

# DARKSOFT'S NEOGEO

## MULTI MVS / AES

### MULTI MVS/AES MANUAL v 2.2

Congratulations on your new Neogeo MultiMVS/AES and thanks for supporting us on our project. We have put a lot of time and effort on making this cartridge meet everyone's expectations and we hope you enjoy it.

The cartridge incorporates both Flash memory and DDR memory in order to increase the number of games that can be loaded at the same time and to keep loading times as low as possible.

#### WARNING!

This cartridge has a PCB made up of electronic components. It shouldn't be opened, neither tampered with. Before handling discharge yourself by touching ground. The cartridge should be inserted and removed only with the console powered off. The same applies to the microSD.

For MVS, we use recycled original sandblasted MVS Carts, so it should be inserted as any original MVS cart. For AES we use reproductions of the original cart. If you are unsure about how to operate the cartridge get in touch request technical help on [www.arcade-projects.com](http://www.arcade-projects.com)

Not following these instructions will void the warranty.

### BEFORE INSTALLING THE CARTRIDGE

Before installing, make sure that your motherboard is properly working using a regular cartridge, check the contacts and clean them if necessary, in order to ensure proper contact.

In MVS motherboard, please check that the battery is still working and has a regular value, otherwise settings won't be saved and can lead to unexpected behavior.

### INSTALL THE CARTRIDGE

Just insert the cartridge as any regular MVS/AES cartridge paying attention to the White triangle mark that all MVS carts have. If you look at the AES from the front, the microSD slot will be located on the right (opposite side of the reset button). Make sure you insert it with the power switched off and that you have inserted a microSD in the slot for it. The microSD should have a folder called \games that contains all the games to play.

**IMPORTANT! Only SDHC microSD are supported. Don't use a SDXC microSD!**

Those games can be converted from MAME romset using a script. We will not provide any info about roms or where to get them. You must ensure yourself that you are legally entitled to run anything that goes on that microSD.

If you are updating the firmware or the menu, you should create a folder called \update and place the given files there. If you are updating the menu, you should place the new menu on a folder called "menu" inside \update. If the update went well, you should see that the folder \menu inside \update was deleted.

The cartridge has been designed from scratch to have the best possibilities. This wasn't made on a quick run to get quick cash. We have a PCB that is made of 8 layers and includes both flash memory and DDR. It has capacity to hold at the same time 3 different games, so this cart will turn your 1-slot mobo into a 3-slot mobo.

The cartridge will remember which games were loaded last (saved on files SLOT1, SLOT2 and SLOT3) time and on a power cycle, these games will be loaded again. This is a very powerful feature that allows you to play your favorite games much easier. The cartridge comes with an intuitive, easy-to-use menu. The first time you power it up, it will create a file called BUFF on the root directory. This process will take with the latest firmware update less than 3 seconds. This BUFF file will contain all the information saved from the backup ram.

The root of the microSD contains 3 slot files that tell the cart which games must be loaded into DDR. If you change the value for the name of another game, it will load the DDR values corresponding to that game, but the flashes will still have the old contents, so you'll be loading the OLD game with NEW graphics which will result in a mess! Either don't touch them or delete them, but don't edit them.

Notice that the only thing that is loaded on power up when the SLOT files are checked is what is stored on DDR, meaning CROM and VROM. The flashes are never updated unless you load a different game in any of the slots.

You must take into account that ALL the games (up to 3) load the content of their DDR on power cycle until you delete them from the slot. So if you choose 3 of the biggest games, every time that you power on, it will completely load the content of CROM and VROM for those 3 games before going into the menu. Although it's very fast, take this into account when choosing which and how many games to load. Adding / removing games from a slot can be easily done from the menu.

## UPDATING THE CARTRIDGE

In order to update the firmware, you just need to place the provided files into a folder called \update. The Files must be called "flash.img" (ARM) and "top" (FPGA) and/or "cp1d"(CPLD).

In order to update the menu, you need to place the content of new menu in a folder called \update\menu.

We provide the updates inside a zip file that has all the files already in the right folder. After proper update and only after, all files will be deleted.

We are working on this cart and adding new features / fixes continuously. Please go to the forum at [www.arcade-projects.com](http://www.arcade-projects.com) and let us know your experience. If you have any troubles we'll do the best to fix them.

All original games are supported without modification. There are several bootlegs with protection that we aren't supporting.

## CURRENTLY KNOWN ISSUES

- Protection of games FF2, KOF98 and SSK is not supported yet. Use patched versions for now.

## HOW THE MENU WORKS

The first time you boot the menu as there won't be (or shouldn't be) any programmed games, your microSD will also not contain any SLOT files in it.

Make sure that you copy all the games/homebrew/own code into a folder called \games. Once in the menu, you can navigate the list and choose which games you want to load/unload from any of the 3 slots.

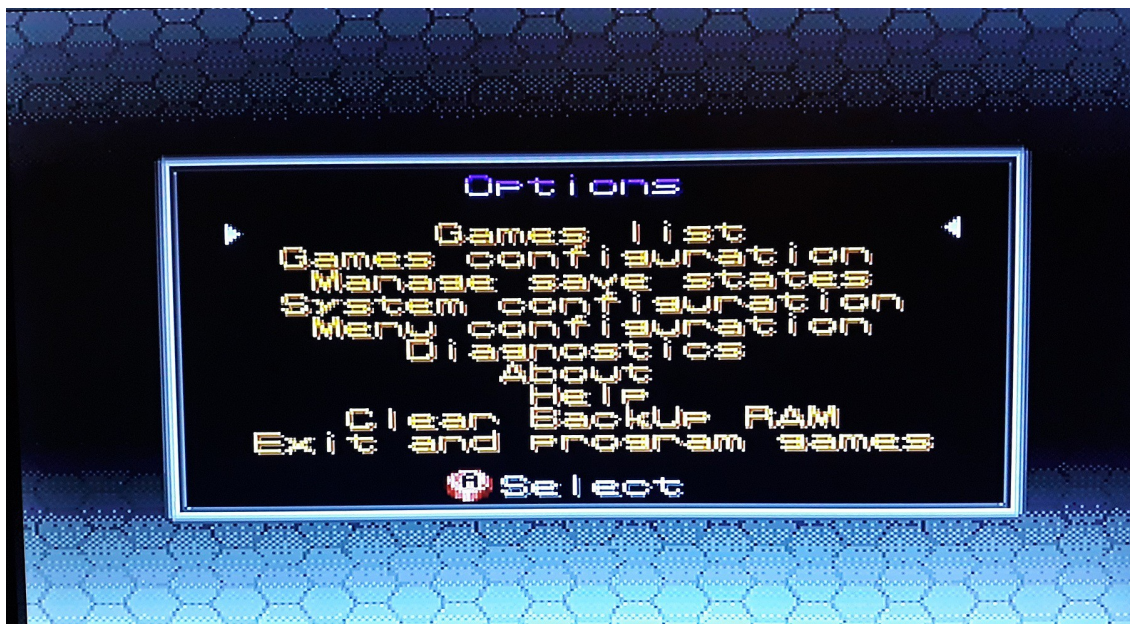
When your cart has been already programmed with 1 or more slots, you will see a stranded man and a countdown. During this countdown, you can see below the options that you have available to boot:



S (means 1P Start) to go to Menu, A to Boot game in Slot1, B to Boot game in Slot2 and C to Boot game in Slot3.

If you decide to go into the menu, you'll see different options. Some of them are related to Backup memory and will only be visible if you're running the cart in a MVS console.

See picture below:



The first option of the menu is **Game List**, from here you can select the games that are in your microSD and from there you can add games to slot, delete games from slots, etc.

While navigating the game list, choose which game you want to load / remove from a given slot. To remove a game from a slot, just choose any game, press a button and choose B to remove the existing game from that SLOT. To add a game just navigate to the game you want and then choose in which SLOT you want to save it. NOTICE that all changes will be applied and save ONLY after exiting the menu via the option EXIT.

There is a feature that we call QuickLaunch in which at any time during navigation, just press 1P Start when you are over that game and it will automatically load it into SLOT1 and boot to it. Notice that a QuickLaunch will only update SLOT 1 while SLOT 2 and SLOT 3 will remain with the games they had before.

The menu has 2 navigating options, list and thumbnails, both with slow or quick animations. You can change which one you prefer from the **Menu configuration** section.

Next Option is **Games Configuration(MVS Only)**. From here you change the Softdip settings from any of the games in any slot. Notice that you need to run the game at least once to be able to change the settings. From here you will be able to see the three slots and the games loaded on it and you'll be able to change settings like level of difficulty, Number of players, Demo Sound, language, etc. Those settings are the ones from the original game and as intended by the manufacturer of them.

See picture below with example.





Next Option is **Manage Save States (MVS Only)** From here you can backup or restore the information stored in Backup Ram from/to the microSD. Notice that the NeoGeo can store up to a maximum of information for 6 games, that includes settings, Highscore, etc. If you install a new game in the motherboard (or the multi) The NeoGeo BIOS will automatically remove the information of one of these games from Backup Ram in order to make available space for the newly installed game.

Notice that the Menu is also considered a GAME and takes one of the 6 available slots.

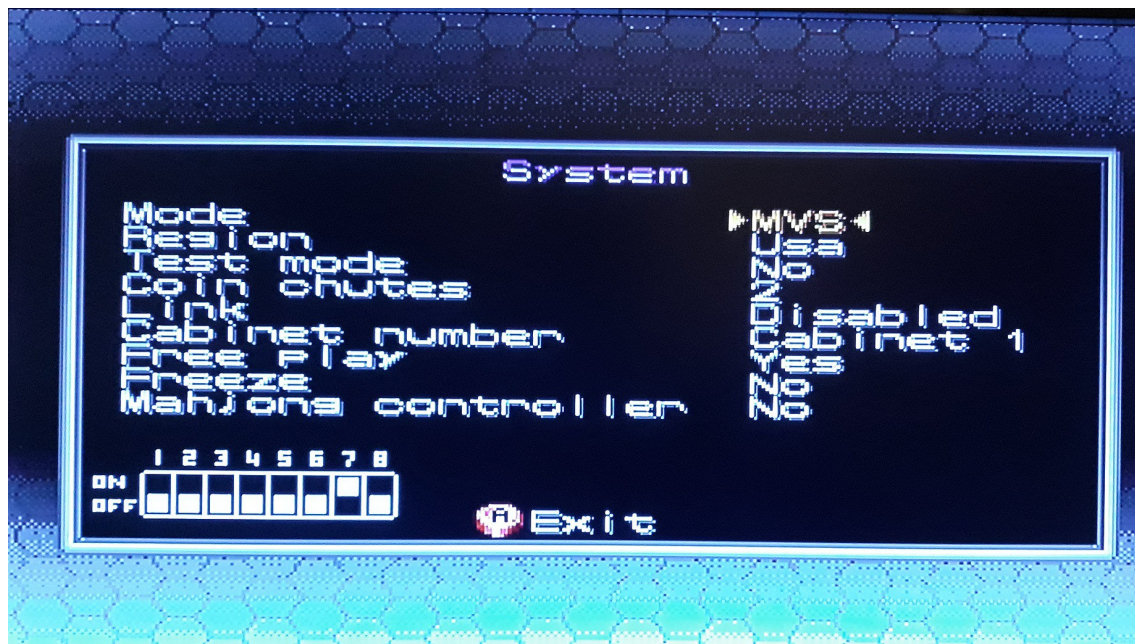
See picture below:



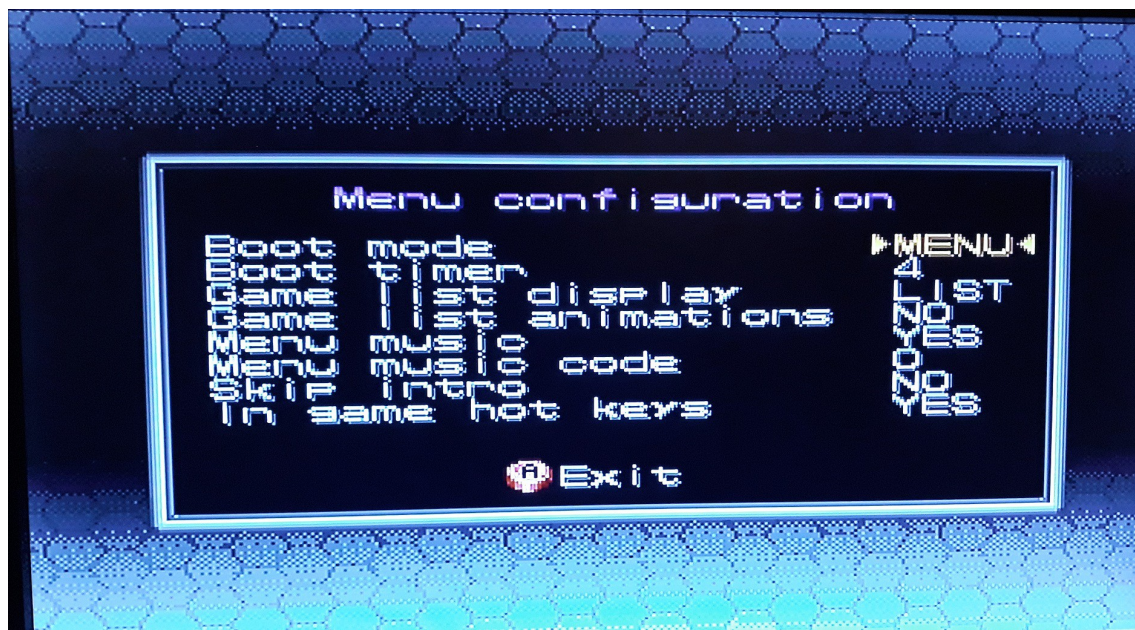


The next option is **System Configuration**, you will be able to see the current HardDIP settings set in your Motherboard. Notice that only the first two options which refer to MODE and REGION can be changed. The rest are for your information only.

You can change if the region selected is Either USA, Europe or Japan and all games will run into this mode. The same applies for Mode, you can select if you want games to run in MVS mode or AES mode.



The next option is the **Menu Configuration** Section.



**Boot mode:** From here you can select booting to **GAME**, **GAME LIST** or **MENU**.

One of the options that you can setup in the cart in order to speed up booting time is Booting either into the **MENU**, boot directly into **Game List** or into the 1<sup>st</sup> available **GAME**. If you choose booting into **GAME\***, it will not go into menu and automatically boot the 1<sup>st</sup> available game. Notice that if you have chosen the option to boot into **GAME** (As opposed to **MENU** or **GAME LIST**), it will always boot to the first available game and will never enter the menu. To go back to menu you need to keep 1P START pressed while powering on or when returning to the Menu from inside a game (1P + UP during 3 seconds) or the menu will follow the selected behavior and will boot to the 1<sup>st</sup> loaded game.

**Boot timer:** This allows you change how long the countdown with the hostage lasts during the intro section during the boot process.

**Game List Display:** you can choose if you want to see the games as a LIST or THUMBNAILS.

**Game List Animations:** This a feature that uses an animation while navigating the slots. It makes navigating a bit slow, but some people prefer it.

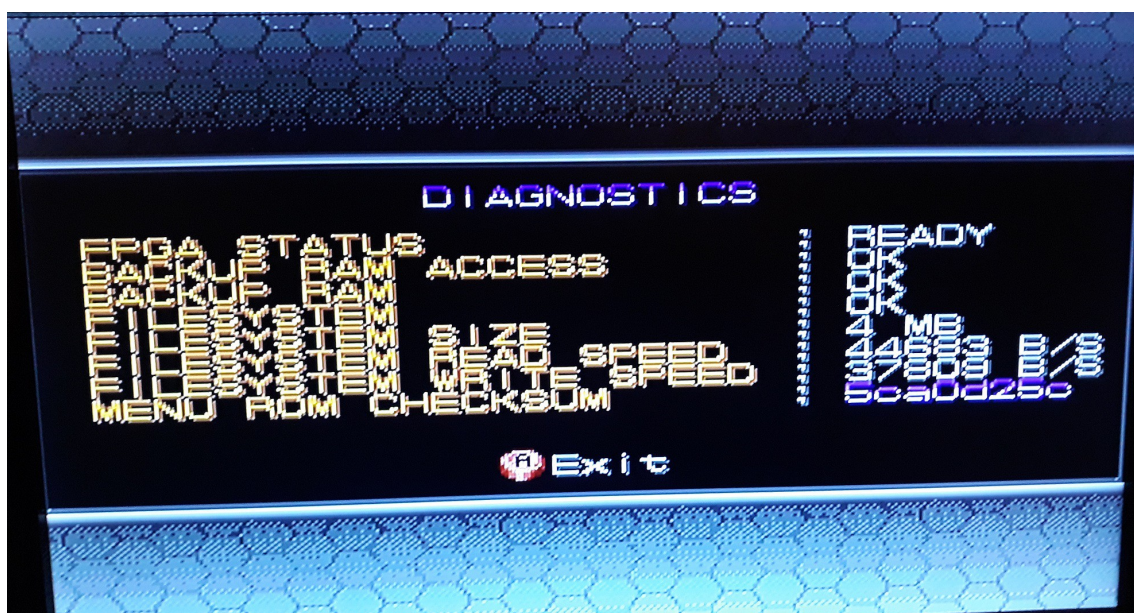
**Menu Music:** From here you can select if you want music while navigating the menu. Notice that the menu plays some Amiga Mod files converted to Play with Neogeo. We'll leave it as it is for now, but we foresee people being able to convert and upload new mods in the future.

**Menu Music code:** You can select the mod music that you want to hear in the background out of 6 different tunes.

**Skip intro:** This option will make the intro with Darksoft logo to go much quicker.

**In Game Hot Keys:** This option allows to completely disable the hot-keys used to change slot and call the menu. With hot keys disabled, people cannot change slots or return to the menu on cabinets that are on location. You will need to power cycle to be able to see the Intro again and from there boot from another slot or Press 1P Start to go to the menu.

**Diagnostics:** This section runs small cart-related diagnostics which are used to determine if everything works well with the cart.

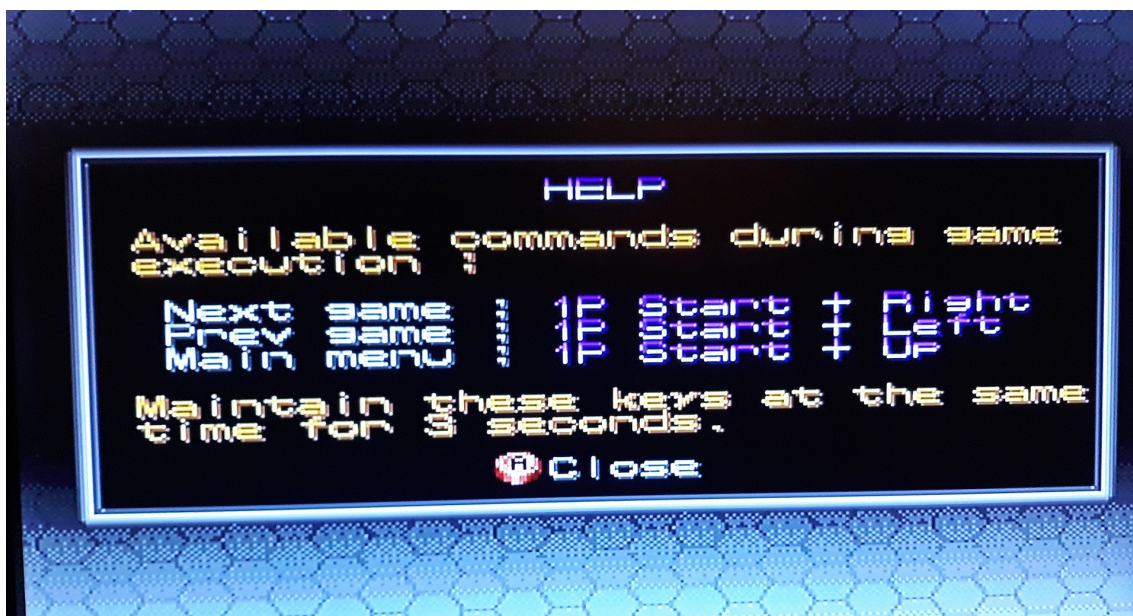




**About:** In this section, you'll be able to verify the exact version of the firmware uploaded and the number of games available in the microSD.



**Help Section:** A small self-explanatory screen with information about how to change between slots and call the menu.



Once you have chosen which games you want to load and EXIT from the menu, you will be presented the 1<sup>st</sup> available game, be it on slot 1, 2 or 3. At any time during gameplay, you have available the following combinations:

Hold Start + UP for 3 seconds => Go Back to Menu

Hold Start + RIGHT (or LEFT) for 3 seconds => Switch Slot to next/previous game.



**Clear Backup Ram:** From here you will be able to clear the contents of Backup RAM. Please notice that you need to Press B to clear the Backup RAM, not A button.

**Exit and Program Games:** From this option, we will exit the menu. If we have changed the content of any of the slots, here is where the actual update is being done. It's also here when the menu will save any information in the Backup Ram that is about to be deleted. As explained above, if we have all 6 slots of Backup RAM full, the BIOS will delete one of them to make place for the newly inserted game. In order to avoid that, we will backup the content of the game that is about to be deleted into the BUFF file in the microSD.

The BUFF file can be open and navigated, with any FAT12 file mounting tool, like OSF Mount.

**HAVE FUN!**