Insert NewLine	"\scale\0.45\text\^1[spreemsg]&\scale\0.55\space\1\text\[headshot]&\scale\0.60\text\^,You fragged ^+[victim]&\scale\0.40\space\6\text\^3(^b[weapon] ^3)"
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.	"^3- ^Zheadshot ^3-"

Cvar	Description	Default value
rf_overlay	<p>Defines a string to be used when rf_hudstate = 0:</p> <p>The order of the numbers are</p> <ul style="list-style-type: none"> <li>rf_drawFragMessage</li> <li>rf_drawObituary</li> <li>cg_drawGun</li> <li>rf_drawHealth</li> <li>rf_drawWeaponInfo</li> <li>cg_crossHair</li> <li>cg_crossHairNames</li> <li>cg_chatHeight</li> <li>cg_drawTimer</li> <li>cg_drawRadar</li> <li>cg_drawHUDIcons</li> <li>cg_drawTeamscores</li> <li>cg_drawFriend</li> <li>cg_lagometer</li> <li>cg_draw2d</li> </ul> <p>A value of -1 means that that particular cvar is not affected.</p> <p>See the BuildOverlay command for an easy way to set rf_overlay.</p>	"-1 -1 1 1 1 1 2 3 0 0 1 1 1 -1 1"
rf_hudState	<p>There are 5 hudstates numbered 0 to 4. A hudstate is an easy way to turn on or off many things on the hud such as health-bar, weaponinfo, teamicons, crosshair and many more. Of the 5 hudstates 4 are preset and one is userdefined and relates to rf_Overlay.</p> <p>0 = USER. Used defined. Uses the value of rf_Overlay  1 = ALL  2 = GUN &amp; 2D  3 = GUN &amp; AMMO/HEALTH  4 = GUN</p> <p>See note below for description of the values</p>	0

**NOTE on rf\_hudState settings**

**0 = USER.** Used defined. Uses the value of rf\_Overlay.

**1 = ALL.** Sets this:

rf\_drawFragMessage - UNAFFECTED  
rf\_drawObituary - UNAFFECTED  
cg\_drawGun 1  
rf\_drawHealth 1  
rf\_drawWeaponInfo 1  
cg\_crossHair – UNAFFECTED  
cg\_crossHairNames 2  
cg\_chatHeight 3  
cg\_drawTimer - UNAFFECTED  
cg\_drawRadar 1  
cg\_drawHUDIcons 1  
cg\_drawTeamscores 1  
cg\_drawFriend 1  
cg\_lagometer - UNAFFECTED  
cg\_draw2d 1

**2 = GUN & 2D.** Sets this:

rf\_drawFragMessage - UNAFFECTED  
rf\_drawObituary - UNAFFECTED  
cg\_drawGun 1  
rf\_drawHealth 1  
rf\_drawWeaponInfo 1  
cg\_crossHair – UNAFFECTED  
cg\_crossHairNames 0  
cg\_chatHeight 0  
cg\_drawTimer 0  
cg\_drawRadar 0  
cg\_drawHUDIcons 0  
cg\_drawTeamscores 0  
cg\_drawFriend 0  
cg\_lagometer 0  
cg\_draw2d 1

**3 = GUN & AMMO/HEALTH.** Sets this:  
rf\_drawFragMessage - UNAFFECTED  
rf\_drawObituary - UNAFFECTED  
cg\_drawGun 1  
rf\_drawHealth 1  
rf\_drawWeaponInfo 1  
cg\_crossHair – UNAFFECTED  
cg\_crossHairNames 0  
cg\_chatHeight 0  
cg\_drawTimer 0  
cg\_drawRadar 0  
cg\_drawHUDIcons 0  
cg\_drawTeamscores 0  
cg\_drawFriend 0  
cg\_lagometer 0  
cg\_draw2d 0

**4 = GUN.** Sets this:  
rf\_drawFragMessage - UNAFFECTED  
rf\_drawObituary - UNAFFECTED  
cg\_drawGun 1  
rf\_drawHealth 0  
rf\_drawWeaponInfo 0  
cg\_crossHair – UNAFFECTED  
cg\_crossHairNames 0  
cg\_chatHeight 0  
cg\_drawTimer 0  
cg\_drawRadar 0  
cg\_drawHUDIcons 0  
cg\_drawTeamscores 0  
cg\_drawFriend 0  
cg\_lagometer 0  
cg\_draw2d 0

## Freecam and sphere cvars

Cvar	Description	Default value
rf_yaw rf_pitch rf_roll rf_horzOffset rf_vertOffset rf_range rf_fov rf_damplIndex	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.  These cvars are set to new values when you switch to a new view. Changes you make while in the new view affects these cvars and when you switch away from the view these values are stored with the view you are leaving.	0 0 0 0 0 0 0 0
rf_firstpersonFOV	The fov value to be used when switching to firstperson-view	80
rf_thirdpersonYaw rf_thirdpersonPitch rf_thirdpersonRoll rf_thirdpersonHorzOffset rf_thirdpersonVertOffset rf_thirdpersonRange rf_thirdpersonDampIndex	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_damplIndex above for an explanation.	0 15 0 0 0 120 2
rf_missileYaw, rf_missilePitch rf_missileRoll rf_missileHorzOffset rf_missileVertOffset rf_missileRange rf_missileFOV rf_missileDampIndex	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_damplIndex above for an explanation.	0 0 0 0 0 90 80 4
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 rf_defaultPitch rf_defaultRoll rf_defaultHorzOffset rf_defaultVertOffset rf_defaultRange rf_defaultFOV rf_defaultTransitionTime	These values are the ones used when resetting any missile-view using the NUMPAD reset keys (see description of Controls). rf_defaultTransitionTime is the amount of time the reset-movement takes.	0 0 0 0 0 120 80 800
rf_cameraX rf_cameraY rf_cameraZ rf_cameraYaw rf_cameraPitch rf_cameraRoll rf_cameraFOV rf_cameraDampIndex	These values are used for the Freecam-view. The X-Y-X and Yaw-Pitch-Roll are mainly used by ReFrag for remembering the coordinates and viewangles between sessions.  rf_cameraDampIndex determines the lazyness of the movement and the turns in freecam-view.	0 0 0 0 0 0 80 2

## Freecam and sphere speed cvars

Cvar	Description	Default value
rf_freeUpDownSpeed	speed for up/down freecam movement	10
rf_freeTurnSpeed	speed for rotations in freecam	2
rf_freeRollSpeed	speed for roll in freecam	2
rf_freeMoveSpeed	speed for forward/back/left/right freecam movement	10
rf_freeSpeedFactorLow	factor for changing freecam turn, roll and move speed when SHIFT is pressed	0.3
rf_freeSpeedFactorHigh	factor for changing freecam turn, roll and move speed when ALT is pressed	2.0
rf_sphereRangeSpeed	speed for moving closer to or farther from in thirdperson or any other sphere-view mode	8
rf_sphereMoveSpeed	speed for moving around /rotating around thirdperson or any other sphere-view mode	6
rf_sphereSpeedFactorLow	factor for changing sphere-view moves and rotations SHIFT is pressed	0.15
rf_sphereSpeedFactorHigh	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 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_identityEnemy1 rf_identityEnemy2 rf_identityEnemy3 rf_identityEnemy4 rf_identityEnemy5	Specifies skinnames to be used for enemies when rf_autoSetIdentity cvar or the SetIdentity command is used	"prometheus1" "prometheus2" "prometheus3" "prometheusguard" "prometheustech"
rf_identityFriend1 rf_identityFriend2 rf_identityFriend3 rf_identityFriend4 rf_identityFriend5	Specifies skinnames to be used for teammates when rf_autoSetIdentity cvar or the SetIdentity command is used	"civilianmale1" "civilianmale2" "civilianmale3" "civilianmale4" "directormichaels"
rf_identityPlayer	Specifies skinnames 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 builtin 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_identityEnemy1 to rf_identityEnemy5 4 = Teammates are forced to use skin specified by the cvars rf_identityFriend1 to rf_identityFriend5  The values 1, 2 and 4 can be added. 5 = 4+1 meaning that we force new skin on teammates and main player.	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_demoMoveTo	A cvar used by ReFrag internally to implement the Rewind feature. Should not otherwise be touched !	0
rf_demoMoveTo_Text	A cvar used by ReFrag internally to implement the Rewind feature. Should not otherwise be touched !	0
rf_demoRewindTime	Time in milliseconds telling ReFrag how far to rewind the demo when using the Rewind feature. Default is 10000 which means 10 seconds	10000

## Media cvars

Cvar	Description	Default value
rf_screenshotOverlayA	An overlay in the format described under rf_Overlay. This is used for single screenshot. This by default specifies only gun and whatever setting for FragMessage you have.	"-1 0 1 0 0 0 0 0 0 0 0 0 0 0 0"
rf_screenshotOverlayB	An overlay in the format described under rf_Overlay. This is used for single screenshot. This by default specifies only gun.	"0 0 1 0 0 0 0 0 0 0 0 0 0 0 0"
rf_aviFPS	rf_aviFPS is the number of frames to dump as tga-files per second when dumping frames for moviemaking. rf_aviFPS is the value used for the SOF2 command cl_avidemo.	30

## 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	0
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 from 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_defaultVolume	rf_defaultVolume is used by ReFrag for the feature where you can turn sound low or off and then back to normal again.  You should set rf_defaultVolume to the sound-volume you prefer when watching SOF2 with full sound. So set it equal to your normal value for 's_volume'.	0.8
rf_extraTracers	Some weapons like the AK74 sometimes show trace of the bullets flying through the air. rf_extraTracers 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 cg_TracerChance	1
rf_turnOffPlayers	Automatically make certain players invisible  0 = Every player is visible 1 = Main player is invisible 2 = Enemyed 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_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.	-1
rf_logToActionFile	0 = don't log anything 1 = Log information about server, gametype, map and all frags involving into a text-file. If the demo is named FooBar.dm_2004 then the logfile will be called FooBar.log and placed in <SOF2>\ReFrag\demos\	0

**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 and cannot be used. Use the equivalent ReFrag cvars instead if you must.

## List of Commands

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

### View commands

The commands for freecam view do the same as the move-keys on the keyboard. Rather than using these commands in scripts it is often easier to set up a few camera-points interactively and fly that way.

Command	Description
FreeForward	Moves the camera forward using the value in rf_freeMoveSpeed
FreeBack	Moves the camera backwards using the value in rf_freeMoveSpeed
FreeLeft	Moves the camera left using the value in rf_freeMoveSpeed
FreeRight	Moves the camera right using the value in rf_freeMoveSpeed
FreeUp	Moves the camera up using the value in rf_freeUpDownSpeed
FreeDown	Moves the camera down using the value in rf_freeUpDownSpeed
FreeRollRight	Rolls the camera anti-clockwise using the value in rf_freeRollSpeed
FreeRollLeft	Rolls the camera clockwise using the value in rf_freeRollSpeed
FreeRotateUp	Rotates the camera making it look up (pitch). Uses the value in rf_freeTurnSpeed
FreeRotateDown	Rotates the camera making it look down (pitch). Uses the value in rf_freeTurnSpeed
FreeRotateRight	Rotates the camera making it look right (yaw). Uses the value in rf_freeTurnSpeed
FreeRotateLeft	Rotates the camera making it look left (yaw). Uses the value in rf_freeTurnSpeed
SetCameraPos	<p>Sets the freecam position.</p> <p>Format is SetCameraPos &lt;x&gt; &lt;y&gt; &lt;z&gt; &lt;yaw&gt; &lt;pitch&gt; &lt;roll&gt;</p> <p>Example: SetCameraPos 100 120.5 39 -4 50 -4.5</p>
SetSpherePos	<p>Sets the sphere-view position for thirdperson, missile-cam etc.</p> <p>Format is SetSpherePos &lt;yaw&gt; &lt;pitch&gt; &lt;roll&gt; &lt;horzofset&gt; &lt;vertoffset&gt; &lt;range&gt;</p> <p>Example: SetSpherePos 0 15 0 0 0 200</p>

### Camera-List commands

These commands manipulate the camera-list that you can interactively set up in ReFrag. All the commands in this list can be performed easily in ReFrag using keyboard and mouse.

Command	Description
Savecameratofile	Saves the contents of the camera-list to the specified file. If you do not specify a filename it will be saved to \cameras\current.cam
Loadcamerafromfile	Loads data for the camera-list from the specified file. If you do not specify a filename it will load \cameras\current.cam
Savecameratocamtrace	Saves the camera-list in a format readable by Smireboule's CamTrace utility. CamTrace is not released at this time. Data is saved in the file camtrace.dfc.
Firstcamerapos	Moves to the first entry in the camera-list
Lastcamerapos	Moves to the last entry in the camera-list
Nextcamerapos	Moves to the next entry in the camera-list
Prevcamerapos	Moves to the previous entry in the camera-list
Savecamerapos	Saves the current camera-position into the current slot in the camera-list
Loadcamerapos	Loads the position from the current slot in the camera-list into the freecam (changes view)
Performtransition	Starts a camera-transition starting at the current slot in the camera-list

## Demo-handling commands

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

Command	Description
Demorestart	Restart the demo from the beginning
Demorewind	<p>Rewinds the demo by the time given in milliseconds.</p> <p>Example: DemoRewind 15000</p> <p>rewinds the 15 seconds</p>
Demomoveto	<p>Moves the demo to the specified time. The time is in milliseconds. The time can be seen in ReFrag-HUD on page 1.</p> <p>Example: Demomoveto 123000</p> <p>moves the demo to the time 123000</p>
Demorun	<p>Starts a demo and sets rf_DemoFile to the name of the demo.</p> <p>Example: Demomoveto demo0009</p> <p>starts demo demo0009.dm_2004</p>

## Informational commands

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

Command	Description
ListReFragCvars	Lists all ReFrag 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)



## Misc commands

These commands manipulate the camera-list that you can interactively set up in ReFrag. All the commands in this list can be performed easily in ReFrag using keyboard and mouse.

Command	Description
ResetReFragCvars	ResetReFragCvars restores all ReFrag cvars to their default value.  If the file <SOF2>\ReFrag\refrag_defaults.cfg exists it will be executed after restoring the cvars.
KeyOn	Turns OFF the builtin controls (keyboard and mouse) and makes it so that only ESC breaks a demo. KeyOn is automatically executed every time ReFrag starts.
KeyOff	Turns OFF the builtin controls. You can no longer use any of the ReFrag keyboard/mouse controls and pressing keys will break the demo. KeyOff is executed if you press ESC !
WriteCenterText	<p>This command can be used for printing a centered text on the screen in the game.</p> <p>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).</p> <p>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. '&amp;' adds a new line.</p> <p>Example:  \scale\0.45\text\This is line 1&amp;\scale\0.55\space\1\text\This is line 2&amp;\scale\0.60\text\This is line 3</p> <p>The example above would print something like this:</p> <pre>       This is line 1        This is line 2       This is line 3 </pre> <p>The size of the lines are different size and there is a blank line between line 1 and 2.</p> <p>You can use SOF2 colorcodes in the \text\ section and the overall size of the text can be changed easily by changing rf_centerPrintFactor. The Y position of the text is set in cg_centerY.</p>
FollowPlayer	<p>Basically the same as setting rf_followPlayer but it test to make sure the players exist.</p> <p>Example:  FollowPlayer 2 – follows player 2  FollowPlayer -1 – follows main player</p>
SetIdentity	<p>Changes the main players skin to the one specified. Also sets rf_autoSetIdentity so the the skin is remembere when you restart demo or rewind demo.</p> <p>Example:  SetIdentity shopguard1</p>
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	<p>Adds a script to be executed when the demo reaches a certain time.</p> <p>Example:  AddExecAt 20000 XXX - executes script XXX.cfg at time 20000</p> <p>You can add up to 50 scripts this way at a time.</p>
ResetExecAt	Empties the list of waiting scripts set up by AddExecAt
SetSpeed	<p>SetSpeed acts much like old fashioned timescale. The difference is that SetSpeed 0 slows demo down as much as possible and freezes the picture.</p> <p>Example:  SetSpeed 0 - Practically stops the demo  SetSpeed 11 - Runs the demo at 11x normal speed</p>
BuildOverlay	Sets rf_overlay to the current setting. See rf_overlay for more details.
ShakeCamera	Shake the camera as if a grenade exploded near by.

## List of Controls

**NOTE:** The shortcuts below using SHIFT may not work when NUMLOCK is on !

### System-controls

Control	Description	Related cvars/commands
ESC	Turns off the builtin controls the first time it is pressed. Pressing it again exits the demo. See the KeyOn command to see how to turn controls back on.	KeyOff
BACKSPACE	Turns the ReFrag-HUD on or off	rf_drawReFragHUD
ENTER	When ReFrag-HUD is shown this takes you to the next page in the HUD	
SHIFT-ENTER	When ReFrag-HUD is shown this takes you to the previous page in the HUD	
CTRL-ENTER	When ReFrag-HUD is shown this takes you to first page in the HUD	
SHIFT-TAB	Rewind demo	rf_demoFile rf_demoRewindTime
CTRL-TAB	Restart demo	rf_demoFile
F6	Next sound-volume setting (full/low/off)	rf_defaultVolume
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_IdentityPlayer
SHIFT-F8	Previous identity for main player	rf_autoSetIdentity rf_IdentityPlayer
CTRL-F8	Reset to demo identity for main player	rf_autoSetIdentity rf_IdentityPlayer
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 overlay-HUD (5 settings, setting 0 = user-defined)	rf_overlay rf_hudState

### 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
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_dampIndex
SHIFT-7	Previous damping setting for this view	rf_dampIndex

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

Control	Description	Related cvars/commands
NUMPAD-1	Pitch up	rf_pitch
NUMPAD-2	Reset Pitch	rf_pitch
NUMPAD-3	Pitch Down	rf_pitch
NUMPAD-4	Yaw left	rf_yaw
NUMPAD-5	Reset Yaw	rf_yaw
NUMPAD-6	Yaw Right	rf_yaw
NUMPAD-7	HorzOffset left	rf_horzOffset
NUMPAD-8	Reset HorzOffset	rf_horzOffset
NUMPAD-9	HorzOffset right	rf_horzOffset
NUMPAD-NUMLOCK	VertOffset down	rf_vertOffset
NUMPAD-8	Reset VertOffset	rf_vertOffset
NUMPAD-9	VertOffset up	rf_vertOffset
NUMPAD-PLUS	Increase Range	rf_range
NUMPAD-MINUS	Decrease Range	rf_range
NUMPAD-ENTER	Reset Range	rf_range
ALT-NUMPAD-PLUS	Increase Fov	rf_fov
ALT-NUMPAD-MINUS	Decrease Fov	rf_fov
ALT-NUMPAD-ENTER	Reset Fov	rf_fov
NUMPAD_DEL	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 reduces the speed by the factor set in rf_sphereSpeedFactorLow	
ALT	ALT combined with the sphere controls above increases the speed by the factor set in rf_sphereSpeedFactorHigh	
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

Control	Description	Related cvars/commands
W	Forward	FreeForward
S	Back	FreeBack
A	Left	FreeLeft
D	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_freeSpeedFactorLow	rf_freeSpeedFactorLow
ALT	ALT combined with the freecam controls above increases the speed by the factor set in rf_freeSpeedFactorHigh	
CTRL-MOUSEMOVE	Fov	rf_fov

## Demo-speed controls

Control	Description	Related cvars or commands
F1	Set speed to 0 (stop demo as much as possible)	SetSpeed
F2	Decrease demo speed	SetSpeed
F3	Increase demo speed	SetSpeed
F4	Set demo speed to normal speed	SetSpeed
MOUSE1	Switch speed between 0% and 50% of normal	SetSpeed
MOUSE2	Switch speed between 100% and 50% of normal	SetSpeed
MOUSE SCROLLWHEEL	Adjust speed up or down	SetSpeed

## Camera-List

Only work when on the camera-list page

Control	Description	Related cvars
INSERT	Insert new camera-point before marked camera-point and store current camera in it	
DELETE	Delete marked camera-point	
HOME	Save current camera in marked camera-point	
END	Load camera from marked camera-points	
PGUP	Go to previous camera-point and mark it	
PGDOWN	Go to next camera-point and mark it	
ARROW-UP	Go to previous camera-point, mark it and load it into the camera	
ARROW-DOWN	Go to next camera-point, mark it and load it into the camera	
ARROW-LEFT	Start or End camera-point editing. In editing mode you can change transition type (milliseconds), type (free or tracking), Yaw and roll way (shortest way or longest way)	
TAB	List camera-list options and controls	
F	Extra camera-list options	
9	Start single transition forward	
SHIFT-9	Start single transition backwards	
CTRL-9	Start multi-transitions forward	
SHIFT-CTRL-9	Start multi-transitions backwards	

## Script controls

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

## Media controls

Control	Description	Related cvars
F5	Take a screenshot	rf_screenshotOverlayA
SHIFT-F5	Take a screenshot	rf_screenshotOverlayB
CTRL-F5	Start/stop dumping frames using cl_avidemo	cl_aviDemo rf_aviFPS

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***-infrequent (07-august-2005)***