

V41

Last updated 21-8-06

Changes from v40: added SLAX/SATA list, instructions for stealth firmware

OPA-XTREME-HITACHI-7IN1-V2_1.RAR is the current Hitachi fw to use.

Written & Compiled by: geebee & contributors
(geebee@gmail.com or [Textbook](#) for any changes)

Hack the 360: The Tutorial

Backing Up, Modifying & Flashing the Hitachi/LG Drive (32, 36, 40, 46, 47 & 59 FW's)

v40 now hacked! Thanks to Team Avalaunch...

Written/Made/Everything by: geebee
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Compiled by: Sergio965

BEFORE YOU START, READ

[Start Your Reading Here](#)

<http://forums.xbox-scene.com/index.php?s=cdbaa5713c3134aa66aa2493c814c259&showtopic=513412>

[Then if you want more background read here](#)

www.kev.nu

Now read this tutorial, twice. If you don't understand any terms, think twice about doing this.

This tutorial will explain every step in backing up your original firmware, creating a working hacked firmware for your Hitachi v47 DVD-Drive and flashing it back to the DVD-Drive. It will also explain how to burn successful game back-ups.

It is really important to keep in mind that the complete process can be risky if you don't know what you are doing.

WARNINGS

**IF YOU WANT TO KEEP YOUR WARRANTY DO NOT TRY THIS.
OPENING THE CASE INVALIDATES THE WARRANTY.**

**Don't ask for illegal files. ANYWHERE. Especially not on public forums.
Read all the forum rules. Do not talk about .ISO images you have
downloaded.**

**We are not responsible for any misreading or damage done to your
Microsoft Xbox 360 in any way.**

**Please do not attempt to try this if you don't understand any of the steps
below. Normal to Average PC experience is required in order to
successfully complete the installation.**

**Do not stick your fingers into live electrical parts. Do not stick any other
parts of your anatomy in either.**

**Lasers BLIND! Do not look into them if you need to hotswap disks when
using WxRipper (to follow)**

Overview:

Firmware Tasks:

- Disassemble Xbox360
- Connect Xbox360 Drive to PC
- Boot to Windows
- Backup Xbox360 Drive firmware
- Backup Xbox360 Drive firmware to 2 other places for safety
- Flash Xbox360 Drive with hacked firmware
- Rebuild Xbox360 (unless you want to make some backups now)
- Test Xbox360

Game Backup Tasks:

- Disassemble Xbox360
- Connect Xbox360 Drive to PC
- Boot to Windows
- Patch your orig,bin with f900 fw
- Firmcrypt the patched fw
- Flash the appropriate sectors with flashsec_47
- Extract Security Sectors
- Make Image with wxRipper
- Combine SS and game image with SS Merger 1.x
- Burn image
- Flash Xbox360 Drive with v47 hacked firmware to play games
- Rebuild Xbox360
- Test backups

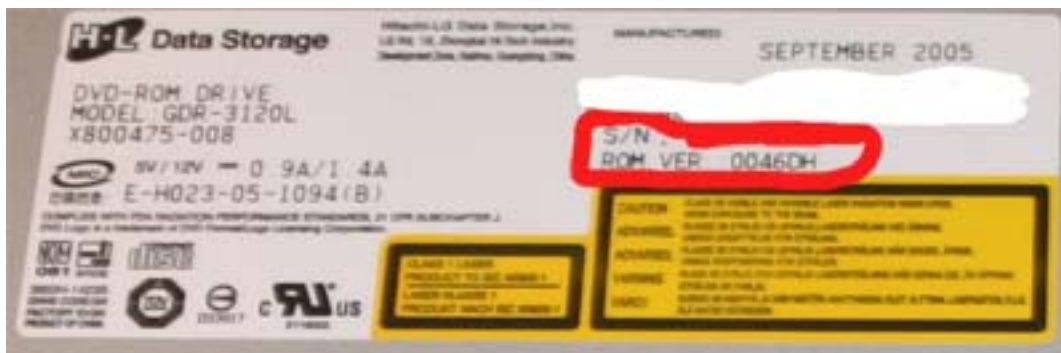
WARNING: If you are going to connect your 360 and PC together in **any** way, then you **must** provide the 360 with a path to true earth ground. This is because the 360 has a floating ground and horrible things happen if all connected systems do not agree on the reference voltage. I used a couple of croc clips from the chassis of the 360 to the chassis of my PC to achieve this.

Tools:

- 1) Xbox 360 with Hitachi Drive



How to find your ROM version:



(pictures from X-S)

- 2) **OPA-XTREME-HITACHI-7IN1-V2_1** contains the fw
- 3) Torx t10 screwdriver head
- 4) A PC with a suitable SATA chipset. (Pretty much anything will work, once you get into ModeB and have the right drivers, as long as your drive is recognized by Windows)

ModeB Slax List		
Motherboard	Chipset	ModeB?
SOME ?	VIA VT 8237 (onboard)	Yes – but reported not working by some people ?
Asus P4P800	VIA VT 6410 (onboard)	Yes
ALL*	SIL 3112 (onboard and pci)	Yes
ASUS K8N	nForce3	Yes
HP 5100MT	Intel 915	Yes
Intel 915PBL	Intel 915P	No
	Intel i925x	No
	SIIG SC-SAT212 (pci card)	Yes

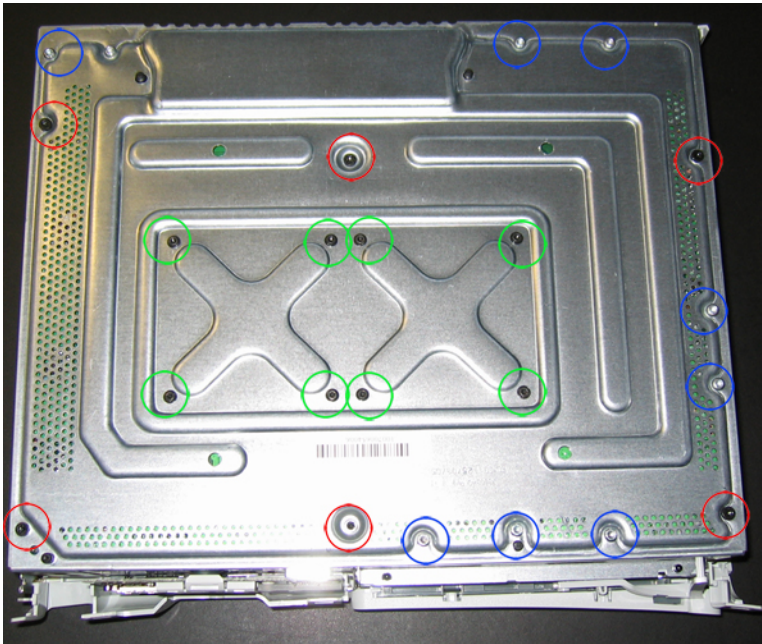
SATA NOTES:

Make sure your SATA ports are set to NATIVE/IDE mode NOT RAID

WARNING: If you are going to connect your 360 and PC together in **any** way, then you **must** provide the 360 with a path to true earth ground. This is because the 360 has a floating ground and horrible things happen if all connected systems do not agree on the reference voltage. I used a couple of croc clips from the chassis of the 360 to the chassis of my PC to achieve this.

Xbox 360 Disassembly:

To disassemble your Xbox 360 to get the DVD Drive out, follow these instructions but you do **NOT** need to remove the black heatsink screws. All you need to remove is the six silver long screws circled in RED:



[Anandtech Xbox 360 Stripping Guide](#)

Keep the power connector plugged in your Xbox 360.

Opening the 360 (the perfect way)

Take the tub your spindle of discs came and cut a bit from the side of it and put it over the console as shown. Mark out where the holes are...

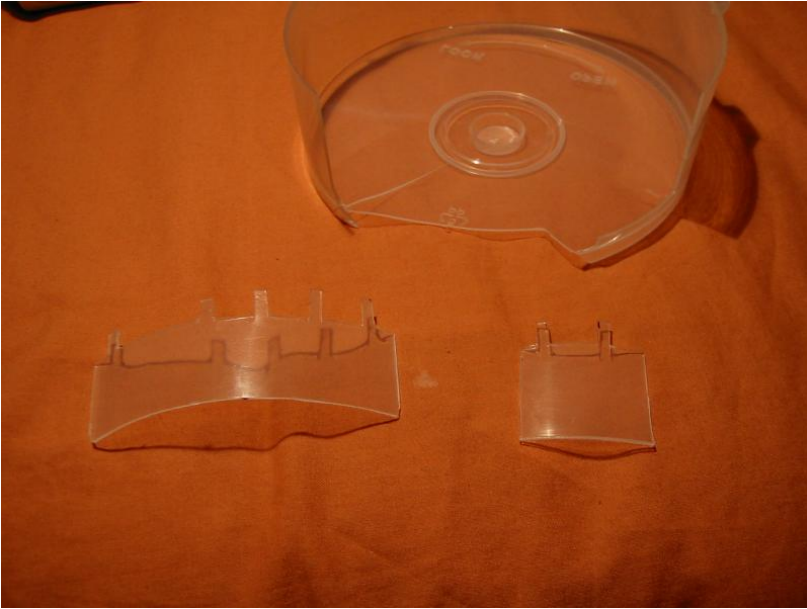
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... then make it into a key like this. the tabs need to be about 1cm long.



Do the same for the other side and you'll get two xbox 360 case opening keys that look like these...



Step 2

Open the front of the console as normal and put a bit of newspaper or something inside the case to hold the front open a bit, then insert the key, push with a bit of force and you should hear it click and the case will open....



... repeat for the other side and you're done!

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Thanks to Hydra!

Xbox 360 Connection:

Unplug the SATA cable from the back of the Xbox360 Drive. Connect a SATA cable from your PC SATA connection to the back of the Xbox360 Drive. Connect the video cable to the back of the Xbox360. If you do not do this, the Xbox360 will power off at an inappropriate moment (like when flashing). You need to disable RAID for that SATA connection in your PC bios. Set it to IDE instead.

Connecting the Hitachi/LG Drive to your PC:

To get it recognised in Windows we need to get the drive into modeb (pronounced “mode bee”).

To do this we will use Probutus’s excellent Slax Live CD **or** the crossed wires / 1k Resistor method **or** the HotSwap method (thanks stonersmurf) **or** xecuters Connectivity Kit: **NOW INCLUDES OPA-XTREME-HITACHI-7IN1-V2_1 METHOD!!!**

Geebees Method Rating:

OPA-XTREME-HITACHI-7IN1-V2_1 method:

100% ALWAYS WORKS. Don’t use anything else **once** your drive is flashed with this fw.

Slax CD :

100% (if your SATA chipset is compatible) 0% (If chipset isn’t compatible)

Crossed Wires or 1k Resistor Method:

100% ALWAYS WORKS. If it doesn’t for you, you are doing it wrong. Some risk.

HotSwap:

100% but you need a 360 Samsung drive or SATA DVD-ROM

Xecuter Connectivity Kit:

100% but expensive ;-)

<http://rapidshare.de/files/18684918/live-cd.iso.html>

Note: you cannot use ANY other Slax iso. This one is specially adapted.

and Memdump:

<http://www.kev.nu/360/dvdshort.html#2> and click on memdump_win.zip or find it in c4e’s firmware release.

New **OPA-XTREME-HITACHI-7IN1-V2_1**Method:


Once you have flashed your Hitachi with this firmware you can get into modeb by turning on the 360 with the drive tray OPEN. To flash the first time, you still need to use one of the methods below...

Slax Method:

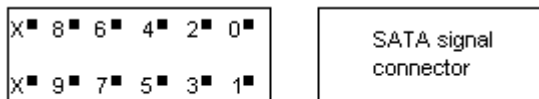
Connect the Xbox360 Drive up to your PC as above to a suitable SATA port. Set your bios to boot from CD first and boot the Slax CD. When it boots you will see a lot of text. If you look close you will see it say the drive is in modeb (with thanks to Kev). When you get to the "login:" prompt reset your PC (with the reset button) but leave the Xbox360 on!

Remove the CD and boot into Windows. If it sticks at booting into windows...press eject on the Hitachi drive tray!

Crossed Wires/ 1k Resistor Method to get to modeB:

FOR SAFETY: Use a 1k Resistor  (brown black red gold bands) instead of or connected to the piece of wire. They are easy to find and will prevent you bricking your 360. (thanks Seventhson)

Stick 2 pieces of thin wire in the back of the white connector without cutting or opening anything, in the pin 9 and GND (0) position. These wires jam in next to the black ones that are in the same hole. It is easier to lift the small white tab and pull out the existing wire, then hold the new wire against that one and slide the connector back in.



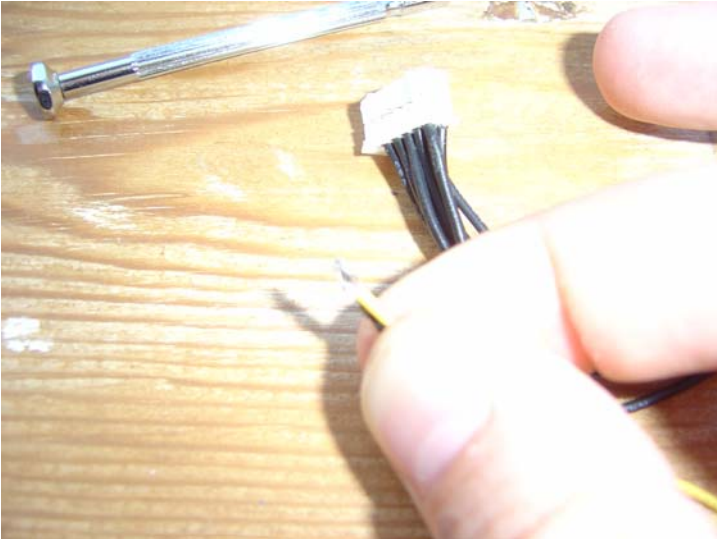
Xbox 360 DVD drive power connector pinout

Lift tab and pull out existing wire:

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Hold new wire against the existing one:



Now push both back into the slot:

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A bit of tape to hold them in place:



Connect a SATA cable from the 360 drive to your PC

With the 360 turned OFF, hold the 2 wires connected together with your fingers.

Push the 360 power button and as soon as the green light comes on disconnect the wires as quickly as possible. **KEEP THOSE WIRES TOGETHER TOO LONG AND YOU COULD GET AN XBOX-SHAPED BRICK!**

The little green light in the centre (not the ring of light) will flash fast and you will hear the drive start to spin. **THOSE ARE THE INDICATORS YOU ARE IN MODEB.**

Turn on your pc and windows will recognize it. If XP freezes at boot, eject the 360 drive and it should carry on booting. To get out of Modeb, just restart the 360.

What you can do simply is lift the tab of white plastic and slide the connectors for 0 and 9 out of the block. Then put your two wires alongside them and slide them back in. This takes less than a minute. Solder a £1 switch from Halfords on and off you go...

HotSwap Method:

This is possible if you have a SATA dvd-drive/IDE dvd-drive with a SATA adaptor or a 360 with a Samsung drive and one with a Hitachi drive. Boot into Windows and after your SATA drive (dvd-rom or Samsung dvd-rom drive) is detected (ie has a drive letter) just swap the SATA cable to your Hitachi DVD-ROM. When you use memdump, remember that the drive letter will still show as the old drive, in My Computer it would still show as whatever drive you used to HotSwap. Don't let it confuse you!

Connectivity Kit Method:

If you're using the Xecuter kit, nothing should be plugged into your Xbox360, only the DVD drive from it. No clips/grounding necessary. Remove the DVD drive from the console and put the console somewhere safe.

1. Turn your PC off
2. Plug the Hitachi drive in (power via xecuter kit and SATA into your SATA card or onboard port)
3. Make sure the debug button is **down** and eject button is **up**
4. Turn the PC on (should see red light on power adaptor)
5. Boot into Windows
6. Check Explorer to see if the drive has been assigned a letter. If not, right click My Computer, click Manage, goto Disk Management under Storage, right click the drive and assign it a letter e.g E:

You should leave the debug switch down (red LED on power adaptor). It does no harm to the drive. You do not need to press it quickly or anything.

Whichever method you use, carry on from here:

If you get it into mode b and windows cannot see it...go to Device Manager and see if it is in there under "DVD/CD ROM Drives". If it is, right click on it and select "Properties". Then select the "Volumes" tab and click "Populate". Now go to My Computer and it should be visible.

Hitachi Flashing with Hitachi-LG Firmware v2.1:

The autoflasher is the **best** way to flash the Hitachi as it **does not** require you to copy the key across using KDX or hex editor. It patches the firmware around the key.

Also everything is in one auto-detecting batch control, no more bricked drives, due to flashing the wrong FW to the wrong version of drive, and updating does not start unless a BACKUP has been correctly stored and checked and it will reflash automatically until it is correct!

Even better, you can get to modeb easily by turning the 360 on with the drive tray open.

Also, if when booting a backup game and the dashboard displays OPEN TRAY, you just need to press the EJECT button, the tray will stay CLOSED, but the dashboard will "auto-trick" into reading the game!

To Use:

Extract the files and from a cmd prompt in the right folder run FLASH21.BAT <Hitachi drive letter> <unique 4 digit number> batch file from a dos prompt specifying drive letter:

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E.g.

```
C:>flash21.bat g 1571
```

This will create a BACKUP directory "X21-1571.OPA" and the program will store FIVE firmware files:

```
---- key.bin  ---- DRIVE KEY /// DRIVE KEY
---- was.bin  ---- Your drive before FLASH
---- gdrXX.bin ---- The untouch original fw
---- XX_21.bin ---- The patched Xtreme21 fw
---- now.bin  ---- Your drive after FLASH!
```

XX in the above names will be the version of your Hitachi

Program will not flash anything unless a BACKUP is correctly made and stored!

To restore the Hitachi Drive with Original firmware:

In the right folder run RESTORE.BAT <Hitachi drive letter> batch file from a dos prompt specifying drive letter:

E.g.

```
C:>restore.bat
```

Patching Your Firmware For Stealth

For now, Stealth firmware can only be used if the drive is already flashed with GaryOPA's Xtreme v2.1 firmware.

Download Maximus/Carranzafp's v1.2 Hitachi Stealth Maker from the usual place. Connect your pre-hacked Hitachi drive to your PC and get it into ModeB using one of the previously mentioned methods. Open a command prompt, and move to the Tools directory where you extracted the stealth maker. Use the following command:

```
read.bat <your_drive_letter> hacked.bin
```

Ex: If my Hitachi drive is drive letter G: , I would use read.bat g hacked.bin

Now open the Hitachi Stealth Maker program (hitachi_stealth.exe). At the top labelled input firmware, browse and select the hacked.bin that you just dumped in the Tools directory. In the Options section, choose Non Stealth on MODE B and Tray Open. Click "Generate Stealth FW" and save as stealth.bin in the Tools directory.

Flashing the Stealth Firmware for v47 Hitachi Drives

Open a command prompt and move to the Tools directory. Notice you will be flashing the “suffix -e” firmware. Type the following command:

```
47flash <your_drive_letter> stealth-e.bin 90005000 1000
```

Ex: 47flash H stealth-e.bin 90005000 1000

Do not advance further until the above command executes without error. If it errors, keep retrying until it does not!

Next, type the command:

```
47flash <your_drive_letter> stealth-e.bin 90033000 1000
```

Ex: 47flash H stealth-e.bin 90033000 1000

Once again, don’t exit until that command executes without error. If it errors, keep retrying until it does not!

Your drive should now be flashed with the stealth firmware.

Flashing the Stealth Firmware for v46, v32, v36, and v40 Hitachi Drives

Open a command prompt and move to the Tools directory. Notice you will be flashing the “suffix -e” firmware. Type the following command:

```
46flash <your_drive_letter> stealth-e.bin 90005000 1000
```

Ex: 46flash H stealth-e.bin 90005000 1000

Do not advance further until the above command executes without error. If it errors, keep retrying until it does not!

Next, type the command:

```
46flash <your_drive_letter> stealth-e.bin 90033000 1000
```

Ex: 46flash H stealth-e.bin 90033000 1000

Once again, don’t exit until that command executes without error. If it errors, keep retrying until it does not!

Your drive should now be flashed with the stealth firmware.

Flashing the Stealth Firmware for v59 Hitachi Drives

Open a command prompt and move to the Tools directory. Notice you will be flashing the “suffix -e” firmware. Type the following command:

```
59flash <your_drive_letter> stealth-e.bin 90005000 1000
```

Ex: 59flash H stealth-e.bin 90005000 1000

Do not advance further until the above command executes without error. If it errors, keep retrying until it does not!

Next, type the command:

```
59flash <your_drive_letter> stealth-e.bin 90033000 1000
```

Ex: 59flash H stealth-e.bin 90033000 1000

Once again, don't exit until that command executes without error. If it errors, keep retrying until it does not!

Your drive should now be flashed with the stealth firmware.

Extract a Security Sector:

Once flashed with v2.1...

Connect the Hitachi to PC.

Ensure XBOX video cable is plugged into back of console.

Power on the Xbox 360 console.

Open the drive Tray, by pressing the EJECT button.

Pull the power connector out of the 360 (back of console).

This will force the console to leave the tray in the OPEN position.

Plug the power connector back into the Xbox 360.

Power on the 360 using the "power" button.

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Drive is now in Mode B.

Turn on your PC and wait for Windows to boot.

Insert original game disk into Hitachi drive and wait for windows to detect disk change.

In the right folder run "getss.exe <Hitachi drive letter> ss.bin" from a dos prompt specifying drive letter:

E.g.

C:>getss.exe g ss.bin

Creating a game backup

Make the SS.BIN file first.

Extract the included "ISOBUILD.RAR" package.

Insert original game disk into Hitachi drive and wait for windows to detect disk change.

Run Isobuster

Right click on DVD and select Extract From-To

Click Length and enter number of LBAs as follows:

Xbox **1** Original Number of LBA to read 3431264 decimal

Xbox **360** Original Number of LBA to read 3567872 decimal

Select User Data (2048 bytes/block)

Click Start Extraction

Enter filename as game.iso and click Save

Upon read error dialogue box choose fill with blank zeros for sector and select use this selection for all errors

* Copy game.iso and ss.bin to the relevent isobuilder directory
(Depending on Xbox 360 or Xbox 1 game)

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- * Run build360.bat (Xbox 360 game) or build.bat (xbox 1 game)
- * Ensure your burner will set the booktype of DVD+R DL to DVDRom
- * Burn with CloneCd and choose the image.dvd file

What to Try if Backups Don't Boot:

Thanks to Penfolduk

Use Garyopas method first...press the eject button when you get the Open Tray message.

or

- 1.Insert a backup that you know was burned correctly in your 360 and power off.
- 2.Power on,wait for fanfare/ring of light to finish.
- 3.Flick the HDTV switch on the video cable and the soft reset this causes will allow the backup to boot. You can in fact do anything that will soft reset the 360.

If you don't have an HD video cable with the switch, but have a hard drive:

- 1.Remove hard drive.
- 2.Insert a backup that you know was burned correctly in your 360 and power off.
- 3.Power on,wait for fanfare/ring of light to finish.
- 4.Slap the hard drive back on-game now boots

Booktype / Bitsetting:

From Xtreme's readme:

Run build360.bat (Xbox 360 game) or build.bat (xbox 1 game)

Ensure your burner will set the booktype of DVD+R DL to DVDRom

Burn with CloneCd and choose the image.dvd file

When the booktype field (bitsetting) is changed to DVD-ROM then DVD players are fooled and will think the user has put in a DVD-ROM disc instead of a DVD+R disc and will read it accordingly. This results in an increased chance that the player is able to read the disc and that's why the ability to change the booktype field (bitsetting) is essential to a lot of users. Certainly owners of a DVD player that requires this field to be set to DVD-ROM, in order to work properly, will prefer a DVD recorder that supports setting the booktype field. - Quote from CDFreaks.com

REMEMBER you must have a bitsetting capable DVD+R DL drive. If you do not you may be able to upgrade its firmware (wow a legit firmware flash!) See here for a LOT of drive firmwares: <http://tdb.rpc1.org/>

To set the booktype in DVDInfoPro:

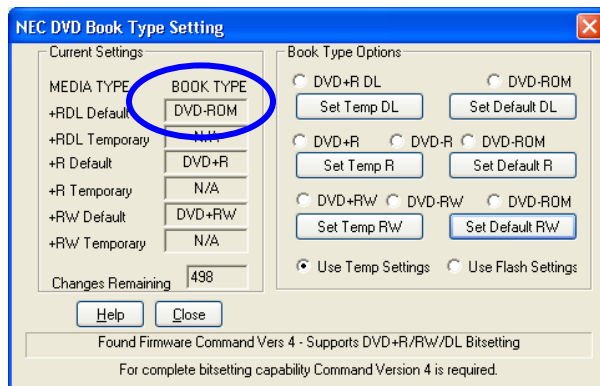
Start DVDInfoPro

Click on the "+RW" icon on the top row

Select DVD-ROM

Press button marked "Change +RDL Mode"

Press Close

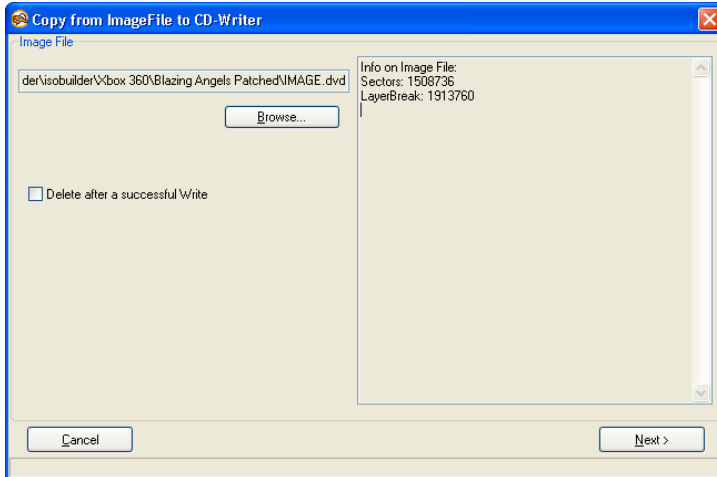


Now whenever a DVD+R DL is burned it will be bitset to read like a DVD-ROM.

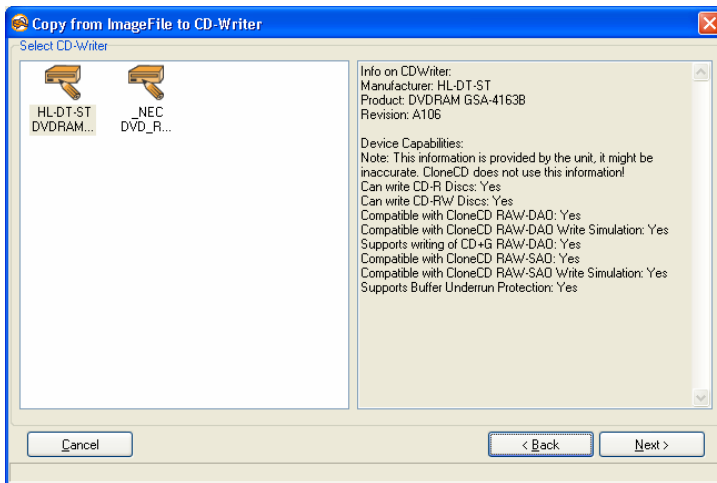
BE AWARE: If you start Nero or similar that can also change the bitsetting, make sure Nero is set to "unmodified" or "current recorder setting", found in Recorder-> Choose Recorder then select the drive and click on "Options"

Burning Your Backup:

You need the latest version of CloneCD for this. Once you have checked your booktype/bitsetting open CloneCD and select "Write from Image File" (second icon from left). Press "Browse" and select your IMAGE.DVD file.



Select the correct drive you wish to burn with and press “Next”



Set the write speed to 2.4x and press “OK”

Wait until it completes. If writing the lead-out takes a while, be patient and go make a drink. Don't smoke though, its bad for you.

Thanks to:

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[Kev/SeventhSon](#), Commodore4Eva, xbox-scene.com, xboxhacker.net, Probutus, Geremia, Bluecop, MacDennis, TheSpecialist, Gael360 & JSR, Helldoc, garyOPA and everyone else who did the hard work. The boys did good.