



HomeImporting Content Warning This guide assumes that you already have obtained the content legally, RetroArch does not provide users with copyright content. This guide uses the "scan" functionality to import your games into RetroArch's playlists sorted by console. The scan is recursive so you can organise your collection into sub-folders or potentially scan your whole computer. In order to have RetroArch recognise your games, you need to have a databases "Wait for this to finish downloading From the RetroArch Main Menu navigate to "Import content". You will be met by two options "Scan Directory" or "Scan File". To import a collection of ROMs, you should select "Scan Directory". Using the file browser, navigate to the folder with your ROM collection and select "". Please be patient while it scans, large collections could take a few minutes. This is optional, but some games have box art that can make the menu more prettier, head back to the main menu, select "Online Updater", then choose "Thumbnails Updater". Here you need to select the console you want to download, especially on a slow internet connection. In this guide, we will be showing how to install and set up the emulator frontend RetroArch on your Windows and Android-based devices such as Gaming Handhelds, Mini PCs and TV Boxes. We will show how to download and install, how to install the emulator cores, how to add new ROMs to the game browser and much more! For Windows devices, you can download the latest version from the official homepage at . Windows RetroArch Download You can choose the very latest Nightly build which may have some bugs, or the Stable version which is a little older but should have no issues. Once you have downloaded the file, open it and follow the prompts to install it. If your Android device has the Google Play Store installed then you can simply download and install it from there. Search for RetroArch then click on install and all the work is done for you. Android RetroArch Download If you do not have Google Play Store then you can download it from their homepage. Open your Browser on your Retro Gaming Handheld and visit then go to the Download page. It should autodetect that you are on Android and offer the correct version to download. You can choose the very latest Nightly build which may have some bugs, or the Stable version which is a little older but should have no issues. Once you have downloaded it, open your File Manager and go to the Downloads folder. is updating the configuration and data files. To do this choose Settings from the main menu and then Online Update. Choose the menu items starting with Update. and each one will download the emulator Cores. These are essentially the different emulators available for your handheld. From the same Settings > Online Updater screen, choose Core Downloader. RetroArch Core Downloader. RetroArch Core Downloader. RetroArch Core Downloader. support specific Arcade systems and some support multiple. A RetroArch Core to pick when there are multiple, you can download them all and try each to see which is the best for you. Once you have downloaded which Cores you want, you can now scan your storage for the ROM files. If you have not yet added any game ROMS to your device then we recommend reading our guide here for how to locate and add them. Once you have added some games to the device you can proceed with scanning your ROMS folder for games. From the main menu, choose Import Content and then Scan Directory. RetroArch Import Content Locate your ROMS folder on your storage and you can either choose to scan all folders or choose a specific system if you have organised it this way. Choose and RetroArch will scan the folder and add them to RetroArch. RetroArch Scan Folder This can take some time depending on how many games you have to scan. Let it do its thing. On the main menu, scroll down the list and you will see the gaming systems you previously scanned. RetroArch Content Imported Choose a game that you will show with several options. From here you configure various settings, for now, we just want to play the game so choose Run. A new menu will appear with a list of potential compatible emulator Cores that will run the game. Depending on how many you installed, you may only have one or several to choose from. If you find the Core is not to your liking, you can always come back and try a different one. RetroArch Choose Core Pick a compatible emulator core and you will be returned to the previous menu, choose Run again and your game controller or built-in controller or built-in controller when the software loads up. There are however some additional configuring you can do such as shortcuts to commonly used functions. These can include bringing up the in-game menu, saving/loading states and even rewinding games on compatible emulators! A hotkey allows you to use button combinations for shortcuts. To do this we need to first define what the hotkey should be. The most common hotkey is the SELECT button, but you can choose any other if you wish to. From the main menu, choose Settings then Input. RetroArch Hotkeys Scroll down and choose the Hotkey Enable entry and a popup will prompt you to press a button on your controller. Press the SELECT button or whichever button you wish to use. RetroArch Hotkey Enable Your hotkey is now enabled. Continue reading for how to use it! On the same hotkeys screen, you can use. We will show how to set up the Load and Save state function. This function allows you to save exactly where you are in a game and then return at a later date to resume exactly where you left off. We will be using the L1 and R1 buttons for the button will be set. Choose Save State below it and repeat the process but this time press the R1 button. RetroArch Load Save State. We also recommend setting the Menu Toggle Controller Combo which will bring up the in-game menu. This is useful if you need to change any settings and you can also safely close the game and return to the main menu. There are many other functions you can activate such as Rewind on supported systems, or Fast Forward which is great for speeding up unskippable cutscenes or long dialogues! You can make the display window full-screen permanently or have a shortcut to toggle between windowed and fullscreen. On the hotkeys menu we covered above there is a setting to configure a toggle between them. If however, you want RetroArch to always start fullscreen Mode RetroArch Fullscreen Mode Then choose Start in Fullscreen Mode. RetroArch will briefly restart and then be in full screen. You can switch back to Windowed, by going to the Start in Fullscreen Mode option and choosing it again. Welcome to the world of Retroarch, a powerful and versatile emulator that allows you to relive the nostalgic experience of playing classic video games. Whether you're a seasoned gamer looking to revisit your favorite childhood titles or a curious newcomer eager to explore the rich history of gaming, Retroarch is the perfect platform for you. Unlike traditional gaming consoles that are limited to playing games designed for specific hardware, Retroarch offers a wide range of emulators that enable you to play games from various systems, including NES, SNES, Game Boy, Sega Genesis, and more, all on a single device. With its user-friendly interface and extensive library of games, Retroarch is the go-to solution for retro gaming enthusiasts. But how do you get started with Retroarch? In this guide, we'll walk you through the step-by-step process of downloading and setting up Retroarch on your device, as well as how to download and play games using Retroarch. By the end of this tutorial, you'll be ready to embark on a journey down memory lane and enjoy countless hours of retro gaming fun. So, grab your controller, dust off your favorite games, and let's get started with Retroarch! Step 1: Download Retroarch The first step in enjoying the world of retro gaming with Retroarch is to download the emulator itself. Follow these simple instructions to get started: Open your preferred web browser and navigate to the official Retroarch website. On the website's homepage, locate the "Downloads" section. Choose your operating system from the available options, such as Windows, Mac, or Linux. Click on the download link corresponding to your chosen operating system. Wait for the download is finished, you're ready to move on to the next step and install Retroarch on your device. Remember to choose the appropriate version that matches your operating system to ensure compatibility. Downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the latest stable version and minimize the risk of downloading Retroarch from the official website is highly recommended to ensure you have the risk of downloading Retroarch from the risk of downl official website provides comprehensive documentation and support for any troubleshooting you may encounter along the way. Now that you have successfully downloaded the Retroarch new to install it on your device. Step 2: Install Retroarch Now that you have successfully downloaded the Retroarch new to install it on your device. install it on your device. Follow these instructions to installer file to begin the installation process. Follow the on-screen prompts and select your preferred installer file to begin the installer Retroarch on your device. Click "Install" to start the installation process. Wait for the installation to complete. The duration may vary depending on the speed of your device. Click "Install" to start the installation process. Wait for the installation is finished, Retroarch will be ready to launch on your device. Take a moment to ensure that all the necessary files and components have been successfully installed. During the installation process, you may be prompted to choose additional options, such as language preferences or the creation of desktop shortcuts. Feel free to customize these settings according to your preferences or the creation of desktop shortcuts. dedicated community of developers. To ensure you have the latest version of Retroarch, check for updates periodically or enable automatic updates if available in the settings. Now that you have the latest version of Retroarch, check for updates if available in the settings. Now that you have the process of setting up Retroarch to optimize your gaming experience. Step 3: Set Up Retroarch up and running: Launch the Retroarch up programs or search for it in the application menu. When Retroarch opens, you'll be greeted with a welcome screen. Use the arrow keys or the on-screen navigate through the menu options. Once you reach the Main Menu, select "Settings" to access the Retroarch settings. In the Settings menu, you'll find various options to configure Retroarch to your liking. Take some time to explore the settings and customize them according to your preferences. Some key settings to consider adjusting include the display resolution, audio settings, and input configurations. You can also explore other advanced settings such as shaders or overlays to enhance your gaming experience. Once you have adjusted the settings to your satisfaction, navigate back to the Main Menu. From the Main Menu, select "Load Content" and navigate to the folder on your device where you have stored your game ROMs. Select the game you want to play and Retroarch will load it into the emulator. Now that you have successfully set up Retroarch and configured it to your liking, you're ready to start downloading and adding games to your Retroarch library. In the next step, we'll guide you through the process of downloading games and adding them to Retroarch. Step 4: Download Games Now that you have Retroarch set up and ready to go, it's time to start building your library of retro games. Follow these steps to download games for Retroarch: Before downloading games, make sure you understand the rules and regulations regarding game ROMs in your country. It is essential to only download games that you own the original physical copy of or have obtained legally. Search for websites that offer ROMs for the systems you want to emulate using your preferred search engine. Visit reputable websites that are known for providing reliable and safe ROM downloads. Some popular websites include EmuParadise, CoolROM, and The Old Computer. Navigate through the website's menus or search function to find the specific game you want to download. Most websites categorize games by system, genre, or popularity. Check the user reviews and ratings for the game to ensure the download is of good quality and reliable. Once you find the game file. It is important to note that retro game ROMs are typically in the form of zipped files. Therefore, you may need to extract the game files using a file extraction tool like WinRAR or 7-Zip before proceeding to the next step, we will guide you through the process of adding games to your Retroarch library. Step 5: Add Games to Retroarch library: Launch Retroarch library: Launch Retroarch library: Launch Retroarch library: Launch Retroarch so you can start playing. Follow these steps to add games to your Retroarch library: Launch Retroarch library: Launch Retroarch so you can start playing. Follow these steps to add games to your Retroarch library: Launch Retroarch li Main Menu, select "Load Content." A new window will open, displaying your file directory. Use this window to navigate to the folder where you want to add to Retroarch will then load the game into the emulator. Repeat the process for all the games you want to add to your Retroarch library. Once you've added the games, they will be visible in your Retroarch library. Retroarch supports various file formats for game ROMs, including .zip, .sfc, .smc, .gba, and more. However, it's worth noting that some systems may require specific file formats or BIOS files to run properly. If you encounter any issues when adding games to Retroarch, double-check that you have downloaded a compatible ROM file and that it is placed in the correct directory. Additionally, consult Retroarch's documentation or forums for troubleshooting guidance specific to your situation. With your games successfully added to Retroarch, you're now ready to relive the magic of retro gaming. In the final step, we'll show you how to play your retro games on Retroarch. Step 6: Play Retro Games on Retroarch. Step 6: Play Retro arch on your retro games on Retroarch. Step 6: Play Retro arch on your retro games on Retroarch on your retro games on Retroarch. Main Menu, select "Load Content." Navigate to the game you want to play and select it. Retroarch will load the game into the emulator. Once the game is loaded, you can use the controls on your device or connect a game controller to begin playing. preferences. Enjoy playing your favorite retro games on Retroarch! Retroarch offers various features and options to enhance your gaming experiences. From save states that let you resume your gaming preferences. Remember to explore Retroarch's settings and documentation to discover additional features and fine-tune your gaming experience. If you encounter any issues or need assistance, Retroarch's community forums and support resources are a valuable source of information and assistance. Now, with Retroarch's community forums and support resources are a valuable source of information and assistance. immerse yourself in the nostalgia and excitement of classic gaming. Get ready to relive your favorite moments and embark on new gaming adventures, all on the versatile Retroarch emulator! Conclusion Congratulations! You've successfully learned how to download, install, set up, and add games to Retroarch, allowing you to enjoy the vast library of retro games on a single platform. With its user-friendly interface, extensive compatibility, and customizable features, Retroarch is a fantastic emulator for rediscovering the joy of classic gaming. Remember to always download games from reputable sources and ensure that you have the legal rights to play them. Respecting copyright laws is crucial to support game developers and protect intellectual property. As you navigate through Retroarch, don't hesitate to explore its advanced settings and features. Experiment with different display options, controller configurations, and other enhancements to tailor your gaming experience to your liking. Retroarch's active community and forums are invaluable resources for troubleshooting, discovering new features, and connecting with fellow retro gaming enthusiasts. Whether you're reliving childhood memories or discovering classic games for the first time, Retroarch opens up a world of gaming possibilities. So grab your favorite controller, load up some retro games, and get ready for countless hours of nostalgic fun. Thank you for following this guide. Happy gaming! Warning This guide assumes that you already have obtained the content. This guide uses the "scan" functionality to import your games into RetroArch's playlists sorted by console. The scan is recursive so you can organise your collection into sub-folders or potentially scan your whole computer. Step 1: Download database of all the titles. Note Certain releases of RetroArch recognise your games, you need to have a database of all the titles. Note Certain releases of RetroArch recognise your games, you need to have a database of all the titles. menu select "Online Updater", then choose "Update Databases". Wait for the download to finish. Step 2: Scan and import ¶ From the RetroArch Main Menu navigate to "Import Content". You will see three options, "Scan File" and "Manual Scan". Note "Scan Directory" and "Scan File" are sometimes referred to as "Auto Scan". These options can only recognise content that match the database. Using the default settings, these scan options also need a coresponding core for the said content. Using the file browser, navigate to the folder of the content collection and select "Scan This Directory". 2) Scan File: for importing a single file. Navigate to file and select it. 3) Manual Scan: it scans based on content file names and does not require content to match the database. Please be patient while it scans. Large collections could take several minutes. Step 3: Add box art¶ This is optional. Go back to the main menu, select "Online Updater", then choose "Playlist Thumbnails Updater". Here you need to select the console you want to download. Please be patient, these take quite some time to download thumbnails for manually scanned content, the name of the playlist and the names of the entries must match the ones on the thumbnail website. 2025-05-20 You can download an install Retroarch from the official website, from Steam, or from the digital distribution store on whichever platform you are using. Select Load Core > Download a Core and then select the cores you want to download for the systems you want to emulate. folder. Select Load Content and browse to your ROM folder. Select a game you want to play. 1 Install Retroarch on a computer. Retroarch is available on PC, Mac, and Linux from Steam. You can also use the following steps to download and install Retroarch is available on PC. "Downloads" folder. Follow the prompts to complete the installation. 2 Advertisement 3 Install Retroarch on iPhone and iPad. Retroarch is now available from the App Store on iPhone and iPad. Retroarch is now available from the App Store on iPhone and iPad. app signing software. 4 Install Retroarch on a game console. Retroarch is available for a variety of game console, including Xbox One/Series, PlayStation Vita, Nintendo Switch, Wii, Wii U, 3DS/2DS, and more coming soon. However, installing Retroarch may require you to install custom firmware on your game console. This is a risky move that could permanently damage your game console. You should only take this step if you know what you are doing or you already have custom firmware installed on your device. Advertisement 1 Launch Retroarch. Retroarch has an icon that resembles a Space Invaders alien sprite. Click the icon in Windows Start menu, Applications folder (on Mac), Home screen or Apps menu on your device. 2 Navigate to the user interface menu. Select Settings. Select Drivers. Select Menu. 3 Pick a user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the following steps to navigate to the user interface menus you can choose from Use the foll interface. The default options are as follows: glui: This is a user interface with large menu options. This is a retro-style interface that resembles 8-bit graphics. xmb: This is a cross-menu bar that resembles the PlayStation 4 crossmenu bar. This is a good user interface to use if you are playing with a game controller. 4 Restart Retroarch. Once you pick an user interface, select Quit from the main menu, or click the "X" icon to close the program then launch it again. It will launch with the user interface you selected. 5 Press F1 to go full screen. If you want to enter full-screen mode, press F1 on your keyboard. Advertisement 1 Navigate to the Cores menu. Cores are the actually emulators that are used to run ROMs/games. You need to download a core for each game system you want to emulate. Some game systems have multiple cores you can choose from. Use the following steps to navigate to the Core Downloader menu: general arcade emulation): MAME 2003-Plus Commodore Amiga: PUAE MS-DOS: DosBox-Pure TurboGrafx-16.PC Engine/TurboGrafx-CD: Beetle VB Nintendo DS: melonDS Nintendo NES: Nestopia or fceumm Nintendo SNES: Snes9x Current Nintendo 64: ParaLLEl or Mupen64Plus Nintendo GameCube/Wii: Dolphin Point-and-click PC games: ScummVM Sega Master System/Genesis/Sega CD: Genesis Plus GX Sega 32x: PicoDrive Sega Saturn: YabaSanshiro or Beetle Saturn Sega Dreamcast: Flycast Neo Geo: Geolith or FinalBurn Neo (Arcade) Sony PlayStation: DuckStation, SwanStation, or PCSX ReARMed Sony PlayStation 2: PCSX2 Sony Playstation Portable: PPSSPP Advertisement 1 Create a ROMs directory. You should create a separate folder for each game system you play. 2 Download ROMs. You can download ROMs from a variety of websites. Many ROMs are of games that are copyright. You can search for ROMs using Google (i.e. search "NES Roms") or search for ROMs of specific games. ROMs are usually downloaded as a ZIP file. You can either place the ZIP file within your ROMs directory, or extract the contents of the zip file to your ROMs directory. 3 Launch Retroarch. Retroarch has an icon that resembles a Space Invaders alien sprite. Click the icon in Windows Start menu, Applications folder (on Mac), Home screen or Apps menu on your device. 4 Select the drive letter that your ROMs folder is located on. Then select a game system folder. 6 Select a ROM. Select any ROM you want to play. 7 Select a core you want to use. If you have downloaded more than one core for the game system the game will load using the core you selected. Advertisement 1 Press F1 to access the ROM menu. To pause and access the Quick Menu in-game, which contains Retroarch options as well as options for the core you are using. 2 Restart your game, select Close Content from the Quick Menu. This will take you back to the Retroarch main menu. 4 Save and load game states. Save states allow you to save your game at an exact location and load that save state to continue exactly where you left off. Use the following steps to save a load game states. Select Save State so to view all game state save slots. Select a slot to load it. 5 Select Core Options. This menu option displays options that are specific to the core emulator you are using. This can include color modes, render modes, r Controls from the Quick Menu. Then select one of the port controller options. 7 Take screenshots, video recordings, and stream. To take a screenshot, select Start Streaming from the Quick Menu. Select Start Streaming from the Quick Menu. Quick Menu to start live streaming from the Quick Menu to stop recording. You can select a streaming mode, (Twitch, YouTube, etc) and you can select a streaming mode, (Twitch, YouTube, e favorites, select Add to Favorites on the Quick Menu. This allows you to open a game from the Favorites menu under Load Content. Advertisement Ask a Question Advertisement Advertisement Ask a Question Advertisement Ask a Question Advertisement Advertisem COO and Chief Technologist for The STG IT Consulting Group in West Hollywood, California. Stan provides comprehensive technology solutions to businesses through his consumer service businesses through his consumer service businesses through managed IT services, and for individuals through his consumer service businesses through managed IT services, and for individuals through his consumer service businesses through managed IT services, and for individuals through his consumer service businesses through his consumer servi California. He began his career working in the Fortune 500 IT world. Stan founded his companies to offer an enterprise-level of expertise for small businesses and individuals. This article has been viewed 21,993 times. Co-authors: 7 Updated: March 22, 2025 Views: 21,993 Categories: Emulators and Roms Print Send fan mail to authors Thanks to all authors for creating a page that has been read 21,993 times. Today we're going to discuss how to set up RetroArch which is quickly becoming one of the best emulators on the scene! What Is RetroArch? RetroArch is often called an emulator, but it isn't one. Not exactly, anyways. RetroArch functions as a hub of sort that you can use to access multiple emulators from a unified interface. Emulators tailored for use within RetroArch's interface. The benefits of the Core system are numerous, but the biggest one is that you don't need to configure your controls per-emulator or change applications to access a different emulator: RetroArch puts all your games and content into one place! However, learning to set up RetroArch puts all your through everything you need to know and do in order to make this happen. What You Need RetroArch is open-source and cross-platform, so fortunately it's available on pretty much anything. For the sake of simplicity, this guide will follow a setup process on Windows 10, the most highly-used desktop operating system at the time of writing. If you want to set up RetroArch on another operating system, you may need to do some extra configuration with your controller and adjust installation accordingly, but for the most part you shouldn't have too much trouble following along. Here's what you'll need for this Windows 10-tailored guide: Windows 10 32-bit or 64-bit - self-explanatory. Internet access - to download and update cores, alongside RetroArch itself. An XInput-compatible gamepad - to easily use and control RetroArch. You can make keyboard bindings if you don't have one, and be sure to install an XInput wrapper for your particular pad if you aren't getting an Xbox controller. If you have all of these things, it's time to learn how to set up RetroArch. Step 1: Install RetroArch First, visit RetroArch First, visit RetroArch's website. This tutorial follows Windows 64-bit, so that's what I'll be clicking, but if you have a properly-configured gamepad on one of those other platforms, you should be able to follow along just fine. Click the Download that's applicable to you. In my case, and for this guide, that will be "Installer (64-bit)." RetroArch's installer should be around 180MB. Depending on your connection, this may take a little while to install. If for some reason, you aren't on Windows 8.1 or 10, you may want to check "DirectX 9.0c Runtime" to make sure you have the version of DirectX you need to use for RetroArch. You can also configure RetroArch to use Vulkan or OpenGL. Since I have a DX12/Vulkan GPU, I don't need to grab the DX9 runtime. After all that you'll need to wait for RetroArch to finish installing, which may take a few minutes on an HDD but will be over much quicker on an SSD. Once it's installed and launched, you should get a screen that looks like the following image. Step 2: Basic RetroArch Should be able to pick up on it, and you can go ahead and start navigating the menu with your gamepad. If you can't, the first thing you want to do is use your arrow keys to head over to the Gear Icon menu and head down to Input. Within this Menu, head down to Input. Within this Menu, head down to Input. recommend L3 + R3 (pressing down analog sticks) or Start + Select. Now, head down to "Input User 1 Binds" and select it. This is where we're going to configure your gamepad to work with RetroArch. Under Device Type, hit your right arrow so that you get RetroPad w/ Analog. Then, go down to "User 1 Device Index" and select the controller you're actually using. If it isn't showing up, make sure it's turned on, plugged in or you've done necessary configuration for your controller properly. A pop-up will come up on your screen and walk you through each button to press. If your controller doesn't have A/B/Y/X buttons (or they aren't laid out like the SNES', which is what RetroArch to the A button on an xBox controller. Now your controller. Now your controller is configured! Let's install an emulation core. Step 3: Install a Coresponds to the A button on an xBox controller. Within RetroArch Head back to the leftmost menu and scroll down to "Online Updater." Now, select "Core Updater." Scroll down to your Core of choice and select it to install it. For cores, you'll see the system it emulator it's using in parentheses besides it. In this case, we'll be using PlayStation with a Beetle PSX HW emulation core. Once you select the core, it will automatically download to your installation of RetroArch. Head back to the previous screen and select "Update Core Info Files." Congratulations - your core is installed. How do you get your games inside RetroArch? Step 4: Load Your Games within RetroArch Head to "Load Content." Within this Menu, select "Collections." Then, select "Scan Directory" and find the directory where your games are stored. In my case, I already have a dedicated folder for my legally-ripped PS1 games on my HDD. You will have to acquire games on your own - this is not a piracy tutorial. Once you've scanned the directory, your games should now be present. Use Load Core to load your emulator, and then Load Content to load your game! Parting Words While diving deep into per-emulator and per-game configurations is a bit out of our scope here, we hope that this article gave you a solid starting foundation for working with the RetroArch emulator. The basics of installing it, its cores and configuring its controls are all you need to know to jump straight into playing games, and we hope you enjoy this entry into the world of RetroArch. Comment below if you need any assistance! RetroArch is an all-in-one emulation platform that allows you to play retro games, and we hope you enjoy this entry into the world of RetroArch. access to different emulators or "cores." Download RetroArch, set up a controller, grab some cores, and then import your ROM collection to get started. Wish you could browse a massive collection of retro games from your couch without connecting a bunch of systems or cobbling together various emulators? RetroArch makes it possible. This all-in one emulation station can run almost any retro game imaginable. What Is RetroArch? RetroArch? RetroArch? RetroArch are called "cores," and you're going to need to download the appropriate cores for the games you want to run, but more on that later. RetroArch is available on a great range of platforms, including Windows, Mac, Linux, Android, iPhone, iPad, Apple TV, PlayStation, Xbox, Wii, and many more. RetroArch is awesome but it can be a little tricky to set up. Today we'll be focusing on the Windows (PC) setup, but the steps are similar for the other platforms. Head to the RetroArch home page, then click the "Downloads" tab. Here, you'll find the latest release for your platforms. Head to the RetroArch home page, then click the "Downloads" tab. Here, you'll find the latest release for your platforms. Head to the RetroArch home page, then click the "Downloads" tab. Here, you'll find the latest release for your platforms. for testing purposes. The website should recognize your OS automatically and provide the correct download link, but if it doesn't, you can scroll down and choose the installer is fairly straightforward. Follow the on-screen instructions, wait a few minutes for RetroArch to finish installing, then launch it from your desktop or the Start Menu. The default RetroArch user interface can be overwhelming at first, throwing you directly into a menu of configuration options. Don't worry: you can change the default theme to make it look and feel more like the PlayStation 3 interface. To change it, head over to Settings > Drivers > Menu. Select "xmb," then close and reopen RetroArch. You'll be greeted with a more user-friendly interface. While you can navigate the interface with your mouse, it's easier to use the menu with the arrow keys on your keyboard. Up and down scrolls through the list; right and left jumps from one menu to another, indicated by the icons at the top of the screen. "Enter" lets you select a menu item, "Backspace" lets you jump back a level. Of course, if you want to do is set up your controller to work with RetroArch. In our tests, an Xbox One controller connected via Bluetooth worked out-of-the-box, but if your controller isn't working to browse the menu—or you want to configure the buttons differently—we can change that. With your keyboard, go to the Settings menu, which is represented by a two-gear icon at the top of the screen. Scroll down to "Input," then hit Enter. Now go to RetroPad Binds > Port 1 Controls > Set All Controls. Click that, and you can map each button to your gamepad. You'll have a few seconds to press each button, so if you find that you run out of time too quickly, set each individual bindings work across all emulators and are designed to consistently mimic the gamepads that came with the appropriate systems. You can always go back to the "Input" menu to create new profiles and reconfigure the bindings to match the controller of the console you're trying to emulate, but you can also configure things differently if you prefer. Once this is set up, you can navigate the RetroArch menus using only your gamepad, so put the keyboard away if you don't want it. If you're setting up a multiplayer rig, repeat this process for all of your controllers. It will all be worth it, I promise. Now that you've learned how to navigate RetroArch, it's time to download some emulators, or "Cores," as RetroArch calls them. Remember, RetroArch only provides the interface, so it's up to you to configure the emulators. But don't fire up your browser: you can install cores from inside RetroArch, then scroll down to "Online Updater." Select "Core Downloader," the first column in RetroArch, then scroll down to "Online Updater." wide variety of cores. Scroll through the menu and download as many cores as you like. Cores are sorted by the systems they emulate, so download cores for a particular system, don't worry. You can experiment to find out which cores work best later. For the most part, however, they should be similar, so for now, just choose one that's relevant to the game or collection you want to play. Now that you've added some cores, it's time to add your ROMs. We'll assume you already have a collection of ROMs for this guide. RetroArch can scan a folder full of ROMs and organize them for you. From the main menu, head to "Import Content and pick "Scan Directory." Browse your file system until you find your folder full of ROMs, then select "Scan This Directory." For instance, our ROM folder was located in documents, so we headed to C:\Users\\*username\*\OneDrive\Documents, ROMs. Yellow text at the bottom of the screen will show you your progress. Once everything is done, head back to the home screen, and you'll see a new icon: the controllers for each system for which you've added ROMs. Use the right arrow key or your controller to access these menus and browse the games. From here, you can browse your game collection. Run them by pressing Enter and selecting "Run." You'll be asked which core you want to run the game with. Pick one, then press "Run" again, and you'll finally be brought to a screen from which you can run the game. Congratulations! You've now got a pretty cool emulation setup that you can find these thumbnails in the 'Online Updater'' section where you downloaded cores. Under "Playlist Thumbnails Updater," select the systems for which you've added ROMs, and you'll now have the thumbnails baked into the interface. Actually, while you're in the Online Updater, you might as well update the core info files, assets, and everything else. It's just a matter of scrolling down the list and selecting everything. Power users should also check out the "Settings" tab, where they can find Video, Audio, and a variety of other settings. Most people likely won't have to tweak any of this stuff, but power users will love diving in and making RetroArch work perfectly. RetroArch has simplified retro gaming on modern devices in many ways. First, it provides an integrated, easy-to-use interface, and second, it allows you to download dozens of emulators in seconds. If you haven't emulated games before, this is your sign to try and relive some of that good old gaming nostalgia! This guide is designed to assist with setting up RetroArch on a Windows PC.RetroArch is widely considered one of the best ways to emulate retro systems across many devices, but it is also a little bit daunting for beginners. In this RetroArch guide, we show you how to user RetroArch, taking you through each step, from download and installation to configuring emulator cores. RetroArch is a versatile, open-source software designed to facilitate the emulation of a range of gaming systems. RetroArch is available for a number of operating systems, including Windows, macOS, Android, Linux, and even some gaming consoles like the PlayStation 3, Xbox, and Nintendo Switch.Fundamentally, RetroArch is available for a number of operating systems. emulating a different console or computer systems. This allows RetroArch to support a huge amount of classic games, covering systems from the Atari 2600 to the sony PlayStation 2, as well as arcade games. RetroArch not only facilitates the emulation of the original systems but also enhances the experience by providing quality-of-life improvements. and features such as shaders, netplay, rewinding, and next-frame response times. RetroArch features include: Multi-system support: RetroArch featu works on numerous platforms, including Windows, macOS, Linux, Android, and even certain gaming consoles. Shaders: RetroArch allows you to apply a range of visual filters to your games with customisable shaders. Modular System (Libretro API): It employs a modular system, using 'cores' that act as plugins to simulate different gaming consoles.Customizable interface: RetroArch provides a highly customizable user interface that users can modify to suit their preferences.Advanced features: It includes advanced features: It includes advanced features such as netplay for online multiplayer, rewinding, next-frame response times, runahead to reduce latency, shaders, and more.Save states: RetroArch supports save states, allowing you to save your game progress at any point and return to it instantly. Controller support: It offers broad controller support; meaning it online. Accessibility RetroArch has features designed for accessibility, including touchscreen controls and large text options. Multi-language support: It supports a wide range of languages, allowing users from different regions to use the software comfortably. Visit , go to the downloads page and download the installer file. (If you are unsure whether to install the 64bit or the 32bit version, press the Windows key and Pause Break together on your keyboard, this will bring up the Windows you have installed. Simply download the version which matches your installed Windows type listed here. Once you have downloaded the RetroArch installer file, open it and proceed with the installation. Once you have successfully installed RetroArch, open the application and you will be presented with the main menu. You can navigate around the menu via your keyboard or any controller that may already be connected (RetroArch will auto-configure a number of wired and wireless controllers). Basic navigation with the keyboard is easy though. Use the arrow/cursor keys to move around the menu, press return to select a menu option, and backspace will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. In this example, we are going to download a libretro corected will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. In this example, we are going to download a libretro corected will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. In this example, we are going to download a libretro corected will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. In this example, we are going to download a libretro corected will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. In this example, we are going to download a libretro corected will take you back a step to the previous menu/selection. This simply means you will now install the emulator of your choice. 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You need to select 'Load Core' from the first menu (The one with the Space Invader-like icon), then scroll down to the core which is called 'Sega - MS/MD/CD/32X (PicoDrive). PicoDrive is the name of the emulation core installed, You're essentially ready to go! Fortunately, RetroArch automatically configures many controller is not responding, visit \$ for details on how to configure controller is not responding, visit \$ for details on how to configure controller is a good chance you're ready. If you may be asking "Where can download a game a ROM/ISO?". A ROM/ISO is a copy of the game cartridge/tape/CD/DVD which can be loaded into the emulator to play. Downloading game ROMs as you may already know is a contentious area, but generally speaking, a good place to start is to own the actual game prior to hunting down a copy of the ROM/ISO. We cannot directly recommend any sites or resources for these materials, but a quick search online will soon make things apparent!Let's assume you have a MegaDrive/Genesis game ROM to load into the PicoDrive core. All you need to go back to the main menu and select 'Load Content'. Next, select the drive (e.g. C:) and locate where the file is stored. Once you have found the file, select it and the game will load. That is it. A few simple steps and you're ready to go! The game will then load in windowed mode. If you want to switch between the two modes. Need a controller to play games on RetroArch? Then look no further than our recommendations on the Best Retro Controllers for Retro Gaming. Last updated: 11MAR2025 (see Changelog for details) RetroArch is one of my favorite programs to use for retro game emulation, because it can emulate many systems. But it does have quite a steep learning curve. In this guide I'm going to demystify some of the more peculiar things about this emulation frontend, and show you how I set up RetroArch on my own gaming platforms. This guide is meant to help you get set up with various RetroArch iterations. The video will apply to MacOS, Linux, Android, iOS, Vita, and Xbox platforms, and more. RetroArch really shines on retro systems, particularly PlayStation 1 and below games. For more modern consoles, it is often more efficient to rely on standalone emulators, which are generally more optimized than RetroArch for emulations, you may find success in emulating higher-end systems in RetroArch, too. Table of ContentsWhat is RetroArch?Choose a controllerGame and BIOS filesInstall RetroArch assets, cores, and moreAdjust the user interfaceButton mapping and hotkeysOptional featuresCreate playlistsScaling and video optionsShaders and filtersCore optionsRetroArch? RetroArch? RetroAr phones, as well as on game consoles like PS2, PS3, PSP, PS Vita, Wii, Wii U, 2DS, 3DS, Switch, and more. The frontend for RetroArch' should be pronounced like "RetroArch' versus "RetroArch" should be pronounced like "RetroArch' versus "RetroArch" should be pronounced like "RetroArch" should be pro considered acceptable. I have a habit of pronouncing it the latter way, which is what you'll hear in my videos. RetroArch consists of what they call "cores" and "cores" and "cores" interchangeably. Depending on the version of RetroArch you are using, you can pick and choose which cores to load, to be able to customize your experience, or the RetroArch build may come pre-loaded with all working cores. So you might be asking yourself, why should I bother with RetroArch contains a lot of universal features that are not implemented in many of the other emulators. For example, with RetroArch, you can unlock the following features; RetroArch on many systems, and it can also emulate a ton of systems too. Here is a full core list so you can get an idea of all the emulation options within. Universal button mapping. You can set your buttons for any RA core, and also save per-game settings and button remaps for the best experience. You can also set up hotkeys for things like save states, bringing up the RA menu, fast forward, etc. With this method, you only have to remember hotkeys for the best experience. one platform instead of different key mapping options across various emulators. Precise video scaling options. With RetroArch, you can adjust the game image to match your screen. If you have certain preferences for your scaling (perfect pixel accuracy, o stretching out the image to take up the full screen), RA should have what you need. Shaders apply an overlay to your screen that can mimic scanlines, colorization, or other effects that will recreate CRT monitors, chunky LCD grid displays, and more. Filters behave like shaders for your games, and can alter the screen to provide you a better visual experience. Adding filters to your game image will smooth out pixel distortion for screens that don't accurately match the original console you are emulating. Playlists and thumbnails. RetroArch uses "Playlists" to organize the game library, and it will allow you to add box art ("Thumbnails") to every game as you scroll through, and you can also set favorites, which is very handy. In-game saves and save states. RetroArch has the ability to save your game with SRAM (in-game) saves like how it was on the original console, and you can also use save states to take a snapshot of any game at any time as well. Fast forward, rewind support. RetroArch has universal support for fast forward and rewind hotkeys, which will allow you to navigate slow (or perilous) moments in certain games. Universal cheats from the RA menu. Achievements. RetroArch supports Retro Achievements, which are super fun. NetPlay. You can use RetroArch to host or join online gaming sessions for retro games. Recording and Streaming. You can record your gameplay directly in the app, and even stream it to services like Twitch. Active development. RetroArch has been around since 2004 and its development team is very active. cumbersome to newcomers, and some emulation cores aren't as performant as standalone emulators. So there may be times when standalone emulators are preferred to a full RA build. Choose a controller-first interface. It can be navigated with a keyboard, but it is more intuitive with a generic gamepad, so that's what we'll use in this guide. You can use just about any controllers including modern controllers, which can often provide a fun mix of modern and retro aesthetics and functionality. Game and BIOS files The primary file requirements for running RetroArch will be the game files, as well as BIOS files for systems that require them. Game files will be standard ROMs that you would use with any other emulator. RetroArch (generally) has the ability to use .zip or .7z files that will compress those ROM files as well. To find which ROM files work best for your desired core, I recommend going to the Libretro Docs page, then navigating the Core Library menu on the left-hand side to find the core you want to use, and then consult the "Extensions" section, which will show you the accepted file types for Game Boy and Game Boy and Game Boy and Game Boy and BIOS and other core-specific options. At the end of the day, the most important thing for you to do is to build a standardized ROM library. This can be done in a number of ways, but the easiest way to do it would be to make a folder on your computer called "ROMs". Inside, create subfolders for each of your systems (NES, SNES, GB, GBC, etc.). An easy way to make all of these subfolders is to install Emulation-Desktop Edition (on Windows, Linux, Mac, or Android), and it will pre-populate these folders for you. Then in each of those subfolders, add your ROM files. I recommend sticking with the same file type for each system, like .sfc files for SNES games. File names should be named according to the "No Intro" standard (e.g. "Super Mario Bros. 3 (USA)"). ROM files are copyrighted, and you are on your own to source them. If you want to try extracting your own to the BIOS was an extr files inside. BIOS files are necessary system files for certain consoles to run properly. Examples of systems that will not run without BIOS files, including links to specific BIOS requirements for each core. Here is a list of recommended BIOS files to get you started: Amiga 500:kick33180.A500kick34005.A500kick37175.A500DREAMCAST:dc/dc boot.bindc/dc flash.binGAME BOY ADVANCE:gba bios.binNEO GEO:neogeo.zip (also add to ROM folder)PLAYSTATION 1:scph5500.bin (example)SEGA CD:bios CD E.binbios CD J.binbios CD J.binbios CD U.binSEGA SATURN:sega\_101.binmpr-17933.binTURBOGRAFX-CD:syscard1.pcesyscard2.pcesyscard2.pcesyscard2.pcesyscard2.pcesyscard3.pce Install RetroArch or it will already be loaded. For example, RetroArch is already installed on certain firmwares and operating systems, like Batocera or RetroPie, and so you don't need to install RetroArch yourself. To install RetroArch, head over to their Downloads page and find the platform you want to use to run RetroArch. You can then download the version of your choice and install it. Note that there may be 64-bit versions available. In most cases, you want to install the 64-bit version if your device can handle it. Some notes: The list on the Downloads page features Stable releases. If you want more cutting-edge (and potentially buggy) software, you can also download their Nightly builds here. In most cases, the Stable releases are perfectly fine. If using Android, you can download and install RetroArch directly from the Google Play Store. However, the Google Play Store version is not updated as frequently as the version you can find on the RetroArch Downloads page, so for the latest and greatest features, it might be easier to download the APK and sideload it yourself. After you have installed RetroArch, launch the app for the first time. This will create your file directory structure, and you can also check to see if your controller works out of the box with the interface. If it doesn't, check out my button mapping section. Understanding configurations and saves Before we get started, it is very important to understand how configuration saves work in RetroArch, because they saved a configuration in a way they didn't expect. So let's take a minute and explain how this stuff works. CONFIGURATION FILE. Basic configurations are saved in a configuration file called retroarch.cfg. This is where you would save system-wide configurations that would apply to the entire frontend. For example, this file will dictate what menu driver (theme) to display when showing RetroArch, your button mapping preferences, hotkeys, video scaling options, and more. To make adjustments to the configuration file, you need to be using RetroArch without a game loaded, and then you will make your "baseline" configurations. Note that in general, the configuration file can only be saved when a game is NOT loaded. OVERRIDES. If you want to use overrides. These are basically configuration (.cfg) files that are specific to a game or console. For example, if there is a certain game where you want to use a special hotkey or video scaling option, you would open up that game, make the adjustment in the settings, and then save it as a per-game override. Every other game will function normally, but the next time you boot that specific game, those per-game overrides, which follow a specific hierarchy: core overrides, content directory overrides, and game overrides. In order to save an override, you need to launch a game first, and then access the RetroArch Quick Menu > Overrides to save the override. CORE OVERRIDES will save your configuration for that entire core. This is good when you have a core that emulates multiple systems and you want to have the same experience across each of those systems. An example of this would be the Gambatte, all Game Boy and Game Boy color. If you make a CORE OVERRIDE for Gambatte, all Game Boy and Game Boy color. If you make a core that emulates Game Boy and Game Boy and Game Boy color. games with the Gambatte core. CONTENT DIRECTORY OVERRIDES will save your configuration for every game, it will affect all Game Boy games, but not Game Boy games, but not Game Boy games, it will affect all Game Boy game, it will affect all Game Boy game, it will affect all Game Boy games, but not Game Boy game, it will affect all Game Boy game, it will affect all Game Boy games, but not Game Boy game, it will affect all Game Boy game, it will affect all Game Boy games, but not Game Boy game, it will affect all G though they use the same core. This feature is helpful when you have disparate systems that are supported by the same core. Another example is the Genesis, 32X, Master System, and Game Gear. If you were to make some configuration adjustments that would be beneficial for the Genesis but not the Game Gear, you would want to use a content directory override instead of a core override, that way it would only affect Genesis games. GAME OVERRIDES affect only that one game, and not others. REMAP FILES. If you want to save game-specific controls, then this is done via a REMAP (.rmp) file. To do so, you will need to enter the RetroArch Quick Menu > Controls section, make your changes (likely in the Port 1 Controls subsection), then save a Core / Content Directory / Game Remap files are as follows: So by default the settings within retroarch.cfg will be your primary configuration settings, but if you have a core over anything else. INDEPENDENT SAVES. Confusingly, there are a couple other options and configurations that work outside of the process above. This is because they are governed by their own configuration files, and not the typical retroarch.cfg or override cfg/rmp files mentioned above. If you open a game then go into Quick Menu > Options and make adjustments here (which are called "Core Options"), it will affect everything that boots from that core, and you don't need to manually save it — the settings changes will just save at the core level when you close out the game. Within this Options menu you can also choose to manually save these core options section. If you open a game then go into Quick Menu > Shaders you can save what they call "Shader Presets", which will apply a specific shader profile. Like with other options, you can specify how they apply, as either GLOBAL (whole systems, like Batocera, use their own frontend (EmulationStation) to synchronize settings with the RetroArch system that functions as a backend. This means that you will go into the EmulationStation frontend menu and make adjustments there, which will then trigger configuration or override file adjustments in RetroArch itself. As an added bonus, OS options like ROCKNIX will actually provide optimized settings custom tailored to the device you are using it on. Alternatively, if you try to go into RetroArch and adjust things yourself, you may find that your saved configurations won't work, because the EmulationStation menu to make your changes. Set your file directory When you launch RetroArch for the first time, it will create a file structure, which they call "Directories" on your device. Generally this will be the same folder where your RetroArch app is located, or in the root directory of your device. Generally this will be the same folder, or to change the location of your save files for easier access. Go to Settings > Directory and you will see a list of directory paths. Here you can configure them to your needs. Some adjustments worth considering: System/BIOS: You can either go into the default RetroArch directory on your device and find the "system" folder to add all your BIOS files, or you can just change the BIOS location to point to wherever your BIOS are already saved. Go in here and navigate to your BIOS folder, then select "Use This Directory". File Browser: You can adjust this to the main GAMES folder you have on your device, so that way you don't have to navigate to that folder every time you want to add a new system to your Playlists. This will save you time in the long run. Cheat Files: If you manually install cheats files like in my section below, this option will allow you to set a new default cheats function described in the next section, you won't need to do anything. Screenshots: Here you can adjust the screenshots location to the folder of your choice. Save Files: For easier access, you can change the location of your save files on your device. If you are running RetroArch on your PC, you could theoretically point this section to a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbox or Google Drive folder) and create a cloud-based folder (like a Dropbo States: This works like the Save Files section above, but with Save States. The same process applies here. You could offload even more of your directories to custom folders. This is beneficial if you want to update RetroArch in the future while preserving your current setup. See the Updating RetroArch section below for more information. After you have made your adjustments, be sure to go to Main Menu > Configuration File > Save Current Configurations, let's go in and start updating RetroArch. The core system you installed may not have all of its functions included, so you will want to load them yourself. Note that you will need to be connected to the Internet for this section to work. To do so, go to Main Menu > Online Updater and run some of the updater functions available. I recommend the following: Update Core Info Files Update Assets Update Controller Profiles Update Cheats Update Cheats Update Shaders Note that some versions of RetroArch may not have these options, which is done by design. Don't sweat it. Additionally you will want to go into Online Updater > Core Downloader and download the cores you want to run on your system. You can download as many or few as you would like. I would recommend fully downloads to queue them all up at once. Periodically, you can also go in and select Update Installed Cores to see if there have been any updates to the cores since you first downloaded them. My preferred RetroArch cores for popular systems: Arcade (FinalBurn Neo) -- fighting games and beat'em upsArcade (MAME 2003-Plus) -- all-around arcade emulationCommodore Amiga (PUAE)DOS (DosBox-Pure)NEC PCE/TG-16/PCE-CD/TG-CD (Beetle PCE)Nintendo GB/GBC (Gambatte)Nintendo Virtual Boy (Beetle VB)Nintendo DS (melonDS)Nintendo NES (Nestopia)Nintendo SNES (Snes9x or bsnes)Nintendo 64 (Mupen64Plus or ParaLLEI)Nintendo GameCube/Wii (Dolphin)Sega 32x (PicoDrive)Sega 32x (Pi or PCSX ReARMed)Sony PlayStation 2 (PCSX2)Sony Playstation Portable (PPSSPP) GLUI menu driver RGUI menu driver RGUI menu driver Start and we have the most updated assets, let's start actually adjusting RetroArch. We'll start with the user interface, which is called a "menu driver" in RetroArch. When starting up the system, you will likely be greeted with a black and white interface called "glui". It's okay, but I find that it can be confusing to navigate. Instead, I prefer to use an older interface called "xmb", modeled after the original PlayStation 3 cross-menu bar. I prefer this menu because it makes the submenus more logical and visual to me, so that is what I will use in my video guides. To change the User Interface, go to Settings > User Interface > Menu and adjust it to one of the other menus. Then go to Configuration File > Save Current Configuration to save your changes.

After you exit and re-open RetroArch, you will have the menu appearance to fit your preferences. To do so, go to Settings > User Interface > Appearance to fit your preferences. To do so, go to Settings here. You can adjust the menu icons, or change the background color, and more. Finally, you can adjust the menu items that are displayed on your interface, to clean it up a bit. Go to Settings > User Interface > Menu Items I turn off by default: Show 'Explore' > OFFShow 'Images' > OFFShow ' OFFShow 'Netplay' > OFF After you have made your adjustments, be sure to go to Main Menu > Configuration File > Save Current Configuration. RetroArch hotkeys Button mapping is likely the next thing you want to do. This will align your controller's controls with the RetroArch universal button mapping. If you are using an x-input controller (like an Xbox controller) the buttons will likely be automatically mapped, and if you are using a handheld device that has a RetroArch backend already baked in, then you likely don't have to map the controls. But some bluetooth or wired controllers may behave unexpectedly, so let's adjust the button mapping. To configure your controls, open RetroArch and go to Settings > Input > Port 1 Controls > Set All Controls > Input > Port 1 Controls, you want to use for OK and Cancel buttons. If you don't like how they are configured by default, you can go into Settings > Input > Menu Controls and swap the buttons. HOTKEYS are simple button combinations that will allow you to make certain adjustments while in games and RetroArch and then go to Settings > Input > Hotkeys. Here you will see a number of hotkey options. Here are a couple options that are fundamental to the hotkey experience: Confirm Quit: with this ON, you will have to press the Quit RetroArch hotkey twice to actually exit. This can be good to avoid accidental button presses, but can get annoying over time. I leave this one OFF. Menu Toggle Controller Combo: this option will pause your game and bring up the RetroArch Quick Menu. This can be a specific key combination that works independently of any other hotkey setup. For this one I choose Hold Start (2 Seconds). This means if I hold the START button for two seconds, the RetroArch Quick Menu will appear. Hotkey Enable: this will be your primary hotkey you choose in the options below it will need to be used in combination with your hotkey enable button. For this I usually choose the SELECT button. This means that SELECT + whatever other hotkeys I recommend you set while you're in these settings. Here are some of my preferred hotkeys: Hotkey Enable: SELECT buttonFast-Forward (Toggle): R2 buttonRewind: L2 button \*\*Menu (Toggle): X buttonShow FPS (Toggle): Y buttonReset Game: B buttonClose Content (or Ouit RetroArch): START button \*\*Menu (Toggle): X buttonNewind: L2 button \*\*Menu (Toggle): Y buttonReset Game: B buttonClose Content (or Ouit RetroArch): START button \*\*Menu (Toggle): X buttonNewind: L2 buttonNewind: L2 button \*\*Menu (Toggle): X buttonNewind: L2 butt will need to go into Settings > Frame Throttle > Rewind > ON. This is not something I would recommend turning on as a global configuration, because some systems (like PSP) may outright crash. Instead, I recommend setting the hotkey now, then for the systems you want to use rewind (like NES, for example), you can go into the Quick Menu by pressing SELECT + X and then go turn Rewind on and save it as a core override. More information is in the section below. \*\* Note that your SELECT + X and then go turn Rewind on and save it as a core override. as your frontend, then you will want to Close Content to return to the RetroArch menu. If you are using a different frontend, like EmulationStation or LaunchBox, you will want to set it to Quit RetroArch Main Menu > Configuration File > Save Current Configuration. Optional features An option I like to set with my games is AUTO SAVE / AUTO LOAD. This will create a save state when you close down a game, and then load that save state when you close down a game, and then load that save state when you launch the game again. It provides a pick-up-and-play feel to your retro gaming. To set this, use the following two commands: Settings > Saving > Auto Save State > ON Settings > Saving > Load State Automatically > ON The auto save/load feature works best when combine with the "Reset Game" hotkey above, so that way if your game loads at a part you don't want, you can press SELECT + B to reboot the game and start over. The REWIND feature in RetroArch is helpful when you want to re-do a mistake on the fly. And while we set it as the SELECT + L2 hotkey above, by default this feature has a somewhat high performance tax which can negatively affect performance on systems like PS1 and above. Instead, you will want to use a core override to save this setting. First, start up a game (like an NES game), and then press SELECT + X to bring up the Quick Menu > Overrides > Save Core Overrides, which will enable rewind support on all NES games running that emulator core. There is also a RUN AHEAD feature which will reduce latency on certain setups. For example, this may be beneficial when using the Android-based version of RetroArch and a bluetooth controller, to give a more natural feel to retro gaming. Like with the rewind feature, this has a performance tax and should only be used on systems that would benefit from it (like SNES and below). For this reason we'll use a core override again. First, start up a game (like an NES game), and then press SELECT + X to bring up the Quick Menu. Now select Run-Ahead to Reduce Latency > ON. Now you can go to Quick Menu > Overrides > Save Core Overrides, which will enable run ahead support on all NES games running that emulator core. Note that this is one of many advanced features to improve latency; here is more information. Finally, on many versions of RetroArch (specifically those with touchscreen capability, like Android), they may have a TOUCHSCREEN BUTTON OVERLAY on your screen when starting up a game. If you have a controller you likely do not want to see this overlay > Display Overlay > Display Overlay > Hide Overlay > Display Overlay playlists within RetroArch to browse and launch your games directly in the program. This will be helpful if you just want to remain within RetroArch: SCAN DIRECTORY. This is the most straightforward way to make playlists, and is best for systems with unzipped ROMs that have distinct file types (like .nes games). With this option, you will navigate to the folder that contains your ROM files, then select "Scan this Directory". RetroArch will then recognize and assign the console and assign t for your games (like .bin files for Genesis games, it's better to do a Manual Scan). MANUAL SCAN. This is the preferred way to scan your directory: navigate to your ROM folder and select "Scan this Directory" System Name: select the system name you want to associate with your playlistCustom System Name: use this if you want to use a special name for this playlist. Note that you will also need to set your "System Name" to "Custom" for this playlist. Afterwards you can assign a different core to specific games by selecting the game and choose "Set Core Association"File Extensions: add in all of the file extensions you want to scan for your console. You can leave this blank if they are all the same (e.g. zip files for arcade games), but for the most part it's helpful to add these in, especially if you are using several file types. Separate each file extension with a space (no comma), like this for Dremcast: cdi, gdi, chdScan Recursively: turn this on if you want to scan subfolders tooScan Inside Archives: this will scan the files within the zip file, whether you want this off if scanning arcade games, because it will associate your zip file ("simps2pj") with a full file name (The Simpsons). To set this up, head to this page and download the latest MAME dat/xml file. Then save this file somewhere that you can access on your device, and choose it when at this part of the menuArcade DAT Filter: with this selected, only arcade games that appear in the DAT file will show up in your playlist. Generally you want this setting OFFOverwrite Existing Playlist: this will overwrite anything already in the playlist. You generally want thumbnails to appear next to your games, you need two things: 1) the files must be named according to the "No Intro" standard (e.g. "Super Mario Bros. 3 (USA)") and 2) go into Online Updater > On-Demand Thumbnail Downloads > ON so that they will download when you browse through your playlist. Alternatively, you can manually scan each playlist for thumbnails in the Online Updater section instead. Finally, you can go into Settings > Playlists and adjust how your playlists behave. There is also a Manage Playlists section within here that will allow you to adjust things like the default core, how the thumbnails appear, or just delete the playlist section within here that will allow you to adjust things like the default core, how the thumbnails appear, or just delete the playlist altogether. Scaling and video options. So let's take some time to go over the basics here. ASPECT RATIO Let's first define aspect ratio (Watara Supervision). At the other end of the spectrum, a standard widescreen TV aspect ratio would be 16:9, or 1.76, Most classic home consoles had an aspect ratio of 4:3 to match CRT TVs. Handheld systems had varying aspect ratios, due to having a variety of screens. Arcade system aspect ratios for some systems are not set in stone. Atari 2600 games didn't technically have pixels, so they are at a different standard. Similarly, more modern consoles like the PS2 had widescreen options and variable resolutions. The NES had a resolution of 256×240, but only showed 256×240, but only showed an aspect ratio of 4:3 (1.33), most emulators show NES at 16:15 (1.07), and likely look best at a 4:3 anyway. Some games actually had different native resolution of 256×224 pixels, while Star Fox had 224×190, and Yoshi's Island had 256×208. So for the chart below I stuck with the general NTSC aspect ratios. PAL TVs output a 240-pixel height, so PAL ROMs may have different resolutions than shown below. PAL ROMs on Nintendo GameCube have a resolution of 768×576. Some systems introduced scaling for certain games. For example, the PS1 mostly played games at a resolution of 320×240, but some scenes could scale up to 640×480. N64 games could scale from 320×240 up to 640×480 as well. Common aspect ratio important? Because if you plan on playing RetroArch on a modern TV or monitor (which likely has a 16:9 aspect ratio), emulated systems at their native aspect ratio will have black bars on the left and right sides. If you want to preserve the native aspect ratio by going into Settings > Video > Scaling > Aspect Ratio and adjusting your global configuration. I would recommend "Core Provided" since that will allow each emulator core to decide the appropriate aspect ratio. If you want to stretch the aspect ratio (like 16:9). Just beware that the emulation police will likely come for you if you don't use the proper aspect ratio. After you have made your adjustment, go to Main Menu > Configuration File > Save Current Configuration. You could also use the Overrides function to make core-specific or game-specific o systems will benefit from integer scaling. Integer scaling is defined as scaling by a factor of a whole number (2x, 3x, etc). When turned on, RetroArch will scale up to the greatest integer scaling (1.5x, etc). When turned on the greatest integer scaling (1.5x, etc). up to 2x, or 1240×960, with black borders on all sides. This will keep a 1:1 pixel ratio and everything will look nice and crisp, so long as you don't turn on integer scaling, the image will scale to match your device's display (while preserving aspect ratio) to fill out as much of the screen as possible, but this may result in pixel distortion which can make some pixels look distorted on your display. You may not notice the difference, which is totally fine. You can also use shaders or filters to re-balance the image, as you'll see in the section below. To turn on integer scaling, go to Settings > Video > Scaling > Integer Scaling and make your adjustment. Like with everything else, you will need to save your configuration file, and you could also use overrides to make per-core or per-game settings, too. Shaders and filters You can add Shaders to your game image to recreate classic looks (like scanlines to mimic CRT displays) or LCD grids, and more. They are stackable and adjustable, giving you a lot of freedom in their implementation. For more information, check out my full guide on shaders, filters, overlays, and more. The guide mostly focuses on handheld screens, but applies to RetroArch as a whole. Core options The last settings worth messing with are core options. You can find these by starting up a game, entering the Quick Menu > Options section, and seeing what core options are available. For example, on higher-end systems like N64 or PSP, within the core options you can find the ability to upscale the resolution from 480p to 720p or 1080p, or higher. Each core options section will be unique to that core, so go in there and see what options you have. If you have any questions about any of these settings, I recommend consulting the LibRetro Docs page and browsing their Core Library to see what options are available and what they do. SGB 1A SGB 2A SGB 3A Sample SGB (Super Game Boy) colorization: 1A, 2A, and 3A An easy example of core options would be to adjust colorization options for Game Boy within the Gambatte core, demonstrated above. Open a Game Boy game in RetroArch Bring up the RetroArch Quick Menu, then go to Options > GB Colorization. For colorization that is more in line with the original DMG display, set it to Options > GB Colorization > Internal Palette > Special 1. This will produce a night light green colorization > Internal Palette > Special 1. This will produce a night light green colorization > GB Colorization > Internal Palette > Special 1. This will produce a night light green colorization > GB Colorization > Internal Palette > Special 1. This will produce a night light green colorization > GB Colorization > Internal Palette > Special 1. This will produce a night light green colorization > GB Colorization > Internal Palette > Special 1. 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This will produce a night light green colorization > Internal Palette > Special 1. This will produce a night light green colorization > Internal Palette > Special 1. This will produce a night light green colorization > Internal Palette > Special 1. This will produce a night light green colori DMG. Experiment to find what you like best! Above you can see three Super Game Boy colorization options. To set it as default for that game or for all Game Boy games no further configuration is necessary. Core options > Save Game Options. Another core options adjustment you could make in Gambatte is LCD ghosting, which will recreate the original blur effects: LCD Ghosting (Fast) To set it as default, go to Overrides > Save Content Directory Overrides. image courtesy of Libretro Finally, in addition to ghosting and GB colorization, the Gambatte RetroArch core also provides an accurate color correction Mode > Accurate. You can also adjust the "frontlight position" options within Color Correction Mode to tone down any harsh contrast in your current configuration. Retro Achievements. These function as you would expect — as you complete a milestone in a retro game, you will get an achievement pop-up celebrating that accomplishment. Moreover, you can track your achievements from within RetroAchievements website. And if you want to go all the way down the rabbit hole, you could compete with friends or join the community to participate in discussions or contribute to creating or refining achievements in the future. Note the you must be connected to the internet for RetroAchievements to work. To get started, go to RetroAchievements > ON and enter your username and password. Finally, to save this setting, go to Main Menu > Configuration File > Save Current Configuration. The same account can be used on multiple versions of RetroArch spread across various platforms. If you'd like to add me as a friend or track my (abysmal) progress on retro games, here is my profile. Cheats RetroArch has an embedded universal cheat system, which can be used in a pinch or for the duration of your game. To set these up, you must first go into Main Menu > Online Updater > Update Cheats. This will download the cht database and install everything automatically. If you use an operating system that doesn't enable the cheats downloader function, you can still load cheats offline. This only needs to be done one time. First, go to this GitHub page and click on the green "Code" button, and select Download that file, and unzip it. Inside you'll find a folders for the system folders. Grab the game system folders. Grab the game system folders for the systems that you want to enable cheats for, and place those folders somewhere handy, like in a "Cheats" folder within the GAMES folder, then navigate to Settings > Directory > Cheat File, and then navigate to Settings > Directory > Cheat File, and then navigate to Settings > Directory > Cheat File, and then navigate to Settings > Directory > Cheat File, and then navigate to Settings > Directory > Cheat File, and then navigate to the Cheats folder, then select. To save this setting, go to Main Menu > Configuration File > Save Current Configuration. Now, whenever you try and load cheats, it will default to your Cheats folder to find your cheat files. Once you have the cheat files installed, it's easy to activate them. Start up a game, then go to Quick Menu > Cheats > Load Cheat File Updating RetroArch is unique for each system. For example, on Windows, you can update the program by simply overwriting the .exe file with a newer version. For more information, I recommend going to the installation page of your respective RetroArch version of RetroArch on your device; it's often enough to use a stable build and update your cores via the Online Update tool instead. Another way to update RetroArch is to do a manual reinstallation while preserving your most critical files. To do so, you would want to go into the Settings > Directory section and point some important folders to somewhere besides the default RetroArch folder. Here is the process: Further reading This guide, while guite long, only scrapes the surface of what is available in RetroArch. I've made a couple dedicated guides for other functions, such as multi-disk gameplay, or NetPlay. You can find those guides below, and let me know in the comments if there is something else you'd like me to tackle in the future. Multi-Disk Gameplay Guide Changelog 11MAR2025- updated guide to reflect updates over the years and new video guide 28FEB2022- published guide