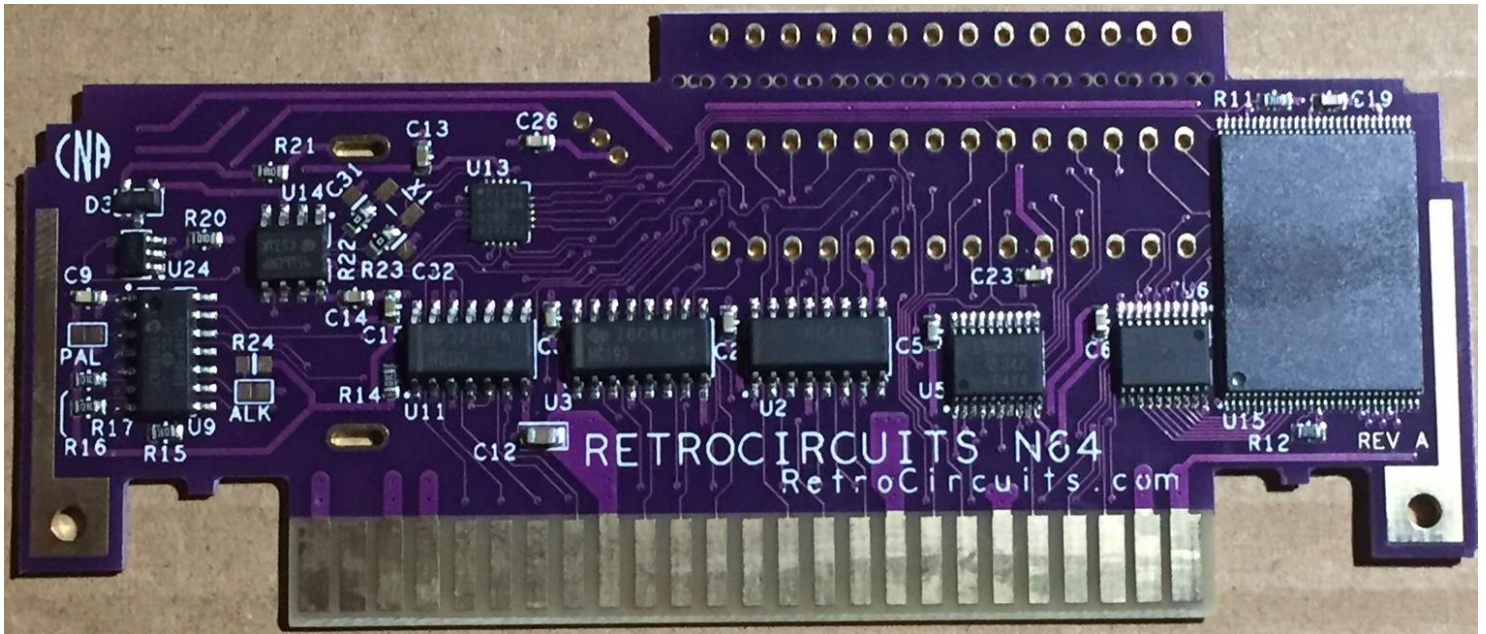


The N64 project by RetroCircuits.com



Everything about the N64 is unique. With the exception of a few capacitors, every part inside a N64 cartridge is a custom device made by Nintendo. There are no standard parts inside. Because of this, making a reproduction cartridge was very challenging.

There are essentially 5 major cartridge types:

Standard cartridge with **no on cart memory** (some games save using the controller pak)

Cartridges with **on cart memory**:

Flashram memory (only **14** usa games)

SRAM memory (only **13** usa games)

EEPROM memory – 2 sizes: 4K and 16K (4k -**57** usa games) (16k – only **13** usa games)

There are other 1-off carts too, but these are the main ones that our pcb can replicate.

Most N64 games have self-identifiers whereas, if you make a game that requires 4k eeprom but you have a 16k eeprom, then in most cases, the game won't even boot. However, *most* games will boot with the absence of the memory – up until it's required to save something. Mario Party 3, however, will not boot without the eeprom (16k) being selected.

There are 5 CIC types. CIC is the “lockout” security chip. Each game must be paired up to the CIC it is designed to work with. Using the wrong CIC and the game won't even boot. This N64 pcb has ALL the CIC's integrated.

The CIC types are:

6102 – most common. Vast majority of 4k & non-memory games use this CIC. **This CIC is the default CIC** (no jumpers)

6103, 6105 are the next most common ones.

6101 and **6106** are the least common. 6101 is only used by Starfox64. There are only 3 games that use 6106

This pcb is also capable of PAL CIC's.

The games vary in sizes but **most** games are either 128mbit (16mbyte) or 256mbit (32mbyte). There are some bigger games that are 320mbit (40mbyte) **Paper Mario** and **Ogre Battle**..... 512mbit (64mbyte) **Conkers Bad Fur Day**, **Pokemon Stadium 2** and **Resident Evil 2**. There are some games smaller than 128mbit too.

Our cartridges will be available in 3 **memory** size configurations for cost saving purposes. 128mbit, 256mbit and 512mbit. Because the different memory sizes range in cost, we will sell the pcbs at different price points depending on the memory size. You should match cartridge size to game size when ordering but a larger memory cart can be used with smaller games too.

Our cartridges will have ALL CIC types on the pcb. The CIC type is selected via a solder jumper.

Our cartridges will have 4k and 16k eeprom support on the pcb. These are selected by solder jumpers.

Our cartridge does **NOT** have SRAM or Flashram on the cart. If you want to make a game that requires these memory types, then you will need to buy an original cartridge that has those memory types (flashram or sram) and harvest the chips needed. The game listings at the bottom of this document can inform you of which games are suitable “donors”.

We do plan to offer a cartridge with built on sram in the future. Flashram chips are so unique; there will not a replacement of this part ever. Flashram memory will always need to be harvested.

The game list provided (bottom of sheet) will list all the games, their CIC types, memory sizes, and memory types.

Programmer: We offer a USB device that will program the game rom through your PC. More details below.

To make a N64 game, you will need to:

Consult the game list to determine the **memory size** cartridge you will need, and **Savememory type** (if any) and the **CIC type**. **ROM must be in BIG ENDIAN FORMAT**. This link is the tool you will need to convert /check your roms.

[Get the N64Tool here](#) and here is a sample build of the cartridge [N64 use and settings](#)

Let's use **Mario Party 3** for an example.

Mario Party 3 is a 256mbit game. You will need a 256mbit cartridge (or bigger).

Program the cart with the programmer pcb.

Since the CIC type needed is 6102, no CIC solder jumper is needed. **6102 is the default CIC type**.

Mario Party 3 uses 16k eeprom, so jumper the 2 solder jumpers 4K and 16k (Red and Yellow arrows) to choose the 16k option.

Play test.

FLASHRAM:

Let's use **Paper Mario** for an example.

Paper Mario is a 320mbit game. You will need a 512mbit cartridge.

Program the cart with the programmer pcb.

Since the CIC type needed is 6103, then solder jumper the “03” pads.

Paper Mario uses Flashram for save memory. You will need to harvest the Flashram chip from a game like Ken Griffy Slugfest or Jetforce Gemini or others listed in the PDF.

Solder the 2 “Flashram” solder-jumper pads (Blue arrows). Install the Flashram part.

Play test.

SRAM:

Let's use **Super Smash Brothers** for an example.

Super Smash Bros is a 128mbit game. You will need a 128mbit (or bigger) cartridge.

Program the cart with the programmer pcb.

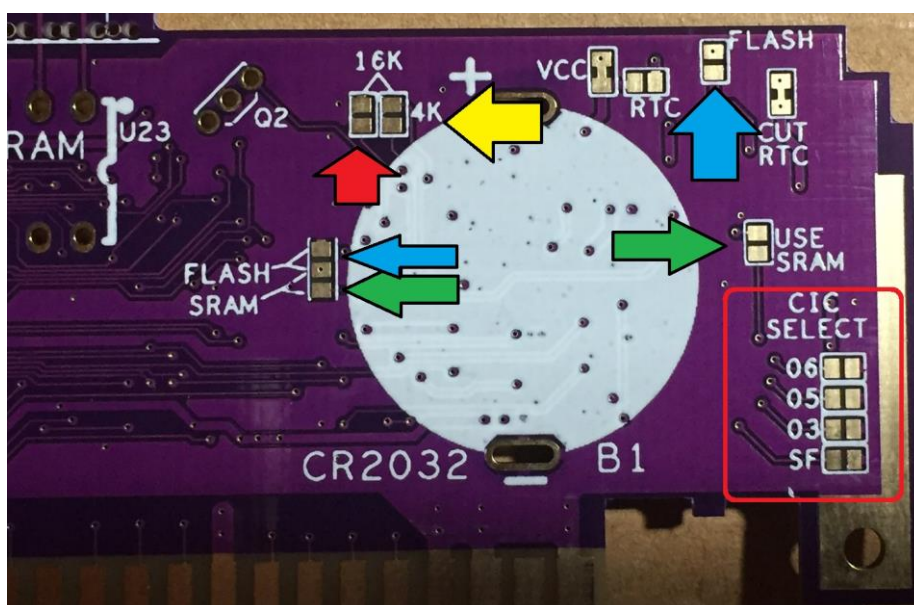
Since the CIC type needed is 6103, then solder jumper the "03" pads.

Smash Bros uses SRAM for save memory. You will need to harvest the SRAM chip from a game like Ken Griffey Jr. major league baseball or others listed in the PDF.

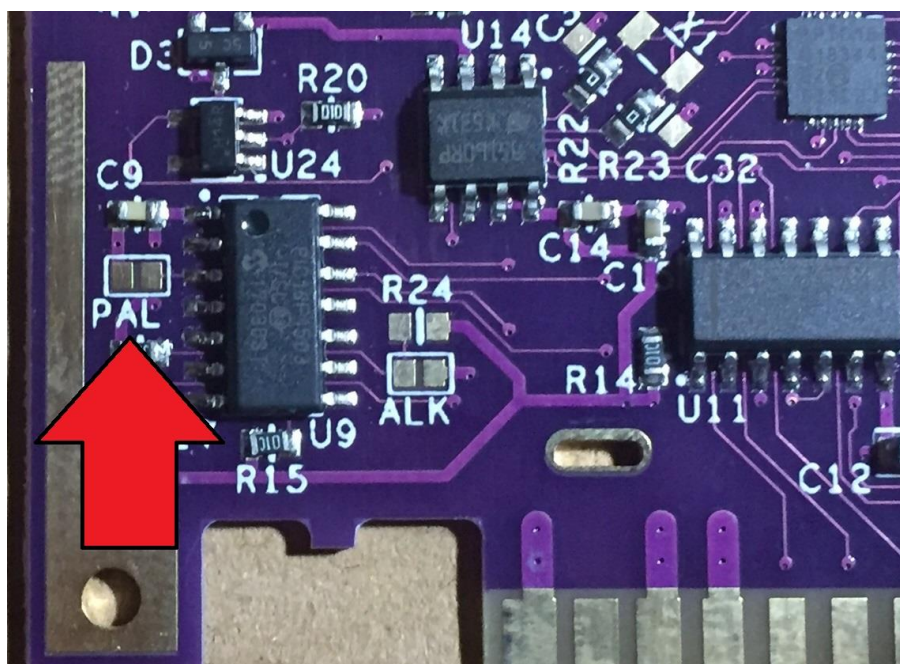
You will also need to harvest the SRAM battery controller chip from the original sram cartridge.

Solder the "SRAM" solder-jumper pads (Green arrows). Install the SRAM and battery controller parts.
Install battery.

Play test.



CIC selections are in the above red box. Consult the chart at the bottom of this document for specifically which game uses which CIC.

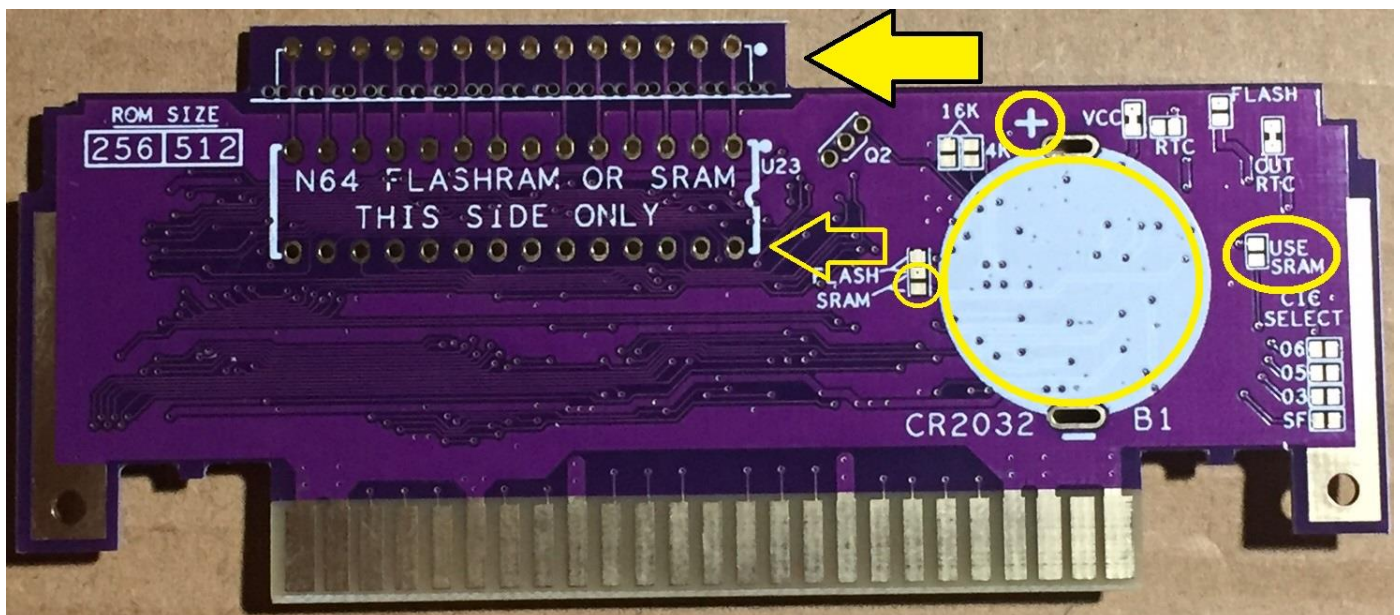


For our European customers, the PAL jumper needs to be used.

There are 2 (physical) sizes of the sram chip. A “narrow” and “wide” version.



The wider sram would go in the taller pcb slot (solid yellow arrow). The narrow sram would go in the lower 2 pin rows (hollow yellow arrow). The yellow arrows and circles are the jumpers you would use. **ONLY** SRAM GAMES REQUIRE A BATTERY.

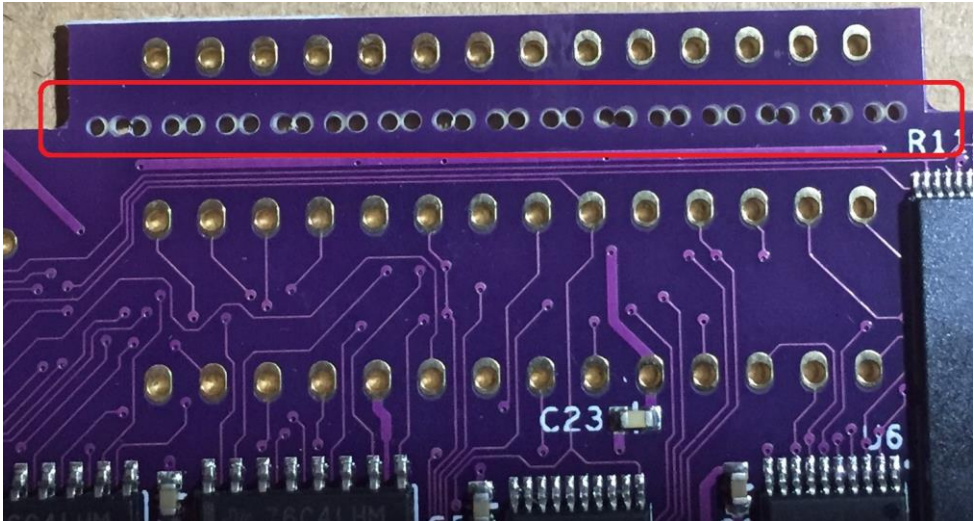


VERY IMPORTANT: battery must not touch the metal shielding in the case when installed!!!!

VERY IMPORTANT: battery must not touch the metal shielding in the case when installed!!!!

[Video - how to use this cart](#)

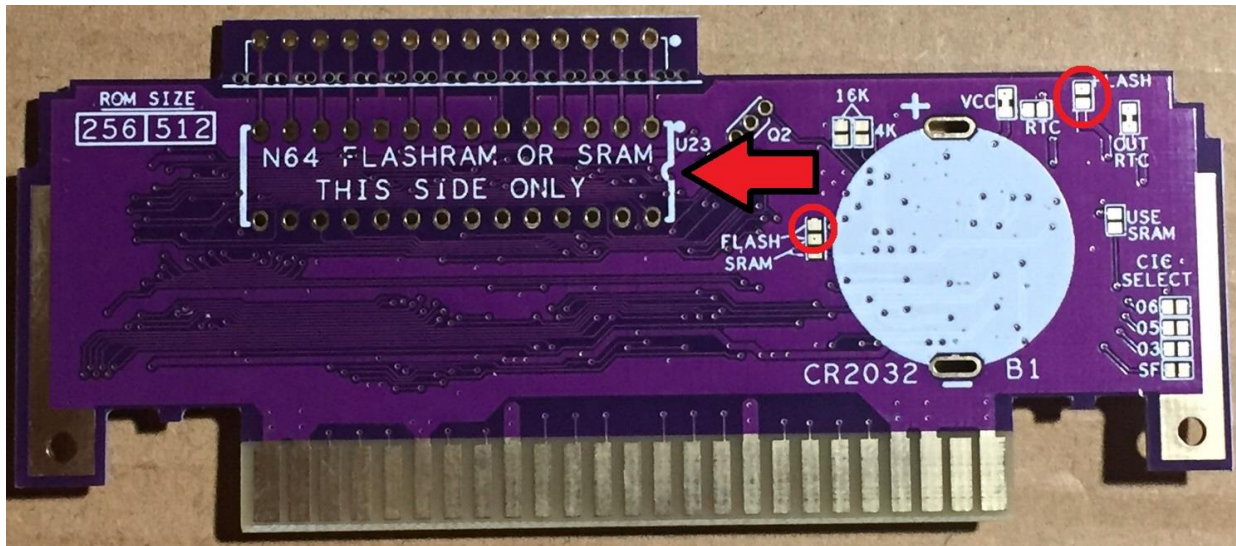
IF you use the narrow parts (flashram or sram), the upper part of the pcb can be “broken off” along the drill hole line **ONLY** if you want it to fit in the smaller metal shielding cases. See link to video below...



These are the most common Flashrams found in USA game carts. They all are interchangeable



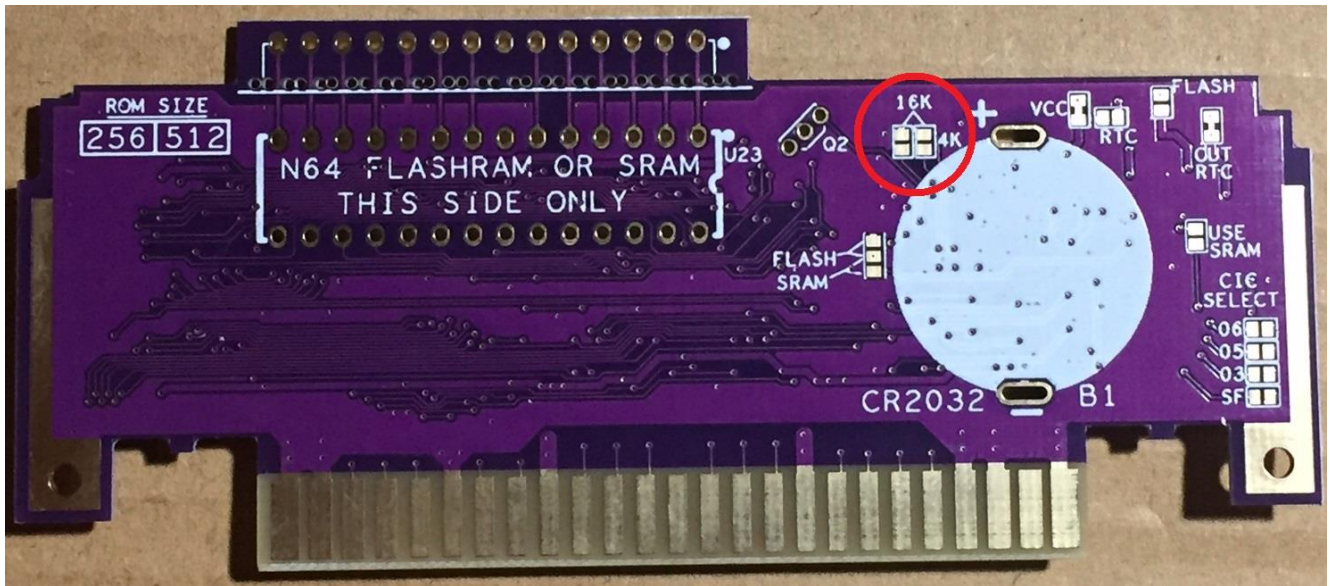
The below shows the jumpers for FLASHRAM games.



FLASHRAM AND SRAM CHIP SOLDERS TO THE BOTTOM SIDE OF THE BOARD !!!

The below picture shows which jumpers to use for eeprom games.

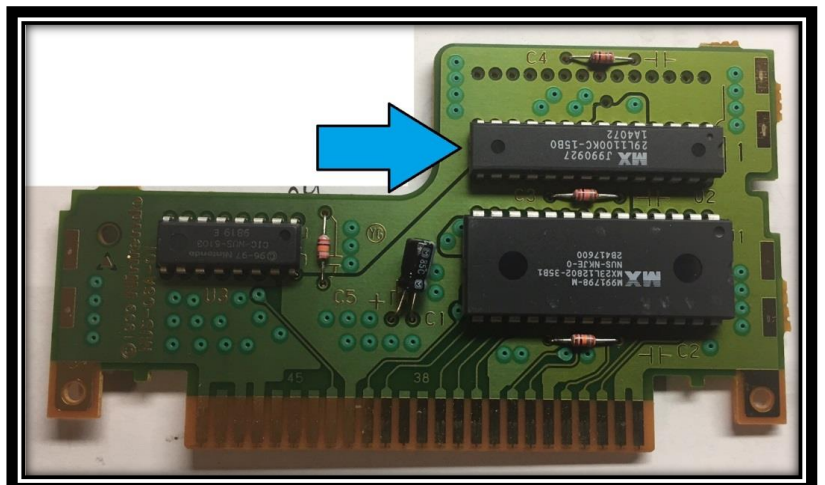
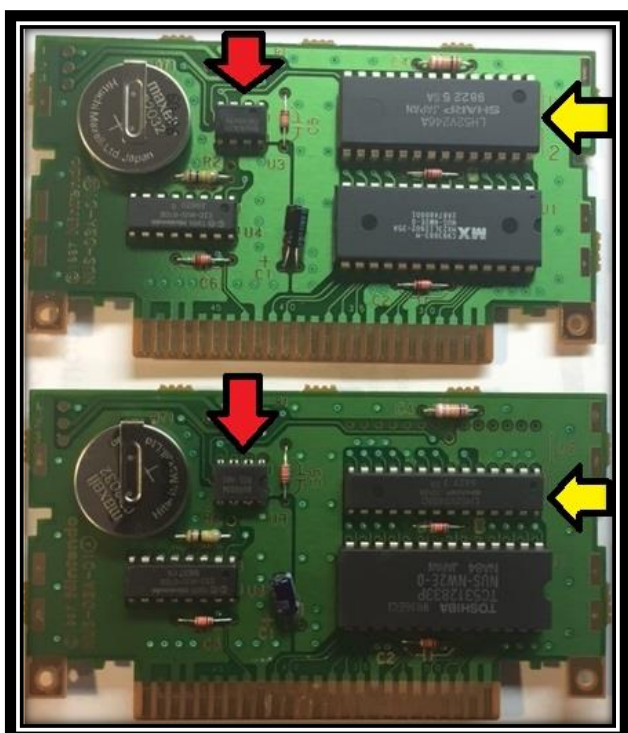
Use ONLY the 4k jumpers for 4K games, USE BOTH jumpers for 16K games.



[THIS](#) video shows general use of the pcb and the proper way to break off the top part of the pcb.

SRAM and FLASHRAM CHIPS HAVE TO BE HARVESTED FROM ORIGINAL N64 GAMES. THEY ARE NOT INCLUDED with this PCB.

BOTH sizes of SRAM shown below with YELLOW ARROWS. Battery controller (red arrow is NOT needed).



FLASHRAM BLUE arrow.

Regardless of the region, the shell plastics are all the same as far as the *INSIDE* of the shell is concerned. There are 2 sizes of metal shielding that come inside original N64 carts. The MOST common is the smaller shielding which my pcb will fit inside. Then there is a larger shielding that is, of course, less common. **ALL** the sram and flashram carts (plus some others) use the larger shielding – **because the original cartridge pcb is also larger**. My pcb will fit in the smaller shielding as well as the larger shielding ...if you use the narrow sram (or no save parts too).

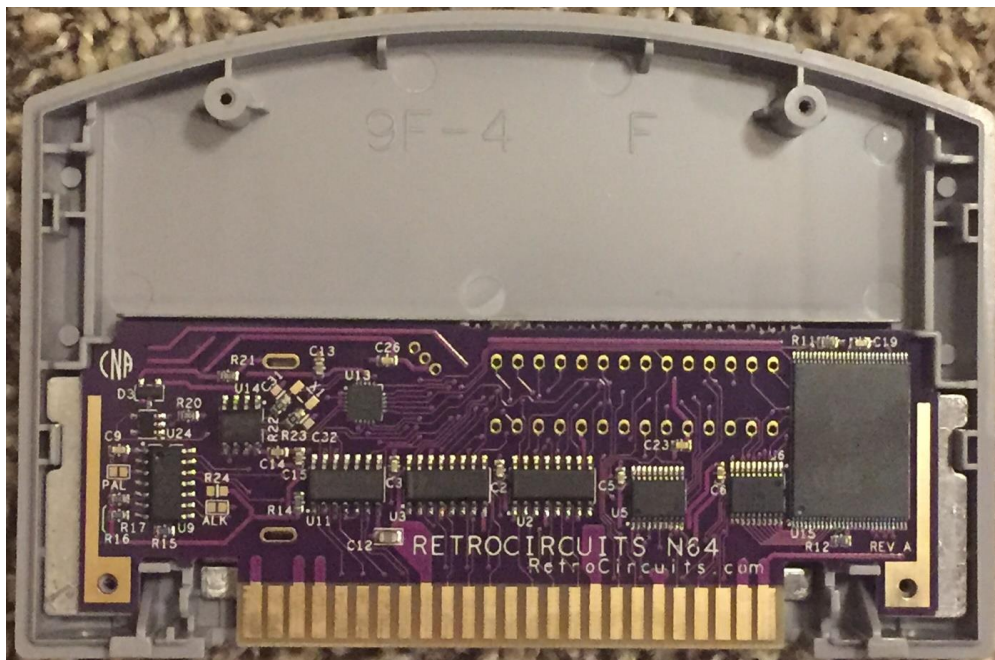
This is the PCB in the larger metal shielding below:

Note: the breakaway part of the PCB is ok to leave in place.



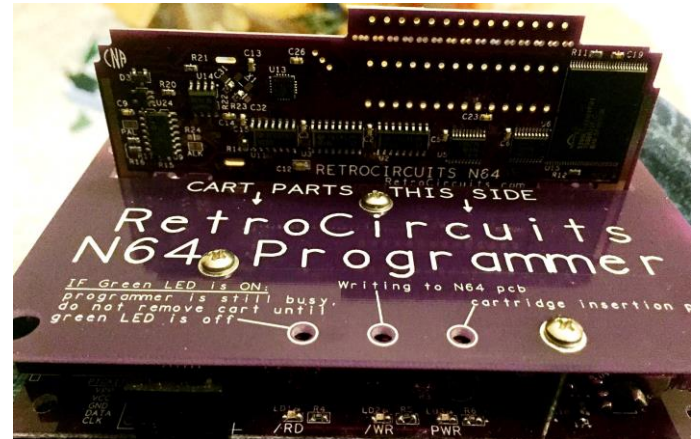
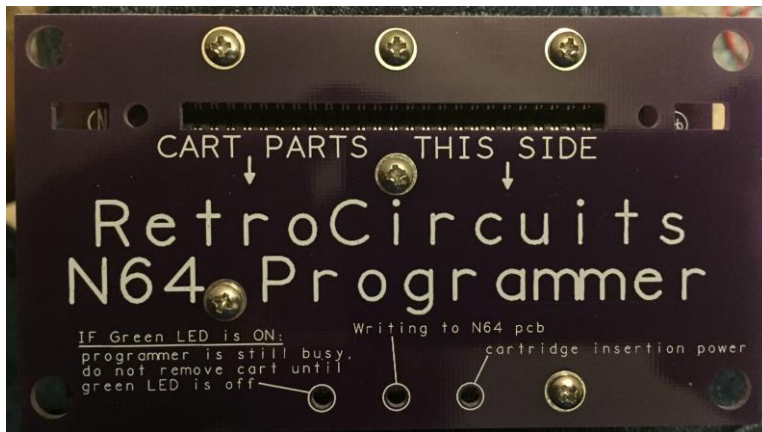
This is the PCB in the smaller (more common) metal shielding below:

Note: the breakaway part of the PCB is removed.

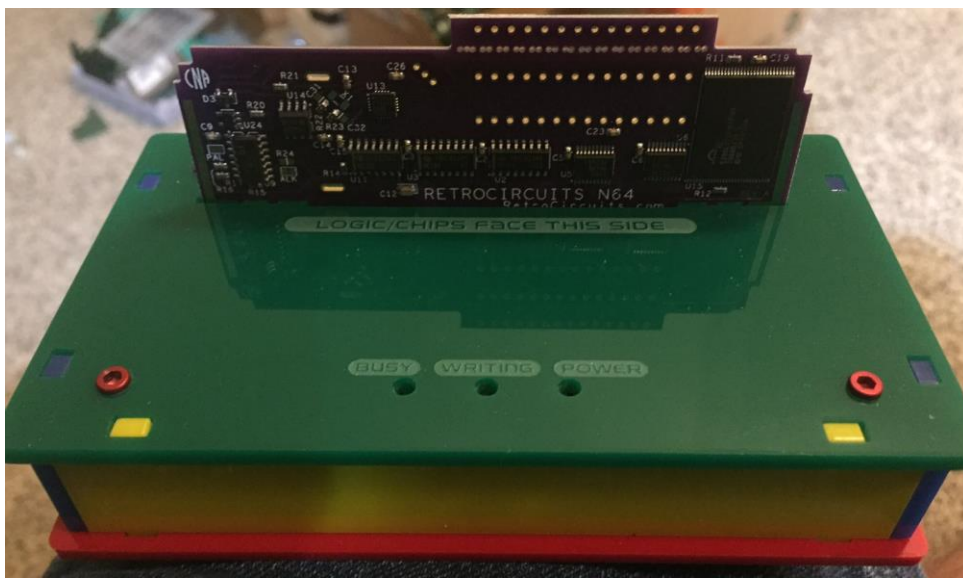


N64 PROGRAMMER

The RetroCircuits N64 programmer is unique in that, it doesn't use a specific program. The programmer makes the computer believe that the N64 is a *really really* small USB Flash Drive. So when programming your cart, just treat it as if it was a USB memory device. Drag and drop the N64 rom (in Big Endian format) on to the flash drive window and it will program. To copy what's on the Drive, just drag it to your PC. To erase the ROM, just select the rom, right-click DELETE, and the ROM will erase itself. It couldn't get much easier and best part, you don't need a dedicated program to do any of this.... It's all a function of the OS on the PC's. The programmer has a cartridge detect function so it will only program the cartridge when it's actually inserted into the programmer and the file is in Big Endian. Here is a quick how-to video: [N64 programming](#) Get the [TOOL64](#) here.



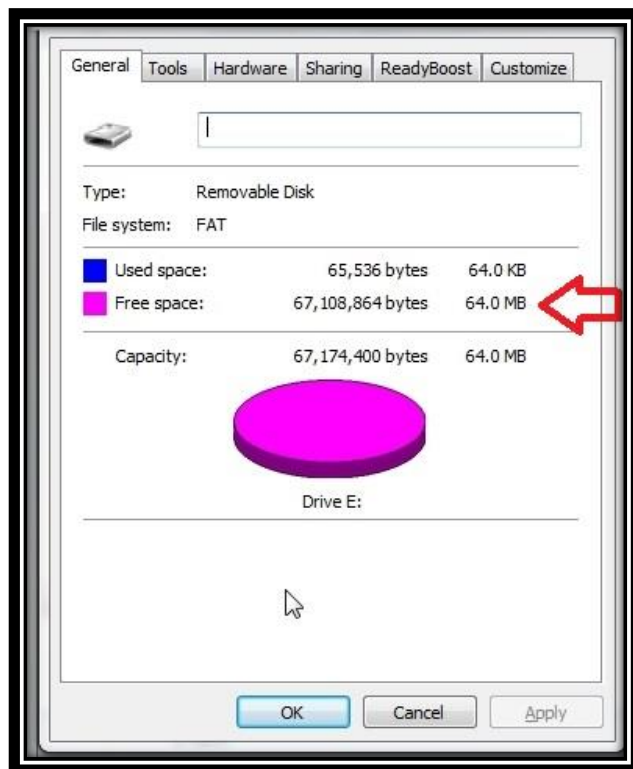
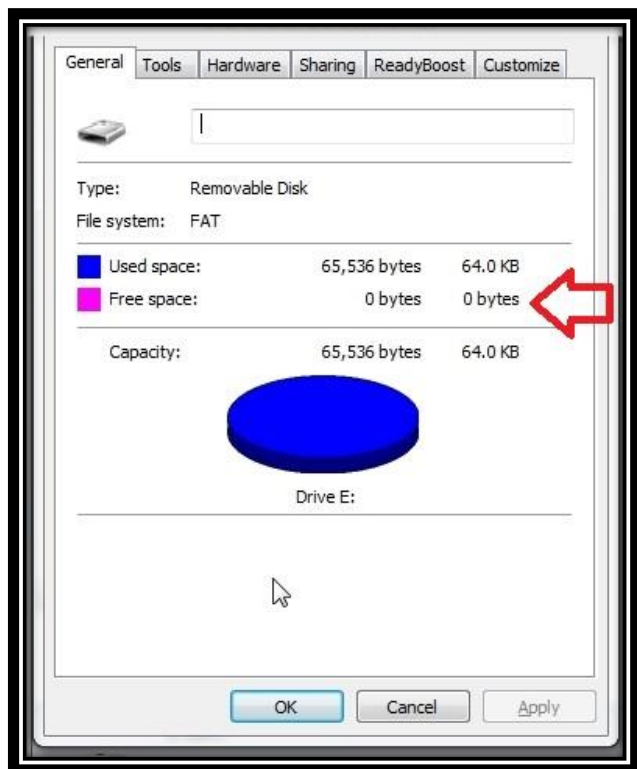
An optional plastic enclosure (shown below) will be available soon. This one is in the N64 colors. A crystal clear case will also be available.



A few things to know – Using the programmer.

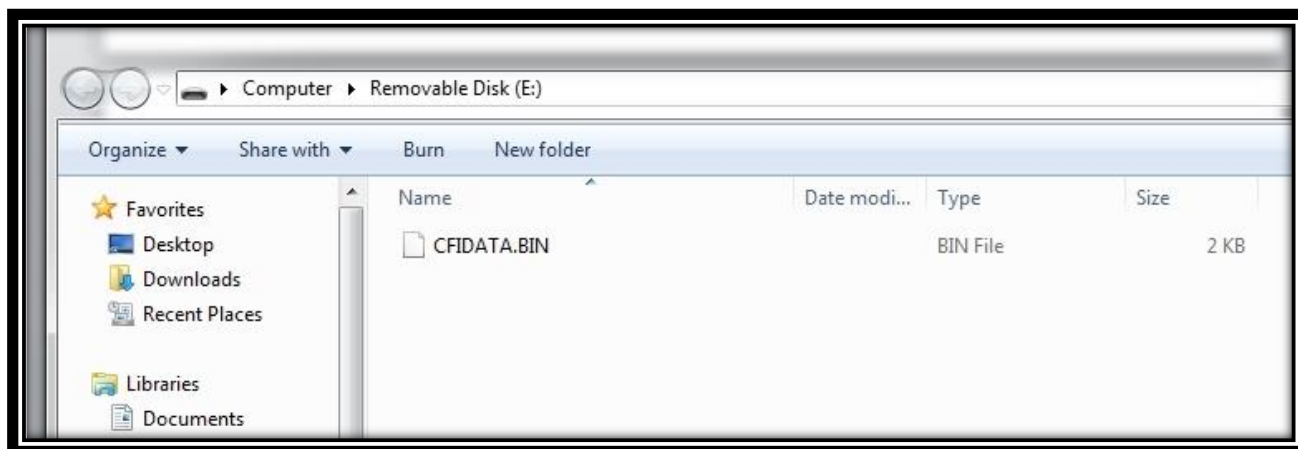
After inserting the cart in the programmer and then powering on, a new drive window should appear on your computer. If it doesn't, just power cycle the cart with the on/off switch. Do a "right-click" for properties.

If you see 0 bytes free, then re-insert the cart or power cycle. **(LEFT PICTURE).**



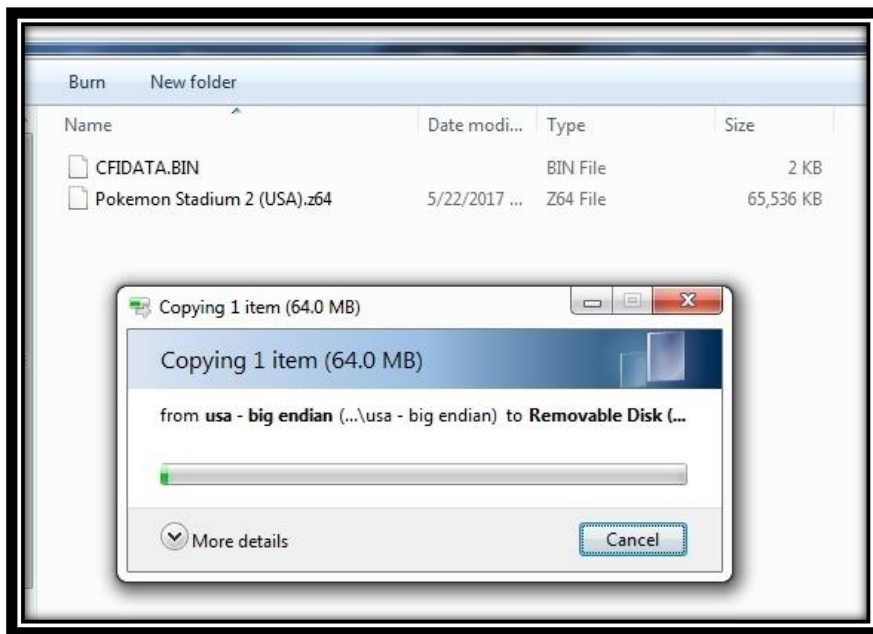
If your cart was inserted properly, then you should see your ROM SIZE in **megabytes**.
64Mbytes=512megabits, 32Mbytes =256megabits, 16Mbytes=128megabits.

Your window should look like this **(RIGHT PICTURE)** if you have a 512mbit rom cart.



Do not delete the CFIDATA.BIN file. It does not occupy any space on the "DRIVE".

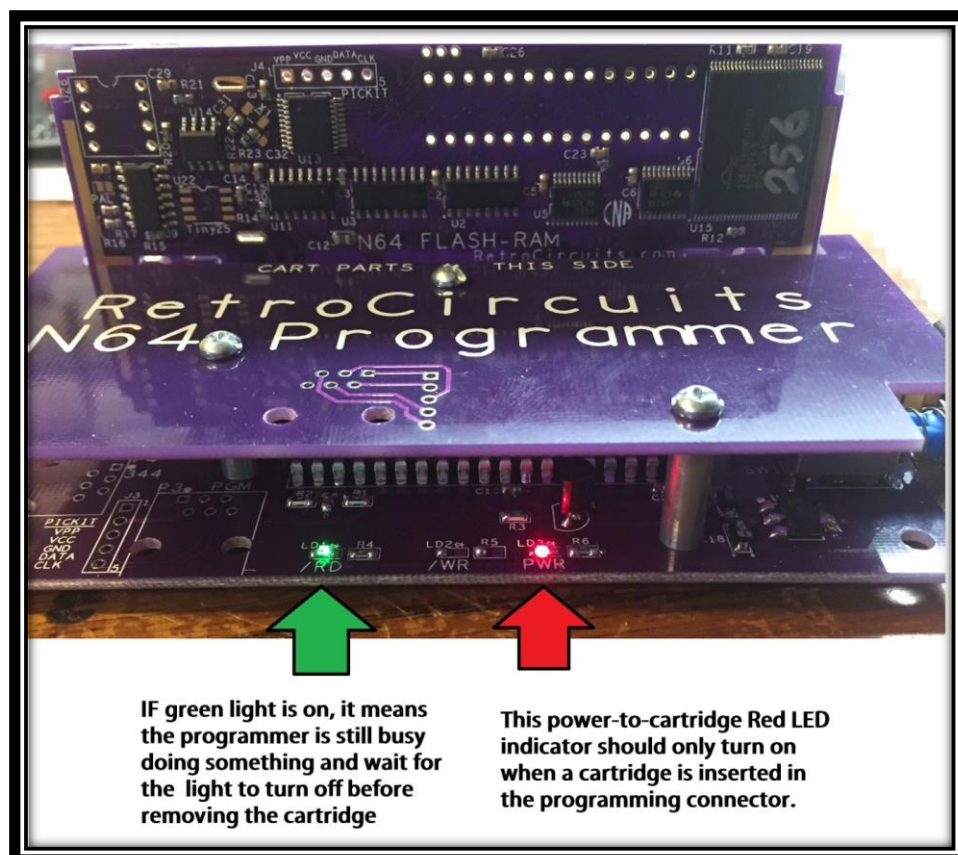
Now you can drag and drop your ROM file onto the drive to program the cart. It should take about 5 minutes.



IF you want to **erase** the ROM, then right-click on the ROM and choose **DELETE**. (no graphic shown)

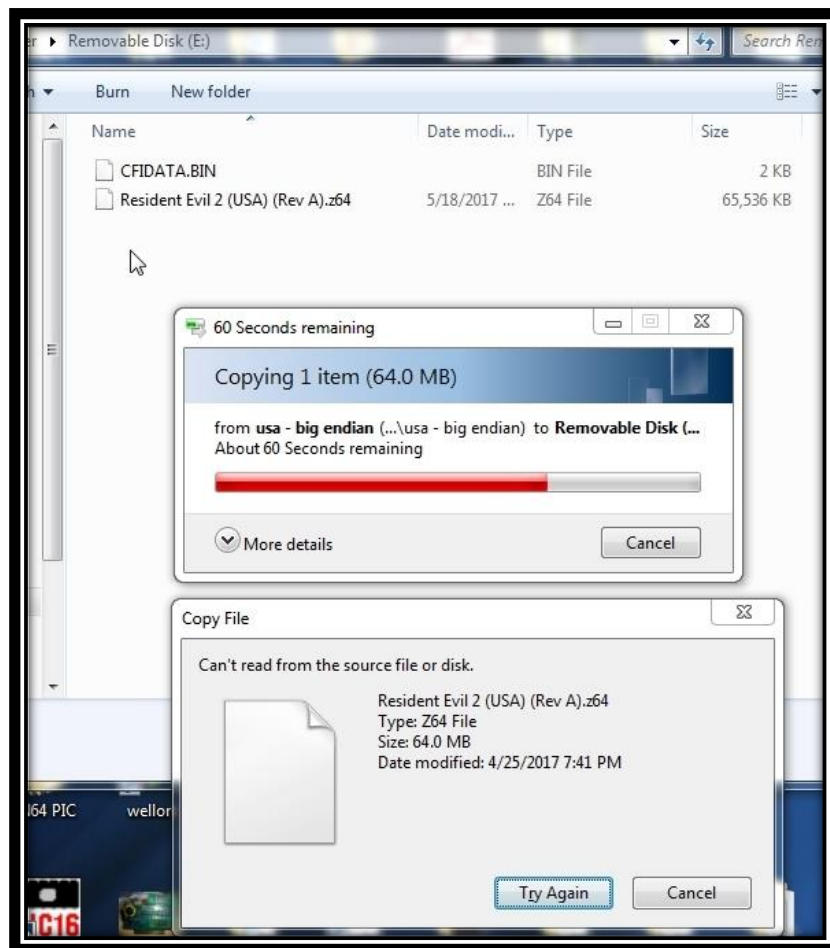
VERY IMPORTANT – It takes LONGER for the ROM to erase than indicated by windows! You MUST wait until the drive window closes and then re-opens. This may take a few minutes after Windows thinks the device is erased.

There is a GREEN LED on the programmer that also indicates it's still busy doing something. When the erase process is completed, the green LED will turn off.

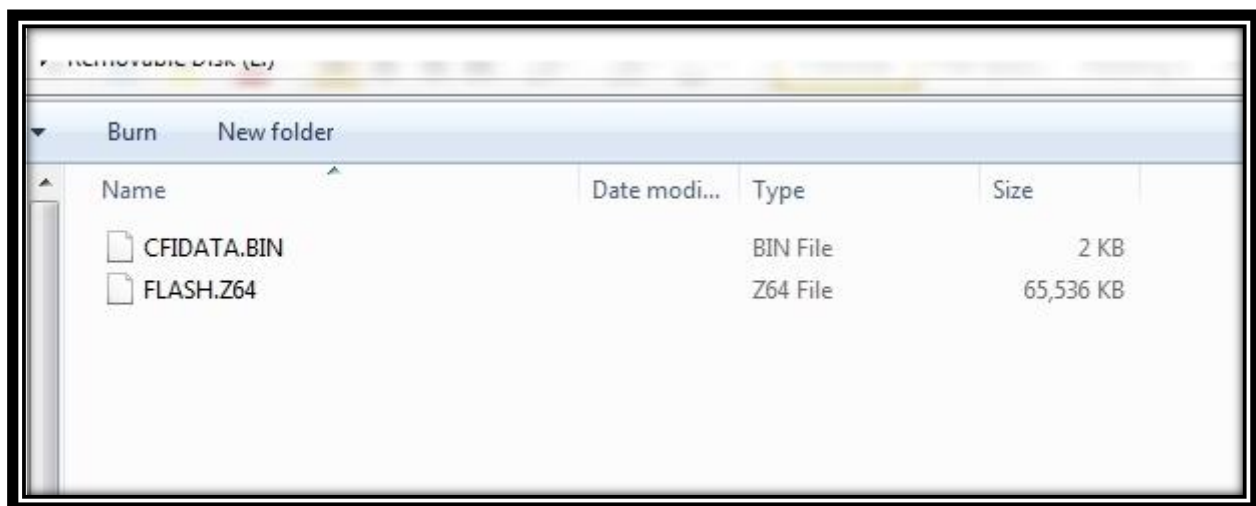


Most of the time, if you insert the cart with the power switch off, and then power on the programmer, it will create a new window and will recognize the cart the first time. When removing the cart, power the programmer off first.

If you get an error message when programming, like this: Just re-insert the cart and try again. You most likely will have to do an erasure before trying again.



The Game Name will **not** stay with the cart. After programming is complete, the name will change to this: FLASH.Z64



The firmware in the programmer has been tested on:

Windows 7 (my machine)

Windows XP, VISTA (revived an old pc and tested both)

Linux :ubuntu-17.04-desktop-amd64 [Linux setup and usage](#)

Linux :linuxmint-18.1-kde-64bit

Linux :Fedora-Workstation-Live-x86_64-25-1.3

Linux :elementaryos-0.4.1-stable.20170517

Windows 8.1 and 10, for the programmer to work, you have to **disable DRIVE INDEXING**. Here is a link on what to do: [Turn off Indexing](#) and here is another source <http://www.thewindowsclub.com/prevent-system-volume-information-folder-usb> If link doesn't work, copy and paste to your browser. The video link (below) also shows you how.

You might get an error on the erasure/deleting but this is OK as the deletion of the file is already done. The error might occur when the window is told to reset itself which means the erasure happened already.

OSX is untested as of this writing

Video of Win10 indexing fix and general usage of the programmer: [N64 with Win10](#)

Thank you Mr. Pete for the great videos!

ROM FILE PREPARATION:

You will need the N64 64TOOL.exe to convert your ROM files into **BIG ENDIAN FORMAT**. It's easy to use. The programmer will perform a test on the ROM file to see if it's in Big Endian. If it's not, then the programmer will not program the rom. If the first two bytes of the file that the user tries to program are "37 80", then it will reject it.

You can get the 64TOOL here: [TOOL64 - click here to get it](#)

OK, these are awesome! I want some! So where do I get them and how much are they?

The prices (which may change) are currently:

Carts with **128**mbit memory: \$14 (This may be not available in the future so substitute for 256m)

Carts with **256**mbit memory: \$15

Carts with **512**mbit memory: \$17

PROGRAMMER \$45 (includes USB cable)

No batteries, SRAM or Flashram parts are included.

Carts' CIC's are already programmed as mention earlier in this document.

Places to buy them from:

<https://www.mortoffgames.com/>

Mortoffgames has a large selection of game gear in-general as well as new N64 cart shells and hardware. He also sells much of my SNES and Genesis reproduction carts too.

[The BEST Snes pcb's money can buy](#)

[Sega Genesis pcbs](#)

[Buy my awesome N64 stuff here](#)

Tools NEEDED:

A small to medium heat (30 watts maybe...) soldering iron.

Some solder -- typically .032 or .022 diameter with rosen core.

If you plan to harvest SRAM and Flashram chips, you'll need a de-soldering tool for that and probably a 3.8mm star tool for opening up N64 carts. Small tip Philips tool also. Mortoffgames sells most of these.

If you need technical help or want to buy in LARGE BULK (+50), then contact me directly at snesunlimited@gmail.com

Do NOT request roms of any kind. Any request will be ignored. Boards are intended for home brew games.

Other random notes and observations.

Starfox64 – There apparently is a “converted” StarFox64 on the web that was modified to use the 6102 CIC. So if you download a StarFox64 and it doesn't work with the StarFox CIC, try using the 6102 (default – no CIC jumpers)

To head off these questions, the “**DD**” N64 stuff, they use custom CIC's and don't work on this pcb.

Many of the **Mario64 hacks** also do not work on real hardware (as of this writing). We've tested some and haven't found any that work so far.....

The N64 USA game library (for references only).

The game listings can tell you which games are suitable for donors for SRAM and Flashram chips.

16K EEPROM memory				
Banjo-Tooie (U)	CIC-NUS-6105	EEPROM (16 Kbits)	Rumble Pak	256
Conker's Bad Fur Day (U)	CIC-NUS-6105	EEPROM (16 Kbits)	Rumble Pak	512
Cruis'n World (U)	CIC-NUS-6106	EEPROM (16 Kbits)	Rumble Pak	96
Donkey Kong 64 (U)	CIC-NUS-6105	EEPROM (16 Kbits)	Expansion Pak, Rumble Pak	256
Excitebike 64 (U)	CIC-NUS-6103	EEPROM (16 Kbits)	Expansion Pak, Rumble Pak, Controller Pak	128
Golden Eye X	CIC-NUS-6105	EEPROM (16 Kbits)		256
Kobe Bryant's NBA Courtside (U)	CIC-NUS-6103	EEPROM (16 Kbits)	Rumble Pak, Controller Pak	96
Mario Party 3 (U)	CIC-NUS-6102	EEPROM (16 Kbits)		256
Mario Tennis (U)	CIC-NUS-6102	EEPROM (16 Kbits)	Transfer Pak, Rumble Pak	128
Perfect Dark (U) (V1.0)	CIC-NUS-6105	EEPROM (16 Kbits)	Transfer Pak, Expansion Pak, Rumble Pak, Controller Pak	256
Perfect Dark (U) (V1.1)	CIC-NUS-6105	EEPROM (16 Kbits)	Transfer Pak, Expansion Pak, Rumble Pak, Controller Pak	256
RRR64 - Ridge Racer 64 (U)	CIC-NUS-6102	EEPROM (16 Kbits)	Rumble Pack	256
Star Wars Episode 1 - Racer (U)	CIC-NUS-6102	EEPROM (16 Kbits)	Expansion Pak, Rumble Pak, Controller Pak	256
Yoshi's Story (U)	CIC-NUS-6106	EEPROM (16 Kbits)	Rumble Pak	128

4K EEPROM memory

Aerofigther's Assault (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	64
AeroGauge (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
All Star Tennis '99 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Banjo-Kazooie (U)	CIC-NUS-6103	EEPROM (4 Kbits)		
Beast Wars TransMetal (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	128
Big Mountain 2000 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak, Controller Pak	96
Blast Corps (U) (V1.0)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Blast Corps (U) (V1.1)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Body Harvest (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Bomberman 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Bomberman 64 (J) Arcade edition translated	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	65
Bomberman Hero (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Bomberman 64 - The Second Attack (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak, Controller Pak	128
Chameleon Twist (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Chopper Attack (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	64
Cruis'n Exotica (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	128
Cruis'n USA (U) (V1.0)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Cruis'n USA (U) (V1.1)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Cruis'n USA (U) (V1.2)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Diddy Kong Racing (U) (V1.0)	CIC-NUS-6103	EEPROM (4 Kbits)	Rumble Pak, Ccontroller Pak	96
Diddy Kong Racing (U) (V1.1)	CIC-NUS-6103	EEPROM (4 Kbits)	Rumble Pak, Ccontroller Pak	96
Disney's Donald Duck - Goin' Quackers (U) (M5)	CIC-NUS-6102	EEPROM (4 Kbits)	Expansion Pak, Controlle Pak	160
Dr. Mario 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		32
Duck Dodgers Starring Dally Duck (U) (M3)	CIC-NUS-6102	EEPROM (4 Kbits)		128
Earthworm Jim 3D (U)	CIC-NUS-6102	EEPROM (4 Kbits)		128
F-1 World Grand Prix (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Glover (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Fighter's Destiny (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak, Controller Pak	96
GoldenEye 007 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
GT 64 Championship Edition (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak, Controller Pak	96
Indiana Jones and the infernal Machine (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Expansion Pak, Rumble Pak	256
Indy Racing 2000 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		128

In-Fisherman Bass Hunter 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	64
Killer Instinct Gold (U) (V1.0)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	96
Killer Instinct Gold (U) (V1.1)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	96
Killer Instinct Gold (U) (V1.2)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	96
Kirby 64 - The Crystal Shards (U)	CIC-NUS-6103	EEPROM (4 Kbits)	Rumble Pak	256
Mario Kart 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	95
Mario Party (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	256
Mario Party 2 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		256
Mickey's Speedway USA (U)	CIC-NUS-6105	EEPROM (4 Kbits)	Rumble Pak	256
Mischief Makers (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Mission Impossible (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Monopoly (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
MRC - Multi Racing Championship (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak, Controller Pak	96
Penny Racera (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
PGA European Tour (U)	CIC-NUS-6102	EEPROM (4 Kbits)		128
Pillotwings 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Rocket - Robot on Wheels (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pack	96
Snowboard Kids 2 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	128
Spacestation Silicon Valley (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	64
Star Fox 64 (U)	CIC-NUS-6101	EEPROM (4 Kbits)	Rumble Pak	96
Star Solidier Vanishing Earth (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	96
Star Wars - Rogue Squadron (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	128
Star Wars - Shodows of the Empire (U) (V1.0)	CIC-NUS-6102	EEPROM (4 Kbits)		96
Star Wars - Shodows of the Empire (U) (V1.2)	CIC-NUS-6102	EEPROM (4 Kbits)		96
Star Wars Episode 1 - Battle for Naboo (U)	CIC-NUS-6102	EEPROM (4 Kbits)		256
Starshot - Space Circus Fever (U)	CIC-NUS-6102	EEPROM (4 Kbits)		96
Super Mario 64 (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Tetrisphere (U)	CIC-NUS-6102	EEPROM (4 Kbits)		64
Tom and Jerry in Fists of Furry (U)	CIC-NUS-6102	EEPROM (4 Kbits)		96
Top Gear Overdrive (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Expansion Pak, Rumble Pak	96
V-Rally Edition 99 (U)	CIC-NUS-6102	EEPROM (4 Kbits)	Rumble Pak	64
Wave Race 64 (U) (V1.0)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Wave Race 64 (U) (V1.1)	CIC-NUS-6102	EEPROM (4 Kbits)	Controller Pak	64
Worms - Armageddon (U)	CIC-NUS-6102	EEPROM (4 Kbits)		96

FLASH RAM

Command & Conquer (U)	CIC-NUS-6102	FlashRAM	Expansion Pak, Controller Pak	256
Jet Force Gemini - Kiosk (U)	CIC-NUS-6105	FlashRAM		
Jet Force Gemini (U)	CIC-NUS-6105	FlashRAM	Rumble Pak	256
Ken Griffey Jr.'s Slugfest (U)	CIC-NUS-6102	FlashRAM	Expansion Pak, Rumble Pak, Controller Pak	
Legend of Zelda 2, The - Majora's Mask (U)	CIC-NUS-6105	FlashRAM	Expansion Pak, Rumble Pak	256
Legend of Zelda 2, The - Majora's Mask Master Quest	CIC-NUS-6105	FlashRAM	Expansion Pak, Rumble Pak	256
Mega Man 64 (U)	CIC-NUS-6102	FlashRAM		256
NBA Courtside 2 - Featuring Kobe Bryant (U)	CIC-NUS-6102	FlashRAM		
Paper Mario (U)	CIC-NUS-6103	FlashRAM	Rumble Pak	320
Pokemon Puzzle League (U)	CIC-NUS-6102	FLASH?		256
Pokemon Snap (U)	CIC-NUS-6103	FlashRAM		128
Pokemon Stadium (U)	CIC-NUS-6103	FlashRAM	Transfer Pak	256
Pokemon Stadium 2 (U)	CIC-NUS-6103	FlashRAM	Transfer Pak	512

StarCraft 64 (U)	CIC-NUS-6102	FlashRAM	Expansion Pak, Rumble Pak	256
StarCraft 64 (U) (beta)	CIC-NUS-6102	FlashRAM	Expansion Pak, Rumble Pak	256
Tigger's Honey Hunt (U)	CIC-NUS-6102	FlashRAM	Rumble Pak, Controller Pak	128
WWF No Mercy (U)	CIC-NUS-6102	FlashRAM	Rumble Pak, Controller Pak	256
Animal Crossing (J)	CIC-NUS-6102	FLASH + RTC		256

SRAM

1080 Snowboarding (JU)	CIC-NUS-6103	SRAM	Rumble Pak	128
F-Zero X (U)	CIC-NUS-6106	SRAM	Rumble Pak	128
Harvest Moon 64 (U)	CIC-NUS-6102	SRAM		128
Legend of Zelda 2, The - Ocarina of Time (U) (V1.0)	CIC-NUS-6105	SRAM	Rumble Pak	256
Legend of Zelda 2, The - Ocarina of Time (U) (V1.1)	CIC-NUS-6105	SRAM	Rumble Pak	256
Legend of Zelda 2, The - Ocarina of Time (U) (V1.2)	CIC-NUS-6105	SRAM	Rumble Pak	256
Major League Baseball Featuring Ken Griffey Jr. (U)	CIC-NUS-6103	SRAM	Rumble Pak, Controller Pak	
Mario Golf (U)	CIC-NUS-6102	SRAM	Transfer Pak, Rumble Pak	192
New Tetris, The (U)	CIC-NUS-6102	SRAM	Controller Pak	96
Ogre Battle 64 - Person of Lordly Galiber (U)	CIC-NUS-6102	SRAM	Controller Pak	320
Resident Evil 2 (U)	CIC-NUS-6102	SRAM	Rumble Pack	512
Super Smash Bros. (U)	CIC-NUS-6103	SRAM	Rumble Pak	256
Waialae Country Club - True Golf Classics (U)	CIC-NUS-6102	SRAM	Rumble Pak	128
WCW nWo Revenge (U)	CIC-NUS-6102	SRAM	Rumble Pak	128
WWF WrestleMania 2000 (U)	CIC-NUS-6102	SRAM	Rumble Pak, Controller Pak	224

NO on cartridge MEMORY

40 winks (proto)	CIC-NUS-6102		Rumble Pak, Controller Pak	256
A Bug's Life (U) (a1)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
A Bug's Life (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
All-Star Baseball 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
All-Star Baseball 2001 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
All-Star Baseball 99 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Armorines - Project S.W.A.R.M. (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Army Men - Air Combat (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	64
Army Men - Sarge's Heroes (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	64
Army Men - Sarge's Heroes 2 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	64
Asteroids Hyper 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Automobili Lamborghini (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	32
Aidyn Chronicles - The First Mage (U)	CIC-NUS-6102		Expansion Pak, Controller Pak	256
Bassmasters 2000 (U)	CIC-NUS-6102		Controller Pak, Rumble Pak	96
Battle Tanx (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
BattleTanx - Global Assault (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Battlezone - Rise of the Black Dogs (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Beetle Adventure Racing (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Bio F.R.E.A.K.S (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Blues Brothers 2000 (U)	CIC-NUS-6102		Controller Pak, Rumble Pak	128
Bottom of the 9th (U)	CIC-NUS-6102		Controller Pak	128
Brunswick Circuit Pro Bowling (U)	CIC-NUS-6102		Controller Pak	128
Buck Bumble (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Bust A-Move - Arcade Edition (U)	CIC-NUS-6102		Controller Pak	64

Bust-A-Move '99 (U)	CIC-NUS-6102		Controller Pak, Rumble Pak	64
California Speed (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Carmageddon 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Castlevana - Legacy of Darkness (U)	CIC-NUS-6102		Expansion Pak, Controller Pak	128
Castlevania (U) (V1.0)	CIC-NUS-6102		Controller Pak	96
Castlevania (U) (V1.2)	CIC-NUS-6102		Controller Pak	96
Chameleon Twist 2 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Charlie Blast's Territory (U)	CIC-NUS-6102		Rumble Pak	32
Clay Fighter - Sculptor's Cut (U)	CIC-NUS-6102			128
Clay Fighter (beta) (U)	CIC-NUS-6102			96
Clay Fighter 63 1-3 (U)	CIC-NUS-6102			96
CyberTiger (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Dark Rift (U)	CIC-NUS-6102			64
Deadly Arts (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Destruction Derby 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Disney's Tarzan (U)	CIC-NUS-6102		Rumble Pak, Ccontroller Pak	128
Doom 64 (U)	CIC-NUS-6102		Controller Pak	64
Dual Heroes (U)	CIC-NUS-6102		Controller Pak	96
Duke Nukem 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Duke Nukem - ZERO HOUR (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak	256
ECW Hardcore Revolution (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	256
Elmo's Letter Adventure (U)	CIC-NUS-6102			64
Elmo's Number Journey (U)	CIC-NUS-6102			128
Excitebike 64 - Kiosk (U)	CIC-NUS-6103		Expansion Pak, Rumble Pak, Controller Pak	128
Extreme-G (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Extreme-G XG2 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
F-1 Pole Position 64 (U) (M3)	CIC-NUS-6102		Controller Pak	64
FIFA - Road to Word Cup 98 (U)	CIC-NUS-6102		Controller Pak	96
FIFA 99 (U)	CIC-NUS-6102		Controller Pak	128
FIFA Soccer 64 (U)	CIC-NUS-6102		Controller Pak	64
Fighter's Destiny 2 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Fighting Force 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Flying Dragon (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Forsaken 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Fox Sport College Hoops '99 (U)	CIC-NUS-6102		Controller Pak	96
Gauntlet Legends (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Gex 3 - Deep Cover Gecko (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	256
Gex 54 - Enter the Gecko (U)	CIC-NUS-6102		Controller Pak	128
Goemon's Great Adventure (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Golden Nugget 64 (U)	CIC-NUS-6102		Controller Pak	64
Hercules - The Legendary Journeys (U)	CIC-NUS-6102		Controller Pak	128
Hexen (U)	CIC-NUS-6102		Controller Pak	64
Hey you, Pikachu! (U)	CIC-NUS-6102		Voice Recognition Unit, Microphone, Rumble Pak	128
Hot Wheels Turbo Racing (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Hybrid Heaven (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Hybrid Thunder (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	224
Iggy's Reckin' Balls (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
International Superstar Soccer 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
International Superstar Soccer 64 (U)	CIC-NUS-6102		Controller Pak	64
International Superstar Soccer '98 (U)	CIC-NUS-6102		Controller Pak	96
International Track and Field 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Jeopard! (U)	CIC-NUS-6102			32

Jeremy Mc Grath Supercross 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
John Romero's Daikatana (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Knife Edge - Nose Gunner (U)	CIC-NUS-6102		Rumble Pak	64
Knockout Kings 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
LEGO Racers (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
LEGO Racers (U) [a.1]	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Madden 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Madden Football 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Madden NFL 2001 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Madden NFL 2002 (U)	CIC-NUS-6102			
Madden NFL 99 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Magical Tetris Challenger (U)	CIC-NUS-6102		Rumble Pak	128
Mia Hamm Soccer 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Micro Machines 64 Turbo (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Micro Machines 64 Turbo (U) [A1]	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Midway's Greatest Arcade Hits Volume 1 (U)	CIC-NUS-6102		Controller Pak	32
Mike Piazza's Strike Zone (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Milo's Astro Lanes (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Monaco Grand Prix (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Monster Truck Madness 64 (U)	CIC-NUS-6102		Rumble Pak	64
Mortal Kombat (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Mortal Kombat Mythologies - Sub-Zero (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Mortal Kombat Trilogy (U) (V1.0)	CIC-NUS-6102			96
Mortal Kombat Trilogy (U) (V1.2)	CIC-NUS-6102			96
Ms. Pao-Man Maze Madness (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Mystical Ninja - Starring Goemon (U)	CIC-NUS-6102		Controller Pak	128
Nagano Olympic Hockey '98 (U)	CIC-NUS-6102		Controller Pak	64
Nagano Olympic Hockey '98 (U)	CIC-NUS-6102		Controller Pak	96
Namco Museum 54 (U)	CIC-NUS-6102		Expansion Pak, Controller Pak	32
NASCAR 2000 (U)	CIC-NUS-6102		Controller Pak	96
NASCAR '98 (U)	CIC-NUS-6102		Controller Pak	96
NBA Hangtime (U)	CIC-NUS-6102		Controller Pak	96
NBA In the Zone 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	
NBA In the Zone '98 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
NBA Jam 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
NBA Jam 99 (U)	CIC-NUS-6102		Controller Pak	96
NBA Live 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
NBA Live 99 (U)	CIC-NUS-6102		Controller Pak	128
NBA Showtime - NBA on NBC (U)	CIC-NUS-6102		Controller Pak	128
NFL Blitz (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
NFL Blitz 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
NFL Blitz 2001 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	
NFL Quarterback Club 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
NFL Quarterback Club 2001 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	
NFL Quarterback Club 98 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
NFL Quarterback Club 98 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
NHL 99 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
NHL Blades of Steel '99 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
NHL Breakaway 98 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
NHL Breakaway 99 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Nightmare Creatures (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Nuclear Strike 64 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256

Off Road Challenge (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Paperboy (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Pokemon Snap Station (U)	CIC-NUS-6103			128
Polaris Sno Cross (U)	CIC-NUS-6102		Controller Pak	96
Power Ranger - Lightspeed Rescue (U)	CIC-NUS-6102		Controller Pak	96
Powerpuff Girls, The - Chemical X-traction (U)				
Quake 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	
Quake II (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Quest 64 (U)	CIC-NUS-6102		Controller Pak	128
Rakuga Kids	CIC-NUS-6102		Rumble Pak, Controller Pack	
Rally Challenge 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	96
Rampage - World Tour (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	96
Rampage 2 - Universal Tour (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	96
Rat Attack (U)	CIC-NUS-6102		Expansion Pak, Controller Pak	64
Ready 2 Rumble Boxing (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	256
Ready 2 Rumble Boxing Round 2 (U)	CIC-NUS-6102		Rumble Pak, Controller Pack	256
Re-Volt (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Road Rush 64 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
Roadstar (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Robotron 64 (U)	CIC-NUS-6102		Controller Pak	96
Rugrats - Scavenger Hunt (U)	CIC-NUS-6102		Rumble Pack	128
Rugrats in Paris - The Movie (U)	CIC-NUS-6102		Controller Pak	128
Rush 2 - Extreme Racing USA (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
S.C.A.R.S. (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
San Francisco Rush - Extreme Racing (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
San Francisco Rush 2049 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Scooby Doo - Classic Creep Capers (U)	CIC-NUS-6102		Controller Pak	128
Shadow Man (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
Shadowgate 64 - Trials of the Four Towers (U)	CIC-NUS-6102		Controller Pak	128
Sin and Punishment - Tsumi To Batsu (J)	CIC-NUS-6102		Controller Pak	256
Snowboard Kids (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
South Park - Chef's Luv Snack (U)	CIC-NUS-6102			128
South Park (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
South Park Rally (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Space Invaders (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Spider-Man (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
Stunt Racer 64 (U)	CIC-NUS-6102		Controller Pak	96
Supercross 2000 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	128
Superman (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Tonic Trouble (U)	CIC-NUS-6102		Controller Pak	128
Tony Hawk's Pro Skator (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Tony Hawk's Pro Skator 2 (U)				
Top Gear Hyper-Biker (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	
Top Gear Rally (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Top Gear Rally 2 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Toy Story 2 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Triple Play 2000 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Turok - Dinosaur Hunter (U) (V1.0)	CIC-NUS-6102		Controller Pak	64
Turok - Dinosaur Hunter (U) (V1.1)	CIC-NUS-6102		Controller Pak	64
Turok - Dinosaur Hunter (U) (V1.2)	CIC-NUS-6102		Controller Pak	64
Turok - Rage Wars (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	64
Turok 2 - Seeds of Evil - Kiosk (U)	CIC-NUS-6102			96

Turok 2 - Seeds of Evil (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
Turok 3 - Shadow of Oblivion (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
Twisted Edge Extreme Snowboarding (U)	CIC-NUS-6102		Rumble Pak, Contoller Pak	96
Vigilante 8 - 2nd Offense (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96
Vigilante 8 (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	64
Virtual Chess 64 (U)	CIC-NUS-6102		Controller Pak	32
Virtual Pool 64 (U)	CIC-NUS-6102		Controller Pak	64
War Gods (U)	CIC-NUS-6102			96
Wayne Gretzky's 3D Hockey (J)	CIC-NUS-6102		Controller Pak	64
Wayne Gretzky's 3D Hockey (U)	CIC-NUS-6102		Controller Pak	64
Wayne Gretzky's 3D Hockey '98 (U)	CIC-NUS-6102		Controller Pak	64
WCW Mayhem (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
WCW Nitro (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
WCW Nitro (U) [a1]	CIC-NUS-6102		Rumble Pak, Controller Pak	96
WCW vs. nWo- World Tour (U) (V1.0)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
WCW vs. nWo- World Tour (U) (V1.1)	CIC-NUS-6102		Rumble Pak, Controller Pak	96
Wertix (U)	CIC-NUS-6102		Controller Pak	64
Wheel of Furtune (U)	CIC-NUS-6102		Rumble Pak	32
WinBack - Convert Operations (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
Wipeout 64 (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	64
Wonder J2 (J)	CIC-NUS-6102		Controller Pak	
World Cup '98 (U)	CIC-NUS-6102		Controller Pak	96
World Driver Championship (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	128
World id Enough, The (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	256
WOW Backstage Assault (U)	CIC-NUS-6102		Controller Pak	258
WWF Attitude (U)	CIC-NUS-6102		Rumble Pak, Controller Pak	256
Xena Warrior Princess - Talisman of Fate (U)	CIC-NUS-6102		Expansion Pak, Rumble Pak, Controller Pak	96

A big thank you to Mr. Pete for some great testing and videos! We really appreciate your efforts!

What's coming in the future:

We are working on an automatic CIC selection and eeprom selection. So when you program a rom, the programmer will automatically set the CIC and EEPROM (4k, 16k, or no eeprom) settings (no soldering jumpers). So that is on the horizon.

We are also working on a NON OEM “sram” cart but it’s not ready yet. It’s still several months out.

Thank you for your support and interest! A MASSIVE amount of time, \$ and effort were expended in the development of this project.

If anyone finds any errors in the above, please let me know so I can correct.