SX OS Features

Works With Every Firmware

- SX OS works with every Nintendo Switch firmware version!

Play Every Game

- With SX OS you can play all your favorite games straight off of the microSD card or your external storage device.

External Storage Support

- SX OS supports the use of an external hard drive or flash drive via the USB port of the Dock so you can easily access your entire collection at the press of a button.

EmuNAND Support

- SX OS is proud to offer the first public EmuNAND support that is easy to set up and works directly from your MicroSD card.

Game Cheats

- Power up all of your favorite games with a complete cheat support system.

Homebrew Games & Apps

- Using SX OS homebrew menu launcher you can enjoy all the quality games and software created by independent developers.

Continued Support

- Team Xecuter is always actively working to bring more exciting features to SX OS.

Dual Functionality

Using the SX OS Launcher you can easily boot into the normal Nintendo Switch firmware to enjoy your original games.
Getting Started

Required Files:

- TegraRcmGUI Portable – Download
- SX OS [boot.dat] – Download
- SX Loader [payload.bin] – Download
- SX Dumper [sxdumper.nro] – Download
- SX Installer (Optional) [sx.nro] – Download
- Cheat Files (Optional) – Download

Required Tools:

- RCM Jig\(^1\)
- PC w/ Internet Connection
- USB-C Cable
- Micro-USB Reader
- MicroSD Card for Switch (FAT32\(^3\) or ExFAT)

\(^1\) Your RCM Jig can be as simple as a piece of wire or as complex as a professionally 3D printed Jig, such as the one included with the SX Pro kit.

\(^3\) FAT32 is recommended to prevent SD corruption, but may require special software to format your Micro SD with. Click here to read more.
Accessing RCM (Recovery Mode)

Start off by copying SX OS [boot.dat] and SX Dumper [sxdumper.nro] to your Switch’s MicroSD card and placing it back into your system, making sure your Switch is powered off and is not plugged in to your PC or a power source.

Position your RCM Jig so that it connects the first and last pins of the Right-Hand Joycon rail (not the Joycon itself).

While holding Vol+ press the Power Button. Nothing should appear on your screen, however the Switch should now be in RCM. If the Nintendo Logo appears, power off your Switch, adjust your Jig position, and try again.
Booting SX OS

Extract TegraRcmGUI Portable to a folder on your desktop and copying the SX Loader (payload.bin) to the same location.

On the Settings tab, click Install Driver and follow the prompts to install the Switch RCM driver to your PC.
Return to the Payload tab and connect your Switch (which should now be in RCM) to your PC with a USB-C cable.

Select the Folder icon and navigate to the SX OS (payload.bin) file. Once selected, choose Inject Payload and you Switch should boot into SX OS.
Installing Auto-RCM

The Auto-RCM feature will allow your Switch to enter RCM without the use of a Jig when powered on.

From the Options Menu, simply select Install AutoRCM.

With Auto-RCM installed, your Switch will not boot normally if it is completely powered off and will require either the SX Pro Dongle or a payload to be sent from your PC.

To avoid the need for a Dongle or PC, utilize the built in Sleep Mode of the Switch and make sure to charge it when the battery level gets too low.
Creating EmuNAND

The EmuNAND feature will allow you to run a virtual copy of the Switch operating system, making it possible to modify system files safely and without risk of bricking. It will also automatically hide homebrew and other activities from Nintendo’s servers to aid in avoiding a possible network ban.

From the Options menu, select the EmuNAND type, and begin the creation process:

- **System NAND**: Repurposes part of your Switch internal storage for EmuNAND
- **microSD as Partition**: Repartitions your microSD card with a separate EmuNAND partition
- **microSD as Files**: EmuNAND is stored on microSD as files on a normal partition

Please be sure to charge your Switch to 100% before starting, as the process takes about an hour to complete.

You can now enable or disable your EmuNAND from the main screen.
Activating Your License

When you perform the first boot of SX OS, a unique file will be created (license-request.dat) on your MicroSD card.

You can now either activate it through the Switch by pressing the Album icon to open the Game Selection Menu and then pressing R:
OR if you want to stay offline, you can activate it manually:

Power off your Switch and, using the Activation Site, upload your file and manually enter your License Code.

Your license.dat file should automatically download after clicking on Retrieve License (If it does not, disable any ad-blockers or use a different browser and try again).

Copy the license.dat back to your MicroSD, insert it into your Switch, and power your system back on with the Dongle inserted.
Using SX OS

If your activation file is present on your MicroSD card, the Switch should automatically boot into SX OS Custom Firmware. If you ever need to get back to the Boot Menu, hold Vol+ before pressing the Power button.

Once the SX OS Custom Firmware is loaded, the Album icon on your Switch will perform several different functions.

Selecting it with no buttons held opens the Game Selection Menu.

Any games you have on your MicroSD card or on external storage in .xci format will appear here. Please remove any physical game cartridges before using the loader.
Holding [L] while selecting Album will open the regular Nintendo photo album for accessing your screenshots and videos.

Holding [R] while selecting Album will open the Homebrew Menu (this requires the Homebrew Menu files to be present on your MicroSD card).

If none of your Homebrew apps appear, make sure you have the folder structures correct first. If you still don’t see anything, try reformatting your MicroSD with a Windows based PC.
Backing Up Cartridges
w/ SX Dumper

From the Homebrew menu, select the SX Dumper tool.

Insert your game cartridge when prompted to bring up the list of available backup options. If an error pops up about a failure to read the cartridge, simply eject the game and try again.
**Trim Dump** will remove any unnecessary padding data found on the cartridge, saving storage space. The size difference can be seen by comparing the “Size:” with the “Trimmed Size:” listings. Trimming your backup will not affect the game contents in any way.

**Splitting** will split the game, if over 4GB in size, into multiple files to accommodate the file size limit of the FAT32 file format.

**Remove Cert** removes any unique identifying information from the backup, turning it into a “generic” copy. *If you remove the certificate data from your backup, you will not be able to use it to play online, if you choose to take the risk.*

**Destination** allows you to choose your internal SD card or external storage as the final location of the game backup file(s).

**Folder** lets you choose where in your storage to place the final .XCI file.

All game backups will work right away after dumping.
Cheats

Start off by launching a game, pressing the Home button, then going to the Cheats section from the SX Menu.

The [Title ID] and [Build ID] for the game running in the background will be shown and you can select from pre-made cheat files or the ability to Search the game memory to create your own cheats on-the-fly.

If cheats do not show up, make sure the directory structure above is followed and that the [Build ID] matches the cheat .txt file name. Game updates may alter the [Build ID] of a game and may require an updated cheat file.
The correct cheat file will automatically be loaded for your game (if it is present on your SD card) and all available cheats can be Enabled or Disabled from here.

Once you have selected your Cheats, simply press the Home button and return to your game.
Anyone familiar with the traditional method of searching memory to create their own cheats will find the Search tool fully featured and easy to use.

For more information on Searching and creating your own cheats from scratch, please see the detailed guide on our [website](#).
SX Installer

SX Installer is a powerful utility that can be used for a wide range of applications. Below, you will find quick start instructions for a few of the most popular uses.

**XCI/NSP Launcher:**

Game and applications currently on your system can be mounted and launched directly from SX Installer, simply navigate to the appropriate category and select the title you wish to play.

Pressing the (-) button will change the view from List to Icon view, while the (+) key will allow you to sort your titles by various methods.

Pressing (Y) will bring up the information screen for any titles you highlight, whether they are installed or not, for a quick overview.
Additional Content Connections:

SX Installer offers a wide variety of server types and protocols so you can connect to your personal or favorite non-Nintendo content servers for games, updates, and DLC.

Start at the File Browser and press (X) to create a New File location:

Select your appropriate Protocol type (nut, FTP, HTTP, SDMC, SXUSB, etc.) and fill in your Host details and login information.

If you are adding a local content source, such as a non-standard folder on your SD Card (SDMC) or external USB drive (SXUSB), be sure to specify the Path for the content you wish to make available to SX Installer.

Press (X) when finished to save the entry.
Depending on the content detected from all sources, new categories will appear in SX Installer:

![New Updates](image)

New Games, New DLC, and New Updates categories will only show available content that is NOT currently installed on your System Memory or MicroSD Card unless filtered to do so (Right Joystick Click).

SX Installer will sample the header data for all content to provide the icon for each title. Since this relies on the speed of your content server/storage device, please allow adequate time for them to appear based on your sources.
NSP Installer:

SX Installer can be used to conveniently install NSP content along with all of its Updates and DLC with just a few button presses.

Selecting any content will allow you to choose your Location for installation, whether to delete the source(s) afterwards, and whether or not to install the latest available Updates and DLC, as well as a list of available Updates and DLC for the title from your available sources. No content will be downloaded from Nintendo.

SX Installer will not install improperly signed (modified) NSP content without first enabling Unsigned Code and entering the Fail-Safe Password.

By default, firmware requirements will be ignored when installing content, but this does not guarantee games that require newer firmware will run on older firmware.
Emulator Front-End:

SX Installer acts as a graphical Front-End for Retroarch and all of its cores.

This allows you the flexibility of accessing your favorite ROMs from remote sources or non-standard locations to save on local storage space.

As long as Retroarch cores are installed and game ROMs are available in your sources, the appropriate console categories will appear:

By default, SX Installer will scan for folders in the root of your SD card with the standard console abbreviations ([sdmc:/nes/], [sdmc:/snes/], etc.). Additional locations can be specified from the File Browser by adding them with the (X) button, however they must still be in the appropriately named console folder.

Supported Cores/Directories:

<table>
<thead>
<tr>
<th>sdmc:/nes/</th>
<th>sdmc:/snes/</th>
<th>sdmc:/n64/</th>
<th>sdmc:/gb/</th>
</tr>
</thead>
<tbody>
<tr>
<td>sdmc:/gba/</td>
<td>sdmc:/sms/</td>
<td>sdmc:/sg/</td>
<td>sdmc:/scd/</td>
</tr>
<tr>
<td>sdmc:/gg/</td>
<td>sdmc:/sg1000/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Themes:

Custom themes can be selected from the Options menu.

All custom themes must be in their own folder with the following structure:

sdmc:/switch/sx/themes/mytheme/settings.json
sdmc:/switch/sx/themes/mytheme/mybg.png

Settings.json contains standard color codes (FFFFFFF) along with alpha channel (FFFFF) for each of the elements, along with the ability to load a background image in .png or .jpeg format at 1280x720 resolution.

While the background image can have any filename, “settings.json” must exist or the theme will fail to load and default back to the SX theme.
FAQ

Q. How do I get back to the TX Boot Menu?
A. Press and hold Vol+ while powering on with the SX Pro Dongle or before pressing “Inject Payload” in TegraRcmGUI.

Q. How do I get back to the normal Nintendo Album?
A. Hold L while launching Album.

Q. How do I run the Homebrew Menu (HBMenu)?
A. Place the “hbmenu.nro” on the root of your MicroSD card and hold R while launching Album.

Q. How do I install/uninstall AutoRCM?
A. Return to the TX Boot Menu (see above) and select Options. From here, you can install or uninstall the AutoRCM feature.

Q. What is the Fail-Safe Password for SX Installer?
A. Up, Up, Down, Down, Left, Right, Left, Right, B, A, +
Troubleshooting

**Problem:** My operating system will not allow me to format my Micro SD card as FAT32.

**Solution:** You can use any third-party disk formatting tool, such as [FAT32 Format](#), to accomplish this easily.

**Problem:** I can’t get SX OS to see my exFAT formatted MicroSD card.

**Solution:** You need to boot the Switch normally with the exFAT formatted SD card inserted so that it can connect to Nintendo’s servers and retrieve the activation files for your system. If you do not wish to update your system or go online, there is an advanced method that we hope will be available in an easy-to-use homebrew soon.

**Problem:** I keep getting “BOOT.DAT” errors, black screen freezes, or file read errors.

**Solution:** This generally comes from an improperly formatted SD card. Try formatting the card using the Switch’s formatting tool in the settings.

**Problem:** I can’t get my activation file from the TX website.

**Solution:** Try disabling your ad-blocker or another browser such as Google Chrome or Internet Explorer/Edge. Some users have reported issues with Firefox blocking the download.