



SKG Retrobox User Manual

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SKG Retrobox Instruction Manual

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Introduction

Thank you for purchasing the SKG Retrobox. I hope you have a lot of fun revisiting the classic video games of years past. The SKG Retrobox is a Raspberry Pi 3, running the RetroPie software. RetroPie is a complete software solution for retro gaming, including an operating system, various emulators (an emulator is a piece of software designed to imitate, or imitate, a piece of hardware, like the NES or Sega Genesis), and a front end called Emulation Station. This manual is meant to be a basic guide as to how to use the device, and what it can do. The RetroPie software has a lot of features, more than can be covered in this manual.

Basic Instructions

- Turn the TV on and select the correct input. Connect the unit to the TV with the HDMI cable. Plug the controller into any USB port. Lastly, plug the power adapter into the micro-USB port next to the HDMI port.
- On the main screen, use left/right to select a system. If Kodi is installed, it will be under "Ports". Select "RetroPie" to go into the configuration options. Press the 'A' button to select the system.
- In the system screen, use up/down to scroll through the list of games, one at a time. Use the left/right shoulder buttons to scroll through the list of games one page at a time. Press 'A' to play your game. The appropriate emulator will launch and your game will start.
- To exit your game, and return to the system screen, press 'Select' and 'Start' at the same time. Note, some systems that require a keyboard, such as Colecovision, Intellivision, and Odyssey 2, use a different way to exit. Check the sections on those systems for instructions. To exit the system screen and return to the main screen, press 'B'.
- To shut down or reboot your system, press 'Start' from the main screen. This will bring up the Main Menu. Select 'Quit' and press 'A'. Select either the reboot or shutdown option, and press 'A' again. Keep in mind that the Raspberry Pi does not have an on/off switch. If your case or power supply has a power switch, toggle it off. Otherwise, you will have to unplug the power, and re-plug it to restart. Note, BE SURE TO DO A PROPER SHUTDOWN RATHER THAN JUST POWERING OFF THE SYSTEM. This ensures that the data on the SD card does not get corrupted and that all saved games are properly written to disk.

Special Instructions for Handheld Retro Box

- To exit the game, press Start and "HK" (short for Hotkey) to exit the game, not Start and Select
- After doing a proper shutdown of the system, turn the power button to Off. Failure to do this will cause the batteries to drain.

Main Screen



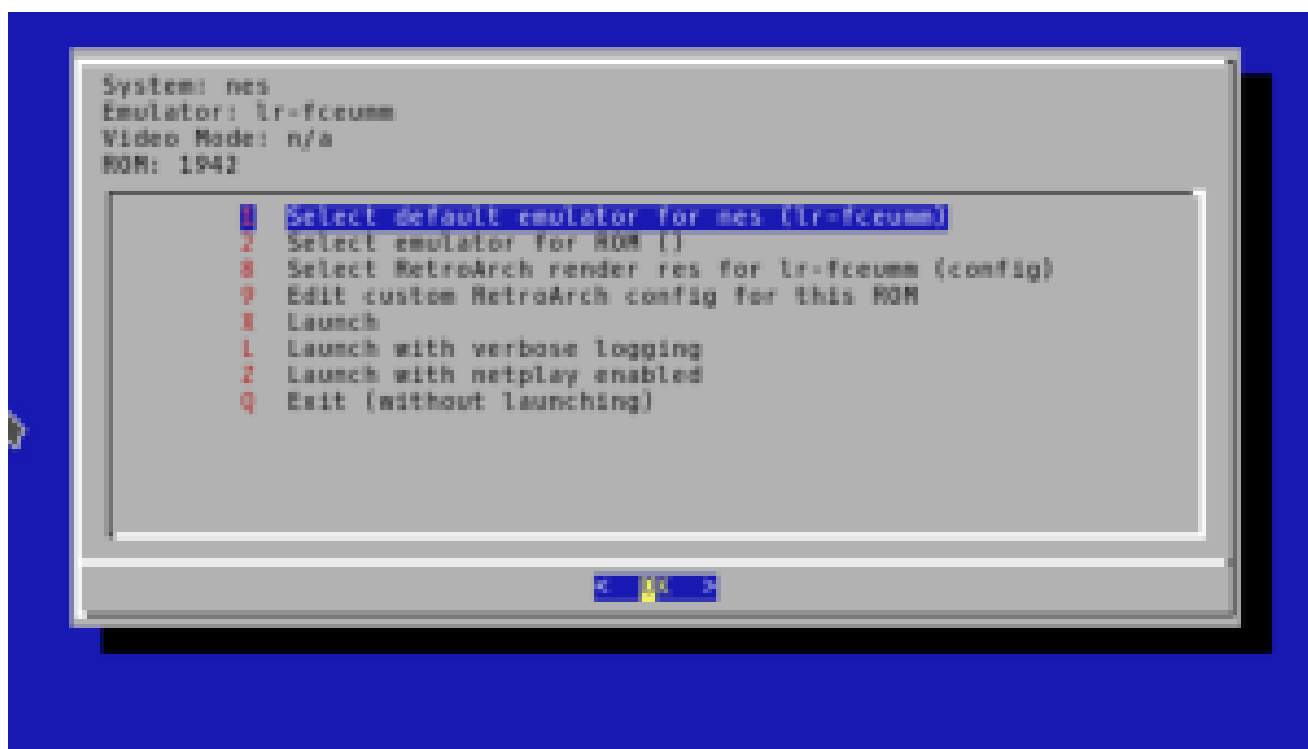
The main screen is where you land when you first boot up the SKG Retrobox. If instead, you see a screen with a

white window complaining about a missing gamepad, plug in your USB game controller. By using the left/right direction keys, you can choose from among the available systems. There is also an entry called RetroPie, which allows you to choose RetroPie configuration, see the section below for that screen. If you have the Kodi media server installed, you will see an entry called Ports. Kodi is under that. To select an available system or RetroPie configuration, press the 'A' button on your controller.

System Screen



Once you select a specific system, you will find yourself on the page for that specific system. Scroll through the list of games for this system using the up/down arrow buttons. Use the left/right shoulder buttons to scroll through the list a page at a time. As you highlight a specific game, you will see the various information about the game, such as box art, description, etc. This is all from various databases on the Internet, so may be incomplete. A small number of games may have no art or description available. To play a specific game, highlight it and press 'A'. The game will launch in the appropriate emulator. To exit the emulator and return to the system screen, press the Select and Start buttons at the same time. To exit the system screen, and return to the main menu, press 'B'. Before the game launches, you will briefly see the window below. Just wait for a few seconds and your game will start. Pressing any button on your controller at the above screen will bring you to this screen:



From here you can do a variety of things, such as changing the default emulator for the system or the individual game. A number of systems come with more than one emulator installed, and there are others that can be installed from the RetroPie Setup Script. The vast majority of the time, the default emulator will work fine for whatever game you wish to play. But there are some instances where some games will play substantially better on one emulator than another.

The Main Menu

Press Start while on the Main Screen to Bring up the main Menu



Here is a brief rundown on the options in the Main Menu

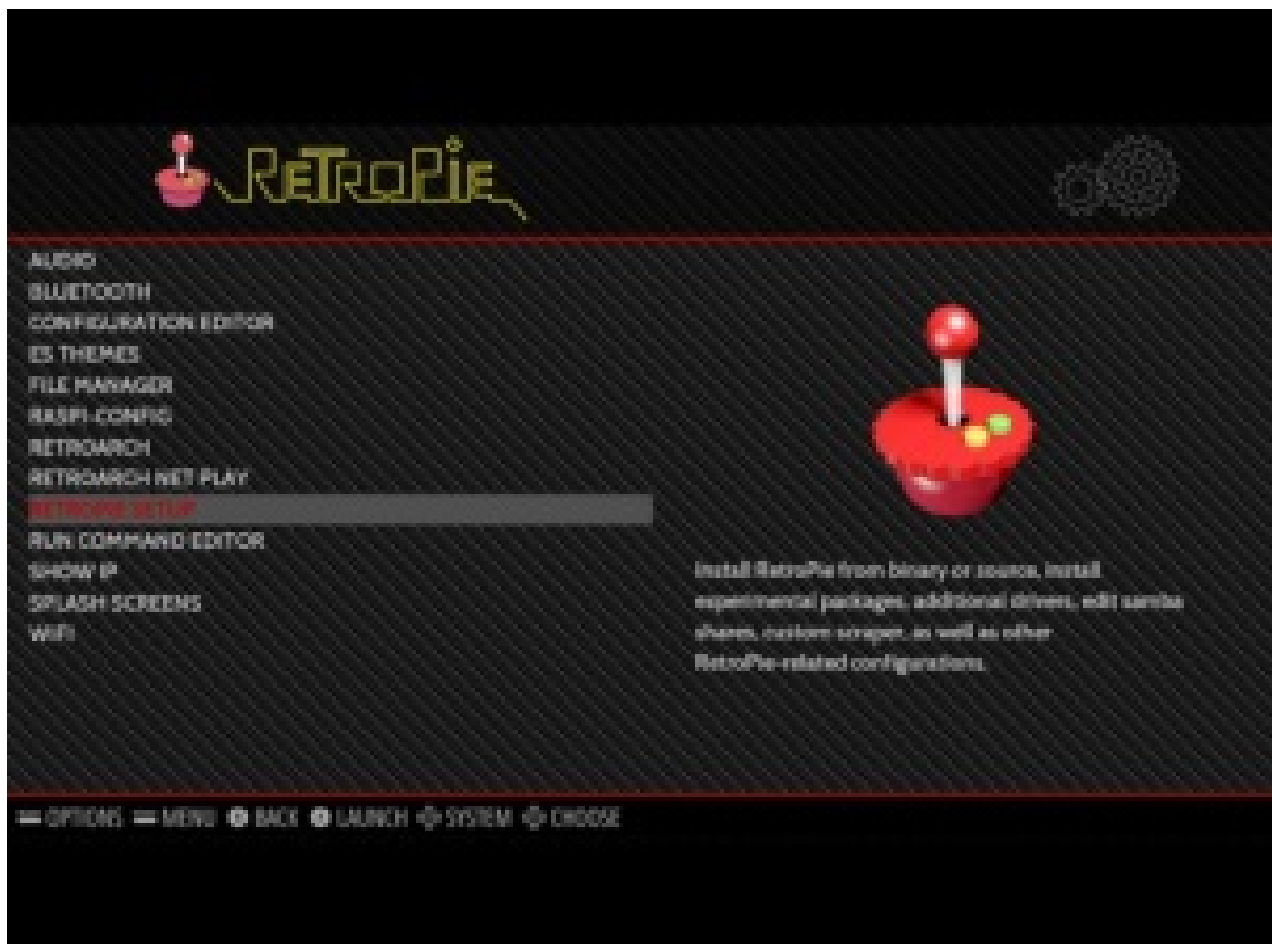
- Scraper – The Scraper is a program that goes to the Internet, and downloads box art, descriptions, and other data regarding the individual games for each installed system. This has already been done for you, so you should not have to deal with this.
- Sound settings – Adjust volume, and turn sound effects on/off UI Settings – Screen saver, transition effects, etc. One thing to check for – Quick System Select. Make sure this is set to Off.
- Other Settings – Technical settings. Do not change, unless you know what you are doing.
- Configure Input – Use this if you wish to remap the buttons on your current controller. See the section on Adding a New Controller for more information.
- Quit – Quit or restart the system or just the Emulation Station front end. Note that quitting Emulation Station will drop you to a Linux Command Line Interface (CLI). Do not do this unless you know how to work in this environment.

Options Screen



When in the screen for a specific system, press the Select button to bring up the Options screen. From here you can jump to a specific letter in the list. You can also sort the game list according to most recently played, or a number of times played so that your favorite or most recently played games are at the top of the list.

RetroPie Configuration Screen



Here are the options in the RetroPie Configuration Screen, with links for further information on several of them..

- Bluetooth – Connect to external Bluetooth devices like mice, keyboards, and game controllers. Note, Bluetooth Audio is not supported by this device, so you can't connect to Bluetooth speakers.
- Configuration Editor – This is an advanced configuration, beyond the scope of this manual. For more information go to <https://github.com/retropie/retropie-setup/wiki/Configuration-Editor>
- ES Themes – Themes change the look and feel of the Emulation Station interface. For more information, go to the Themes section in Getting the Most out of Your Retro Box, page 16.
- File Manager – Launches Midnight Commander, an old-school Linux File Manager, similar to Windows Explorer. Controlled solely by keyboard, no mouse. For instructions on how to use, go to <http://nawaz.org/media/docs/mc/mc.pdf>
- Retroarch – View and modify a number of highly technical settings related to Retroarch, software that allows all the emulators on RetroPie to share a similar look and feel. Beyond the scope of this document.
- Retroarch NetPlay – A feature that allows you to play certain multiplayer games across a network, rather than sharing the same device and screen. For further information, go to <https://github.com/retropie/retropie-setup/wiki/Netpla>
- RetroPie Setup – runs the RetroPie Setup script, which allows you to install new packages, and update existing ones, as well as a number of configuration options. Most of those are already covered in this section, so you shouldn't need to access this.
- Run Command Configuration – Allows access to config options for the load screen and CPU. You don't need this.
- Show IP – Shows the IP address of your system
- Splash Screens – The splash screen is the graphic that displays when the system boots up. Download various

splash screens, change them, or even set them to display a random screen at every boot.

- **Wireless** – This allows you to connect to Wireless networks. Not necessary, unless you have Kodi installed, and want to stream video/music from various Internet sources, or you want to access the Internet from the Pixel Desktop.

Installing a New Controller

The SKG Retrobox comes with 2 SNES style or Xbox 360 style game controllers. These have already been configured, and work out of the box. However, it is capable of working with almost any USB controller, including Xbox and Playstation Controllers. If you install a second controller, a new kind of controller, you will see the Configure Input screen.



The controller configuration screen is pretty self-explanatory. Press the button on your gamepad that corresponds to the highlighted option, it will register, then go on to the next. You may not have a button that corresponds to the option. For instance, the SNES Style controller does not have trigger buttons or analog controls. In that case, hold any button down for 3-5 seconds. It will register as Not Defined. When finished, it will highlight 'OK' at the bottom. Press 'A', and your new controller is now configured. Note, the last option is to set a Hotkey. This is a button that is pressed along with the Start button to exit a game and return to the System screen. Leave this undefined to go with the default selection of Start plus Select.

Main Systems

The SKG Basic Retrobox comes with 4 systems pre-installed. A brief description of each is below.

Atari 2600

The Atari 2600, otherwise known as the VCS, was the first widely successful home video game system, as well as one of the first to use interchangeable cartridges to allow the unit to play many different games. (Previous home video games were single game units, such as Pong) It is one of the biggest selling systems of all time, moving over 40 million units by the time it was discontinued in 1992. Although the graphics and audio were crude by today's standards, the Atari 2600 produced a number of memorable games, such as conversions of arcade games Space Invaders and Asteroids, as well as Activision classics like Pitfall and Kaboom.

Nintendo Entertainment System

The Nintendo Entertainment System (NES), released in 1985, is one of the most popular video game systems of all time. Many of the most popular video game franchises of all time originated on the NES. They include famous

Nintendo properties, such as Super Mario, Zelda, and Metroid, as well as numerous third-party series, such as Mega Man, Castlevania, and Contra, and RPGs such as Final Fantasy and Dragon Warrior.

Sega Genesis

The Sega Genesis, known as the Megadrive in the rest of the world, was the first console of the 16-bit era. Its graphics and sound were a huge step above the 8-bit consoles of the time, such as the NES. It was known for the quality of its sports games, and some of the most famous sports franchises of all time, such as Madden Football, premiered on the Genesis. It was also known for Disney-themed games, such as Aladdin, Castle of Illusion, and Quackshot. Other notable games for the system include the Sonic the Hedgehog series, Ecco the Dolphin, and Gunstar Heroes.

Super Nintendo

The Super Nintendo system was introduced in 1990 as a competitor to the Sega Genesis. It boasted superior graphics capabilities, but a slower CPU. Some of the best-known games are Nintendo first-party games such as Super Mario World, Super Metroid, and Donkey Kong Country. It is also known for its excellent RPGs, such as Final Fantasy II and III, and Chrono Trigger, as well as its excellent, and very hard, Star Wars games.

Additional Systems

Mattel Intellivision

The Intellivision was introduced in 1979 and was the primary competitor to the Atari 2600. Though technically superior, especially in audio, it was never able to catch 2600 in sales, partially due to its unusual controller with the 12 button number pad. It was known for its sports games, Dungeon and Dragons games, and arcade ports. You will need a keyboard attached to the SKG Retrobox to play Intellivision Games. Use the '1' key to start the game and F1 to exit the emulator. Also, if you have a controller with analog thumbsticks, like an Xbox 360 or Playstation controller, do not use this with the Intellivision emulator. In some Intellivision games, like Burger Time, it may seem like nothing happens after you press 1 or 2 to start the game. Try pressing either equals (=) or the Enter key on the number pad. One of those should start the game. Also, if you only have one controller plugged in, and it does not seem to work, try pressing F6. There is a second INTV emulator on the box called LR-freeing, which does not require a keyboard. This emulator has a virtual number pad built-in. Press and hold either shoulder button to bring up the keypad. Use the d-pad on the controller to highlight the desired key, and press B. Use Start + Select to exit the game. This emulator works best for games that use the keypad sparingly, or not at all.

Colecovision

The Colecovision was introduced in 1982, at the height of the first home video game craze. It was the most technically advanced system of its time and was known for the quality of its arcade ports, which were the closest to arcade quality you could get in a home system. It was the first system to offer peripherals like a steering wheel, a trackball, and even an expansion module which turned the unit into a full-fledged home computer. Although superior from a hardware standpoint, it was a victim of bad timing, as the entire US video game market crashed in 1983, taking the Colecovision with it. You will need a keyboard attached to the SKG Retrobox to play Colecovision games. Use the number keys to start the game and press right Shift, along with entering, to exit the emulator. Also, if you have a controller with analog was thumbsticks, like an Xbox 360 or Playstation controller, do not use this with the Colecovision emulator.

Game Boy

The Game Boy was released by Nintendo in 1989 and became one of the best-selling handheld consoles of all time. It played games on a monochrome screen but still managed impressive graphics and gameplay. Some of its most notable games are Tetris, the Super Mario Land series, including the very first Wario game, and the very first Pokemon game, Red and Blue.

Game Boy Color

The Game Boy Color was the successor to the Game Boy, released in 1998. It featured a faster processor and a color screen. It was backward compatible with the original Game Boy, and could even add limited color to original Game Boy games.

Game Boy Advance

The Game Boy Advance was the successor to the Game Boy Color, released in 2001. It had a wider base, larger

screen, and superior hardware, comparable to a Super Nintendo. In fact, many of the best-selling games for the system were ports of NES and SNES games. It supported multiplayer with a link cable device.

Nintendo 64

The Nintendo 64 was released in 1996 and was the last home console to utilize cartridges, as opposed to optical disks. It had a unique, 3 pronged controller, with an analog thumbstick. Some of the most notable games include Super Mario 64, Legend of Zelda – Ocarina of Time, Diddy Kong Racing, and Goldeneye. Note that Nintendo 64 emulation is tricky, and some games may not run well on the Raspberry Pi device. Try experimenting with different emulators, and video resolutions. There is a page at

<https://docs.google.com/spreadsheets/d/1Sn3Ks3Xv8clx3LGCozVFF7wGLagpVG0csWybnwFHXk/edit#gid=282207345>

listing which games work best with which emulators, and at which settings. Also, note the standard controllers, like the SNES style controllers, do not work well with N64 games. You need a controller with an analog thumbstick. The Xbox 360 style controller works quite well, or if you prefer an actual N64 style, do an Amazon/eBay search for “N64 USB Controller”.

Sega Master System

The Sega Master System was introduced in 1986, as a competitor to the NES. Although superior from a technical standpoint, the SMS never matched the popularity of the NES, due to Nintendo’s superior marketing and library of third-party games. It did considerably better in Europe and South America. It had a library consisting of 8-bit conversions of Genesis games, like Sonic the Hedgehog and Streets of Rage, as well as excellent originals like Phantasy Star, and Alex Kidd in the Enchanted World.

Sega Game Gear

The Game Gear was a handheld system released in 1991 as a competitor to the Game Boy. The hardware was comparable to the Master System, and in fact, many of the games in its library were ports of Master System titles or 8-bit conversions of popular Sega Genesis titles.

Sega 32X

The 32X was an add-on for the Sega Genesis, adding 32-bit processing power, and improved graphics. Although a failure at the time, it had a number of good titles available, such as Star Wars Arcade, and Knuckles Chaotix.

Sega CD

The Sega CD was an add-on for the Genesis that allowed the system to play CD-based games, as opposed to cartridges. The extra storage space of the CD format allowed for games with extra content, better music, and even full-motion video. Notable games for the system include Sonic CD, the Lunar Games: Eternal Blue and Silver Star, and Earthworm Jim Special Edition.

TurboGrafx-16

The TurboGrafx-16 was the first console of the 16-bit era. It was far more successful in Japan than the US, which is why so many of the games for the system are Japanese exclusives. It still produced a number of excellent American games, though, like Keith Courage, the Bonk series, and Blazing Lasers, one of the best vertical shooters of all time.

Vectrex

The Vectrex was released in 1982 by a company called General Consumer Electronics. It was capable of playing only vector-based games (think Asteroids and Tempest). Unlike other home consoles, this one did not plug into a TV but came with its own integrated monitor. disappeared only a few years later, but has maintained a small, devoted following.

Odyssey 2

The Odyssey 2, or Videopac as it was known in Europe, was one of the first home video games released, competing with the original Atari. Although most of its games were variations on more well-known games, some of them improved on the concept, like alien Invaders, and KC Munchkin. Like the Colecovision and Intellivision, the O2 requires a keyboard to launch the games, and in some cases, to play them. Usually pressing a number like 1 or 2 starts the game. To exit an Odyssey 2 game, press Ctrl and Esc simultaneously on the keyboard.

Atari 7800

The Atari 7800 was a successor to the 2600 and 5200 consoles, released in 1986. Its best know titles are ports of arcade games, such as Joust and Asteroids, it also boasted original games, such as Ace of Aces and Midnight Mutants. When playing Atari 7800 games, BEWARE THE X BUTTON. The X button acts as a soft reset and will

restart whatever game you are playing, without warning.

Playstation

The first Playstation, the PS1 or PSX, is one of the most successful consoles of all time, selling 100 million units between 1995 and 2005. It is known for being one of the first consoles to successfully do 3D games. Because of the size of Playstation games, it was not possible to include the entire PS library, since there is no SD card large enough to hold them all. What you are getting is a sort of “Best of Playstation” with a selection of games that were some of the best and most popular for the system. They represent genres where the console was strongest, such as fighting games, racing as wrestling, role-playing, and unusual sports such as wrestling and snowboarding. There are very few mainstream sports games in the collection. If you want a different collection of PS games, contact me at the email address at the end of this user guide. On another note, many PS games were spread across multiple CDs, and require you to change CDs in the middle of the game to continue. This is done in the RetroArch menu, which you can access in-game by holding the Select button, and pressing Y. There are some excellent YouTube videos demonstrating this process here:

<https://www.youtube.com/watch?v=pkqf7VMOCFU>

https://www.youtube.com/watch?v=xX7_HaxO2IU

Dreamcast

Released in 1998, the Dreamcast was Sega’s last entry into the console market. Although a commercial failure at the time, it has experienced a resurgence in popularity in recent years. It was known for the quality of its arcade conversions, such as Capcom vs SNK, and Street Fighter III, as well as original games like the first true 3D Sonic games, and Shenmue. Dreamcast emulation is very difficult. Most games do not work at all or are very slow. The ones I offer on the upgrade are the ones I could get to work at all. In many cases, there are slowdowns in the intro and cut scenes and/or choppy audio. In some cases, there are slowdowns in the gameplay itself, although the game is playable.

Arcade

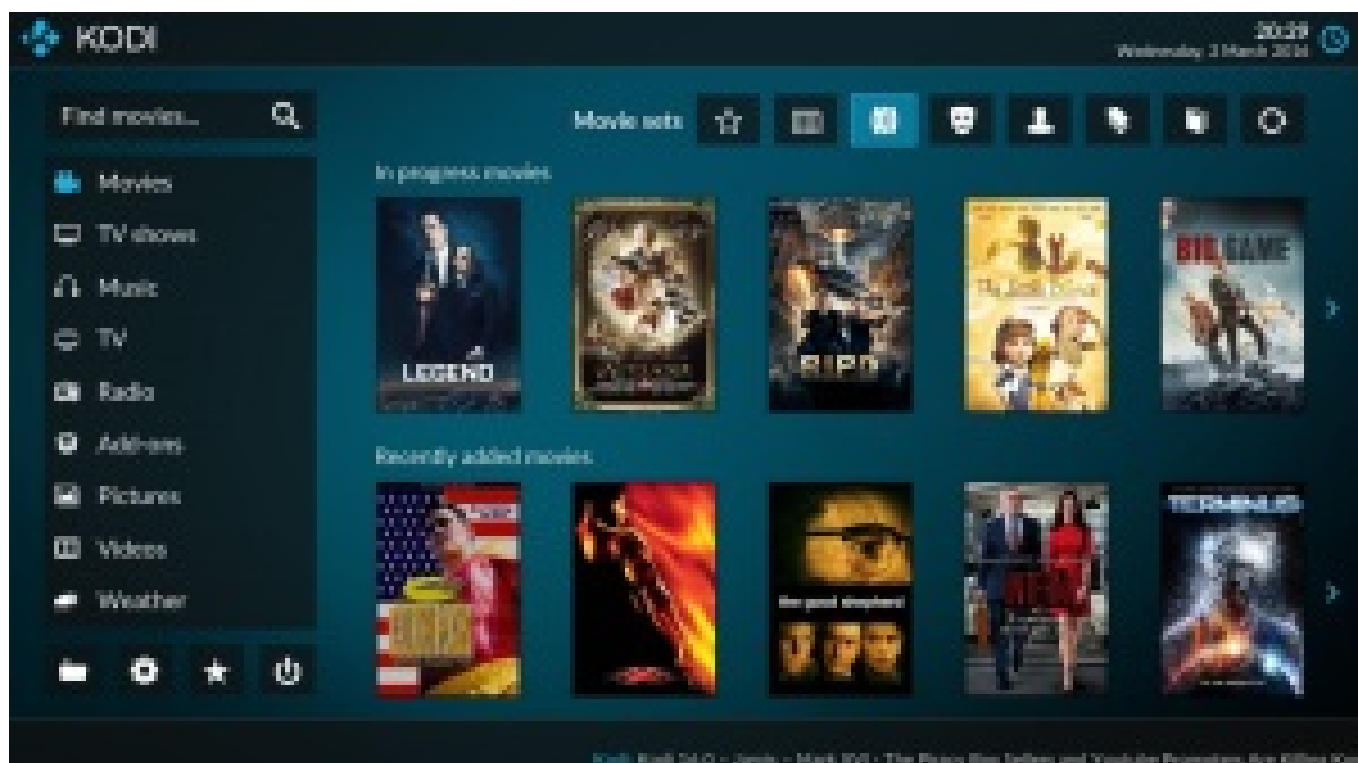
This section is pretty self-explanatory. It encompasses all the games we stuck quarters into in the 80s and 90s. It does not include Laserdisc games like Dragon’s Lair, which are in their own section (see Daphne, below). When playing an arcade game, use the Select button to insert a coin, and the Start button to start the game. Because of the huge variety of hardware and software involved in classic arcade games, it is impossible to guarantee that every game in MAME will play correctly. In general, you should be fine with older games, but the newer the game is, the more apt it is to have slowdowns and other problems.

Daphne

Daphne is an emulator for the mid-80s laser-disc arcade games, such as Dragon’s Lair and Space Ace. The laserdisc fad came and went in just a couple of years, so there are only a handful of games for the platform. When playing Daphne games with a SNES style controller, the main action button is X. Wh0 style, it is A. For other controllers, you may have to do some trial and error. To exit a Daphne game, press the left shoulder button.

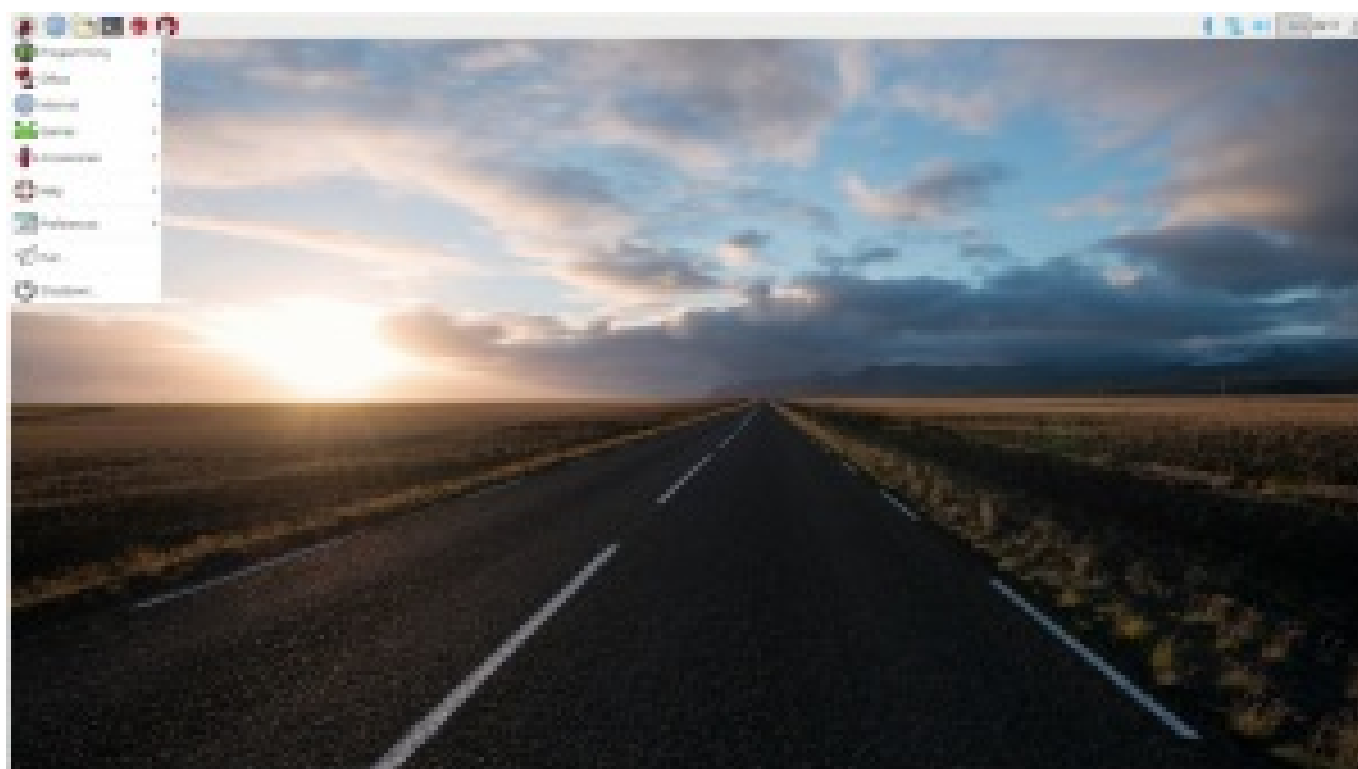
Additional Add-Ons

Kodi



Kodi is an all-purpose media center, to allow you to organize, view, and play all your videos, music, and photos. There are also numerous plug-ins available for streaming media from various sources online. It can interface with TV Tuners and Internet Radio. There is far more to Kodi than can be summed up in this document. Go to <https://kodi.tv/> for more information.

Pixel Desktop



The Pixel desktop turns the SKG Retrobox into a fully functioning computer. It comes with a web browser and an office suite. Access the Desktop software in the Ports section of the Main Screen. Reboot the system to get back to the RetroPie software.

Getting the Most out of Your Retro Box

Favorites

If you have a group of favorite games that you play regularly, you can create an entire category for them, accessible from the Main Screen. To add a game to your Favorites, highlight it from within the System Screen, and press Y. You will see a message saying that the game has been added to Favorites. To remove a game from Favorites, press Y again. To view your Favorites, go to the Main Screen, and press Start, then Game Collection Settings, then Automatic Game Collections. Check the box for Favorites, then keep pressing B until you get out of the menu. It will take a few seconds to create the Favorites screen, so be patient. You will now have a new category called Favorites on the Main Screen. Another category, last Played, can be set up the same way. Note, some themes, such as Simple Dark, the default one that I install, do not handle the Favorites/Last Played screens well. Artwork is displayed, but no descriptions and the game doesn't highlight when you choose it. Other themes, such as the default, Carbon, handle them better.

Saving Games

No one wants to play Final Fantasy in one setting, so the ability to save games is crucial. If the original game had a save feature, it will work just like it did on the cartridge or disc. The only caveat is that you need to make sure the save game file is written to the SD card correctly. The best way to do this is to do a clean shutdown or reboot after saving and exiting the game. Do this by going to the Main Screen, pressing Start, then Quit, then Shutdown, or Restart. If you simply power off the system after exiting, you risk losing the save game because it wasn't written correctly. Also, you risk corrupting the data on the SD card. Most other systems also have a Quick Save and Load feature, which saves the game in the exact state you are currently in. To do a Quick Save, hold the Select button and press the Right Shoulder button. To load the last quicksave state, hold Select and press the Left Shoulder button. This is a great feature for long games that did not originally have a save feature, like Super Mario 3 and the first 2 Sonic games.

Themes

Themes are a great way to change the look and feel of the Retro Box Interface. There are dozens available. There are themes for smaller displays, monochrome themes, and various themes devoted to specific TV shows, comic book characters, and even themes to mimic the UI of other gaming systems, like the Switch or Amiga computer. For a full list of themes, go to <https://github.com/retropie/retropiesetup/wiki/themes>.

To view and install themes, go to ES Themes in the RetroPie screen. Make sure your Retro Box is connected to the Internet. The first option is View/Update Theme gallery. Choose Update to make sure you have all the latest themes, then View. You will see a slide show consisting of 2 screens where one catches your eye. The pictures will automatically change every few seconds, but you can use the A or B button on the controller to go to the next one. It is useful to have a USB keyboard plugged in while doing this, so you can hit ESC to exit, otherwise you are stuck looking at every picture until the end. Once done viewing, you can install one or more themes. They are listed in the order you viewed them, so just go down to the one you want to install and press A. Themes can be several dozen Megabytes in size, so be careful of space restrictions on the SD card. To switch themes, go to the Main Screen, press Start, then UI Settings then Theme Set. Use left and right on the gamepad to choose a theme, then B to exit. After a few seconds, the background will go dark. Press B again, and your new theme will be there.

Classic Computers

In addition to all the coolest consoles, the Retro Box can also emulate, and play games from, a number of classic computers, such as the Commodore 64, Amiga, Apple II, and even MS-DOS. I don't offer those on my for-sale units, because in order to play those games, you have to know how to use those old computers, which most folks do not. If, however, you have an interest in any of those classic computers, send me an email, and I will send you information as to everything that is involved in setting up your Retro Box to play them. If there is enough interest, I may at some point add a new product line.

Hints and Troubleshooting

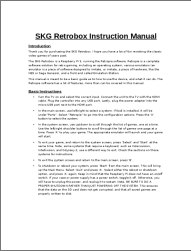
Emulating classic video games is not an exact science. Although the vast majority of games should play well, there may be some games in each system that do not play well, or at all. Try experimenting with different emulators, or different video settings in the launch menu. Always, Always, ALWAYS do a proper shutdown of the device, rather than just powering it off. This ensures all save games are written to disk and reduces greatly the risk of data corruption on the SD card. On rare occasions, you may be in a state where you can't do a proper shutdown and have to power clear the device. You should be good, but if this is something that consistently

happens with a specific game or a specific situation, please email me so I can investigate and try to fix it. The RetroPie software uses a program called a scraper, to collect metadata on each game, such as box art, descriptions, publisher, etc. It collects this data from various databases on the Internet. The scraper is not perfect, and the databases are not complete. A very small percentage of games may be identified incorrectly, or not identified at all. My apologies. The device does not have a dedicated power button. If you need to reboot, you can do so from the main menu, or just unplug the power, wait 5 seconds, and plug it back in. In many cases, the power supply itself will have an on/off toggle switch, so use that instead. Also, the special NES style case has dedicated power and reset buttons. Wireless game controllers will work with the device, although wired is better. Many wireless controllers have a lag that makes gameplay difficult. 2.4 GHz wireless is FAR superior to Bluetooth. BT controllers are difficult to pair and get working, and they usually don't resync with the Retro Box on boot up. Check out my website, at skgretrogaming.com to find reviews of various third-party controllers. They are in the Blog section. If you find yourself switching from one system to another without meaning to, you have Quick System Select turned on. To disable it, press Start to get to the Main Menu, then UI Settings. I am always looking for ways to improve the device. If there are games not working, games/systems that you would like to see added to the device, or any suggestions for making the device better, contact me at skgretrogaming@gmail.com. I will do my best to respond within 48 hours.

Warranty

I guarantee the device for 1 year from the date of purchase. Any problems or concerns, please email me. If I am unable to resolve your issue through phone or email, I will replace the device or any defective components free of charge.

Documents / Resources

	SKG Retrobox [pdf] User Manual SKG, Retrobox
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