

SGDK - A free and open development kit for the Sega Mega Drive

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Stephane-D fixed merge ...

4 days ago 🕒 1,281

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🔗 **SGDK 1.65 (july 2021)**

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Patreon: <https://www.patreon.com/SGDK>

Github: <https://github.com/Stephane-D/SGDK>

SGDK is a free development kit allowing to develop software in **C language** for the **Sega Mega Drive**. It contains the development library itself (with the code sources) and some custom tools used to compile resources. SGDK uses the GCC compiler (m68k-elf target) and the libgcc to generate ROM image. Binaries (GCC 6.3) are provided for Windows OS for convenience but you need to install it by yourself for others operating systems. Note that SGDK also requires Java (custom tools need it) so you need to have Java installed on your system.

SGDK library and custom tools are distributed under the MIT license (see [license.txt](#) file). GCC compiler and libgcc are under GNU license (GPL3) and any software build from it (as the SGDK library) is under the GCC runtime library exception license (see [COPYING.RUNTIME](#) file)

🔗 GET STARTED

First, you need to know that SGDK uses C language (assembly is also possible but not necessary) so it's highly recommended to be familiar with C programming before trying to develop with SGDK. Learning C language at same time than learning 'Sega Mega Drive' programming is definitely too difficult and you will end nowhere. It's also important to have, at least, a basic knowledge about the Sega Mega Drive hardware (specifically the video system).

🔗 MEGA DRIVE TECHNICAL INFO REFERENCES

- And-0 - Awesome Mega Drive Development references:
<https://github.com/And-0/awesome-megadrive>
- Raster Scroll - Sega Mega Drive Graphics guide:
<https://rasterscroll.com/mdgraphics/>
- Mega Cat Studios - Sega Mega Drive graphics guide:
<https://megacatstudios.com/blogs/retro-development/sega-genesis-mega-drive-vdp-graphics-guide-v1-2a-03-14-17>
- Sik's Blog dedicated to MD assembly programming but explain a lot of stuff (and in a nice way) about the Sega Mega Drive hardware:
<https://plutiedev.com>
- A nice article from Rodrigo Copetti explaining the Mega Drive architecture:
<https://www.copetti.org/projects/consoles/mega-drive-genesis>
- Genesis Software Manual which contains absolutely everything you need to know about the Sega Mega Drive:
https://segaretro.org/images/a/a2/Genesis_Software_Manual.pdf

🔗 INSTALLATION AND DOCUMENTATION

Then when you feel ready you can go further and finally install SGDK :)

You can find installation instructions and tutorials about how use SGDK on the wiki:

<https://github.com/Stephane-D/SGDK/wiki>

Also SGDK comes with a doxygen documentation (generated from .h header files) which provides complete information about SGDK structures and functions description. You can find it in the 'doc' folder (open your local `doc/html/files.html` in your browser).

Another important point to know is that SGDK heavily relies on *resources* which are compiled through *rescomp* tool. You can read the [rescomp.txt](#) file to know which kind of resource you can use and how to declare them then you can check the 'sample' folder from SGDK and in particular the [sonic sample](#) which is a good showcase of SGDK usage in general (functions and resources).

🔗 OTHERS TUTORIALS

You can also follow up-to-date and more complete online tutorials as this one (thanks to Ohsat for making them):

<https://www.ohsat.com/tutorial/>

You also have the great ones from Danibus (spanish only):

<https://danibus.wordpress.com/>

🔗 HELP AND SUPPORT

If you need help or support with SGDK, you can go to the Spritesmind forum which is dedicated to Sega Mega Drive development and has a specific section for SGDK:

<http://gendev.spritesmind.net/forum/>

You can also join the SGDK Discord server to get support:

<https://discord.gg/xmnBWQS>

🔗 MACOSX / LINUX

Unix/Linux users should give a try to this very simple script allowing to use SGDK from Wine easily:

https://github.com/Franticware/SGDK_wine

There is also the new and nice solution proposed by Daniel Valdivieso to use SGDK with VSCode under any OS using Wine:

https://github.com/v4ld3r5/sgdk_vscode_template

Another great alternative is to use the complete *MarsDev* environment developed by Andy Grind: <https://github.com/andwn/marsdev> It supports all OSes, provides SGDK compatibility as well than 32X support so be sure to check it.

MacOSX users also have access to SGDK with Gendev for MacOS from Sonic3D project:
<https://github.com/SONIC3D/gendev-macos>

🔗 DOCKER

A modern way to install it on any environment is to use Docker.

To build the `sgdk` base image:

```
docker build -t sgdk .
```

And then to compile the local env, such as `samples` for example:

```
cd sample/sonic
docker run --rm -v "$PWD":/src sgdk
```

Notes:

- `$PWD` will not work on Windows, there `%CD%` has to be used instead.
- To avoid writing `./out` files as root, execute the docker command as current user:
 - `docker run --rm -v "$PWD":/src -u $(id -u):$(id -g) sgdk`

🔗 VISUAL STUDIO

You can find a Visual Studio template into the 'vstudio' folder to facilitate SGDK integration with VS. To go even further you can also install the VS extension made by zerasul:
<https://marketplace.visualstudio.com/items?itemName=zerasul.genesis-code>

🔗 THANKS

- Chilly Willy for making almost all the JOY / controller support in SGDK (and the joy test sample ^^).
- Astrofra for the starfield donut sample and the revamped readme ;)
- Gligli for building and providing GCC 6.3 for Windows.
- Gunpog for making the new SGDK logo.
- Vojtěch Salajka for the script allowing to use SGDK easily from Wine (Linux/Unix but may work on OSX too).
- Daniel Valdivieso for another Wine based solution to use SGDK on multi-OS (including a VSCode template).

- Andy Grind for the MarsDev project allowing to use SGDK on any OS and also supporting 32X dev.
- Kubilus for the GenDev Linux port of SGDK.
- Sonic3D for the GenDev OSX port of SGDK.
- Vladimir Kryvian for Visual Studio support and template.
- Steve Schnepf for Docker support.
- Andreas Dietrich for the nice Wobbler & scaling effect samples.
- clbr for various contributions.
- jgyllinsky for providing / improving build batches.
- nolddor for fixes / contributions.
- starling13 for fixes.
- davidgf for its contributions (apultra tool, improved assembly LTO optimization).
- Banshaku for its contribution on improving makefile and deps generation with rescomp.
- Ohsat for making nice tutorials.
- ShiningBzh / Jeremy and Kentosama for their precious help in testing.
- Vetea and Studio Vetea Discord people in general for their support and kindness.
- all those i forgot and generally all people helping by providing support, reporting bugs and supporting SGDK in any way !

🔗 **SUPPORT SGDK**

SGDK is completely free but you can support it on Patreon: <https://www.patreon.com/SGDK>

Thanks => I wish you a great and happy coding time !

🔗 **POWERED BY THE SGDK!**

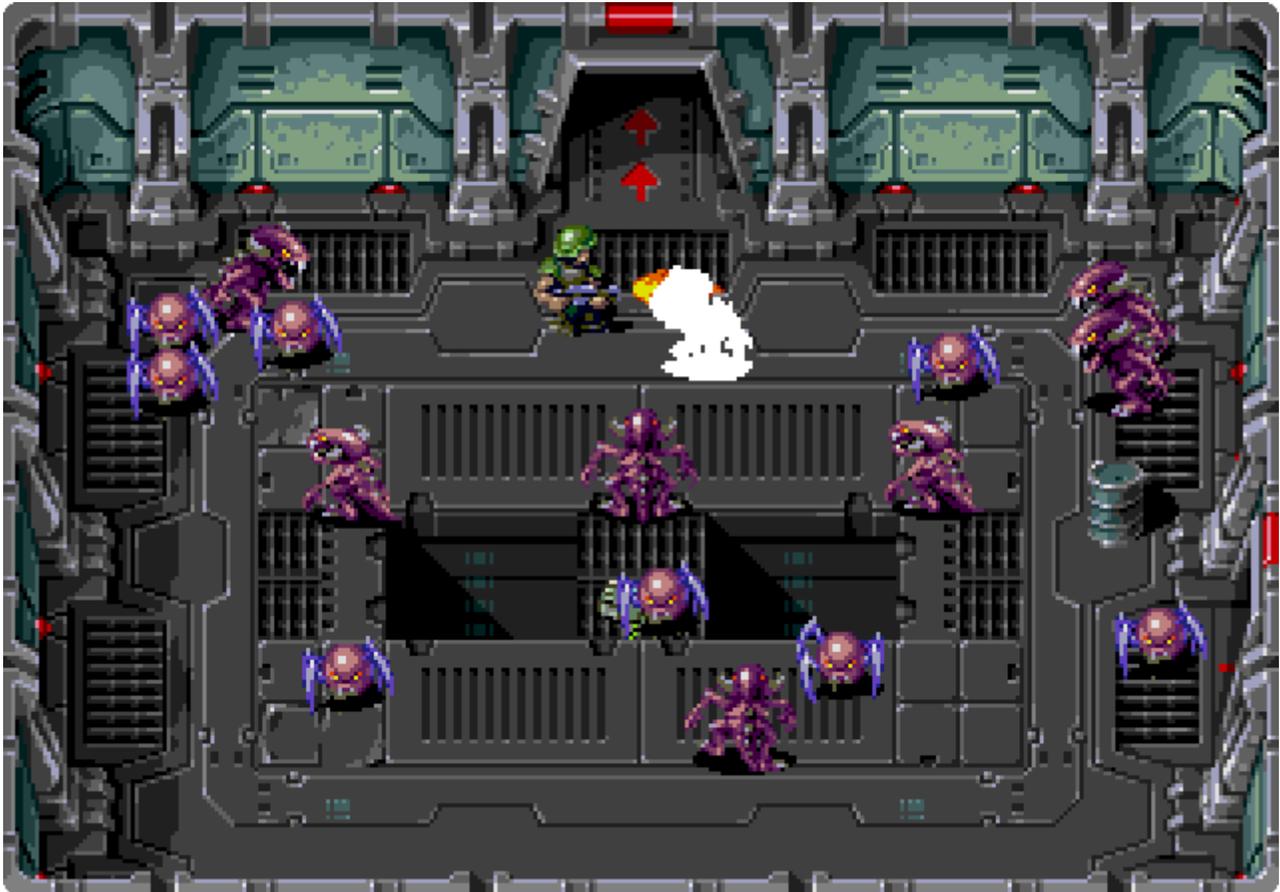
These projects are known to be based on the SGDK (*non-exhaustive list*):



Tanzer by [Mega Cat Studios](#)



MASIKA by [Resistance](#)



Xeno Crisis by the [Bitmap Bureau](#)

🔗 Random list of SGDK-powered games and demos

- [2048](#) by atamurad
- [Abbaye des Morts \(I'\)](#) unofficial MD port by Moon-Watcher
- [Art of LeonBli \(the\)](#) by Resistance
- [Barbarian](#) unofficial MD port by Z-Team
- [Demons of Asteborg](#) by Neofid Studio
- [Devwill Too MD](#) by Amaweaks
- [Fatal Smarties](#) made for the GGJ 2016
- [Fullscreen NICCC 2000](#) by Resistance
- [IK+ Deluxe](#) unofficial MD port by Z-Team
- [Irena](#) by White Ninja Studio
- [Omega Blast](#) by Nendo
- [Perlin & Pinpin](#) by Lizardrive
- [Right 2 Repair](#) by Super Megabyte made for the GGJ 2020

- [Return to Genesis](#) unofficial MD port by Z-Team
- [Road to Valhalla](#) by Bounty/Banana & Resistance
- [Spiral \(the\)](#) by Resistance
- [Tetris MD](#) unofficial MD port by Nero Jin
- [ThunderCats MD](#) by Rolando Fernández Benavidez.
- [Travel](#) by Resistance
- [Wacky Willy Weiner Sausage Surfer](#) made for the GGJ 2017

Releases 14

 **SGDK 1.65 (july 2021)** Latest
on Jul 30

[+ 13 releases](#)

Packages

No packages published

Contributors 17



[+ 6 contributors](#)

Languages

