KEIO

RETRO ADAPTER

The Retro Adapter lets you play games on your PC, Mac or Playstation 3 with the original controllers from classic computers and game consoles.

For a full list of supported controllers and the latest information visit:

http://keio.dk

How it works

Some types of controller can be connected directly to the Retro Adapter:

- Atari joysticks
- Commodore joysticks
- Spectrum Kempston joysticks
- Amstrad CPC joysticks
- Sega Master System / SG 1000 / SG 1000 II / Mark III gamepads
- Sega Megadrive / Genesis 3 and 6 button gamepads
- Neo Geo joysticks and gamepads

For other types of controller you need a suitable Connector. You can buy them at http://keio.dk or make them yourself. See the web site for details.

Connecting the Retro Adapter

Simply plug the Retro Adapter into a free USB socket. No drivers are required. You can now connect any supported controller and start using it immediately.

Using Connectors

Attach the Connector to the Retro Adapter. Some Connectors have a socket for the controller to plug in to, others use the smaller DB9 socket on the Retro Adapter and just act as a "dongle". Plug your controller into the correct socket and start using it.

2 Player Connector

The 2 Player Connector allows two players to use one Retro Adapter at once. When it is connected the computer will see two virtual joysticks instead of one. The first joystick is for player 1, the second for player 2.

For a complete list of supported controllers see the web site.

Both sticks work the same way with identical button mapping to 1 Player mode. You can mix and match any supported controllers, so for example one player could use a Megadrive 6 button pad and the other a SNES pad.

3DO

Official gamepads are supported.

Atari Driving Controllers

These controllers are basically spinners – they can rotate clockwise or anticlockwise with no restrictions. The Retro Adapter converts the movement of the spinner into left/right joystick movements.

To use Driving Controllers in MAME with games like Arkanoid first set the digital left/right inputs to joystick left/right by selecting each input in turn and then spinning the knob anticlockwise or clockwise respectively. Then go into the analogue controls section and set sensitivity to 100% and digital speed to 7. To adjust the sensitivity vary the digital speed setting.

Atari Paddles

Atari Paddle controllers come in sets of two and use potentiometers to sense the angle they are set at. Unfortunately these potentiometers are prone to getting dirty and jumping around a lot. It is possible to disassemble and clean them to restore their performance:

http://wolfsoft.de/wordpress/?p=306
http://www.atariguide.com/help/care.htm

Once the Paddles have been connected to the Retro Adapter it may be necessary to calibrate them using the joystick calibration tool on your computer (not required for Playstation 3). On Windows it can be found in the Control Panel under "Game Controllers". For Mac and Linux the process varies, consult your documentation.

After calibrating for the Paddles you may need to re-calibrate when you connect a different controller to "reset" everything. A digital controller is best.

BBC Micro

Two types of BBC Micro joysticks are supported: the original Acorn style sticks and Voltmace 14 button (keypad) sticks. The Connector has a switch to select which type of stick is in use.

When dual Acorn joysticks are connected the Retro Adapter operates in 2 Player mode. Only one Voltmace joystick can be connected at once, but the switch box part is not needed. Simply connect the Voltmace stick directly to the BBC Micro Connector and set the switch to the correct position.

Commodore Plus4 / C16 / C116

All digital joysticks are supported.

Dragon 32 / 64

Dragon joysticks suffer from similar problems to Atari Paddle controllers – the potentiometers get dirty and perform poorly. Unfortunately official Dragon joysticks are sealed with glue rather than screws so are difficult to disassemble. Similar cleaning methods to the Atari Paddle controllers can be used.

Mice

When a Mouse Connector is attached the Retro Adapter switches to Mouse Mode. In this mode you can use the mouse just like any normal USB mouse, in an emulator or in Windows/Linux/MacOS.

You can also use a joystick in Mouse Mode. This mode is ideal for computer emulators, e.g. Amiga or Atari ST, as they typically have two ports with a mouse in one and joystick in the other.

Amiga two and three button mice are supported. Atari two button mice also work.

MSX Joystick

All digital joysticks are supported.

NEC PC Engine

Three and six button (Avenue, Hori Fighting, Duo RX) pads are supported.

Nintendo 64 and Nintendo Gamecube

Official N64 and Gamecube pads are supported.

Nintendo Famicom / NES

Official pads and most third party ones supported. Japanese pads are supported but the microphone is not used.

Nintendo Famicom / NES Trackball

Nintendo released a trackball for the Famicom but very few games used it. The trackball is also very low resolution (4 bit) which makes it unsuitable for use as a mouse in most situations. For that reason it is configured as a joystick and rolling the ball produces movements on the stick. Games such as Marble Madness can be played with it. For MAME configure input the same way as Atari Driving controllers (see above.)

Nintendo Super Famicom / SNES

Official and most third party pads supported. SNES mouse is supported (see Mice section above.)

Nintendo Virtual Boy

The standard controller is supported. The left d-pad is mapped to the main joystick axis, the right one to the POV hat.

PC Gameport

Up to four buttons and four axis are supported. The Gameport Connector is designed for older joysticks/gamepads that use the standard gameport connections. Newer joysticks or those which need special drivers (e.g. Wingman, MS Sidewinder) are not supported yet.

Playstation

Playstation 1 Analogue and Dual Shock controllers, as well as Playstation 2 controllers can operate in digital or analogue mode. Both modes work on the Retro Adapter and can be selected as normal with the Mode button.

The Densha de Go! train controller is also supported.

Sega Saturn

Standard Saturn pads are supported, as well as the Analogue Controller (NiGHTS), Twin Sticks (Virtua On) and all types of arcade joysticks including the Virtua Stick.

The Densha de Go! train controller is also supported.

Tandy TRS-80

Standard joysticks are supported.

TurboGrafx-16

Official gamepads are supported.

X68000

Standard joysticks / gamepads are supported.

Firmware Updates

The latest firmware can be downloaded from the website. To update simply connect the Update Dongle or one of the following controllers: Amiga / Atari joystick, Master System / Megadrive (Genesis) pad or Neo Geo joystick / pad. If using a controller hold down the joystick fire button, button B on Sega pads or button A on Neo Geo controllers. Now connect the Retro Adapter to a USB port and the computer will detect it as "RA Update Mode".

Extract the firmware archive you downloaded and run the update.bat file. A window will appear for a few seconds while the firmware is updated. The Retro Adapter will then return to normal operating mode and you can use it as normal.
Don't worry about the update failing due to a computer crash or accidentally unplugging the USB cable, you can re-try it as many times as necessary.

Support

For any questions please see the main web site at http://keio.dk or email paul@keio.dk.