Cobra ODE

Anti-ODE Security Bypass Manual

August 2014

MANUAL VERSION INFORMATION

Language	English
Applicable hardware version	All
Applicable software version(MCU)	2.0+*

* The minimum firmware for using the 4.55 bypass is 2.0(recommended 2.2). The minimum firmware for using the 4.60 bypass procedure is 2.2.

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USED ABBREVIATIONS

ODE   –   Optical Drive Emulator

PS3   –   PlayStation 3

SEN   –   Sony Entertainment Network

PSN   –   Play Station Network

PT   –   Pass-through Mode

EMU   –   Emulation Mode

PATA   –   Parallel Advanced Technology Attachment

SATA   –   Serial Advanced Technology Attachment

QSB   –   Quick Solder Board

XMB   –   Xross Media Bar

OFW   –   Official Firmware

CFW   –   Custom Firmware

PCB   –   Printed Circuit Board

BD   –   Blu-Ray Disk

MCU   –   MicroController Unit

FPGA   –   Field-Programmable Gate Array

LED   –   Light Emitting Diode

1   INTRODUCTION

Sony has released firmware updates 4.55 and 4.60 for the PS3 which contain new anti-ODE security measures to prevent the use of the Cobra ODE on the PS3 (all known models).

The Cobra Team has found a way to bypass the new security measures, and it is important to understand how the bypass works in order to keep enjoying the features of the Cobra ODE.

While some users may want to update to the latest firmware to keep enjoying online play, we recommend users do not update to the latest update (4.55 or 4.60) as it takes away from the convenience of using the ODE.

The Cobra Team is dedicated to making this transition as easy as possible to the users and to keep as much of the convenience of using the ODE.

In the future, do not update your PS3 firmware until the Cobra Team publicly announces that the update is safe for ODE users. We suggest to all users to disable the auto-update feature of the PS3 and to periodically check http://www.cobra-ode.com/ **for announcements concerning new PS3 firmware releases. If a future update completely blocks the use of ODE devices on the PS3, it is the user's responsibility and fault if they update and get locked out of their device.**

Disclaimer: To update the PS3 or not is the user's choice and the Cobra Team cannot give any guarantees on what the future may hold for ODE users.

2   BYPASS PROCEDURE

For the bypass to be successful, it is important that you closely read this manual and understand the procedures. If you follow the instructions carefully, you will have no problems bypassing the new security measures.

2.1   Pre-Requirements

Here are the steps (or items you need) you need to do before continuing with the procedure. The two pre-requirements (2.1.2 and 2.1.3) are explained within the Cobra ODE User Manual [1] and Cobra ODE 4.20 Installation Manual (QSV version) [2].

2.1.1   Boot and Swap Discs

The **BOOT** disc (or original game) has to be a **single layer game (25GB)**. For supported boot discs (original games) go to the "Download" section http://www.cobra-ode.com/ and download the Cobra ODE database [3] and look for Single-Layer games.

The **SWAP** disc also has to be a **single layer 25GB Blu-Ray disc** (BD-R or BD-RE), double layer Blu-Ray discs WILL NOT WORK! Blu-Ray discs from companies like Verbatim, TDK and Sony work well.

2.1.2   Super Slim (4xxx Models) cover switch installation

The first thing that you must ensure in order to be able to bypass the new security measures in the 4.55 and 4.60 update is to solder a wire from the ODE to the PS3 Super Slim (4xxx models) cover door switch. Please refer to the Cobra ODE 4.20 Installation Manual (QSV version) [2], section 2.6 entitled "Super Slim (4xxx Models) cover switch installation (4.55 and 4.60 Bypass)".

The installation of the cover switch wire is the same for v3.00, v4.20, v4.30 and v4.20 QSV boards.

If the cover switch is not soldered to the RXD pin of the ODE, then the 4.55/4.60 bypass will not work.

2.1.3   Firmware update

The second thing you must do is to update the firmware of the Cobra ODE. For information on the firmware update procedure please refer to the Cobra ODE User Manual [1], section 4.1 entitled "MCU firmware update for Cobra ODE", section 4.2 entitled "4.2 BOOTLOADER firmware update for Cobra ODE" and section 4.3 entitled "4.3   FPGA firmware update for Cobra ODE". For ODE **v5.xx** check the separate update manual.

In order to use the new 4.55/4.60 bypass the firmware of the BOOTLOADER, MCU and FPGA1 and FPGA3 (**in this sequence!**) must be updated to the latest version (v2.2 at time of writing). You can update the firmware prior to installing the cover switch wire.

2.2   Requirements

In order to bypass the 4.55/4.60 security measures, a "**swap disc"** must be burned on a BD-R or BD-RE disc and the original boot disc must be swapped at the appropriate time when launching a game. The ODE will indicate when it is required to swap discs.

In the following document, we will use the term "**boot disc**" to refer to the original PS3 game that you use to boot your games with the ODE.

You will need a Blu-Ray Disc burner and some BD-R or BD-RE discs for burning the swap disc.

The Cobra Team has made this process as easy as possible for the users by providing a single swap disc solution. This however requires you to convert all your game's iso files before they can be used with the Cobra ODE.

You must use a single layer BD-R (or BR-RE) disc for the SWAP disc, and you can only use single layer boot discs. Any original game that requires more than 25GB will be on a double layer disc and cannot be used as a boot disc anymore, even if listed in the Cobra ODE supported boot discs list (check section 2.1.1 for more information and useful links).

You must know and keep note of the game id of the boot disc you are using. You can find the game id of your boot disc by reading it from the disc itself. It is usually written below the SCE logo or in the border text of the disc, or in some cases, simply written somewhere in the front of the disc.

2.2.1   Examples of game boot disc ID locations

You can find the game ID on the box of the game itself:
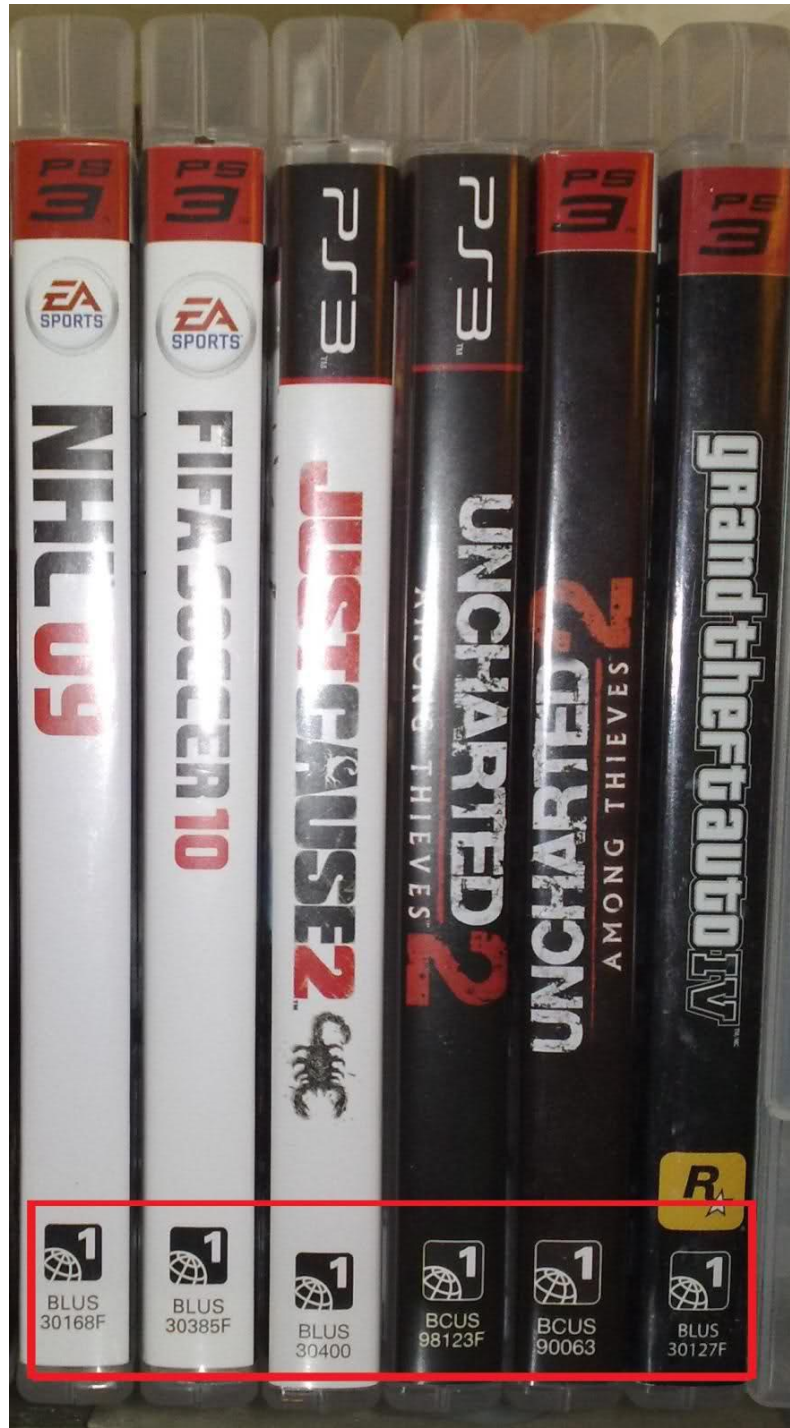

Figure 2.1: Game ID located on the game box.

Game ID located below PS icon:

Figure 2.2: Game ID located below PS icon.
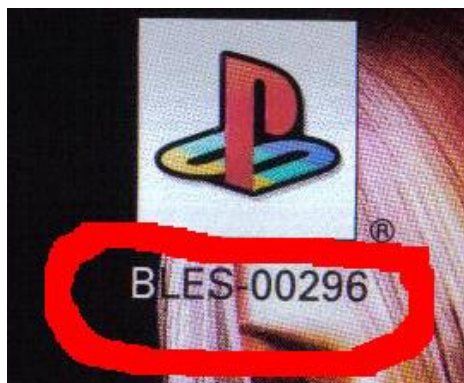
Figure 2.3: Game ID located below PS icon (close-up).

Game ID located on the side(border) of the Blu-Ray disc:

Figure 2.4: Game ID located on the side (border) of the disc.

Figure 2.5: Game ID located on the side (border) of the disc (close-up).

Game ID located in the front (general location) of the Blu-Ray Disc:

Figure 2.6: Game ID located in the front (general location) of the disc.

Figure 2.7: Game ID located in the front (general location) of the disc (close-up).

2.3   Creating the SWAP DISC

A swap disc must be created by extracting some files from your iso games. For that you must use the extractps3swapfiles.exe PC application and and specify your SWAP directory. Once extractps3swapfiles has finished, you will have a SWAP disctory with all the required swap files from your iso games. This step is necessary before the creation of the SWAP disc. Note that the files in the SWAP directory must be extracted with extractps3swapfiles and cannot simply be copied from the game rip.

You can run the extractps3swapfiles application and specify any directory containing PS3 iso games in order to extract all of your eboots. If you use multiple hard drives, or you keep some iso games on your PC, then you should run extractps3swapfiles on all of those directories before generating your SWAP disc. This will ensure that you only need to burn the SWAP disc once.

Once you have extracted all of your eboots using the extractps3swapfiles application, you must then run the genps3swapdisc.exe PC application and specify the SWAP directory which contains your extracted SWAP files, the output file for your SWAP disc and the IRD file for your boot disc. The IRD file you select needs to be for the exact game that you use as a boot disc. The IRD files provided with the genps3swapdisc application use the game id as the filename. You must make sure to use the correct game id of your boot disc as written on the disc itself. You must always use the same game as boot disc, because of the 4.55/4.60 bypass, if you want to use a different boot disc, you will need to generate and burn a new SWAP disc and you also have to re-convert all you games again (2.4)

Once the SWAP disc has been generated, you must burn it into a single layer BD-R or BD-RE disc using a tool such as **ImgBurn**. Do not burn the SWAP.ISO disc as a normal file inside the BD-R or BD-RE, the SWAP.ISO disc itself has to be burned as a disc image.

2.4   Converting ISOs

Once you have generated and burned the SWAP disc, you must convert all of your game iso files for them to work with the new 4.55/4.60 bypass. To do so, you need to run the convertps3iso PC application, specifying the input iso file, output iso file and the SWAP disc that will be used with the iso.

Note that the convertps3iso will not generate an iso file from a rip, you must still use the previously released genps3iso application to generate your iso file, then use the convertps3iso application to convert the iso for use with the SWAP disc in order to bypass the 4.55/4.60 security measures.

When using convertps3iso, you must select one iso to convert and give a new filename for the converted iso and select the SWAP disc that you burned. If you are lacking space on your HDD, then move the iso into a separate hard drive and generate your iso again.

If you wish to use the Cobra Manager, then you must also convert the manager.iso file with the same process. We however recommend using the Cobra Browser for everyday use.

2.5   Adding new ISO games to your Library

When adding a new iso game to your ODE library, you must run the convertps3iso application on your iso file to convert it to use with the SWAP disc. If the convertps3iso complains that the EBOOT cannot be found in the SWAP disc, then you must run extractps3swapfiles again and convert your SWAP.iso file and burn it, then convert the iso for your new game.

If you generate a new SWAP.iso, you must always select your previous SWAP.iso and say Yes to overwriting it. If you generate the SWAP.iso into a new file, you will need to reconvert your iso games.

Note: Since genps3swapdisc v1.1, already converted isos will not need to be re-converted with convertps3iso when new eboots are added to the swap disk, as long as you select the existing swap disc and say yes to overwrite it.

2.6 Cobra ODE configuration

The first thing you need to do before trying your newly generated iso games is to modify the cobra configuration. If you do not have a **cobra.cfg** file, then create a new file with the filename **cobra.cfg**. Make sure the file is called **cobra.cfg** and not cobra.cfg.txt, as windows may sometimes hide the file extension.

2.6.1 Editing the cobra.cfg

You have to add the following option into the **cobra.cfg** in order to use the new 4.55/4.60 bypass:

```
bypass.4.55=1

games.encrypted=1
```
Configuration excerpt 2.1: cobra.cfg 4.60/4.55 OFW bypass.

We would also recommend that you use the Cobra Browser instead of the Cobra Manager and enabling the Return to manager XMB option by adding the following lines to the **cobra.cfg**:

```
eject.on_selection=1

eject.add_menu=1

bypass.4.55=1
```
Configuration excerpt 2.2: Recommended cobra.cfg configuration (for 4.55 bypass).

```
eject.on_selection=1

eject.add_menu=1

bypass.4.55=1

games.encrypted=1
```
Configuration excerpt 2.3: Recommended cobra.cfg configuration (for 4.60 bypass).

2.7   Gameplay

Once your SWAP disc is burned and your iso files have been converted and your ODE has been updated to 2.2 and your cobra.cfg file has been set with the correct options, you can now try playing your iso games.

<p align="center">**BOOT disc** **= Original PS3 Game**</p>

<p align="center">**SWAP disc** **= your burned Blu-Ray Disc (containing your eboots, license files…)**</p>

The ODE will require you to switch discs when required and to do so, the disc will stop spinning and the LED in the clip on PCB of the Cobra ODE will start blinking for 10 seconds. When that happens, it is important to swap the disc to the appropriate one within the 10 seconds, otherwise the bypass will not work. We therefore recommend users to stay close to the PS3 and have the boot disc and swap discs ready to be switched when they launch a game.

The disc switching will usually only happen when you run a game, so before running your iso game, get close to the PS3 and be ready to switch discs. When you run the game, the PS3 disc will stop spinning and the ODE LED will start blinking **blue** and **red**. That means the ODE is requesting the original boot disc in the drive. If the disc in the drive is already the original boot disc, then don't do anything, and after 10 seconds, the process will continue on its own. If however, the ODE LED starts blinking **blue** and **green**, then you need to switch to the burned SWAP BD-R or BD-RE disc. Open the cover of the PS3, remove the boot disc and replace it with the swap disc and close the cover. It is important to do this and close the cover within 10 seconds, before the ODE LED stops blinking.

LED blinking color	Required disc in drive
Blue and **Red**	Original boot disc
Blue and **Green**	Burned BD-R or BD-RE SWAP disc

<p align="center">Table 2.1: Boot and SWAP disc LED reference table.</p>

2.7.1   Disc swapping behaviors

When running a game, the usual behavior will be that the ODE LED will blink red, requiring the original boot disc, then after 10 seconds, it will blink green, requiring the swap disc. If a game update has been installed however, there are two possibilities, it will first blink red, requiring the original boot disc, then boot the game without requiring you to use the swap disc, or it will then blink green, requiring the swap disc, then again blink red, requiring you to switch back to the original boot disc.

After you run a game, and after you have switched to the SWAP disc, if a game update is available, the PS3 will notify you. If you decide to install the game update, then once the update has finished installing, the ODE will blink red again requiring you to insert the original boot disc. It is therefore recommended to stay close to the PS3 when installing an update so you can switch discs once the ODE requires it.

If you do not switch discs to the required disc, or the 10 seconds has elapsed without switching discs, then the PS3 will show an error and the game will not run. You can simply try again.

Since 4.60 ps3 firmware, if an update is installed, the ODE will blink require you to swap the disc twice, first blinking red, then green, then again blinking red, then green. At that point, the game will run

3   CONCLUSION

We are dedicated to making the Cobra ODE the best and most convenient ODE for PS3. However, we would ask our users to understand that some things are out of our control, and while we were able to successfully bypass the new 4.55 and 4.60 anti-ODE security measures, there are no guarantees that we will be able to counter similar measures in the future. We ask our users not to update their PS3 firmware until we can officially confirm that it is safe for the users to update. Due to the nature of the ODE, we also cannot guarantee that online capabilities will always be available to our users.

While we are aware that the bypass for the 4.55 and 4.60 security measures are troublesome for the users and the convenience of using an ODE are somewhat diminished, we are doing our best to ensure the process is as user friendly and easy as possible and we will continue improving the process and finding alternative solutions to this problem.

4 REFERENCES

[1] Team COBRA, 2014: Cobra ODE User Manual, http://www.team-cobra-ode.com/downloads/Cobra_ODE_User_Manual_(English)_v2.0.pdf

[2] Team Cobra, 2014: Cobra ODE 4.20 Installation Manual (QSV version), http://www.team-cobra-ode.com/downloads/Cobra_ODE_Installation_Manual_(2k5_to_4k)_(v3_v4_v4-QSV)_(English)_v1.1.pdf

[3] Team COBRA, 2014: Cobra ODE Game Database, http://www.team-cobra-ode.com/downloads/Cobra_ODE_Database_(14-06-2014).rar