

KeyGrip for Quake

Version 1.0.6b

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Introduction

Got a hot new patch that you want to show off? Have a Clan that needs an introduction? Want to become the Steven Spielberg of Quake? Welcome to KeyGrip 1.0.

KeyGrip 1.0 is the next generation non-linear editor for Quake Movies and demos. By next generation we mean completely visual. Now there is no more complicated text to decipher. Only pictures to from which to pick and choose. The ability to make great movies is just a click away.

Menus and Buttons

The File Menu

- A. **New** (ctrl-n) - **INOPERABLE IN CURRENT VERSION**. You must work from existing demos.
- B. **Open** (ctrl-o) - Opens a demo in a new window. You may have up to 26 demos open at a time.
- C. **Open Pak File** - Opens a pak file in the pak file viewer. See instructions for the pak file viewer below.
- D. **Close** - Closes the current demo and its window. Be sure to save first!
- E. **Save** (ctrl-s) - Saves the demo under its current filename (shown in title bar for that demo).
- F. **Save As** - Save the demo under a new filename. All future saves will be under this name.
- G. **Preferences** - Sets preferences. See description of preference dialog below.
- H. **Exit** - Exits the program. Be sure to save all work first!!

The Edit Menu

- A. **Undo (ctrl-z)** - **INOPERABLE IN CURRENT VERSION.**
- B. **Cut (ctrl-x)** - Cut the current selection to the clipboard. Equivalent to a copy/delete.
- C. **Copy (ctrl-c)** - Copy the current selection to the clipboard.
- D. **Paste (ctrl-v)** - Paste the current selection, the selection will be inserted immediately before the current inflag. So if you have a demo that looks like this: 0 16 [32 48] 64 80 where 32-48 are highlighted, after pasting, your new demo will look like: 0 16 X X X 32 48.
- E. **Paste on End (ctrl-e)** - Paste the current selection on the end of the demo, but before the disconnect block.
- F. **Delete (del)** - Delete the current selection. You will be asked for confirmation.
- G. **Select All (ctrl-a)** - Select the entire demo (0..last block)
- H. **Find (ctrl-f)** - Find (or delete) a specific message in the demo.

The Insert Menu

- A. **Black Section** - **INOPERABLE IN CURRENT VERSION.**
- B. **New Message** - Insert a new message in the first selected block
- C. **Defaults** - Reset certain parameters (fov, palette, weapon visibility, etc). Inserted at first selected frame.

The F/X Menu

- A. **Color Fade** - Insert a color fade through the current selected range (see below for more info)
- B. **Change Speed** - Speed up or slow down the current selection by a certain percent. You can have a constant change (speed is same over entire interval) or a fade (speed starts out normal, and gradually accelerates/decelerates to the final speed at the end of the selection).
- C. **Reverse** - Reverse the current selection. Unlike the KeyGrip 0.7 beta, this is a TRUE reverse. So if you have a selection like: 0 16 [32 48] 64 80 (note that the actual blocks selected are 32..63) after the reverse you will have: 0 16 [63 47] 64 80
- D. **Zoom In/Out** - Change the FOV over a certain range for a zooming effect (see below for more info).

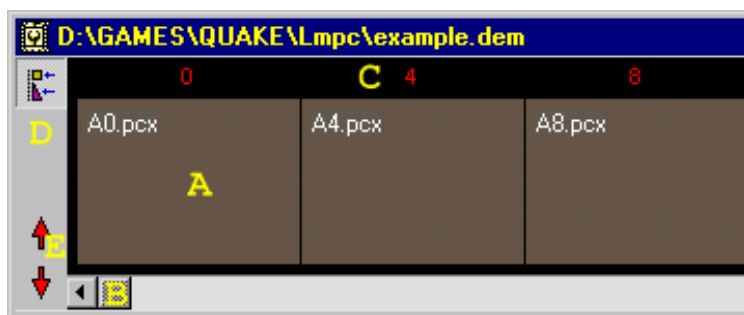
Dialogs

KeyGrip 1.0 has a ton of dialogs. The key to making great movies and having neat effects is learning how to use them all.

Main Demo Window

This is the window that you edit the actual demo in.

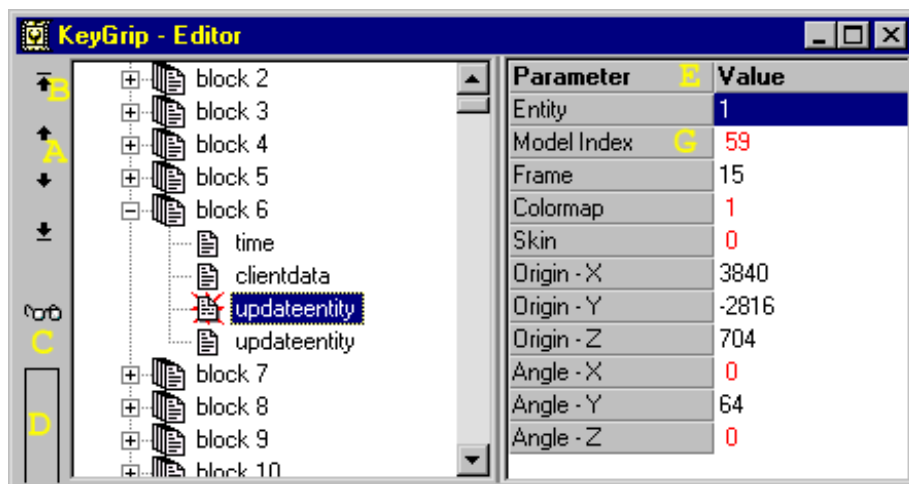
- A. It has frames for the screenshots (configurable in the preferences dialog).
- B. The scroll bar on the bottom lets you slide through the entire movie.
- C. The numbers above the blocks are block numbers. Click on them, and the time (for that block) will be displayed instead. Blocks



that say “-1.00s” have no time message.

- D. On the left side is a button, depressed by default, with some arrows and boxes. This is “snap to offset.” With this down, you can only scroll on offsets of your block gap (i.e. if your frames are 0..16..32..48, you cannot scroll to 1..17..33..49, only 16..32..48..64). With this off, you can scroll to any value.
- E. The red up and down arrows allow you to view more/less sound channels. Quake has 8 sound channels (1..8) and a “let Quake pick” channel, 0. Lines on the sound channels represent sounds. Different colors are different sounds. Sounds may overlap, however the second sound on the same channel will cut off the first sound. Left clicking a sound will play it, right clicking it will take you to that message in the block tree.

Block Tree



The Block Tree allows you to edit many parts of the demo, down to the individual messages and message parameters.

Drag and drop is implemented between the right and left frames. You can drag a range of blocks from the right frame with one demo selected, onto another demo, to paste them at the end. Messages work in a similar fashion.

- A. The Up and Down arrows on the left skip to the previous/next block in the demo.
- B. The Up and Down BAR arrows on the left skip to the previous/next demo in the block tree.
- C. The eyeglasses show the selection from the current

filmstrip in the right pane of the window.

- D.** The progress bar is active when a large tree is being expanded.
- E.** When an individual message is selected, the right pane will change to that message's parameters.
- F.** Parameters displayed as "unspecified" are sometimes listed for this message type, but were not listed in the message block.
- G.** Parameters in RED were not listed in this block, but can be deduced from this entity's spawn message. These spawn parameters are displayed. You can change them from the default if you like. To reset them back to the default, type a space.

— VERY IMPORTANT —

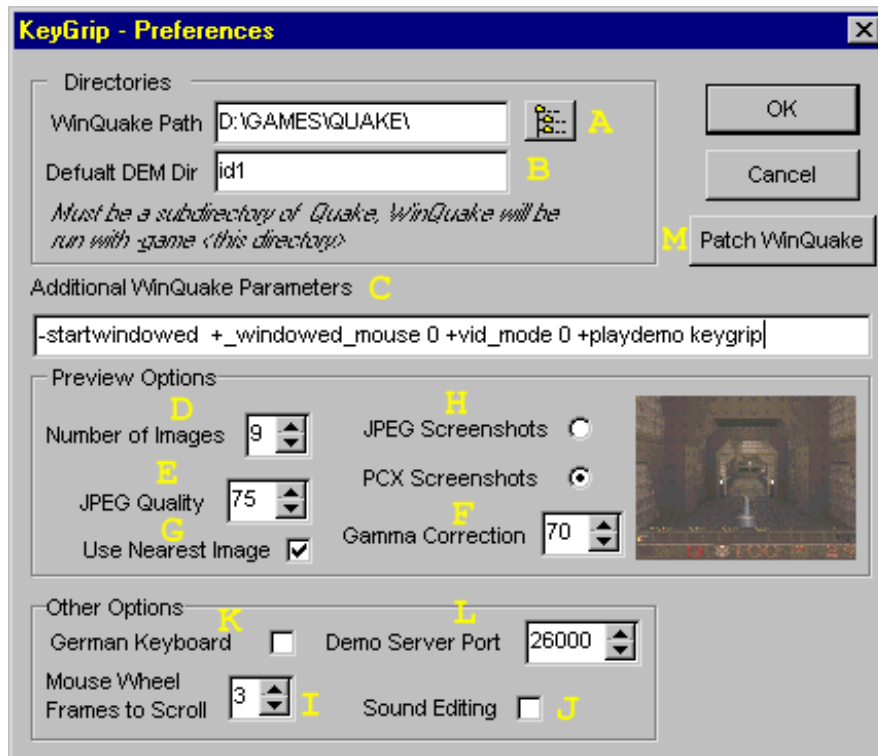
For changes to a message parameter to take effect, you click on another message parameter or select another message. This is the only way it knows you are finished editing and ready to save your changes.

For information on message types/parameters, see *ALL ABOUT DEMOS* below.

Preferences

Here you set all the options for KeyGrip. Some options may not take effect until you open a new demo.

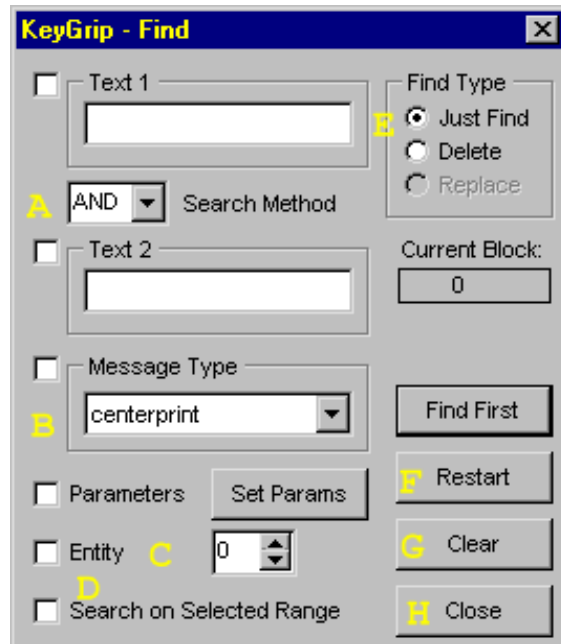
- A.** WinQuake path: Path to your winquake.exe executable. Should be the same as your quake dir.
- B.** Default DEM dir: Directory for your current project (or id1 for none). Demos will be loaded from this dir, and quake will be run -game <this dir>. Should be a subdirectory of quake, and just the directory name, not the entire path.
- C.** Additional WinQuake parameters: Set any additional preferences or toggles you need here. You should leave the default ones there unless you know what you are doing. The default ones are: "-startwindowed +_windowed_mouse 0 +vid_mode 0 +playdemo keygrip"
- D.** Number of images: Number of screenshots to display on the filmstrip at a time. 9 is the default and works good for 1024x768 resolution. Changing this option takes effect when opening a new demo.
- E.** JPEG Quality: Set a higher quality for quicker compression, lower quality for less disk space.



- F.** Gamma Correction: Automatically brightens images by a certain amount.
- G.** Use Nearest Image: If the screenshot for a block is not available, but one for an adjacent block is, it will be used instead. A yellow line will appear of the screenshot to indicate this. The tooltip for that screenshot will be the block number of the actual screenshot being displayed.
- H.** Jpeg/PCX Screenshots: You can use either JPEG or PCX screenshots. .JPG files are smaller, but take longer to convert.
- I.** Mouse Wheel Frames to Scroll: If you have a mouse with a wheel, this will select the number of frames to scroll for each “click” of the wheel. If you do not have one of these mice, go buy one. Best input invention since the joystick.
- J.** Sound Editing: Turn this off to disable sound editing (no lines displayed, no functioning sound list). This also speeds up the loading/editing of demos.
- K.** German Keyboard: If KeyGrip sends the string “plazdemo tempkg1.dem” to WinQuake, instead of the correct “playdemo tempkg1.dem” then you need to check this box.
- L.** Demo Server Port: If you want to run the demo server on a port other than 26000, change this. Be sure to set the ‘port’ in Quake as well.
- M.** Patch WinQuake: This will patch WinQuake 1.0 (internal ver 1.09) to remove the “Wrote quake00.pcx” messages. Only works on this version of WinQuake, and only needs to be run once.

Find Dialog

This is one of the most powerful features in KeyGrip 1.0. It allows you to quickly and easily find (and delete) any message in the demo.



- A. You can set one or two text search strings in Text1 and Text2. You can set the find type for AND/OR/NOT (not = has the first string, but not the second).
- B. You can restrict the search to a particular message type, or messages with certain parameters. Note that if you search by parameters, you must also specify a message type.
- C. If you search by entity, only messages which have an entity field (updateentity, sound, etc) with a particular entity will be displayed.
- D. Search on Selected Range will cause KeyGrip to only search the range selected in the current filmstrip.
- E. You can either do a straight find, or a find/delete. See the delete dialog below for more info.
- F. Restart will set the current block back to 0.
- G. Clear will get rid of all the search parameters and set the current block back to 0.
- H. Close will close the find dialog.

Delete Confirmation (In Find)

The message parameters are displayed, and you are given several choices of what to do with the message.

Hit “yes” to delete this message, and continue to the next.

Hit “no” to leave this message, and continue to the next.

Hit “delete all” to delete this message, and all others to the end of the demo. If you skipped earlier messages, they will not be deleted.

“Cancel” closes the dialog at the current block.

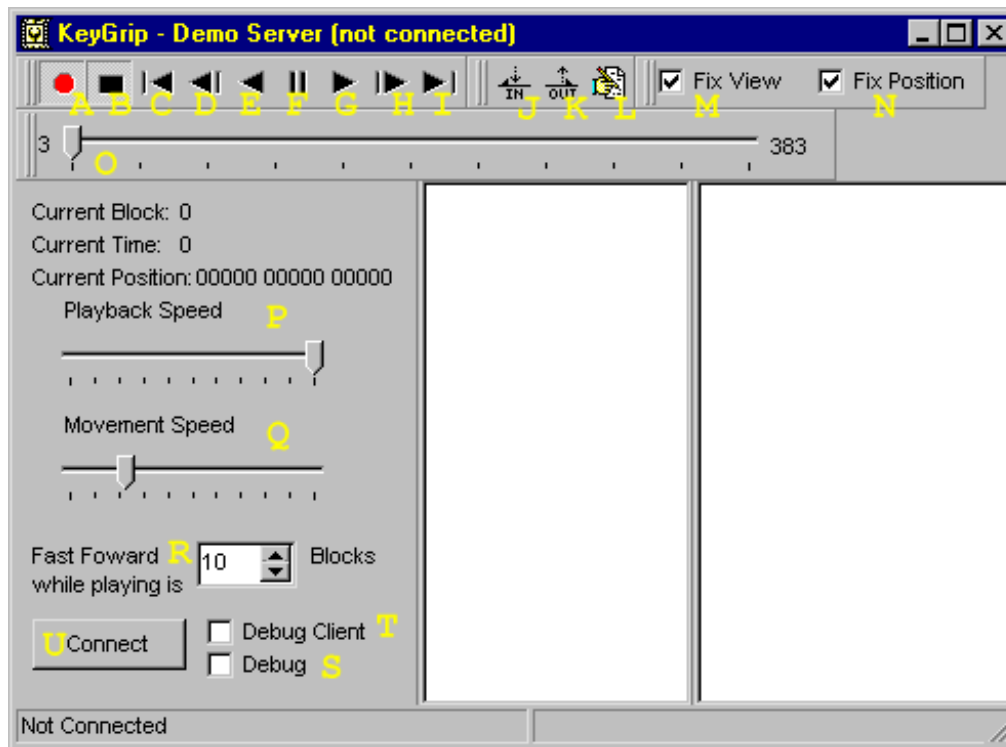
Clicking the binoculars will go to the current block/message in the block tree.

Demo Server

The demo server is a multi-purpose dialog that allows you to play and manipulate Quake demos.

Currently, it has the following functionality:










- Preview the demo, including VCR style controls for playback.
- Fly around in the demo, getting different perspectives on the situation.
- Set in and out flags while viewing the demo.



To use the demo controls from within Quake, you need to exec the file 'kgdemo.cfg'. It is included in the distribution and should be placed in your Quake\id1 directory. You can optionally add '+exec kgdemo.cfg' to the Command Line Parameters dialog box in Preferences. The letters below are the default bindings for Quake. You can change these by editing the kgdemo.cfg file.

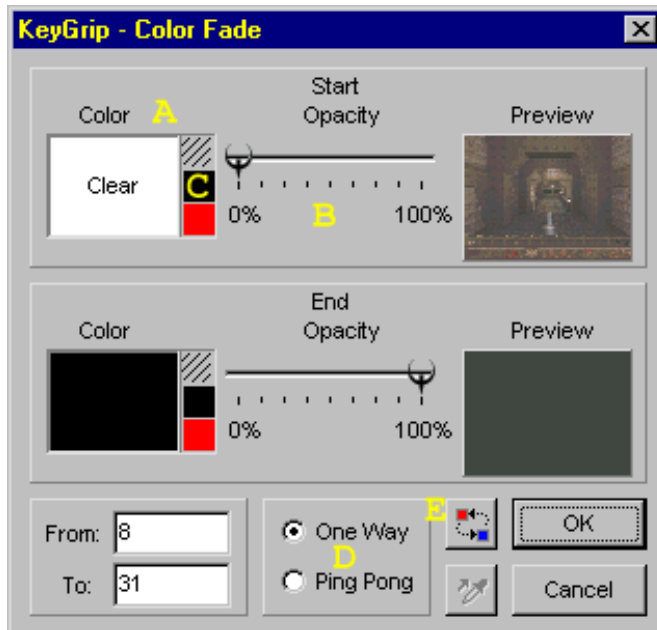
- A. This button can be thought of as “power.” When it is down the demo server is running and clients can connect. To reset the server, click it once to turn it off, then again to turn it back on.
- B. This button ‘stops’ playback, but keeps the client connected by sending KEEPALIVE messages.
- C. First Frame **R** - This sets the current block to 3
- D. Previous Frame **T** - When the demo is paused, this will decrement the current block by one. When the demo is playing, it will decrement the

current block by the number of blocks in the FF while playing box.

- E.** Play Reverse  - This plays the demo backwards
- F.** Pause  - This will pause the demo by repeatedly sending the current block.
- G.** Play Forward  - This plays the demo in normal fashion.
- H.** Next Frame  - When the demo is paused, this will increment the current block by one. When the demo is playing, it will increment the current block by the number of blocks in the FF while playing box.
- I.** Last Frame  - This advances the demo to the last frame.
- J.** Set in flag  - This set the in flag at the current block.
- K.** Set out flag  - This sets the out flag at the current block.
- L.** Go to block - This will open up the block tree and go to the current block.
- M.** Fix View  - Turning this off will allow you to look around freely while the demo is playing or paused.
- N.** Fix Position  - Turning this off will allow you to move around the Quake world freely while the demo is playing or paused. Note that you will only be able to see entities in a small area of the world.
- O.** Position Slider - You can set the current position using this slider. **Note: This only works while the demo is paused.**
- P.** Playback Speed - This adjusts the speed at which KeyGrip sends demo packets to the server. At far right it will send packets as quickly as possible.
- Q.** Movement Speed - This controls the speed at which you move with “Fix Position” off. The default is approximately the normal speed in Quake.
- R.** Fast Forward while playing - sets the number of blocks to advance when forward/rewind are pressed while the demo is playing.
- S.** Debug - This prints debug info about the current connection, not normally needed.
- T.** Debug Client - This prints info on the incoming data. Not normally needed.
- U.** Connect - This sends the string ‘connect localhost’ to Quake to allow it to connect.

Color Fade Dialog

This dialog allows you to fade between two colors over a range of blocks.



- A. Color is the color that will be faded to/from.
- B. Opacity is the clarity/transparency of the color (red 50% would be like a pink film on the screen).
- C. There are 3 “shortcut” buttons for color - clear, black, and red. These automatically set the color and opacity for you. To set the color manually, click the color box.
- D. At the bottom, you have the choice of “one way” or “ping pong” One way is a straight fade from one color to another. Ping pong fades from one to another halfway through the range, then fades back by the end. Use this to make a transition in the middle of the demo for example.
- E. The button with red/blue boxes is “switch start/end” and will switch the start/end colors and opacities.

Zoom Dialog

The zoom dialog allows you to fade between two different FOV's over a selected range of blocks. A preview window is provided to give you an idea of how it will look.

You can do a straight fade over the entire range, or ping pong, going from the first value, to the second, back to the first at the end of the range. Use this in the middle of a demo for transition effects.

Zoom Image Window

This allows you to see blowups of the thumbnail images. You bring it up by clicking the Zoom Thumbnail tool on the filmstrip.

The |< and >| buttons go to the first/last screenshot in the demo (note that if you only took screenshots for 1-16, the last screenshot will be 16, even though you may have 1000 blocks in the demo).

The << and >> arrows go one screenshot forward or back in the demo. It skips all blocks without screenshots.

The Play button runs through the screenshots in order. The stop button stops this.

Item Calculator

Use this tool to determine values for the “items” parameter of the Clientdata message. It is a fancy bitmapped field which is hard to calculate by hand. You can input a value to determine the correct items, or set the items to get a value (negative values are OK).

Pak File Viewer

You can use the pak file viewer to open the contents of any Quake PAK file. Currently the only functionality is that you can drag sound files from it directly into a sound list to add them to that demo’s precache sound list.

Insert Message Dialog

Here you can select the type of message to insert and the message parameters.

To insert a return in a text string, use \n.

Insert Defaults Dialog

This allows you to insert a “stufftext” message at any point in the demo to reset certain values. You can select manually, or hit “reset all” to select them all.

You should not use insert defaults on blocks 0 or 1. If you try and insert defaults on one of these blocks, KeyGrip will automatically skip to 2.

Sound List

The sound list shows the sounds precached in the current demo. You must have sound editing turned on in preferences for this to work.

Use the + button to add sounds from a \sound\ directory under your current working directory. You can also drag sounds from a pak file in your working directory onto the sound list.

Use the - button to remove a sound from the list. It will also be removed from all places in the demo where it occurs. Other sounds will be renumbered accordingly.

The PLAY button will play the sound. Note that this will not work if you have WinQuake or another sound application open.

The Sound Properties button will give you info about the sound, including length and file location.

Entity List

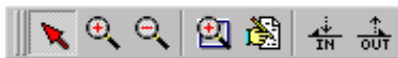
The entity list displays all the entities spawned in the demo, and their entity numbers. In the future, it will have greatly enhanced flexibility.

Toolbars and Selections

The Toolbars



The First toolbar (looks like a standard windows toolbar) contains quick links to the most important functions on the menu. It can be dragged off the docking bar if you prefer.



The second toolbar contains the selection/blocking and viewing tools. See below for information on how the selection tools work. Each tool does the opposite of its function when the right mouse button is used (e.g. zoom in would zoom out, mark in flag would mark the out flag).



The large toolbar contains the buttons for previewing and updating the filmstrip. The buttons are:

- A. Update All Thumbnails: This generates thumbnail screenshots for all the frames at the current zoom level. After doing this, you will be able to scroll the entire demo and see screenshots for every block (except the disconnect block).
- B. Update Viewable: This generates thumbnail screenshots for the viewable frames in the filmstrip (9 frames by default, but can be changed in preferences). The first 3 blocks of the demo are copied to a file, along with the range of blocks displayed in the filmstrip, and it is run through Quake. Also, any block that has a “setview” message in it will be included. This way view changes are done correctly.
- C. Play Selection: This plays the currently selected range of blocks in Quake. The first 3 blocks, and any setview blocks are included as above.

- D.** Preview Cut: One of the most useful new tools, this plays a range of blocks AROUND your selection, giving you an idea of what it will look like if you cut that section out. You are given a choice of number of blocks to preview before/after the cut.
- E.** Stop Updating: If for some reason Quake crashes or fails to take enough screenshots while updating, you can use this button to return to KeyGrip.
- F.** Refresh Selection: This will take the range of blocks you have selected in the Block Tree, and select the same blocks in the filmstrip.

Selections

Accurate and simple selection is very important to a program like this, so it is very essential to understand how to select blocks, and what a selection means.

A note that applies to ALL selections:

The selection STARTS where you set the inflag, i.e. the block you click on, i.e. the first frame in color.

The selection ENDS on the first block BEFORE start of the gray boxes.

What this means:

If you have frames displayed like this:

4 8 12 16 20 24 28 32 36

And set the inflag on 12, you will see:

X X 12 16 20 24 28 32 36 (where X's represent gray boxes/images)

If you click on 24 to set the outflag, you will see:

X X 12 16 20 24 X X X

But the actual blocks selected are 12 - 27.

This is fundamental to the way the program works and is the most logical way to select things. e.g. clicking on the last visible block ALWAYS set the outflag on the LAST block, otherwise you would have to zoom in all the way to select the final block as the outflag. This affects how all functions are performed INCLUDING REVERSE in this version.

If you are unsure of which blocks are selected, hit the “Delete” key. It will pop up a dialog showing which blocks are selected, and asking if you would like to delete them. Unless you actually mean to delete them, hit no.

WHEN IN DOUBT, ZOOM IN ALL THE WAY BEFORE SELECTING THINGS

First selection method:

Use the arrow tool to select frames as you would multiple files in Explorer.

Single clicking will select the from the current frame up to one block before the next frame. The frame you click on will be highlighted, all others will be gray. If you are zoomed in all the way, this will select 1 block. You can then shift-click (or right click) on another block to select the outflag position.

Second selection method:

There are 2 buttons labeled "IN" and "OUT". These are called in and out flags. By clicking "In" and a frame you set the beginning of your selection on the block you click.. Then by clicking "OUT" and the ending frame you end your selection.

Your First Movie

Anyone who has been demo editing for a while has probably run across the infamous QuakeLab:Multimedia movie tutorial. I have recorded the demo as listed in the QL:MM tutorial (minus the markwav and cut stuff). Here is how to edit it in KeyGrip.

1. Start KeyGrip

2. Using the File-Open dialog, open “qlmm.dem”
3. Use the “Zoom Out” tool on the small toolbar and click on the first block until the frames are numbered 0..16..32... (depending on the number of images on your filmstrip, you may not have to do this).
4. Hit the “Update All Thumbnails” button on the big toolbar to generate screenshots for all the frames. Quake will run the demo, and KeyGrip will come back and convert the images.
5. Now, we want to get some smooth cuts between a couple different viewing angles of the grunt. Use the Zoom Image tool, and click on a frame around 240.
6. Use the << and >> arrows to scroll forward and backwards. You will see the view approach the grunt, and then shift left. Find the frame that is just _before_ the view shifts to the left of the grunt (I used 320).
7. Using the arrow tool, click on this frame (the rest of the frames will turn grayscale).
8. Now, continue scrolling the magnified image window until the view stabilizes on the left of the grunt (around frame 368).
9. Now, block 368 is ok, so we want to delete everything up to that. Again using the arrow tool, either right click or shift click on the previous frame - 352. The actual selection will be 320-367.
10. You should now have frames 320-352 highlighted, and the rest grayed out.
11. This is the section you are going to delete. To make sure it creates a smooth transition, use the “Preview Cut” button on the big toolbar. The defaults of 100 blocks before/after are fine.
12. If it looks ok, go ahead and delete that section (Edit - Delete, or the DEL key). After deleting, KeyGrip shifts the other blocks over and recalculates the block numbers. It also re-times the demo to prevent there from being big gaps in time.
13. Now Click the Zoom Image tool around block 320. Scroll forward until you see the view start shifting to the right (just after frame 368). Continue scrolling until the view stabilizes (around frame 448).
14. The position is good at 368, and again at 448, so we want to delete everything in between (368 - 447)
15. Block off the section (368 - 432) as above and delete.
16. Finally, use the Zoom Image tool again, and locate the block just before the view changes again. (It changes at 448, so you want 432). Select to 464 (just three screenshots) and delete.
17. Ok! The cutting process is now done! Hit ctrl-A to select the entire demo, then use “Play Selection” to watch it.

18. You may want to save the demo at this time.
19. Now lets add some effects and clean it up a bit.
20. First, lets get rid of that “notarget” message at beginning. Do an edit - find. In the first text box, type “notarget” Select “Delete” under Find Type. Click the Find First button.
21. KeyGrip should find the print message at block 70 and ask if you want to delete it. Hit “yes”. KeyGrip will search for more occurrences and stop when it doesn’t find any.
22. Close the find dialog.
23. If you ever go to block 70 in the Block Tree, you will note that there is a “nop” instruction there. Quake does not allow empty blocks, so if you delete all the messages in a block (and there was only one in this one) KeyGrip will insert a nop instruction to keep Quake from crashing.
24. Now we should clean of some things so that the demo appears the same on everyone’s system.
25. Select the first block, and do an Insert - Defaults.
26. In the defaults dialog, select: Fast Console Speed, Reset FOV, Crosshair Off, Weapon Model ON, and type in “120” for viewsize, then select that one too. Hit OK to insert these defaults. (The stufftext message with these defaults will actually be inserted in block 2, not block 0).
27. Now for the fun part - Lets insert some sounds.
28. You need to make 4 WAV files for the conversation between you and the Grunt. You can use Sound Recorder or another wav program to record them. They should be 16bit, 11khz.
29. Record these lines:
Grunt (growling): "Who the hell are you?"
You: "I'm (your name)."
Grunt: "I'm Biff."
You: "No, you're dead."
30. Save them as something obvious and place them in a subdirectory called “sound” under your \quake\id1 directory (e.g. c:\quake\id1\sound*.wav)

31. Back in KeyGrip, open up the sound list (View - Soundlist).
32. Using the + Button, individually add the 4 sounds you created. They should appear at the bottom of the list.
33. Drop down 5 channels of the sound track using the red down arrows on the demo window (hit it several times).
34. We want to insert the first one right when the view gets up close to the grunt (block 288).
35. Drag the first wav (who the..) from the sound list onto the screenshot for block 288.
36. A new line should appear on channel 5 under block 288.
37. We want the second one to start as soon as that one is finished, so drag the next one (I'm..) from the list onto block 336.
38. Drop the 3rd one on block 368, and the 4th on 416.
39. The death is the MOST important part of this whole film, so lets slow it down a little.
40. Select blocks 416-528
41. Do an F/X - Change Speed, 50%, OK
42. Select All and Play Selection to see your great movie..
43. Finally, let's add a fade-in at the beginning.
44. Select blocks 0 - 64 and go to F/X - Fade.
45. We want to fade from black -> clear, so in the top half of the fade dialog, select the small black box. In the bottom half, select the clear box (has the \\ lines in it).
46. Hit OK to apply the fade.
47. Use play selection or update viewable to see the effect.
48. Congratulations, you have made your first movie!

All About Quake Demos

This section is intended to give a quick overview of how Quake demos work and what you need to know to edit them. For full info, check out the official DEM specs at:

<http://www.physik.uni-leipzig.de/~girlich/games/>

I have included the latest version in this ZIP for your convenience.

The basic format of a demo file is BLOCKS of MESSAGES. Blocks are simply groups of messages sent to the client at a particular time. Most blocks are time stamped with the “TIME” message. Blocks are sent in order. However if the time of a block is earlier than the time of a previous block, that block is skipped (since supposedly it has already happened).

Blocks contain one or more messages (they MUST contain at least one).

For descriptions of all the message types, see the dem specs.

The majority of the messages are “clientdata” or “updateentity” messages.

“Clientdata” messages describe the state of the client (that’s you, the viewer/player) at that block. Information includes health/armor/weapons/ammo etc.

“Updateentity” messages set various parameters for entities in the game. Entities are objects in the game, they can be players, monsters, items, weapons, or just about any other thing. Updateentity messages change the position/rotation/skin/model for the entity.

Other important messages:

“Print” prints a message at the console, like those “You got 10 shells” messages.

“Centerprint” prints a message in the center of the screen for several seconds.

“Sound” plays a sound. The sound must be precached in the sound list.

“Stufftext” sends a command to the console. The command is executed just as if you had pulled down the console and typed it at that instant.

“Setview” changes the entity that the camera views from.

KeyGrip lists all numbers just as they appear in the demo, which means they may not always be intuitive. Here are the conversions between KeyGrip numbers and LMPC numbers:

$\text{KG Angle} / 256.0 * 360.0 = \text{LMPC Angle (degrees)}$

-Quake stores 256 possible angles, LMPC displays angles in degrees

$\text{KG Coordinate} * 0.125 = \text{LMPC Coordinate (quake units)}$

-Quake stores coordinates as internally as integers, however using the edicts command (or map utilities, etc) the number is shown in “quake units.”

$\text{KG Particle Velocity} * 0.0625 = \text{LMPC Particle Velocity (???)}$

$\text{KG Sound number} = \text{LMPC Sound number} - 1$

All KeyGrip numbering is 0 based, including the sound list.

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