D2Sun Team presents you SunDisk:

Legally backup your games to SunDisk.

Play them directly from SunDisk at >8x speed!

Store them on your PC from SunDisk with usb2.0 high speed.

And off course play imports and backup DVDs.

SunDisk User Manual
Version 1.6
Contributed by info@modpro.nl

Changelog:

Programmer:
- Fixed some bugs.
- Added multi-language support, now you can easily add any language you want.

Manual:
- Fixed instructions backup game DVD to SunDisks.

Table of contents

1. The SunDisk Package

1.1 Contents of package

As you can see D2Sun team took a lot of care to on packaging your pressious SunDisk.
In the package you should find the following items:
- ✓ SunDisk
- ✓ Control switch / usb2.0 PCB
- ✓ 8 pin FPC ribbon, red colour printed, to connect external PCB
- ✓ 8 pin FPC ribbon, blue colour printend, to connect to nero programmer
- ✓ 32 pin FPC ribbon to connect SunDisk on Wii DVD
- ✓ 1 3M sticker to secure your SunDisk on the Wii chassis
- ✓ 1 sticker with the download url

1.2 The SunDisk Specs

- Plug and play100% solderless
- A.I. Boot for auto region detect, support JAP/USA/KOR/EUR
- Support all current generation Wii's
- Support DVD5/DVD9 games
- Support homebrew ROMs
- Support GC games
- Support all Wii games from same region
- Support partial Wii games from different region *(imports)*
- Come with LED indication on board
- Support USB update of CPLD core and EEPROM firmware, never outdated.
- Come with external switch configure board
- Come with PC software tool for full management of the SunDisk
- The K1 for select run Wii DVD drive or SUNDISK
- The K2 for backup your Wii & GC games to SUNDISK
- The K3 for select SUNKEY enable or disable
- The K4 for select allow game upgrade or not
- The K5 - K8 for select SUNDISK game bank for backup/play
- Running noise : ZERO
- Lifetime : > 20 years
- Running speed: >8X , backup one D5 game just need 15minutes
- Built in memory size : from 8GByte ~ 64Gyte
- Data transfer : USB 2.0 high speed
- Support PC configure and external switch configure, choose which you like ☺
- can be used as Wii drive or PC SSD, has dual working mode, choose by yourself
- can be used as high-speed READYBOOST(NTFS format) device under the VISTA and WIN7
- compatible with VISTA, and WIN7 64bit system

 8 Gbyte version can store 1 x DVD5 or 1 x DVD9 at the same time.

16Gbyte version can store 3 x DVD5 or 1 x DVD9 and 1 x DVD5 at the same time.

32Gbyte version can store 6 x DVD5 at the same time (D9 uses 2 banks).

64Gbyte version can store 12 x DVD5 at the same time (D9 uses 2 banks).

2. Installation of the SunDisk

Installation of the SunDisk is very easy, in this chapter we briefly cover the step of installation. If you run into issues, just find us at our forum@wiinews.

2.1   32 pin FPC ribbon

The 32 pin FPC ribbon is to connect the SunDisk to the Wii DVD drive.
Gently open the socket on the SunDisk which is tagged as "DVD" and slide in the ribbon correctly with the blue tagged side up. Gently close the socket.

2.2   8 pin FPC red printed ribbon

Now connect the 8 pin red printed ribbon to the SunDisk, metal pins up.

2.3　8 pin FPC blue printed ribbon

Now connect the 8 pin red printed ribbon to the SunDisk. Metal pins up.


2.4　External 8bit control switch and USB2.0 PCB

Connect the external PCB to the 8 pin red printed ribbon, metal pins up.


2.5　Wii 32 pin FPC Wii ribbon to the SunDisk

The 32 pin FPC ribbon is to connect the SunDisk to the Wii DVD drive.
Gently open the socket on the SunDisk which is tagged as "W-IN" and slide in the ribbon correctly with the blue tagged side up. Gently close the socket.
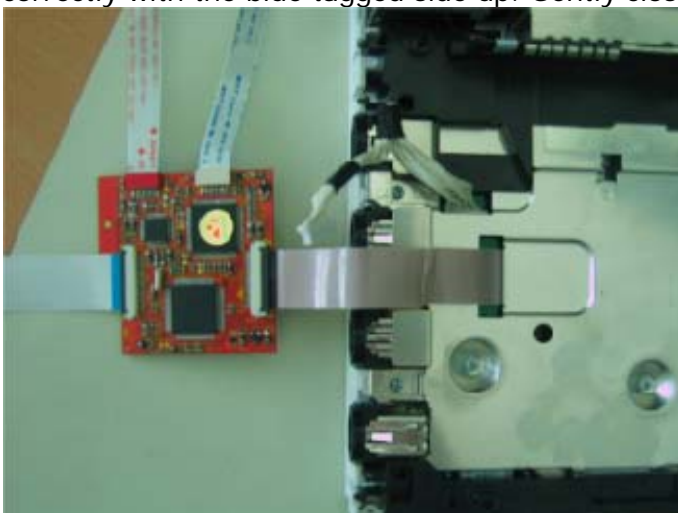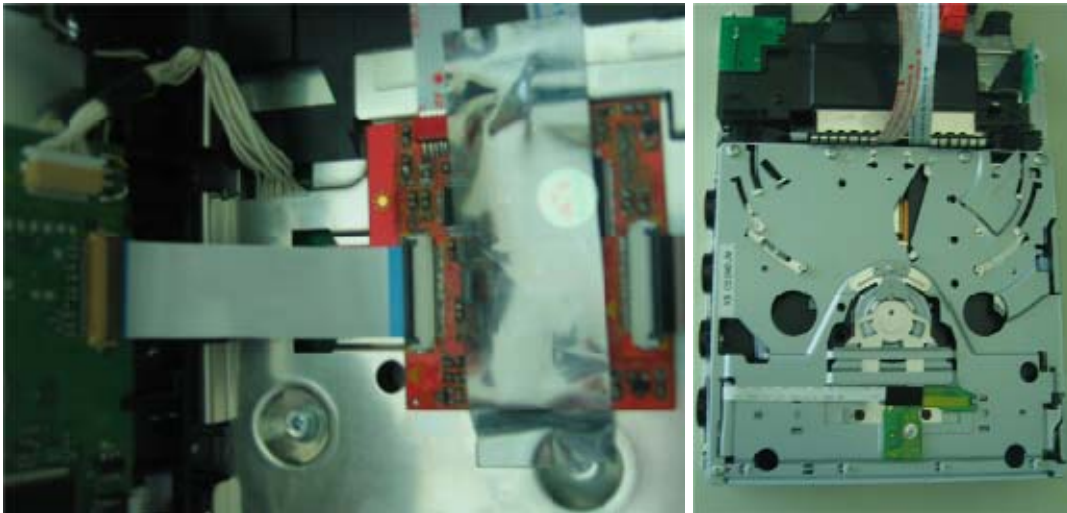
2.6 Mount the SunDisk to the Wii Chassis

Place the SunDisk on the chassis of the Wii and mount it with the supplied sticker.
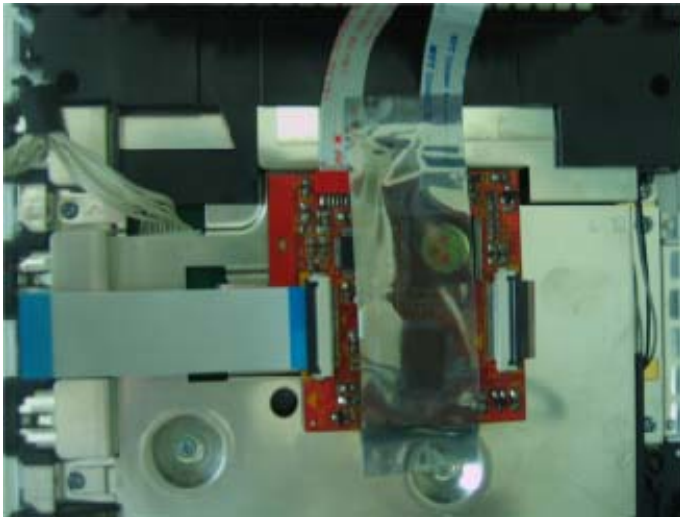
2.7 Connect Wii DVD drive to SunDisk

Next, connect the 32 pin ribbon to the socket on the Wii DVD drive, gently close the socket (do not force, if not closes easily then the ribbon is not correct placed in the socket.


Now you can continue with re-assembling your Wii.
For example, you could use the gamecube memory slot or the usb port to lead the flat cables outside the Wii.

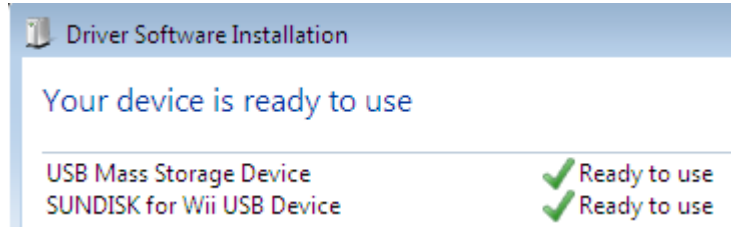## 3. Controlling the SunDisk with Programmer PC tool

You can manage your SunDisk with the SunDisk Programmer PC tool.
This tools allows you to configure and do all tasks of your SunDisk without the use of the 8bit switchboard, al you need is a PC with a fast speed USB2.0 port.

3.1   SunDisk USB2.0 to PC connection

Connect the usb2.0 port residence on the external PCB directly into an usb2.0 port of your pc.
The first time you connect the SunDisk via an usb2.0 port to Windows will detect it as an USB Mass Storage Device and will install it automatically.
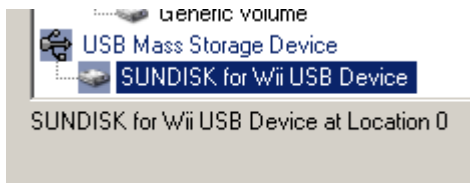
Windows xp – device installed   *Vista/Win7 – device installed*

3.2   SunDisk Programmer PC tool

The SunDisk Programmer is designed to manage your SunDisk by using your PC.
With this tool you can adjust *ALL* configuration settings of your SunDisk.

Beside the management of the SunDisk configuration the SunDisk Programmer is also used to copy your games with high speed usb2.0 from the SunDisk to your PC and around.

Download the latest version of the SunDisk Programmer tool at the download section of the D2Sun's website *(http://www.d2sun.com/download.htm)*.(This manual reflects version 1.5)
After downloading unpack the archive and find the 'SUNDISK Programmer' tool.

A note for vista and Windows7 users;
In order to use the programmer PC tool on Vista or Windows7 you need to set the compatibility via properties of the programmer file to "Windows XP (Services Pack 3)".
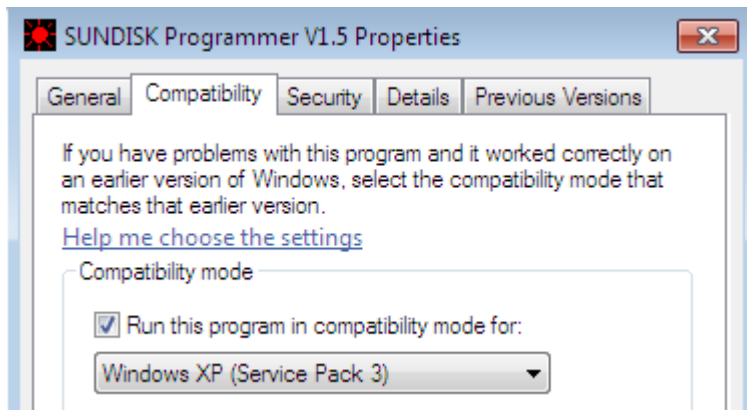
There is no need to install anything on your PC, you can use this tool by simple execute it (click on it).
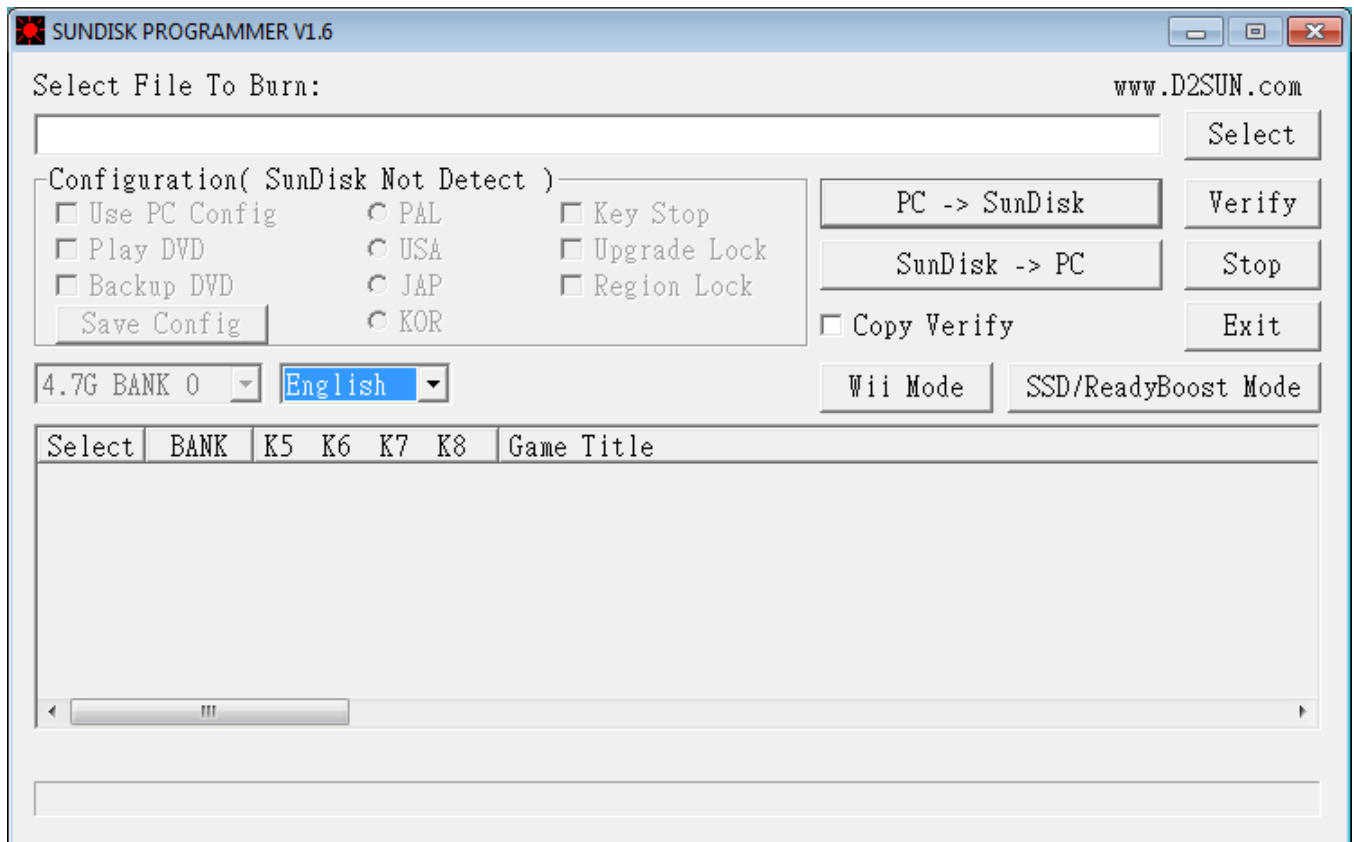
When started without the SunDisk connected the tool will indicate 'SUNDisk Not Detect'.

As soon as you connect the SunDisk the tool will change status to '**SUNDisk Ready Now'**.

It will also tell you which SunDisk version is found (8, 16, 32 or 64G).

When you're done with the settings you can leave the SunDisk connected to the PC.
As soon as you power up the Wii the programmer will give status 'SUNDisk Not Detect'
When you power down the Wii the programmer will detect the SunDisk again.

Language selection and adding
Since version 1.6 of the programmer, you now can add and select your referenced language.
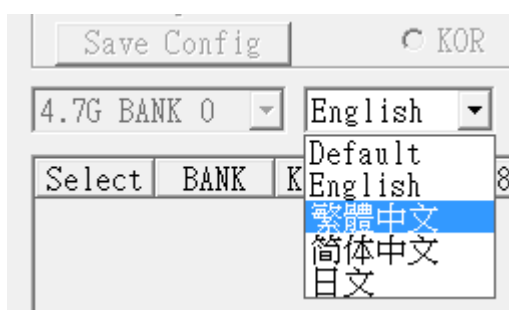
If you want to add your custom language to the Programmer all you have to do is add the translation to the Language.txt which is in the same directory of the programmer tool.
Just make sure you keep the words in correct order to avoid freaky mix up of the words.

3.3   Legally backup DVD to SunDisk

With the SunDisk you can make backups of Wii and GameCube games directly from the Wii DVD drive to the memory of the SunDisk. With this feature you're able to save the lifetime of your originals and play those without any noise of the wii DVD drive at full speed (>8x).

Time taken by the backup process is depending on the type of DVD (SL / DL / original / backup), media quality, ISO data size, and some other factors of influence.

> *Wii Sports (original) took us 15 minutes to backup to the SunDisk.*
> *SSBB (DL, original) took us 23 minutes to backup to the SunDisk.*

DL games
SunDisk has full support for Dual Layer *(DVD9)* Games.
The upload of a DVD9 to SunDisk will use 2 banks in total, first bank for the first layer and the second bank for second layer. This is fully automatically managed by the SunDisk. Just make sure that you select bank 0 or 1 for a DL game because there needs to be a 'next' bank for the second layer!

1) Connect the SunDisk via usb2.0 to your PC OR if already connected, power down the Wii.
2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.

> Configuration[SunDisk 16G Ready Now]

3) Select by clicking the following configuration settings to be active:

> SUNDisk Configuration
> ☑ Use PC Config
> ☑ Play DVD
> ☑ Backup DVD

4) Select the memory bank to store the backup: (*bank 0 in example*)

Select	BANK	K5 K6 K7 K8
***	0	OFF OFF OFF OFF
	1	OFF OFF OFF ON
	2	OFF OFF ON OFF

5) Now click on 'Save Config', the tool will respond with 'Save OK'.

> Save Config

> Save OK

6) Power on the wii and insert DVD to backup to SunDisk.

The backup of your DVD to SunDisk will now start automatically.

When booted and after inserting the DVD the control PCB starts flashing the led light
(pattern: on, on, on, off) indicating the backup is now in progress.

Wait until the control PCB stops flashing the led light, when it does the backup is finished. Now
you can eject the DVD from the Wii.

If the flashing pattern changes to on, off, on, off it means an error has occurred.
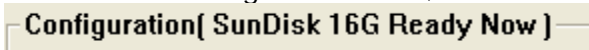This can happen for example when your laser or DVD is dirty / damaged.

SunDisk 8GB version
SunDisk 8GB version has only 1 bank (0), but through SunDisk's special handle you can still
upload an DVD9 to the memory and play or dump it without any issues!

Now you can choose to play the backup from the SunDisk (*see 'Play backup directly from
SunDisk'*) or copy the backup to your pc in ISO format (*see 'Copy backup from SunDisk to P'C*).
If you already have a backup ISO on your pc you can copy it to the memory of the SunDisk
(see 'Copy backup from PC to SunDisk') in order to play the game with high speed loading
(>8x).

3.4 Play backup directly from SunDisk

As soon as you have one or more titles stored on the SunDisk you are ready to play them directly from the SunDisk. In order to do this you have to make sure SunDisk is set to be active and select the desired game to activate appropriate memory bank.

1) Connect the SunDisk via usb2.0 to your PC OR if already connected, power down the Wii.
2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.

Configuration[SunDisk 16G Ready Now]

3) Select by clicking the following configuration settings to be active:

SUNDisk Configuration[
☑ Use PC Config
☐ Play DVD
☐ Backup DVD
Save Config

If you just made your backup it means that you have to <u>deselect</u> the previously selected options to reflect the correct configuration.

4) Click your mouse in front of the row of the bank you want to set active to play.

Select	BANK	K5 K6 K7 K8	Game Title
***	0	OFF OFF OFF OFF	Wii-RHAP01-EUR
	1	OFF OFF OFF ON	Wii-RSPP01-EUR
	2	OFF OFF ON OFF	Wii-RZTP01-EUR

Select	BANK	K5 K6 K7 K8	Game Title
	0	OFF OFF OFF OFF	Wii-RHAP01-EUR
***	1	OFF OFF OFF ON	Wii-RSPP01-EUR
	2	OFF OFF ON OFF	Wii-RZTP01-EUR

Select	BANK	K5 K6 K7 K8	Game Title
	0	OFF OFF OFF OFF	Wii-RHAP01-EUR
	1	OFF OFF OFF ON	Wii-RSPP01-EUR
***	2	OFF OFF ON OFF	Wii-RZTP01-EUR

5) Now click on 'Save Config', the tool will respond with 'Save OK'.

Save Config

Save OK
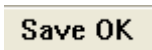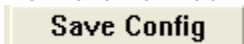
6) Power on the wii, watch the game appear in the disc-channel.
Now start the game and play it with high speed from your SunDisk.

In order to select one of the other games residents on the SunDisk just repeat this process and select the desired memory bank.

3.5 Copy backup from SunDisk to PC

As soon as you have one or more titles stored on the SunDisk you are ready to save them in ISO format on your PC. This process is very fast because of the usb2.0 high speed connection between de SunDisk and the PC.

Wii Sports (DVD5) took us 4 minutes to store from SunDisk to PC.
SSBB (DVD9/DL) took us 6 minutes to store from SunDisk to PC.

1) Connect the SunDisk via usb2.0 to your PC OR if already connected, power down the Wii.
2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.
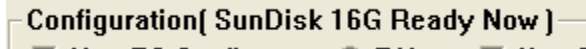
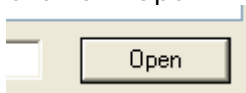

3) Select the memory bank you want to copy to your PC:
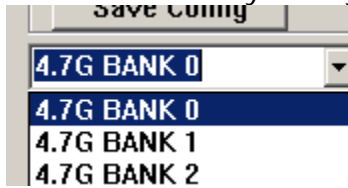
4) Now click the 'SUNDisk -> PC' button, a pop up window will prompt you.
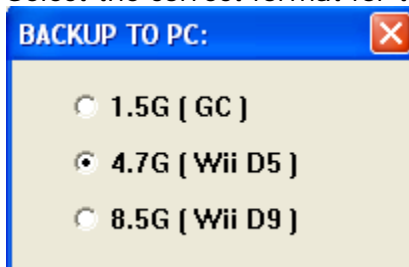

5) Select the desired filename for the ISO to store on your pc, the programmer will suggest the game title-id as filename for you.
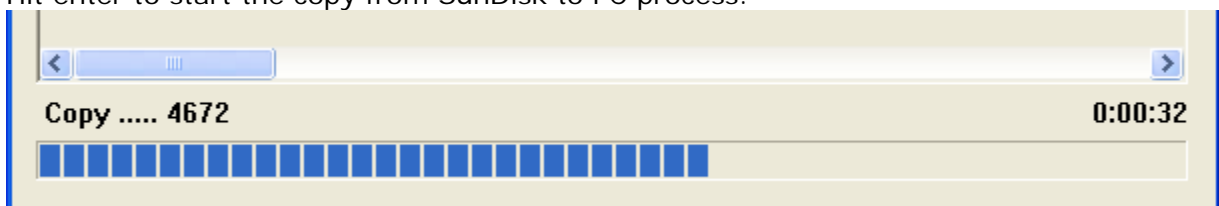

6) Click on "Open".

7) Select the correct format for the ISO (DVD5, DVD9, GC).


8) Hit enter to start the copy from SunDisk to PC process.

Optional you can select the 'Copy Verify' option before you start copying to let the tool verify the copy process.

SUNDisk -> PC

☑ Copy Verify

Now the progress indicator will start to run, the ISO is now copied from your SunDisk to your PC in ISO format.

9) When it finished it will pop up and window to indicate so.

**SUNDISK Programmer V1.5** ☒

Completed !

[OK]
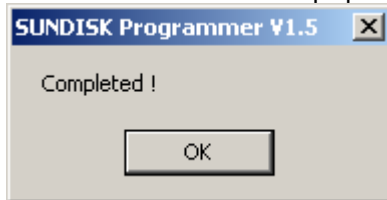
3.6   Copy backup from PC to SunDisk

One of the main features of the SunDisk is that you can copy games from your PC to the SunDisk in order to play them at high speed directly from the SunDisk.
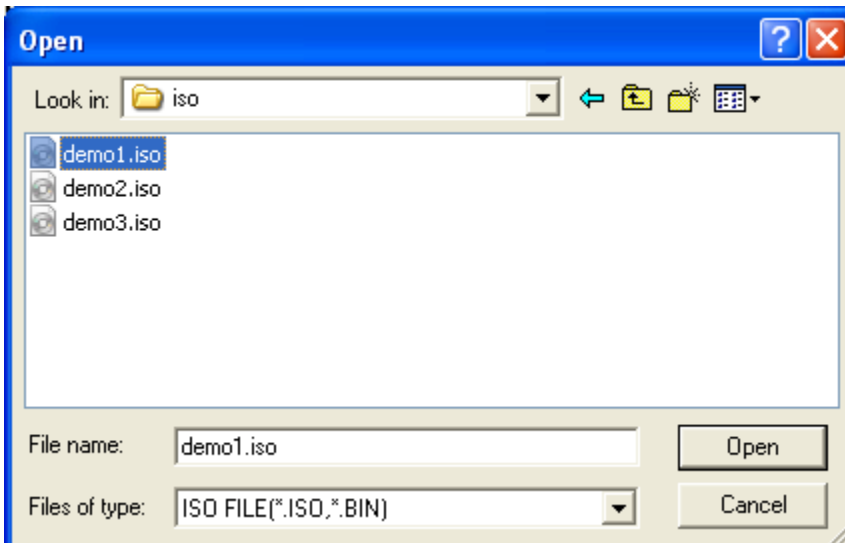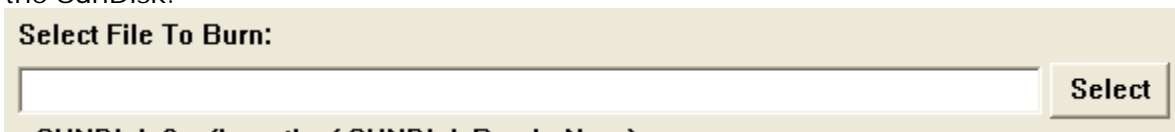
1) Connect the SunDisk via usb2.0 to your PC OR if already connected, power down the Wii.
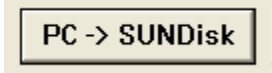2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.

Configuration(SunDisk 16G Ready Now)
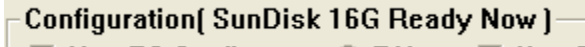
3) Select the memory bank to store the ISO on SunDisk:

Save Config

4.7G BANK 0

4.7G BANK 0
4.7G BANK 1
4.7G BANK 2
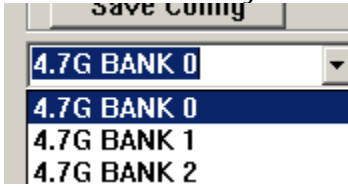
4) Use the Select button to browse and select the ISO on your PC which you want to store on the SunDisk.

Select File To Burn:

Select

Open

Look in: iso

demo1.iso
demo2.iso
demo3.iso

File name: demo1.iso   Open

Files of type: ISO FILE(*.ISO,*.BIN)   Cancel

5) Now click the 'PC -> SUNDisk' button to start the copy from PC to SunDisk.
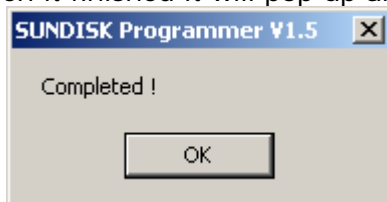
PC -> SUNDisk

Optional you can select the 'Copy Verify' option before you start copying to let the tool verify the copy process.

☑ Copy Verify
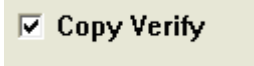
6) Hit enter to start the copy from SunDisk to PC process.
Now the progress indicator will start to run, the ISO is now copied to your SunDisk.

Select	BANK	K5 K6 K7 K8	Game Title
	0	OFF OFF OFF OFF	Wii-RHAP01-EUR
***	1	OFF OFF OFF ON	Wii-RSPP01-EUR
	2		Copying ......

Copy 33947   0:00:18

When it finished it will pop up and window to indicate so.

SUNDISK Programmer ¥1.5   ☒

Completed !

OK

After the copy process is finished, you can for example re/set the SunDisk configuration in order to play the newly copied game directly from SunDisk (*see 'Play backup directly from SunDisk'*).

3.7 Play DVD backup or Original Import

Off course SunDisk can also play DVD backups (there is a SunKey inside).
In order to do so you need to make sure that SunKey is enabled *(it is by default)* and set the SunDisk to run DVD.

1) Connect the SunDisk via usb2.0 to your PC OR if already connected, power down the Wii.
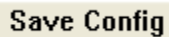2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.
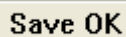
Configuration[SunDisk 16G Ready Now]

3) Select by clicking the following configuration settings to be active:

SUNDisk Configuration[
☑ Use PC Config
☑ Play DVD
☐ Backup DVD
   Save Config

4) Now click on 'Save Config'

Save Config

Save OK

5) Power on the wii, insert DVD and start playing.

If you are playing around with imports, then make sure you enable the update blocker.
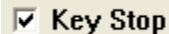☑ Upgrade Lock

D2Sun recommends to make a backup of the DVD to the SunDisk memory to enable high speed loading of the game (>8x). SunKey is running, like all other similar chips, only at 3x speed.

Disable SunKey
If there would be any situation in where you want to play original DVDs with SunKey disabled (for example to avoid future counter measures from Nintendo when you want to get online) then just disable the SunKey by setting switch K2 -> on.`
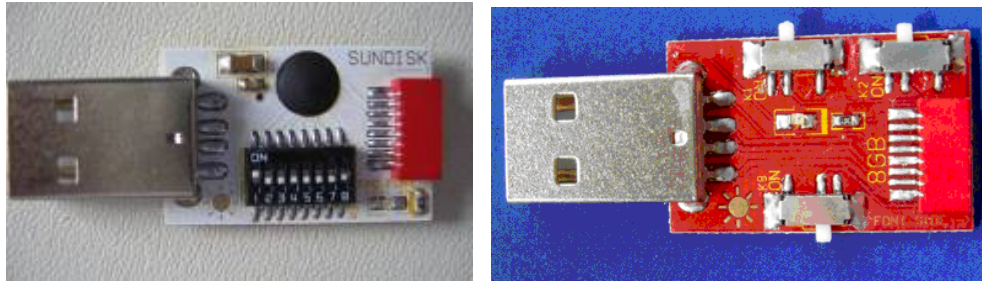☑ Key Stop

From that moment the chip 'does not exists' in your wii and your wii will only play originals from your region.

4. Controlling the SunDisk with external switch configure board

Besides controlling your SunDisk with the Programmer PC tool you can also manage some of the functions by using the external switch configure board.

In this chapter, we will explain you how to use the external switch configure board.
As you can see on the picture, the red pcb which comes with the 8GB version has only 3 jumper-switches, K1 K2 and K8 .

Switch for V1.3	OFF (default)	ON
K1	RUN SUNDISK	RUN DVD
K2	Backup DVD stop	Start Backup (K1=ON)
K3 (use PC to configure)	SUNKEY Enable	SUNKEY Stop
K4 (use PC to configure)	DVD Upgrade Enable	DVD Upgrade Lock
K7	K7 OFF/K8 OFF = Bank0	K7 OFF/K8 ON = Bank1
K8	K7 ON/K8 OFF = Bank2	www.D2SUN.com

Aug.16th 2009

4.1   Legally backup DVD to SunDisk

With the SunDisk you can make backups of Wii and GameCube games directly from the Wii DVD drive to the memory of the SunDisk. With this feature you're able to save the lifetime of your originals and play those without any noise of the wii DVD drive at full speed (>8x).

Time taken by the backup process is depending on the type of DVD (SL / DL / original / backup), media quality, ISO data size, and some other factors of influence.

> *Wii Sports (original) took us 15 minutes to backup to the SunDisk.*
> *SSBB (DL, original) took us 23 minutes to backup to the SunDisk.*

DL games
SunDisk has full support for Dual Layer *(DVD9)* Games.
The upload of a DVD9 to SunDisk will use 2 banks in total, first bank for the first layer and the second bank for second layer. This is fully automatically managed by the SunDisk. Just make sure that you select bank 0 or 1 for a DL game because there needs to be a 'next' bank for the second layer!

1) Power off the wii.
2) Set PCB control switches for making the backup:

    ✓ K1 -> on *(run DVD)*
    ✓ K2 -> on *(Start Backup)*
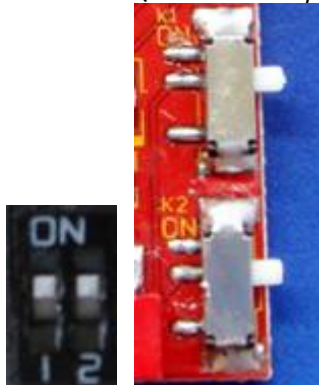
3) Select the memory bank to store the backup:

    ➢ bank0 set K7 off, K8 off - bank1 set K7 off - K8 on - bank2 set K7 on, K8 off

    ➢ 8G first title set K8 off – 8G second title set K8 on

4) Power on the wii and insert DVD to backup to SunDisk.

The backup of your DVD to SunDisk will now start automatically.
When booted and after inserting the DVD the control PCB starts flashing the led light (pattern: on, on, on, off) indicating the backup is now in progress.

While the backup process is in progress the led lights on the control PCB and chip starts to flash (pattern: on, on, on, off). The backup process is finished when the led lights stop flashing

Wait until the control PCB stops flashing the led light, when it does the backup is finished. Now you can eject the DVD from the Wii.

If the flashing pattern changes to on, off, on, off it means an error has occurred.
This can happen for example when your laser or DVD is dirty / damaged.

SunDisk 8GB version
SunDisk 8GB version has only 1 bank (0), but through SunDisk's special handle you can still upload an DVD9 to the memory and play or dump it without any issues!

Now you can choose to play the backup from the SunDisk (*see 'Play backup directly from SunDisk'*) or copy the backup to your pc in ISO format (*see 'Copy backup from SunDisk to P'C'*). If you already have a backup ISO on your pc you can copy it to the memory of the SunDisk *(see 'Copy backup from PC to SunDisk')* in order to play the game with high speed loading (>8x).

4.2 Play backup directly from SunDisk

As soon as you have one or more titles stored on the SunDisk you are ready to play them directly from the SunDisk. In order to do this you have to make sure SunDisk is set to be active and select the desired game to activate appropriate memory bank.

1) Power off the wii.
2) Set PCB control switches for playing backup from SunDisk:
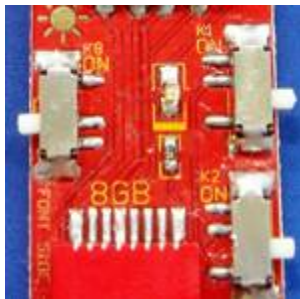
   ✓ K1 -> off *(run SunDisk)*
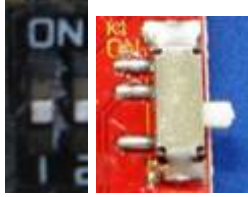
3) Select the memory bank to play the backup from:

   ➢ bank0 set K7 off, K8 off - bank1 set K7 off - K8 on - bank2 set K7 on, K8 off

   ➢ 8G first title set K8 off – 8G second title set K8 on

5) Power on the wii, watch the game appear in the disc-channel. Now start the game and play it with high speed from your SunDisk.

In order to select one of the other games residents on the SunDisk just repeat this process and select next desired memory bank.

4.3   Play DVD backup or Original Import

Off course SunDisk can also play DVD backups (there is a SunKey inside).
In order to do so you need to make sure that SunKey is enabled *(it is by default)* and set the SunDisk to run DVD.

1) Power off the wii.
2) Set PCB control switches for playing backup with SunKey:

        ✓ K1 -> on *(disable SunDisk)*
        ✓ K2 -> off *(just play the DVD disc)*
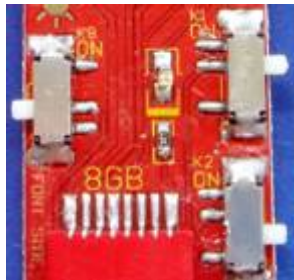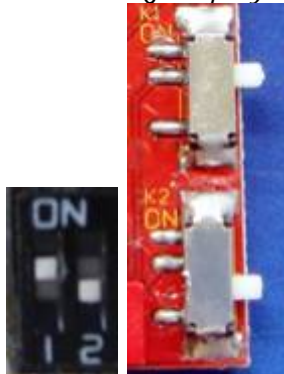
3) Power on the wii, insert DVD and start playing.

D2Sun recommends to make a backup of the DVD to the SunDisk memory to enable high speed loading of the game (>8x). SunKey is running, like all other similar chips, only at 3x speed.

5. Use SunDisk as a high-speed READYBOOST device for vista/win7
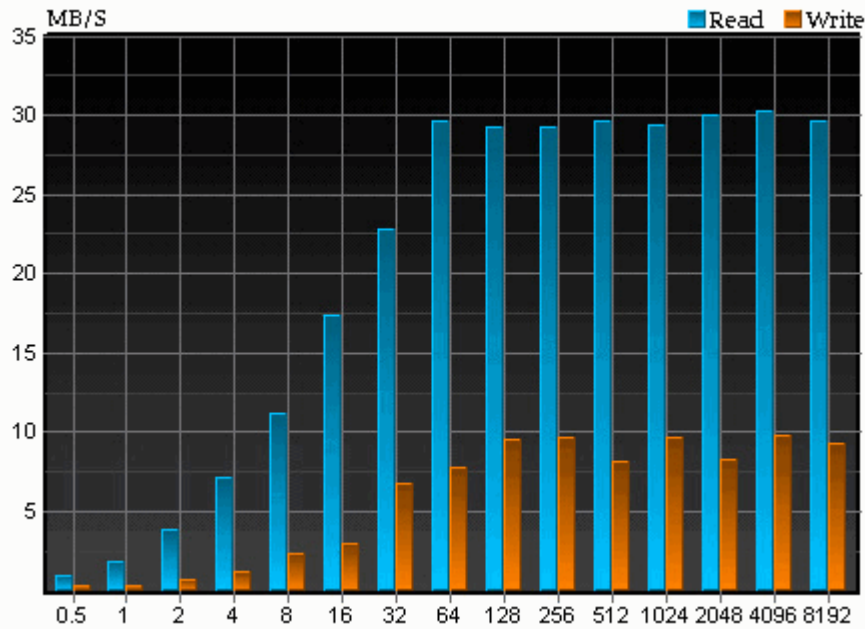
Because the SunDisk has very high quality and super fast SSD memory onboard which can write @ 10Mbytes/s and reads @ 30Mbyite/s), the D2Sun Team decided to release an extra feature for the SunDisk; SSD/ReadyBoost Mode operation for usage on Vista or Windows 7.

With this mode you can use your SunDisk SSD memory to speed up the operations of your PC!

5.1   Configure the SunDisk to enable READYBOOT operation.

In order to use this feature you need to set the operational mode of the SunDisk to SSD/ReadyBoost.
Just connect your SunDisk to your PC and start the SunDisk Programmer tool.

1) Connect the SunDisk via usb2.0 to your PC.
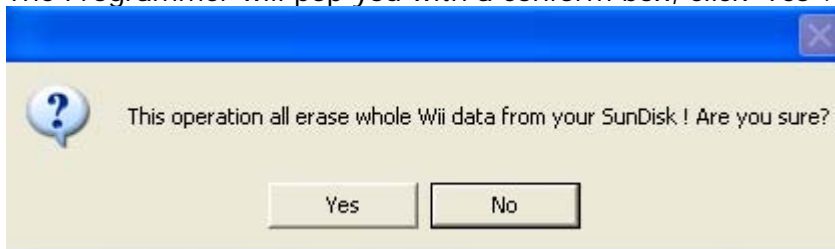2) Start SunDisk Programmer tool; wait for status 'SUNDisk Ready Now'.

3) Make sure the 'Use PC Config' is selected
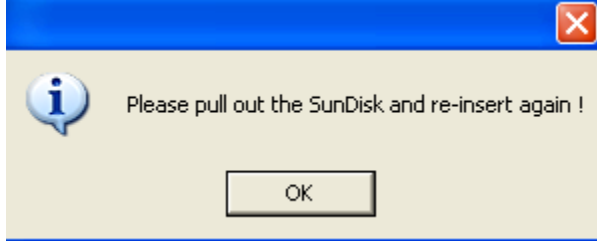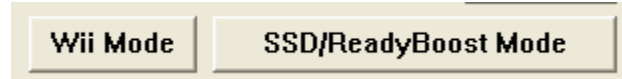

4) Then select the SSD/ReadyBoost Mode

5) The Programmer will pop you with a conform box, click 'Yes".

The SunDisk will now set the operation mode of the SundDisk to PC/ReadyBoost Mode.

If you want to revert the operation mode back to Wii-Mode, just repeat this process but select "Wii Mode".

The rest of the steps and warnings are equal as described.

## 5.2   Configure SunDisk on Vista or Windows7 for ReadyBoost

After re-connecting the SunDisk the Windows AutoPlay function will popup and offer you the option to use the SunDisk SSD as a caching device. Select the 'Speed up my system'.
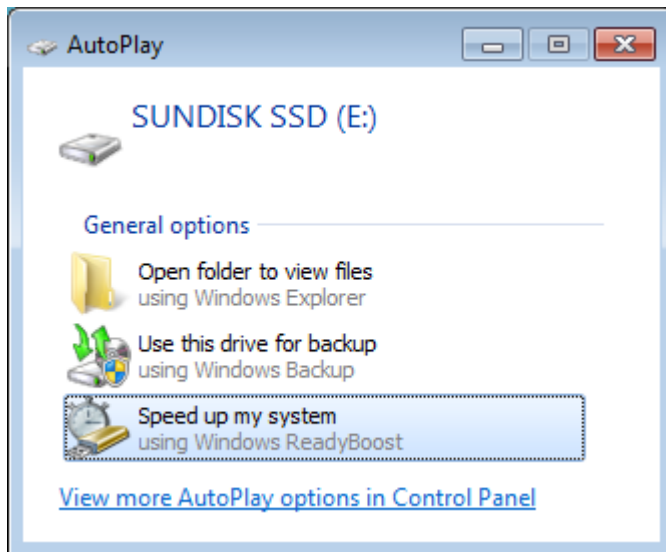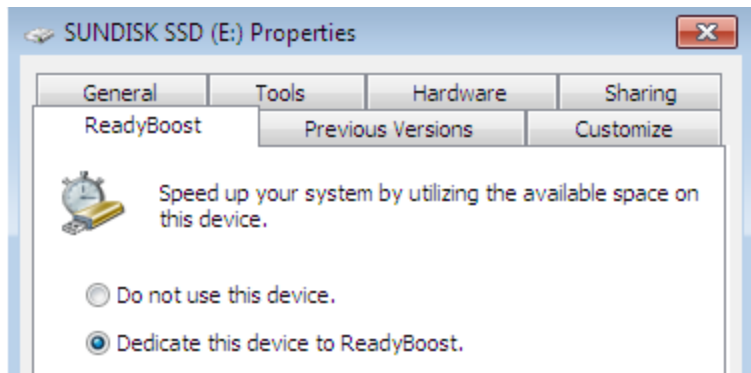

If the AutoPlay function does not popup or does not offer you the 'Speed up my system' option, then just open 'Computer' , select the SunDisk drive and right click, select properties and then select the ReadyBoost tab.
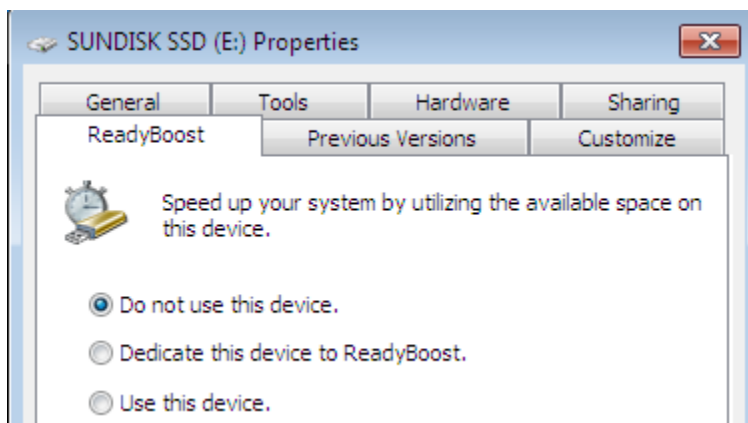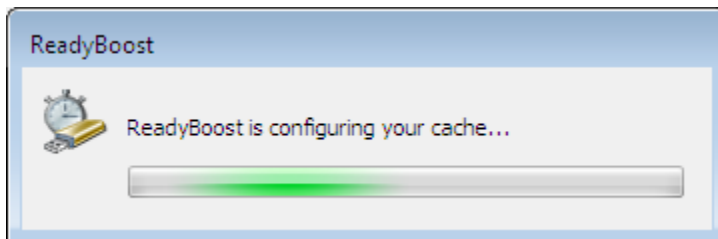
Now select the option 'Use this device' if you want to be able to manage the size of the caching file.
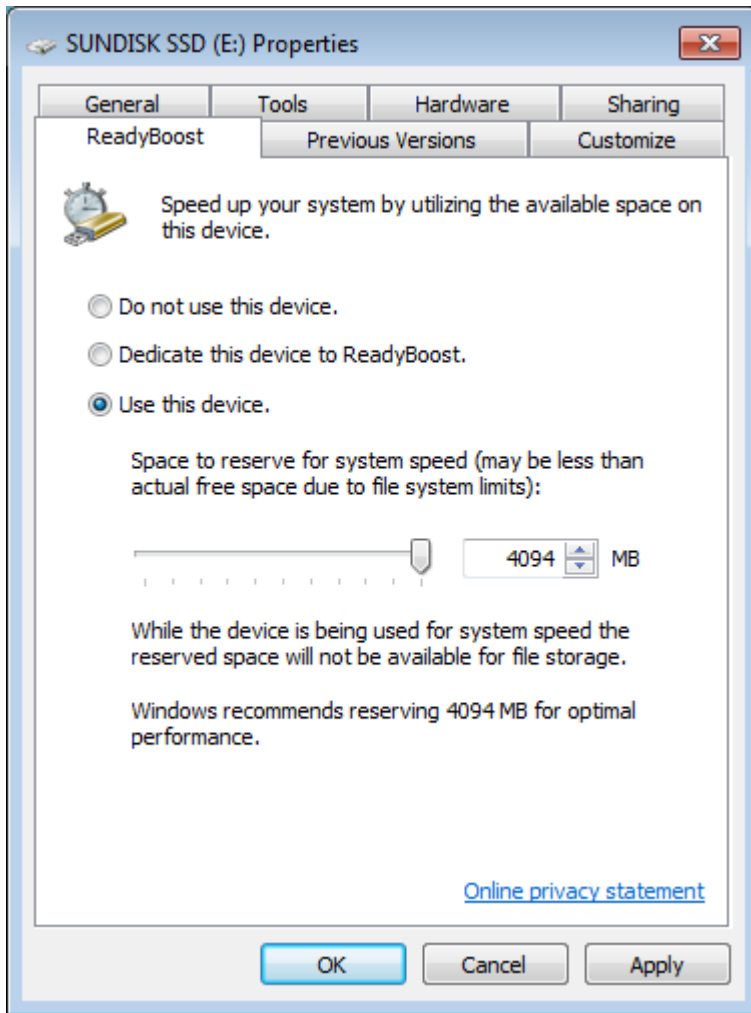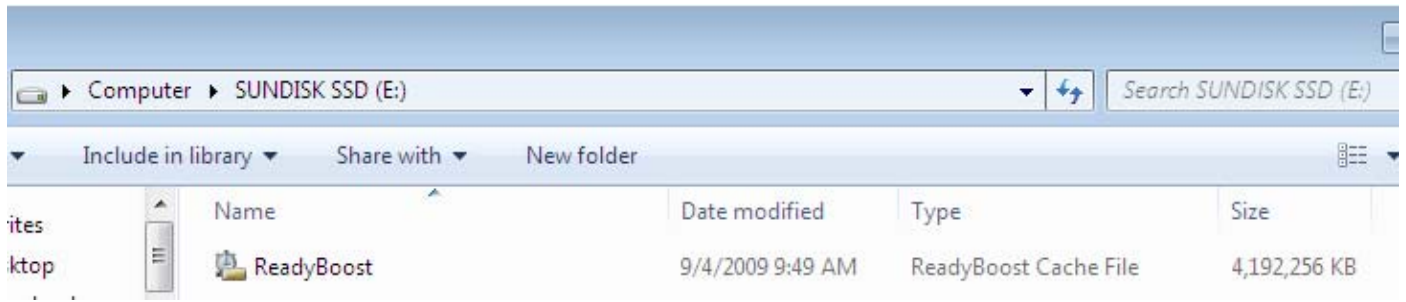

Or you can just select 'Dedicate this device to ReadyBoost'.

Click OKE and now windows will initialize the SunDisk for ReadyBoost.

The SunDisk now contains the just initialized Windows ReadyBoost Cache File.

| | Computer ▸ SUNDISK SSD (E:) | ▾ ✦ | Search SUNDISK SSD (E:) |

Include in library ▾   Share with ▾   New folder

Name	Date modified	Type	Size
ReadyBoost	9/4/2009 9:49 AM	ReadyBoost Cache File	4,192,256 KB

6. Updating the SunDisk firmware

As advertised the SunDisk is fully upgradable by using the Nero Dual Programmer.

This device is the programmer used for all D2Sun's updatable chips.
Updating with this device is easy and there is no need for drivers at all!

Properly the hardest part of the update processes it to make sure you have the ribbons connected correctly.

6.1   Check for the latest SunDisk firmware

Check on the D2Sun's website for available SunDisk firmware updates.
http://www.d2sun.com/download.htm

6.2   Connecting SunDisk to the Nero Programmer

Make sure the Nero programmer is connected to the SunDisk by the 8 pin FPC ribbon, and connect them like show, use the second port on the programmer, make sure the blue tag of the FPC are at the under-side.
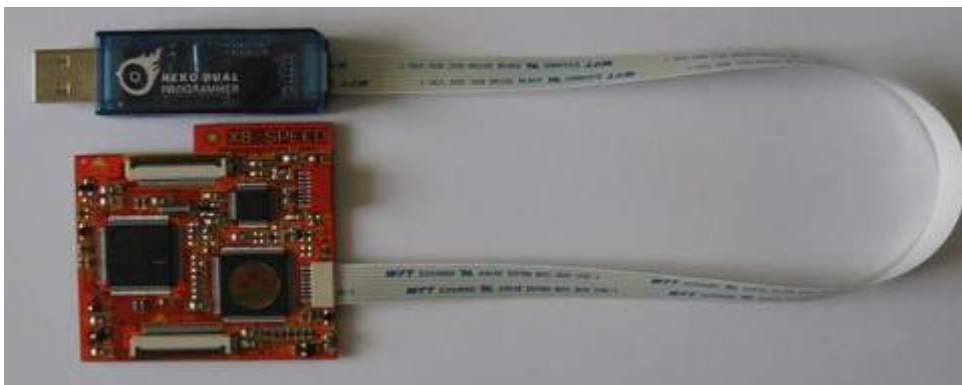
6.3 Connecting Nero Programmer to PC

Connect the Nero Programmer to your PC usb2.0 port, the red led will light.

6.4 Updating the SunDisk firmware

Start the SunDisk firmware updater, as soon as it finds the Programmer to be ready, the START button will become green. The update will start and show you the progress.
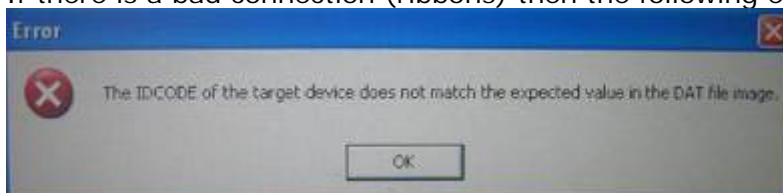

When the update process is finished the start button will become green and available again.

6.5 Error IDCODE does not match

If there is a bad connection (ribbons) then the following error message is displayed:

Then recheck all connections to make sure they are connected correctly.

7. SunDisk F.A.Q.

Q: Do I understand correctly that I can manage my SunDisk without using the external switch configure board?

A: Yes, your SunDisk can be fully managed by using the Programmer software tool only.

Q: Can the SunDisk stay connected to my PC when operating the Wii?

A: Yes the SunDisk can stay connected to your PC when operating the Wii, the programmer tool will notice and will get the status 'SUNDisk not ready". As soon as you power down the Wii the programmer will detect the SunDisk again.

Q: Where to find user support for my SunDisk?

A: You can search support on the Official SunDisk Forum @ Wiinews.