The Vectrex is a second-generation home console developed by Smith Engineering and manufactured by GCE, followed by Milton Bradley. It was released in 1982, retailing for $199 USD ($569 in 2021).

The Vectrex features an integrated monochrome CRT monitor, but this isn't just any CRT monitor that scans left-to-right, top-to-bottom. Instead, the electron beam is able to shoot freely across the face of the entire phosphor screen, from any angle, up to the length of the monitor. In essence, this is producing vector graphics as they are literally being generated on the machine. To this date, the Vectrex is the only vector display-based console released for the home market ever.

The Flatten-glow shader set is highly recommended to recreate this effect as it would have originally appeared.

Every game came with a color overlay sheet to be placed in front of the screen, adding static areas of color and/or on-screen decorations/HUD elements.

Being released one year before the NA videogame crash of '83 doomed its fate, being discontinued entirely by 1984 with Milton Bradley (the then current manufacturers of the Vectrex) merging with Hasbro. The Vectrex is considered a commercial failure, however despite this the system was praised for its software library, unique and novel method of rendering graphics, and built-in monitor. It was technically also the first console to feature a 3D-based peripheral.

This system scrapes metadata for the “vectrex” group and loads the vectrex set from the currently selected theme, if available.

Quick reference

- **Emulator:** RetroArch
- **Core:** libreto: vecx
- **Folder:** /userdata/roms/vectrex
- **Accepted ROM formats:** .bin, .gam, .vec, .zip, .7z
BIOS

No Vectrex emulator in Batocera needs a BIOS file to run.

ROMs

Place your Vectrex ROMs in /userdata/roms/vectrex.

Emulators

RetroArch

RetroArch (formerly SSNES), is a ubiquitous frontend that can run multiple “cores”, which are essentially the emulators themselves. The most common cores use the libretro API, so that's why cores run in RetroArch in Batocera are referred to as “libretro: (core name)”. RetroArch aims to unify the feature set of all libretro cores and offer a universal, familiar interface independent of platform.

RetroArch configuration

RetroArch offers a Quick Menu accessed by pressing [HOTKEY] + which can be used to alter various things like RetroArch and core options, and controller mapping. Most RetroArch related settings can be altered from Batocera's EmulationStation.

Standardized features available to all libretro cores: vectrex.videomode, vectrex.ratio, vectrex.smooth, vectrex.shaders, vectrex.pixel_perfect, vectrex.decoration, vectrex.game_translation

<table>
<thead>
<tr>
<th>ES setting name batocera.conf_key</th>
<th>Description ⇒ ES option key_value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAPHICS BACKEND vectrex.gfxbackend</td>
<td>Choose your graphics rendering ⇒ OpenGL opengl, Vulkan vulkan.</td>
</tr>
<tr>
<td>AUDIO LATENCY vectrex.audio_latency</td>
<td>Audio latency in milliseconds, turn it up if you hear crackles ⇒ 256 256, 192 192, 128 128, 64 64, 32 32, 16 16, 8 8.</td>
</tr>
<tr>
<td>THREADED VIDEO vectrex.video_threaded</td>
<td>Improves performance at the cost of latency and more video stuttering. Use only if full speed cannot be obtained otherwise. ⇒ On true, Off false.</td>
</tr>
</tbody>
</table>

libretro: vecx

A libretro port of the open-source vecx emulator. Originally created by Valavan Manohararajah.
libretro: vecx configuration

<table>
<thead>
<tr>
<th>ES setting name</th>
<th>Description ⇒ ES option key_value</th>
</tr>
</thead>
<tbody>
<tr>
<td>batocera.conf_key</td>
<td>Settings that apply to all systems this core supports</td>
</tr>
<tr>
<td>RESOLUTION MULTIPLIER global.res_multi</td>
<td>Resolution multipliers to smooth vectors. ⇒ Off, 1, 2, 3, 4.</td>
</tr>
</tbody>
</table>

**Resolution multiplier**

Translating vector-based games to a traditional pixel grid screen is never going to be 1:1 perfect, as the nature of how vectors are drawn versus pixels are incompatible. There will always be a level of “staircase” effect with any lines that aren't perfectly perpendicular with cardinal directions.

Setting the resolution multiplier to 4 and using the Flatten-glow shader is an easy way to get a close approximation of the original rendering effect.

**Controls**

The Vectrex features a built-in four-button controller.

Here are the default Vectrex's controls shown on a Batocera Retropad:

![](https://wiki.batocera.org/images/9/9e/Controls.png)

**Troubleshooting**

**Further troubleshooting**

For further troubleshooting, refer to the generic support pages.

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Last update: 2021/12/07 09:41