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# ScummVM Documentation

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Jul 16, 2022

# The basics

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This page explains how to install ScummVM on a computer. For all other platforms, see the relevant [platform guide](#).

## Windows

There are two ways to install ScummVM on Windows: use the installer, or install manually.

### Installing ScummVM using the installer

Download the Windows installer for your operating system from the [ScummVM downloads page](#), and double click the downloaded file. The installer guides you through the install process, and adds a shortcut to the Start Menu. There is also an option to add a shortcut to the desktop.

To run ScummVM, either navigate to desktop and double click the ScummVM shortcut, or go to **Start > All Apps > ScummVM**. For Windows XP, go to **Start > All Apps > ScummVM**.

### Installing ScummVM manually

Download the Windows zip file for your operating system (32bit or 64bit). To extract the files, right-click the folder and select **Extract All**.

To run ScummVM from the extracted folder, find the `scummvm.exe` file and double click it.

### Running ScummVM in portable mode

Starting with ScummVM 2.6.0, ScummVM offers a portable mode. Instead of storing saved games, icons and screenshots in your user's directory, they are stored in the same folder as the ScummVM executable.

To run ScummVM in portable mode, create an empty file called `scummvm.ini` in the folder where you extracted the ScummVM zipfile.

## macOS

### Installing ScummVM using the disk image

Download the recommended disk image file from the [ScummVM downloads page](#). After the download has completed, double click the file to mount the disk image file. A window containing the ScummVM icon opens. Drag this icon into your Applications folder to install ScummVM.

To run ScummVM, click on the icon in the Applications folder.

---

**Note:** macOS includes technology called Gatekeeper, which checks to ensure only trusted software is run on your Mac. ScummVM is not available from the App Store, so follow the steps on this [Apple support page](#) to allow ScummVM to run.

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## Linux

There are multiple ways to install ScummVM on Linux: use the Snap Store, Flathub or the software repository, or manually install the release binary.

### Installing ScummVM using the Snap Store

A Snap is an app that is bundled with its dependencies, which makes the install on any Linux operating system very easy. Snap comes pre-installed on Debian and Ubuntu-based distributions, but can be installed on any Linux distribution by following the instructions on the [Snapcraft website](#).

The ScummVM Snap comes with a selection of freeware games and demos pre-loaded.

Enter the following on the command line to install the ScummVM Snap:

```
sudo snap install scummvm
```

To run ScummVM, enter `scummvm` on the command line, or launch ScummVM through the desktop interface by clicking **Menu > Games > ScummVM**.

### Installing ScummVM using Flathub

Flathub is another way to install apps for Linux, by using Flatpak. Flatpak comes standard with Fedora-based distributions, but can be installed on any Linux operating system. The [Flathub website](#) has excellent install instructions.

When Flatpak is installed, enter the following on the command line to install ScummVM:

```
flatpak install flathub org.scummvm.ScummVM
```

Some distributions have the option to install Flatpaks through the graphical desktop interface. Navigate to the [ScummVM Flatpak page](#), click the **INSTALL** button and then follow the install process.

To run ScummVM, enter the following on the command line:

```
flatpak run org.scummvm.ScummVM
```

To pass [Command line arguments](#), add them after the Flatpak run command.

---

**Note:** The Flatpak version of ScummVM is sandboxed, meaning that any games need to be copied into the Documents folder to be accessible by ScummVM.

---

### Installing ScummVM using the software repository

ScummVM is found in the software repositories of many Linux distributions.

**Caution:** The repositories might not contain the most up-to-date version of ScummVM.

To run ScummVM, enter `scummvm` on the command line, or launch ScummVM through the desktop interface by clicking **Menu > Games > ScummVM**.

Installing ScummVM using the release binaries

Binary packages are only released for Debian and Ubuntu. On the [ScummVM downloads page](#), find and download the ScummVM package that corresponds to your operating system and architecture. To install a DEB package, either double click on the downloaded DEB file to use the graphical installer, or, if that's not available, use the command line.

```
sudo apt install /path/to/downloaded/file.deb
```

Replace `/path/to/downloaded/file.deb` with the actual path to the downloaded DEB package. The APT software manager handles the installation.

To run ScummVM, enter `scummvm` on the command line, or launch ScummVM through the desktop interface by clicking **Menu > Games > ScummVM**.

# Chapter 1

## Understanding the interface

### 1.1 The Launcher

The main ScummVM window is called the Launcher. The Launcher opens whenever you start ScummVM, unless you launch a game directly from the command line. Use the buttons on the bottom left of the screen to toggle between list and grid view.

#### 1.1.1 The games list

The pane on the left, when the Launcher is in list view, shows the games list, which shows all the games that have been added to ScummVM. The games list usually offers some additional information about each game, such as original platform and language. To highlight any game on the list, type the first letter(s) of its title, or click on it.

In grid view, all game icons are in the pane below the buttons, and show the game artwork. See [Update Icons](#) for information on how to update these. Use the **Icons per row** slider at the bottom of the page to change the size of the icons. Click on a game to select it. Click on the play icon in the pop-up menu to start the game, the gear icon to open the Game Options menu, or the export icon to load a saved game.

#### 1.1.2 The search box

The search box lets you filter the games list. It is located at the top of the page next to the magnifying glass icon. The filter is applied as you type, and is not case sensitive. To clear the filter, click X.

There are many ways to filter games. For example, you can type “Monkey Island” to locate all “Monkey Island” games on the list, or you can type “lang:de” to find German games. For a comprehensive look at how to use the search box, check out our [Understanding the search box](#) guide.



Fig. 1: The Launcher in list view.

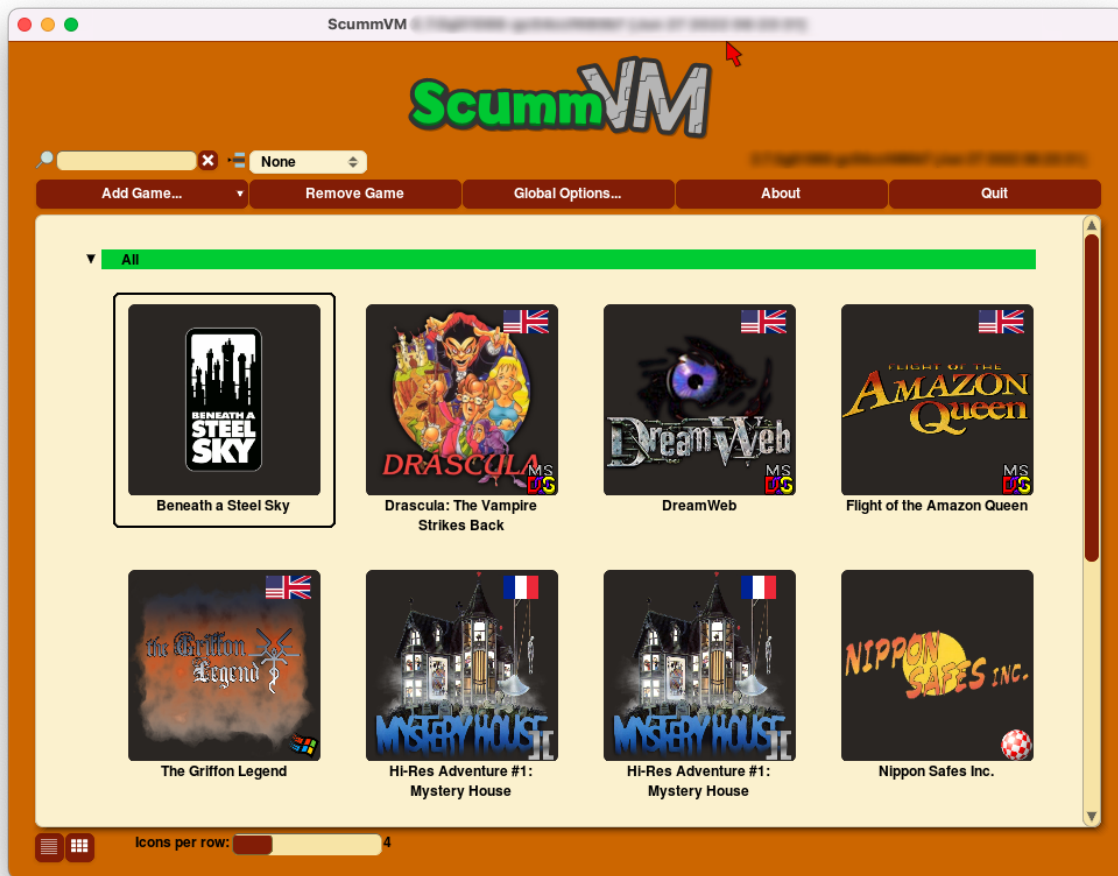


Fig. 2: The Launcher in grid view.

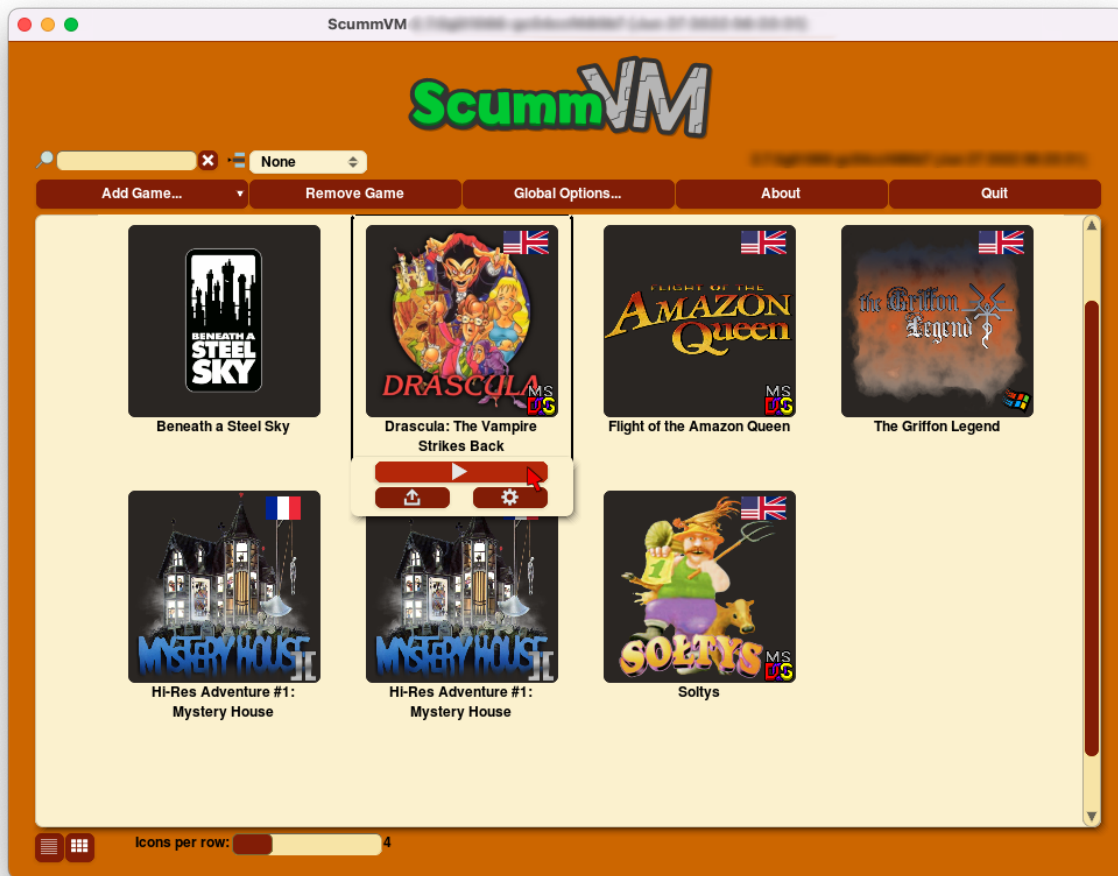


Fig. 3: Game pop-up menu in grid view

### 1.1.3 The grouping menu

To the right of the search box is the grouping menu. Use this menu to group games in alphabetical order, or by engine, series, publisher, language or platform. Hide or show groups of games by clicking on the black arrow to the left of each group heading.



Fig. 4: The grouping menu, with the Launcher in list view

### 1.1.4 The buttons

To the right of the games list in list view, or above the games list in grid view, there are a number of buttons. Their functions are as follows:

#### **Start (list view only)**

Launches the highlighted game.

#### **Load (list view only)**

Opens the load game window, from which you can go to a saved game without having to start the game first.

See the *[Saving and loading a game](#)* page.

#### **Add Game**

Opens a file browser. To add a game, select a folder containing game files.

See the *[Adding and playing a game](#)* page.

#### **Game Options (list view only)**

Opens the game settings window. This window also opens whenever a game is added to the games list in the Launcher.

Use this window to configure settings specific to a game. These settings override the global settings. For more information, see the *[Changing settings](#)* page.

#### **Remove Game**

Removes the highlighted game from the list. This does not remove any saved games, so if you add a game to the games list again, you are able to resume where you left off.

#### **Global Options**

Opens the global settings window. Use this window to define global game settings, as well as change a number of the ScummVM Launcher settings. For more information, see the *[Changing settings](#)* page.

## About

Shows credits and miscellaneous information about ScummVM.

## Quit

Closes the Launcher and quits the ScummVM application.

## 1.2 The Global Main Menu

You can access the ScummVM Global Main Menu, also known as the GMM, while you are playing a game. To open the GMM, press `Ctrl+F5` (`Ctrl+fn+F5` on a Mac).

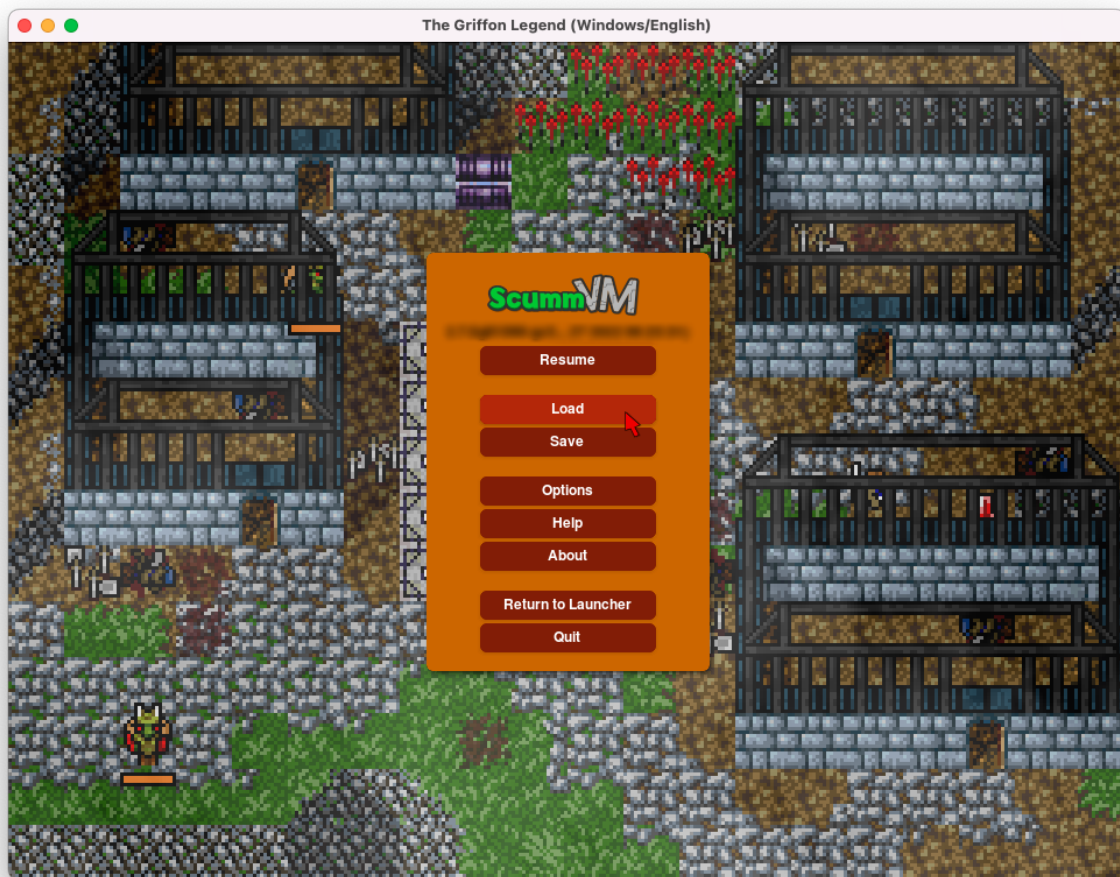


Fig. 5: The Global Main Menu, or GMM.

### 1.2.1 The buttons

In the Global Main Menu there are a number of buttons. Their functions are as follows:

#### Resume

Closes the GMM and resumes the game.

#### Load

Opens the load game window. From here, you can load a saved game.

#### Save

Opens the save game window. From here, you can save a game.

#### Options

Opens a dialog which provides some gameplay options, such as sound volume, subtitle and keymap settings.

#### About

Displays the ScummVM **About** dialog. This is also available from the Launcher.

#### Help

Displays a list of keyboard shortcuts for the game. Note that this is not available for all games; refer to the [Keymaps](#) tab for keyboard shortcuts.

#### Return to Launcher

Quits the game and returns to the Launcher.

---

**Note:** This is not available for all games.

---

## Quit

Quits the game and ScummVM, and returns to the operating system. Any unsaved game progress is lost.

## Chapter 2

# Handling game files

ScummVM needs access to the data files for each game. A list of required data files for each game is found on the [wiki entry](#) for that game. ScummVM can run the game data files from any directory it has access to, including external media.

---

**Note:** For ease of use, you can create a dedicated games folder into which folder containing game files can be copied. The resulting directory structure will look somewhat like this:

```
ScummVM Games
|-- Day of the Tentacle
|   |-- MONSTER.SOU
|   |-- TENTACLE.000
|   `-- TENTACLE.001
`-- Flight of the Amazon Queen
    |-- QUEEN.1
    `-- queen.tbl
```

---

For games on floppies or CDs, if the data files are accessible, the external media can be accessed directly by ScummVM. Alternatively, copy the game files to a folder as described above. If the data files are not accessible, run the installer on the platform the game was designed for, to extract the game files.

For games downloaded from digital distributors or from various [freeware sources](#) run the installer to extract the data files, or if the data files are supplied as a zip file, extract the files.

For macOS or Linux users without access to a Windows machine, you can get the data files from games that only have Windows installers. Use [Wine](#) to run the Windows installer. Alternatively, for GOG.com games, use [innoextract](#) to unpack game files from the installer without actually running it.

---

**Tip:** Use ScummVM's Cloud functionality to share game files and automatically back up and sync your saved game states. For detailed instructions see the [Connecting a cloud service](#) guide. For devices on the same local network, ScummVM can also run a web server to allow hassle-free transfer of files. For detailed instructions, see the [Using the local web server](#) guide. This is a good

option if you do not wish to connect a Cloud service.

---

## 2.1 Multi-disc games

ScummVM needs access to all the data files, so it will not be able to run directly from a CD if the game has multiple discs. To add a multi-CD game, copy the required data files from the CD to a folder on your hard drive. For a list of required files, see the [wiki entry](#) for the game you're playing.

As a general guideline, where there are duplicate, identical files (same name, same file size) on more than one disc, only one copy of the file is required. Where there are files that have the same name but are different on each disc, rename them. For example, where there is a `music.clu` on two discs, rename the file on the first disc to `music1.clu` and the file on the second disc to `music2.clu`.

## 2.2 CD audio

In most cases, ScummVM can use CD audio directly from the game CD. If you don't always want to insert the game CD to use the CD audio, you can extract the audio tracks from the CD and save them locally:

1. Extract the CD audio tracks in WAV or AIFF format.
2. Convert the tracks to either MP3, FLAC, M4A or OGG file formats.
3. Place the converted audio files in the same folder that contains the other game datafiles.
4. You can name them in several ways:
  1. `track01.ogg` - `track12.ogg`
  2. `track1.ogg` - `track12.ogg`
  3. `track_01.ogg` - `track_12.ogg`
  4. `track_1.ogg` - `track_12.ogg`

---

**Tip:** [fre:ac](#) is a multi-platform, open-source software, with the ability to both rip CDs and convert audio between MP3, OGG, FLAC and WAV file formats.

---

## 2.3 Macintosh games

Many of the supported games also exist in versions for the Macintosh, however it can be tricky to extract the correct files from a Macintosh floppy or CD, especially if you are using Windows or Linux. See [Handling Macintosh game files](#) for an in-depth how-to guide.

## Chapter 3

# Handling Macintosh game files

This section explains how to access game data files from Macintosh media. For general information on how ScummVM handles game data files, including which files are required to play a game, see *Handling game files*.

### 3.1 Background

There are three main aspects of Macintosh floppy or CD media that can make it difficult to extract the game data: the file system, forks, and file name encoding.

#### HFS and HFS+ file system

The Macintosh uses a different file system to other operating systems; HFS for older media, and HFS+ for more recent ones.

HFS ([Hierarchical File System](#)), also known as Mac OS Standard, was used on Macintosh hard disk, floppy disks, and CDs until the late 90s. It was superseded by [HFS+](#), or Mac OS Extended, with the release of Mac OS 8.1 in 1998. Most game CDs released before the mid-2000 still use HFS. Modern macOS computers can still access HFS+ media, but support for reading HFS media was dropped in macOS 10.15 (Catalina).

To view and copy the files from HFS and HFS+ floppy disks and CDs on a Windows or Linux system, you need to install additional software.

Most, if not all, Macintosh games supported by ScummVM were released on an HFS medium, but if you do have a HFS+ CD then check out the *Other methods* section for ways to access these files. ScummVM's *Python-based dumper* also supports the HFS+ format if you are using it on macOS.

#### Forks

Macintosh HFS and HFS+ media have a concept called forks. For those familiar with NTFS, it's the same principle as NTFS streams. A file can consist of two forks, a data fork and a [resource fork](#). Both are important for games to work correctly. Systems other than macOS do not support resource forks, and a regular file copy from a HFS or HFS+ media on such a system will only copy the data fork. To properly preserve the resource fork during the copy, those files need to be converted to a MacBinary file.

## File name encoding

Filenames in Japanese games are encoded in a way that is unique to Apple. The result is that a Mac copy of a game will not always show the correct filenames.

Macintosh also allowed special characters to be used that are disallowed in filenames on other platforms.

ScummVM runs on a wide variety of platforms and not all those platforms can store Japanese filenames or other special characters, such as non-ascii characters. ScummVM uses [punycode](#) to handle file names that would otherwise not be supported. Punycode converts all non-ascii characters to a special format. If the original file name had special characters, the new file name will start with xn--, for example, xn--Icon-ja6e.

Files that contain prohibited characters are always puny-encoded.

---

**Note:** Windows, MacOS and Linux can store these files and do not need punycode enabled.

---

For more information, see the [Windows naming conventions](#) for a list of prohibited characters.

## 3.2 How to extract Macintosh game files

The simplest way to extract the correct game files is to use the dumper companion created and supplied by ScummVM. The dumper can extract files from an HFS medium, encode files to the MacBinary format, and rename files with Punycode if needed.

There are two versions of the dumper: a disk/ISO image version that runs in a browser, and a full-fledged version which uses Python. The browser-based version is the preferred method since this will work in the majority of cases, and it is less hassle because there is nothing to install.

The first step is to create an ISO image of your floppy or CD medium.

### 3.2.1 Creating the ISO image

---

**Note:** If you are accessing HFS+ media in macOS, or HFS media on a macOS 10.14 Mojave system or older, this step is not required when using the Python dumper in MAC mode.

---

## Windows

Use an application such as [IsoBuster](#) to create an ISO image of the CD.

## macOS

Use the following commands in the Terminal to find the identifier of the media, and then create an ISO image of that media.

List disks to get the identifier for the CD or floppy disk partition: .. code-block:

```
diskutil list
```

Alternatively, find this information using the Disk Utility application. Select the CD partition and look at the name under the *device* section.

Unmount the disk if needed: - By default disks are mounted when they are inserted, and they need to be unmounted so that you can create the ISO file. - HFS is no longer supported on macOS 10.15 and above, therefore those disk cannot be mounted and do not need to be unmounted.

```
sudo umount /dev/diskID
```

Create the iso image: .. code-block:

```
sudo dd if=/dev/diskID of=/path/name.iso
```

Eject the CD: .. code-block:

```
drutil tray eject
```

## Example

In the example below the CD is the last disk listed as CD\_partition\_scheme, and the identifier for the HFS partition is disk5s1s2.

```
iMac:~ ego$ diskutil list
/dev/disk0 (internal, physical):
#:                      TYPE NAME                      SIZE      IDENTIFIER
0:      GUID_partition_scheme                      *121.3 GB   disk0
1:                      EFI EFI                      209.7 MB   disk0s1
2:                      Apple_APFS Container disk4     121.1 GB   disk0s2

/dev/disk1 (internal, physical):
#:                      TYPE NAME                      SIZE      IDENTIFIER
0:      GUID_partition_scheme                      *3.0 TB    disk1
1:                      EFI EFI                      209.7 MB   disk1s1
2:                      Apple_APFS Container disk4     3.0 TB     disk1s2

/dev/disk2 (synthesized):
#:                      TYPE NAME                      SIZE      IDENTIFIER
0:      APFS Container Scheme -                    +3.1 TB    disk2
```

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```

Physical Stores disk0s2, disk1s2
1:          APFS Volume Macintosh HD          1.8 TB    disk2s1
2:          APFS Volume Preboot                42.2 MB   disk2s2
3:          APFS Volume Recovery              510.6 MB  disk2s3
4:          APFS Volume VM                    20.5 KB   disk2s4

/dev/disk3 (external, physical):
#:          TYPE NAME          SIZE      IDENTIFIER
0:          CD_partition_scheme *783.5 MB  disk3
1:          Apple_partition_scheme 682.2 MB  disk3s1
2:          Apple_partition_map    1.0 KB   disk3s1s1
3:          Apple_HFS disque 1    681.6 MB  disk5s1s2
iMac:~ ego$ sudo umount /dev/disk3s1s2
Password:
iMac:~ ego$ sudo dd if=/dev/disk3s1s2 of=/Users/ego/BS1-fr.iso
1331200+0 records in
1331200+0 records out
681574400 bytes transferred in 396.380454 secs (1719495 bytes/sec)
iMac:~ ego$ drutil tray eject

```

## Linux

Use the following commands to create an ISO image from an inserted HFS or HFS+ medium.

```
sudo dd if=/dev/cdrom of=/path/name.iso
```

Usually the device will be `/dev/cdrom`, `/dev/dvd`, or `/dev/floppy`. Alternatively, use `sudo blkid` to list the mounted and unmounted devices with their ID.

### Example

```

~$ sudo blkid
/dev/sr0: PTTYPE="mac"
~$ sudo dd if=/dev/sr0 of=/home/ego/BS1-fr.iso
1332420+0 records in
1332420+0 records out
682199040 bytes (682 MB, 651 MiB) copied, 421.918 s, 1.6 MB/s

```

### 3.2.2 Using the browser dumper companion - preferred method

The [browser based dumper companion](#) supports reading HFS media as ISO and disk images. It generates a ZIP file that can be extracted and then imported in ScummVM.

1. Upload the disk/ISO image file
2. Select the options:
  - Choose Japanese when dumping Japanese disks
  - Deselect unicode if the platform does not support it

3. Click the dump button
4. Download the ZIP file
5. Extract the ZIP file
6. Add the extracted directory to scummvm

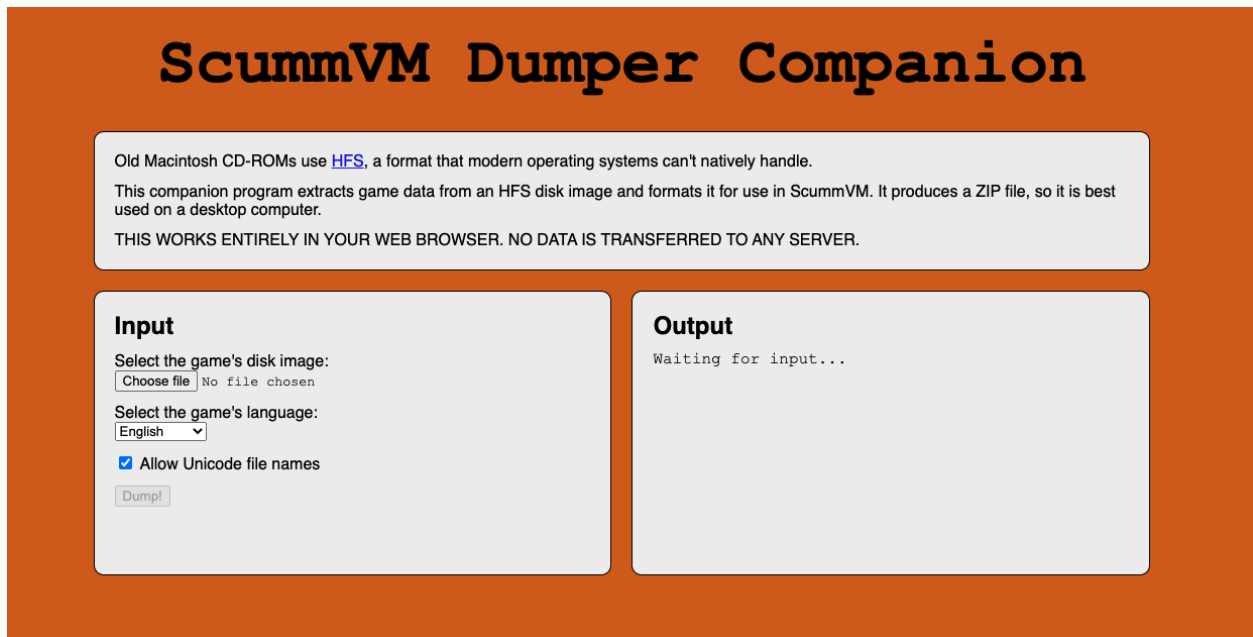


Fig. 1: The browser based dumper companion.

---

**Note:** This web dumper-companion works entirely in your web browser and does not transfer the data to any servers.

---

### 3.2.3 Using the Python dumper companion

The Python dumper companion supports HFS disks, unless you are running it on a Mac, in which case MAC mode also supports HFS+.

#### Prerequisites

- Python3 with pip installed. Information on how to install Python can be found [here](#).
- The dumper file [downloaded](#) from the repository.

## Installation

Install machfs, and xattr if using macOS:

### macOS

```
pip3 install machfs xattr
```

## Others

```
pip3 install machfs
```

## Use

The dumper companion supports three modes: ISO, DIR and MAC. The MAC mode is specific to macOS. There's also a STR mode that is used test drive the punyencode parts. For more info see its help section.

---

**Note:** The dumper companion also has help text:

```
./dumper-companion.py --help
```

---

### ISO mode

This mode will dump an HFS ISO file to the OUTPUT directory. This directory can then be added to scummvm.

```
dumper-companion.py iso [-h] [--punycode] [--japanese] INPUT OUTPUT
```

Options:

- `--punycode`: encodes all filename characters as punycode. Select this when your platform doesn't support UTF-8 filenames
- `--japanese`: Use this when dumping Japanese disks.

### DIR mode

This mode will puny-encode all files and directories in the current directory.

```
dumper-companion.py dir [-h] directory
```

### MAC mode

This mode is specific to macOS. It will traverse a directory, find all the resource forks and combine them in a MacBinary file. It is useful for when you already have all game files on your harddrive and want to import them into ScummVM.

```
dumper-companion.py mac [-h] [--punycode] directory
```

Options:

- `--punyencode`: encodes all filename characters as punycode, select this when your platform doesn't support UTF-8 filenames

---

**Note:** On macOS ScummVM directly accesses data and resource forks, however converting to MacBinary can be useful if you plan to transfer those files to a different system.

---

### 3.2.4 Other methods

There are other ways to access HFS and HFS+ media on Windows, macOS, and Linux. These methods require you to copy the files manually.

#### Windows

For Windows, [HFS Explorer](#) is a basic and free option, which gives you read-only access to both HFS and HFS+ drives. Use the installer rather than the zip file, to ensure it is installed correctly. For files with a resource fork you will need to use the option to extract as MacBinary. Extract files that only have a data fork as a “raw copy, data fork”.

Alternatively, [HFVExplorer](#) can also be used for HFS drives. There is no option to extract as MacBinary, but you can extract files with a resource fork as AppleDouble using the “extract data and resource fork(s)” option.

#### macOS

On macOS you can read HFS+ volumes, and in some cases HFS volumes, and copy the files in the usual way in the Finder. Some discs shipped with hidden files that need to be copied. To view hidden files in macOS, press `Cmd+Shift+.` in a Finder window.

There is also no need to convert files with a resource fork into MacBinary files, but if you want to do it, for example to later transfer the files onto a different system, you can use the `macbinary` command line tool.

```
macbinary encode -o <outfile> <infile>
```

However the *dumper companion* is recommended in some cases:

- If you have a newer operating system. HFS media can only be read on macOS 10.14 (Mojave) and older. Support for reading HFS volumes was removed in macOS 10.15 (Catalina).
- If files contain invalid characters.
- If you plan to transfer those files to a different system.

## Linux

Access HFS+ drives using `hfsplus`. To use `hfsplus`, use the command line:

1. Install `hfsplus` using the software manager. On Debian-based distributions, use `sudo apt install hfsplus`.
2. Find the game disc by running `sudo fdisk -l` and finding the one with type Apple HFS/HFS+. In this example, this is `/dev/fd0`.
3. Create a mount point, for example: `sudo mkdir /media/macgamedrive`
4. Mount the device to that mount point: `sudo mount -t hfsplus /dev/fd0 /media/macgamedrive`
5. Access the device at `/media/macgamedrive`. To copy files you can use `hpcopy`. It takes options to indicate if the files should be converted to macbinary (`-m`) or copied as a raw file (`-r`).

Access HFS drives using `hfsutils`. To use `hfsutils`, use the command line:

1. Install `hfsutils` using the software manager. On Debian-based distributions, use `sudo apt install hfsutils`.
2. Find the game disc by running `sudo fdisk -l` and finding the one with type Apple HFS/HFS+. In this example, this is `/dev/fd0`.
3. Mount the HFS volume by running `hmount /dev/fd0`
4. List the files and directories on the HFS media using `hls`, change the working directory on the HFS media using `hcd` and copy files using `hcopy`. The `hcopy` commands take options to indicate if the files should be converted to macbinary (`-m`) or copied as a raw file (`-r`). For example `hcopy -m "PP Disk 1:PP Data:JMP PP Resources" "pegasus/JMP PP Resources"`.
5. Unmount the HFS media with `humount /dev/fd0`

## Chapter 4

# Adding and playing a game

### 4.1 Where to get the games

One of the most frequently asked questions is, “Where do I get the games?!?”. If you still have your old floppy discs or CDs lying around, and have a way to read them, then you can use the game files from those original discs.

If you haven’t had a floppy disc or even a CD in your possession for a while, there is a [ScummVM wiki page](#) dedicated to helping you find some games to play.

---

**Tip:** ScummVM has an affiliate referrer programme with GOG.com, so if you are going to buy a game, please use this [GOG.com](#) link to help the project!

---

Make sure to check out the [compatibility list](#) on the ScummVM website, and the [Supported Games page](#) and [Platform Overview page](#) on the ScummVM wiki before you buy a game, to ensure it can run with ScummVM.

### 4.2 Adding games to the Launcher

The following steps explain how to add a game to ScummVM, and assume you have access to the data files for each game. If you’re not sure how to access the game data files, see the [Handling game files](#) page.

1. Run ScummVM to open *the Launcher*.
2. In the Launcher window, click **Add Game**. This opens a file browser; either the system file browser or the ScummVM file browser.



To add multiple games at once, click the expander arrow next to **Add Game**, and select **Mass Add**.



3. Use the file browser to locate the folder containing the game data files. For the ScummVM file browser: Double click on a folder to open it, and use **Go up** to go back up one level. Highlight the folder by clicking on it, and then click **Choose**



**Note:** The **Use Native file browser** option in the [Misc](#) tab of the global settings controls whether ScummVM uses the system file browser, or its own file browser.

If you are using **Mass Add**, select **Yes** to run the mass game detector. A dialog opens to advise which games were added to the games list.



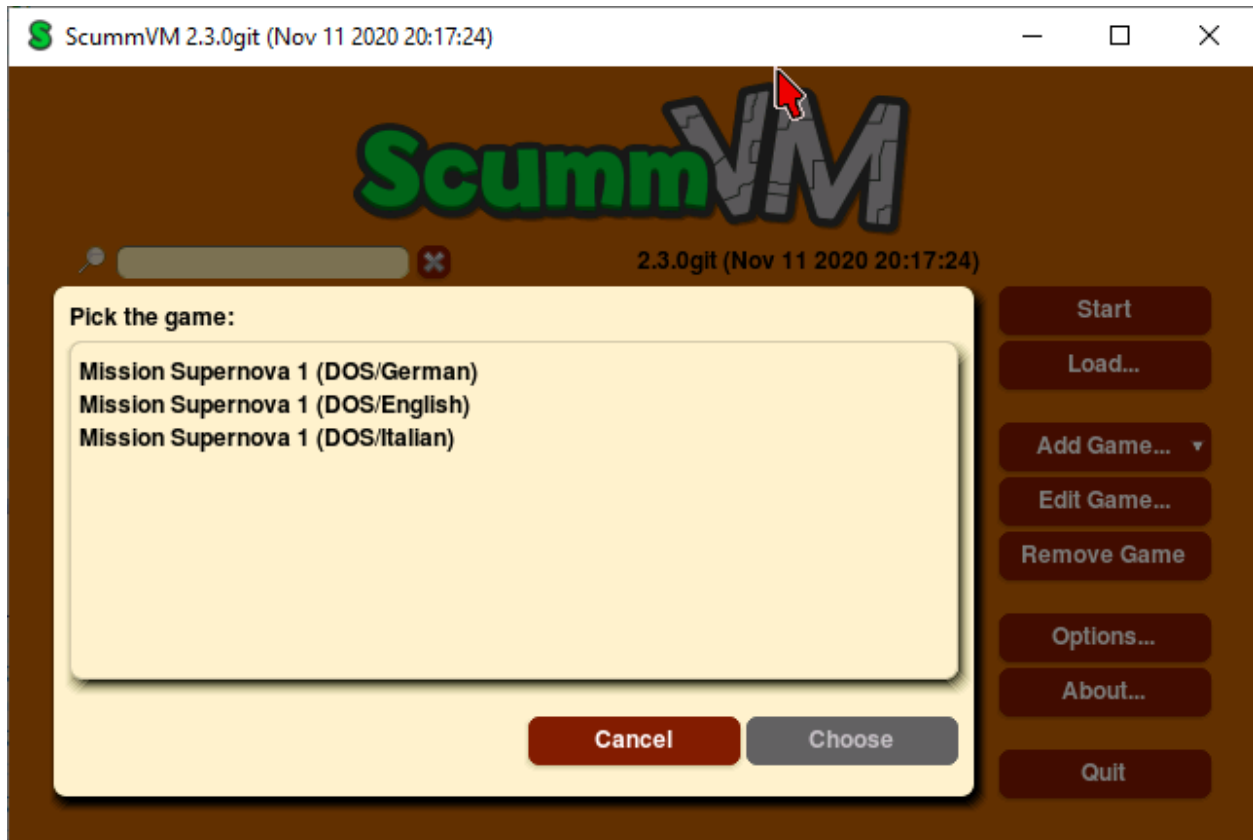


Sometimes, ScummVM detects multiple versions of a single game. In this case, highlight the correct version and click **Choose** to continue.

**Caution:** If you are using **Mass Add**, ScummVM adds all versions of a game.

If you are adding an unknown version of a game, ScummVM is not able to add the game to the games list. An error message appears to warn you that the game has not been added.

4. The **Game Options** window opens to allow configuration of various settings for the game. These can be reconfigured at any time, but for now everything should be OK at the default settings. Any settings changed here override the global settings. Click **Ok**.



**Note:** The **Game Options** window does not open when **Mass Add** is used.

5. Games are now ready to play! To play, either double-click on the game in the games list, or highlight the game by clicking on it, and then click **Start**. In grid view, either double-click on a game to start it, or select the game and click the play icon in the pop-up window.



Games can also be launched directly from the command line. For more information, see the [Command line options](#) page.

## 4.3 A note about copyright

ScummVM has a strict anti-piracy stance and the team will not tolerate discussions around pirated games in any part of the project, including on the Forum or on Discord.

### 4.3.1 Copy protection screen

There are cases where the game companies themselves bundled ‘cracked’ executables with their games. In these cases the data files still contain the copy protection scripts, but the interpreter bypasses them; similar to what an illegally cracked version might do, only that here the producer of the game did it. There is no way for ScummVM to tell the difference between legitimate and pirated data files, so for the games where a cracked version of the original interpreter was sold at some point, ScummVM has to bypass the copy protection.

In some cases ScummVM still shows the copy protection screen. Enter any answer; chances are that it will work.

## Chapter 5

# Saving and loading a game

This page explains how to save and load a game from the Global Main Menu, or load a game directly from the Launcher.

---

**Note:** Some games use their own load or save entry points within the game, or use their own menu instead of the GMM.

---

### 5.1 Saving a game

When you're playing a game and you're ready to save, press Ctrl+F5 (Ctrl+fn+F5 on a Mac) to access the Global Main Menu. Select **Save**.

There are two views: list view and grid view. Click the list and grid icons at the bottom left of the window to toggle between the two.

In tile view, click on the **New Save** tile. Enter a description for the game, then click **OK**.

In list view, click on a slot to save the game to that slot. Enter a description for the game, then click **Save**.

#### 5.1.1 Autosave

ScummVM automatically saves your game every 5 minutes. The *autosave period* can be changed in the Misc settings tab, or in the *configuration file*.

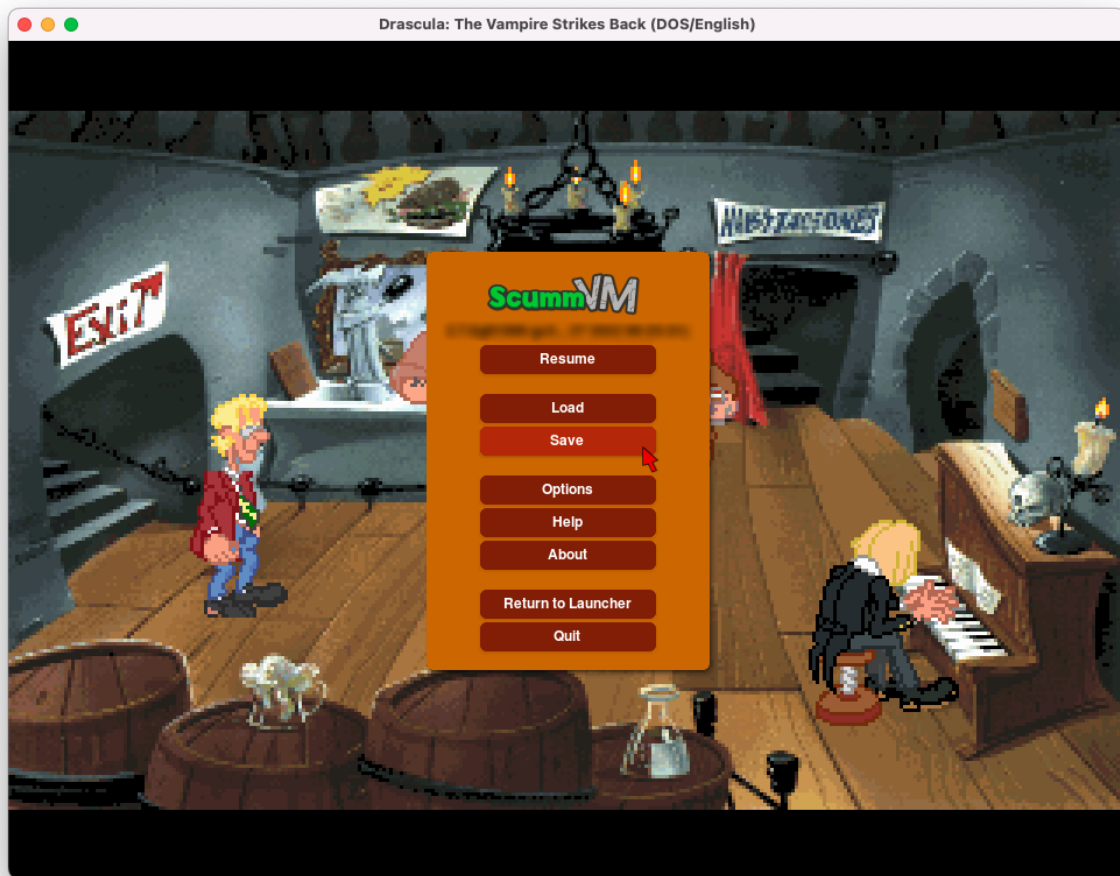


Fig. 1: The Global Main Menu (GMM).

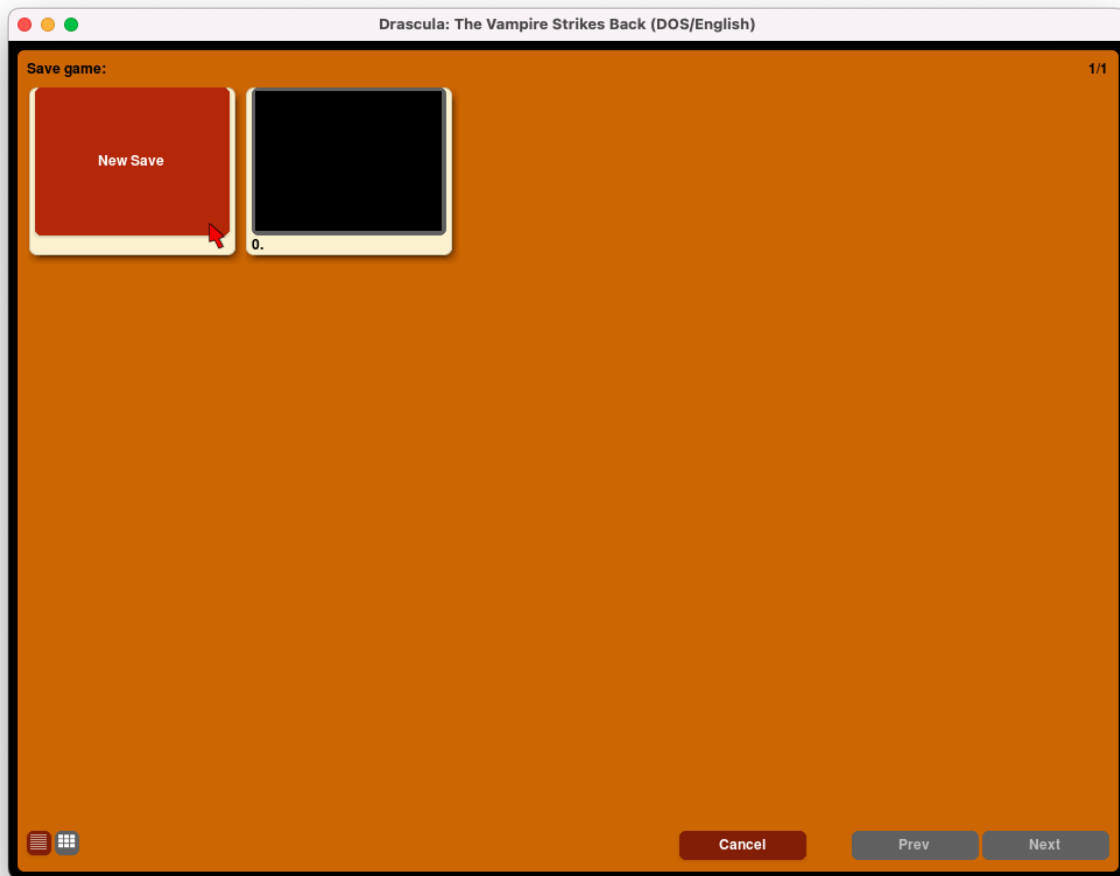


Fig. 2: Saving a game, grid view.

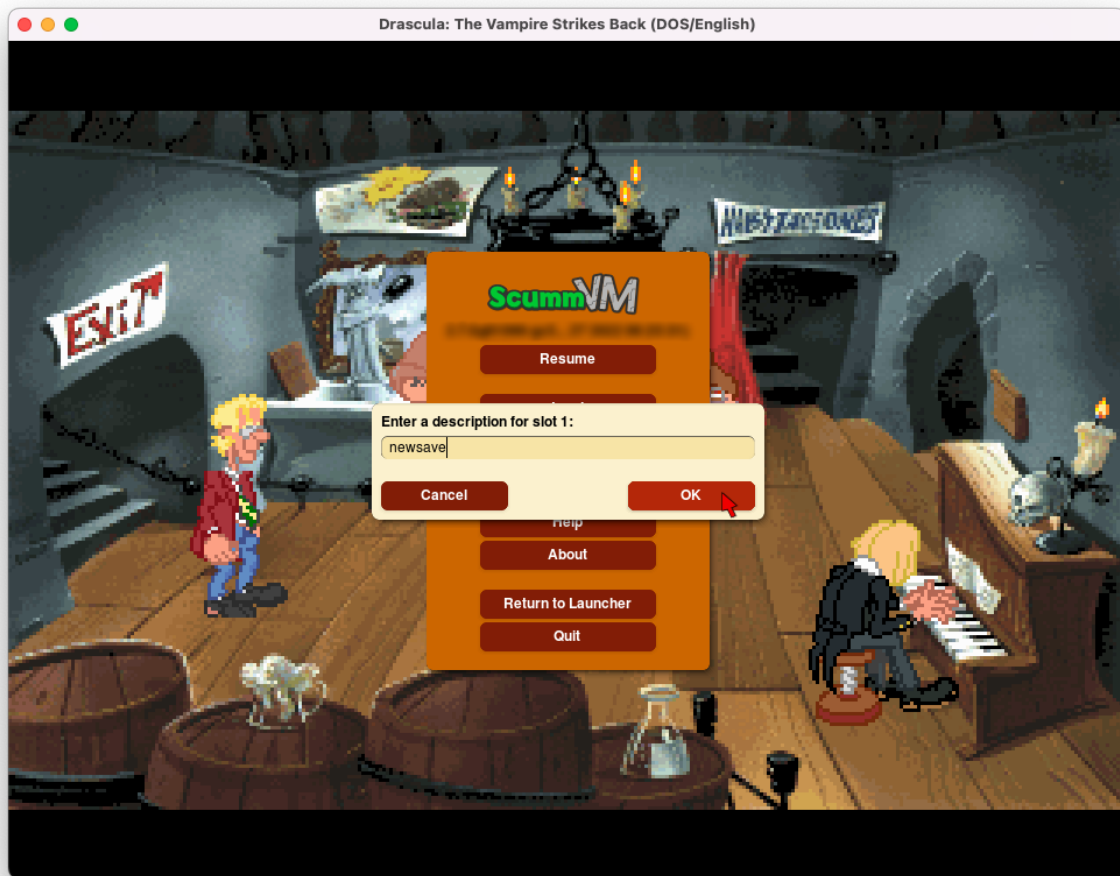


Fig. 3: Save game decription, grid view.

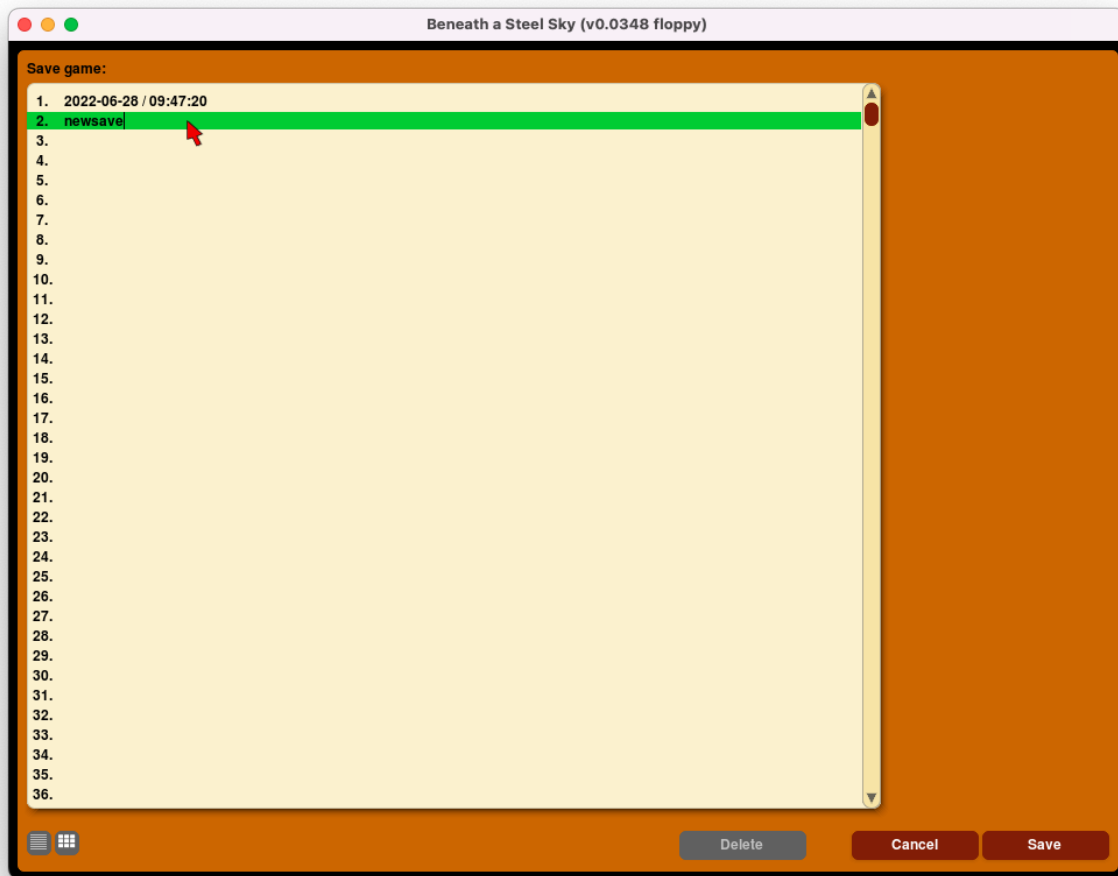


Fig. 4: Saving a game, list view.

## 5.2 Location of saved game files

The save directory can be changed with the `savepath` setting in the [Paths tab](#). It can also be changed in the [configuration file](#).

Default saved game paths are shown below.

### Windows

%APPDATA%\ScummVM\Saved games

### macOS

~/Documents/ScummVM Savegames/

### Linux/Unix

ScummVM follows the XDG Base Directory Specification, so by default the saved games can be found at `~/.local/share/scummvm/saves/`, but this location might vary depending on the value of the `XDGLDATA_HOME` environment variable.

`.local` is a hidden directory. To view it use `ls -a` on the command line.

If ScummVM was installed using Snap, the saves can be found at `~/snap/scummvm/current/.local/share/scummvm/saves/`

## 5.3 Loading a game

If you want to load your saved game without having to start the game first, select the **Load** button directly from the Launcher. To load a saved game while you're playing a game, press `Ctrl+F5` (`Ctrl+fn+F5` on a Mac) to access the Global Main Menu, then select **Load**.

There are two views: list view and tile view. Click the list and tile icons at the bottom left of the window to toggle between the two.

In list view, the pane on the left shows a list of your saved games. Click on a saved game to highlight it. In the pane on the right you can see timestamps, screenshots and playtime for that saved game.

Once you have highlighted the game you want to play, click **Load**.

To delete a saved game, highlight the saved game and click **Delete**.

In grid view, each tile shows a screenshot of the saved state, as well as a description and a save slot number. Click on the tile to load that saved game.

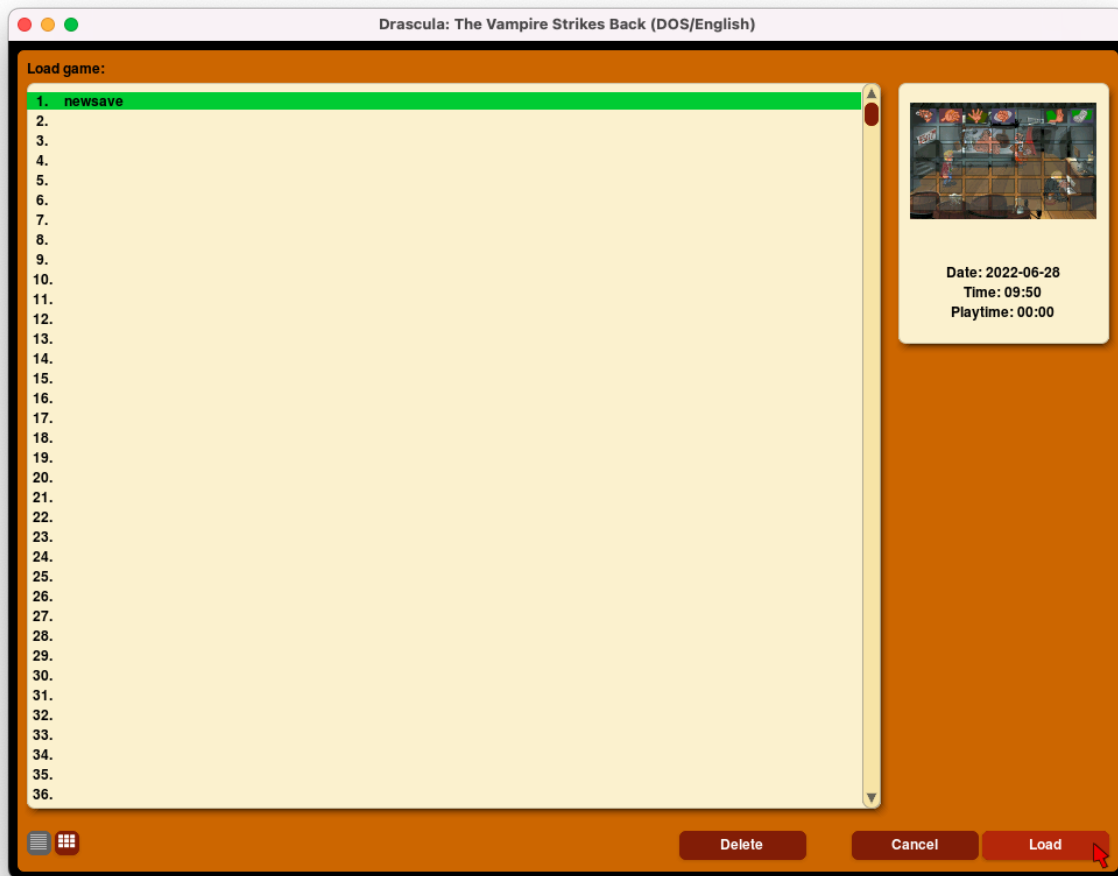


Fig. 5: Loading a game, list view.

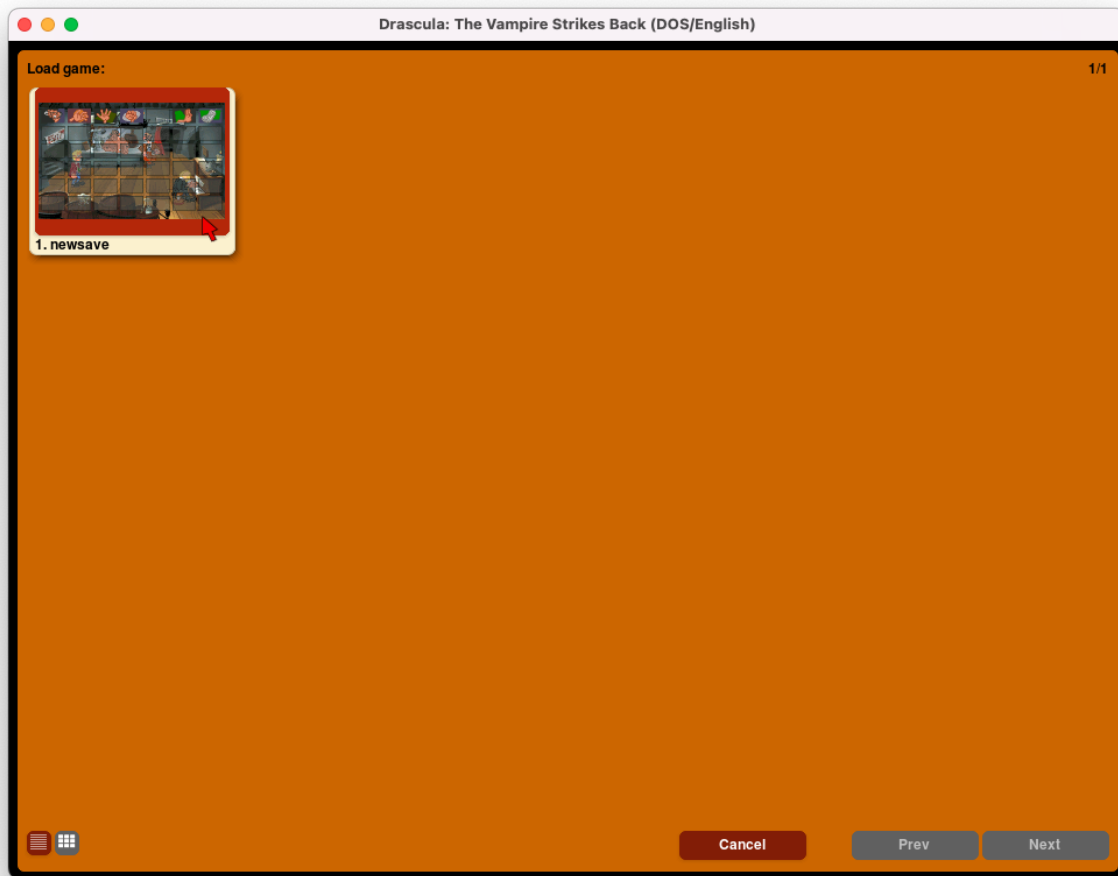


Fig. 6: Loading a game, grid view.

## Chapter 6

# Keyboard shortcuts

ScummVM supports various in-game keyboard and mouse shortcuts, and since version 2.2.0 these can be manually configured in the [Keymaps tab](#), or in the [configuration file](#).

For game-specific controls, see the [wiki entry](#) for the game you are playing.

Default shortcuts are shown in the table.

Shortcut	Description
Ctrl+F5	Displays the Global Main Menu
Cmd+q	Quit (macOS)
Ctrl+q	Quit (Linux/Unix)
Alt+F4	Quit (Windows)
Ctrl+z	Quit (other platforms)
Ctrl+u	Mutes all sounds
Ctrl+m	Toggles mouse capture
Ctrl+Alt+ 1-8	Switches between graphics filters
Ctrl+Alt and + or -	Increases/decreases the scale factor
Ctrl+Alt+a	Toggles aspect ratio correction on/off
Ctrl+Alt+f	Toggles between nearest neighbor and bilinear interpolation (graphics filtering on/off)
Ctrl+Alt+s	Cycles through stretch modes
Alt+Enter	Toggles full screen/windowed mode
Alt+s	Takes a <a href="#">screenshot</a>
Ctrl+F7	Opens virtual keyboard (if enabled). This can also be opened with a long press of the middle mouse button or wheel.
Ctrl+Alt+d	Opens the ScummVM debugger

# Chapter 7

## Changing settings

### 7.1 From the Launcher

The settings are arranged by subject, on different tabs:

*Game tab | Graphics tab | Control tab | Keymaps tab | Audio tab | Volume tab | Midi tab | MT-32 tab | Paths tab | Misc tab | Cloud tab | LAN tab | Accessibility tab*

To change a setting globally, so that it affects all games, select the **Global Options** button to open the menu, and then select the tab containing the setting you would like to change.

To change a setting for just one game, highlight the game in the games list, then select the **Game Options** button and select the tab containing the setting you would like to change. If the Launcher is in grid view, select the game and then select the gear icon in the pop-up window. To make the game use the settings in the Game Options tab instead of the Global Options tab, tick **Override global settings**.

Not all settings are available for all games; for example, where there is no MIDI soundtrack for a game, there will be no MIDI or MT-32 tabs.

## 7.2 In the configuration file

See the [configuration file](#) page for more information on how to do this. Configuration keys are listed in the Settings pages, after the description of each setting, in italics.

## 7.3 From the command line

Some settings can be specified in the command line (the complete list can be found at [command line](#)). These are valid for the duration of the program and don't get saved to the configuration file unless modified. They are also marked by a special color in the launcher tabs mentioned above.

## Chapter 8

# Connecting a cloud service

Connecting ScummVM to a cloud storage service provides an easy way of sharing game files and saved games between multiple devices. ScummVM currently supports Dropbox, OneDrive, Google Drive and Box, although only one service can be connected at any one time.

---

**Note:** Cloud functionality is not supported on all platforms.

---

This guide explains how to connect a cloud service to ScummVM.

From the Launcher, select **Options**, click the > scroll arrow until the Cloud tab is visible, and then select the **Cloud** tab.

Select your preferred cloud storage service from the **Active storage** dropdown.

Click on the link shown at **1.**, and sign in to your cloud storage account. A 6-digit code is displayed after you sign in.

**Warning:** Do not share this 6-digit code with anyone before you connect your cloud storage account.

For devices without a web browser, navigate to the following ScummVM links on a computer or any other device with a web browser:

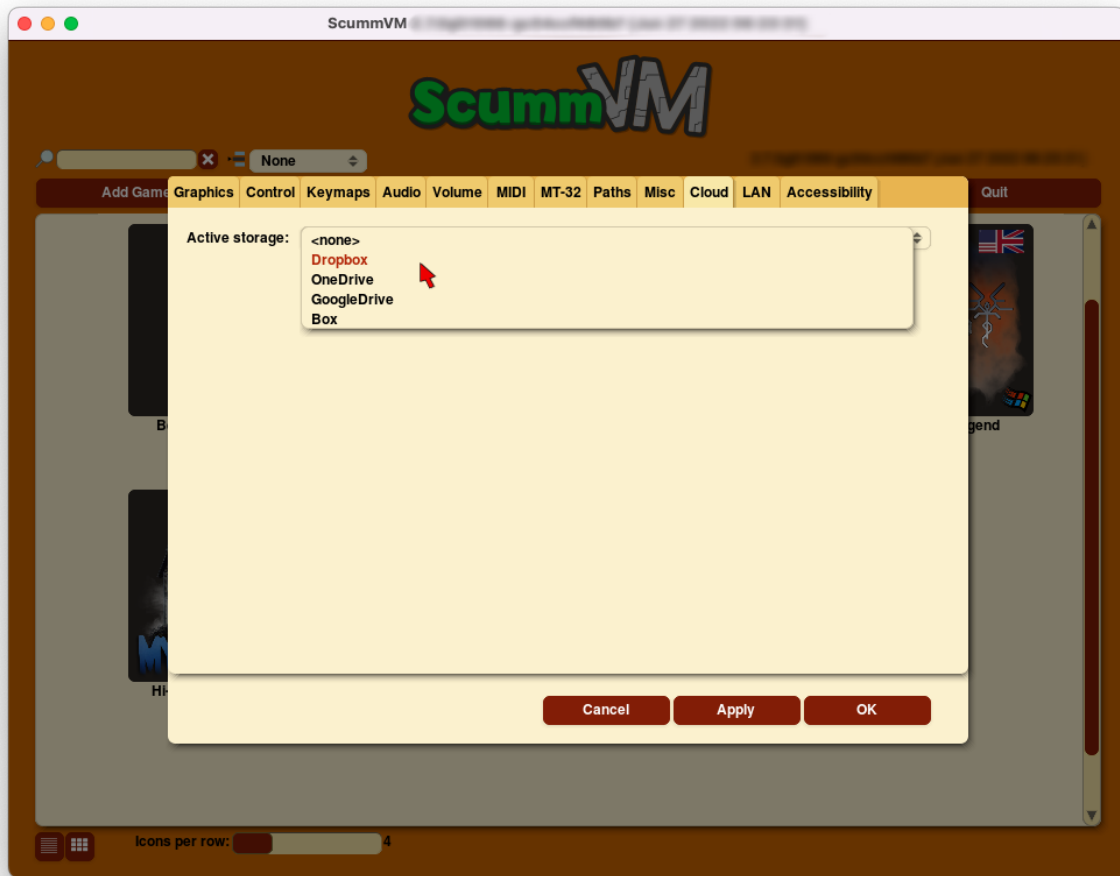
[Dropbox](#) | [OneDrive](#) | [Google Drive](#) | [Box](#)

Copy the 6-digit code, click into the empty field next to **Paste**, and then click **Paste**. Alternatively, for devices without a web browser, manually enter the 6-digit code.

Click **3. Connect**. After the next page loads, click **Enable storage**.

Saved games sync automatically on launch, when a game is saved, and when a saved game is loaded. Select **Sync now** to manually sync.

To download game files from your cloud ScummVM folder, click **Download game files**.







To change to a different cloud account, or to disconnect your cloud account from ScummVM, click **Disconnect**.

## Chapter 9

# Using the local web server

ScummVM can run a local web server (LAN), to simplify the transfer of game files, saved games and configuration files between devices on the same network. This is a good option if you do not want to use the Cloud, or if ScummVM for your platform does not have cloud functionality.

---

**Note:** LAN functionality is not supported on all platforms.

---

This guide explains how to set up and run a local web server.

From the Launcher, select **Options**, click the > scroll arrow until the LAN tab is visible, and then select the **LAN** tab.

Click **Run server** to start the server.

To access the server, type the URL shown into the address bar of any web browser:

To download a file, click on the file to open the system download dialog.

To create a new directory, click **Create Directory**.

To upload files, click **Upload Files** and select files from the system file browser.

To change which files are accessible on the web server, set the **/root/ Path** to the directory containing the files you wish to access. You can access anything inside that directory, but you cannot access its parent directory. On some platforms ScummVM automatically sets the **/root/ Path**, but on some other platforms you need to configure this manually before running the web server for the first time.

To stop the web server, click **Stop server** to stop the server, or click **Ok** to close the settings dialog.

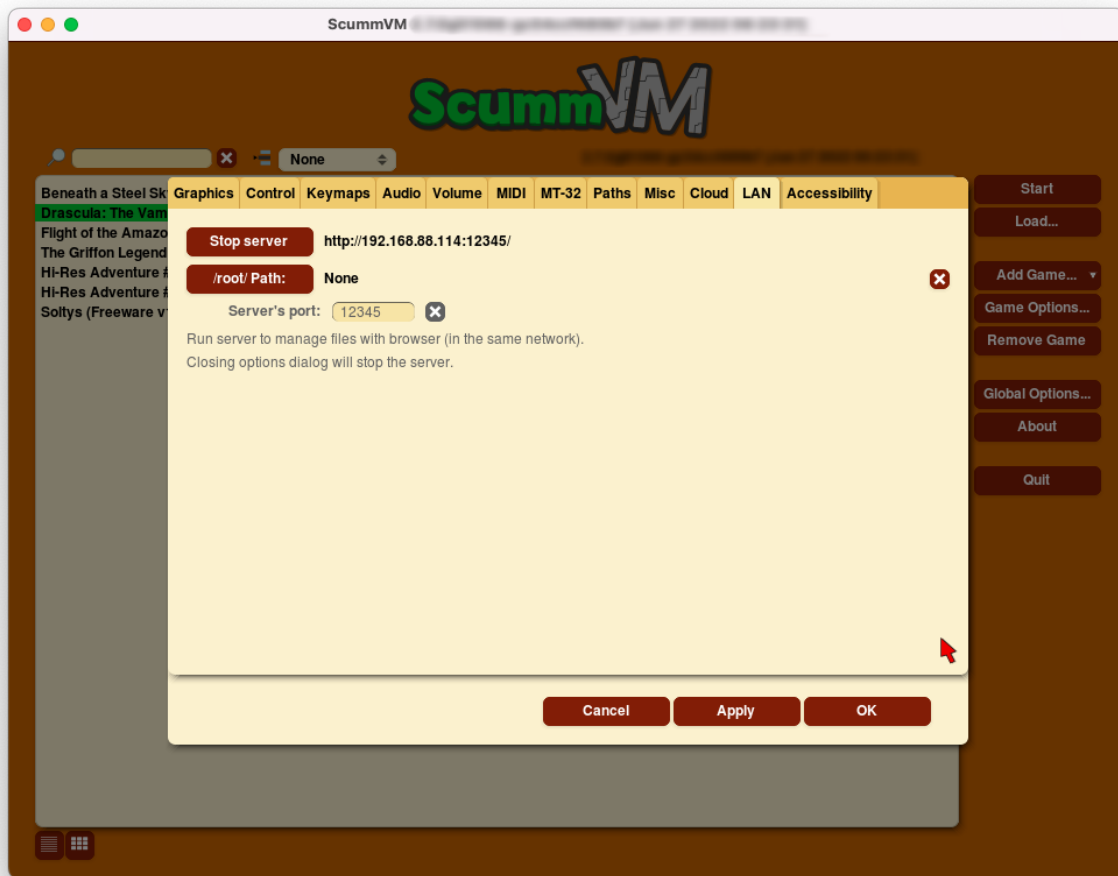


Fig. 1: The LAN tab, with the server running.

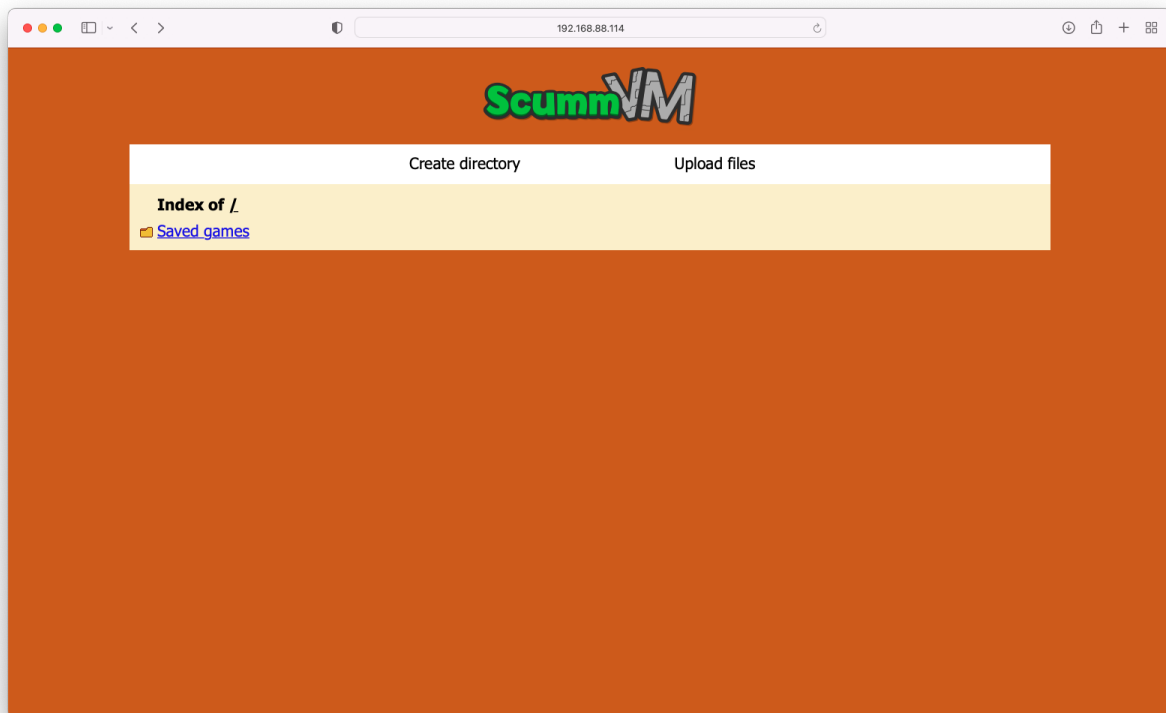


Fig. 2: The server's browser interface.

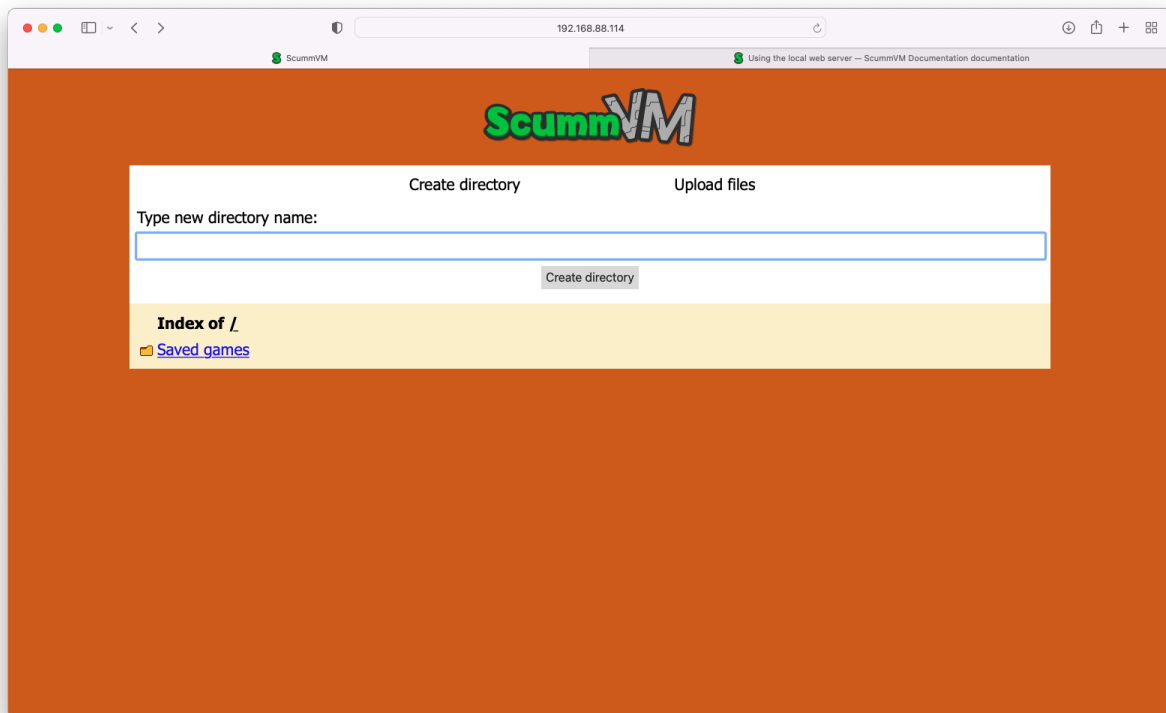


Fig. 3: Create a new directory

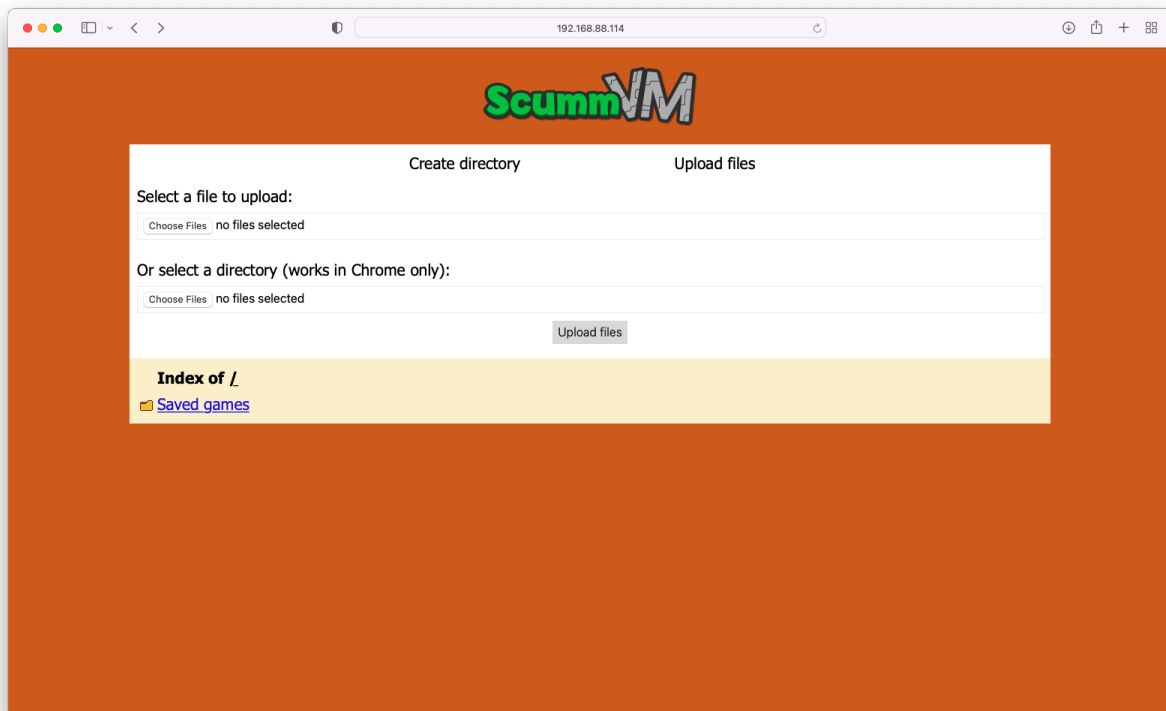


Fig. 4: Upload files

# Chapter 10

## Taskbar integration

The taskbar integration has several features:

- Adds an overlay icon in the taskbar/dock when running a game (Windows and macOS)
- Updates a list of recently played games that can be started from the taskbar/dock (Windows and macOS).
- Shows a progress bar when doing a mass add of games, and shows the number of games found at the end (Windows, macOS and Linux).
- Shows an error state in the taskbar if an error occurs when running a game (Windows only).

### 10.1 Setting up the icon overlay

Currently the taskbar cannot yet use the icons .dat files that can be downloaded from the **Global Options**. This means the icons need to be downloaded manually from our [Github repository](#). Either place these in the default *Icon Path* or change the Icon Path to point to the folder containing the icons.

The icon files must be ICO files for Windows, or PNG files for macOS. They must follow one of these naming conventions, where xxx is the file extension:

- *ID*.xxx
- gameid.xxx
- engineid.xxx
- engineid-gameid.xxx

To find the gameid and the engineid, open the *configuration file*. The game entry will be similar to this:

```
[lure]
description=Lure of the Temptress (VGA/DOS/English)
iconspath=/Users/user/games/icons
```

(continues on next page)

(continued from previous page)

```
path=/Users/user/games/lure  
gameid=lure  
engineid=lure
```



Fig. 1: macOS dock with a custom icon overlay for Beneath a Steel Sky.

## 10.2 Launching recently played games

To start a recently played game, right click on the ScummVM icon in the taskbar or dock, and select the game you want to play.

# Chapter 11

## AmigaOS 4

This page contains all the information you need to get ScummVM up and running on AmigaOS 4.

### 11.1 What you'll need

- A system running Amiga OS 4

### 11.2 Installing ScummVM

ScummVM is available for download from the [ScummVM Downloads](#) page or the [OS4 Depot](#).

Download and extract the .lha file.

Optional: Run the extracted ScummVM\_Install script. This installer guides you through the installation process.

Note: AmiUpdate is already aware of ScummVM and will automatically keep ScummVM up to date through its Autoinstall script.

### 11.3 Transferring game files

For games on PC or Mac formatted discs, use the original platform to access the data files, and then transfer these to Amiga. Alternatively, if you have external hardware such as a Catweasel Mk4(+) floppy disc controller, you might be able to use this to access the files.

ScummVM for Amiga OS has Cloud and LAN functionality, to help manage the transfer of files. See [Connecting a cloud service](#) and [Using the local web server](#).

See [Handling game files](#) for more information about game file requirements.

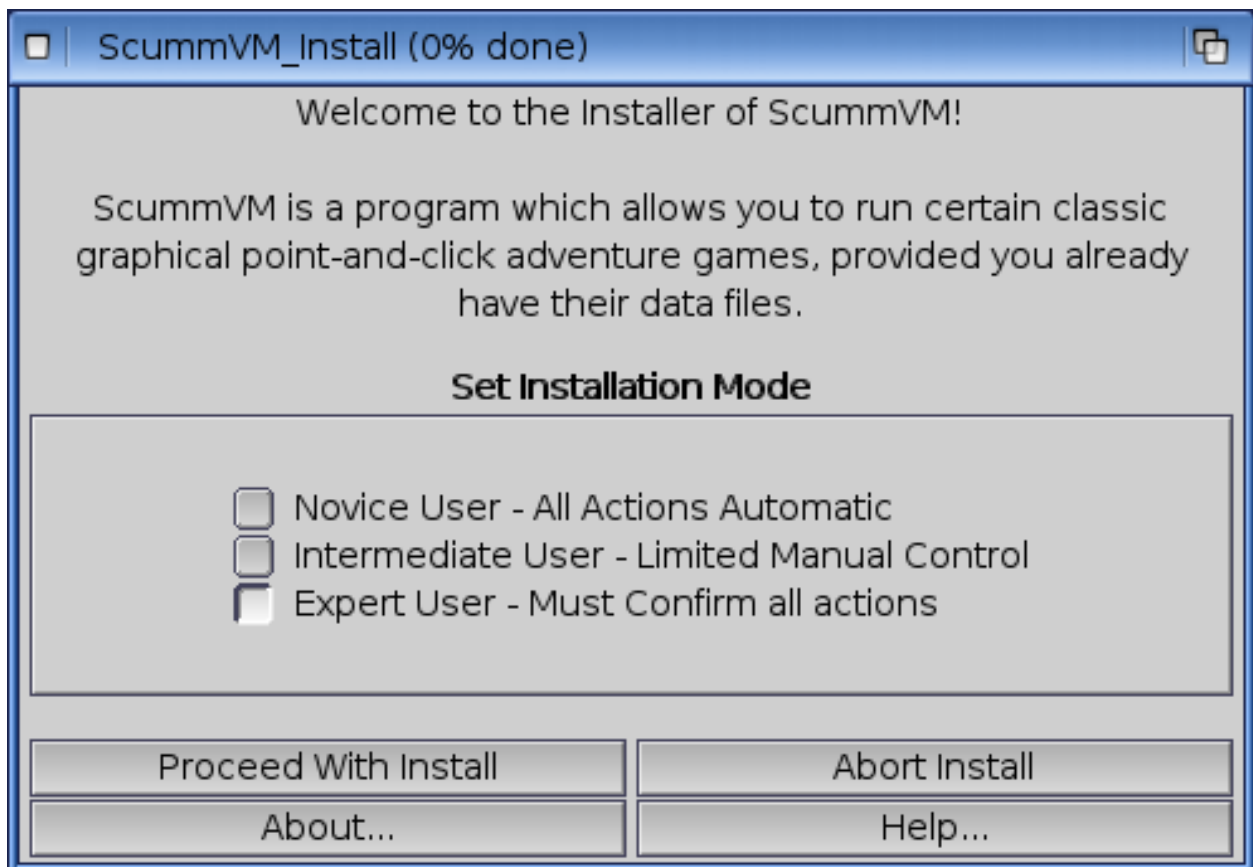


Fig. 1: The ScummVM installer.

## 11.4 Controls

Controls can be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common default keyboard shortcuts.

## 11.5 Paths

See below for the default location of saved games and scummvm.ini. They can be changed in the Settings.

### 11.5.1 Saved games

Path-to: ScummVM/saves

### 11.5.2 Configuration file

Path-to: ScummVM/scummvm.ini

## 11.6 Settings

For more information about Settings, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 11.6.1 Audio

The CAMD driver allows the use of MIDI hardware. Select CAMD as the [Preferred device](#).

## 11.7 Known issues

Due to the big-endian nature of Amiga OS, there can sometimes be graphics and sounds issues with games. Check out the Platform Overview [wiki page](#) for a list of compatible engines.

If a game crashes and it's listed as compatible, please report it as a [bug](#).

# Chapter 12

## Android

This page contains all the information you need to get ScummVM up and running on an Android device.

### 12.1 What you'll need

- An Android device running Android 4.1 (Jelly Bean) or newer.

---

**Note:** ScummVM has been tested to work up to Android 10. Currently there are some file browsing limitations with Android 11. The ScummVM team are working to resolve these.

---

### 12.2 Installing ScummVM

There are two ways to install ScummVM on an Android device; install it from the Google Play Store, or manually download and install the APK package from the ScummVM downloads page.

#### 12.2.1 Installing from the Google Play Store

The latest supported version of ScummVM is on the Google Play Store; search for ScummVM on the Google Play Store and select **Install**.

### 12.2.2 Manually installing the APK package

On your device, use a web browser app to navigate to the [ScummVM downloads page](#). The recommended download section on the page suggests the correct .apk package, however if it does not, scroll down to select the correct package.

---

**Tip:** To find the correct package for your device, find out whether the device has a 32 or 64-bit operating system, and which chipset the device has. Do an internet search using the device model number to find these details.

---

Click on the correct package to start the download. After it has downloaded, go to the file and tap on it to start the install process. Use either a file manager app, or select the file directly from the web browser downloads. The file manager or the web browser asks for permission to install the package, and after permission is granted, returns to the install.

---

**Note:** The downloaded APK package is treated as an app from an unknown source, because it doesn't originate in the Google Play store. To allow unknown apps:

- For Android 7 or lower, go to **Settings > Security > Device Administration**, scroll down to **Device Administration** and enable **Unknown Sources**.
  - For Android 8 or higher, go to **Settings > Apps and Notification** and select **Install Unknown Apps**.
- 

## 12.3 Transferring game files

Transfer all the required game data files to your device, into a folder accessible by the ScummVM app.

ScummVM has built-in Cloud functionality, which lets you connect your Google Drive, OneDrive, Box or Dropbox account. For more information, see the [Connecting a cloud service](#) page. ScummVM also has the ability to run a local web server. For more information, see the [Using the local web server](#) page.

There are a few other options to transfer the game files:

- Copy the files directly onto the microSD card, if the device has one.
- USB transfer from a computer. To complete file transfer by USB cable, tap the **Charging this device via USB notification** when the device is connected. Select **Use USB for** and then **File Transfer**. An Android File Transfer window opens.
- Download games such as freeware games or those from digital distributors directly to your device.

See [Handling game files](#) for more information about game file requirements.

## 12.4 Controls

### 12.4.1 Default control mapping

Controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

Touch screen control	Action
One finger tap	Left mouse button click
One finger tap + movement	Mouse movement
One finger tap and hold for >0.5s	Right mouse button click
One finger tap and hold for >1s	Middle mouse button click
Double tap + movement	Left mouse button hold and drag, such as for selection from action wheel in Curse of Monkey Island
Two finger tap	Right mouse button click
Two finger tap + movement of second finger	Right mouse button hold and drag, such as for selection from action wheel in Tony Tough
Three finger tap	Middle mouse button click
Three finger tap + movement of third finger	Middle mouse button hold and drag
Long press system Back button	Opens Global Main Menu
Short press system Back button	Skip, or Cancel/Quit in the Launcher
Long press system Menu button	Opens/closes Virtual keyboard
Short press system Menu button	Opens Global Main Menu
D-pad up/down/left/right	Mouse movement
D-pad center	Left mouse button click
Trackball movement	Mouse movement
Trackball click	Left mouse button click

### 12.4.2 Touch controls

The touch control scheme can be configured in the global settings. From the Launcher, go to **Options > Backend > Choose the preferred touch mode**. It's possible to configure the touch mode for three situations (ScummVM menus, 2D games and 3D games) and choose one of the three possible modes:

- Direct mouse, the touch controls are direct. The pointer jumps to where the finger touches the screen (default for menus).

- Touchpad emulation, the touch controls are indirect. The finger can be far away from the pointer and still move it, like on a laptop touchpad.
- Gamepad emulation, the touch controls don't move any mouse. The fingers must be placed on lower left and right of the screen and respectively emulate a directional pad and action buttons.
- The pointer speed setting in the *Controls tab* affects how far the pointer moves in response to a finger movement.

The touch mode can be switched at anytime by tapping on the controller icon, next to the menu icon at the top right of the screen.

To display or hide the small controller icon, from the Launcher select **Options** and then the **Backend** tab. Tick the **Show on-screen control** box to enable the controller icon.

### Two finger tap

To do a two finger tap, hold one finger down and then tap with a second finger.

### Three finger tap

To do a three finger tap, start with holding down one finger and progressively touch down the other two fingers, one at a time, while still holding down the previous fingers. Imagine you are impatiently tapping your fingers on a surface, but then slow down that movement so it is rhythmic, but not too slow.

### Immersive Sticky fullscreen mode

ScummVM for Android uses the Immersive Sticky fullscreen mode, which means that the Android system bar is hidden until the user swipes from an edge with a system bar. Swipe from the edge to reveal the system bars. They remain semi-transparent and disappear after a few seconds unless you interact with them. Your swipe also registers in the game, so if you need to swipe from an edge with system bars, your game play is not interrupted.

### Global Main Menu

To open the Global Main Menu, tap on the small menu icon at the top right of the screen.

To display or hide the small menu icon, from the Launcher select **Options** and then the **Backend** tab. Tick the **Show on-screen control** box to enable the menu icon.

## Virtual keyboard

To open the virtual keyboard, long press on the small controller icon at the top right of the screen, or tap on any editable text field. To hide the virtual keyboard, tap the small controller icon (which became a keyboard one) again, or tap outside the text field.

## 12.5 Paths

### 12.5.1 Saved games

By default, the saved games are saved in the internal app folder. To change the path, go to the [Paths](#) tab in either the global or game-specific settings.

### 12.5.2 Configuration file

The configuration file is in the internal app folder, and this path cannot be changed.

### 12.5.3 Accessing the internal app folder

To access the internal app folder, use ScummVM's built-in LAN functionality:

1. From the Launcher, select **Options** and then the **LAN** tab.
2. Select **/root/Path**.
3. Use the file browser to **Go up** to the root of the ScummVM internal app folder.
4. Select the **ScummVM data (int)** shortcut, and tap **Choose**.
5. Run the server to access the `scummvm.ini` configuration file.

For more information, see the [Using the local web server](#) page.

## 12.6 Known issues

- On some newer devices, there is an issue if the saved path is outside the app's internal (or external) storage. The ScummVM team is currently working on a fix.
- If ScummVM is uninstalled or downgraded, its internal and external app spaces are fully deleted. If you want to keep saved games use ScummVM's [cloud](#) or LAN functionality to keep those files. Alternatively, change the saved game path to a shared location such as an SD card.

## Chapter 13

# Atari/FreeMiNT

This page contains all the information you need to get ScummVM up and running on an Atari system.

### 13.1 What you'll need

- A powerful Atari system or clone; recommended minimum CPU 68060.
- FreeMiNT, TOS or MagiC operating system.

### 13.2 Installing ScummVM

Binary packages are provided for the m68000 CPU, the m68020 to m68060 range of CPUs, and the Coldfire (FireBee) CPU. All are available for download from the ScummVM [Downloads page](#). To install ScummVM, extract the selected ScummVM archive into a folder on the hard disk.

Run `scummvm.gtp` to start Scummvm. The `scummvm.gtp` command will take *command line options* to set parameters for the ScummVM session.

To run ScummVM from a FreeMiNT Command Line Interface, make the program executable with the following command:

```
chmod +x scummvm.gtp
```

For the best performance, run ScummVM under FreeMiNT, from the command line, and without the AES started.

## 13.3 Transferring game files

Transfer files to the Atari as you normally would, such as through a network connection or by optical disc.

See *Handling game files* for more information about game file requirements.

## 13.4 Controls

Controls can be manually configured in the *Keymaps tab*. See the *Keyboard shortcuts* page for common keyboard shortcuts.

## 13.5 Paths

### 13.5.1 FreeMiNT

Saved games and the configuration file are found in the user's defined home directory.

### 13.5.2 MagiC/TOS

Saved games and the configuration file are found in the ScummVM installation directory.

## 13.6 Settings

For more information, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 13.6.1 Graphics

For video rendering, define the variable `SDL_VIDEODRIVER=XBIOS` in your environmental variables. Either XBIOS or GEM might be set by default. This is not a ScummVM setting, but rather a system-wide setting.

---

**Tip:** XBIOS works better than GEM, because GEM rendering is generally slower.

---

### 13.6.2 Audio

Supported audio file formats:

- MP3
- OGG
- FLAC
- Uncompressed audio

## 13.7 Known issues

- There is no cloud/LAN functionality.
- The Atari built-in MIDI driver (STMIDI) does not work.
- FLAC, OGG and MP3 decoding libraries are extremely CPU intensive and greatly slow down the user experience. ScummVM is best run with uncompressed audio, when available.
- While all supported engines are included in the Atari ScummVM release, not all games will run well due to the lack of resources. For example, the Curse of Monkey Island will run on a CT60-equipped Atari Falcon, but very poorly.

# Chapter 14

## iOS

This page contains all the information you need to get ScummVM up and running on an iOS device.

### 14.1 Installing ScummVM

There are two ways to install ScummVM on an iOS device, and the method you use depends on whether or not the device has custom firmware installed.

#### 14.1.1 Devices without custom firmware

To installing ScummVM on an iOS device without custom firmware you need to build the app from the source code, and then install it on your device. While a basic knowledge of the command line would be useful, the following instructions, if followed carefully, can be completed by anyone.

#### What you'll need

- A Mac computer with Xcode installed. Xcode is a free App, available from the Mac App Store.
- An Apple Developer account. You can sign up for a free account on the [Apple Developer Member Center](#) with your Apple ID.
- The ScummVM [iOS Libraries](#) downloaded, and the zip file extracted.

---

**Note:** If you have a free Apple developer account, each build will only be valid for 7 days, which means you will need to repeat these steps and rebuild ScummVM every week.

---

## Step 1: Setting up the Xcode project

The first step is to download the repository containing the code required to build the app. The next steps require use of the command line. Go to **Applications > Utilities > Terminal** and copy and paste the following, then press return. This downloads (clones) the source code into your Home directory, into a folder called scummvm:

```
git clone https://github.com/scummvm/scummvm.git
```

**Tip:** To view the Home directory in the Finder, select **Go > Home** in the menu bar, or press **command+shift+H**.

If you haven't done so before now, open Xcode from the Applications folder, and accept the End User License Agreement. Starting Xcode for the first time also installs the command line tools required.

Create a new directory called build at the same level as the repository you just cloned, using either the Finder, or the command line as follows:

```
mkdir build
```

Copy the contents of the scummvm-ios7-libs-v2 folder you extracted earlier into the build directory, using either the Finder, or the command line as follows:

```
cp -r ~/Downloads/scummvm-ios7-libs-v2/* ~/build/
```

If your downloaded iOS library folder is not in the Downloads folder as it is in the preceding example, change the path to where the folder actually is.

Now let's change the present working directory and then set up the tools required to create the Xcode project:

```
cd scummvm/devtools/create_project/xcode
xcodebuild
```

## Step 2: Generating the Xcode project

Change your present working directory to the build directory:

```
cd ~/build
```

It's time to generate the Xcode project. Run the following on the command line:

```
../scummvm/devtools/create_project/xcode/build/Release/create_project ../scummvm --xcode --
↪enable-fluidsynth --disable-nasm --disable-opengl --disable-theoradec --disable-mpeg2 --
↪disable-taskbar --disable-tts --disable-fribidi
```

The resulting directory structure looks like this:

```
Home
|--scummvm
'--build
    |-- include
    |-- lib
    |-- engines
'-- scummvm.xcodeproj
```

Open the `scummvm.xcodeproj` file from the Finder, or from the command line:

```
open scummvm.xcodeproj
```

### Step 3: Building the ScummVM app

When Xcode is open, connect a device to install ScummVM onto. At the top of the window, select **ScummVM-iOS** and then select the device you just connected. You will need to “Trust” the device for it to show up on the list of connected devices.

You may need to disable bitcode generation in the build settings. This should already be disabled by default when you make a build specifically for your device, but it is enabled by default when you build for a “Generic iOS Device”.

Unless you want to debug issues with ScummVM on iOS, you probably want to compile ScummVM in release mode to get better performances when playing games.

The last step before building ScummVM is to change the bundle identifier and manage signing. Click on the **scummvm** project in the left pane, and then click on **ScummVM - iOS** under **TARGETS**. On the menu bar above, click on **General**. Under **Identity** there is a field labeled **Bundle Identifier**. Enter a unique identifier in reverse-DNS format. This can be as simple as `com.yournamehere`.

Next to **General**, click on **Signing & Capabilities**. Under **Signing**, tick the **Automatically manage signing** box, and select your developer account from the **Team** dropdown menu.

If you have not added your developer account to Xcode, do this now. Click **Add an Account** in the dropdown menu.

In the upper left-hand corner, press the play button to build ScummVM. When the build is finished, it launches on your connected device.

If ScummVM does not launch and you get an error message advising that the app failed to launch due to an invalid code signature, inadequate entitlements or because its profile has not been explicitly trusted by the user, you need to trust the apps that you have built. On your iOS device, go to **Settings > General > Device Management > Developer App > Trust “Apple Development:yourAppleIDhere” > Trust**.

### 14.1.2 Devices with custom firmware

#### What you'll need

- An iOS device with custom firmware installed (jailbroken). How to jailbreak a device is outside the scope of this documentation.
- A file manager app such as Filza installed on the device.

#### Downloading and installing ScummVM

Go to the [ScummVM downloads](#) page and download the recommended .deb or .ipa package. When the device asks how to open the file, choose Filza.

Ensure the package is saved somewhere in the /var/mobile/ directory. It defaults to /var/mobile/Documents/, which is fine. Tap on the file and then tap **Install** in the upper right corner to install ScummVM.

Restart your device for the install to complete.

## 14.2 Transferring game files

There are multiple ways to transfer game files to your iOS device.

ScummVM has built-in cloud functionality, which lets you connect your Google Drive, OneDrive, Box or Dropbox account. For more information, see the [Connecting a cloud service](#) page. ScummVM also has the ability to run a local web server. For more information, see the [Using the local web server](#) page.

---

**Note:** ScummVM's cloud functionality does not currently support iCloud, however you can upload game folders to your iCloud and then use the Files app on your iOS device to copy these folders into the local ScummVM folder.

---

Another way to transfer files (for macOS Catalina and newer) to your device is by using the Finder while your device is connected to your Mac. In the Finder app on your Mac, navigate to **Locations** in the left pane, and click on the connected device. Click on **Files**, then drag the folder containing the game files into the **ScummVM** folder. For older versions of macOS, and for Windows users, file transfer can be done in iTunes.

See [Handling game files](#) for more information about game file requirements.

## 14.3 Controls

Touch screen control	Action
One finger tap	Left mouse click
<i>Two finger tap</i>	Right mouse click
<i>Two finger double tap</i>	ESC
Two finger swipe (bottom to top)	Toggles <i>Click and drag mode</i>
Two finger swipe (left to right)	Toggles between touch direct mode and touchpad mode.
Two finger swipe (top to bottom)	Global Main Menu
Three finger swipe	Arrow keys
Pinch gesture	Enables/disables keyboard
Keyboard spacebar	Pause

### 14.3.1 Touch controls

The touch control scheme can be switched in the global settings. From the Launcher, go to **Options > Control > Touchpad mouse mode**.

- When touchpad mouse mode is off, the touch controls are direct. The pointer jumps to where the finger touches the screen.
- When touchpad mouse mode is on, the touch controls are indirect. The finger can be far away from the pointer and still move it, like on a laptop touchpad.
- The pointer speed setting in the *Controls tab* affects how far the pointer moves in response to a finger movement.

#### Two finger tap

For a two finger tap, hold one finger down and then tap with a second finger.

#### Two finger double tap

For a two finger double tap, hold one finger down and then double tap with a second finger.

#### Click and drag mode

Simulates a left mouse click when you touch the screen. The mouse pointer drags to wherever you slide your finger, and releases where you lift your finger.

If you press down a second finger in this mode, it releases the simulated left mouse button, and presses down the simulated right mouse button. The right mouse button is released when you lift your finger again.

## Keyboard

If no external keyboard is connected, the pinch gesture shows and hides the onscreen keyboard. When an external keyboard is connected, the pinch gesture enables/disables inputs from the external keyboard.

## 14.4 Paths

### 14.4.1 Saved games

`/var/mobile/Library/ScummVM/Savegames/` if the device is jailbroken, or `Savegames/` in the ScummVM folder for a non-jailbroken device. Access this folder through the Finder or iTunes.

### 14.4.2 Configuration file

`/var/mobile/Library/ScummVM/Preferences` if the device is jailbroken, or `Preferences` in the ScummVM folder for a non-jailbroken device. Access this folder through the Finder or iTunes.

## Chapter 15

# MorphOS

This page contains all the information you need to get ScummVM up and running on MorphOS.

### 15.1 What you'll need

- A system running MorphOS 3.15
- SDL2 library installed, download last version : <[https://www.morphos-storage.net/?find=SDL\\_2](https://www.morphos-storage.net/?find=SDL_2)>

### 15.2 Installing ScummVM

ScummVM is available for download from the [ScummVM Downloads](#) page or the [MorphOS Storage](#). Download and extract the .lha file.

### 15.3 Transferring game files

For games on PC or Mac formatted discs, use the original platform to access the data files, and then transfer these to Amiga. Alternatively, if you have external hardware such as a Catweazel floppy disc controller, you might be able to use this to access the files.

ScummVM for MorphOS has Cloud and LAN functionality, to help manage the transfer of files. See [Connecting a cloud service](#) and [Using the local web server](#).

See [Handling game files](#) for more information about game file requirements.

## 15.4 Controls

Controls can be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common default keyboard shortcuts.

## 15.5 Paths

### 15.5.1 Saved games

PROGDIR:saves

### 15.5.2 Configuration file

PROGDIR:scummvm.ini

## 15.6 Settings

For more information about Settings, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 15.6.1 Audio

Supported devices: - MT-32 emulator - FluidSynth (General MIDI emulator) - AdLib emulator - CAMD: The CAMD driver allows the use of MIDI hardware. Select CAMD as the [Preferred device](#).

Supported audio file formats: - MP3 - OGG - FLAC - Uncompressed audio

## 15.7 Known issues

Due to the big-endian nature of Amiga OS, there can sometimes be graphics and sounds issues with games. Check out the Platform Overview [wiki page](#) for a list of compatible engines.

If a game crashes and it's listed as compatible, report it as a [bug](#).

# Chapter 16

## Nintendo 3DS

This page contains all the information you need to get ScummVM up and running on a Nintendo 3DS.

### 16.1 What you'll need

- A Nintendo 3DS with a Homebrew Launcher or custom firmware. How to enable homebrew is outside the scope of this documentation.

### 16.2 Installing ScummVM

Download the Nintendo 3DS package from the [ScummVM Downloads page](#). Extract the archive.

There are two ways to install ScummVM: using the 3DSX format, or the CIA format.

#### 16.2.1 Using the 3DSX format

Copy the extracted files to your SD card into the `/3ds/scummvm` directory.

Launch ScummVM using the Homebrew Launcher.

#### 16.2.2 Using the CIA format

Use any CIA installation software to install the `scummvm.cia` file.

The CIA format requires a DSP binary dump saved on your SD card as `/3ds/dspfirm.cdc`. This is not an optional step, because without this you will not have proper audio support. Documenting this process is outside the scope of this documentation.

## 16.3 Transferring game files

Transfer game folders onto the SD card. The exact location is not important.

ScummVM for the Nintendo 3DS also has cloud functionality. See [Connecting a cloud service](#).

See [Handling game files](#) for more information about game file requirements.

## 16.4 Controls

### 16.4.1 Default control mapping

Controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

Game Controller Mapping:	
Button	Action
Circle Pad	Moves the cursor
R + Circle Pad	Slow Mouse
	Left mouse button
	Right mouse button
	Opens the virtual keyboard
	ESC
Control Pad	Keypad cursor keys
L Button	Toggles magnify mode on/off
R Button	Toggles between hover/drag modes
START	Opens global main menu
SELECT	Opens 3DS config menu

### 16.4.2 Hover mode

When using the touchscreen, hover mode simulates the movement of the mouse. You can click with taps, however you can't drag or hold down a mouse button unless you use the buttons mapped to the right/left mouse buttons.

### 16.4.3 Drag mode

Simulates the click and release of the mouse buttons every time you touch and release the touchscreen. At the moment, this is only a left mouse button click.

### 16.4.4 Magnify mode

Due to the low resolutions of the 3DS screens (400x240 for the top, and 320x240 for the bottom), games that run at a higher resolution will inevitably lose some visual detail from being scaled down. This can result in situations where essential information, such as text, is indiscernable.

Magnify mode increases the scale factor of the top screen back to 1, but the bottom screen remains unchanged. The touchscreen can then be used to change which part of the game display is being magnified. This can be done even in situations where the cursor is disabled, such as during full-motion video segments.

When activating magnify mode, touchscreen controls are automatically switched to *Hover mode* to reduce the risk of the user accidentally inputting a click when changing the magnified area with the stylus. Clicking can still be done as in normal hover mode. Turning off magnify mode will revert controls back to what was used previously. It will also restore the top screen's previous scale factor.

Magnify mode can only be used when the following conditions are met:

- In the 3DS config menu, the **Use Screen** option is set to **Both**.
- The horizontal and/or vertical in-game resolution is greater than that of the top screen.
- You're playing a game.

Magnify mode cannot be used in the Launcher menu.

## 16.5 Paths

### 16.5.1 Saved games

`sdmc:/3ds/scummvm/saves/`

### 16.5.2 Configuration file

`sdmc:/3ds/scummvm/scummvm.ini`

## 16.6 Settings

For more information about Settings, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 16.6.1 The 3DS config menu

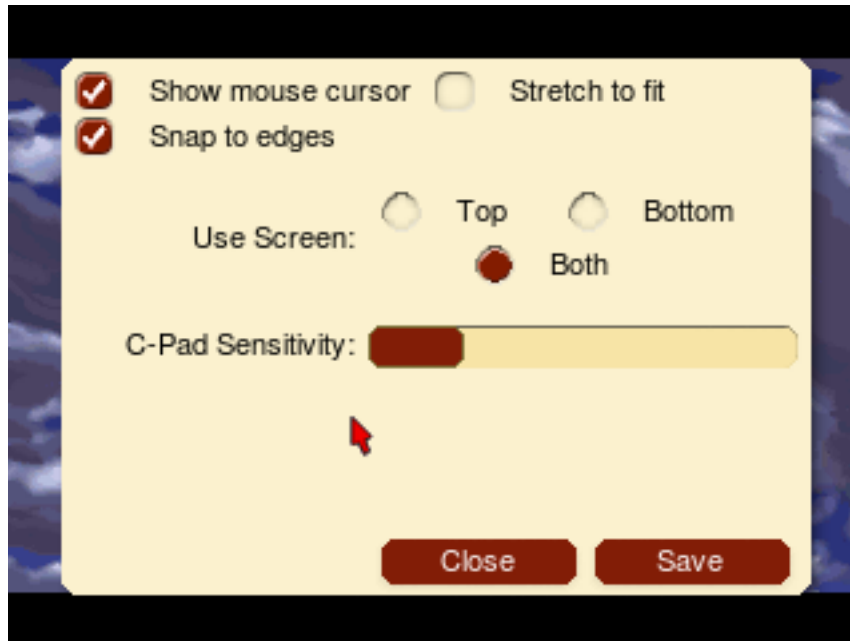


Fig. 1: The 3DS config menu.

**Show mouse cursor** Toggles a visible mouse cursor on/off.

**Stretch to fit** Stretches the image to fit the screen

**Snap to edges** The 3DS touch screen has difficulty reaching the very end of the screen. With this option enabled, if you're within a few pixels of the edge the cursor snaps to the edge.

**Use Screen:** Sets whether ScummVM uses the **Top**, **Bottom** or **Both** screens.

**C-Pad Sensitivity** Sets the sensitivity of the Circle Pad.

### 16.6.2 Audio

Supported audio file formats:

- MP3
- OGG
- OGG
- Uncompressed audio

## 16.7 Known issues

Some games are not playable due to the slow CPU speed on the 3DS. If there are any games that run really slowly, this is considered a hardware limitation, not a bug.

## Chapter 17

# Nintendo DS

This page contains all the information you need to get ScummVM up and running on a Nintendo DS.

### 17.1 What you'll need

- A homebrew-enabled Nintendo DSi or DSi XL. Note that the original DS and DS Lite are not currently supported. How to enable homebrew is outside the scope of this documentation.

### 17.2 Installing ScummVM

Download the Nintendo DS package from the [ScummVM Downloads page](#). Extract the archive and copy the extracted `scummvm.nds` file onto the SD card. The exact location is not important.

### 17.3 Transferring game files

Transfer game folders onto the SD card. The exact location is not important.

See [Handling game files](#) for more information about game file requirements.

### 17.4 Controls

Controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

## 17.5 Paths

Saved games and the configuration file are found in the ScummVM installation directory.

## 17.6 Settings

For more information about Settings, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 17.6.1 Audio

Supported audio file formats:

- MP3
- Uncompressed audio

---

**Tip:** Games run faster if audio files are uncompressed.

---

## 17.7 Known issues

- Games requiring a resolution of 512x512 or higher are not supported on the DS due to hardware limitations.
- Some games are not playable due to the slow CPU speed and limited RAM on the DS. If there are any games that run really slowly, this is considered a hardware limitation, not a bug.

## Chapter 18

# Nintendo Switch

This page contains all the information you need to get ScummVM up and running on a Nintendo Switch.

### 18.1 What you'll need

- A homebrew-enabled Nintendo Switch console. How to enable homebrew is outside the scope of this documentation.

### 18.2 Installing ScummVM

The Nintendo Switch package is available for download on the ScummVM [Downloads page](#).

Download the zip file to a computer, and extract the files.

Copy the extracted scummvm folder to your Nintendo Switch microSD card, into the /switch/ folder.

### 18.3 Transferring game files

Copy the folders containing game files into the /switch/scummvm/ folder on the microSD card.

ScummVM on the Nintendo switch supports *cloud functionality*.

See *Handling game files* for more information about game file requirements.

## 18.4 Controls

### 18.4.1 Default control map

These controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

Button	Action
Left stick	Mouse
Left stick + R button	Slow Mouse
	Left mouse button
	Right mouse button
Directional buttons	Keypad 'Cursor' Keys
Directional buttons + R button	Diagonal Keypad 'Cursor' Keys
L button	Game menu (F5)
R button	Shift
	Period
+ R button	Space
	Escape
+ R button	Return
	Global main menu (GMM)
	Toggle virtual keyboard
+ R button	AGI predictive input dialog

### 18.4.2 Touch Controls (Touchpad Mouse Mode Off, Default)

Touch	Action
Short single finger tap	Move pointer to finger position and left mouse button click
Short second finger tap while holding one finger	Move pointer to first finger position and right mouse button click
Single finger drag	Move pointer directly with finger
<i>Two finger drag</i>	Move pointer while left mouse button is held down (drag and drop). The pointer directly follows the first finger. The drag is ended when the last finger is removed.
<i>Three finger drag</i>	Move pointer while right mouse button is held down (drag and drop). The pointer directly follows the first finger. The drag is ended when the last finger is removed.

### 18.4.3 Touch Controls (Touchpad Mouse Mode On)

Touch	Action
Short single finger tap	Left mouse button click
Short second finger tap while holding one finger	Right mouse button click
Single finger drag	Move pointer indirectly with finger, pointer speed can be adjusted in control settings
<i>Two finger drag</i>	Move pointer while left mouse button is held down (drag-and-drop). The pointer motion is affected by the first finger. The drag is ended when the last finger is removed.
<i>Three finger drag</i>	Move pointer while right mouse button is held down (drag-and-drop). The pointer motion is affected by the first finger. The drag is ended when the last finger is removed.

### 18.4.4 Keyboard and mouse support

Physical USB mice and keyboards work on the Switch and are supported by ScummVM. All keyboards work but not all mice work. A mouse compatibility list is available on this [Google Sheet](#).

### 18.4.5 Touch support

For multi-touch gestures, the fingers have to be far enough apart from each other that the Switch does not recognize them as a single finger, otherwise the pointer jumps around.

The touch control scheme can be switched in the global settings. From the Launcher, go to **Options > Control > Touchpad mouse mode**.

- When touchpad mouse mode is off (default), the touch controls are direct. The pointer always jumps to where the finger touches the screen.
- When touchpad mouse mode is on, the touch controls are indirect. The finger can be far away from the pointer and still move it, like on a laptop touchpad.
- The pointer speed setting in the *Controls tab* affects how far the pointer moves in response to a finger movement.

## Two finger drag

Hold down two fingers to initiate a drag-and-drop feature. The two finger drag simulates the left mouse button being held down.

- The first finger affects mouse motion during the drag, the second finger can be removed without affecting the drag.
- When the last finger is removed, the left mouse button is released and the drag is over.
- The second finger can be anywhere, it doesn't have to be close to the first finger, and it doesn't have to be put down simultaneously with the first finger.

## Three finger drag

Hold down the three fingers to initiate a drag-and-drop feature. The three finger drag simulates the right mouse button being held down.

# 18.5 Paths

## 18.5.1 Saved games

`/switch/scummvm/saves`

## 18.5.2 Configuration file

`/switch/scummvm/scummvm.ini`

# 18.6 Settings

For more information, see the Settings section of the documentation. Only platform-specific differences are listed here.

## 18.6.1 Audio

Supported devices:

- MT-32 emulator
- FluidSynth (General MIDI emulator)
- AdLib emulator

Supported audio file formats:

- MP3

- OGG
- FLAC
- Uncompressed audio

### 18.6.2 Controls

See the *Touch support* section.

# Chapter 19

## PlayStation 3

This page contains all the information you need to get ScummVM up and running on a PlayStation 3.

### 19.1 What you'll need

- A Homebrew enabled Playstation 3 console. How to enable homebrew is outside the scope of this documentation.
- A USB drive
- A computer

### 19.2 Installing ScummVM

Download the Playstation 3 package from the [ScummVM Downloads page](#). Copy the .pkg file to a USB drive.

Plug the USB drive into the PS3. Go to the XMB, then go to **Games > Install Package** to install the ScummVM package.

To launch ScummVM, go to the XMB, then go to **Games > PlayStation 3 > ScummVM**.

### 19.3 Transferring game files

Games can be launched from either a USB drive, or from the internal hard drive. The hard drive has better performance.

To copy game files to the hard drive, use the USB drive, or use ScummVM's [cloud functionality](#), or use LAN functionality [Using the local web server](#).

See [Handling game files](#) for more information about game file requirements.

## 19.4 Controls

Controls can also be manually configured in the *Keymaps tab*. See the *Keyboard shortcuts* page for common keyboard shortcuts.

### 19.4.1 Default control map

Touchscreen:	
Buttons/Control	Action
Left stick	Moves pointer
	Left mouse button
	Right mouse button
	Game menu
	Esc
START	Global Main Menu
SELECT	Toggle virtual keyboard
L1 button	AGI predictive input dialog

## 19.5 Paths

### 19.5.1 Saved games

/hdd0/game/SCUM12000/USRDIR/saves/

### 19.5.2 Configuration file

/hdd0/game/SCUM12000/USRDIR/scummvm.ini

## 19.6 Settings

For more information, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 19.6.1 Audio

Supported audio file formats:

- MP3
- OGG
- FLAC
- Uncompressed audio

## Chapter 20

# PlayStation Portable

This page contains all the information you need to get ScummVM up and running on a PSP.

### 20.1 What you'll need

- A homebrew-enabled PSP. How to enable homebrew is outside the scope of this documentation.
- A computer to download and extract the install files.

### 20.2 Installing ScummVM

The PSP package is available for download ScummVM's [Downloads page](#).

Download the zip file to a computer, and extract the files.

Connect the PSP to the computer by USB cable. Go to **Settings > USB Connection** on the PSP. Ensure the **USB Device** option is set to **Memory Stick**. The computer automatically opens the root folder of the PSP. Alternatively, if you have a Memory Stick adapter, copy the files directly to the Memory Stick.

Copy the extracted `scummvm` folder to your PSP, into the `/PSP/GAME/` folder.

Go to **Game > Memory Stick** and choose **ScummVM** to launch ScummVM!

## 20.3 Transferring game files

Transfer game files onto the PSP as described in the installation section above. They can be copied to any folder; location doesn't matter.

See [Handling game files](#) for more information about game file requirements.

## 20.4 Controls

### 20.4.1 Default control map

These controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

Button	Action
R button	Modifier key
L button	ESC
Analog stick	Mouse movement
Analog stick + R button	Fine mouse movement
Directional buttons	Arrow keys
Directional buttons + R button	Diagonal arrow keys
	Enter
	Left Mouse Button
	Right Mouse Button
	Period
+ R button	Spacebar
SELECT	Shows/Hides the virtual Keyboard. Hold down with Directional buttons to move the keyboard.
SELECT + R button	Shows Image Viewer
START	Global Main Menu
START + R button	F5

## 20.4.2 Virtual Keyboard Mode

START	Enter. Also exits virtual keyboard mode
SELECT	Exits the virtual keyboard mode
R button	Input: lowercase/uppercase letters (press to toggle)
L button	Input: numbers/symbols (press to toggle)
Directional buttons	Selects square of characters (up, down, left or right)
and L/R buttons	Chooses a specific character in the square. The four center characters are chosen by the button in the corresponding position. The 2 top characters are chosen by the L/R buttons.
Analog stick	Moves in a direction (left/right/up/down)

## 20.4.3 Image Viewer

Left/right directional buttons	Previous/next image
Up/down directional buttons	Zooms in/out
Analog stick	Moves around the image
L/R buttons + START	Exits image viewer

## 20.4.4 1st Person Game Mode

+ R button + L button	Enables 1st Person Mode
	Modifier key (instead of R button)
L/R button	Strafes left/right
Directional buttons left/right	Turns left/right
+ Directional buttons	F1/F2/F3/F4
+ SELECT	Image Viewer
+ START	Esc

## 20.5 Settings

For more information, see the Settings section of the documentation. Only platform-specific differences are listed here.

## 20.5.1 Audio

Supported audio file formats:

- MP3
- OGG
- Uncompressed audio

---

**Tip:** Games run faster if audio files are in the .mp3 file format.

---

## 20.6 Paths

### 20.6.1 Saved games

ms0: /scummvm\_savegames/

### 20.6.2 Configuration file

ms0: /scummvm.ini

## 20.7 Known issues

- Plugin files are not interchangeable between ScummVM versions. You must copy all the plugin files found in the /PSP/GAME/scummvm/plugin/ folder for every new version you install. If ScummVM crashes on startup, delete the existing plugin files in the plugin directory and copy the new ones again.
- If the virtual keyboard does not show up on the screen, ensure the kbd.zip file is in the scummvm folder.

# Chapter 21

## PlayStation Vita

This page contains all the information you need to get ScummVM up and running on a PS Vita.

### 21.1 What you'll need

- A homebrew-enabled PS Vita console with [Vitashell](#) installed. How to enable homebrew is outside the scope of this documentation.

### 21.2 Installing ScummVM

The PS Vita package is available for download on the ScummVM [Downloads](#) page.

Copy the .vpk to the PS Vita and install it using VitaShell.

### 21.3 Transferring game files

There are a few ways to transfer game files to the PS Vita.

Use VitaShell to transfer the files by USB or FTP, or use SD2Vita to transfer the files directly to the microSD card.

Folders containing game files can be copied anywhere on the SD card.

ScummVM on the PS Vita supports [cloud functionality](#).

See [Handling game files](#) for more information about game file requirements.

## 21.4 Controls

### 21.4.1 Default control map

These controls can also be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common keyboard shortcuts.

Game Controller Mapping	
Button	Action
Left stick	Mouse
Left stick + R button	Slow Mouse
	Left mouse click
	Right mouse click
Directional buttons	Keypad 'Cursor' Keys
Directional buttons + R button	Diagonal Keypad 'Cursor' Keys
L button	Game menu (F5)
R button	Shift
	Period (.)
R button +	Spacebar
	Escape
R button +	Return
START	Global main menu (GMM)
SELECT	Toggle virtual keyboard
SELECT + R button	AGI predictive input dialog

Front Touchscreen Controls, always enabled	
Touch	Action
One finger tap	Moves pointer to finger position and left mouse click
Two finger tap	Moves pointer to first finger position and right mouse click
Single finger drag	Moves pointer directly with finger
<i>Two finger drag</i>	Moves pointer while left mouse button is held down (drag-and-drop).
<i>Three finger drag</i>	Moves pointer while right mouse button is held down (drag-and-drop).

Back Touchpad Controls, enabled through settings	
Touch	Action
One finger tap	Left mouse button click
Two finger tap	Right mouse button click
Single finger drag	Moves pointer indirectly with finger, pointer speed can be adjusted in control settings
<i>Two finger drag</i>	Moves pointer while left mouse button is held down (drag-and-drop).
<i>Three finger drag</i>	Moves pointer while right mouse button is held down (drag-and-drop).

### 21.4.2 Keyboard and mouse support

Real bluetooth mice and keyboards work on the Vita and are supported by ScummVM. Go to **Settings > Devices** on the Vita home screen to pair your devices.

---

**Note:** Not all bluetooth keyboards or mice pair successfully with the Vita. The ScummVM team tested the Jelly Bean BT keyboard and mouse combo (ASIN:B06Y56BBYP) and with the standalone Jelly Comb Bluetooth Wireless Mouse (ASIN:B075HBDWCF).

---

### 21.4.3 Touch support

For multi-touch gestures, the fingers have to be far enough apart from each other that the Vita will not recognize them as a single finger, otherwise the pointer will jump around.

#### Touchpad mouse mode

The touch control scheme can be switched in the global settings. Go to **Options > Control:**

- When **Touchpad mouse mode** is off:
  - The touch controls are direct, which means the pointer always jumps to the finger position.
  - The rear touch pad is disabled.
- When **Touchpad mouse mode** is on:
  - The touch controls are indirect. The finger can be far away from the pointer and still move it, like on a laptop touchpad.
  - The pointer speed setting in the *Control tab* affects how far the pointer moves in response to a finger movement.
  - The rear touch pad is enabled.

The front touchscreen uses the direct mode by default, but this can be changed by editing the *configuration file* with the following keyword:

*frontpanel\_touchpad\_mode*

When set to true, the touch controls on the front touchscreen are indirect.

### Two finger tap

For a two finger tap, hold one finger down and then tap with a second finger.

### Two finger drag

Hold down two fingers to initiate a drag-and-drop feature. The two finger drag simulates the left mouse button being held down.

- The first finger affects mouse motion during the drag, the second finger can be removed without affecting the drag.
- When the last finger is removed, the left mouse button is released and the drag is over.
- The second finger can be anywhere, it doesn't have to be close to the first finger, and it doesn't have to be put down simultaneously with the first finger.

### Three finger drag

Hold down the three fingers to initiate a drag-and-drop feature. The three finger drag simulates the right mouse button being held down.

## 21.5 Paths

### 21.5.1 Saved games

ux0:/data/scummvm/saves

### 21.5.2 Configuration file

ux0:/data/scummvm/scummvm.ini

## 21.6 Settings

For more information, see the Settings section of the documentation. Only platform-specific differences are listed here.

### 21.6.1 Audio

Supported audio file formats:

- MP3
- OGG
- FLAC
- Uncompressed audio

### 21.6.2 Controls

See the *Touch support* section.

## 21.7 Known Issues

- MT-32 emulation is not available on the PS Vita.

# Chapter 22

## RISC OS

This page contains all the information you need to get ScummVM up and running on the RISC OS operating system.

### 22.1 What you'll need

- A system running RISC OS 5.
- A minimum of 64 MB RAM. 32 MB may work in some circumstances, but is not generally recommended.
- The [SharedUnixLibrary](#) and [DRenderer](#) modules installed. These can be installed using [PackMan](#).

### 22.2 Installing ScummVM

Download the RISC OS package from the [ScummVM Downloads page](#).

Use a tool such as SparkFS to extract the archive. It is important that the archive is not extracted on any other system, because this results in a loss of file type information. ScummVM requires the file type information to run properly.

### 22.3 Transferring game files

Copy data files directly from the original discs on machines that have CD and/or floppy drives, or use a USB drive to transfer the files from another system.

See [Handling game files](#) for more information about game file requirements.

## 22.4 Controls

Controls can be manually configured in the [Keymaps tab](#). See the [Keyboard shortcuts](#) page for common default keyboard shortcuts.

## 22.5 Paths

### 22.5.1 Saved games

`<Choices$Write>.ScummVM.Saves`

### 22.5.2 Configuration file

`<Choices$Write>.ScummVM.scummvmrc`

The `<Choices$Write>` environment variable is usually `$.!Boot.Choices`.

## 22.6 Settings

For more information about settings, see the Settings section of the documentation. Only platform-specific differences are listed here.

There is one additional configuration option, *enable\_reporter*. When set to true in [Configuration file](#), log messages are sent to the [!Reporter](#) application. This is useful mostly for developers.

## 22.7 Known issues

- ScummVM for RISC OS does not have cloud or LAN functionality.
- FluidSynth is not supported.
- ScummVM is not compatible with RISC OS 3, 4 or 6.

## Chapter 23

# Sega Dreamcast

This page contains all the information you need to get ScummVM up and running on a Sega Dreamcast.

### 23.1 What you'll need

- A CD-R disc (80min/700mb).
- A CD-RW drive.
- A computer running Windows.
- Software to create a bootable disc image, such as [BootDreams](#)
- CD burning software such as Nero Burning ROM, ImgBurn or Alcohol120%.

### 23.2 Running ScummVM

There are two ways to get ScummVM running on the Dreamcast:

1. Download the ready-to-go Nero Image and Demos package and burn the extracted .nrg image to a CD-R using Nero Burning ROM.
2. Download the Dreamcast plain files package and use the extracted files to create a custom disc image to burn to a CD-R.

Both packages are available from the ScummVM [Downloads page](#)

### 23.2.1 Creating a disc from the Dreamcast Nero Image and Demos package

Use Nero Burning ROM to burn the .nrg file contained in the package to a CD-R disc.

### 23.2.2 Creating a disc from the Dreamcast plain files package

Create a directory on your computer. In this example, the directory is called ScummVMDC.

Copy the downloaded SCUMMVM.BIN and IP.BIN files into the ScummVMDC directory. These are the main boot and engine files required for ScummVM to run.

The .PLG files in the plain files package are the plugins that are required to run the games. For the best performance, only include the plugins for games you want to play. For example, if you want to play LucasArts games, include SCUMM.PLG.

In the plain files package there are also .DAT files. These files might be listed as required Datafiles on the [Datafiles wiki page](#).

Copy the required .PLG and .DAT files into the root of the ScummVMDC directory.

Next, make a new directory for each game. In this example, all the required Day of the Tentacle data files have been copied into a subdirectory named DOTT.

Our file structure now looks like this:

```
ScummVMDC
|--DOTT
|   |-- MONSTER.SOU
|   |-- TENTACLE.000
|   `-- TENTACLE.001
|--IP.BIN
|-- SCUMM.PLG
`-- SCUMMVM.BIN
```

The next step is to create a bootable disc image from the ScummVMDC folder.

Use Bootdreams to create either a Discjuggler, Nero or Alcohol120% disc image.

1. Choose the preferred disc image type by clicking on the corresponding icon at the top of the window.
2. Choose the ScummVMDC folder as the **Selfboot folder**
3. Enter a title for the disc image in the **CD label** field.
4. Leave the **Disc format** as **Audio/Data**
5. Click **Process** to create the disc image.

To burn the resulting image to disc, use any software capable of using those image formats, such as Nero Burning ROM for NRG, Alcohol120% for MDS, and Padus DiscJuggler or ImgBurn for CDI disc images.



**Tip:** The image created from the plain files package can also be used with Optical Disc Emulators and similar external hardware.

**Caution:** Use the lowest possible burning speed for best results; the Dreamcast is an older system and as such can have problems reading discs burned at high speeds. If available, the 4x speed is ideal. Ensure that you use good quality discs from a reputable manufacturer. If possible, use archival grade discs.

## 23.3 Transferring game files

Game files can be included on the same CD as the ScummVM binary file, or on a separate disc.

The Dreamcast port does not use the normal ScummVM Launcher. It uses its own custom graphical user interface, which automatically scans the disc for games, and adds the games to a games list through ScummVM's built-in autodetection.

ScummVM for the Dreamcast supports disc swapping from the GUI. It rescans after a new disc is inserted and repopulates the games list.

See [Handling game files](#) for more information about game file requirements.

## 23.4 Controls

### 23.4.1 Default control map

Game Controller Mapping:		
Button	Action	
Joystick	Moves pointer	
Directional pad	Moves pointer slowly. Also controls the on-screen keyboard	
	Left Click	
	Right Click	
	Pause	
START	Load and save	
Trigger L	Toggles the virtual keyboard on/off	
	5 - used for boxing in Indiana Jones and the Last Crusade	
+ Directional pad	1, 2, 3, 4, 6, 7, 8, 9 - used for boxing in Indiana Jones and the Last Crusade	

The mouse cursor is controlled with the standard Dreamcast controller. The Dreamcast mouse and keyboard peripherals are also supported.

## 23.5 Paths

### 23.5.1 Saved games

The Visual Memory Unit (VMU) is used to save and load games.

Autosave is enabled on the Dreamcast, so each game will use some memory blocks (between 2 and 13) for the autosave in save slot 0.

When a game is saved, the VMU beeps, and a prompt is displayed on the screen to let you know that the game has been saved.

Games are saved and loaded through the built-in game menus.

### 23.5.2 Configuration file

ScummVM for the Dreamcast does not use a configuration file.

## 23.6 Settings

There is no way to change ScummVM settings on the Dreamcast.

## 23.7 Known issues

- The Dreamcast has no external storage medium, and only has 16MB of RAM. As such, the Dreamcast port of ScummVM does not support The Curse of Monkey Island or the Dig. The resources required for these games are too great for the Dreamcast to handle. Full Throttle is not completable.
- There is currently no way to manually add games to the games list. The autodetect feature usually works well, but sometimes games will show up on the list twice, incorrect games will show up with the correct game, and, quite rarely, the game will not show up on the list at all.
- Some games, for example SPY Fox 1: Dry Cereal, use filenames which are incompatible with the ISO 9660 filesystem standard. The Dreamcast port does not support filename extensions like RockRidge or Joliet, so the CD mastering software needs to be instructed not to change the filenames to comply to ISO 9660, or the engine will not be able to open the files.

## Chapter 24

# Game

Use the Game tab to display and change information about how the game is identified by ScummVM.

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. The menu opens on the **Game** tab.

All settings can also be changed in the *Configuration file*. The configuration key is listed in italics after each setting description.

---

**ID** Shows the short name of the game. Edit this name as required, but use only numbers, letters and hyphens. The ID can also be used for launching the game from the command line.

**Name** Shows the full title of the game, as well as some basic information such as original platform and language.

*description*

**Language** For games that were released with support for multiple languages, this options changes the language of the game. For games that have a single language hardcoded, this option does not change the language of the game, it only affects the subtitles. Select the correct language to ensure that subtitles display correctly, especially for non-English games.

*language*

**Platform** Specifies the original platform of the game.

*platform*

---

The Game tab also shows settings unique to the game engine for the selected game.

To find out which engine powers your game, have a look at the ScummVM Supported Games [wiki page](#) or *group* games by Engine in the Launcher.

Engines: *ADL* | *AGI* | *AGOS* | *BLADERUNNER* | *CGE* | *CINE* | *DRASCULA* | *DREAMWEB* | *HDB* | *HOPKINS* | *KYRA* | *LURE* | *MADS* | *NEVERHOOD* | *SCI* | *SCUMM* | *SHERLOCK* | *SKY* | *SUPERNOVA* | *TOLTECS* | *WINTERMUTE* | *XEEN* |

---



Fig. 1: The Game tab in the Game Options menu

## 24.1 ADL

**TV emulation** Emulates the composite output to an NTSC TV.

*ntsc*

**Color Graphics** Uses color graphics instead of monochrome graphics.

*color*

**Show scanlines** Darkens every other scanline to mimic the look of a CRT display.

*scanlines*

**Always use sharp monochrome text** Does not emulate NTSC artifacts for text.

*monotext*

---

## 24.2 AGI

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Use an alternative palette** Uses an alternative palette, common to all Amiga games.

*altamigapalette*

**Mouse support** Enables mouse support for movement and in game menus.

*mousesupport*

**Use Hercules hires font** Uses the Hercules hi-resolution font, when the font file is available.

*herculesfont*

**Pause when entering commands** Shows a command prompt window and pauses the game, instead of a real-time prompt.

*commandpromptwindow*

**Add speed menu** Adds a game speed menu, similar to the PC version.

*apple2gs\_speedmenu*

---

## 24.3 AGOS

**Disable fade-out effects** Don't fade every screen to black when leaving a room.

*disable\_fade\_effects*

---

## 24.4 BLADERUNNER

**Sitcom mode** Adds laughter after the actor's line or narration.

*sitcom*

**Shorty mode** Shrinks the actors and makes their voices high pitched.

*shorty*

**Frame limiter high performance mode** Avoids use of `delayMillis()` function. This mode might result in high CPU usage.

*nodelaymillisfl*

**Max frames per second limit** Targets a maximum of 120 frames per second (fps). When disabled, the game targets 60 fps.

*frames\_per\_secondfl*

**Disable McCoy's quick stamina drain** When running, McCoy won't start slowing down as soon as the player stops clicking the mouse.

*disable\_stamina\_drain*

---

## 24.5 CGE

**Color Blind Mode** Enables Color Blind Mode by default.

*enable\_color\_blind*

---

## 24.6 CHEWY

**Use original save/load screen** Uses the original save/load screens instead of the ScummVM screens.

*original\_menus*

## 24.7 CINE

**Use original save/load screen** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Use transparent dialog boxes in 16 color scenes** Uses transparent dialog boxes in 16 color scenes even if the original game version did not support them.

*transparentdialogboxes*

---

## 24.8 DRASCULA

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

---

## 24.9 DREAMWEB

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Use bright palette mode** Displays graphics using the game's bright palette.

*bright\_palette*

---

## 24.10 HDB

**Enable cheat mode** Enables debug info and level selection.

*hypercheat*

---

## 24.11 HOPKINS

**Gore Mode** Enables Gore Mode when available.

*enable\_gore*

---

## 24.12 KYRA

**Enable studio audience** Studio audience adds an applause and cheering sounds whenever Malcolm makes a joke.

*studio\_audience*

**Skip support** Lets the user skip text and cutscenes.

*skip\_support*

**Enable helium mode** Makes characters sound like they inhaled Helium.

*helium\_mode*

**Enable smooth scrolling when walking** Makes scrolling smoother when changing from one screen to another.

*smooth\_scrolling*

**Enable floating cursors** Changes the cursor when it floats to the edge of the screen to a directional arrow. Click to walk in that direction.

*floating\_cursors*

**Suggest save names** Fills in an autogenerated save game description into the input prompt.

*auto\_savenames*

**HP bar graphs** Enables hit point bar graphs.

*hpbargraphs*

**Fight Button L/R Swap** Swaps the buttons so that the left button attacks, and the right button picks up items.

*mousebtswap*

---

## 24.13 LURE

**TTS Narrator** Uses text-to-speech to read the descriptions, if text-to-speech is available.

*tts\_narrator*

---

## 24.14 MADS

**Easy mouse interface** Shows object names when the mouse pointer is held over the object.

*EasyMouse*

**Animated inventory items** Animates the inventory items.

*InvObjectsAnimated*

**Animated game interface** Animates the game interface.

*TextWindowAnimated*

**Naughty game mode** Enables naughty game mode.

*NaughtyMode*

**Graphics dithering** Enables graphics dithering.

*GraphicsDithering*

---

## 24.15 NEVERHOOD

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Skip the Hall of Records storyboard scenes** Lets the player skip past the Hall of Records storyboard scenes.

*skiphallofrecordsscenes*

**Scale the making of videos to full screen** Scales the making-of videos, so that they use the whole screen.

*scalemakingofvideos*

---

## 24.16 QUEEN

**Alternate intro** Plays the alternate intro for Flight of the Amazon Queen.

*alt\_intro*

---

## 24.17 SCI

**Skip EGA dithering pass (full color backgrounds)** Skips dithering pass in EGA games. Graphics are shown with full colors.

*disable\_dithering*

**Enable high resolution graphics** Enables high resolution graphics and content.

*enable\_high\_resolution\_graphics*

**Enable black-lined video** Draws black lines over videos to increase their apparent sharpness.

*enable\_black\_lined\_video*

**Use high-quality video scaling** Uses linear interpolation when upscaling videos, where possible.

*enable\_hq\_video*

**Use high-quality “LarryScale” cel scaling** Uses special cartoon scaler for drawing character sprites.

*enable\_larryscale*

**Prefer digital sound effects** Prefers digital (sampled) sound effects instead of synthesized ones.

*prefer\_digitalsfx*

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Use IMF/Yamaha FB-01 for MIDI output** Uses an IBM Music Feature card or a Yamaha FB-01 FM synth module for MIDI output.

*native\_fb01*

**Use CD audio** Uses CD audio instead of in-game audio, if available.

*use\_cdaudio*

**Use Windows cursors** Uses the Windows cursor (smaller and monochrome) instead of the DOS cursor.

*windows\_cursors*

**Use silver cursors** Uses the alternate set of silver cursors instead of the normal golden cursors.

*silver\_cursors*

**Upscale videos** Upscales videos to double their size

*enable\_video\_upscale*

**Enable content censoring** Enables the game's built-in optional content censoring.

*enable\_censoring*

---

## 24.18 SCUMM

**Show Object Line** Show the names of objects at the bottom of the screen.

*object\_labels*

**Use NES Classic Palette** Uses a more neutral color palette that closely emulates the NES Classic.

*mm\_nes\_classic\_palette*

**Enable game-specific enhancements** Allow ScummVM to make small enhancements to the game, usually based on other versions of the same game.

*enable\_enhancements*

---

## 24.19 SHERLOCK

**Use original load/save screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

**Pixellated scene transitions** Enables randomized pixel transitions between scenes.

*fade\_style*

**Don't show hotspots when moving mouse** Only shows hotspot names after you click on a hotspot or action button.

*help\_style*

**Show character portraits** Shows portraits of the characters when the characters converse.

*portraits\_on*

**Slide dialogs into view** Slides UI dialogs into view.

*window\_style*

**Transparent windows** Shows windows with a partially transparent background.

*transparent\_windows*

**TTS Narrator** Uses text-to-speech to read the descriptions, if text-to-speech is available.

*tts\_narrator*

---

## 24.20 SKY

**Floppy intro** Uses the floppy version's intro (CD version only)

*alt\_intro*

---

## 24.21 SUPERNOVA

**Improved mode** Removes some repetitive actions, and adds the possibility to change verbs by keyboard.

*improved*

---

## 24.22 TOLTECS

**Use original save/load screens** Uses the original save/load screens instead of the ScummVM screens.

*originalsaveload*

---

## 24.23 WINTERMUTE

**Show FPS-counter** Shows the current number of frames per second in the upper left corner.

*show\_fps*

**Sprite bilinear filtering (SLOW)** Applies bilinear filtering to individual sprites.

*bilinear\_filtering*

---

## 24.24 XEEN

**Show item costs in standard inventory mode** Shows item costs in standard inventory mode, which lets the value of items be compared.

*ShowItemCosts*

**More durable armor** Armor won't break until character is at -80HP, instead of the default -10HP.

*DurableArmor*

## Chapter 25

# Backend

Use the Backend tab to change settings that are unique to the platform being used. This tab is not available for all platforms.

### To change settings globally:

From the Launcher, select **Global Options**, then select the **Backend** tab.

### To change settings for a specific game:

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. Select the **Backend** tab.

For a comprehensive look at how to use these settings, check out the individual platform guides.

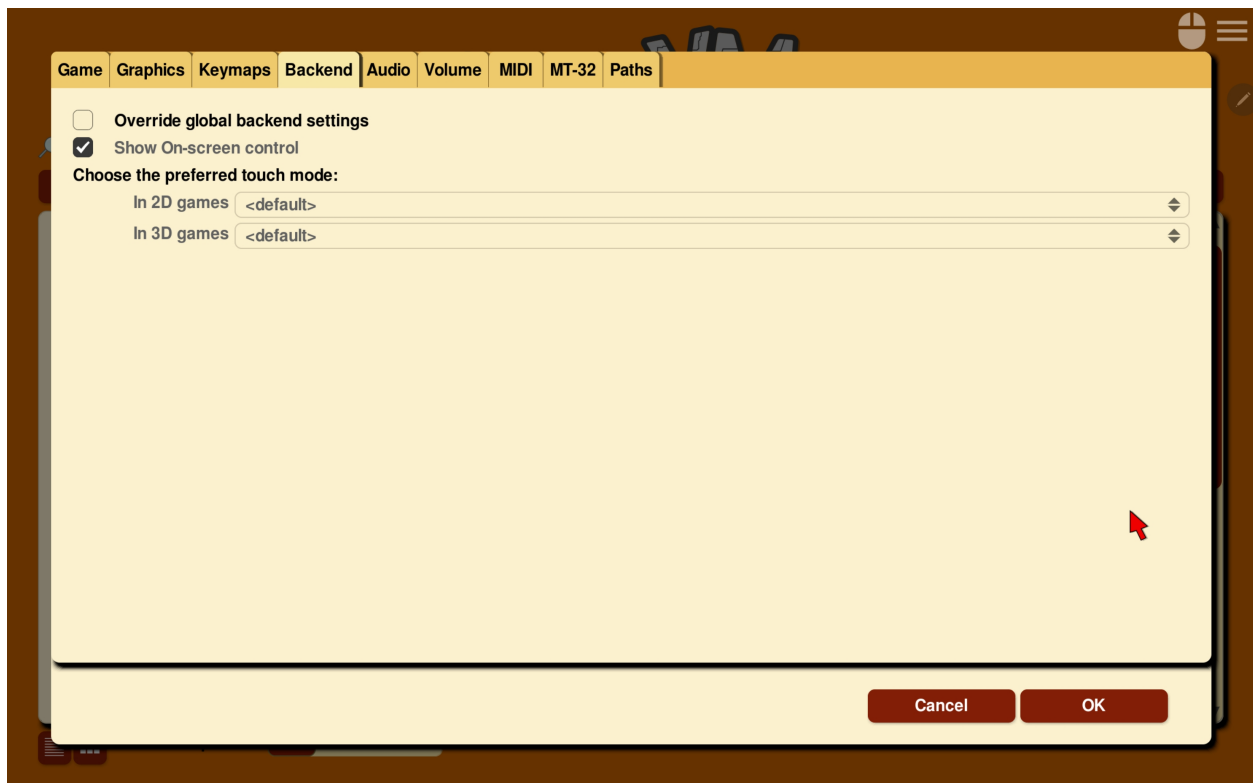


Fig. 1: The Android Backend tab in the Global Options menu

# Chapter 26

## Graphics

Use the Graphics tab to change how games look when they are played.

### To change settings globally:

From the Launcher, select **Global Options**. The Global Options menu opens on the **Graphics** tab.

### To change settings for a specific game:

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. Select the **Graphics** tab.

For a comprehensive look at how to use these settings, check out our [Understanding the graphics settings](#) guide.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

---

**Graphics mode** Change the graphics backend used to render the ScummVM window on the screen. Different graphics modes have different options available (such as scalers and stretch modes).

*gfx\_mode*

**Render mode** Changes how the game is rendered.

*render\_mode*

**Stretch mode** Changes the way the game is displayed in relation to the window or screen size.

*stretch\_mode*

**Scalers** Changes the resolution of the game, while also selecting which filter is used to scale up the resolution. For example, a 2x scaler will take a 320x200 resolution game and scale it up to 640x400.

*scaler and scale\_factor*



Fig. 1: The Graphics tab in the Global Options menu

**Aspect ratio correction** If ticked, corrects the aspect ratio so that games appear the same as they would on original 320x200 resolution displays.

*aspect\_ratio*

**Fullscreen mode** Switches between playing games in a window, or playing them in fullscreen mode. Switch between the two by using Alt+F5 while in a game.

*fullscreen*

**Filter graphics** If ticked, uses bilinear interpolation instead of nearest neighbor resampling for the aspect ratio correction and stretch mode. It does not affect the graphics mode.

*filtering*

**V-Sync in 3D games** If ticked, synchronizes the frame rate of a game with the monitor's refresh rate to prevent screen tearing.

*vsync*

**Game 3D renderer** Changes how a 3D game is rendered. This setting has no effect on 2D games.

- OpenGL: renders on hardware (uses the GPU)
- OpenGL with shaders: renders on hardware with shader support
- Software: renders on software (uses the CPU).

*renderer*

**3D Anti-aliasing** Changes the anti-aliasing method. The number refers to how many samples are taken per pixel; 8x takes 8 samples per pixel and is the most accurate, but is also the most processor-intensive option.

*antialiasing*

## Chapter 27

# Control

Use the Control tab to change settings for joysticks, game controllers, and touch screens. This tab is not always available.

From the Launcher, select **Global Options**, and then select the **Control** tab.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

---

**Pointer Speed** Sets the speed for the mouse pointer, when it is controlled by the keyboard or a joystick.

*kbdmouse\_speed*

**Joy deadzone** Sets the deadzone for an analog joystick. A lower value will reduce the size of the deadzone.

*joystick\_deadzone*

**Touchpad mouse mode** Toggles between direct mode and touchpad mode.



Fig. 1: The Control tab in the Global Options menu

# Chapter 28

## Keymaps

Use the Keymaps tab to assign actions to keyboard keys or shortcuts, or to mouse or joystick buttons.

### To change settings globally:

From the Launcher, select **Global Options**, then select the **Keymaps** tab.

### To change settings for a specific game:

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. Select the **Keymaps** tab.

All settings can also be changed in the *Configuration file*. The configuration key is listed in italics after each setting description.

---

Click on the button next to the desired action to add an additional key or button. Click on the dropdown expander for more options.

If all the mapped keys are not visible, hold the pointer over the button to see all the mapped keys.

**Reset** Resets all keymaps to default.

**Reset to defaults** Resets the keymaps for that action to default.

**Clear mapping** Clears all keymaps for that action.

---

## 28.1 Global settings

The following are the available global keymap options. Listed in italics are the configuration keywords. For more information, see the *Configuration file* page.



Fig. 1: The Keymaps tab in the Global Options menu



Fig. 2: The Keymaps dropdown options.

### 28.1.1 Global

**Global Main Menu** *keymap\_global\_MENU*

**Toggle mute** *keymap\_global\_MUTE*

**Quit** *keymap\_global\_QUIT*

**Open Debugger** *keymap\_global\_DEBUGGER*

**Virtual mouse up** *keymap\_global\_VMOUSEUP*

**Virtual mouse down** *keymap\_global\_VMOUSEDOWN*

**Virtual mouse left** *keymap\_global\_VMOUSELEFT*

**Virtual mouse right** *keymap\_global\_VMOUSERIGHT*

**Slow down virtual mouse** *keymap\_global\_VMOUSESLOW*

### 28.1.2 Graphics

**Toggle fullscreen** *keymap\_sdl-graphics\_FULS*

**Toggle mouse capture** *keymap\_sdl-graphics\_CAPT*

**Save screenshot** *keymap\_sdl-graphics\_SCRS*

**Toggle aspect ratio correction** *keymap\_sdl-graphics\_ASPT*

**Toggle linear filtered scaling** *keymap\_sdl-graphics\_FILT*

**Cycle through stretch modes** *keymap\_sdl-graphics\_STCH*

**Increase the scale factor** *keymap\_sdl-graphics\_SCL+*

**Decrease the scale factor** *keymap\_sdl-graphics\_SCL-*

**Switch to nearest neighbour scaling** *keymap\_sdl-graphics\_FLT1*

**Switch to AdvMame 2x/3x scaling** *keymap\_sdl-graphics\_FLT2*

**Switch to HQ 2x/3x scaling** *keymap\_sdl-graphics\_FLT3*

**Switch to 2XSai scaling** *keymap\_sdl-graphics\_FLT4*

**Switch to Super2xSai scaling** *keymap\_sdl-graphics\_FLT5*

**Switch to SuperEagle scaling** *keymap\_sdl-graphics\_FLT6*

**Switch to TV 2x scaling** *keymap\_sdl-graphics\_FLT7*

**Switch to DotMatrix scaling** *keymap\_sdl-graphics\_FLT8*

### 28.1.3 GUI

**Interact** *keymap\_gui\_INTRCT*

**Close** *keymap\_gui\_CLOS*

**Up** *keymap\_gui\_UP*

**Down** *keymap\_gui\_DOWN*

**Left** *keymap\_gui\_LEFT*

**Right** *keymap\_gui\_RIGHT*

## 28.2 Game settings

The following are the available keymap game-specific keymaps options. Listed in italics are the configuration keywords. For more information, see the [Configuration file](#) page.

### 28.2.1 Default game keymap

**Left mouse button** *keymap\_engine-default\_LCLK*

**Middle click** *keymap\_engine-default\_MCLK*

**Right click** *keymap\_engine-default\_RCLK*

**Pause** *keymap\_engine-default\_PAUSE*

**Game menu** *keymap\_engine-default\_MENU*

**Skip** *keymap\_engine-default\_SKIP*

**Skip line** *keymap\_engine-default\_SKLI*

**Predictive input dialog** *keymap\_engine-default\_PIND*

**Confirm** *keymap\_engine-default\_RETURN*

**Up** *keymap\_engine-default\_UP*

**Down** *keymap\_engine-default\_DOWN*

**Left** *keymap\_engine-default\_LEFT*

**Right** *keymap\_engine-default\_RIGHT*

# Chapter 29

## Audio

Audio settings are found on four tabs:

[Audio](#) | [Volume](#) | [MIDI](#) | [MT-32](#)

### To change settings globally:

From the Launcher, select **Global Options**, then select the applicable tab.

### To change settings for a specific game:

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. Select the applicable tab.

For a comprehensive look at how to use ScummVM's extensive audio settings, check out our [Understanding the audio settings](#) guide.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

## 29.1 The Audio tab

Use the Audio tab to change the sound output of games.

---

**Preferred device (global settings) or Music device (game-specific settings)** Specifies the device ScummVM uses to output audio. When set to **<default>**, ScummVM automatically chooses the most appropriate option for the played game. If set to an MT-32 or a MIDI device, or if ScummVM chooses one of these automatically, the settings on the MT-32 or MIDI tabs also apply.

*music\_driver*

**AdLib Emulator** Chooses which emulator is used by ScummVM when the AdLib emulator is chosen as the **Preferred device**.

*opl\_driver*

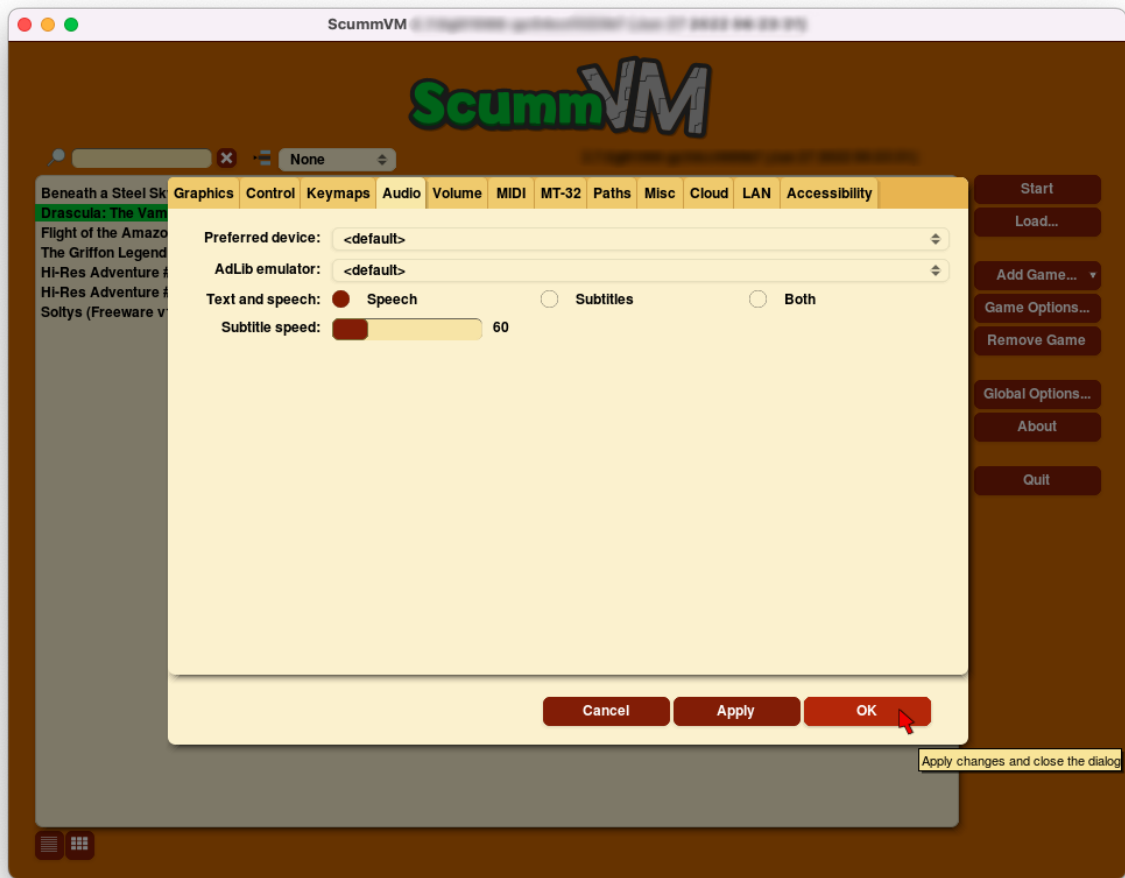


Fig. 1: The Audio tab in the Global Options menu.



Fig. 2: The Audio tab in the Game Options menu.

**Text and Speech** For games with digitized speech, this setting lets the user decide whether to play the game with speech only, subtitles only, or both.

*speech\_mute*

*subtitles*

**Subtitle speed** Adjusts the length of time that the subtitles are displayed on screen. The meaning of this value depends on the games. Some games treat it as a delay (a higher value means the subtitles are displayed for longer) while others treat it as a speed. Games that treat it as a delay include all LucasArts games, with the exception of Grim Fandango and Escape from Monkey Island, all Sierra games, and the Discworld games. Most other games treat it as a speed.

*talkspeed*

---

## 29.2 The Volume tab

Use the Volume tab to set the relative volumes for various in-game sounds.

---

**Music volume** Adjusts the volume of the music in the game.

*music\_volume*

**SFX volume** Adjusts the volume of the sound effects in the game.

*sfx\_volume*

**Speech volume** Adjusts the volume of the digitized speech in the game, if it has any.

*speech\_volume*

**Mute All** Mutes all game audio.

*mute*

---

## 29.3 The MIDI tab

Use the MIDI tab to change the settings of General MIDI (GM) devices.

---

**GM Device** Specifies a preferred General MIDI device, which ScummVM uses if the **Preferred device** is set to **<default>** and General MIDI playback is required.

*gm\_device*

**Soundfont** Specifies the path to a soundfont file, if this is required by the GM device.

*soundfont*

---



Fig. 3: The Volume tab in the Game Options menu.

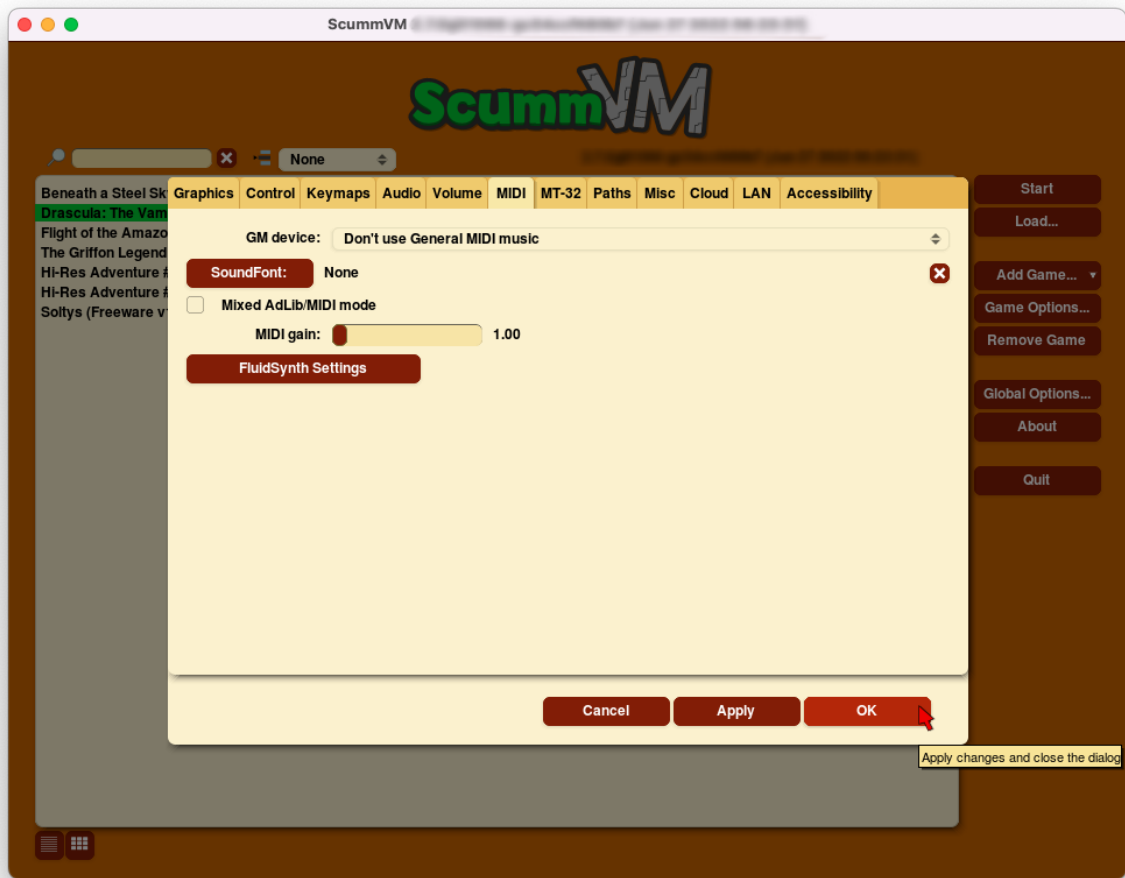


Fig. 4: The MIDI tab in the Global Options menu

**Mixed AdLib/MIDI mode** Combines MIDI music with AdLib sound effects.

*multi\_midi*

**MIDI gain** Adjusts the relative volume of the MIDI music. This is only supported by some music devices.

*midi\_gain*

### 29.3.1 FluidSynth

Opens a new dialog, with three further tabs: *Reverb* | *Chorus* | *Misc*

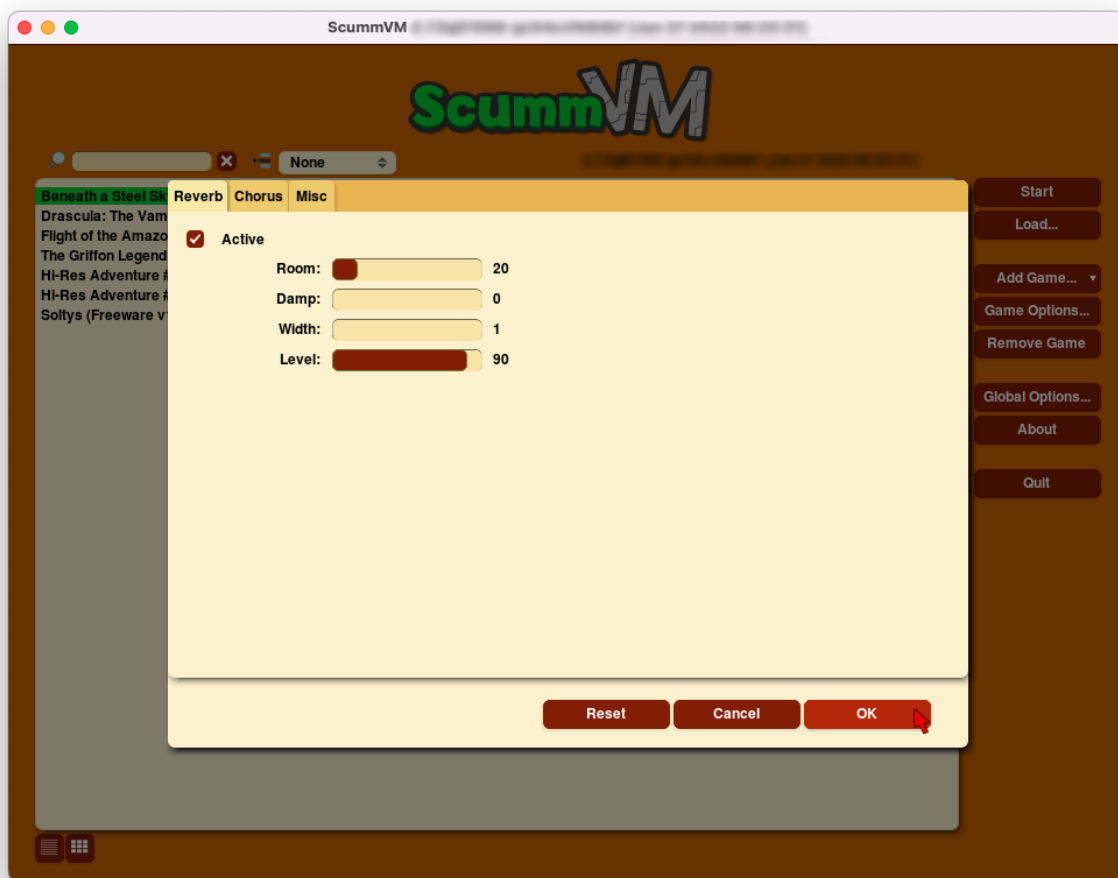


Fig. 5: The FluidSynth dialog, reached from the MIDI tab.

## Reverb

Reverberation, or reverb, describes the pattern of echoes and reflections that occur when a sound is heard in an enclosed closed space, such as a room or a concert hall.

**Active** If ticked, reverb is added to the software synthesizer output.

*fluidsynth\_reverb\_activate*

**Room** Sets the room size, which determines how much reverb there is.

*fluidsynth\_reverb\_roomsize*

**Damp** Dampens higher-frequency reverb, which produces a warmer sound.

*fluidsynth\_reverb\_damping*

**Width** Sets the stereo spread of the reverb signal.

*fluidsynth\_reverb\_width*

**Level** Sets the reverb output amplitude.

*fluidsynth\_reverb\_level*

---

## Chorus

The chorus effect thickens and colors the audio signal so that it sounds as if there are a chorus of instruments playing one part.

**Active** If ticked, chorus effects are added to the software synthesizer output.

*fluidsynth\_chorus\_activate*

**N** Sets the voice count of the chorus, in other words, how many instruments are playing one part.

*fluidsynth\_chorus\_nr*

**Level** Specifies the output amplitude of the chorus signal.

*fluidsynth\_chorus\_level*

**Speed** Sets the modulation speed of the output, in Hz.

*fluidsynth\_chorus\_speed*

**Depth** Specifies the modulation depth of the chorus.

*fluidsynth\_chorus\_depth*

**Type** Specifies the chorus modulation waveform type.

*fluidsynth\_chorus\_waveform*

---

## Misc

**Interpolation** Sets the interpolation method used by the software synthesizer.

*fluidsynth\_misc\_interpolation*

## 29.4 The MT-32 tab

Use the MT-32 tab to change the settings of Roland MT-32 devices.

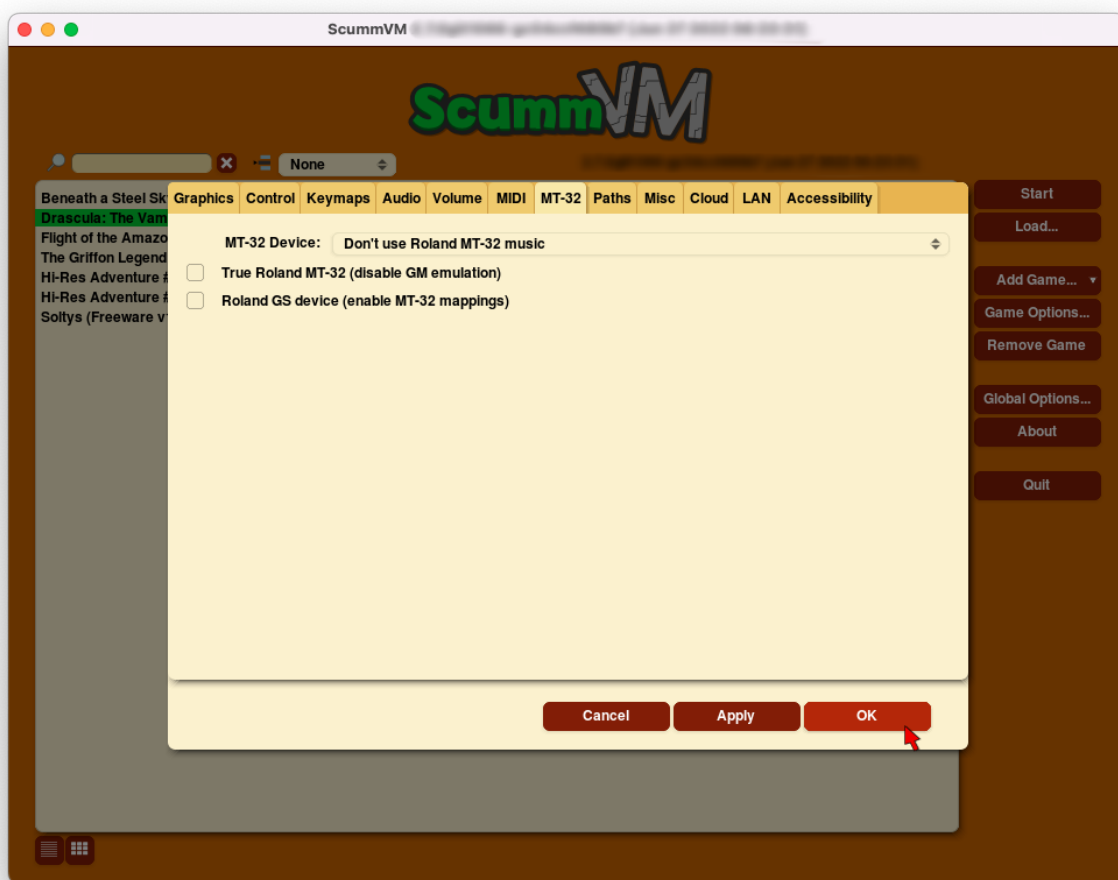


Fig. 6: The MT-32 tab in the Global Options menu

**MT-32 Device** Specifies a preferred MT-32 device, which ScummVM uses if the **Preferred device** is set to **<default>** and MT-32 playback is required.

*mt32\_device*

**True Roland MT-32 (disable GM emulation)** Tells ScummVM that the MIDI device is an actual Roland MT-32, LAPC-I, CM-64, CM-32L, CM-500 or other MT-32 device. Note that this cannot be used in conjunction with the Roland GS device option.

*native\_mt32*

**Roland GS device (enable MT-32 mappings)** Tells ScummVM that the MIDI device is a GS device that has an MT-32 map, such as an SC-55, SC-88 or SC-8820. Note that this cannot be used in conjunction with the True Roland MT-32 option.

*enable\_gs*

# Chapter 30

## Paths

Use the Paths tab to tell ScummVM where to look for files.

### To change settings globally:

From the Launcher, select **Global Options**, then select the **Paths** tab.

### To change settings for a specific game:

From the Launcher, highlight the game in the games list, and select the **Game Options** button. If the Launcher is in grid view, select the game and then select the gear icon in the popup window. Select the **Paths** tab.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

---

**Save Path** Sets the path to the folder in which ScummVM stores saved games. For more information on the default location of saved games, see the [Save and Load games](#) page, or the guide for the platform you're using.

*savepath*

**Theme Path** Sets the path to the folder in which ScummVM stores additional themes.

*themepath*

**Extra Path** Sets the path to the folder in which ScummVM will look for various extra files. These could include additional datafiles required for certain games, Soundfonts or MT-32 ROMs.

*extrapath*

**Icon Path** Sets the path to the folder in which ScummVM will look for additional icons for the launcher grid view.

*iconspath*

**ScummVM config path:** Shows where the [Configuration file](#) is saved.

**Last browser path:** Shows the last folder accessed by the file browser. See more about the [file browser](#) here.



Fig. 1: The Paths tab in the Global Options menu

# Chapter 31

## Miscellaneous

Use the Misc tab to change miscellaneous settings that don't belong on any of the other tabs.

From the Launcher, select **Global Options**, if necessary click the > scroll arrow until the Misc tab is visible, and then select the **Misc** tab.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

---

**Theme** Changes the visual appearance of the ScummVM Launcher

*gui\_theme*

**GUI scale** Scale the ScummVM GUI to be bigger or smaller. Using a larger scale can help to make the text easier to read when using ScummVM on a big screen.

*gui\_scale*

**GUI renderer** Defines how the ScummVM GUI is rendered; normal or antialiased.

*gui\_renderer*

**Autosave** Adjusts the time period between autosaves. The default setting is 5 minutes.

*autosave\_period*

**GUI language** Chooses the language of the ScummVM Launcher.

*gui\_language*

**Switch the ScummVM GUI language to the game language** If ticked, the Launcher language is the same as the game language.

*gui\_use\_game\_language*

**Use native system file browser** Uses the system file browser instead of the ScummVM browser.

*gui\_browser\_native*

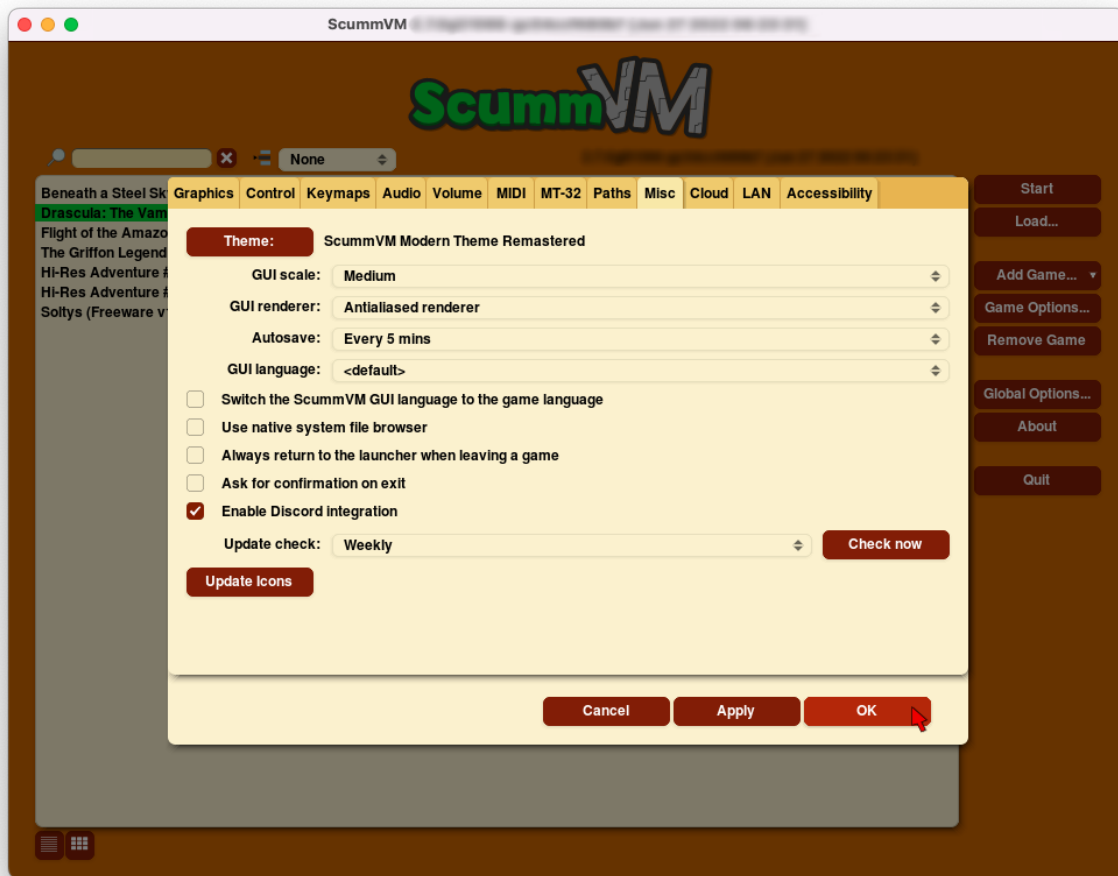


Fig. 1: The Misc tab in the Global Options menu

**Always return to the launcher when leaving a game** If ticked, removes the **Quit** option from the Global Main Menu. Only the **Return to Launcher** option remains.

*gui\_return\_to\_launcher\_at\_exit*

**Ask for confirmation on exit** If ticked, a confirmation dialog appears when you choose **Quit** or **Return to Launcher** from the Global Main Menu.

*confirm\_exit*

**Update Icons** Click on the Update Icons button to download new or updated artwork for game icons. ScummVM will scan to find applicable icons; once these have been found, click on the **Download** button in the pop up window to start the download. Click the **Hide** button to close the window and continue the download in the background. Use the **Cancel download** button to cancel the download.



Fig. 2: The Update Icons window

**Enable Discord Integration** Use this option to automatically check for updates to ScummVM. Click the Check now button to manually check for updates.

## Chapter 32

# Cloud

Use the Cloud tab to manage connected cloud storage services.

For a comprehensive look at how to use ScummVM's built-in cloud functionality, check out our [Connecting a cloud service](#) guide.

From the Launcher, select **Global Options**, if necessary click the > scroll arrow until the Cloud tab is visible, and then select the **Cloud** tab.

---

**Active storage** Choose from Dropbox, OneDrive, Google Drive, or Box.

After a Cloud service has been selected, further options are available:

**Sync Now** Manually syncs saved games with the cloud service. Saved games automatically sync on launch, after saving, and on game load.

**Download game files** Downloads game files from your Cloud ScummVM folder.

**Disconnect** Disconnects the cloud storage account. To change accounts, disconnect and connect a new account.

---

**Note:** Cloud functionality is not supported on all platforms.

---



Fig. 1: The Cloud tab in the Global Options menu

# Chapter 33

## LAN

Use the LAN tab to control the Local Area Network (local web server).

For a comprehensive look at how to use ScummVM's built-in LAN functionality, check out our [Using the local web server](#) guide.

From the Launcher, select **Global Options**, if necessary click the > scroll arrow until the LAN tab is visible, and then select the **LAN** tab.

All settings can also be changed in the [Configuration file](#). The configuration key is listed in italics after each setting description.

---

**Run server** Starts the web server. When running, this displays the URL at which the web server can be accessed.

**Stop server** Stops the web server.

**Server's port** The port on which the web server is available.

*local\_server\_port*

**/root/ Path** Specifies the root path of the server. Any sub-directories will be accessible.

*rootpath*



Fig. 1: The LAN tab in the Global Options menu

## Chapter 34

# Accessibility

Use the Accessibility tab to change accessibility settings.

From the Launcher, select **Global Options**, if necessary click the > scroll arrow until the Accessibility tab is visible, and then select the **Accessibility** tab.

All settings can also be changed in the *Configuration file*. The configuration key is listed in italics after each setting description.

---

**Use Text to Speech** Enables text to speech. As the pointer is held over any text field in the Launcher it is converted to speech. Use the dropdown list to choose from a variety of voices.

*tts\_enabled*

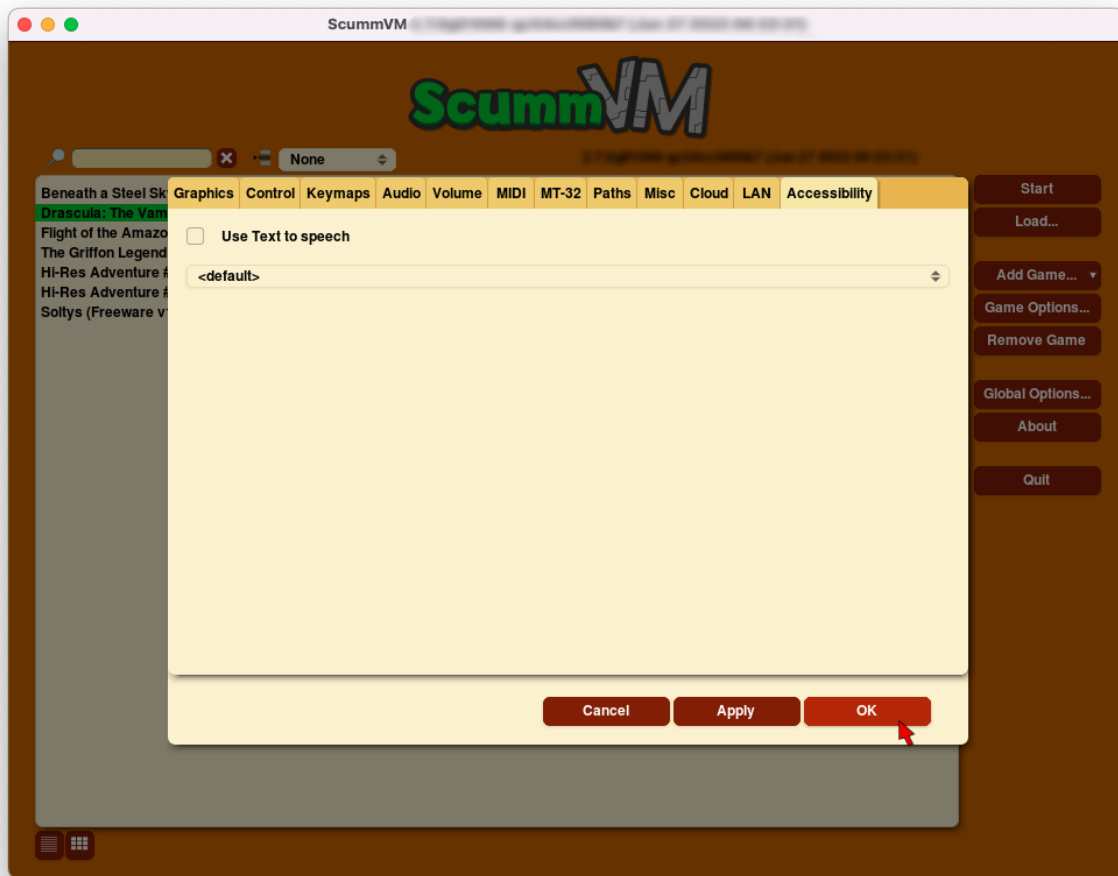


Fig. 1: The Accessibility tab in the Global Options menu.

# Chapter 35

## Command line interface

Launching ScummVM from the command line lets you pass a number of options, some of which override the applicable global or game-specific settings. It also lets you launch straight into a game without going to the Launcher first.

Some options, such as `--help` or `--list-audio-devices`, allow you to view information about ScummVM directly on the command line without starting the Launcher or starting a game.

### 35.1 Usage

```
scummvm [option] [game]
```

To launch ScummVM, enter the path to ScummVM. Optionally, follow this with any of the options documented below, and/or the path to the game you wish to start. If a game has already been added to the games list in the Launcher, you can pass the game id instead of the path to the game.

#### Windows

The following examples assume that the path to ScummVM is `C:\Program Files\ScummVM\scummvm.exe`.

To run Monkey Island, fullscreen (`-f`):

```
C:\Program Files\ScummVM\scummvm.exe -f monkey
```

To run Full Throttle, fullscreen (`-f`) and with subtitles enabled (`-n`), specifying the path to the game on a CD (`-p`):

```
C:\Program Files\ScummVM\scummvm.exe -f -n -pD:``resource``ft
```

## macOS

The following examples assume the path to the ScummVM app is Applications/ScummVM.app.

If you are unsure of the path to the app, drag the ScummVM app icon into the Terminal window. This prints the path to the ScummVM app.

To run ScummVM from the command line, add /Contents/MacOS/scummvm to that path.

To run Monkey Island, fullscreen (-f):

```
/Applications/ScummVM.app/Contents/MacOS/scummvm -f monkey
```

To run Full Throttle, fullscreen (-f) and with subtitles enabled (-n), specifying the path to the game on a CD (-p):

```
/Applications/ScummVM.app/Contents/MacOS/scummvm -f -n -p/cdrom/resource/ft
```

## Linux

The following examples assume the path to ScummVM is /usr/games/scummvm.

To run Monkey Island, fullscreen (-f):

```
/usr/games/scummvm -f monkey
```

To run Full Throttle, fullscreen (-f) and with subtitles enabled (-n), specifying the path to the game on a CD (-p):

```
/usr/games/scummvm -f -n -p/cdrom/resource/ft
```

---

**Tip:** If ScummVM is on PATH, there is no need to enter the full path to ScummVM. Similarly, if a game is already added to the Launcher, there is no need to specify the path to the game.

---

## 35.2 Options

The meaning of most options can be inverted by prefixing them with no-. For example, --no-aspect-ratio will turn aspect ratio correction off. This does not apply to short options.

Option parameters are shown below in capitals, and need to be replaced with real values.

Short options are listed where they are available.

Option	Short	Description
--add	-a	Adds all games from current or specified directory. If --game=NAME is passed, only the game with id NAME is added. See also --detect. Use --path=PATH before -a or --add to specify a directory.
--alt-intro		<i>Uses alternative intro for CD versions</i>
--aspect-ratio		<i>Enables aspect ratio correction</i>
--auto-detect		Displays a list of games from the current or specified directory and starts the first game. Use --path=PATH before --auto-detect to specify a directory.
--boot-param=NUM	-b	Pass number to the boot script ( <a href="#">boot param</a> ).
--cdrom=DRIVE		Sets the CD drive to play CD audio from. This can be a drive, path, or numeric index (default: 0)
--config=FILE	-c	Uses alternate configuration file
--console		Enables the console window (default: enabled). Win32 and Symbian32 only.
--copy-protection		Enables copy protection
--debug-channels-only		Shows only the specified debug channels
--debugflags=FLAGS		Enables engine specific debug flags
--debuglevel=NUM	-d	Sets debug verbosity level
--demo-mode		Starts demo mode of Maniac Mansion or The 7th Guest
--detect		Displays a list of games with their game id from the current or specified directory. This does not add the game to the games list. Use --path=PATH before --detect to specify a directory.
--dimuse-tempo=NUM		Sets internal Digital iMuse tempo (10 - 100) per second (default: 10)
--engine-speed=NUM		Sets frames per second limit (0 - 100) for Grim Fandango or Escape from Monkey Island (default: 60).
--dump-scripts	-u	Enables script dumping if a directory called 'dumps' exists in the current directory
--enable-gs		<i>Enables Roland GS mode for MIDI playback</i>
--extrapath=PATH		<i>Extra path to additional game data</i>
--iconspath=PATH		<i>Path to additional icons for the launcher grid view</i>
--filtering		<i>Forces filtered graphics mode</i>
--fullscreen	-f	<i>Forces full-screen mode</i>

continues on next page

Table 1 – continued from previous page

Option	Short	Description
--game=NAME		In combination with --add or --detect only adds or attempts to detect the game with id NAME.
--gfx-mode	-g	<i>Selects graphics mode</i>
--gui-theme=THEME		<i>Selects GUI theme</i>
--help	-h	Displays a brief help text and exit
--joystick=NUM		Enables joystick input (default: 0 = first joystick)
--language	-q	<i>Selects language</i> (en, de, fr, it, pt, es, jp, zh, kr, se, gb, hb, ru, cz)
--list-audio-devices		Lists all available audio devices
--list-saves --game=TARGET		Displays a list of saved games for the game (TARGET) specified
--list-targets	-t	Displays list of configured targets and exits
--list-themes		Displays list of all usable GUI themes
--logfile=PATH	-l	Uses alternate path for log file (SDL backend only).
--midi-gain=NUM		<i>Sets the gain for MIDI playback.</i> 0-1000 (default: 100). Only supported by some MIDI drivers
--multi-midi		<i>Enables combination AdLib and native MIDI</i>
--music-driver=MODE	-e	<i>Selects preferred music device</i>
--music-volume=NUM	-m	<i>Sets the music volume,</i> 0-255 (default: 192)
--native-mt32		<i>True Roland MT-32 (disables GM emulation)</i>
--no-filtering		Forces unfiltered graphics mode
--no-fullscreen	-F	Forces windowed mode
--opl-driver=DRIVER		<i>Selects AdLib (OPL) emulator</i>
--output-rate=RATE		Selects output sample rate in Hz
--path=PATH	-p	Sets path to where the game is installed
--platform=STRING		<i>Specifies platform of game.</i> Allowed values: 2gs, 3do, acorn, amiga, atari, c64, fmtowns, nes, mac, pc pc98, pce, segacd, wii, windows.
--recursive		In combination with --add or ``--detect recurses down all subdirectories
--render-mode=MODE		<i>Enables additional render modes</i>
--save-slot=NUM	-x	Specifies the saved game slot to load (default: autosave)
--savepath=PATH		<i>Specifies path to where saved games are stored</i>
--screenshotpath=PATH		Specify path where screenshot files are created (SDL backend only)
--sfx-volume=NUM	-s	<i>Sets the sfx volume,</i> 0-255 (default: 192)
--soundfont=FILE		<i>Selects the SoundFont for MIDI playback..</i> Only supported by some MIDI drivers.
--speech-volume=NUM	-r	<i>Sets the speech volume,</i> 0-255 (default: 192)

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Table 1 – continued from previous page

Option	Short	Description
--subtitles	-n	<i>Enables subtitles</i>
--talkspeed=NUM		<i>Sets talk speed for games</i> (default: 60)
--tempo=NUM		Sets music tempo (in percent, 50-200) for SCUMM games (default: 100)
--themepath=PATH		<i>Specifies path to where GUI themes are stored</i>
--version	-v	Displays ScummVM version information and exits
--md5		Shows MD5 hash of the file given by --md5-path=PATH. If --md5-length=NUM is passed then it shows the MD5 hash of the first or last NUM bytes of the file given by PATH. If --md5-engine=ENGINE_ID option is passed then it auto-calculates the required bytes and its hash, overriding --md5-length
--md5mac		Shows MD5 hash for both the resource fork and data fork of the file given by --md5-path=PATH. If --md5-length=NUM is passed then it shows the MD5 hash of the first or last NUM bytes of each fork.
--md5-path=PATH		Used with --md5 or `--md5mac to specify path of file to calculate MD5 hash of (default: ./scummvm)
--md5-length=NUM		Used with --md5 or `--md5mac to specify the number of bytes to be hashed. If NUM is 0, MD5 hash of the whole file is calculated. If NUM is negative, the MD5 hash is calculated from the tail. Is overridden if passed with --md5-engine option. (default: 0)
--md5-engine=ENGINE_ID		Used with --md5 to specify engine of game for which hash is to be calculated. Overrides --md5-length if passed with it

## Chapter 36

# Configuration file

The configuration file provides a way to edit both global and game-specific settings. It is a text file containing configuration keys and parameters.

Settings are also accessible directly from the Launcher. See [Changing settings](#).

### 36.1 Location

The configuration file saves to different default locations, depending on the platform. The configuration file path is also displayed on the [Paths](#) tab.

#### Windows

%APPDATA%\ScummVM\scummvm.ini

For Windows 95/98/ME, the file is at C:\WINDOWS\scummvm.ini

#### macOS

~/Library/Preferences/ScummVM Preferences

---

**Note:** If an earlier version of ScummVM was installed on your system, the configuration file remains in the previous default location of ~/.scummvmrc.

---

---

**Tip:** To see the Library folder, press Option when clicking **Go** in the Finder menu.

---

## Linux

ScummVM follows the XDG Base Directory Specification, so by default the configuration file is found at `~/.config/scummvm/scummvm.ini`, but its location might vary depending on the value of the `XDGLCONFIG_HOME` environment variable.

If ScummVM was installed using Snap, the configuration file is found at `~/snap/scummvm/current/.config/scummvm/scummvm.ini`

---

**Note:** `.config` is a hidden directory. To view it use `ls -a` on the command line.

---

## 36.2 Using the configuration file

Global settings are listed under the `[scummvm]` heading. Global *keymaps settings* are listed under the `[keymapper]` heading. Game-specific settings, including keymaps, are listed under the heading for that game, for example `[queen]` for Flight of the Amazon Queen. Use the configuration keys to change settings.

### 36.2.1 Example of a configuration file

```
[scummvm]
gfx_mode=supereagle
fullscreen=true
savepath=C:\saves\

[sky]
path=C:\games\SteelSky\

[germansky]
gameid=sky
language=de
path=C:\games\SteelSky\
description=Beneath a Steel Sky w/ German subtitles

[germandott]
gameid=tentacle
path=C:\german\tentacle\
description=German version of DOTT

[tentacle]
path=C:\tentacle\
subtitles=true
music_volume=40
sfx_volume=255

[loomcd]
cdrom=1
```

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```

path=C:\loom\
talkspeed=5
savepath=C:\loom\saves\

[monkey2]
path=C:\amiga_mi2\
music_driver=windows

```

### 36.3 Configuration keys

There are many recognized configuration keys. In the table below, each key is either linked to an explanatory description in the Settings pages, or has further information in the **Description/Options** column.

Key	Type	Default	Description/Options
<code>alsa_port</code>	integer		Specifies which ALSA port ScummVM uses when using the ALSA music driver (Linux).
<code>alt_intro</code>	boolean	false	
<code>altamigapalette</code>	boolean	false	
<code>antialiasing</code>	integer	0	0, 2, 4, 8
<code>apple2gs_speedmenu</code>	boolean	false	
<code>aspect_ratio</code>	boolean	false	
<code>audio_buffer_size</code>	integer	Calculated based on output sampling frequency to keep audio latency below 45ms.	Overrides the size of the audio buffer. Allowed values: <ul style="list-style-type: none"> <li>• 256</li> <li>• 512</li> <li>• 1024</li> <li>• 2048</li> <li>• 4096</li> <li>• 8192</li> <li>• 16384</li> <li>• 32768</li> </ul>
<code>autosave_period</code>	integer	300	
<code>auto_savenames</code>	boolean	false	Automatically generates names for saved games
<code>bilinear_filtering</code>	boolean	false	
<code>boot_param</code>	integer	none	
<code>bright_palette</code>	boolean	true	

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
cdrom	integer	0	Sets which CD drive to play CD audio from (as a numeric index). If a negative number is set, ScummVM does not access the CD drive.
<i>color</i>	boolean		
<i>commandpromptwindow</i>	boolean	false	
<i>confirm_exit</i>	boolean	false	
console	boolean	true	Enables the console window for Win32/Symbian32.
controller_map_db	string	gamecontrollerdb.txt is loaded from the specified extrapath	Specifies the custom controller mapping file to load to complete the default database (SDL back-end only).
copy_protection	boolean	false	Enables copy protection
demo_mode	boolean	false	Starts demo mode of Maniac Mansion or the 7th Guest
<i>description</i>	string		
desired_screen_aspect_ratio	string	auto	
dimuse_tempo	integer	10	Sets internal Digital iMuse tempo per second; 0 - 100
<i>disable_dithering</i>	boolean	false	
<i>disable_stamina_drain</i>	boolean	false	
<i>DurableArmor</i>	boolean	false	
<i>EasyMouse</i>	boolean	true	
<i>enable_black_lined_video</i>		false	
<i>enable_censoring</i>	boolean	false	
<i>enable_color_blind</i>	boolean	false	
<i>enable_gore</i>	boolean		
<i>enable_gs</i>	boolean		
<i>enable_high_resolution_graphics</i>	boolean	true	

continues on next page

Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>enable_hq_video</i>	boolean	true	
<i>enable_larryscale</i>	boolean	true	
<i>enable_reporter</i>	boolean	false	RISC OS only.
<i>enable_video_upscale</i>	boolean	true	
<i>enable_tts</i>	boolean	false	
<i>enable_unsupported_game_warning</i>	boolean	true	Shows a warning when adding a game that is unsupported.
<i>extra</i>	string		Shows additional information about a game, such as version
<i>extrapath</i>	string	None	
<i>iconspath</i>	string	None	
<i>fade_style</i>	boolean	true	
<i>filtering</i>	boolean	false	
<i>floating_cursors</i>	boolean	false	
<i>fluidsynth_chorus_activate</i>	boolean	true	
<i>fluidsynth_chorus_depth</i>	integer	80	• 0 - 210
<i>fluidsynth_chorus_level</i>	integer	100	• 0 - 100
<i>fluidsynth_chorus_nr</i>	integer	3	• 0 - 99
<i>fluidsynth_chorus_speed</i>	integer	30	• 10 - 500
<i>fluidsynth_chorus_waveform</i>	string	Sine	• sine • triangle
<i>fluidsynth_misc_interpolation</i>	string	4th	• none • 4th • 7th • linear.
<i>fluidsynth_reverb_activate</i>	boolean	true	

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>flu-idsynth_reverb_damping</i>	integer	0	<ul style="list-style-type: none"> <li>• 0 - 1</li> </ul>
<i>flu-idsynth_reverb_level</i>	integer	90	<ul style="list-style-type: none"> <li>• 0 - 100</li> </ul>
<i>flu-idsynth_reverb_roomsize</i>	integer	20	<ul style="list-style-type: none"> <li>• 0 - 100</li> </ul>
<i>flu-idsynth_reverb_width</i>	integer	1	<ul style="list-style-type: none"> <li>• 0 - 100</li> </ul>
<i>frames_per_secondfl</i>	boolean	false	
<i>front-panel_touchpad_mode</i>	boolean	false	
<i>fullscreen</i>	boolean	false	
<i>gameid</i>	string		Short name of the game. For internal use only, do not edit.
<i>gamepath</i>	string		Specifies the path to the game
<i>gfx_mode</i>	string	normal (1x)	<ul style="list-style-type: none"> <li>• 1x</li> <li>• 2x</li> <li>• 3x</li> <li>• 2xsai</li> <li>• super2xsai</li> <li>• supereagle</li> <li>• advmame2x</li> <li>• advmame3x</li> <li>• hq2x</li> <li>• hq3x</li> <li>• tv2x</li> <li>• dot-matrix</li> <li>• opengl</li> </ul>
<i>gm_device</i>	string	null	<ul style="list-style-type: none"> <li>• auto</li> <li>• alsa</li> <li>• seq</li> <li>• sndio</li> <li>• fluidsynth</li> <li>• timidity</li> </ul>

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>GraphicsDithering</i>	boolean	true	
<i>gui_browser_native</i>	boolean	true	
<i>gui_browser_show_hidden</i>	boolean	false	Shows hidden files/folders in the ScummVM file browser.
<i>gui_list_max_scan_entries</i>	integer	-1	Specifies the threshold for scanning directories in the Launcher. If the number of game entires exceeds the specified number, then scanning is skipped.
<i>gui_return_to_launcher</i>	boolean	false	
<i>gui_saveload_chooser</i>	string	grid	<ul style="list-style-type: none"> <li>• list</li> <li>• grid</li> </ul>
<i>gui_saveload_last_pos</i>	string	0	
<i>gui_use_game_language</i>	boolean		
<i>helium_mode</i>	boolean	false	
<i>help_style</i>	boolean	false	
<i>herculesfont</i>	boolean	false	
<i>hpbargraphs</i>	boolean	true	
<i>hypercheat</i>	boolean	false	
<i>iconspath</i>	string		
<i>improved</i>	boolean	true	
<i>InvObjectsAnimated</i>	boolean	true	
<i>joystick_deadzone</i>	integer	3	
<i>joystick_num</i>	integer	0	Enables joystick input and selects which joystick to use. The default is the first joystick.
<i>kbdmouse_speed</i>	integer	10	
<i>keymap_engine-default_DOWN</i>	string	JOY_DOWN	
<i>keymap_engine-default_LCLK</i>	string	MOUSE_LEFT JOY_A	
<i>keymap_engine-default_LEFT</i>	string	JOY_LEFT	
<i>keymap_engine-default_MCLK</i>	string	MOUSE_MIDDLE	

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>keymap_engine-default_MENU</i>	string	F5 JOY_LEFT_SHOULDER	
<i>keymap_engine-default_PAUSE</i>	string	SPACE	
<i>keymap_engine-default_PIND</i>	string		
<i>keymap_engine-default_RCLK</i>	string	MOUSE_RIGHT JOY_B	
<i>keymap_engine-default_RETURN</i>	string	RETURN	
<i>keymap_engine-default_RIGHT</i>	string	JOY_RIGHT	
<i>keymap_engine-default_SKIP</i>	string	ESCAPE JOY	
<i>keymap_engine-default_SKLI</i>	string	PERIOD JOY_X	
<i>keymap_engine-default_UP</i>	string	JOY_UP	
<i>keymap_global_DEBUGGER</i>	string	C+A+d	
<i>keymap_global_MENU</i>	string	C+F5 JOY_START	
<i>keymap_global_MUTE</i>	string	C+u	
<i>keymap_global_QUIT</i>	string	C+q	
<i>keymap_global_VMOUSE_DOWN</i>	string	JOY_LEFT_STICK_Y+	
<i>keymap_global_VMOUSE_LEFT</i>	string	JOY_LEFT_STICK_X-	
<i>keymap_global_VMOUSE_RIGHT</i>	string	JOY_LEFT_STICK_X+	
<i>keymap_global_VMOUSE_UP</i>	string	JOY_RIGHT_SHOULDER	
<i>keymap_global_VMOUSE_DOWN</i>	string	JOY_LEFT_STICK_Y-	
<i>keymap_gui_CLOS</i>	string	ESCAPE JOY_Y	
<i>keymap_gui_DOWN</i>	string	JOY_DOWN	
<i>keymap_gui_INTRCT</i>	string	JOY_A	
<i>keymap_gui_LEFT</i>	string		
<i>keymap_gui_RIGHT</i>	string	JOY_RIGHT	
<i>keymap_gui_UP</i>	string	JOY_UP	
<i>keymap_sdl-graphics_ASPT</i>	string	C+A+a	
<i>keymap_sdl-graphics_CAPT</i>	string	C+m	
<i>keymap_sdl-graphics_FILT</i>	string	C+A+f	
<i>keymap_sdl-graphics_FLT1</i>	string	C+A+1	
<i>keymap_sdl-graphics_FLT2</i>	string	C+A+2	

continues on next page

Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>keymap_sdl-graphics_FLT3</i>	string	C+A+3	
<i>keymap_sdl-graphics_FLT4</i>	string	C+A+4	
<i>keymap_sdl-graphics_FLT5</i>	string	C+A+5	
<i>keymap_sdl-graphics_FLT6</i>	string	C+A+6	
<i>keymap_sdl-graphics_FLT7</i>	string	C+A+7	
<i>keymap_sdl-graphics_FLT8</i>	string	C+A+8	
<i>keymap_sdl-graphics_FULS</i>	string	A+RETURN	
<i>keymap_sdl-graphics_SCL-</i>	string	C+A+MINUS	
<i>keymap_sdl-graphics_SCL+</i>	string	C+A+PLUS	
<i>keymap_sdl-graphics_SCRS</i>	string	A+s	
<i>keymap_sdl-graphics_STCH</i>	string	C+A+s	
<i>language</i>	string		
<i>local_server_port</i>	integer	12345	
<i>midi_gain</i>	integer		<ul style="list-style-type: none"> <li>• 0 - 1000</li> </ul>
<i>mm_nes_classic_palette</i>	boolean	false	
<i>monotext</i>	boolean	true	
<i>mousebtswap</i>	boolean	false	
<i>mousesupport</i>	boolean	true	
<i>mt32_device</i>	string	auto	<ul style="list-style-type: none"> <li>• auto</li> <li>• alsa</li> <li>• seq</li> <li>• fluidsynth</li> <li>• mt32</li> <li>• timidity</li> </ul>
<i>multi_midi</i>	boolean		

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>music_driver</i> [ <i>scummvm</i> ]	string	auto	<ul style="list-style-type: none"> <li>• null</li> <li>• auto</li> <li>• seq (Unix)</li> <li>• sndio (Unix)</li> <li>• alsa (Unix)</li> <li>• CAMD (Amiga)</li> <li>• core (Mac)</li> <li>• coremidi (Mac - hardware)</li> <li>• windows (Windows)</li> <li>• fluidsynth</li> <li>• mt32</li> <li>• adlib</li> <li>• pcspk</li> <li>• pcjr</li> <li>• cms</li> <li>• timidity</li> </ul>
music_driver [game]	string	auto	<p>The same options as music_driver in [scummvm] plus:</p> <ul style="list-style-type: none"> <li>• towns</li> <li>• C64</li> <li>• pc98</li> <li>• segacd</li> </ul>
music_mute	boolean	false	Mutes the game music.
<i>music_volume</i>	integer	192	<ul style="list-style-type: none"> <li>• 0-256</li> </ul>
<i>mute</i>	boolean	false	
<i>native_fb01</i>	boolean	false	
<i>native_mt32</i>	boolean	false	
<i>NaughtyMode</i>	boolean	true	
<i>nodelaymillisfl</i>	boolean	false	
<i>ntsc</i>	boolean		
<i>object_labels</i>	boolean	true	
opl2lpt_parport		null	

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Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>opl_driver</i>	string		<ul style="list-style-type: none"> <li>• auto</li> <li>• mame</li> <li>• db</li> <li>• nuked</li> <li>• alsa</li> <li>• op2lpt</li> <li>• op3lpt</li> <li>• rwopl3</li> </ul>
<i>originalsaveload</i>	boolean	false	
<i>output_rate</i>	integer		Sensible values are: <ul style="list-style-type: none"> <li>• 11025</li> <li>• 22050</li> <li>• 44100</li> </ul>
<i>platform</i>	string		
<i>portaits_on</i>	boolean	true	
<i>prefer_digitalsfx</i>	boolean	true	
<i>renderer</i>	string	default	<ul style="list-style-type: none"> <li>• opengl</li> <li>• opengl_shaders</li> <li>• software</li> </ul>
<i>render_mode</i>	string	default	<ul style="list-style-type: none"> <li>• hercGreen</li> <li>• hercAmber</li> <li>• cga</li> <li>• ega</li> <li>• vga</li> <li>• amiga</li> <li>• fmtowns</li> <li>• pc9821</li> <li>• pc9801</li> <li>• 2gs</li> <li>• atari</li> <li>• macintosh</li> </ul>

continues on next page

Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>retrowaveopl3_bus</i>	string		Specifies how the RetroWave OPL3 is connected: <ul style="list-style-type: none"> <li>• serial (connected to a USB port using a PotatoPi)</li> <li>• spi (connected as a HAT using SPI)</li> </ul>
<i>retrowaveopl3_disable_buffer</i>	boolean	false	
<i>retrowaveopl3_port</i>	string		Specifies the serial port that the RetroWave OPL3 is connected to. For example: <ul style="list-style-type: none"> <li>• COM3</li> <li>• ttyACM2</li> </ul>
<i>retrowaveopl3_spi_cs</i>	string		Specifies the GPIO chip and line that the RetroWave OPL3 is connected to. Use the format <chip>,<line>.
<i>rootpath</i>	string		
<i>savepath</i>	string		
<i>save_slot</i>	integer	autosave	Specifies the saved game slot to load
<i>scalemakingofvideos</i>	boolean	false	
<i>scanlines</i>	boolean	false	
<i>screenshotpath</i>	string	See <i>screenshotpath</i>	Specifies where screenshots are saved
<i>sfx_mute</i>	boolean	false	Mutes the game sound effects.
<i>sfx_volume</i>	integer	192	
<i>shorty</i>	boolean	false	
<i>show_fps</i>	boolean	false	
<i>ShowItemCosts</i>	boolean	false	
<i>silver_cursors</i>	boolean	false	
<i>sitcom</i>	boolean	false	
<i>skip_support</i>	boolean	true	

continues on next page

Table 1 – continued from previous page

Key	Type	Default	Description/Options
<i>skiphallofrecords-scenes</i>	boolean	false	
<i>smooth_scrolling</i>	boolean	true	
<i>speech_mute</i>	boolean	false	
<i>speech_volume</i>	integer	192	
<i>stretch_mode</i>	string		<ul style="list-style-type: none"> <li>• center</li> <li>• pixel-perfect</li> <li>• fit</li> <li>• stretch</li> <li>• fit_force_aspect</li> </ul>
<i>studio_audience</i>	boolean	true	
<i>subtitles</i>	boolean	false	
<i>talkspeed</i>	integer	60	<ul style="list-style-type: none"> <li>• 0 - 255</li> </ul>
<i>tempo</i>	integer	100	Sets the music tempo, in percent, for SCUMM games. <ul style="list-style-type: none"> <li>• 50-200</li> </ul>
<i>TextWindowAnimated</i>	boolean	true	
<i>themepath</i>	string	none	
<i>transparent_windows</i>	boolean	true	
<i>transparentdialog-boxes</i>	boolean	false	
<i>tts_enabled</i>	boolean	false	
<i>tts_narrator</i>	boolean	false	
<i>use_cdaudio</i>	boolean	true	If true, ScummVM uses audio from the game CD.
<i>versioninfo</i>	string		Shows the ScummVM version that created the configuration file.
<i>vsync</i>	boolean	true	
<i>window_style</i>	boolean	true	
<i>windows_cursors</i>	boolean	false	

**Screenshot path** The default location for the screenshotpath depends on your system.

**Windows**

In Users\username\My Pictures\ScummVM Screenshots

**macOS**

On the Desktop.

**Linux**

In the XDG Pictures user directory, for example ~/Pictures/ScummVM Screenshots

**Any other OS**

In the current directory.

## Chapter 37

# Understanding the audio settings

This guide expands on the information contained on the [audio settings](#) page.

### 37.1 How do the audio settings work together?

The **Preferred device** in the global settings Audio tab, or the **Music device** in the game-specific settings Audio tab, specifies the device that ScummVM uses to output audio. This device can be an emulated sound device or a software synthesizer, or an actual hardware device such as a soundcard or a hardware MIDI synthesizer. When set to **<default>**, ScummVM will automatically choose the most appropriate option for the played game.

If **Preferred device** or **Music device** is set to **<default>** and ScummVM chooses either an MT-32 or General MIDI device automatically, the settings on the MT-32 or MIDI tabs also apply, and the devices selected on these tabs are the ones that will be used. If **Preferred device** or **Music device** is set to either an MT-32 device or a GM device, ScummVM will use that device and ignore the devices chosen on the MT-32 and MIDI tabs.

Not all settings are applicable to all games. For example, changing the General MIDI settings will not have any effect on a game that only has CD audio.

### 37.2 The evolution of PC audio

For a look at the evolution of PC audio, see [this video on YouTube](#), or [this excellent post](#).

Many of these old-school audio devices can be emulated by ScummVM:

- PC Speaker: emulates the built-in PC speaker. This is mostly supported by older games, and was the only option before sound cards became widely used.

*pcspk*

- IBM PCjr: emulates the sound of the 1984 IBM PCjr computer, which, enhanced with a Texas Instruments chip, provided three-voice sound and a white noise generator.

*pcjr*

- Creative Music System ([C/MS](#)): emulates the first sound card developed by Creative Technology (later Creative Labs), the precursor to the SoundBlaster line of sound cards. The C/MS provided 12 channels of square-wave stereo sound.

*cms*

- C64 Audio: emulates the sound chip ([Sound Interface Device](#)) in the Commodore 64 computer. The SID was a three-voice synthesizer module, with a fourth voice for sampled drums or speech.

*C64*

- Amiga Audio: emulates the Amiga audio chip, [Paula](#), which had four 8-bit PCM sound channels.

*CAMD*

- FM-Towns Audio: emulates the audio of the [FM Towns PC](#). Games on FM Towns computers often used audio CD standard tracks. The soundchips were capable of eight PCM voices and six FM channels.

*towns*

- PC-98 Audio: emulates the audio of the NEC PC-9801-26 and PC-9801-86 sound cards.

*pc98*

- SegaCD Audio: emulates the audio of the Sega CD add-on for the Sega Genesis/32x.

*segacd*

To find out which emulation is compatible with the game you're playing, have a look at the manual that comes with the game.

## 37.3 What is MIDI?

MIDI is a communications protocol for musical information; it can be likened to digital sheet music. By itself, MIDI is not sound. Hardware or software synthesizers create (synthesize) audio by interpreting the information given to them by the MIDI protocol.

While some older soundcards (and a few modern ones) have their own hardware-based synthesizers, this is relatively rare. Generally, soundcard drivers work with software synthesizers to interpret MIDI and output audio.

Some games only contain MIDI audio data. In the past this prevented audio for these games from working on platforms that did not support MIDI, or with soundcards that did not provide MIDI drivers. ScummVM can now convert MIDI data to sampled audio using MIDI device emulators.

### 37.3.1 What is General MIDI?

General MIDI is a MIDI standard which is implemented by a large number of devices. While using MIDI as its protocol, it also specifies an instrument map and some other information that devices must implement.

#### General MIDI device emulation (FluidSynth)

If the ScummVM you're using has libfluidsynth support it will be able to play MIDI music by using the FluidSynth emulator if set as the **Preferred device** or **Music device**, or if specified in the MIDI tab when **Preferred device** or **Music device** is set to **<default>** and ScummVM chooses General MIDI output automatically.

You will have to specify a SoundFont in the MIDI tab for ScummVM to use FluidSynth. MIDI is like digital sheet music; it needs a library of sound samples known as a SoundFont to draw from to synthesize music. See the [ScummVM forum](#) for an example of a great SoundFont.

The default output volume from FluidSynth can be fairly low, so ScummVM automatically sets the gain to get a stronger signal. Use the [MIDI gain](#) setting to further adjust this.

The processor requirements for FluidSynth are quite high; a fast CPU is recommended.

### 37.3.2 What is MT-32?

The MT-32 is a [Roland sound module](#), although the term also commonly refers to a range of devices that are fully compatible with the MT-32. MT-32 devices also use MIDI as the communications protocol.

#### MT-32 device emulation

Some games which contain MIDI music data have tracks designed specifically for the Roland MT-32. ScummVM can emulate the MT-32 device, however you must provide the original MT-32 ROMs, taken from the MT-32 module, for the emulator to work. These files are:

- MT32\_PCM.ROM - IC21 (512KB)
- MT32\_CONTROL.ROM - IC26 (32KB) and IC27 (32KB)

Place these ROMs in the game directory, in your extrapath, or in the directory where your ScummVM executable resides. ScummVM also looks for CM32L\_PCM.ROM and CM32L\_CONTROL.ROM—the ROMs from the CM-32L device—and uses these instead of the MT32 ROMs if they are available.

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**Note:** The MT-32 ROMs are copyrighted, and are not provided by ScummVM. These must be taken from your own MT-32 module.

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ScummVM uses the MT-32 emulator if it is set as the **Preferred device** or **Music device**, or if it is specified in the MT-32 tab when **Preferred device** or **Music device** is set to **<default>** and ScummVM chooses MT-32 output automatically.

You don't need to enable **True Roland MT-32** in the MT-32 tab, ScummVM does this automatically.

---

**Tip:** Some games work better with some MT-32 devices than others. As an example, Lure of the Temptress makes use of extra sound effects included with the CM-32L and won't sound right with an MT-32. Likewise, The Colonel's Bequest uses some bugs in the early MT-32 modules, which means that later devices will play incorrect sound effects!

[This Wikipedia article](#) provides a comprehensive list of MT-32 compatible games, including which games work best with which device.

---

The processor requirements for the MT-32 emulator are quite high; a fast CPU is strongly recommended.

### 37.3.3 Built-in MIDI support

All MIDI ports show up in the **Preferred device** or **Music device** dropdown selector. If you have selected a MIDI port, you need to specify what type of MIDI device this is with the options in the *MT-32* tab.

- Enable **True Roland MT-32** to tell ScummVM that the MIDI device is an MT-32 (or fully compatible) device.
- Enable **Roland GS device** to tell ScummVM to use an MT-32 soundtrack on a GS device. This is not supported by all games.
- If no options are selected, ScummVM treats the device on the port as a General MIDI device.

If you select an option that does not match the actual device, this might have unintended consequences. For example, if a game only has support for MT-32 and you have a General MIDI device selected as the **Preferred device** or **Music device**, ScummVM will convert the MT-32 MIDI data to GM-compatible MIDI data. While this might work fine for some games, it really depends on how the game has made use of the MT-32.

### macOS/Mac OSX

Mac has a built-in MIDI synthesizer; Apple DLS software synthesizer. It uses the Mac's built-in sounds (which are based on Roland GS).

The [Apple Support page](#) has further information about setting up MIDI devices on a Mac.

## Windows

Windows has a generic built-in MIDI synthesizer—GS WaveTable Synth—also based on Roland’s GS sounds.

For an in-depth look at audio and MIDI device setup on a Windows computer, see this [very helpful article](#).

## Linux

MIDI device setup might vary depending on your Linux distro.

If you do not have a hardware MIDI device, there are two options: FluidSynth and TiMidity. FluidSynth is recommended as TiMidity might have some lag, depending on the system.

Here are a couple of helpful articles from the Ubuntu community documentation to get you started.

[How to: Software Synthesizers](#)

[How to: Hardware synthesizer soundcard setup](#)

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## 37.4 What is AdLib?

AdLib devices do not use MIDI. They instead have a chip that produces sound through FM synthesis. While some games do store their audio data using a MIDI-derived format, this is converted by the game to work with the AdLib chip. ScummVM emulates a few different AdLib configurations, and selects the most appropriate for the game:

- The original AdLib and SoundBlaster card had one OPL2 chip.
- The SoundBlaster Pro 1 had two OPL2 chips
- The SoundBlaster Pro 2 and 16 had an OPL3 chip.

The AdLib emulator setting offers MAME, DOSBox and Nuked emulation, with MAME being the least accurate and using the least CPU power, and Nuked being the most accurate and also using the most CPU power - DOSBox is somewhere in between.

There is also the option to select the OPL2LPT, OPL3LPT and RetroWave OPL3 devices, which are external hardware devices with a real OPL chip, connected through the parallel port (OPLxLPT) or a USB port (RetroWave OPL3) of a computer. To use these devices you must specify some configuration settings in the [configuration file](#). The keys start with opl2lpt\_ and retrowaveopl3\_.

AdLib does not require a SoundFont or ROMs, so for many games it might be the easiest to configure. However, if an MT-32 or GS emulator or device is available, ScummVM will prioritize this over AdLib.

### 37.4.1 Mixed AdLib/MIDI mode

Some games contain sound effects that are exclusive to the AdLib soundtrack, or the AdLib soundtrack might provide better sound effects. For these games, you can combine MIDI music with AdLib sound effects by using the *mixed AdLib/MIDI mode*.

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**Note:** Mixed AdLib/MIDI mode is not supported by all games.

---

## 37.5 Digital Sound effects

Some games have both sampled and synthesized sound effects. ScummVM will usually use the sampled sound effects, even if you select Adlib, MT-32 or GM as your audio device. Some games allow you to choose between sampled and synthesized sound effects by using the **Prefer digital sound effects** option in the Engine tab.

## 37.6 Sample output rate

The output sample rate tells ScummVM how many sound samples to play per channel per second.

Most of the sounds were originally sampled at either 22050Hz or 11025Hz, so using a higher sample rate in these cases will not improve the quality of the audio.

For games that use CD audio, the sounds were probably sampled at 44100Hz, so that is a better sample rate to choose for these games.

ScummVM generates the samples when using AdLib, FM-Towns, PC Speaker or IBM PCjr emulated sound. 22050Hz will usually be fine for these options, although for Beneath a Steel Sky 44100Hz is recommended.

ScummVM has to resample all sounds to the selected output frequency. It is recommended to choose an output frequency that is a multiple of the original frequency. Choosing an in-between number might not be supported by your sound card.

## 37.7 Audio buffer size

There is no option to control audio buffer size through the GUI, but the default value can be overridden in the *configuration file* with the *audio\_buffer\_size* configuration keyword. The default value is calculated based on output sampling frequency to keep audio latency below 45ms.

Appropriate values are normally between 512 and 8192, but the value must be one of: 256, 512, 1024, 2048, 4096, 8192, 16384, or 32768.

Smaller values yield faster response time, but can lead to stuttering if your CPU isn't able to catch up with audio sampling when using the sound emulators. Large buffer sizes might lead to minor audio delays (high latency).

## Chapter 38

# Understanding the graphics settings

This guide expands on the information contained on the [graphics settings](#) page.

### 38.1 How do the graphics settings work together?

The graphics mode scaler, aspect ratio, and stretch mode settings work together to change the resolution and display of each game.

For the SDL Surface graphics mode, the scaler is applied first, then the aspect ratio correction, and finally the stretch mode. For the OpenGL graphics mode there is no scaler and the aspect ratio correction and stretch modes are applied together in one pass to arrive to the final image. This means that when you want to preserve pixels, you may prefer to use the OpenGL mode, especially if you use aspect ratio correction. The aspect ratio correction in the SDL Surface mode introduces some irregularities that can be avoided with the OpenGL mode.

Render modes are only applicable to some older games that were designed to be played on multiple systems, and let us choose which system's graphics to replicate.

### 38.2 Graphics modes

Most platforms have either one or two available graphics modes. The most common ones are OpenGL and SDL Surface.

To switch between graphics modes, press Ctrl + Alt and 1 to 8.

### 38.2.1 OpenGL graphics mode

With the OpenGL graphics mode the original game image is provided to the graphics card, and the graphics card stretches this image to the requested size. This means that the aspect ratio correction and stretch mode are applied together in one step to go directly from the original game resolution (for example 320x200) to the final display resolution (for example 1280x960). This scaling uses either bilinear interpolation or nearest neighbor interpolation depending on the *Filter graphics* option.

### 38.2.2 SDL Surface graphics mode

With the SDL Surface graphics mode, a software scaler is applied to the game image, before applying the aspect ratio correction with a software vertical stretch. The image is then passed to SDL to apply the *stretch mode* and get the final result. With this graphics mode the software scaler is not affected by the *Filter graphics* option. This option only affects the aspect ratio correction and the final scaling related to the stretch mode.

#### A comparison of SDL Surface software scalers

The original game graphics are upscaled using different graphical filters, which are specialized algorithms used to ensure that low resolution pixel-art still looks good when it is displayed at a higher resolution.

If the game originally ran at a resolution of 320x200—which is typical for most SCUMM games—then using a graphics mode with a scale factor of 2x yields 640x400 graphics. A 3x scale factor yields 960x600.

There is always a speed penalty when using a scaler other than Normal 1x.



Fig. 1: **Normal 1x**: No filtering, no scaling (original resolution). Fastest.



Fig. 2: **Normal 2x**: No filtering, scales the image by a factor of 2. Default for non 640x480 games.

### 38.3 Aspect ratio correction

Older games were designed to be run at 320x200 pixels, but on systems where each pixel was rectangular instead of square. This means that on modern systems these games look wider and flatter than they are supposed to. Aspect ratio correction duplicates lines of pixels to correct this.

For a game with an original resolution of 320x200, aspect ratio correction results in a resolution of 320x240.

To toggle aspect ratio on and off, press Ctrl+Alt+a.

### 38.4 Stretch modes

Stretch modes control how the game screen is stretched to fill the ScummVM window (or the screen in full screen mode).

The base resolution for this stretch mode includes the selected scaler and, if enabled, the *aspect ratio correction*. This means that if the original game resolution is 320x200 and a 2x scaler is selected, the display is a multiple of 640x400 (for example 1280x800 or 1920x1200). And if aspect ratio correction is also selected, the display is a multiple of 640x480. With this stretch mode you may thus prefer to use either the OpenGL graphics mode or the SDL Surface graphics mode with a 1x scaler.

This means that, while the width of result will always be a multiple of the original game width, if aspect ratio correction is enabled, the height of the result may not be a multiple of the original game height. This can thus cause some blurring. If you want to use aspect ratio correction but avoid any blurring, you may prefer to use the Even-pixels scaling.



Fig. 3: **Normal 3x**: No filtering, scales the image by a factor of 3.



Fig. 4: **Normal 4x**: No filtering, scales the image by a factor of 4.

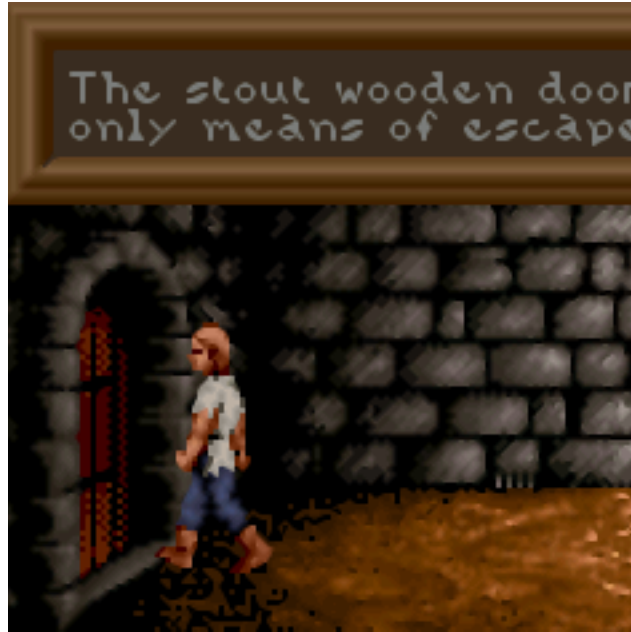


Fig. 5: **HQ 2x**: Uses lookup tables to create anti-aliased output. Very nice high quality filter, but slow.

The factors used on the width and height may be different if the *aspect ratio correction* is enabled as it will try to get the result as close as possible to the expected aspect ratio. For example, with a screen resolution of 1920x1080, a game with an original resolution of 320x200 and the aspect ratio correction enabled will be stretched to 1280x1000 (original width of 320 x 4 and original height of 200 x 5). Unlike the Pixel-perfect scaling, this does not provide exactly the expected aspect ratio (4:3) but uses instead a good approximation (4:3.125) while ensuring all the original pixels are scaled by the same amount.

With this mode you may get either horizontal black bars or vertical black bars on the side, but not both.

The game may be stretched horizontally or vertically to fill the window. This mode does not enforce the aspect ratio of the game to be preserved.

To switch between stretch modes, press Ctrl+Alt+s.

## 38.5 Render mode

For most games this setting will have no effect. For some of the older games that could be played on different systems and graphics cards, this control lets you decide which system you want ScummVM to reproduce.

Below are some of the common render modes, to illustrate how the render mode setting works.

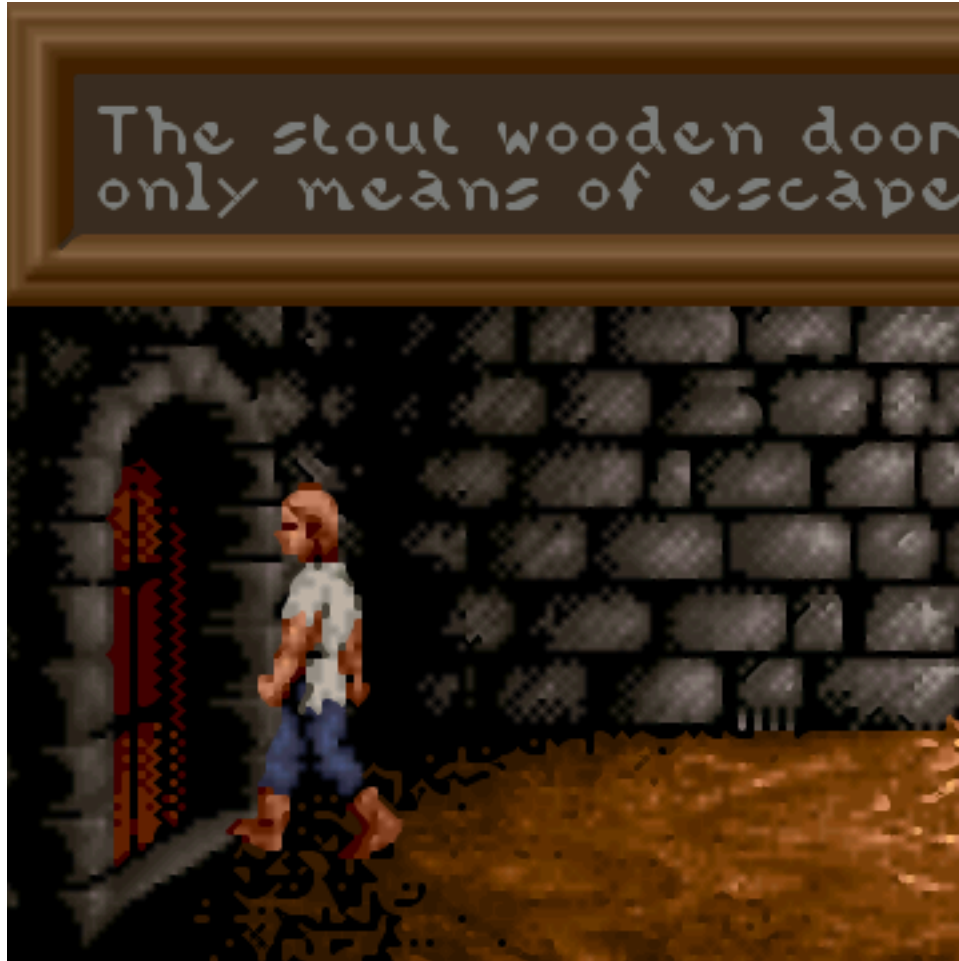


Fig. 6: **HQ 3x**: Uses lookup tables to create anti-aliased output. Very nice high quality filter, but slow.



Fig. 7: **Edge 2x**: Uses edge-directed interpolation. Sharp, clean, anti-aliased image with very few artifacts.

## 38.6 Filter graphics

When enabled, ScummVM uses bilinear interpolation instead of nearest neighbor for the *aspect ratio* and *stretch mode*. It does not affect the *graphics mode scaler*.

Nearest neighbor is a simple way to scale an image; each pixel becomes multiple pixels of the same color. While this preserves the sharper details in a pixel art image, it also creates “jagged” edges as the image is scaled up. Bilinear interpolation finds the average color between pixel color values and fills in missing pixel, which results in a “smoothed” image.

To toggle between bilinear interpolation and nearest neighbor, press **Ctrl+Alt+f**.

## 38.7 3D Graphics settings

### 38.7.1 Vsync

V-sync, or vertical sync, synchronizes the frame rate of the game with the monitor’s refresh rate, or the video capture refresh rate. This helps to prevent screen “tearing”, where the screen displays parts of multiple frames at once, which looks like a horizontal line where the image appears to split.

This setting is enabled by default.

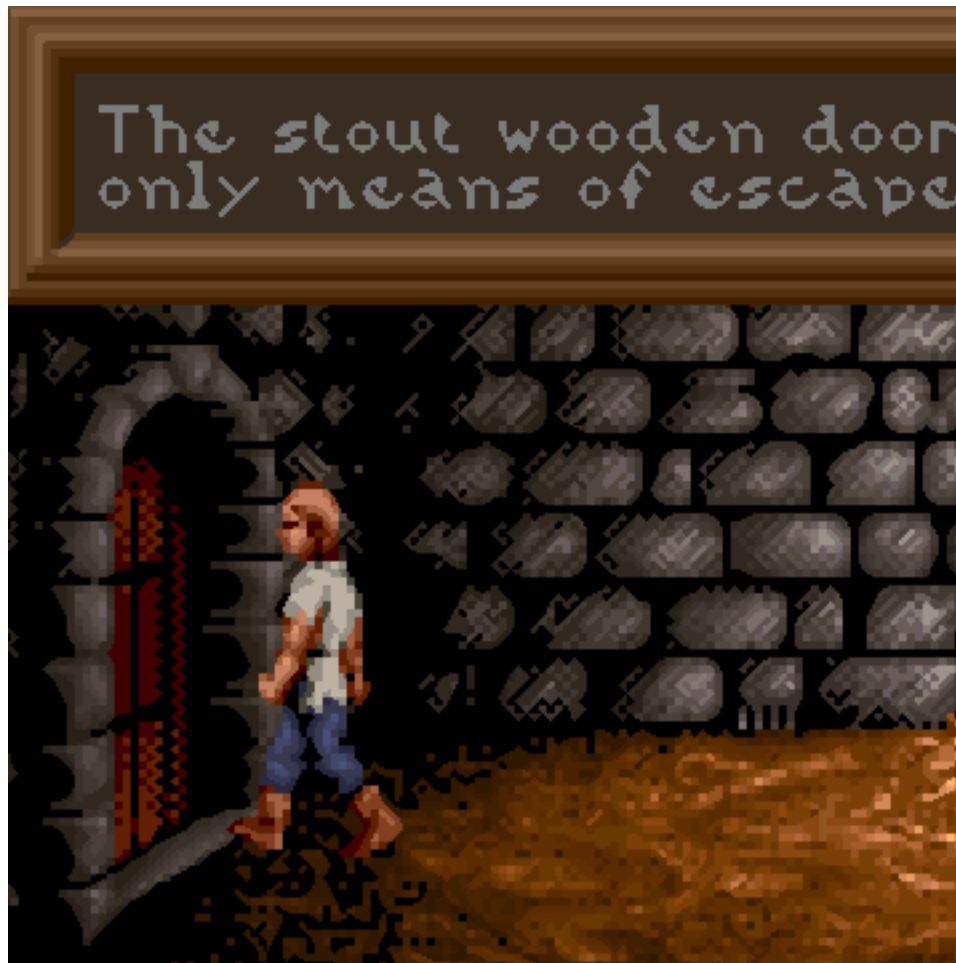


Fig. 8: **Edge 3x**: Uses edge-directed interpolation. Sharp, clean, anti-aliased image with very few artifacts.



Fig. 9: **AdvMAME 2x**: Expands each pixel into 4 new pixels based on the surrounding pixels. Doesn't rely on blurring like 2xSAI, fast.

### 38.7.2 Renderers

There are three options for rendering 3D games: OpenGL, OpenGL with shaders, or software.

- OpenGL uses the graphics card (GPU) to render the game.
- OpenGL with shaders also uses the GPU, but also uses shaders, if available, to render the game. Shaders are small programs running on the GPU which transform certain graphics inputs to outputs. They control things such as how the pixels are drawn on the 3D shapes.
- The software option uses the computer's CPU, instead of a graphics card, to render the game.

Not all render options are available for all games. If in doubt, leave the setting at **<default>**.

### 38.7.3 Anti-aliasing

Without anti-aliasing, the computer takes the color it finds at the center of the pixel, and applies that color to the entire pixel. This results in jagged, pixelated lines at the edges of objects. Anti-aliasing, in a nutshell, is how we get nice, smooth lines on a 3D game.

Historically, anti-aliasing was done using a method called Supersampling. With this method, each frame is rendered behind-the-scenes to a higher resolution, and then downsampled to produce a much smoother, better looking image. Unfortunately, this method is very GPU-intensive, and too slow.

Multisampling Anti-Aliasing, or MSAA for short, was developed as a much faster alternative; the computer renders as much of the image as possible without anti-aliasing, and then only applies anti-aliasing to the edges. It samples each pixel to find out where the edge is, and how to blend the



Fig. 10: **AdvMAME 3x**: Expands each pixel into 4 new pixels based on the surrounding pixels. Doesn't rely on blurring like 2xSAI, fast.



Fig. 11: **AdvMAME 3x**: Expands each pixel into 4 new pixels based on the surrounding pixels. Doesn't rely on blurring like 2xSAI, fast.



Fig. 12: **SAI 2x**: Uses bilinear filtering to interpolate pixels.



Fig. 13: **SuperSAI 2x**: An enhanced version of the SAI2x filter.



Fig. 14: **SuperEagle 2x**: A variation of the SAI2x filter. Less blurry than SAI2x, but slower.



Fig. 15: **PM 2x**: Analyzes the eight neighboring pixels to create smoother diagonal lines and rounded edges.



Fig. 16: **DotMatrix 2x**: Dot matrix effect.



Fig. 17: **TV 2x**: Interlace filter. Introduces scan lines to emulate a TV.



Fig. 18: No aspect ratio correction applied.

colors to create a smooth edge. The numbered options in the ScummVM *Graphics* tab (2x, 4x and 8x), refer to how many samples are taken. 8x MSAA produces a better image than 2x MSAA, but is also more GPU-intensive.



Fig. 19: Aspect ratio correction applied. The moon is actually round, as it should be!

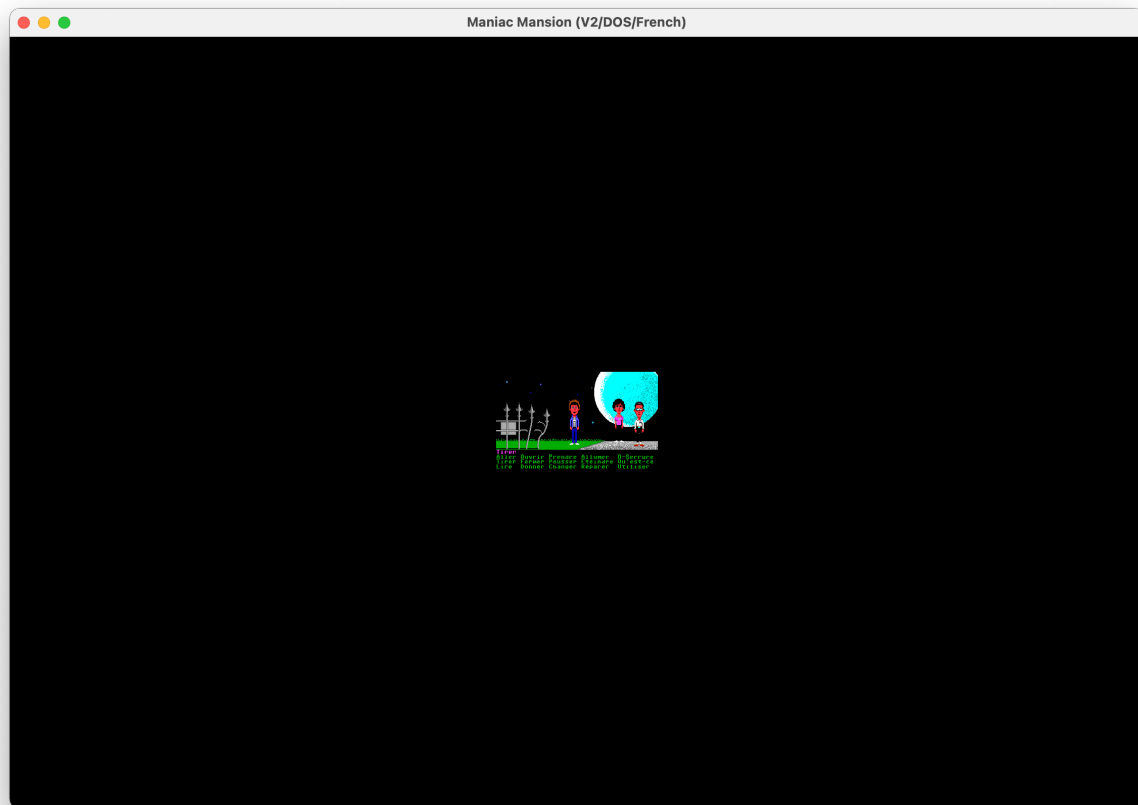


Fig. 20: **Center:** The game screen is not scaled and is centered in the ScummVM window.



Fig. 21: **Pixel-perfect scaling:** The game screen is scaled to the highest multiple of the game resolution that fits in the ScummVM window. Any empty space is filled with black bars.



Fig. 22: **Even pixels scaling:** The game screen is scaled to the highest multiples of the original game width and height. Any empty space is filled with black bars. This mode is only available for the OpenGL graphics mode.



Fig. 23: **Fit to window**: Fits the game to the window, but maintains the aspect ratio.



Fig. 24: **Stretch to window**: Stretches the game to fill the window.



Fig. 25: **Fit to window (4:3)**: Fits the image to the window, at a forced 4:3 aspect ratio.



Fig. 26: Maniac Mansion with &lt;default&gt; render mode



Fig. 27: Maniac Mansion with Hercules Green render mode



Fig. 28: Maniac Mansion with Hercules Amber render mode



Fig. 29: Maniac Mansion with CGA (4 color) render mode



Fig. 30: Maniac Mansion with EGA (16 color) render mode



Fig. 31: Maniac Mansion with Amiga (32 color) render mode

## Chapter 39

# Understanding the search box

This guide expands on the information contained in the [the search box](#) section of the Launcher interface description.

### 39.1 Main functionality

- A filter is applied as you type, so there is no need to press Enter or click anything to perform the search.
- All searches are case insensitive.
- To reset the filter and get the full list of games, click on the cross icon next to the text input field.
- Whitespace breaks the search input into separate tokens or search patterns.

### 39.2 Search patterns

#### 39.2.1 Simple patterns

The simplest way to search is to use the substring search functionality. For example, type `m` to get all the games containing an 'M' or 'm' in description, and type `monkey` to get games like “The Curse of Monkey Island (Demo/Windows)”, “Infinite Monkeys” or “Three Monkeys, One Cage”. Ensure the search pattern does not contain `:/=/~` characters and it does not start with the `!` character.

### 39.2.2 Searching configuration key values

#### Advanced patterns

To search for game properties listed in the *Configuration file* there are 3 available patterns:

Type	Description	Example	Example result
<key>=<value>	check exact value of <key>	gameid=reversion2	games with exact gameid “reversion2”
<key>:<value>	search substring at <key>	description::	games with “:” substring at description
<key>~<value>	match wildcard against <key>	path~D:\\games\\*	games located at Windows folder D:\\Games\\

---

**Note:** Escape the \ character used in Windows paths by using \\ when using wildcards.

---

#### Available configuration keys

You can use any *configuration key* as a <key> part of the search pattern.

Here are some more examples:

- show\_fps=true - games with “Show FPS” option set to true
- extra~?\* - games with non-empty extra part of the description
- guioptions:noLang - games without displayed language
- keymap\_engine-default\_LCLK:MOUSE\_RIGHT - games with right mouse button remapped to left mouse button

#### Abbreviating configuration keys

To abbreviate the 6 most common configuration keys, just type any prefix instead of full strings for those keys:

Full key	Description	Examples
description	game description as displayed on the game list	<ul style="list-style-type: none"> <li>• d:monkey</li> <li>• desc:monkey</li> <li>• descr:monkey</li> <li>• description:monkey</li> </ul>
engineid	internal ID of the game engine	<ul style="list-style-type: none"> <li>• e:ags</li> <li>• engine:monkey</li> <li>• engineid:monkey</li> </ul>
gameid	internal ID of the game	<ul style="list-style-type: none"> <li>• g:monkey</li> <li>• game:monkey</li> <li>• gameid:monkey</li> </ul>
language	internal ID of the language (usually 2 letter code like “de”/”en”/”fr”/”jp”)	<ul style="list-style-type: none"> <li>• l=en</li> <li>• lang=en</li> <li>• language=en</li> </ul>
path	Filesystem path for the game	<ul style="list-style-type: none"> <li>• p~D:*</li> <li>• path~D:*</li> </ul>
platform	internal ID of the platform	<ul style="list-style-type: none"> <li>• pl~windows</li> <li>• platform~windows</li> </ul>

---

**Note:** The platform key can’t be abbreviated to p, since p is already used for path.

---

### 39.2.3 Inverting the search pattern

To invert the search result, prefix the search pattern with the `!` character. For example:

- !GOG - games that don’t contain “GOG” substring in description
- !lang=ru - games not in Russian language
- !p:demo - games that don’t have “demo” substring in game path
- !engine~sword# - games not made with “sword1” and “sword2” engines (but “sword25” is fine)

### 39.3 How do the search patterns work together?

If you have provided several search patterns, only games that match all of them are displayed.

The matches are independent and not ordered, which means that if you search for Open Quest, you get all the games with words “Open” and “Quest” in description. The results would contain games like “Open Quest (Windows/English)” and “Police Quest IV: Open Season (DOS/Demo)”.

Here are some more examples of complex requests:

- `engine=ags path:steamapps !extra:Steam` - AGS games at your /SteamApps/ folder, but not marked as Steam game at “extra”
- `e=wintermute l=` - Wintermute games with empty “language” property
- `pl:dos lang=he desc~a*` - Hebrew games for DOS with description starting with letter “A”

## Chapter 40

# Report a bug

To report a bug, go to the ScummVM [Issue Tracker](#) and log in with your GitHub account.

Please make sure the bug is reproducible, and still occurs in the latest git/Daily build version. Also check the [compatibility list](#) for that game, to ensure the issue is not already known. Please do not report bugs for games that are not listed as completeable on the [Supported Games](#) wiki page, or on the compatibility list. We already know those games have bugs!

Please include the following information in the bug report:

- ScummVM version (test the latest git/Daily build)
- Bug details, including instructions for how to reproduce the bug. If possible, include log files, screenshots, and any other relevant information.
- Game language
- Game version (for example, talkie or floppy)
- Platform and Compiler (for example, Win32, Linux or FreeBSD)
- An attached saved game, if possible.
- If this bug only occurred recently, include the last version without the bug, and the first version with the bug. That way we can fix it quicker by looking at the changes made.

Finally, please report each issue separately; do not file multiple issues on the same ticket. It is difficult to track the status of each individual bug when they aren't on their own tickets.

### 40.1 The ScummVM log file

To help you report a bug, you can find error messages in the ScummVM log file. The location of this file varies depending on your operating system.

## Windows

%APPDATA%\ScummVM\Logs\scummvm.log

## macOS

~/Library/Logs/scummvm.log

## Linux

We use the XDG Base Directory Specification, so by default the file will be `~/.cache/scummvm/logs/scummvm.log` but its location might vary depending on the value of the `XDGLCACHE_HOME` environment variable.

# Chapter 41

## Contact us

There are a few ways to become a part of the ScummVM community:

- Chat with us on [Discord](#) or the [IRC Channel](#) . It's a great place to hang out with developers and other ScummVM users.
- Post on the [ScummVM Forum](#) . We have several forums; the [Help and Support forum](#) if you need help while using ScummVM, the [General discussion forum](#) for all general questions, and [The Junkyard](#) for almost everything else! We also have some platform-specific forums, in case you have a specific question. Make sure to read the [Forum Rules](#) before posting.
- There are three ScummVM mailing lists, which you can join [here](#).
- If you find a bug, [Report a bug](#).
- Feature requests can be made to our [Feature request tracker](#).
- If you have made modifications to the ScummVM source code and would like to see them merged into the main code, open a Pull Request on our [GitHub page](#).

We look forward to meeting you!

## Chapter 42

# Frequently Asked Questions

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## 42.1 1. General

### 42.1.1 1.1 About

#### 1.1.1. Is ScummVM an emulator?

No! ScummVM actually replaces the original executable file that shipped with the game. This means that your games can run on platforms they were never designed for! For an in-depth look at how ScummVM works, see the [About ScummVM](#) wiki page.

#### 1.1.2. Is ScummVM free?

ScummVM is released under the GPL (General Public License), so it's more than just free. ScummVM source code is available for you to do whatever you want with it, but if you make modifications and redistribute your work, you must make your source code available.

The ScummVM team would be delighted if you send them your modifications, so that the changes you've made can be merged into the main source code. See the [Developer Central](#) wiki page for contributing guidelines.

#### 1.1.3. Can I create my own games using ScummVM?

A few engines supported by ScummVM have publicly available authoring tools. See this [wiki page](#) for more information.

#### 1.1.4. I want to compile ScummVM myself from the source code. How do I do this?

See the [Compiling ScummVM](#) wiki page.

### 42.1.2 1.2 Using ScummVM

#### 1.2.1. How do I install ScummVM onto my device?

See *Start here!*.

### 1.2.2. How do I get game files onto my device?

For general guidance, see the [Handling game files](#) page. For platform-specific information, see the relevant page in the **OTHER PLATFORMS** section of the sidebar.

ScummVM has cloud and LAN functionality to simplify the file transfer process. For more information, see [Connecting a cloud service](#) and [Using the local web server](#).

### 1.2.3. On what platform(s) will ScummVM run?

See our [Platforms](#) wiki page for a full list. We have guides available for many of the supported platforms, see the relevant page in the **OTHER PLATFORMS** section of the sidebar.

### 1.2.4. Where do I find the configuration file?

See [Configuration file](#).

## 42.1.3 1.3 Playing games

### 1.3.1. Can I only play LucasArts SCUMM games?

Although the ScummVM project started by reverse-engineering just the LucasArts SCUMM games, the project now supports hundreds of games from many different game developers. See the full list of supported games [here](#). There is a caveat; not all supported games are playable on all platforms. Often this is because the game is simply too CPU intensive for the device, or because of some other hardware or software limitation. If a game is not available on a platform, you will not be able to add it to ScummVM.

### 1.3.2. Where do I get the games?

See the ScummVM [Where to get the games](#) wiki page.

### 1.3.3. How do I install games from my floppy discs/CDs?

Generally speaking, you do not need to install the games. You only need to point ScummVM to the game files contained on these discs. For a complete guide, see [Handling game files](#).

### 1.3.4. Do I need the original game discs?

Ideally yes, however we know that a lot of people don't! If you do not have any hard copy games, there are some digital options available, including some games that have been released as freeware. See the ScummVM [Where to get the games](#) wiki page.

### 1.3.5. How do I get the Macintosh versions of games to work?

See *Handling Macintosh game files*

### 1.3.6. How do I know if I can play my game using ScummVM?

The best place to check is the [Compatibility](#) page on the ScummVM website. You can also have a look at the full list of supported games [here](#).

### 1.3.7. I have saved games from when I played the original game - can I use these with ScummVM?

This is only supported for a select number of games. See the [wiki](#) page for the game you are playing.

### 1.3.8. Where are my games saved?

See *Saving and loading a game*.

### 1.3.9. How do I launch a game straight from the game folder?

Games must be added to and started from *the ScummVM Launcher*; they cannot be started directly from the game files. See *Adding and playing a game*.

### 1.3.10. What are the in-game keyboard shortcuts?

A list of default shortcuts can be found on the [Keyboard shortcuts](#) page. From version 2.2.0 you can also create custom shortcuts on the [Keymaps](#) tab.

## 42.2 2. Troubleshooting

### 42.2.1 2.1. General

#### 2.1.1. ScummVM crashes, but the console window disappears too quickly to see the error message.

If you are using a computer, you can run ScummVM from the *command line*. By doing this, error messages remain visible even after ScummVM exits.

You can also find error messages in the ScummVM log file. See *The ScummVM log file*.

### 2.1.2. I get “Failed to save game state to file: “. What’s going on?

Check that your *save path* is a writeable directory.

### 2.1.3. I think I found a bug. What do I do?

See *Report a bug*.

## 42.2.2 2.2 Games

### 2.2.1. Help! My game won’t run!

1. Make sure your game is supported. Check the [Compatibility page](#) on the ScummVM website, and the [Platform Overview](#) page on the wiki.
2. Check that you have all the required datafiles. See the *Handling game files* page.
3. Ask for advice on the ScummVM forums or on Discord. See the *Contact us* page.
4. If you think the game should run, and it doesn’t, report it as a bug. See *Report a bug*.

### 2.2.2. I installed my game but ScummVM can’t find it… What do I do?

Installing the game does not necessarily provide ScummVM with the files it needs. In most cases you will need to copy the files from the disc into a folder ScummVM can access. See *Handling game files*.

### 2.2.3. Why are the subtitles in my non-English game messed up?

You need to specify the correct *language* in the game-specific settings.

### 2.2.4. My game crashes at a specific point. What do I do?

First, check the [Compatibility page](#) on the ScummVM website to see if the game has any known issues. If not, and the crash can be reproduced, report the crash as a bug. See *Report a bug*.

### 2.2.5. I downloaded the Broken Sword packs from your website but the game won't run.

These are not full games, they are re-encoded cutscene (video) packs. To run the games you still need the original disks. See the [Broken Sword wiki page](#).

## 42.2.3 2.3 Audio

### 2.3.1 Help! There's no sound!

Sometimes it's worth checking the obvious.

1. Are your speakers on? Are your headphones properly connected?
2. Try playing an audio clip from another source to see if you have sound in general.
3. If you narrow it down to an issue with ScummVM, check the [audio settings](#). ScummVM falls back on an audio setting that works, but if for some reason it doesn't, you might need to change the settings yourself. A safe bet is usually to set the **Preferred device** to **<default>** and allow ScummVM to choose for you.

### 2.3.2 Help! There's no sound on my iPhone/iPad!

ScummVM will not play any sound if your device is in Silent Mode. If this is not the problem, see [2.3.1 Help! There's no sound!](#).

### 2.3.3 I have a "talkie" version of a LucasArts game but I can't hear the voices. What's the problem?

The original games shipped with an uncompressed voice file (MONSTER.SOU). If you have compressed this file to an mp3 file (MONSTER.S03), an Ogg Vorbis file (MONSTER.SOG), or a FLAC file (MONSTER.SOF), make sure that the ScummVM you're using has support for those formats.

### 2.3.4 The audio is really glitchy. What can I do?

There are a few things you can try:

- Try to increase the [audio buffer size](#) in the configuration file.
- If you are using the [MT-32 emulator](#), your CPU might not have the processing power to keep up. In this case, you might have some success with running an external MT-32 emulator (Munt), as described in [this forum post](#), provided your platform supports it.
- If you are using [FluidSynth](#), in particular with a large Soundfont, your CPU might not have the processing power to keep up. Try selecting a different [Preferred device](#).
- If you are using the [AdLib](#) emulator, try selecting the least CPU-intensive option; MAME.

### 2.3.5. I have a CD version of a game, how do I get the sound to work without running the game from the CD?

See *CD audio*.

## 42.2.4 2.4 Graphics

### 2.4.1. There are so many options... How do I know what to pick?

Start by checking out our *Understanding the graphics settings* page. It has comprehensive information on how all this stuff works.

### 2.4.2. Can I just make the image larger (for example, 1 pixel becomes 4 pixels) without any smoothing or antialiasing?

Yes. Using the **OpenGL** graphics mode or the **SDL Surface** graphics mode with **Normal** scaler in conjunction with pixel-perfect stretch will result in a larger image without any smoothing. The **Normal** scaler also has options to scale by **2x**, **3x**, or **4x**. Also check that **Filter graphics** is not enabled. If you want to use aspect ratio correction, it is recommended to use the **OpenGL** graphics mode with the **Even pixels scaling** stretch mode.

### 2.4.3. The game colors are messed up, how do I fix them?

Ensure the correct game platform has been detected. For example, with Amiga game files, check that the *platform* is set to Amiga.

## 42.3 3. Features

### 42.3.1 3.1 Requests

#### 3.1.1. When will you add support for ZIP archives?

We won't. There are two main reasons: firstly, we believe that it would ease illegal distribution of games, and secondly, we already support compression of sound and speech to reduce file sizes.

### 3.1.2. Will ScummVM support other games in the future?

That depends on a few factors. Firstly, it has to fit within the scope of ScummVM. Secondly, there has to be a developer who is interested and willing to carry out the work.

ScummVM developers are all volunteers who work on ScummVM in their spare time, solely for fun, and not for profit. Reverse engineering a completely new game without the source code is a long and difficult process. Even with source it can be tedious and time consuming.

Unless you work for a company interested in providing us with source code for one of their classic titles, or want to do the work yourself, please do not ask us to add support for a new game.

# Chapter 43

## Credits

### 43.1 ScummVM Team

#### 43.1.1 Project Leaders

Paweł Kołodziejski	
Eugene Sandulenko	
Einar Johan T. Sømåen	
Lothar Serra Mari	

#### 43.1.2 PR Office

Arnaud Boutonné	Public Relations Officer, Project Administrator
Eugene Sandulenko	Project Leader

#### 43.1.3 Retired Project Leaders

James Brown	
Vincent Hamm	ScummVM co-founder, Original Cruise/CinE author
Max Horn	
Ludvig Strigeus	Original ScummVM and SimonVM author

### 43.1.4 Engine Teams

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Paul Gilbert	

#### ADL

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Walter van Niftrik	
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Thierry Crozat	
Chris Jones	Creator
Alan Van Drake	AGS
Benjamin Penney	AGS

continues on next page

Table 1 – continued from previous page

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Edward Rudd	AGS
Erico Vieira Porto	AGS
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Francesco Ariis	AGS
Gilad Shaham	AGS
Ivan Mogilko	AGS
Janet Gilbert	AGS
Jochen Schleu	AGS
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Matthew Gambrell	AGS
Michael Rittenhouse	AGS
Morgan Willcock	AGS
Nick Sonneveld	AGS
Ori Avtalion	AGS
Paul Wilkinson	AGS
Per Olav Flaten	AGS
Piotr Wieczorek	AGS
Ryan O'Connor	AGS
Scott Baker	AGS
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Shawn R. Walker	AGS
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Steve McCrea	AGS
Steven Poulton	AGS
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Alexander Panov	
Benjamin Haisch	
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Joseph Davies	
Julien Templier	

## Avalanche

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## BBVS

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Peter Kohaut	
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## Buried

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Paul Gilbert	

**Chewy**

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Arnaud Boutonné	
Filippos Karapetis	

**Cine**

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Gregory Montoir	(retired)
Kari Salminen	
Eugene Sandulenko	

**Composer**

Alyssa Milburn	
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**CruisE**

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Vincent Hamm	(retired)

**Cryo**

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Filippos Karapetis	
Retro-Junk;	
Eugene Sandulenko	

**Cryomni3D**

Philippe Valembois	
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Dmitry Iskrich	
Deborah Servilla	GSoC Student
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**Draci**

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Andrew Plotkin	Glulxe interpreter
Alan Cox	ScottFree interpreter
Michael J. Roberts	TADS interpreter
Avijeet Maurya	Scott Sub-engine

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## Gob

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## Griffon

Eugene Sandulenko	
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Dries Harnie	EMI
Paweł Kołodziejcki	Grim
Christian Krause	EMI (retired)
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Joel Teichroeb	EMI
Joni Vähämäki	EMI (retired)

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## Hades Challenge

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Eugene Sandulenko	

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Julien Templier	

## Lilliput

Arnaud Boutonné	
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## Lure

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## MacVenture

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**MADS**

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David Turner	
David Fioramonti	

**Mortevielle**

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Paul Gilbert	

**mTropolis**

Eric Lasota	
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**MutationOfJB**

Ľubomír Remák	
Miroslav Remák	

### Myst 3

Bastien Bouclet	
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### Nancy

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Walter van Niftrik	

### Neverhood

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Filippos Karapetis	

### NGI

Eugene Sandulenko	
-------------------	--

### Parallaction

peres	
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### Pegasus

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### Petka

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Eugene Sandulenko	

## Pink

Andrei Prykhodko	
Eugene Sandulenko	

## Plumbers

Retro-Junk;	
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## Prince

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Łukasz Wątka	
Kamil Zbróg	

## Private

Gustavo Grieco	
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## Queen

David Eriksson	(retired)
Gregory Montoir	(retired)
Joost Peters	

## SAGA

Torbjörn Andersson	
Daniel Balsom	Original engine reimplementer author (retired)
Filippos Karapetis	
Andrew Kurushin	
Eugene Sandulenko	

## SAGA2

Yuri Guimaraes	GSoC Student
Eugene Sandulenko	

## SCI

Chris Benshoof	
Greg Frieger	
Paul Gilbert	
Max Horn	(retired)
Filippos Karapetis	
Martin Kiewitz	
Walter van Niftrik	
Willem Jan Palenstijn	
Jordi Vilalta Prat	
Lars Skovlund	
Colin Snover	

## SCUMM

Torbjörn Andersson	
Andrea Boscarino	Digital iMUSE, various fixes
James Brown	(retired)
Jonathan Gray	(retired)
Vincent Hamm	(retired)
Max Horn	(retired)
Travis Howell	
Paweł Kołodziejski	Codecs, iMUSE, Smush, etc.
Gregory Montoir	(retired)
Eugene Sandulenko	FT INSANE, MM NES, MM C64, game detection, Herc/CGA
Ludvig Strigeus	(retired)

## SCUMM HE

Jonathan Gray	(retired)
Travis Howell	
Gregory Montoir	(retired)
Eugene Sandulenko	

## Sherlock

Paul Gilbert	
Martin Kiewitz	

## Sky

Robert Göffringmann	(retired)
Oliver Kiehl	(retired)
Joost Peters	

## SLUDGE

Eugene Sandulenko	
Simei Yin	GSoC Student

## Stark

Bastien Bouclet	
Einar Johan T. Sømåen	
Liu Zhaosong	

## Star Trek

Matthew Hoops	(retired)
Filippos Karapetis	
Matthew Stewart	GSoC Student

## Supernova

Joseph-Eugene Winzer	
Jaromír Wysoglad	
Thierry Crozat	

**Sword1**

Fabio Battaglia	PSX version support
Thierry Crozat	Mac version support
Robert Göffringmann	(retired)

**Sword2**

Torbjörn Andersson	
Fabio Battaglia	PSX version support
Jonathan Gray	(retired)

**Sword2.5**

Torbjörn Andersson	
Paul Gilbert	
Max Horn	(retired)
Filippos Karapetis	
Eugene Sandulenko	

**TeenAgent**

Robert Megone	Help with callback rewriting
Vladimir Menshakov	

**Tinsel**

Torbjörn Andersson	
Fabio Battaglia	PSX version support
Paul Gilbert	
Sven Hesse	
Max Horn	(retired)
Filippos Karapetis	
Joost Peters	

## Titanic

David Fioramonti	
Paul Gilbert	
Colin Snover	

## Toltecs

Benjamin Haisch	
Filippos Karapetis	

## Tony

Arnaud Boutonné	
Paul Gilbert	
Alyssa Milburn	

## Toon

Sylvain Dupont	
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## Touché

Gregory Montoir	(retired)
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## Trecision

Daniel Albano	
Arnaud Boutonné	
Thomas Fach-Pedersen	Smacker video support
Filippos Karapetis	

## TsAGE

Arnaud Boutonné	
Paul Gilbert	

## Tucker

Gregory Montoir	(retired)
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## TwinE

Alexandre Fontoura	(retired)
Vincent Hamm	(retired)
Felipe Sanches	(retired)
Nikita Tereshin	(retired)
Patrik Dahlström	(retired)
Arthur Blot	(retired)
Kyuubu	(retired)
Toël Hartmann	(retired)
Sebastien Viannay	(retired)
Martin Gerhardy	

## Ultima

Paul Gilbert	
Matthew Duggan	
Matthew Jimenez	
Daniel c. Würfl	(Nuvie)
Eric Fry	(Nuvie)
Jeremy Newman	(Nuvie)
Jonathan E. Wright	(Nuvie)
Joseph Applegate	(Nuvie)
Malignant Manor	(Nuvie)
Markus Niemistö	(Nuvie)
Michael Fink	(Nuvie)
Pieter Luteijn	(Nuvie)
Sam Matthews	(Nuvie)
Travis Howell	(Nuvie)
Willem Jan Palenstijn	(Nuvie)
Brian Tietz	(Pentagram)
Dominik Reichardt	(Pentagram)
Max Horn	(Pentagram)
Patrick Burke	(Pentagram)
Ryan Nunn	(Pentagram)
Willem Jan Palenstijn	(Pentagram)

## Voyeur

Arnaud Boutonné	
Paul Gilbert	

## WAGE

Eugene Sandulenko	
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## Wintermute

Gunnar Birke	Wintermute 3D
Einar Johan T. Sømåen	
Tobia Tesan	

**Xeen**

Paul Gilbert	
Benoît Pierre	
David Goldsmith	(analysis)
Matt Taylor	(analysis)

**Z-Vision**

Adrian Astley	
Filippos Karapetis	
Anton Yarcev	

**43.1.5 Backend Teams****Android**

Andre Heider	
Angus Lees	
Lubomyr Lisen	

**Dreamcast**

Marcus Comstedt	
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**GCW0**

Eugene Sandulenko	
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**GPH Devices (GP2X, GP2XWiz & Caanoo)**

John Willis	
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## iPhone / iPad

Oystein Eftevaag	
Vincent Bénony	
Thierry Crozat	

## LinuxMoto

Lubomyr Lisen	
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## Maemo

Frantisek Dufka	(retired)
Tarek Soliman	

## Nintendo 3DS

Thomas Edvalson	
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## Nintendo 64

Fabio Battaglia	
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## Nintendo DS

Bertrand Augereau	HQ software scaler
Cameron Cawley	
Neil Millstone	

## Nintendo Switch

Cpasjuste	
rsn8887	

## OpenPandora

John Willis	
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## PocketPC / WinCE

Nicolas Bacca	(retired)
Ismail Khatib	(retired)
Kostas Nakos	(retired)

## PlayStation 2

Robert Göffringmann	(retired)
Max Lingua	

## PSP (PlayStation Portable)

Yotam Barnoy	
Joost Peters	

## PlayStation Vita

Cpasjuste	
rsn8887	

## SDL (Win/Linux/macOS/etc.)

Max Horn	(retired)
Eugene Sandulenko	Asm routines, GFX layers

## SymbianOS

Jurgen Braam	
Lars Persson	
Fedor Strizhniou	

## Tizen / BADA

Chris Warren-Smith	
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## Webassembly / Emscripten

Christian Kündig	
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## WebOS

Klaus Reimer	
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## Wii

Andre Heider	
Alexander Reim	

## Raspberry Pi

Manuel Alfayate	
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## 43.1.6 Other subsystems

### Infrastructure

Max Horn	Backend & Engine APIs, file API, sound mixer, audiostreams, data structures, etc. (retired)
Eugene Sandulenko	
Johannes Schickel	(retired)

## GUI

Max Horn	(retired)
Vicent Marti	
Eugene Sandulenko	
Johannes Schickel	(retired)

## Miscellaneous

David Corrales-Lopez	Filesystem access improvements (GSoC 2007 task) (retired)
Jerome Fisher	MT-32 emulator
Benjamin Haisch	Heavily improved de-/encoder for DXA videos
Jochen Hoenicke	Speaker & PCjr sound support, AdLib work (retired)
Daniël ter Laan	Restoring original Dracula tracks, and writing convert_dxa.bat
Chris Page	Return to launcher, savestate improvements, leak fixes, ... (GSoC 2008 task) (retired)
Coen Rampen	Sound improvements
Robin Watts	ARM assembly routines for nice speedups on several ports; improvements to the sound mixer
Trembyle	Archivist

### 43.1.7 Website (code)

Fredrik Wendel	(retired)
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### 43.1.8 Website (maintenance)

James Brown	IRC Logs maintainer
Thierry Crozat	Wiki maintainer
Andre Heider	Buildbot maintainer
Joost Peters	Doxygen Project Documentation maintainer
Jordi Vilalta Prat	Wiki maintainer
Eugene Sandulenko	Forum, IRC channel, Screen Shots and Mailing list maintainer
John Willis	

### 43.1.9 Website (content)

All active team members

### 43.1.10 Documentation

Thierry Crozat	Numerous contributions to documentation
Joachim Eberhard	Numerous contributions to documentation (retired)
Matthew Hoops	Numerous contributions to documentation (retired)
Cadi Howley	User documentation (GSOD 2020)

### 43.1.11 Retired Team Members

Chris Apers	Former PalmOS porter
Ralph Brorsen	Help with GUI implementation
Jamieson Christian	iMUSE, MIDI, all things musical
Felix Jakschitsch	Zak256 reverse engineering
Mutwin Kraus	Original MacOS porter
Peter Moraliyski	Port: GP32
Jeremy Newman	Former webmaster
Lionel Ulmer	Port: X11
Won Star	Former GP32 porter
Matan Bareket	Website, Infrastructure, UI/UX

## 43.2 Other contributions

### 43.2.1 Packages

#### AmigaOS 4

Hans-Jörg Frieden	(retired)
Hubert Maier	
Juha Niemimäki	(retired)

## Atari/FreeMiNT

Keith Scroggins	
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## BeOS

Stefan Parviainen	(retired)
Luc Schrijvers	

## Debian GNU/Linux

Tore Anderson	(retired)
David Weinehall	

## Fedora / RedHat

Willem Jan Palenstijn	
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## Haiku

Luc Schrijvers	
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## macOS

Max Horn	(retired)
Oystein Eftevaag	
Thierry Crozat	

## Mandriva

Dominik Scherer	(retired)
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## MorphOS

BeWorld	
Fabien Coeurjoly	
Rüdiger Hanke	(retired)

## OS/2

Paul Smedley	
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## RISC OS

Cameron Cawley	
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## SlackWare

Robert Kelsen	
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## Solaris x86

Laurent Blume	
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## Solaris SPARC

Markus Strangl	
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## Win32

Travis Howell	
Lothar Serra Mari	

## Win64

Chris Gray	(retired)
Johannes Schickel	(retired)
Lothar Serra Mari	

## 43.2.2 GUI Translations

Thierry Crozat	Translation Lead
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## Basque

Mikel Iturbe Urretxa	
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## Belarusian

Ivan Lukyanov	
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## Catalan

Jordi Vilalta Prat	
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## Czech

Zbyněk Schwarz	
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## Danish

Steffen Nyeland	
scootergrisen	

## Dutch

Ben Castricum	
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## Finnish

Toni Saarela	
Timo Mikkolainen	

## French

Thierry Crozat	
Purple T	

## Galician

Santiago G. Sanz	
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## German

Simon Sawatzki	
Lothar Serra Mari	

## Greek

Thanasis Antoniou	
Filippos Karapetis	

## Hungarian

Alex Bevilacqua	
George Kormendi	

**Italian**

Matteo Angelino	
Paolo Bossi	
Walter Agazzi	

**Norwegian (Bokmål)**

Einar Johan Sømåen	
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**Norwegian (Nynorsk)**

Einar Johan Sømåen	
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**Polish**

GrajPoPolsku.pl Team	
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**Brazilian Portuguese**

ScummBR Team	
Marcel Souza Lemes	

**Portuguese**

Daniel Albano	
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**Russian**

Eugene Sandulenko	
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## Spanish

Tomás Maidagan	
Jordi Vilalta Prat	
ILDucci	
Rodrigo Vegas Sánchez-Ferrero	

## Swedish

Hampus Flink	
Adrian Frühwirth	

## Ukrainian

Lubomyr Lisen	
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## 43.2.3 Game Translations

### CGE

Dan Serban	Soltys English translation
Víctor González	Soltys Spanish translation
Alejandro Gómez de la Muñoza	Soltys Spanish translation

### CGE2

Arnaud Boutonné	Sfinx English translation
Thierry Crozat	Sfinx English translation
Peter Bozsó	Sfinx English translation editor
Ryan Clark	Sfinx English translation editor

**Dracula**

Thierry Crozat	Improve French translation
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**Mortevielle**

Hugo Labrande	Improve English translation
Thierry Crozat	Improve English translation

**Prince**

ShinjiGR	English translation
Eugene Sandulenko	English translation
Anna Baldur	English translation

**Supernova**

Joseph-Eugene Winzer	English translation
Thierry Crozat	English translation
Walter Agazzi	Italian translation

**43.2.4 Websites (design)**

Dobó Balázs	Website design
William Claydon	Skins for doxygen, buildbot and wiki
Yaroslav Fedevych	HTML/CSS for the website
Jean Marc Gimenez	ScummVM logo
David Jensen	SVG logo conversion
Raina	ScummVM forum buttons

### 43.2.5 Icons pack

David Calvert	
Eugene Sandulenko	
J Moretti	
Jennifer McMurray	
Lothar Serra Mari	
Oleg Ermakov	
Olly Dean	
Stefan Philippsen	
Canuma	
SupSuper	
Thunderforge	
neuromancer	
nightm4re94	
trembyle	

### 43.2.6 Code contributions

Ori Avtalion	Subtitle control options in the GUI; BASS GUI fixes
Stuart Caie	Decoders for Amiga and AtariST data files (AGOS engine)
Paolo Costabel	PSP port contributions
Martin Doucha	CinE engine objectification
Thomas Fach-Pedersen	ProTracker module player, Smacker video decoder
Tobias Gunkel	Sound support for C64 version of MM/Zak, Loom PCE support
Dries Harnie	Android port for ResidualVM
Janne Huttunen	V3 actor mask support, Dig/FT SMUSH audio
Kovács Endre János	Several fixes for Simon1
Jeroen Janssen	Numerous readability and bugfix patches
Keith Kaisershot	Several Pegasus Prime patches and DVD additions
Andreas Karlsson	Initial port for SymbianOS
Stefan Kristiansson	Initial work on SDL2 support
Claudio Matsuoka	Daily Linux builds
Thomas Mayer	PSP port contributions
Sean Murray	ScummVM tools GUI application (GSoC 2007 task)
n0p	Windows CE port aspect ratio correction scaler and right click input method
Mikesch Nepomuk	MI1 VGA floppy patches
Nicolas Noble	Config file and ALSA support
Tim Phillips	Initial MI1 CD music support
Quietust	Sound support for Amiga SCUMM V2/V3 games, MM NES support
Robert Crossfield	Improved support for Apple II/C64 versions of MM
Andreas Röver	Broken Sword I & II MPEG2 cutscene support
Edward Rudd	Fixes for playing MP3 versions of MI1/Loom audio
Daniel Schepler	Final MI1 CD music support, initial Ogg Vorbis support
André Souza	SDL-based OpenGL renderer
Joel Teichroeb	Android port for ResidualVM
Tom Frost	WebOS port contributions

### 43.2.7 FreeSCI Contributors

Francois-R Boyer	MT-32 information and mapping code
Rainer Canavan	IRIX MIDI driver and bug fixes
Xiaojun Chen	
Paul David Doherty	Game version information
Vyacheslav Dikonov	Config script improvements
Ruediger Hanke	Port to the MorphOS platform
Matt Hargett	Clean-ups, bugfixes, Hardcore QA, Win32
Max Horn	SetJump implementation

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Table 2 – continued from previous page

Ravi I.	SCI0 sound resource specification
Emmanuel Jeandel	Bugfixes and bug reports
Dmitry Jemerov	Port to the Win32 platform, numerous bugfixes
Chris Kehler	Makefile enhancements
Christopher T. Lansdown	Original CVS maintainer, Alpha compatibility fixes
Sergey Lapin	Port of Carl's type 2 decompression code
Rickard Lind	MT-32->GM MIDI mapping magic, sound research
Hubert Maier	AmigaOS 4 port
Johannes Manhave	Document format translation
Claudio Matsuoka	CVS snapshots, daily builds, BeOS and cygwin ports
Dark Minister	SCI research (bytecode and parser)
Carl Muckenhaupt	Sources to the SCI resource viewer tools that started it all
Anders Baden Nielsen	PPC testing
Walter van Niftrik	Ports to the Dreamcast and GP32 platforms
Rune Orsval	Configuration file editor
Solomon Peachy	SDL ports and much of the sound subsystem
Robey Pointer	Bug tracking system hosting
Magnus Reftel	Heap implementation, Python class viewer, bugfixes
Christoph Reichenbach	UN*X code, VM/Graphics/Sound/other infrastructure
George Reid	FreeBSD package management
Lars Skovlund	Project maintenance, most documentation, bugfixes, SCI1 support
Rink Springer	Port to the DOS platform, several bug fixes
Rainer De Temple	SCI research
Sean Terrell	
Hugues Valois	Game selection menu
Jordi Vilalta	Numerous code and website clean-up patches
Petr Vyhnak	The DCL-INFLATE algorithm, many Win32 improvements
Bas Zoetekouw	Man pages, debian package management, CVS maintenance

Special thanks to Prof. Dr. Gary Nutt for allowing the FreeSCI VM extension as a course project in his Advanced OS course.

Special thanks to Bob Heitman and Corey Cole for their support of FreeSCI.

### 43.2.8 ResidualVM Contributors

#### Grim

Thomas Allen	Various engine code fixes and improvements
Torbjörn Andersson	Various code fixes
Ori Avtalion	Lipsync, LAF support, various code fixes
Robert Biro	Antialiasing support

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Table 3 – continued from previous page

Bastien Bouclet	Various fixes to engine
David Cardwell	Few fixes to EMI
Marcus Comstedt	Initial Dreamcast port
Andrea Corna	Patcher module, various engine improvements
Jonathan Gray	Various code fixes
Tobias Gunkel	Initial Android port, few engines fixes
Azamat H. Hackimov	Configure fix
Vincent Hamm	Various engine code fixes and improvements
Sven Hesse	Various compilation fixes
Matthew Hoops	Smush codec48, Grim and EMI engine improvements
Erich Hoover	x86-64 fixes, various code fixes and improvements
Max Horn	Few code fixes
Travis Howell	Various code fixes, Windows port
Joseph Jezak	A lot of engine improvements and fixes
Guillem Jover	Few code improvements
Filippos Karapetis	Compilation fixes
Ingo van Lil	Various fixes and improvements for EMI
Vincent Pelletier	Various engine and TinyGL improvements
Joost Peters	Various code fixes
George Macon	Few fixes
Josh Matthews	Few fixes to engine
Matthieu Milan	Various engine improvements
Gregory Montoir	Few fixes to engine
Stefano Musumeci	TinyGL backend and engine driver improvements
Christian Neumair	Various optimisation patches
Daniel Schepler	Initial grim engine contributor, LUA support
Dmitry Smirnov	Minor spelling corrections
Yaron Tausky	Fixes to subtitles
Julien Tempplier	create_project tool
Pino Toscano	Debian GNU/Linux package files
Lionel Ulmer	OpenGL optimisations
cmayer0087	Various engine code fixes
JenniBee	Compilation fixes
karjonas	Various engine code fixes
mparnaudeau	Various grim engine code fixes
PoulpiFr	Few fixes to Android port
sietschie	Few fixes to engine

## Myst 3

David Fioramonti	Autosave support and few fixes
Matthew Hoops	Various engine improvements and code fixes
Stefano Musumeci	TinyGL engine support

## Stark

Bartosz Dudziak	Various engine improvements and code fixes
Matthew Hoops	ADPCM decoder
Paweł Kołodziejcki	Various engine code fixes
Awad Mackie	Few fixes to engine
Marius Ioan Orban	Code fix
Vincent Pelletier	Raw sound support
Jordi Vilalta Prat	Initial engine contributor
Scott Thomas	Initial engine author
Will Thomson	Few fixes to engine
Faalagorn	Few code improvements
orangeforest11	Few engine improvements

And to all the contributors, users, and beta testers we've missed. Thanks!

## 43.3 Special thanks to

Daniel Balsom	For the original Reinherit (SAGA) code
Sander Buskens	For his work on the initial reversing of Monkey2
Dean Beeler	For the original MT-32 emulator
Kevin Carnes	For Scumm16, the basis of ScummVM's older gfx codecs
Curt Coder	For the original TrollVM (preAGI) code
Patrick Combet	For the original Gobliins ADL player
Ivan Dubrov	For contributing the initial version of the Gobliins engine
Henrik Engqvist	For generously providing hosting for our buildbot, SVN repository, planet and doxygen sites as well as tons of HD space
DOSBox Team	For their awesome OPL2 and OPL3 emulator
Yusuke Kamiyamane	For contributing some GUI icons
Till Kresslein	For design of modern ScummVM GUI
Jezar Wakefield	For his freeverb filter implementation
Jim Leiterman	Various info on his FM-TOWNS/Marty SCUMM ports
Lloyd Rosen	For deep tech details about C64 Zak & MM
Sarien Team	Original AGI engine code
Jimmi Thøgersen	For ScummRev, and much obscure code/documentation
Tristan Matthews	For additional work on the original MT-32 emulator
James Woodcock	Soundtrack enhancements
Anton Yartsev	For the original re-implementation of the Z-Vision engine

Tony Warriner and everyone at Revolution Software Ltd. for sharing with us the source of some of their brilliant games, allowing us to release Beneath a Steel Sky as freeware. . . and generally being supportive above and beyond the call of duty.

John Passfield and Steve Stamatiadis for sharing the source of their classic title, Flight of the Amazon Queen and also being incredibly supportive.

Joe Pearce from The Wyrmskeep Entertainment Co. for sharing the source of their famous title Inherit the Earth, for sharing the source of The Labyrinth of Time and for always replying promptly to our questions.

Aric Wilmunder, Ron Gilbert, David Fox, Vince Lee, and all those at LucasFilm/LucasArts who made SCUMM the insane mess to reimplement that it is today. Feel free to drop us a line and tell us what you think, guys!

Alan Bridgman, Simon Woodroffe and everyone at Adventure Soft for sharing the source code of some of their games with us.

John Young, Colin Smythe and especially Terry Pratchett himself for sharing the source code of Discworld I & II with us.

Emilio de Paz Aragón from Alcachofa Soft for sharing the source code of Dracula: The Vampire Strikes Back with us and his generosity with freewaring the game.

David P. Gray from Gray Design Associates for sharing the source code of the Hugo trilogy.

The mindFactory team for writing Broken Sword 2.5, a splendid fan-made sequel, and for sharing the source code with us.

Neil Dodwell and David Dew from Creative Reality for providing the source of Dreamweb and for their tremendous support.

Janusz Wiśniewski and Mirosław Liminowicz from Laboratorium Komputerowe Avalon for providing full source code for Sołtys and Sfinx and letting us redistribute the games.

Jan Nedoma for providing the sources to the Wintermute-engine, and for his support while porting the engine to ScummVM.

Bob Bell, David Black, Michel Kripalani, and Tommy Yune from Presto Studios for providing the source code of The Journeyman Project: Pegasus Prime and The Journeyman Project 2: Buried in Time.

Electronic Arts IP Preservation Team, particularly Stefan Serbicki, and Vasyl Tsvirkunov of Electronic Arts for providing the source code of the two Lost Files of Sherlock Holmes games. James M. Ferguson and Barry Duncan for their tenacious efforts to recover the sources.

John Romero for sharing the source code of Hyperspace Delivery Boy! with us.

Steffen Dingel for sharing the source code of the Mission Supernova game with us.

The LUA developers, for creating a nice compact script interpreter.

Tim Schafer, for obvious reasons, and everybody else who helped make Grim Fandango a brilliant game; and the EMI team for giving it their best try.

Bret Mogilefsky, for managing to create a SPUTM-style 3D LUA engine, and avoiding the horrible hack it could have been.

Benjamin Haisch, for emimeshviewer, which our EMI code borrows heavily from.

Fabrizio Lagorio from Trecision S.p.A., for finding and providing the source code of many of their games.

# Chapter 44

## Release notes

For a more comprehensive changelog of the latest experimental code, see: <https://github.com/scummvm/scummvm/commits/>

### 44.1 2.7.0 (XXXX-XX-XX)

New games:

- Added support for Soldier Boyz.
- Added support for C64 and ZX Spectrum versions of GLK Scott Adams Interactive Fiction games
- Added support for GLK Scott Adams adventures 1-12 in the TI99/4A format.

General:

- Reduced amount of false positives in Mass Add.

AGOS:

- Added option to disable the fade-out effects on room transition for Simon1 and 2.

Kyra:

- Added support for the Korean version of Legend of Kyrandia 1.
- Added support for the Hebrew version of Legend of Kyrandia 3.

SCUMM:

- Added support for CGA, CGA Composite, CGA black & white and Hercules modes for SCUMM 1 versions of Zak McKracken and Maniac Mansion. Also improved accuracy of CGA and Hercules modes for SCUMM 2 (enhanced) versions of Zak McKracken and Maniac Mansion and fixed some minor glitches for the CGA mode of Loom.

Toon:

- Made game menus behave like in the original.

## 44.2 2.6.0 “Insane Escapism” (2022-08-01)

New games:

- Added support for Sanitarium.
- Added support for Hades Challenge.
- Added support for Marvel Comics Spider-Man: The Sinister Six.
- Added support for The 11th Hour.
- Added support for Clandestiny.
- Added support for Tender Loving Care (CD-ROM Editions).
- Added support for Uncle Henry’s Playhouse.
- Added support for Wetlands.
- Added support for Chewy: Esc from F5.

General:

- The project license has been upgraded to GPLv3+.
- Now ScummVM requires C++11 for building.
- Removed support for VS2008, as it doesn’t support C++11.
- Implemented enhanced filtering in the Search box. See “Understanding the search box” in the documentation for details.
- Implemented Icon view in GUI (GSoC task).
- Added support for the RetroWave OPL3 sound card.
- Added OpenDingux beta port.
- Removed Symbian port.
- Added the create\_engine tool to aid when creating new engines.
- Fixed mouse capture in HiDPI mode.
- The GUI Options dialog now marks settings overridden via command lines in red.
- In GUI launcher it is now possible to group games by different categories.
- GUI launcher has new game icons grid look.

AGI:

- Added support for Macintosh versions of Manhunter 1-2.

AGS:

- Synced changes from upstream AGS.

AGOS:

- Elvira 1: Added support for Casio MT-540/CT-460/CSM-1 and CMS/GameBlaster.

- Elvira 1 & 2, Waxworks, Simon the Sorcerer: Added AdLib OPL3 mode. Depending on the game, this will prevent cut-off notes, add extra notes or instruments and/or add stereo.
- Elvira 2, Waxworks: Added support for AdLib and MT-32 sound effects.
- Elvira 2, Waxworks, Simon the Sorcerer floppy: Added Mixed MIDI support (MT-32 music with AdLib sound effects).
- Simon the Sorcerer floppy: Improved AdLib sound effects accuracy.
- Simon the Sorcerer: DOS version music tempos are now accurate. Both DOS and Windows versions now offer the choice of the DOS music tempos or the faster Windows tempos.
- Simon the Sorcerer 2: Improved AdLib and GM support.
- Simon the Sorcerer 2: Added workaround for the missing MT-32 tracks in the intro.

#### BBVS:

- Fixed the size of the main menu buttons being incorrect in some cases.
- Fixed crash at the end of the Hock-A-Loogie mini game.

#### Buried:

- Added support for skipping synchronous audio and video.
- The mouse pointer is now hidden during cutscenes.
- Implemented game pausing via Control-P.
- After saving, the player returns back to the game instead of the Biochip menu.
- The game is now always paused when the Biochip menu or the save/restore dialogs are open.
- Added metadata to saved games, including thumbnails, creation date and play time.
- Saved games are now sorted by slot, like in other engines, instead of being sorted alphabetically.
- The currently selected item is now stored in saved games.
- Comments from Arthur that play in the background can now be stopped with the space key (the same key that replays Arthur's last comment).
- The agent evaluation (current points) can now be shown with Control-D.
- Fixed global flag corruption in death screens.

#### Dreamweb:

- Added text to speech for dialogs and object descriptions.

#### Glk:

- Added support for ZX Spectrum games with graphics in the Scott sub-engine.

#### Kyra:

- Added support for the Traditional Chinese versions of Legend of Kyrandia 1 - 3.
- Added sound support for the Macintosh version of Legend of Kyrandia.

- Added support for playing the Macintosh non-talkie version of Legend of Kyrandia 1 directly from the files on the CD. This means you no longer have to run the installer to extract the data files.

NGI:

- Fixed the rolling bridge state in scene 13.
- Fixed getting stuck when teleporting to the foot in scene 30.
- Fixed inconsistent cactus state.

Private:

- Refactored code to allow rendering using the original 256 color palette.
- Fixed endianness issues.
- Added support for the Korean release.

Supernova:

- Added text to speech for dialogs and object descriptions.

SCI:

- Added support for Text To Speech in SCI floppy games.
- Allow saving from the ScummVM Global Game Menu in the following games: BRAIN1, BRAIN2, ECOQUEST1, ECOQUEST2, FAIRYTALES, PHARKAS, GK1, GK2, ICEMAN, KQ1, KQ4, KQ5, KQ6, KQ7, LB1, LB2, LIGHTHOUSE, LONGBOW, LSL1, LSL2, LSL3, LSL5, LSL6, LSL6HIRES, LSL7, PEPPER, PHANT2, PQ1, PQ2, PQ3, PQ4, PQSWAT, QFG1, QFG1VGA, QFG2, QFG3, QFG4, SHIVERS, SQ1, SQ3, SQ4, SQ5, SQ6, TORIN.
- Fixed many script bugs in KQ6, KQ7, GK2, QFG3, QFG4, Hoyle4.
- Fixed loading autosaves in Shivers and Phantasmagoria 2.
- Added support for Korean fan translations from the scummkor project: EcoQuest 2 and Gabriel Knight 2.

SCUMM:

- New Digital iMUSE engine. Support for re-compressed audio files dropped in Full Throttle, The Dig and The Curse of Monkey Island.
- Rewrote music player for Amiga versions of Indy3 and Loom in accordance to the original code.
- Fix missing cursor in the 16-color Macintosh versions of Loom and Indiana Jones and the Last Crusade after loading a savegame.
- It is now possible to replace the music in the floppy versions of Loom with audio tracks. The ScummVM Wiki has a list of which parts of the Swan Lake ballet the game uses: <https://wiki.scummvm.org/index.php/Loom>.
- Fixed some MIDI music looping when it shouldn't in EGA/VGA floppy versions of The Secret of Monkey Island.

- Fixed the lava flowing in the wrong direction in the VGA floppy version of The Secret of Monkey Island.
- Fixed Full Throttle distorted graphics when Ben runs past the Corley Motors entrance.
- Fixed the dissolve effect, and Bobbin's palette when leaving the darkened tent in the TurboGrafx-16 version of Loom, to match the original behavior.
- Fixed incorrect dark rooms colors in MM NES on strict-alignment ports such as Dreamcast, Apple silicon and various handheld devices.
- Rewrote text rendering routines for Full Throttle, The Dig and The Curse of Monkey Island in accordance to the original interpreters.
- Rewrote timer handling routines to better approximate both the original hardware behavior and the interpreters' quirks.
- Fix lip syncing in Backyard Baseball 2003.
- Fixed various original game bugs and oversights in most of the LucasArts titles: [https://wiki.scummvm.org/index.php?title=SCUMM/Game\\_Enhancements](https://wiki.scummvm.org/index.php?title=SCUMM/Game_Enhancements). Most of these enhancements can now be disabled in the game's settings if one prefers playing with the original behavior.
- Added sliders for tweaking the CD audio playback in the MI1 CD intro, as well as VGA CD Loom in general. Loom is particularly sensitive to the amount of silence at the start of the track, and the CD version of MI1 never synced the music as well to the intro as previous versions. See the Wiki for more details.
- Detect and reject the EGA floppy version of Monkey Island 1 that Limited Run Games sold in their Monkey Island 30th Anniversary Anthology, if using the default DISK4 image, which is corrupted. It's possible to recover a working image from the KryoFlux dumps they also provided.
- Fixed random number generation which fixes throwing in Backyard Baseball.
- Marked a workaround in Monkey Island 2 (FM-Towns version) as an enhancement; this workaround originally restored a portion of the map chasing puzzle in Booty Island which had been cut in the FM-Towns version of the game.
- Made the sentence line in Maniac Mansion work like the manual says, i.e. you can click on it to execute the command.

Sherlock:

- Fixed slowdown in Serrated Scalpel intro when playing the game from a small installation.
- Fixed UI glitches in Serrated Scalpel.

Titanic:

- Fixed not being able to see House in Starfield puzzle.

TwinE:

- Fixed a bug in the collision code that made the game unfinishable due to the tank not moving any further in scene 63.
- Fixed light angle calculation which produced rendering artifacts in a few scenes.

- Fixed polygon rendering method for the boat windows.
- Fixed wrong shooting direction for some actors.
- Fixed door movement in some situations.

Android port:

- Added hardware acceleration for 3D graphics.
- Improved touch controls.

macOS port:

- Added support for displaying OSD messages on the Touch Bar.

Windows port:

- Added “Portable Mode” in which the executable’s directory is used to store application files if a scummvm.ini file is present, instead of the user’s profile directory.
- Fixed detection of the Application Data path on Windows 95/98/ME.

RISC OS port:

- Added support for dynamic plugins.
- Added a native MIDI driver.

Nintendo DS port:

- Fixed screen scrolling when using the Load and Save dialogs.

## 44.3 2.5.1 (2022-01-02)

General:

- Ported ResidualVM GUI theme to remastered version.
- Fixed edge case for Punycode.
- Fixed checking for savegame overwrite in autosave slot.
- Fixed moving savegame to new slot for most engines.
- Scalars are now supported with the OpenGL graphics mode.

AGOS:

- Fixed old Waxworks AdLib music regression.

AGS:

- Detection list updates.

Grim:

- Fixed default “Talk Speed” option value.
- Fixed black screen while entering save game name.

- OpenGL without shaders is preferred as default for Grim Fandango.

Kyra:

- Fixed graphical glitch in Legend of Kyrandia 3.

SAGA:

- Fixed digitized music not looping in Inherit the Earth.

SCUMM:

- Improved support for the high-resolution text in the 16-color Macintosh versions of Loom and Indiana Jones and the Last Crusade.
- Improved OPL3 sound emulation for Sam&Max.
- Fixed music not looping in The Dig.
- Fixed crash when loading savegames from Humongous Entertainment games.

Sherlock:

- Fixed crash using matches on lab table.
- Fixed character animation in Rose Tattoo.
- Fixed glitch opening map in Rose Tattoo.
- Fixed bell pull and fog horn sounds in Serrated Scalpel.
- Fixed inventory not updating in Serrated Scalpel after examining watch.
- Fixed fog overlay at Cleopatra's Needle in Rose Tattoo.
- Fixed graphic issues in Serrated Scalpel looking at items whilst inventory is open.
- Made Serrated Scalpel darts closer in speed to the original.
- Fixed crash when moving cursor past end of string in Rose Tattoo save dialog.
- Process pending key presses in the order they were made, not the most recent first.
- Fixed crash when using Delete key in Rose Tattoo save dialog.
- Fixed rare conversation bug in Serrated Scalpel that would happen when Lord Brumwell started talking to you while the inventory window was open.
- Resume animations in Serrated Scalpel after conversations. This fixes the bug where Jock Mahoney or Nobby Charleton would get stuck indefinitely, refusing to talk to you.
- Fixed various user interface glitches in both games.

Stark:

- Added OpenGL renderer (without shaders).
- Added TinyGL renderer.
- Fixed autosave handling.

TwinE:

- Numerous bugfixes and stability improvements.

Xeen:

- Fixed crash on startup loading constants from xeen.ccs.
- Fixed spell selection aborting when characters were switched.
- Fixed some bad memory accesses.
- Various sound fixes.
- Fixed the monster item drop probabilities.

## 44.4 2.5.0 “Twenty years ago today...” (2021-10-09)

New games:

- Added support for Grim Fandango.
- Added support for The Longest Journey.
- Added support for Myst 3: Exile.
- Added support for Little Big Adventure.
- Added support for Red Comrades 1: Save the Galaxy.
- Added support for Red Comrades 2: For the Great Justice.
- Added support for Transylvania.
- Added support for Crimson Crown.
- Added support for OO-Topos.
- Added support for Glulx interactive fiction games.
- Added support for Lure of the Temptress Konami release.
- Added support for Private Eye.
- Added support for Spanish Blue Force.
- Added support for Spanish Ringworld.
- Added support for Spanish Amazon: Guardians of Eden.
- Added support for AGS Games versions 2.5+.
- Added support for Nightlong: Union City Conspiracy.
- Added support for The Journeyman Project 2: Buried in Time.
- Added support for Crusader: No Remorse.
- Added support for L-ZONE.

- Added support for Spaceship Warlock.

New ports:

- The Nintendo DS port got a major rewrite.

General:

- Switched ScummVM GUI output to UTF-32.
- Updated the Roland MT-32 emulation code to the Munt project's mt32emu 2.5.1.
- Updated Dropbox Cloud Storage to use the new Dropbox OAuth workflow.
- Major extension to the number of supported graphics scalers.
- Display path to scummvm configuration file in GUI -> Options -> Paths.
- Added new optional dependency, giflib >= 5.0.0. Used by some version of LBA.
- Added HiDPI support to the ScummVM GUI.
- Added command line option `-window-size` for specifying ScummVM window size, applicable only to the OpenGL renderer.
- Fixed switching to the default graphics mode. This was sometimes not applied until restarting ScummVM or starting a game.
- ScummVM GUI has been fully translated into Korean and Japanese.
- Added GUI option for enabling and disabling the Discord RPC integration.

ADL:

- Added support for Mystery House French translation.
- Added support for several game variants.

AGI:

- Added support for Russian versions. Input now works.

AGOS:

- Added support for the Japanese PC-98 version of Elvira 1.

CGE:

- Added option to use Text To Speech for Soltys.

CGE2:

- Added option to use Text To Speech for Sfinx.

Cine:

- Added detection for Future Wars CD version with French translation patch.
- Added detection for Italian Amiga Operation Stealth.
- Fixed crash before entering secret base.
- Fixed space missing in verb line.

- Fixed vertically overflowing message boxes.

Dreamweb:

- Rendering fixes for Russian fan translation.

Glk:

- Fixed savegame issues with several subengines.
- Fixed memory overrun in Level9 game detector.
- Added detections for 2020 IF Comp games.
- Enabled Glulx sub-engine.

Gob:

- Added support for Bargon Attack Russian translation.
- Added support for Woodruff Russian translation.

Griffon:

- Fixed Return to Launcher from The Griffon Legend.
- Added option to use Text To Speech in The Griffon Legend

Grim:

- Added support for Brazillian Portuguese Grim Fandango.

Kyra:

- Added support for the Japanese Sega-CD version of Eye of the Beholder.
- Added support for the Hebrew fan translation of Legend of Kyrandia.
- Added support for the Hebrew fan translation of Legend of Kyrandia 2.
- Added support for the Simplified Chinese version of Legend of Kyrandia 3.
- Added support for the playable demo of Lands of Lore.

Lure:

- Fixed fire animation in first room when loading saves.
- Fixed AdLib support.
- Fixed MT-32 support.

Pegasus:

- Added support for DVD/GOG.com release.

Queen:

- Added support for German Amiga floppy release.

SAGA:

- Added support for ITE GOG Mac CD v1.1.

- Added support for ITE PC-98 Japanese.
- Fixed digitized music not looping in Inherit the Earth.

SCI:

- Added RGB rendering mode (16/32bpp) for SCI0 - SCI1.1 games, which addresses palette issues in screen transitions and avoids mode changes when playing Mac QuickTime videos.
- Added custom palette mods for SQ3 and LSL2 from the FreeSCI project. When enabled, the mods improve the visuals in these two games.
- Added support for Macintosh version of Gabriel Knight 1.
- Added support for CD-Audio version of Mixed-Up Mother Goose.
- Added support for Korean fan translations from the scummkor project: Castle of Dr. Brain, EcoQuest 1, Gabriel Knight 1, King's Quest 1, 5, and 6, Laura Bow 2, and Space Quest 4.
- Added support for Space Quest 4 Update 1.3 by New Rising Sun.
- Added support for French LSL1VGA.
- Added support for Hebrew QFG1VGA.
- Added support for Hebrew GK1.
- Added support for Russian Longbow.
- Added support for Russian LSL6.
- Added support for alternate Russian LSL7.
- Added support for alternate Polish LSL7 including files packaged with InstallShield.
- Added support for alternate Russian SQ5.
- Added support for alternate Russian Torin's Passage.
- Added support for fan game Soulshade Asylum.
- SCI1.1 views are now scaled accurately.
- Fixed sounds not stopping or restarting correctly.
- Fixed sound issues when restoring SCI0 games.
- Fixed corruption when "Prefer digital sound effects" was disabled in SCI1 games.
- Space Quest 4 CD sound effects now match the selected platform.
- Added option to enable Windows cursors in CD versions of King's Quest 5 and Space Quest 4.
- Fixed "Girl In The Tower" song not playing at the end of King's Quest 6 CD.
- Fixed King's Quest 5 Amiga beach error that prevented completing the game.
- Fixed over 30 script bugs in GK1, HOYLE4, KQ1DEMO, KQ5, KQ6, KQ7, LB1, LSL3, PEPPER, PQ3, QFG3, SQ1, SQ4, and SQ6.

- Unlocked JANE easter egg in Gabriel Knight 1.

SCUMM:

- Fixed Chinese, Japanese and Korean text display for The Dig and for The Curse of Monkey Island. These fixes also include some improvements to the common text display (mainly the formatting of wrapped texts).
- Fixed display of Chinese, Japanese and Korean pause and restart dialogs.
- Added support for numerous Korean translations from scummkor project.
- Added support for Russobit-M versions of Pajama2 and SpyOzone.
- Fixed speech playback in Akella version of COMI.
- Added support for Discord and Humble Bundle versions of Indiana Jones and the Fate of Atlantis.
- Added smooth scrolling for FM-TOWNS versions of games.
- Added optional trimming to 200 pixels for some FM-TOWNS games, so aspect-ratio correction is possible.
- Fixed audio distortion in Loom for PC-Engine.
- Added support for the high resolution font and cursor in the 16-color Macintosh version of Loom.
- Added support for Japanese Mac version of The Dig.
- Added partial support for the high resolution fonts and cursor in the 16-color Macintosh version of Indiana Jones and the Last Crusade.
- Fixed missing instruments in the m68k Mac versions of Monkey Island 2 and Indiana Jones and the Fate of Atlantis.
- Added “Macintosh b/w” render mode for the 16-color Macintosh versions of Loom and Indiana Jones and the Last Crusade.
- Enabled difficulty selection in the version of Monkey Island 2 that was included on the LucasArts Mac CD Game Pack II compilation. (It had been disabled along with the copy protection.)
- Repaired clumsy crack in Maniac Mansion (enhanced)’s keypad script. This means that the GOG and Steam versions will no longer accept incorrect numbers, e.g. for Edna’s phone number. (Why are they selling a cracked version anyway?!)
- Added support for Low quality music in Macintosh version of Loom.
- Improved Digital iMUSE accuracy for Full Throttle and The Curse of Monkey Island. These improvements also fix several audio related bugs for both games.
- Fixed a very old regression in the walk code for Full Throttle which softlocked the game.
- Improved the accuracy of the walk code for The Dig and The Curse of Monkey Island.
- Fixed a bug in The Curse of Monkey Island which prevented, during the cannon minigame in Part 1, the destruction of one of the three destroyable turrets in the fort.

- Added animated cigar smoke to the close-up of captain Smirk in the CD version of Monkey Island 1. It was present in earlier versions.
- Restored some missing Lemonhead lines in the English, Italian, German and Spanish CD versions as well as the English Macintosh, FM-Towns and Sega CD versions of Monkey Island 1.
- Made the clock tower in Monkey Island 1 behave the same in the CD version as in earlier versions, i.e. after examining it you have to leave the room and come back again for its description to change.

Tinsel:

- Enabled the Return to Launcher feature.

Titanic:

- Fixed crashes when asking bots what I should do.

TsAGE:

- Added support for uninstalled floppy version.

Stark:

- Added support for Hungarian translation.

Supernova:

- Added Italian translation for part 1.

Sword25:

- Made the extracted version working.
- Fixed crash when selecting Croatian language.

Ultima:

- Ultima 4: Added several debugger commands.
- Ultima 4: Allow Enter key to exit ZStats display.
- Ultima 8: Fixed several animation bugs for events and objects.
- Ultima 8: Restored original text for the Spell of Resurrection book.

Xeen:

- Fixed occasional border corruption during fights.
- Improvements to cutscenes to better match the original games.
- Fixes for character selection, deselection, and dismissing to better match original.
- Added support for Russian version.

AmigaOS port:

- Added native system file browser feature.

- Re-activated nuked OPL Adlib driver.

Big-endian ports:

- Fixed crashes or rendering issues with the Blazing Dragons, Duckman and Full Pipe games.

iOS port:

- Fixed using arrow keys on physical keyboard in iOS 15.
- Fixed rotating the device while ScummVM is inactive.
- Added support for upside down portrait orientation.

macOS port:

- Added support for Dark Mode.
- Use OpenGL renderer by default, providing better support for HiDPI displays.

MorphOS port:

- Added native system file browser feature.
- Added Cloud feature.
- Re-activate nuked OPL Adlib driver.
- Added CAMD MIDI driver support.

Windows port:

- Use OpenGL renderer by default, providing better support for HiDPI displays.

## 44.5 2.2.0 “Interactive Fantasy” (2020-09-27)

New games:

- Added support for Blazing Dragons.
- Added support for Griffon Legend.
- Added support for Interactive Fiction games based on the following engines: ADRIFT (except for version 5), AdvSys, AGT, Alan 2 & 3, Archetype (newly reimplemented for Glk from the original Pascal sources), Hugo, JACL, Level 9, Magnetic Scrolls, Quest, Scott Adams, ZCode (all ZCode games except the Infocom graphical version 6 games). Currently, more than 1600 games are detected and supported.
- Added support for Operation Stealth.
- Added support for Police Quest: SWAT.
- Added support for English translation of Prince and the Coward.
- Added support for Ultima IV - Quest of the Avatar.
- Added support for Ultima VI - The False Prophet.

- Added support for Ultima VIII - Pagan.

New ports:

- MorphOS port got a major rewrite.

General:

- Autosaves are now supported for all the engines.
- Errors are more likely to open the debugger, and be displayed, than just crash ScummVM.
- Games are sorted in GUI ignoring the articles.
- Now Hebrew is displayed correctly in GUI (requires FriBiDi library).
- Updated the Roland MT-32 emulation code to Munt 2.4.0.
- Added option to select the default voice for ports that support Text-to-Speech.
- Added support for Discord Rich Presence integration on supported platforms (Windows Vista+, macOS 10.9+ 64 Bit).
- Major improvements to the keymapper.
- Games are now recognised by engineid:gameid combination.

BBVS:

- Added support for the demo, available from our website.
- Added support for the Loogie minigame demo.

Dreamweb:

- Added support for Russian fan-translation.
- Fixed animation speed.

Illusions:

- Fixed subtitle speed (set it to max for good speed).
- Added support for Russian Duckman.

Kyra:

- Added support for the SegaCD version of Eye of the Beholder I (with CD-Audio, animated cutscenes and map function).
- Added support for the PC-98 version of Eye of the Beholder I.
- Added support for the Spanish versions of Eye of the Beholder I and II, Legend of Kyrandia 1 (CD-ROM fan translation) and Legend of Kyrandia 2 (floppy version and CD-ROM fan translation). Fix Spanish Lands of Lore support (floppy version and CD-ROM fan translation).

Lab:

- Fixed sound looping in some rooms.

Neverhood:

- Added support for bigger demo, available from our website.

Prince:

- Fixed inventory item descriptions display.
- Added English translation.
- Fixed bug with infinite loop when looking at some objects.

Queen:

- Fixed loading a save game from the launcher.
- Fixed random long delays when starting a game.

SCI:

- Major improvements to Amiga and Mac sound drivers.
- Improved MIDI playback and fixed many audio issues.
- Fixed 30 original script bugs in ECO2, GK1, KQ4, KQ5, KQ6, KQ7, LB1, LONGBOW, PHANT2, QFG1, QFG3, QFG4, SQ5 and SQ6.
- Fixed a script bug responsible for rare and random lockups in most Sierra games between 1992-1996.
- Added support for Inside the Chest / Behind the Developer's Shield.
- Added support for German LSL6-Floppy.
- Added support for Hebrew Torin's Passage.
- Added support for Italian Lighthouse.
- Added support for Polish KQ5, LSL2, LSL3, LSL5 and LSL6-Floppy.
- Fixed Russian LSL1 error when hailing a taxi.
- Fixed Phantasmagoria 2 error when attempting easter eggs.
- Fixed QFG3 auto-saves.
- Fixed QFG4 and Shivers save game thumbnails being obscured by control panels.
- Fixed a random crash in the Windows version when exiting a game.
- Added support for Roland D-110 sound driver.
- The "Prefer digital sound effects" checkbox works correctly now for SCI01/SCI1 games.

SCUMM:

- Fixed palette issues leading to incorrect colors in MM NES intro and dark rooms.
- Fixed the rendering of the flashlight in MM NES to match the original version.
- Replaced the existing NES palette to a more accurate NTSC palette based on Mesen.
- Added a new GUI option to switch to an alternative NES palette based on the NES Classic.
- Improved colors in Apple //gs Maniac Mansion.

- Fixed crash when entering garage in Apple //gs Maniac Mansion.
- Added support from Classic Full Throttle from Remastered release.

Supernova:

- Improved English translation.

Sky:

- Fixed syncing of music volume between native settings panel and ScummVM configuration.

Sword1:

- Added support for localized menus in Novy Disk Russian Trilogy release.
- Added support for Spanish playable Demo available from our website.

Sword2:

- Added support for Spanish playable Demo available from our website.

Titanic:

- Fixed Barbot crash after asking what else he needs.

Wintermute:

- Added subsystem for tracking achievements, implemented for 10+ games.

Xeen:

- Add missing sprite drawer for enemies hit by Energy Blast.
- Fixed freeze due to bad mob data at the top of Witches Tower.
- Fix crash loading some savegames directly from the launcher.
- Fix curing the well in Nightshadow.
- Fix loading of wall items from savegames.
- Fix U/D keys not working on Quests dialog.
- Fix incorrect mirror destination for Dragon Tower.
- Fix crash reading book in Great Pyramid safe.
- Prevent attributes from going negative.
- Fix border faces animation during Clairvoyance.

ZVision:

- Fixed regression in the safe puzzle in Zork Nemesis: The Forbidden Lands.
- Fixed getting perfect score in Zork: Grand Inquisitor.

Android port:

- Added support for immersive fullscreen mode.

- Improved keyboard and mouse input.

iOS port:

- Fixed unsupported graphic mode for some games (such as SCI games with high quality video scaling enabled).
- Removed Quit button to follow the iOS design guidelines.
- Removed virtual keyboard input assistant bar. In particular this means that we no longer see a bar at the bottom of the screen when using an external keyboard.
- Added save of current game state if possible when switching to a different task and restore game state when returning to the ScummVM task.

Linux port:

- Added option to use the system file browser instead of the ScummVM file browser.

MacOS X port:

- Fixed blurry on Retina screens. Unfortunately this required dropping support for the dark theme for window decorations.
- Fixed Taskbar icon display when running a game (this was broken since ScummVM 1.9.0).

RISC OS port:

- Added a VFP optimized build for newer hardware.

Windows port:

- Added support for using additional OneCore voices for text to speech.
- Active support for Windows Vista and lower is now discontinued. While we still provide builds for those systems in the foreseeable future, some newer features might be missing.

## 44.6 2.1.2 “Fixing Powerful Windows” (2020-03-31)

Windows port:

- Fixed an issue with the Sparkle updater which lead to an infinite update loop.

MacOS X port:

- Fixed application freeze on start on Mac OS X 10.5 and older.
- Fixed application icon on Mac OS X 10.5 and older.

## 44.7 2.1.1 “:More sheep:” (2020-01-31)

General:

- Fixed crash when switching certain languages in GUI.
- Fixed ESC erroneously saving the changes in the options dialog.
- Improvements in FM-TOWNS/PC-98 audio.
- Improved Greek language support in the GUI.

Networking:

- Improved error handling.
- Only download saves when necessary.

Bladerunner:

- Fixed buggy savestate in some scenes.
- Added engine checkbox to target 120fps.
- Fixed thumbnail portability.
- Use virtual keyboard on save screen on relevant platforms.

Kyra:

- Fixed EOB1-Amiga ending sequence (which would play only if you achieved all bonus quests).
- Fixed monster random item drop chance in EOB1.
- Added handling for the secret potion in the Legend of Kyrandia 2.
- Fixed sound issues in the Legend of Kyrandia 2.
- Fixed graphics glitches in Legend of Kyrandia 1 and 3, EOB1 and EOB2-FM-TOWNS.

Mohawk:

- Persist changes in game options across sessions.

Queen:

- Fixed regression with the display of the bellboy dialogue.

SCI:

- Numerous game script fixes in CAMELOT, ECO2, GK1, GK2, KQ7, PHANT1, PQ1VGA, QFG3, QFG4, SQ5 and SQ6.
- Implement horizontal and FM-TOWNS type screen shake.
- Added support for Phantasmagoria 1 censored mode.
- Added support for Polish LSL7.
- Added support for Italian GK2.
- Added support for Portuguese GK2.

- Added support for Russian KQ7.
- Added support for Russian SQ1VGA.
- Added support for GK2 fan-made subtitle patches.

SCUMM:

- Added support for Pajama2 (UK release).

Supernova:

- Hooked F5 to the Main Menu.

Toltecs:

- Added Czech version support.
- Fixed exiting from game menus when returning to the launcher.

Wintermute:

- Added several missing game variants and demos to the detection tables.
- Fixed regression with stack handling.
- Fixed the behavior of edit boxes.
- Improved support for Chinese language game variants.

Xeen:

- Fixed display of gold and gem amounts on the Switch.
- Fixed tavern exit locations in Swords of Xeen.
- Fixed crash loading Deep Mine Alpha in World of Xeen CD.

GUI:

- MIDI setting tabs are no longer shown if a game has no music at all.

All ports:

- Fixed screen filling in non-paletted screen modes.

3DS port:

- Major improvements.

AmigaOS4 port:

- Minor tweaks (stack cookie, build automation).

Android port:

- Improved filesystem navigation.
- Proper handling of HiDPI displays.
- Improved keyboard support.

iOS port:

- The home indicator is now automatically hidden on iPhone X and later models.

MacOS X port:

- Follow the OS dark theme for window decorations.

RISC OS port:

- Fixed crash when accessing an unavailable drive.
- Reduced the required DigitalRenderer version.

Switch port:

- Added cloud integration.

OpenPandora port:

- Minor improvements.

Windows:

- Added Text-to-Speech support.
- Fix screenshots with Unicode paths.

## 44.8 2.1.0 “Electric Sheep” (2019-10-11)

New games:

- Added support for Blade Runner.
- Added support for Duckman: The Graphic Adventures of a Private Dick.
- Added support for Hoyle Bridge.
- Added support for Hoyle Children’s Collection.
- Added support for Hoyle Classic Games.
- Added support for Hoyle Solitaire.
- Added support for Hyperspace Delivery Boy!
- Added support for Might and Magic IV - Clouds of Xeen.
- Added support for Might and Magic V - Darkside of Xeen.
- Added support for Might and Magic - World of Xeen.
- Added support for Might and Magic - World of Xeen 2 CD Talkie.
- Added support for Might and Magic - Swords of Xeen.
- Added support for Mission Supernova Part 1.
- Added support for Mission Supernova Part 2.
- Added support for Quest for Glory: Shadows of Darkness.

- Added support for The Prince and the Coward.
- Added support for Versailles 1685.

New ports:

- Added Nintendo Switch port.

General:

- Improved GUI rendering and overall GUI performance.
- Added stretch mode option to control how the display is stretched to the window or screen area.
- Fixed incorrect cursor movement when it's controlled using the keyboard.
- Updated the Roland MT-32 emulation code to Munt 2.3.0.
- Improved unknown game variants reporting.
- Enabled cloud support.
- Added Text to Speech capabilities for better accessibility on some platforms.

ADL:

- Improved color accuracy.
- Added a TV emulation mode.
- Added support for the WOZ disk image format.

Dracula:

- Fixed loading game from launcher when the game had been saved in chapter 1.

Full Pipe:

- Fixed playtime not being restored when loading a savegame.
- Fixed a bug that leads to enormous memory consumption in scene 22.

Kyra:

- Added support for the Amiga version of Eye of the Beholder I + II.
- Added support for the FM-Towns version of Eye of the Beholder II.
- Several bug fixes.

MOHAWK:

- Added a main menu for the 25th anniversary release of Myst ME.
- Repurposed the landing menu as a main menu for the 25th anniversary release of Riven.
- Added autosave to slot 0 to Myst and Riven.
- Added keyboard shortcuts for loading and saving as documented in the game manual to Myst and Riven.
- Fixed a crash caused by the observatory viewer random position going out of bounds in Myst.

- Fixed a crash caused by Jungle Island flies going out of bounds in Riven.
- Fixed missing end credits for the Polish version in Riven.
- Improved usability for some puzzles in Myst and Riven.
- Fixed various crashes, graphics glitches, and sound imperfections in Myst and Riven.

Mortevielle:

- Added speech synthesis on some platforms.

SCI:

- Added LarryScale, a high quality cartoon scaler for Leisure Suit Larry 7.
- Fixed over 100 original game script bugs in CAMELOT, ECO1, ECO2, FREDDYPHARKAS, GK1, HOYLE5, ICEMAN, KQ6, LB1, LB2, LONGBOW, LSL6, MOTHERGOOSE256, PQ3, PQ4, QFG1VGA, QFG4, and SQ4.
- Fixed a bug in version 2.0.0 that prevented the Macintosh versions of Freddy Pharkas, King's Quest 6, and Quest for Glory 1 (VGA) from loading.
- Fixed a crash in the Macintosh version of Freddy Pharkas when picking up the shovel which makes the game completable.
- Fixed loading autosave games.

SCUMM:

- Implemented lipsync for v6 and v7+ games.
- Improved Audio quality in Humongous Entertainment games by using the Miles AdLib driver.
- Fixed possible stack overflows in The Dig and Full Throttle.
- Fixed original speech glitch on submarine in Indiana Jones and the Fate of Atlantis. Users need to recompress their monster.sou using an up-to-date version of scummvm-tools for this to take effect when using compressed audio.
- Fixed an issue in the wig maker room in the German version of SPY Fox 3: Operation Ozone which makes the game completable.
- Added sound driver for the Amiga versions of Monkey Island 2 and Indiana Jones and the Fate of Atlantis.

Sherlock:

- Fixed crash in Spanish version talking to lady in Tailor shop.

SKY:

- Added workaround for original game bug to improve intro and not cut off images which exist as fullscreen (320x200px) in the game data files.

Tinsel:

- Fix loading Discworld 1 savegames from the launcher where Rincewind had a held item.
- Script patch for hang in Discworld 1 GRA using items on Temple big hammer.

- In Discworld 1, Held items being released that were never in the Luggage or Rincewind's inventory will now be automatically dropped into the Luggage rather than being lost.

Titanic:

- Fixed bug in entering floor numbers numerically that could crash the game.
- Fixed parser not getting properly reset across sentences in a conversation.
- Fixed endless busy cursor on Titania closeup when brain slots are incorrectly inserted.
- Fixed loading saves in front of Barbot could cause him to go into an infinite animation loop.
- Fixed crash asking Parrot who sabotaged the ship.

Tucker:

- Fixed multiple graphic issues in Bud Tucker in Double Trouble.
- Fixed multiple issues with font and subtitle rendering.
- Fixed dentist music in mall being played incorrectly.
- Fixed wrong sound effects being played.
- Fixed a bug that made the bubbles in the Plugs Shop not always visible.
- Fixed a missing animation when Ego and Billie are on the boat.
- Fixed a bug that caused a dead end in the second museum scene.
- Bud is no longer able to walk outside the walkable area when visiting the club.
- Bud is also no longer able to walk through closed doors.
- Added mouse wheel support for inventory scrolling.
- Allow skipping of speech.
- Improved savegame handling and added support for autosaves.

ZVISION:

- Fixed graphical glitch in Zork: Grand Inquisitor.
- Packaged the required fonts with ScummVM.
- Enabled hires movies in the DVD version of Zork: Grand Inquisitor (requires libmpeg2 and libac52).

Android port:

- Rewrote to make use of the OpenGL Graphics Manager.
- Added a button to show the virtual keyboard.
- Implemented clipboard support.
- Use the dedicated GUI option for enabling the touchpad mode.
- Added code for searching accessible external media.

iOS port:

- Added support for Smart Keyboard.
- Added three-fingers swipe gestures to simulate arrow keys.
- Added pinch in and out gestures to show and hide the keyboard.
- Added scrollable accessory bar above the keyboard with keys not present on the keyboard.

macOS port:

- Added option to use the ScummVM file browser instead of the system file browser.
- Added access to documentation from the Help menu.

PS Vita port:

- Implemented front touch and optional rear touch controls.

PSP port:

- Implemented aspect ratio correction.
- Improved smoothness of mouse pointer motion.
- Added mouse pointer speed and analog nub deadzone settings.

SDL ports (including Windows, Linux, macOS):

- Added support for game controllers.
- Added support for adding games via Drag and Drop.

Windows port:

- Added option to use the system file browser instead of the ScummVM file browser.

RISC OS port:

- Added a StrongHelp manual.
- Added error reporting using !Reporter.

## 44.9 2.0.0 (2017-12-17)

New Games:

- Added support for Full Pipe.
- Added support for Hi-Res Adventure #3: Cranston Manor.
- Added support for Hi-Res Adventure #4: Ulysses and the Golden Fleece.
- Added support for Hi-Res Adventure #5: Time Zone.
- Added support for Hi-Res Adventure #6: The Dark Crystal.
- Added support for Riven.

- Added support for Starship Titanic English & German.

New Games (Sierra SCI2 - SCI3):

- Added support for Gabriel Knight.
- Added support for Gabriel Knight 2.
- Added support for King's Quest VII.
- Added support for King's Questions.
- Added support for Leisure Suit Larry 6 (hires).
- Added support for Leisure Suit Larry 7.
- Added support for Lighthouse.
- Added support for Mixed-Up Mother Goose Deluxe.
- Added support for Phantasmagoria.
- Added support for Phantasmagoria 2.
- Added support for Police Quest 4.
- Added support for RAMA.
- Added support for Shivers.
- Added support for Space Quest 6.
- Added support for Torin's Passage.

New ports:

- Added PSP Vita port.
- Added RISC OS port.

General:

- Added bilinear filtering option for SDL2 fullscreen mode.
- Fixed a bug that caused a crash in the options dialog of the GUI.
- Added a command-line option to automatically scan for supported games in the current or a specified directory.
- Added possibility to apply changes in the options dialog without closing the dialog.
- Added support for on-the-fly GUI language switching.
- Updated Munt MT-32 emulation code to version 2.0.3.
- Improved handling of joysticks.
- Improved audio latency.
- Improved management of the ScummVM window in games that switch display modes.
- Fixed list view drawing over text above it (for example in the save dialog).

- Changed location where screenshot are saved. This fixes issues when scummvm is installed in a read-only directory. Also added setting to allow changing this location.
- Changed screenshot format to png.
- Fixed multithreading issue that could cause a crash in games using MP3 audio.

#### ADL:

- Fixed application freeze when reading sign in rocket in Mission Asteroid.

#### AGI:

- Fixed game script blocking forever after loading a savegame that was saved while music was playing (this could happen for example in Police Quest 1 poker back room).
- Fixed cursor behaviour in Manhunter.
- Fixed nightclub arcade sequence speed for Manhunter Apple Iigs version.
- Reduced fastest game speed to a maximum of 40 FPS to ensure the games do not run too fast.

#### AGOS:

- Fixed subtitle speed setting in the Hebrew version of Simon the Sorcerer 1.

#### Composer:

- Added save/load from General Main Menu.
- Fixed the detection for the French Gregory.
- Added detection for German Baba Yaga.

#### Cruise:

- Fixed font rendering.

#### Dracula:

- Fixed bug that made it impossible to talk to the drunkard more than once in the inn.
- Added handling of the master volume and fix volume synchronization between the game and ScummVM options.
- Added possibility to load and save games using GMM.

#### Dreamweb:

- Fixed crash when collecting last stones under church.
- Fixed detection of Italian CD release.

#### Kyra:

- Fixed a buffer overflow in Lands of Lore.
- Fixed crash due to missing palette data for Legend of Kyrandia floppy version.

#### MADE:

- Fixed badly distorted sound (bug #9753).

#### MADS:

- Fixed a bug that caused a crash after starting Rex Nebular and the Cosmic Gender Bender.
- Fix rare crash that can happen when Rex is first locked up

#### MOHAWK:

- Added patch to the original data files to correct the vault access instructions in Myst ME.
- Fixed situations where Myst could appear to be unresponsive.
- Reworked sound handling in Myst to be more accurate.
- Fixed crash in Myst piano puzzle.

#### Neverhood:

- Fixed crash in musical hut in Russian DR version.
- Fixed late game notes crash in Russian DR version.

#### Pegasus:

- Fixed loading a game from the launcher after returning to the launcher.
- Ignored events occurring while the GUI is visible. This for example fixed an issue where closing the GMM using Escape would also opens the game's own menu.
- Fixed several crashes when toggling the shared screen space.
- Improved performances when fading screen.

#### SAGA:

- Fixed crash when using the give verb on an actor in IHNM.
- Fixed Gorrister invisible and stuck when reloading at mooring ring in IHNM.
- Fixed the conversation panel background color in IHNM.
- Added support French Fan Translation of Inherit the Earth.

#### SCI:

- Fixed a script bug in Laura Bow 2: Dagger of Amon Ra that made it impossible to exit the party room with the large golden head inside the museum (room 350). This bug is also present, when using the original interpreter.
- Improved startup speed when using the MT-32 emulator.
- Improved handling of MT-32 reverb in SCIO games.
- Improved selection of synthesized sound effects in SCIO games.
- Improved selection of digital audio in SQ4.
- Improved resource bounds checking.
- Improved error handling of corrupt MIDI data.

- Fixed slow leak of small amounts of data into save games over time.
- Fixed broken day/night cycle in QFG3.
- Fixed a script bug in Police Quest 3 to now grant 10 points when giving the locket to Marie. Now it's possible to beat the game with a perfect score. This bug is also present when using the original interpreter.
- Fixed various other script bugs.
- Improved audio volume and settings synchronization.

#### SCUMM:

- Fixed crash in amiga games.
- Fixed two soundtracks playing at once in Monkey Island 2.
- Fixed Caponians dont disguise after using blue crystal in Zak McKracken.
- Fixed Dr. Fred facing wrong way in lab cutscene in Maniac Mansion.
- Fixed actors being drawn one line too high in V0 and V1 games.
- Fixed Purple Tentacle appears in Lab Entry after being chased out in maniac Mansion.
- Fixed power not turning back on in Maniac Mansion when entering the lab while Dr. Fred has the power off.
- Fixed actors skipping between certain walk-boxes in Maniac Mansion.

#### Sherlock:

- Fixed detection for Italian fan translation of Serrated Scalpel.

#### Sky:

- Fixed collision detection.

#### Sword1:

- Added thumbnail when saving from in-game dialog.
- Fixed audio and subtitles settings being changed when open the load/save in-game dialog.

#### Tinsel:

- Fixed some Discworld 2 text/voice not displaying & playing all the way through.
- Fix crash in in-game save menu when all slots are used with long names

#### TsAGE:

- Fixed regression preventing animations in Return to Ringworld from playing.
- Fixed display issues in Return to Ringworld Demo.
- Fixed loading Return to Ringworld savegames with unreferenced dynamic objects.
- Fixed deadlock in audio code.

- Fixed crash on Return to Launcher.

Voyeur:

- Fixed backgrounds not showing for static rooms.
- Fixed playback of audio events on VCR.
- Fixed exiting game from the VCR screen.
- Added workaround for original game bug using invalid hotspot Ids

macOS port:

- Added support for selecting any connected MIDI devices instead of automatically using the first one.
- Improved behaviour of the file browser.

## 44.10 1.9.0 “Myst-ery U.F.O.s release” (2016-10-17)

New Games:

- Added support for Myst.
- Added support for Myst: Masterpiece Edition.
- Added support for U.F.O.s.
- Added support for Hi-Res Adventure #0: Mission Asteroid.
- Added support for Hi-Res Adventure #1: Mystery House.
- Added support for Hi-Res Adventure #2: The Wizard and the Princess.

General:

- Fixed audio corruption in the MS ADPCM decoder.
- Fixed audio pitch in the CMS/GameBlaster emulation.
- Switched SDL backend to SDL2 by default. SDL1 is still a fallback.

AGI:

- Added support for Hercules rendering. Both green and amber modes are supported.
- Added support for the Hercules high resolution font. The font is also usable outside of Hercules rendering.
- Added optional “pause, when entering commands” feature, that was only available in the original interpreter for Hercules rendering.

Beneath a Steel Sky:

- Fixed a bug that could possibly make the game unfinishable due to a wrong animation for Officer Blunt that makes further interaction with this character impossible.

Gob:

- Fixed graphical issues in Gobliiins (EGA version).

Kyra:

- Updated Italian EOB1 translation.
- Fixed a bug that caused a crash in Lands of Lore.

SCI:

- Fixed a missing dialog line in QfG3 which awards the player with 3 additional points. This is a bug in the original game interpreter. Due to this bug, it was not possible to get all points in the original game.
- Fixed a bug in Space Quest 1 that caused issues with the spider droid.
- Fixed a bug in Laura Bow: The Colonel's Bequest that could cause a lock-up when interacting with the armor in room 37 (main house, downstairs). This bug is also present in the original game.
- Fixed auto-saving in the fan-made Cascade Quest.
- Fixed a game bug in the Conquests of Longbow scripts that could cause crashes in Sherwood Forest.
- Added support for the ImagiNation Network (INN) demo.

SCUMM:

- Fixed missing translations in the in-game quit and restart dialogs in Pajama Sam 1.
- Fixed visual glitches in DOTT that occurred after loading a savegame with the stereo in Green Tentacle's room turned on.
- Improved timing and pathfinding in Maniac Mansion (C64 and Apple II versions).
- Added support for the Dutch demo of Let's Explore the Airport with Buzzy.

Sherlock:

- Fixed a bug that could cause a crash in The Case of the Serrated Scalpel.
- Fixed an issue with item hotspots in The Case of the Serrated Scalpel.
- Fixed a bug that caused game lockups in the inventory of The Case of the Rose Tattoo.

Amiga port:

- Added support for AmiUpdate autoupdates.

Linux port:

- Added basic support for the snap packaging system.

Windows port:

- Fixed taskbar support on Windows 10 onwards.
- Fixed keymapping for non-QWERTY keyboards.
- Added support for WinSparkle updater.

## 44.11 1.8.1 “Where Is Your Android?” (2016-05-25)

New ports:

- Added Nintendo 3DS port.
- Added Android SDL port.

General:

- Removed TESTING flag from several supported games.
- Added Chinese Pinyin translation.
- Fixed cursor stuttering in the launcher that occurred on some systems.

BBVS:

- Fixed game restart.

CinE:

- Fixed sound effect loading.

Dracula:

- Fixed text alignment to be faithful to the original.
- Fixed character walking off screen.
- Fixed loading savegames in the Pendulum scene.
- Fixed wrong background for inventory items during chapter 6 in the Spanish version.
- Fixed animations speed (they were running two times slower than in the original engine).
- Fixed noise at start and/or end of speech. This was most noticeable with the Spanish speech.
- Fixed delay when interacting with the verb menu and the inventory.
- Fixed possibility to pick up the axe in the castle multiple times.

Gob:

- Fixed lock up for some games during sound initialization.

KYRA:

- Fixed potential crash when using swamp snake potion on the rat in Hand of Fate. (NOTE: This fix was included in version 1.8.0, but it was not added to the NEWS file).
- Fixed missing voice reactions when hitting enemies in CD version of Lands of Lore.

Lab:

- Fixed lock-up during ending sequence.
- Improved internal game controls.
- Fixed lock-up during some in-game animations.

SAGA:

- Fixed user interface colors in the French and German versions of I Have No Mouth and I Must Scream.

SCI:

- Make cursor workarounds work properly on OpenPandora (and other devices, that support touch screen and analog sticks/mouse at the same time).
- Script patch to fix broken ending battle in multilingual King's Quest 5 (French, German + Spanish versions are all broken).
- Fixed invalid memory access, when loading broken King's Quest 5 credit music track.
- Fixed lowres/hires issues in King's Quest 6 when saving, changing the lowres/hires setting and restoring the saved game afterwards.

SCUMM:

- Fixed detection of Maniac Mansion from Day of the Tentacle in the Windows version of ScummVM.
- Fixed a sound effect not stopping in Loom EGA with AdLib.

Broken Sword 2.5:

- Added option to use English speech instead of German one when no speech is available for the selected language.
- Fixed resource releasing on game exit.
- Fixed game restart after language change in-game.
- Fixed flickering in main Menu.
- Fixed long save time on Windows.

Windows port:

- Fixed bug in MIDI device listing affecting cases where MIDI devices were not usable.

Mac OS X port:

- Dock menu for ScummVM now lists recently played games when ScummVM is not running and allows starting those games.
- Enabled Sparkle application updater.

GCW0 port:

- Improved support for built-in ScummVM documentation.

## 44.12 1.8.0 “Lost with Sherlock” (2016-03-04)

### New Games:

- Added support for Rex Nebular and the Cosmic Gender Bender.
- Added support for Sfinx.
- Added support for Zork Nemesis: The Forbidden Lands.
- Added support for Zork: Grand Inquisitor.
- Added support for The Lost Files of Sherlock Holmes: The Case of the Serrated Scalpel.
- Added support for The Lost Files of Sherlock Holmes: The Case of the Rose Tattoo.
- Added support for Beavis and Butthead in Virtual Stupidity.
- Added support for Amazon: Guardians of Eden.
- Added support for Broken Sword 2.5: The Return of the Templars.
- Added support for The Labyrinth of Time.

### New Ports:

- Added Raspberry Pi port.
- Added GCW0 port.

### General:

- Updated Munt MT-32 emulation code to version 1.5.0.

### SDL:

- Alt-x no longer quits ScummVM. Use Cmd-q/Ctrl-q/Ctrl-z instead; see README.
- On POSIX systems we now follow the XDG Base Directory Specification for placement of files for users. This effectively results in new locations for our configuration file, our log file, and our default savegame path. We still support our previous locations. As long as they are present, we continue to use them. Please refer to the README for the new locations. File locations on Mac OS X are not affected by this change.

### 3 Skulls of the Toltecs:

- Improved AdLib music support.

### AGI:

- It is now possible to disable mouse support (except for Amiga versions and fanmade games, that require a mouse).
- Fixed PCjr sound volumes.
- Major rewrite of graphics subsystem.
- Support for Apple IIgs, Amiga + Atari ST transitions, fonts and mouse cursors. The Atari ST 8x8 system font is not included with ScummVM.

- Added ability to make for example a PC version look like an Apple IIgs version. This includes palette, cursor, transition and even font. Just set corresponding render mode.
- Fixed Apple IIgs game versions running too fast.
- Added support for automatic saving/restoring used by Mixed Up Mother Goose.
- Removed forced two second delay on room changes; replaced with heuristic.
- Fixed certain key bindings breaking after saving/reloading.

#### AGOS:

- Fixed arpeggio effect used in music of Amiga version of Elvira 1.
- Fixed loading and saving progress in the PC version of Waxworks.
- Fixed verb area been removed in Amiga versions of Simon the Sorcerer 1.
- Added Accolade AdLib & MT-32 music drivers for the games: Elvira 1, Elvira 2, Waxworks and Simon the Sorcerer 1 demo.
- Added Simon the Sorcerer 1 AdLib output. This vastly improves the AdLib output and makes it closer to the original.

#### Broken Sword 1:

- Fixed Macintosh version speech when running on big endian systems.
- Fixed loading from Main Menu in bull's head scene, and maybe other scenes.

#### CinE:

- Added support for music in CD version of Future Wars.

#### MADE:

- Improved AdLib music support in Return to Zork.

#### SAGA:

- Improved AdLib music support.

#### SCI:

- Handling of music priority has been greatly improved.
- A lot of fixes for original game script bugs that also occurred when using the original interpreter. This affects the following games: KQ6 (Dual Mode), LSL5, PQ1, QfG1 (EGA), QfG1 (VGA), QfG2, QfG3, SQ1, SQ4 (CD).
- Restoring from the ScummVM in-game menu should now work all the time.
- Improved support for Japanese PC-9801 games.
- Default to hi res version of KQ6, changeable using engine option.

#### SCUMM:

- Major improvements to Korean versions text rendering.
- Implemented original Maniac Mansion v0-v1 walking code.

- It is now possible to play Maniac Mansion from within Day of the Tentacle, with a few caveats. See README for details.
- Alt-x can now be used to quit SCUMM games on all platforms.
- Improved lip sync animation in later HE games.

Tinsel:

- Improved AdLib music support in Discworld 1.

## 44.13 1.7.0 “The Neverrelease” (2014-07-21)

New Games:

- Added support for Chivalry is Not Dead.
- Added support for Return to Ringworld.
- Added support for The Neverhood.
- Added support for Mortville Manor.
- Added support for Voyeur.

General:

- Updated Munt MT-32 emulation code to version 1.3.0.
- Switched from our custom JPEG and PNG decoders to libjpeg(-turbo) and libpng, which are faster and can handle more images. (NOTE: The change to libpng was done in version 1.6.0, but it was not added to the NEWS file).
- Added generic OpenGL (ES) output (based on GSoC Task).
- The GUI can now be rendered in 32-bits.
- The build system has been changed to be more modular and easier to add new engines.

SDL:

- Added OpenGL graphics mode based on our generic OpenGL output. This allows for arbitrary output sizes. However, it does not support special filters like AdvMAME, HQ, etc.

AGOS:

- Added mouse wheel support for inventory and save game lists.
- Enabled verb name display in Simon the Sorcerer 2.
- Fixed the Feeble Files loyalty rating in the English 4CD version. (This was apparently a bug in the original game. It is currently unknown if other versions still have the same problem.)

Broken Sword 1:

- Added back support for MPEG-2 videos.

Broken Sword 2:

- Added back support for MPEG-2 videos.

CGE:

- Added an option to enable “Color Blind Mode” to the ScummVM GUI.

Gob:

- Improved video quality in Urban Runner.

Hopkins:

- Added an option to toggle “Gore Mode” from the ScummVM GUI.

- Fixed bug that could cause the music to stop prematurely.

Pegasus:

- Fixed several rare crashes and glitches.
- Fixed multiple bugs carried over from the original binary.

SCI:

- Added support for the more detailed RAVE lip syncing data in the Windows version of King’s Quest 6. Portraits should now be much more expressive when talking.
- Added support for simultaneous speech and subtitles in the CD versions of Laura Bow 2 and King’s Quest 6 (toggled either in-game with the new “Dual” audio state, or via the ScummVM audio options).
- Fixed music fading.
- Fixed several script bugs in Camelot, Crazy Nick’s, Hoyle 3, QFG1VGA, KQ5, KQ6, LB2, LSL2, LSL5, Pharkas, PQ1VGA, SQ4, SQ5.
- Improved the MIDI parser so that music event processing is done more properly.

SCUMM:

- Changed the saved game naming scheme of HE games to always contain the target name.
- Fixed having multiple coaches in Backyard Football.
- Improved AdLib support for Loom and Indiana Jones and the Last Crusade. This makes sound effects like, for example, the typewriter and waterfall in Indiana Jones and the Last Crusade sound like in the original.
- Added support for the Steam versions of Indiana Jones and the Last Crusade, Indiana Jones and the Fate of Atlantis, Loom and The Dig. Both the Windows and the Macintosh versions are supported.

TONY:

- Savegames in Tony Tough now work on big-endian systems.

Tinsel:

- Discworld 1 and 2 no longer crash on big-endian systems.

Android port:

- Added experimental support for the OUYA console.

PS2 port:

- Added configurable TV modes: NTSC and PAL.
- Added configurable graphics modes: SDTV progressive, SDTV interlaced, EDTV progressive and VESA.
- Added a configuration option for the HDD partition used.
- Added a configuration option for the IP address used.
- Added a configuration option to toggle USB mass storage.

Tizen port:

- The BADA port has been merged/updated into Tizen.

## 44.14 1.6.0 “+4 to engines” (2013-05-31)

New Games:

- Added support for 3 Skulls of the Toltecs.
- Added support for Eye of the Beholder.
- Added support for Eye of the Beholder II: The Legend of Darkmoon.
- Added support for Hopkins FBI.
- Added support for Tony Tough and the Night of Roasted Moths.
- Added support for The Journeyman Project: Pegasus Prime.
- Added support for the Macintosh version of Discworld 1.

General:

- Added a new save/load chooser based on a grid of thumbnails. This is only supported for resolutions bigger than 640x400. The old chooser is still available and used for games without thumbnail support. It is possible to select the old one as default too.
- Rewrote VideoDecoder subsystem.
- Added Galician translation.
- Added Finnish translation.
- Added Belarusian translation.
- Using the mouse wheel on a slider widget now changes the value by the smallest possible amount. This is more predictable than the old behaviour, which was to change the value by “one pixel” which would sometimes not change it at all.
- Updated MT-32 emulation code to latest munt project snapshot.
- Added FluidSynth settings dialog, mainly for reverb and chorus settings.

- Fixed crash on certain Smacker movies.

Cine:

- Improved audio support for Amiga and AtariST versions of Future Wars. Now music fades out slowly instead of stopping immediately. Sound effects are now properly panned, when requested by the game.

CGE:

- Soltys contains a puzzle requiring the ALT key to be pressed while clicking on an object. This puzzle has been disabled on devices not using this key.

Dracula:

- Resolved multiple UI issues with the original save/load screen.
- Added advanced savegame functionality, including savegame timestamps and thumbnails and the ability to load and delete savegames from the launcher. It's now possible to use the ScummVM save/load dialogs.
- The F7 key (previously unmapped) now always shows the ScummVM load screen. The F10 key displays either the original save/load screen, or the ScummVM save screen, if the user has selected to use the ScummVM save/load dialogs.

Dreamweb:

- Now that the game is freeware, there is a small extra help text showing the available commands in the in-game terminals when the player uses the 'help' command. Previously, players needed to consult the manual for the available commands. Since this reference to the manual is a form of copy protection, this extra line can be toggled by the ScummVM copy protection command line option.

Groovie:

- Simplified the movie speed options, and added a custom option for The 7th Guest. Movie options are now "normal" and "fast", with the latter changing the movie speed in T7G to match the faster movie speed of the iOS version. The game entry might need to be readded in the launcher for the new setting to appear.

SAGA:

- Added music support for the Macintosh version of I Have No Mouth and, I Must Scream.

SCUMM:

- Implemented Monkey Island 2 Macintosh's audio driver. Now we properly support its sample based audio output. The same output is also used for the m68k Macintosh version of Indiana Jones and the Fate of Atlantis.
- Improved music support for the Macintosh version of Monkey Island 1. It now uses the original instruments, rather than approximating them with General MIDI instruments, and should sound a lot closer to the original.
- Added sound and music support for the Macintosh version of Loom.
- Handle double-clicking in the Macintosh version of Loom.

- Major bugfixes in INSANE (the Full Throttle bike fights).

TOUCHE:

- Added support for Enhanced Music by James Woodcock (<http://www.jameswoodcock.co.uk/category/scummvm-music-enhancement-project/>).

## 44.15 1.5.0 “Picnic Basket” (2012-07-27)

New Games:

- Added support for Backyard Baseball 2003.
- Added support for Blue Force.
- Added support for Darby the Dragon.
- Added support for Dreamweb.
- Added support for Geisha.
- Added support for Gregory and the Hot Air Balloon.
- Added support for Magic Tales: Liam Finds a Story.
- Added support for Once Upon A Time: Little Red Riding Hood.
- Added support for Sleeping Cub’s Test of Courage.
- Added support for Soltys.
- Added support for The Princess and the Crab.

General:

- Updated MT-32 emulation code to latest munt project snapshot. The emulation improved dramatically.
- Implemented support for TrueType fonts via FreeType2 in our GUI. Along with it GNU Free-Font was also added to our modern theme. Note that not all ports take advantage of this.
- Added Basque translation.
- Added custom game and engine options in the AGI, DREAMWEB, KYRA, QUEEN, SKY and SCI engines. It is now possible to toggle these options via the Engine tab when adding or editing a configuration for a game. In most cases, you will have to run each game once or readd them all in ScummVM’s launcher in order to get the custom options tab.
- Improved predictive dialog look.
- Various GUI improvements.

Broken Sword 1:

- Fixed incorrect sound effects in the DOS/Windows demo.
- Added support for PlayStation videos.

- Fixed missing subtitles in the demo.

Broken Sword 2:

- Added support for PlayStation videos.

Cine:

- Implemented Roland MT-32 output driver.

Dracula:

- Added Spanish subtitles in the Von Braun cutscene (#5372: no subtitles in scene with “von Braun”).

Gob:

- Fixed a crash in Lost in Time.
- Rewrote the AdLib player. Enabled the now working MDY player in Fascination and Geisha.

SCUMM:

- Added support for the Macintosh version of SPY Fox in Hold the Mustard.
- Added a difficulty selection dialog for Loom FM-TOWNS.
- Fixed graphical glitches in HE98 version of Pajama Sam’s Lost & Found.

iPhone port:

- Changed “F5 (menu)” gesture to open up the global main menu instead.
- Added support for custom cursor palettes, this makes the modern theme use the red pointer cursor for example.
- Added aspect ratio correction feature.
- Implemented 16 bits per pixel support for games.

Maemo port:

- Added support for Nokia 770 running OS2008 HE.
- Added configurable keymap.

Windows port:

- Changed default savegames location for Windows NT4/2000/XP/Vista/7. (The migration batch file can be used to copy savegames from the old default location, to the new default location).

## 44.16 1.4.1 “Subwoofer Release” (2012-01-27)

AGOS:

- Fixed loading videos directly from InstallShield cabinets in the Windows version of the The Feeble Files.

BASS:

- Added support for Enhanced Music by James Woodcock (<http://www.jameswoodcock.co.uk/?p=7695>).

Broken Sword 2:

- Slight graphics improvement for PSX version.

KYRA:

- Fixed bug in the original Lands of Lore GUI which made ScummVM error out in the case the user did not have a contiguous save slot usage.
- Add support for original DOS Lands of Lore save files (also applies to save files made with the GOG release).

SCI:

- Fixed race condition in SCI1.1 palette changes. This fixes an error in QFG1VGA, when sleeping at Erana’s place.
- The option to toggle sound effect types between digitized and synthesized has been disabled until a more user-friendly GUI option is possible. Digital sound effects are always preferred for now.
- Fixed a case where starting a new song didn’t fully reset its channels, thus some notes sounded wrong.

## 44.17 1.4.0 “10th Anniversary” (2011-11-11)

New Games:

- Added support for Lands of Lore: The Throne of Chaos.
- Added support for Blue’s Birthday Adventure.
- Added support for Ringworld: Revenge Of The Patriarch.
- Added support for the Amiga version of Conquests of the Longbow.

New Ports:

- Added PlayStation 3 port.

General:

- Fixed the ARM assembly routine for reverse stereo audio.

- Added support for building with MacPorts out of the box.

AGI:

- Implemented sound support for the DOS version of Winnie the Pooh in the Hundred Acre Wood.

AGOS:

- Implemented support for loading data directly from InstallShield cabinets in The Feeble Files and Simon the Sorcerer's Puzzle Pack.
- Fixed loading and saving in the PC version of Waxworks.
- Fixed music in the PC versions of Elvira 1/2 and Waxworks.

Groovie:

- Added support for the iOS version of The 7th Guest.

Lure:

- Fixed crash when trying to talk and ask something at the same time.

SCI:

- Added better handling of digital vs. synthesized sound effects. If the "Mixed AdLib / MIDI mode" checkbox is checked, the engine will prefer digital sound effects, otherwise their synthesized counterparts will be preferred instead, if both versions of the same effect exist.

SCUMM:

- Implemented PC Speaker support for SCUMM v5 games.
- Fixed priority bug in iMuse. As a result the AdLib music should sound better, since important notes are not interrupted anymore.
- Implemented CMS support for Loom, The Secret of Monkey Island and Indiana Jones and the Last Crusade.
- Improved palette handling for the Amiga version of Indiana Jones and the Fate of Atlantis.

Broken Sword 1:

- Fix freeze in Windows demo.
- Fix crash when using cutscene subtitles pack with the Macintosh version.

Tinsel:

- Fixed deleting saved games from the list of saved games (from the launcher and the in-game ScummVM menu).
- The US version of Discworld II now shows the correct title screen and language flag.

Android port:

- Fixed plugins on Android 3.x.
- Moved the default saved game location to the SD card.

## 44.18 1.3.1 “All Your Pitches” (2011-07-12)

General:

- Improved audio device detection and fallback. There should be no more silent errors due to invalid audio devices. Instead ScummVM should pick up a suitable alternative device.

Mohawk:

- Added detection entries for more variants of some Living Books games.

Tinsel:

- Fixed a regression that made Discworld uncompletable.

SAGA:

- Fixed a regression in Inherit the Earth’s dragon walk code which was causing crashes there.
- Fixed a regression causing various crashes in I Have No Mouth and I Must Scream.

SCI:

- Added detection entries for some Macintosh game versions.
- Audio settings are now stored correctly for the CD version of EcoQuest 1.

SCUMM:

- Fixed graphics bug in FM-TOWNS versions of games on ARM devices (Android, iPhone, etc.).

## 44.19 1.3.0 “Runner” (2011-05-28)

New Games:

- Added support for Backyard Baseball.
- Added support for Backyard Baseball 2001.
- Added support for Urban Runner.
- Added support for Playtoons: Bambou le Sauveur de la Jungle.
- Added support for Toonstruck.
- Added support for Living Books v1 and v2 games.
- Added support for Hugo’s House of Horrors, Hugo 2: Whodunit? and Hugo 3: Jungle of Doom.
- Added support for Amiga SCI games (except Conquests of the Longbow).
- Added support for Macintosh SCI1 games.

New Ports:

- Added WebOS port.

General:

- Added support for loadable modules on platforms without a dynamic loader (GSoC Task).
- Added Danish translation.
- Added Norwegian Bokmaal translation.
- Added Norwegian Nynorsk translation.
- Added Swedish translation.
- Added Debug Console to Cine, Draci, Gob, MADE, Sword1, Touche and Tucker Engines.
- Closed significant memory leaks. RTL should now be more usable.

AGOS:

- Closed memory leaks in Simon 2 and Feeble Files.

Cine:

- Corrected memory leaks and invalid memory accesses. Future Wars should be more stable.
- Made Operation Stealth completable, though significant graphical glitches remain so not official supported.

Dracula:

- Added German and French subtitles in the Von Braun cutscene (#5372: no subtitles in scene with “von Braun”).
- Improved French translation of the game.
- Added support for “Return To Launcher”.

Gob:

- Fixed “Goblin Stuck On Reload” bugs affecting Gobliins.

Kyra:

- Closed memory leaks.

Parallaction:

- Corrected issue which could cause crash at engine exit.
- Closed memory leaks in Nippon Safes Amiga.

SCI:

- Added a CMS music driver for SCI1 - SCI1.1 games.
- Added an option to toggle undithering from the ScummVM GUI.
- Added several previously missing parts of the game state in saved games, such as game played time, script created windows, the script string heap and information related to the text parser in old EGA games.

- Added support for SCI1.1 magnifier cursors.
- Added support for the keypad +/- keys.
- Added support for the alternative General MIDI tracks in the Windows CD versions of Eco Quest, Jones in the Fast Lane, King's Quest 5 and Space Quest 4.
- Added support for the alternative Windows cursors in the Windows version of King's Quest 6.
- Added support for simultaneous speech and subtitles in the CD versions of Space Quest 4 and Freddy Pharkas.
- Corrected resource loading leaks.
- Corrected several problems and issues in the Skate-O-Rama rooms in Space Quest 4.
- Corrected several issues in Hoyle Classic Card Games.
- Fixed several graphical glitches (like, for example, parts of the screen that weren't erased correctly under some rare circumstances).
- Fixed several script bugs.
- Fixed several pathfinding related issues and lockups (like, for example, a lockup in the shower scene of Laura bow 1 and pathfinding in some screens during the chase sequence in Laura Bow 2).
- Fixed several music related glitches and possible lockups (like, for example, a rare music lockup that occurred when loading a saved game outside the palace in Quest for Glory 3).
- Fixed possible problems and lockups in the character import screens of Quest for Glory 2 and 3.
- Fixed a bug that caused a lockup in the SCI1 CD version of Mixed Up Mother Goose, after Tommy Tucker's song.
- Fixed a script bug in the CD version of King's Quest 5, which caused a lockup under certain circumstances when going outside the witch's house in the dark forest.
- Function keys now work correctly when the num lock key is on.
- Improved support for fanmade game scripts.
- Improved support for non-English versions of games.
- Made several enhancements and fixes related to MT-32 music (e.g. reverb).
- Music is no longer out of tune when loading saved games.

SCUMM:

- Improved support for FM-TOWNS versions of games.

Sky:

- Fixed crashes on sequences for several ports (Android, OpenGL, ...).

Teenagent:

- Closed memory leaks.

Tinsel:

- Closed memory leaks in Coroutines.
- Added enhanced music support for the German CD “Neon Edition” re-release of Discworld 1.

Touche:

- Corrected memory leaks and minor issues.

Tucker:

- Added workarounds for several issues present in the original game.

SDL ports:

- Closed memory leaks in Mouse Surfaces.

Android port:

- Switched to the official NDK toolchain for building.
- Fixed GFX output for various devices.
- Fixed various crashes.
- Switched to the native screen resolution to improve text readability.
- Added support for pause/resume.
- Added support for games using 16bit graphics.
- Increased the performance significantly.
- Added support for the “Fullscreen mode” option. Unchecking this keeps the game’s aspect ratio.
- Added a new graphics mode for linear filtering.
- Overhauled the input system (see README.Android).
- Added a MIDI driver based on SONiVOX’s Embedded Audio Synthesis (EAS).

Nintendo DS port:

- Added support for loadable modules.

PSP port:

- Added support for loadable modules.
- Added image viewer.

PS2 port:

- Added support for loadable modules.

Wii/GameCube port:

- Added support for loadable modules.

- Fixed 16bit mouse cursors on HE games.

## 44.20 1.2.1 “Bork Bork Bork” (2010-12-19)

General:

- Added Hungarian translation.
- Added Brazilian Portuguese translation.

Cruise:

- Fixed a problem with Raoul appearing when examining the Book.

Groovie:

- Fixed a regression that made the Russian version of T7G crash.

Lure:

- Fixed several NPC movement bugs.

## 44.21 1.2.0 “FaSCInating release” (2010-10-15)

New Games:

- Added support for Fascination.

New Games (Sierra SCI0 - SCI1.1):

- Added support for Castle of Dr. Brain (EGA and VGA).
- Added support for Codename: ICEMAN.
- Added support for Conquests of Camelot.
- Added support for Conquests of the Longbow (EGA and VGA).
- Added support for EcoQuest: The Search for Cetus.
- Added support for EcoQuest 2: Lost Secret of the Rainforest.
- Added support for Freddy Pharkas: Frontier Pharmacist.
- Added support for Hoyle’s Book of Games 1.
- Added support for Hoyle’s Book of Games 2.
- Added support for Hoyle’s Book of Games 3 (EGA and VGA).
- Added support for Hoyle Classic Card Games.
- Added support for Jones in the Fast Lane.
- Added support for King’s Quest I (SCI remake).
- Added support for King’s Quest IV (SCI version).

- Added support for King's Quest V (EGA and VGA).
- Added support for King's Quest VI (low and hi res).
- Added support for Laura Bow: The Colonel's Bequest.
- Added support for Laura Bow 2: The Dagger of Amon Ra.
- Added support for Leisure Suit Larry 1 (SCI remake) (EGA and VGA).
- Added support for Leisure Suit Larry 2.
- Added support for Leisure Suit Larry 3.
- Added support for Leisure Suit Larry 5 (EGA and VGA).
- Added support for Leisure Suit Larry 6 (low res).
- Added support for Mixed-up Fairy Tales.
- Added support for Mixed-up Mother Goose.
- Added support for Pepper's Adventures in Time.
- Added support for Police Quest I (SCI remake).
- Added support for Police Quest II.
- Added support for Police Quest III (EGA and VGA).
- Added support for Quest for Glory I/Hero's Quest.
- Added support for Quest for Glory I VGA remake.
- Added support for Quest for Glory II.
- Added support for Quest for Glory III.
- Added support for Slater & Charlie go camping.
- Added support for Space Quest I (SCI remake) (EGA and VGA).
- Added support for Space Quest III.
- Added support for Space Quest IV (EGA and VGA).
- Added support for Space Quest V.
- Added support for The Island of Dr. Brain.

New Ports:

- Added Android port.
- Added Dingux port.
- Added Caanoo port (based on the GP2XWiz port).
- Added OpenPandora port.

General:

- Removed the outdated PalmOS port.

- Switched to the “fast” DOSBox OPL emulator.
- Fixed a crash in the rjp1 player code affecting the FOTAQ Amiga version.
- Added support for more original media layouts.
- Added support for GUI localization.
- Improved GUI by adding tooltips and radiobuttons.
- Improved GUI usability by hiding more irrelevant options not supported by specific games.

AGI:

- Fixed number of GFX glitches.
- Made PIC drawing code picture perfect.
- Added support of MIDI devices.
- Added support for accurate Tandy sound emulation. Switched to it as default.

Broken Sword 2:

- Fixed missing speech in some cutscenes.
- Fixed a memory leak that would eventually cause the game to hang. (#4828 - BS2: Game lockup in British Museum)

Dracula:

- Fixed number of GFX glitches.
- Made many cutscenes smoother.
- Changed behavior of items menu. Now it shows up on mouse up.

Groovie:

- Added support for the Macintosh version of The 7th Guest.
- Added support for custom MT-32 instruments.

KYRA:

- Fixed some minor graphical glitches.
- Implemented formerly missing recreation of some in game items.
- Added support for playing Kyrandia 3 with the original CD file layout.

LURE:

- Fixed bug where Goewin could get stuck in the Weregat.
- Fixed issue with Ratpouch repeatedly moving between two rooms.
- Fix for Goewin losing her schedule after Were-cave.
- Fix for player getting stuck in sewer exit room.

Parallaxion:

- Made part one of The Big Red Adventure completable.

SAGA:

- Fixed graphics glitches in several scenes.

SCUMM:

- Several improvements in Maniac Mansion NES.

PSP port:

- New backend design: fixed minor graphical issues and enabled 16-bit support.
- Enabled playback of MP3 files using the Media Engine. This means that the port is optimized for MP3 files (as opposed to OGG).
- Many optimizations. Everything should run faster.

Wii port:

- Added support for USB2 mass storage devices (requires The Homebrew Channel = v1.0.8 with IOS58).

GameCube port:

- Added support for DVDs with the ISO9660 file system.

GP2X port:

- Added support for dynamic engine plugins (experimental).
- Reworked control system and better touchscreen support.

GP2XWiz/Caano port:

- Improved downscale code to minimise ‘tearing’ corruption.
- Reworked control system and better touchscreen support.
- Renamed backend from GP2XWIZ to GPH to better reflect the supported devices.

## 44.22 1.1.1 “Better version” (2010-05-02)

New Ports:

- Added Nintendo 64 port. (Actually added in 1.1.0, but forgot to mention it. oops)

General:

- Fixed several minor bugs here and there.

Dracula:

- Fixed regression that caused some texts to always be in English, even when using another language. (#4819 - DRASCULA: missing german translation)

KYRA:

- Fixed a bug which caused the DOS versions to crash before the credits when AdLib music is selected.

LURE:

- Fixed several memory leaks.
- Corrected problems in the handling of followers when blocked from performing actions by closed doors between rooms.
- Solved issues with Goewin not always correctly following the player out of the caves.

Tinsel:

- Fix video playback regression in Discworld 2.

Parallaction:

- Fix several crashes and other regressions in Nippon Safes, including bugs 2969211, 2969232, 2969234, 2969257, 2970141.

Wii/GameCube port: (Also forgot to mention in 1.1.0)

- Added support for games using 16bit graphics.
- Complete GFX overhaul (new video modes, better performance, picture smoothing, fine grained overscan settings).
- Added a new options dialog for Wii/Gamecube specific settings.
- Fixed a GFX glitch on savegame thumbnails.
- Added support for SMB mountpoints (Samba/Windows shares).
- Added an on-screen console, which is shown when ScummVM exits abnormally.
- Fixed a couple of crashes when using Ogg/Vorbis encoded sound files. See the bundled READMII.txt file for more information.

PSP port: (Also forgot to mention in 1.1.0)

- Added plugin support which allows the PSP Phat to run every game.
- Added a new virtual keyboard optimized for rapid D-Pad input.

## 44.23 1.1.0 “Beta quadrant” (2010-04-04)

New Games:

- Added support for Blue’s Art Time Activities.
- Added support for Blue’s Reading Time Activities.
- Added support for Freddi Fish 5: The Case of the Creature of Coral Cove.
- Added support for Pajama Sam: Games to Play on Any Day.
- Added support for SPY Fox 3: Operation Ozone.

- Added support for Dragon History.
- Added support for TeenAgent.

General:

- Added support for a custom SJIS font for FM-TOWNS and PC98 games.
- Added support for 16bit graphics. (GSoC Task)
- Removed QuickTime MIDI backend on Mac OS X; it was buggy and did not compile on modern systems.

CinE:

- Added support for Amiga style menus for Amiga versions of Future Wars.

KYRA:

- Added support for the Amiga version of The Legend of Kyrandia. (sound support was done as a GSoC Task)
- Adapted KYRA to support the custom SJIS font.

SCUMM:

- Added support for the PC-Engine version of Loom.
- Added support for music and sound effects in the the Amiga version of The Secret of Monkey Island. (GSoC Task)
- Fixed some other bugs related to game versions for the Amiga.
- Added support for original save/load dialog in MM NES.
- Added support for savepoint passcodes for Sega CD MI1 via debugger command 'passcode'.
- Added support for Kanji rendering in Japanese version of Monkey Island Sega CD.

## 44.24 1.0.0 “Shiny Logo” (2009-11-15)

New Ports:

- Added MotoEZX and MotoMAGX ports.

General:

- Fixed several bugs in GUI.
- Updated the project logo and icons.
- Clarified licenses for several PS2 port files.

AGI:

- Fixed crash on game exit.

- Fixed crash at detection of some games.

AGOS:

- Fixed load/save code for PC version of Waxworks.
- Fixed undo in Puzzle Pack games.

Broken Sword 1:

- Fixed missing background sound effects in some rooms.

CinE:

- Fixed crashes with Future Wars and Operation Stealth demos.

Cruise:

- Fix freeze on game pause.

Gob:

- Fixed gfx glitch in Lost in Time.
- Fixed hotspot-related regressions in Gob2.
- Fixed several regressions in Gob3.
- Fixed crash in Bargon Attack intro.
- Fixed animations in Win3.1 version of Gob3.

Groovie:

- Fixed video performance on PSP.
- Fixed menu blanking in some instances.

Kyra:

- Fix possible corruption of restart game save in Kyrandia 1.
- Fix GFX glitch at the broken bridge.
- Fix for brandon turning invisible in some situations in Kyrandia 1.

MADE:

- Fixed performance on NDS.
- Fixed crash in Return to Zork demo.

Parallaxion:

- Fixed several regressions in Nippon Safes.
- Fixed music in sushi bar in Nippon Safes.

SCUMM:

- Fixed crash on Macintosh versions of Putt-Putt Joins the Parade and Fatty Bear's Birthday Surprise.

- Fixed game save in Macintosh versions of HE games.
- Fixed default save game path in later HE games.
- Fixed palette in NES version of Maniac Mansion.
- Fixed palette in Amiga version of Secret of Monkey Island.
- Fixed cutscenes not stopping music after pressing ESC in DIG.
- Fixed lip-sync in Fatty Bear.
- Fixed crash in FT when entering inventory.

Tinsel:

- Fixed crash in palace.
- Fixed crash when talking to the old lady.
- Fixed partially off-screen text in DW1.

NDS port:

- Added mouse pad underneath onscreen keyboard.
- Added ability to scroll when cursor reaches edge of screen (in mouse pad mode).
- Made cd audio read from track01.wav as well as track1.wav.
- Fixed bug with switching modes with keyboard active.

PSP port:

- Fixed video flickering and stretching in some situations.
- Improved suspend/resume support.

WinCE port:

- Improved compatibility with VGA devices.

## 44.25 1.0.0rc1 “Grog XD” (2009-08-31)

New Games:

- Added support for Discworld.
- Added support for Discworld 2 - Missing Presumed ...!?.
- Added support for Return to Zork.
- Added support for Leather Goddesses of Phobos 2.
- Added support for The Manhole.
- Added support for Rodney’s Funscreen.

- Added support for Cruise for a Corpse.

General:

- Added experimental AdLib emulator from DOSBox.
- Added quick search to Launcher.
- Improved modern GUI theme look.
- Added per-game GUI options.
- Improved Mass Add dialog.

New Ports:

- Added GP2X Wiz port.

AGI:

- Increased compatibility for Sierra games.
- Implemented all 'unknown' commands.

Beneath a Steel Sky:

- Changed the game speed to match the original game (previously it ran too fast).

Broken Sword 1:

- Added support for the original cutscenes.
- Dropped support for the now obsolete MPEG2 cutscenes.
- Added support for the PlayStation version.

Broken Sword 2:

- Added support for the original cutscenes.
- Dropped support for the now obsolete MPEG2 cutscenes.
- Dropped support for playing cutscene sound without the video.
- Added support for the PlayStation version.

Gob:

- Introduced a new savegame format to fix a fatal flaw of the old one, breaking compatibility with old savegames made on big-endian systems.

Groovie:

- Increased microscope puzzle difficulty to match original.

KYRA:

- Added support for PC Speaker based music and sound effects.
- Added support for 16 color dithering in Kyrandia PC-9801.

PSP port:

- Added support for sleep mode (suspend/resume).
- WinCE port:
- Speed optimized versions of low-res Smartphone and 2x scalers.
  - New aspect correction scaler for VGA (or higher) devices.
  - Dropped support for MPEG-2 and FLAC.

## 44.26 0.13.1 “SAGA returns” (2009-04-27)

AGOS:

- Fixed crash after OmniTV video is played in The Feeble Files.
- Fixed crashes when exploring Jack the Ripper scene in the PC version of the Waxworks.
- Fixed palette glitches in the AtariST version of Elvira 2.
- Fixed noise that can occur when sound effects are played, when exploring Pyramid scene in the Waxworks.

Gob:

- Fixed a crash in the Italian version of Woodruff.

Groovie:

- Fixed some issues with music in The 7th Guest.

Parallaction:

- Fixed the sarcophagus puzzle in Nippon Safes.

SAGA:

- Fixed a crash in Inherit the Earth.
- Fixed glitches in the save/load dialog.

Sword2:

- Fixed random sound corruption when using the original sound files.

Game launcher:

- Fixed a case where memory could be corrupted.
- Fixed the small cursor in the modern theme.
- Fixed a bug in the theme engine, which could cause crashes.
- Made the file browser bigger in 1x mode.

iPhone port:

- Fixed backspace handling on the iPhone soft keyboard.

DS port:

- Added support for the Global Main Menu feature.

PS2 port:

- Switched to the new GUI and theme code.
- All possible devices are supported to store, play and save games (CD, HD, USB, MC and remote).
- Optimized cache/read-ahead for every media.
- Added support for the Return to Launcher feature.

Symbian port:

- Added Bluetooth mouse support.
- Added support for the Return to Launcher feature.

WinCE port:

- Fixed an issue which could cause random crashes with VGA devices.

## 44.27 0.13.0 “More Guests” (2009-02-28)

General:

- Added MIDI driver for Atari ST / FreeMint.
- Added a ‘Load’ button to the Launcher (not supported by all engines). (GSoC Task)
- Added a new global main menu (GMM) dialog usable from all engines. (GSoC Task)
- Added the ability to return to the launcher from running games (via the GMM). (GSoC Task)
- Rewrote GUI renderer to use an vector based approach. (GSoC Task)
- Rewrote GUI configuration to use XML. (GSoC Task)

New Games:

- Added support for Blue’s 123 Time Activities.
- Added support for Blue’s ABC Time Activities.
- Added support for Bud Tucker in Double Trouble.
- Added support for The 7th Guest.

AGOS:

- Added support for the original cutscenes of The Feeble Files.
- Added support for text compression in the AtariST version of Elvira 1.
- Fixed combining items in Waxworks.
- Fixed display of spell descriptions in Elvira 2.

KYRA:

- Added support for Auto-save feature.
  - Added support for MIDI music.
- Parallaxion:
- Credits of the Nippon Safes Amiga demo are now shown correctly.
- SCUMM:
- Implemented radio-chatter effect in The DIG.

## 44.28 0.12.0 “&nbsp;” (2008-08-31)

### New Games:

- Added support for The Legend of Kyrandia: Book Two: Hand of Fate.
- Added support for The Legend of Kyrandia: Book Three: Malcolm’s Revenge.
- Added support for Lost in Time.
- Added support for The Bizarre Adventures of Woodruff and the Schnibble.
- Added support for the PC version of Waxworks.
- Added support for the Macintosh version of I Have no Mouth, and I must Scream.
- Added support for Dracula: The Vampire Strikes Back.

### General:

- Added CAMD MIDI driver for AmigaOS4.
- Revived the PS2 port (was already in 0.11.1 but was forgotten in the release notes).
- Plugged numerous memory leaks in all engines (part of GSoC’08 task).
- Added audio double buffering to the SDL backend, which fixes the problems with the MT-32 emulator on Mac OS X (for now only enabled on Mac OS X).

### AGOS:

- Fixed crashes during certain music in Amiga versions of Elvira 1 and Simon the Sorcerer 1.
- Fixed palette issues in Amiga versions of Simon the Sorcerer 1.

### Queen:

- Speech is played at the correct sample rate. (It used to be pitched a bit too low.)

### SCUMM:

- Rewrote parts of Digital iMUSE, fixing some bugs.
- Rewrote the internal timer code, fixing some speed issues in e.g. COMI.
- Improved support for sound effects in Amiga version of Zak McKracken.
- Added support for mixed AdLib/MIDI mode in Monkey Island 1 (Floppy).

## 44.29 0.11.1 “Fixed exist()nce” (2008-02-29)

### SCUMM:

- Improvements for Digital iMUSE subsystem. This fixes several glitches in The Curse of Monkey Island.
- Fixes for cursors in HE games.

### AGI:

- Fix for zombies in King’s Quest 4.
- Fix for changing palettes in fanmade games using AGIPAL.

### Lure:

- Fixed some conversation crashes in the German version.
- Fixed operation of the optional copy protection dialog in the German version.
- Added saving of conversation flags as to whether a particular conversation option had been previously selected or not.
- Fixed glitch that could cause transformation sparkle to happen a second time.
- Fixed behavior of Goewin when you rejoin her after meeting the dragon.

### SAGA:

- Fix for rat maze bug in Inherit the Earth which made game not completable.
- Fixes for Inherit the Earth and I Have no Mouth game startup on a number of platforms.
- Reduced the number of simultaneous open files in I Have no Mouth, to allow it to run on platforms that can keep a limited amount of files open (e.g. on the PSP).
- Fixed graphics glitch in Inherit the Earth with simultaneous speech.
- Fixed palette glitch in Inherit the Earth when looking at the map while at the docks.

## 44.30 0.11.0 “Your Palindrome” (2008-01-15)

### New Games:

- Added support for Elvira: Mistress of the Dark.
- Added support for Elvira 2: The Jaws of Cerberus.
- Added support for I Have no Mouth, and I Must Scream (demo and full game).
- Added support for preAGI game Mickey’s Space Adventure.
- Added support for preAGI game Troll’s Tale.
- Added support for preAGI game Winnie the Pooh in the Hundred Acre Wood.
- Added support for Amiga version of Waxworks.

- Added support for Lure of the Temptress.

New Ports:

- Added iPhone port.
- Added Maemo port for Nokia Internet tablets.

General:

- Added ARM assembly routines for code in the sound mixer and SCUMM video playback, resulting in some nice speedups on several ports.
- Improved the way keyboard input is handled internally, resolving some odd quirks in some game / port combinations.
- Added optional ‘confirm exit’ dialog to the SDL backend.
- Added support for TiMidity++ MIDI server.
- Added DMedia MIDI driver for IRIX.
- Improved detection of new game variants and localized versions.
- Completely reworked internal access to files. (GSoC Task)
- Added option to delete games from the list with Del key.
- Added support for “~/” prefix being substituted by \$HOME in paths on POSIX systems (Linux, Mac OS X etc.).

AGI:

- Added support for AGI256 and AGI256-2 hacks. (GSoC Task)
- Added support for Amiga menus and palettes. (GSoC Task)
- Better support for early Sierra AGI titles.

AGOS:

- Fixed crashes related to OmniTV playback in The Feeble Files.
- Improved work on 64-bit systems.

Broken Sword 1:

- Added support for FLAC encoded music.

Kyrandia:

- Added support for Macintosh version.

Parallaction:

- Added support for Amiga version of Nippon Safes, Inc.
- Many bugfixes.

Queen:

- Added support for AdLib music.

- Added missing music patterns playback in Amiga version.

SCUMM:

- Added subtitle skipping (via ‘.’ key) in older games which didn’t have this feature so far (e.g. Zak, MM, Indy3, Loom).
- Added support for Chinese COMI.
- Better support for eastern versions of games.
- Various fixes for COMI and other games.
- Added support for original save menus (browse only). Use Alt-F5 to activate.
- Added support for Spanish version of NES Maniac Mansion.
- Better support for German version of C64 Maniac Mansion.
- Fixed bug with cursors in Windows versions of Humongous Entertainment games.

SAGA:

- Added support for compressed sound effects, voices and music.

Touche:

- Added workarounds for some glitches/issues present in the original game.

WinCE Port:

- Switched compilers again. Now using cegcc (<http://cegcc.sourceforge.net/>).
- Plugins now supported for WinCE (but not used in this release).
- Redesigned ‘Free Look’ action, mainly for the lure engine’s requirements.
- Smaller optimization setting to counteract the growth of the executable.
- Various bug fixes.

GP2X Port:

- Support F200 Touchscreen.
- Various fixes to input code.

## 44.31 0.X.0 “Tic-tac-toe edition” (2007-06-20)

New Games:

- Added Cinematique evo 1 engine. Currently only Future Wars is supported.
- Added Touche: The Adventures of the Fifth Musketeer engine.
- Added support for Goblins 2.
- Added support for Simon the Sorcerer’s Puzzle Pack.
- Added support for Ween: The Prophecy.

- Added support for Bargon Attack.
- Added Sierra AGI engine.
- Added support for Goblins 3.
- Added Parallaxion engine. Currently only Nippon Safes Inc. is supported.

General:

- Added dialog which allows the user to select the GUI theme on runtime.
- Added 'Mass Add' feature to the Launcher, which allows you to scan for all games in all subdirectories of a given directory (to use it, press shift then click on "Add Game").
- Improved the way the auto detector generates target names, it now takes a game's variant, language and platform into account.
- Improved compression for DXA movies.
- Keyboard repeat is now handled in a centralized way, rather than on a case-by-case basis. (Simply put, all engines now have keyboard repeat.)

Broken Sword 1:

- Added support for DXA cutscenes.
- Added support for Macintosh version.

Broken Sword 2:

- Added support for DXA cutscenes.
- Added "fast mode" (use Ctrl-f to toggle).

Queen:

- Added support for Amiga versions.
- Fixed some sound glitches.

SCUMM:

- Added support for non-interactive demos of HE games (CUP).
- Improved A/V syncing in SMUSH videos (affects Dig, FT, COMI).
- Improved speed of the NES sound code.
- Fixed many (sometimes serious) actor walking issues, specifically in Zak McKracken and Maniac Mansion, by rewriting the walking code for these games.
- Fixed several other issues.
- Added support for DXA movies playback in HE games.

Simon:

- Renamed Simon engine to AGOS.

Kyrandia:

- Added support for FM-TOWNS version (both English and Japanese).

BASS:

- Fixed long-standing font bug. We were using the control panel font for LINC space and terminals, and the LINC font in the control panel. This caused many character glitches (some of which we used to work around) in LINC space and terminals, particularly in non-English languages.

Nintendo DS Port:

- New engines supported: AGI, CINE, and SAGA.
- Option to show the mouse cursor.
- Word completion on keyboard for AGI games.
- Plenty of optimisations.

Symbian Port:

- Added support for MP3 to S60v3 and UIQ3 versions.
- Switched to SDL 1.2.11 for bug fixes and improvements.
- Improved performance for S60v3 and UIQ3 using ARM target.
- Limited support for pre Symbian OS9 devices due to compiler issues.
- Updated key mapping handling.

WinCE Port:

- Switched to using a GCC toolchain for building.
- Major update to the SDL lib. Better, faster, more compatible. :-) The included fixes are too numerous to mention here. Most of the updates in this version have concentrated on infrastructure. This leads to faster execution, greatly increased compatibility and OS friendliness - especially for keyboard/mouse input and display handling (f.ex. no more popups during gameplay).

Windows Port:

- The default location of the config file changed, to support multi-user systems.

PalmOS Port:

- Now using PalmOS Porting SDK which enables use of the C standard library.

## 44.32 0.9.1 “PalmOS revived” (2006-10-29)

### New Ports:

- Added Nintendo DS port.
- Added GP2X port.
- Added GP32 port.

### General:

- Fixed potential garbage and/or crash in debug console.
- Removed restriction on 27 games per game id when added via launcher.

### SCUMM:

- Improved support for international versions of HE games.
- Fixed rare actor drawing glitches.
- Fixed path finding during smart star challenge in Big Thinkers 1st Grade.
- Fixed graphical glitches in stomach location of Pajama Sam 3.
- Fixed graphical glitches in HE80 version of Putt-Putt Travels Through Time.
- Fixed FM-TOWNS version of Indy3 failing on Amiga port.
- Fixed crash in MM NES when clicking on top screen area.
- Now it is possible to turn on or off subtitles during SMUSH movies.

### Simon:

- Improved support for international versions of the Feeble Files.
- Fixed undefined behaviour when loading music.
- Fixed crash when displaying some subtitles in the Feeble Files.
- Fixed crackling sound in Mac version of Feeble Files.

### BASS:

- Fixed character spacing in LINC terminals in floppy version v0.0303.
- Fixed a regression which caused incorrect AdLib music emulation.

### Broken Sword 1:

- Fixed speech-related crashes.

### Broken Sword 2:

- More robust handling of the optional startup.inf file.

### Kyrandia:

- Scrolling in the Kyrandia intro is less CPU intensive, at the cost of not being as smooth as before.

- Fixed a tiny graphics glitch in the Kyrandia intro.
- Improved screen update handling, speeds up drawing on small devices.
- Improved resource loading, faster startup.

PSP Port:

- Fixed crashes during scrolling scenes in certain SCUMM games.
- Added saving of thumbnail in SCUMM savegames.

PS2 Port:

- Overlay uses higher resolution now.
- Can boot from USB, HDD etc. as well.

WinCE Port:

- Several bugfixes.
- Re-add support for 2002 based devices.

## 44.33 0.9.0 “The OmniBrain loves you” (2006-06-25)

New Games:

- Added kyra engine (for the Kyrandia series). Currently only the first part of the series is supported.
- Added support for The Feeble Files.

General:

- Switched from CVS to Subversion.
- Restructured our source tree partially.
- Fixed a bug that prevented you from overriding the scaler from the command line for 640x480 games.
- Added subtitle configuration controls to the Launcher options dialogs.
- GUI was completely redesigned and is now themeable.

SCUMM:

- Rewrote the detection code, for improved accuracy and better support of fan translations. It should now work much better on games with unknown MD5.
- Added subtitle configuration controls to the options dialog.
- Fixed graphical glitches in several HE games.
- Fixed palette glitches in Big Thinkers 1st Grade.

- Fixed songs in the kitchen of Pajama Sam 1.

SAGA:

- Fixed sound distortion in the Inherit the Earth demo.

Simon:

- Improved Hebrew support.
- Lots of long-overdue cleanups and re-structuring were made to accomodate for The Feeble Files.
- Fixed a rare MIDI bug that would cause a channel to change volume without adjusting it to the master volume.
- Fixed delay after introduction of Simon the Sorcerer 1 demo (with speech).
- Fixed music tempo in DOS versions of Simon the Sorcerer 1.

Broken Sword 1:

- Added support for the `-save-slot` option.

Broken Sword 2:

- Major rewrite of how game resources are accessed in memory. This should fix alignment issues reported on some platforms.
- Missing data files are handled more gracefully.

WinCE Port:

- Added: PocketPC: Vertical oversampling scaler 320x200=>320x240 when panel not shown. (n0p)
- Added: PocketPC: Right click by double-tapping. (n0p)
- Fixed: All: Clipping issues in some cases.
- Added: PocketPC: Mouse emulation using keys.
- Added: Smartphones: Virtual keyboard popup.
- Fixed: Smartphones: Incorrect screen blit in SDL port.
- Added: All: Mouse cursor visible on panel if using emulated mouse.
- Added: All: Inverse landscape mode.
- Fixed: PocketPC: Dialogs cut-off/not redrawn.

## 44.34 0.8.2 “Broken Broken Sword 2” (2006-02-08)

General:

- Fixed OS X bundle building when using GCC 3.3.

SCUMM:

- Added support for rotating and scaling of sprites in HE games.

Sword2:

- Fixed last-minute crash when playing sound effects.

WinCE Port:

- Should fix weird crashes with DOTT stamp and in FOA. (#2439 #2430)
- Fixed Monkey Island blocking keyboard panel on Smartphones. (thks Knakos)
- Fixed QVGA Smartphone detection (mean it this time :p).
- Fixed Smartphone double right click issue.

## 44.35 0.8.1 “Codename: missing” (2006-01-31)

General:

- Fixed compiling with GCC 2.95.
- Fixed LaTeX documentation.
- Switched to new improved logo which matches new site design.
- More descriptive game titles in all engines.
- Fixed crash when trying to apply aspect-ratio correction to games that cannot use it.
- Fixed potential security vulnerability with oversized PATH environment variables.
- Lowered the default gain for the FluidSynth music driver and made it configurable.

SCUMM:

- Scrolling fixes in COMI, so it is less CPU-hungry.
- Added support for Maniac Mansion NES German version.
- Fixed mouse button states in COMI.
- Fixed overflow when using control panel for robot in the Dig.
- Added support for sound code, used by songs in HE games.
- Improved shadows in later HE games.
- Fixed subtitles glitches in HE games.
- Improved music/sound for HE games.

- Improved support for international versions of HE games.
- Improved support for Macintosh versions of games.
- Fixed several minor bugs.

BASS:

- Fix crash when speed/volume sliders are clicked and then dragged out of the scummvm window.

Gob:

- Fixed disappearing cursor when level password is typed in.
- Warn user if he tries to run CD version directly from CD under Windows.

Queen:

- Fixed charset for Spanish version.

SAGA:

- Fixed digital music playback under BE systems.

Simon:

- Implemented more precise MD5-based game detection.
- Added Polish support for Simon the Sorcerer 2.
- Fixed fades during ride to goblins camp in Simon the Sorcerer 2.
- Fixed palette delay at the end of Simon the Sorcerer 1.
- Fixed sound looping in Windows version of Simon the Sorcerer 2.

Sword1:

- Fixed a bug where looping sounds would keep playing during cutscenes or when displaying any form of control panel dialog.
- The save game dialog would erroneously claim an I/O error occurred if the savegame list had unused slots, and savegames were compressed.
- Fixed a scrolling bug which caused the finale sequence to be displayed incorrectly.

Sword2:

- Fixes and cleanups to the end credits. The German credits work now.
- Fixed missing speech/music in the second half of the game, reported to happen in some versions of the game.

PS2 Port:

- Completely reworked and now really goes official.

PSP Port:

- Fixed a bug that caused Broken Sword 1, and games that use ripped CDDA tracks (most notably the CD version of Monkey Island 1), to stop functioning properly after a while.

WinCE Port:

- Check backends/wince/README-WinCE for the latest news.
- Fixed disappearing panel when opening a list widget in GUI.
- Knakos patches (QVGA smartphones fix, easier key binding and panel switching).

## 44.36 0.8.0 (2005-10-30)

New Games:

- Added SAGA engine (for the games “I Have No Mouth and I Must Scream” and “Inherit the Earth”).
- Added Gob engine (for the Goblins series). Currently, only the first of the Goblins games is supported.

New Ports:

- Added PlayStation 2 port.
- Added PlayStation Portable (PSP) port.
- Added AmigaOS 4 port.
- Added EPOC/SymbianOS port.
- Added fixes for OS/2 port.

General:

- Reworked cursor handling in SDL backend. Now cursors can have their own palette and scaling. This is used by Humongous Entertainment games now.
- Added FluidSynth MIDI driver.
- Added GUI for the “soundfont” setting. (Currently only used by the CoreAudio and FluidSynth MIDI drivers.)
- The MPEG player could hang if the sound ended prematurely.
- Improved autoscaling GUI, which takes full advantage of your screen.
- Fixes for GCC 4.

SCUMM:

- Added support for Mac Humongous Entertainment titles.
- Added support for multiple filenames/versions using a single target.
- Implemented CGA and Hercules render modes in early LEC titles.

- Added dialogs which are shown when you modify the talkspeed or music volume using hotkeys.
- Added support for NES version of Maniac Mansion.
- Added thumbnail support for savegames.
- Broke compatibility with HE savegame (HE v71 and upwards only).
- Added possibility to disable building of HE and SCUMM v7 & v8 games support.
- Fixed the last few known music glitches in Sam & Max. (There are still some - probably - minor missing features though.)
- Added support for Commodore64 version of Zak McKracken.
- Eliminated all demos targets and platform-specific targets. Config file is autoupdated.

#### Sword2:

- Made the resource manager expire resources more intelligently.
- Improved performance when playing the game from CD instead of hard disk.
- Simplified sound effects handling. Again.
- Code cleanups and restructuring.
- Fixed long-standing bug in decompressing sounds from the speech/music CLU files. It was generating one sample too many, which could be heard as a very slight popping noise at the end of some sounds. Files that have been compressed with older versions of compress\_sword2 will, of course, still have the same error. You may want to regenerate them.

## 44.37 0.7.1 (2005-03-27)

#### General:

- Added a MT-32 emulator. (It was actually added in 0.7.0 but we forgot to put it into the NEWS file :-).
- Less memory-hungry MPEG movie playback for the Broken Sword games.

#### SCUMM:

- Fixed wrong actor animation in Full Throttle INSANE.

#### Windows Mobile port (PocketPC / Smartphone):

- Fixed FOTAQ crash on all platforms when leaving the hotel AGAIN.
- Better low quality AdLib emulation for FOTAQ.
- Fix randomly broken Hide Toolbar option. (thanks iKi)
- Fix first hardware key mapping (was not displayed before).
- Fix BASS & Simon hangs on Smartphone when using the Skip hotkey.

- Fix Zone key action on Smartphone (now mapped on key 9).
- Experimental third party VGA mode (SE-VGA) fix.
- Add Key Mapping option in the launcher (Options / Misc / Keys).
- Remove AYGShell.DLL dependency to work on CE .Net platforms.
- Fix key mapping issues introduced in 0.7.0.
- Full Throttle interactive action sequences should be more playable.
- New key mapping option “FT Cheat” to win a Full Throttle action sequence.
- Quit Simon game with ‘Action key’ on Smartphones.

Sword2:

- Fixed crash caused by attempting to play music from CD1 and CD2 at the same time.
- Fixed crash in the cutscene player if the speech file was missing.

BASS:

- Fixed crash when talking to the gardener using spanish text with the floppy version.

## 44.38 0.7.0 (2004-12-24)

New Games:

- Added 26 Humongous Entertainment titles, only a few are completable.

General:

- Added support for FLAC (lossless) encoded audio files.
- Added an ‘On Screen Display’ to the SDL backend.
- Partially rewrote the backend API.
- Comments and the order of section in config files are preserved now.
- Updated AdvMame scalars based on scale2x 2.0 - AdvMame3x looks nicer now, and AdvMame2x is MMX accelerated.
- Added MMX i386 assembler versions of the HQ2x and HQ3x scalars.
- Added ‘Extra Path’ option allows for a searching an additional datafile location (for reencoded cutscenes and the like).
- Disabled Alt-x and Ctrl-z quit keys in favor of Ctrl-q on unix like operating systems, like Linux (exception: Mac OS X still uses Cmd-q).
- Separate smaller font for the console, allowing for more visible information, for example in the SCUMM debugger.
- Added support for setting output sample rate at run-time, although there is currently no GUI for it.

- The save directory now has a default rather than the current directory on some platforms:
  - Mac OS X: \$HOME/Documents/ScummVM Savegames/
  - Other unices: \$HOME/.scummvm/

- Added a new about dialog with scrolling credits.

#### SCUMM:

- Removed the old zak256 target, use zakTowns instead.
- Added native support for Macintosh versions using a special container file. This removes the need for using the 'RESCUMM' program.
- Added smooth horizontal scrolling for The Dig, Full Throttle and COMI (matching the original engine).
- Partially rewrote the text engine, fixing various bugs, especially in newer games (The Dig, COMI).
- Fixed actor drawing glitches in V1 Maniac and Zak.
- Fixed ship-to-ship graphic glitches in COMI.
- Fixed palette glitches in COMI.

#### Queen:

- Fixed some issues with the Dreamcast backend.

#### Sword1:

- Added support for compressed speech and music.
- Added support for the demo.
- Better support for the Czech version.
- Added workarounds for script and subtitle bugs in some game versions.

#### Sword2:

- Simplified memory/resource management.
- Simplified sound effects handling.
- Added support for compressed speech and music.
- Fixed various minor bugs.

#### BASS:

- Added workarounds for some rare scripting bugs that could render the game unwinnable.

## 44.39 0.6.1b (2004-08-03)

### General:

- Fixed copy/paste bug in launcher that may corrupt the Savegame Path.
- Fixed crashes on 64-bit architectures.

### SCUMM:

- Fixed VOC crash when playing DOTT Floppy.
- Fixed palette issues in Amiga version of MI2.

### Simon:

- Fixed VOC crash.

## 44.40 0.6.1 (2004-07-25)

### General:

- Fixed sound glitch when streaming two or more Ogg Vorbis sounds from the same file handle, e.g. in the Sam & Max intro when using monster.sog.

### SCUMM:

- As usual: many SCUMM game engine fixes.
- Added graphics decoders for 3DO Humongous Entertainment games.
- Numerous Humongous Entertainment games fixes.
- Fixed bug in Full Throttle, so battle difficulty matches original.
- Improved Digital iMUSE.

### Sword1:

- Warn the user if saving fails, instead of crashing.
- Slightly more user-friendly save/restore dialog.
- Fixed masking glitch outside Nico's apartment.

### BASS:

- Warn the user if saving a game doesn't work.

### Simon:

- Fixed crashes in some international versions.

## 44.41 0.6.0 (2004-03-14)

### New Games:

- Added Broken Sword 1 engine.
- Added Broken Sword 2 engine.
- Added Flight of the Amazon Queen engine.
- Added support for V1 SCUMM games ‘Maniac Mansion’ and ‘Zak McKracken’.
- SCUMM game Full Throttle is now supported.

### General:

- Subtitles now default to disabled. ‘-n’ option now enabled subtitles.
- Added HQ2x and HQ3x scalers.
- Rewrote sound code for more flexibility and performance.
- Improved native MT32 support.
- AdLib GM emulation table revamped, providing more accurate software MIDI.
- Default Makefile now uses configure script.
- Greatly improved the launcher and options dialogs (work-in-progress).
- Many other “under the hood” improvements, like a new config management and plugin capabilities.

### Simon:

- Added data files decoder for Amiga disk versions.
- Added support for inventory graphics in Amiga versions.
- Fixed various brief freezes.
- Fixed minor glitches in load/save dialog in non-English versions.
- Fixed missing inventory arrows in some versions of Simon the Sorcerer 1.

### SCUMM:

- Many, Many, Many SCUMM game engine fixes. Many of them. And that’s a lot.
- Added INSANE support for Full Throttle ‘action sequences’.
- Added option to choose between AdLib, PCjr and PC Speaker in earlier games.
- Added AdLib support for indy3ega and loom (ega).
- Added MIDI support for loom (ega), monkeyega and monkeyvga.
- Added sound effects support for indy3/monkeyega/monkeyvga/pass.
- Added FM Towns targets for Loom and Indy3.
- Rewrote in-game menu (F5) to be easier to use.

- Improved FM Towns SFX support (YM2612 emulation, looping).
- Classic V1 versions of Maniac Mansion and Zak McKracken are now supported and completable.
- Rewrote Digital iMUSE music system.
- Several Analog iMUSE music system bugs fixed.
- Improved music/sound for various Amiga versions.
- Improved compression of Fate of Atlantis and Simon the Sorcerer 2 sound files.
- Keyboard fighting in Fate of Atlantis now works.
- Keyboard support for cannon battle in Curse of Monkey Island.
- Keyboard support for derby scene in Full Throttle.

#### 44.42 0.5.1 (2003-08-06)

- Rewrote Beneath a Steel Sky savegame code (see note in READMEs 'Known Bugs').
- Fixed dialog skipping, music volume and several crashes/freezes in Steel Sky.
- Fixed dialog skipping in V7 games.
- Fixed glitch when quitting ScummVM in fullscreen mode on Mac OS X.
- Fixed various COMI bugs related to actor placement/scaling.
- Added complete Hebrew support for Simon the Sorcerer 1 and 2.
- Several MorphOS and DreamCast port fixes.
- DreamCast now runs Simon the Sorcerer 1 & 2.
- Fixed a fullscreen problem on Mac OS X where you couldn't use the mouse in the top part of the screen by linking to a bugfixed version of SDL.

#### 44.43 0.5.0 (2003-08-02)

- Enhanced versions of Maniac Mansion and Zak McKracken are now supported and completable.
- Beneath A Steel Sky is now supported and completable.
- Added support for Amiga version of Monkey Island 1.
- Initial unplayable support for V1 version of Maniac Mansion/Zak McKracken.
- Curse of Monkey Island (COMI) support for playing from CD improved on Mac OS X.
- Loading COMI savegames for disk 2 doesn't anymore require disk 1 first.
- Rewritten iMUSE engine, and many Music fixes (exp. Monkey Island 2).

- Support for music in DOS versions of Humongous Entertainment games and Simon the Sorcerer 2 (XMIDI format).
- Support for music in floppy demo of Simon the Sorcerer 1 (Proprietary format).
- Complete music support for Simon the Sorcerer 2.
- Improved music and sound support in Zak256.
- Added Aspect Ratio option.
- Many other bug fixes, improvements and optimizations.

#### 44.44 0.4.1 (2003-05-25)

- Added AdvMame3x filter.
- Fixed crash in Curse of Monkey Island (and possibly other games as well).
- Fixed airport doors in Zak256.
- Fixed crash in SDL backend.
- Fixed various iMUSE bugs.

#### 44.45 0.4.0 (2003-05-11)

- Curse of Monkey Island (comi) support (experimental).
- Added support for the EGA versions of Loom, Monkey Island and Indy3.
- Improved music support in Indy3 and the floppy versions of Monkey Island.
- Many Simon the Sorcerer 1 & 2 improvements and fixes.
- Very pre-alpha Beneath a Steel Sky code. Don't expect it to do anything.
- Even more pre-alpha support for V2 SCUMM games (Maniac Mansion and Zak).
- Preliminary support for early Humongous Entertainment titles (very experimental).
- New debug console and several GUI/Launcher enhancements.
- New Save/Load code (easier to expand while retaining compatibility).
- DreamCast port now works with new games added for 0.3.0b.
- New official PalmOS port.
- Various minor and not so minor SCUMM game fixes.
- Large memory leak fixed for The Dig/ComI.
- SMUSH code optimised, frame dropping added for slower machines.
- Code cleanups.

## 44.46 0.3.0b (2002-12-08)

- Massive cleanup work for iMUSE. Sam and Max music now plays correctly.
- Many bugfixes for Zak256, + sound and music support.
- Music support for Simon the Sorcerer on any platform with real MIDI.
- Experimental support for Indy3 (VGA) - Indiana Jones + Last Crusade.
- Completed support for Monkey1 VGA Floppy, The Dig.
- Added akos16 implementation for The Dig and Full Throttle costumes.
- Added Digital iMUSE implementation for The Dig and Full Throttle music.
- Loom CD speech+music synchronisation improved greatly.
- Added midi-emulation via AdLib, for platforms without sequencer support.
- Code separation of various engine parts into several libraries.
- Several fixes to prevent Simon the Sorcerer crashing and hanging.
- Hundreds of bugfixes for many other games.
- New SMUSH video engine, for Full Throttle and The Dig.
- New in-game GUI.
- Launcher dialog.

## 44.47 0.2.0 (2002-04-14)

- Core engine rewrite.
- Enhanced ingame GUI, including options/volume settings.
- Auto-save feature.
- Added more command-line options, and configuration file.
- New ports and platforms (MorphOS, Macintosh, Dreamcast, Solaris, IRIX, etc).
- Graphics filtering added (2xSAI, Super2xSAI, SuperEagle, AdvMame2x).
- Support for MAD MP3 compressed audio.
- Support for first non-SCUMM games (Simon the Sorcerer).
- Support for V4 games (Loom CD).
- Enhanced V6 game support (Sam and Max is now completable).
- Experimental support for V7 games (Full Throttle/The Dig).
- Experimental support for V3 games (Zak256/Indy3).

## 44.48 0.1.0 (2002-01-13)

- Loads of changes.

## 44.49 0.0.2 (2001-10-12)

- Bug fixes.
- Save & load support.

## 44.50 0.0.1 (2001-10-08)

- Initial version.

## Chapter 45

# Welcome to ScummVM!

ScummVM allows you to play classic graphic point-and-click adventure games, text adventure games, and RPGs, as long as you already have the game data files. ScummVM replaces the executable files shipped with the games, which means you can now play your favorite games on all your favorite devices.

So how did ScummVM get its name? Many of the famous LucasArts adventure games, such as Maniac Mansion and the Monkey Island series, were created using a utility called SCUMM (Script Creation Utility for Maniac Mansion). The ‘VM’ in ScummVM stands for Virtual Machine.

While ScummVM was originally designed to run LucasArts’ SCUMM games, over time support has been added for many other games: see the full list [here](#). Noteworthy titles include Broken Sword, Myst and Blade Runner, although there are countless other hidden gems to explore.

### 45.1 Start here!

We have a user manual section covering **THE BASICS**:

Installation

*Installing ScummVM on a computer*

*Understanding the interface*

Playing games

*Handling game files*

*Handling Macintosh game files*

*Adding and playing a game*

*Saving and loading a game*

Controls and settings

*Keyboard shortcuts*

*Changing settings*

## Useful features

*Connecting a cloud service*

*Using the local web server* We also have guides on how to get ScummVM running on a wide range of other platforms:

## Handheld consoles

*Nintendo 3DS*

*Nintendo DS*

*Nintendo Switch*

*PlayStation Portable*

*PlayStation Vita*

## Other consoles

*PlayStation 3*

*Sega Dreamcast*

## Phones and tablets

*iOS*

*Android*

## Other operating systems

*AmigaOS 4*

*Atari/FreeMiNT*

*MorphOS*

*RISC OS*

## 45.2 Advanced topics

For our more experienced users, ScummVM features a command line interface, as well as the ability to edit settings directly in a configuration file.

In this section, we also take a deep dive into understanding the graphics and audio settings.

## Advanced features

*Configuration file*

*Command line interface*

## Understanding the settings

*The audio settings*

*The graphics settings*

## 45.3 Getting help

ScummVM is still under development. While we do our best to make sure that as many games as possible can be completed with no major bugs, crashes can happen!

If you are having problems with any aspect of ScummVM, take a look at our help section.

*[Frequently Asked Questions](#)*

*[How to report a bug](#)*

*[Contact us](#)*

## 45.4 What's changed since I was last here?

Check out the *[Release notes](#)* for both current and past releases.

## 45.5 The ScummVM Project

ScummVM is an open-source project created, maintained and constantly improved by a team of *[passionate volunteers](#)* from all around the world. If you enjoy using ScummVM and would like to support the team, you can use the PayPal Donate button below.

Another way to support us is to buy your games from GOG.com using the ScummVM Affiliate link.

If you have software development or technical writing skills, we would love for you to join the ScummVM team! Check out *[Developer Central](#)* on the ScummVM wiki for more information on contributing to ScummVM.