PS3 Model Information

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Recommended Model per Game (Speedrunning)*

* - Subjective, based on overall console reliability and playing experience (EG, earlier models gain points in games that require XMB quits, and games involving trophies lose points if they are HEN only, given HEN's much longer trophy deletion process). All are viable to run on, but advantages can be gained or lost from specific hardware.



	RaC 1	RaC 2	UYA	DL	ToD	QfB	ACiT	A40	FFA	ItN	Sly 1	Sly 2	Sly 3	Sly 4
COK-001														
COK-001 (Frank.)														
COK-002														
COK-002 (Frank.)														
SEM-001														
DIA-001														
DIA-002														
VER-001														
CECH-20xx														
CECH-21xx														
CECH-25xx														
CECH-30xx														
CECH-4xxx														

- XMB quits are faster on earlier models and get progressively slower as models get newer, making earlier models "more optimal" for games that utilise XMB quits (ToD, ItN (100%) and Sly 1-3), but in the former two timesave is miniscule.
- CECH-30xx and super slims (4xxx) cannot do full CFW, meaning that resetting trophies for UYA if doing trophy strats can be more tedious and requiring Apollo instead of just deleting them with CFW.
 - NAND consoles make trophy strats essentially impossible, making it not viable for runners who use trophy strats in runs. A CFW capable NOR console is the best option in those scenarios.

More specific details below.

Model Numbers

This is probably easiest to just get out of the way immediately just to avoid confusion. There were two series of model numbers used during the PS3s lifetime, but convey the same information:

Fat

Slim/Super Slim





Red - Series identifier - CECH meaning "related to the PS3"

Green - Hardware revision - Tells you what specific model system it is

Blue - Region code - Refers to where the console was sold

Yellow - Storage identifier - Original storage capacity of the console at launch

The green section is what will primarily be referred to when discussing models, though some models only launched in specific regions. Unmodded, the console region applies to both PS1 and PS2 discs (if on a supported console), but the Cobra payload in CFWs instantly defeats any region locking.

Code	Region	Region Shorthand	PS1/2 Region
00	Japan	Japan	NTSC-J
01	USA/Canada	North America	NTSC-U/C
02	Australia/New Zealand	Oceania	PAL
03	UK/Ireland	UK	PAL
04	Europe/Middle East/Africa	Europe	PAL
05	South Korea	Korea	NTSC-J
06	Singapore/Malaysia	Southeast Asia	NTSC-J
07	Taiwan	Taiwan	NTSC-J
08	Russia/Ukraine/India	Russia	PAL
11	Mexico/Brazil	Brazil	NTSC-U/C

12 Hong Kong Hong Kong NTSC-J

It's common when referring to consoles to just elude the region code since it's irrelevant, as well as the storage capacity in slims and super slims, so you may just see something like "CECHAxx" or "CECH-25xx" to refer to the different models.

Date codes are also something that may come up in certain cases, but are easy to understand.

In North America, the manufacture date can be most commonly found on the bottom, and will have both a month and a year, eg "October 2006". Some may have a blue box around the date and have larger text, others are in small print on the bottom line of text on the bottom label.

In all PAL regions the date code appears in a small blue box and will consist of a number and a letter, eg "0C". The number refers to the year the console was made, so 0 would mean 2010. 6 can be 2006 or 2016 but use common sense, fat PS3s weren't being made in 2016 and super slims weren't being made in 2006.

The letter refers to the quarter it was manufactured in:

A = Jan-Mar

B = Apr-Jun

C = Jul-Sep

D = Oct-Dec

Motherboard Revisions

In terms of technical information, this doc will largely be referring to the motherboards themselves as opposed to the console models for fats, as some motherboards appear in multiple variations. Slims and super slims often had two or three boards for one variation with minimal differences apart from one or two cases.

Motherboard	Found in	CPU Process	GPU Process	Flash Memory	
COK 004	CECHAxx	00,555	00000	256MB NAND	
COK-001	CECHBxx	90nm	90nm		

COK 003	CECHCxx	0000	0000	256MD NAND
COK-002	CECHExx	90nm	90nm	256MB NAND
SEM-001	CECHGxx	65nm	90nm	256MB NAND
	CECHHxx			
DIA-001	CECHM03	65nm	90nm	16MB NOR
	CECHQ00			
DIA 002	CECHJxx	GEnm	GEnm	16MD NOD
DIA-002	CECHKxx	- 65nm	65nm	16MB NOR
VER-001	CECHLxx	- 65nm	65nm	16MB NOR
VER-001	CECHPxx	OSHIII	051111	TOWIS NOR
DYN-001	CECH-20xx	45nm	65nm	16MB NOR
SUR-001	CECH-21xx	45nm	40nm	16MB NOR
JTP-001	CECH-25xx	45nm	40nm	16MB NOR
JSD-001	GECH-25XX	45nm	40nm	16MB NOR
KTE-001	CECH-30xx	45nm	40nm	16MB NOR
MSX-001		45nm	40nm	16MB NOR
MPX-001	CECH-40xx	45nm	40nm	16MB NOR
NPX-001		45nm	28nm	16MB NOR
PPX-001	CECH 42vv	45nm	28nm	16MB NOR
PQX-001	CECH-42xx	45nm	28nm	16MB NOR
RTX-001	CECH 42vv	45nm	28nm	16MB NOR
REX-001	CECH-43xx	45nm	28nm	16MB NOR

A smaller process node means a more power efficient chip that requires less cooling capacity and draws less power, hence why the models got smaller over time along with less power consumption.

COK boards are the only ones that are natively PS2 BC, with the 001 having the combined EE+GS chip on it, while the 002 only has the GS. Motherboards will have the revision number silkscreened onto them, but some visual clues do exist especially for the fat ones:

- If the SATA connection is hovering above the board but it has no PS2 hardware chips, it's SEM-001
- DIA boards are physically the smallest, lacking USB ports and the WiFi module which is on a separate daughterboard. 002 has a CMOS battery holder directly on the motherboard while 001 uses a proprietary small connector like on the COK boards and 70k slim PS2s.
- VER-001 is essentially a DIA-002 but with the WiFI modules and USB port added on an extension, giving the board its odd L-shape.

Process Nodes

While usually not a concern in other consoles, here it can matter which one you end up with. Both the CELL and the RSX saw several "die shrinks" throughout the years, increasing the power efficiency and reducing waste heat.

	CELL		RSX			
Model Number	Process Node	First Appearance	Model Number	Process Node	First Appearance	
CXD2964xxx	90nm	CECHAxx	CXD2971xxx	90nm	CECHAxx	
CXD2981xxx	65nm	CECHGxx	CXD2982xxx	65nm	CECHJxx	
CXD2989xxx	65nm	CECHJxx	CXD2991xxx	65nm	CECHLxx	
CXD2990xxx	65nm	CECHKxx	CXD5300xxx	40nm	CECH-21xx	
CXD2992xxx	45nm	CECH-20xx	CXD5301xxx	40nm	CECH-30xx	
CXD2996xxx	45nm	CECH-30xx	CXD5302xxx	40nm	CECH-40xx	
CXD2999xxx	45nm	CECH-42xx	D5305x	28nm	CECH-42xx	

There will be two or three letters after the numbers in the model number, but these primarily refer to the foundry where the chip was fabricated. The numbers themselves say what revision of the chip it is. However if two chips with different revision numbers are of the same process node, performance and heat output will be identical.

Unreliable chips

The main concern with the launch models is their reliability, which primarily comes down to the chips. Every CELL is considered reliable, able to suffer through a lot, while the 90nm RSX has been proven to use faulty materials that drastically shorten its lifespan unless properly taken care of and maintained.

The RSX is what's referred to as a "Flip-Chip" BGA processor, where the processor itself is attached to a smaller substrate, called an interposer, which is then soldered onto the main motherboard. The processor is attached to the interposer with microscopic solder balls, called "bumps", with a thick supporting substance surrounding the bumps referred to as "underfill".

The RSX, at least the 90nm one, used what are referred to as "high lead" bumps, (95-5 Pb-Sn vs the standard 37-63 Pb-Sn), which allowed the chip to get enough power but with fewer bumps. However, high lead bumps are also much more fragile than the standard "eutectic" bumps, which means you need a much harder underfill with a much higher transition temperature (the point where the underfill starts to soften) to make up for it. In the case of the 90nm RSX, as well as the early Xbox 360 GPUs, an adequate underfill was not chosen for the temperature the RSX was designed to operate at, with a transition temperature of 70°C. Like most substances, as the underfill heats up past its transition temperature it expands, placing extra stress on the bumps. Do this enough times, and the bumps will eventually fatigue and crack, forcing the extra ones to work harder. Eventually so many bumps break that a chain reaction occurs and they all blow, causing the chip to die and the system to freeze up. If you get lucky then the system might be able to reconnect the fractured bumps when it cools, though this arrangement is far from stable and the system is basically dead at this point.

The CXD2971, used on all COK (CECHA-CECHE), SEM (CECHG), and DIA-001 (CECHH, CECHM, CECHQ) consoles, is the primary one with this issue, as with the CXD2982, the first 65nm RSX, the issue had been resolved, and all future revisions of the RSX are reliable. The system is obviously not fully immune from death still, large shocks like dropping the system can cause some solder balls inside to crack upon impact, though the system will not end up dying from excessive thermal cycles.

Capacitors

Capacitors wear out and die over time, that's just the nature of them. For a while this was believed to be the main cause of the Yellow Light of Death in the early models because a laptop that used the same capacitor as the PS3, the NEC-Tokins, also had a tendency to fail, without taking into consideration the position of the capacitor. A capacitor's lifespan is also dependent on how hot it tends to operate at, with higher temperatures being worse for it. The laptop in question had its capacitor directly underneath the CPU, so while it was a good position electrically, it was a terrible place thermally. The PS3 has eight of these capacitors to spread the load, four for each chip, and they're placed alongside them with large thermal wells to help dissipate as much heat from the chips as possible.

They will die eventually and will need to be replaced, but if you have a 90nm RSX, that is the far more likely cause of a YLOD. The Tokins were in every PS3 model until the 21xx slim, and they are the most likely cause of YLOD in non-90nm RSX systems.

Cooling

The heatsinks are commonly referred to by numbers, while fans are treated as an independent part.

Type 1 is the one seen on all four backwards compatible models, and is by far the largest heatsink. It has three copper heat pipes for the CELL and another two for the RSX, and a large amount of fins to go along with it.

Type 2 is the one on the CECHGxx, keeping the overall same design but reduces down to one heat pipe for each chip. While this is likely fine for the CELL since it drops down to 65nm, it is slightly concerning since the SEM-001 board still has a 90nm RSX.

Type 3 is used in the H, J, and K models, and is where the cooling situation falls off a cliff, *especially* for the H. Type 3 heatsinks are just small blocks of aluminium that sit underneath each chip, no copper at all. They're held to the bottom of the chassis with a plastic shroud, instead of mounting to the motherboard and coming out with it like the type 1 and 2 heatsinks previously. This may be tolerable for the 65nm CELL, but the H still has a 90nm RSX, which with this heatsink, is almost guaranteed to have trouble staying under the 70°C threshold, accelerating the chip towards an early death. This is

less of an issue on the J and K models since they have 65nm RSXs which are fixed, but still seems insignificant.

Type 4 is like type 3 but Sony added a bit more mass to help it keep up. Same overall design but with slightly more thermal capacity, found in the rest of the fat models from L through to Q. I can't fully confirm if M and Q have it but it seems like the more likely option since they were released in a similar timeframe to the L and P models that did have the larger ones.

Type 5 is used in the slim models except for the 30xx model, and while they are all classed as type 5, they have some differences to tell revisions apart:

- Type 5-1 (CECH-20xx) Horizontal fin stack
- Type 5-2 (CECH-20xx) Vertical fin stack and heat pipe on bottom partially covered
 - Type 5-3 (CECH-20xx) No visible heat pipe on the bottom
 - Type 5-4 (CECH-21xx)
 - Type 5-5 (CECH-25xx)

Type 6 is used in the CECH-30xx and is the same concept as type 5, but with no copper used at all and a smaller finstack. They are 45nm and 40nm for the CELL and RSX respectively which is probably fine, but like the fats before it the cooling gets quite nerfed near the end of the model's life cycle.

Type 7 is for the super slims, with the same overall idea being used across all motherboard revisions. The CELL attaches to an aluminium finstack like the others, while the RSX removes its IHS and the die has direct contact with a heat pipe to another finstack. The memory chips seem to be fine without direct cooling.

Power Supplies

Power supplies can vary across manufacturers, but as long as they have the same power requirements they will be compatible with each other.

Model	Input Voltage	Output Voltage	Output Wattage	Compatible with
ZSSR539IA	100-240V 50/60Hz	12V=32A 5V=3A	399W	CECHAxx CECHBxx

APS-226				CECHCxx
APS-227	220-240V 50/60Hz			CECHExx
APS-231				
LSEB1226B1	100-240V 50/60Hz	12V≕23.5A 5V≕0.6A	285W	CECHGxx
LSEB1254A1				
APS-239	400 040 / 50/00	12V≕23.5A	205/4/	CECHHxx
EADP-300AB	100-240V 50/60Hz	5V0.6A	285W	CECHMxx CECHQxx
APS-240		12V=21A	050 05/4/	CECH box
EADP-260BB	100-240V 50/60Hz	5.5V=0.9A	256.95W	CECHJxx CECHKxx
EADP-260AB		12V21.5A 5V0.6A	261W	CECHLxx CECHPxx
APS-250	100 240\/ 50/00 -	12V18A	220 05/4/	CECH 20mm
EADP-220BB	100-240V 50/60Hz	5.5V0.9A	220.95W	CECH-20xx
APS-270	100 240\/ 50/60 -	12V16A	106.05\\\	CECH-21xx
EADP-200DB	100-240V 50/60Hz	5.5V0.9A	196.95W	CECH-25xx
APS-306	400 240 / 50/60 -	12V13A	100.05\\	CECH 20mm
EADP-185AB	100-240V 50/60Hz	5.5V=0.9A	160.95W	CECH-30xx
APS-330				CECH-40xx
ADP-160AR	100-240V 50/60Hz	12V=13A 5.5V=0.9A	160.95W	CECH-42xx
N12-160P1A				CECH-43xx

Each power supply is rated for roughly double what the console actually requires, as a switching supply running at ~66% capacity is much more efficient than one running at close to 100% capacity. While the APS-231 and the LSEB power supplies will physically fit with the COK backwards compatible models, their lower wattage means that they will run significantly less efficiently in those cases, getting hotter, potentially reducing the power supply's life, and can lead to potential instability if the console has been running for long enough.

Modding Capabilities

There are two types of softmods that can be performed for PS3s, referred to as CFW and HEN.

Custom Firmware (CFW)

CFW is the more premium option of modding, but is only supported on some models. The final PS3 model guaranteed to be able to support CFW is the CECH-21xx, with most of the CECH-25xx models supported as well, but those made in 2011 or later are guaranteed to not be compatible.

PS3 Homebrew ENabler (HEN)

PS3HEN (often abbreviated to just HEN) is more of a "catch-all" solution. It works on every PS3 model, but requires activation every console bootup while CFW runs immediately at bootup. Not everything is possible on HEN, and occasionally seems to be less stable as well, sometimes requiring multiple reboots to successfully launch (primarily seen with webMAN).

CFW is not possible on consoles post 2010 because after a CFW was released on firmware version 3.55, Sony massively upgraded the encryption keys with version 3.56, and started making changes in the hardware as well. These new dynamic keys are significantly longer and refreshing constantly, meaning by the time you've started figuring out one encryption key, it's already been replaced by another and you would need to start over. Breaking through them would require a quantum computer, which is not currently feasible.

Earlier systems are still fully jailbreakable because while the higher firmwares still have the encryption built into them at the software level, the hardware does not have the supporting encryption algorithms. The flash memory on the console can be patched to reopen the vulnerability that was in version 3.55, which allows a CFW to be installed.

"Jailbreaking" in this doc almost exclusively refers to CFW *only*, as HEN is not deep enough of an exploit to be fully considered a "jailbreak".

Mod Installation

Both versions here assume that the latest firmware update is being run, and a .zip file of all necessary files will be provided to simplify the install procedure so you won't need to go hunting around for all the required files. All that's needed is a USB drive formatted to FAT32 with MBR, and a device that can move files on said USB drive.

CFW

Files here

Contents:

- EVILNAT 4.91.2 BETA
- EVILNAT 4.90 PEX to downgrade to
 - PyPS3Checker
 - webMAN MOD 1.47.46
 - multiMAN 4.85.1
 - PSN Patch
 - Apollo Save Tool
 - XMB Mods Collection Disc ISO
 - 1. Ensure you have an internet connection and your date and time are set correctly:
 - Settings → Date & Time Settings → Date & Time → Set via Internet
 - The system must be running at least version 4.82 to be compatible.
- 2. Go to the Internet Browser and "clean it up"
 - Triangle → Tools → Home Page → Use Blank Page
 - Triangle → Tools → Delete Cookies, Search History, Cache, Authentication Information
 - 3. Unzip the folder from earlier and place the contents on the USB drive, all required folder structures are already in place so just place the zip file contents on the root.
- 4. Plug the USB drive into the rightmost port of the PS3 (dev_usb000)
 - 5. Go to ps3toolset.com

HEN

Files here

Contents:

- HFW 4.91
- xRegistryEditor
- webMAN MOD 1.47.46
- multiMAN 4.85.1 Unofficial
 - PSN Patch
 - Apollo Save Tool
- 1. Ensure you have an internet connection and your date and time are set correctly:
- Settings → Date & Time Settings → Date & Time → Set via Internet
- 2. Unzip the folder from earlier and place the contents on the USB drive, all required folder structures are already in place so just place them on the root.
- 3. Plug the USB drive into the rightmost port on the PS3.
- 5. Go to the Internet Browser and "clean it up"
 - Triangle → Tools → Home Page → Use Blank Page
 - Triangle → Tools → Delete Cookies, Search History, Cache, Authentication

- 6. In "System" Manager, press on "Flash Memory" at the top, then "Save Flash Memory Backup", and save it to dev usb000
- 7. Put the USB drive back into your PC, take the new dump.hex file, move it into the PyPS3Checker folder, then drag it onto the "drag&drop_your_dump_here.bat" file. You're looking for 0 dangers and 0 warnings. If you don't get 0 on both, delete the dump and try again.
- 8. After a safe dump, copy it to your PC and keep it safe in the event that something goes wrong later.
 - 9. On PS3 Toolset, press on "Flash Memory Patch" and then "Load Patch via HTTP".
 - 10. Once it's loaded, press on "Flash Memory Patch" again, and then "Apply loaded patch." After passing the warning and beginning the patch, put down the controller and do not touch it until it's finished. Do not lose power during this stage.
- 11. Once the memory has been patched, restart the console.
- 12. After the system has restarted, go to Settings → System Update → Update via Storage Media and the system should detect the CFW, install it like a normal update.
 - 13. The PS3 logo on bootup will have been replaced with text reading "EVILANT". This is normal, CFW developers tend to use their own name in place of the PS3 logo as a kind of branding.

Information

Triangle \rightarrow Tools \rightarrow Confirm Browser Close \rightarrow Off

- Go to <u>ps3addict.github.io/alternate</u>, bookmark the page by pressing Select and then "[Add to Bookmarks]
- 7. Allow it to initialise. If it fails, press Select and reload the bookmark until it succeeds.
- 8. Follow the on-screen instructions to install HEN.
 - After restarting, the PS3 logo on bootup will have been replaced by the HEN symbol, and a new option in the game tab called "Enable HEN" must be pressed every console bootup to enter a modded state.

If the modding process does change in future, more up-to-date guides can be found on YouTube from channels like MrMario2011.

Firmware Downgrade

If a lower firmware is wanting to be used, as currently suggested since version 4.91 is still in beta, it can be done. This only applies to CFW, HEN is stuck with the most recent firmware.

A 4.90 Evilnat CFW file is provided in the download package should a user wish to downgrade to it, and is highly recommended for those with COK motherboard consoles as the included 4.91 Beta has some issues with PS2 playback not working correctly.

- 1. In the Network tab is a new folder called Custom Firmware Tools, and then go into a folder called "QA Tools", recognisable by the large QA symbol as the icon.
 - 2. In the QA Tools folder, press on the option labelled "Enable QA Flags". A dialogue should appear that confirms the flags have been enabled. If they haven't, wait a few seconds and try again.
- 3. Take the 4.90 CFW from the provided folder and place it into the "PS3\UPDATE" folder in place of the original PS3UPDAT.PUP file.
 - Plug the USB drive back into the PS3, go to Settings → System Update and update the system like a normal firmware update.

Package Installation

Packages can be installed easily, in the game tab is a new folder called "Package Manager". In here, go to another one called "Package Files" where there are three options:

- PS3 System Storage (Installs directly from the dev_hdd0\packages folder on the PS3)
- Package Directory (Installs from a "packages" folder on a USB drive if present)
 - Standard (Installs directly from the root of a USB drive)

Standard is the one that will be used most of the time, as it's the easiest. Install webMAN, multiMAN, Apollo, and PSN Patch, they tend to be the ones I use most often. Note that when you "install" webMAN here you aren't fully installing it, only the webMAN

Installer. You need to hold L1 on the face icon and then press X to install the full version, which is necessary for several functions. The fan might ramp up once it's been installed depending on the system temperature, and a new folder called "webMAN Games", with a controller symbol on it, will have appeared underneath the Package Manager folder. Everything related to webMAN is handled through this folder, meaning you can delete the face icon afterwards if you so wish.

Game Installation

The author of this guide does not condone piracy. This simply explains how to install a game and does not provide sources on where to obtain the relevant files.

An FTP client on your PS3, which is always active if webMAN is installed, is the most convenient option to install games. USB can work if the game is under 4GB in size, such as a PS1 game, but USB is quite slow compared to the internal drive.

Digital (PSN) Game

Requires: Game in .PKG file format Associated .RAP file

- Rename the PKG if required to make it more identifiable.
- Use FTP to transfer the PKG file to the folder "dev_hdd0\packages", or install via Package Manager if the game is small enough.
- Create a folder called "exdata" on your USB drive, and place the RAP file inside it.
- Insert the USB drive into the rightmost port of the PS3, and wait until the PKG file has fully transferred before

Disc Game (ISO)

Requires:

Game in .ISO format (separate .BIN and .CUE files are also viable for PS1)

- Rename the ISO or .BIN if required to make it more identifiable
- 2. Use FTP to transfer the ISO to the appropriate folder depending on what console the game is for:

PS1 game = dev_hdd0\PSXISO PS2 game = dev_hdd0\PS2ISO PS3 game = dev_hdd0\PS3ISO

multiMAN can be used here instead, though the controls are often more tedious and the transfer speed is slower. The game discs are coloured

Disc Game (Folder)

Requires:

Game in Folder format - Usually a folder named with the game name and its title ID

Use FTP to transfer the folder to the appropriate folder

dev_hdd0\GAMES

multiMAN can be used here instead, though the controls are often more tedious and the transfer speed is slower.

 Once the folder is transferred, go to webMAN Games → webMAN Setup and then select the option labelled "Refresh webMAN Games &

launching PSN Patch.

- 5. In PSN Patch, press L1 for the option to install the RAP and EDAT. You should see a screen where the game ID for the game you're installing appears, you can install multiple RAPs at the same time. Quit out of PSN Patch once this is confirmed by pressing Start and then O.

- to make them more identifiable in the list (PSX black, PS2 dark blue, PS3 light blue)
- Once the files are transferred, go to webMAN Games → webMAN Setup and then select the option labelled "Refresh webMAN Games & XMB"
 - Once the XMB reloads, in the webMAN Games folder there will be folders labelled for the consoles, with any transferred ISOs appearing in there.

XMB"

3. Once the XMB reloads, in the webMAN Games folder there will be a folder labelled "PLAYSTATION 3", with the transferred game appearing in there.

Recommended Settings

Enable DEX Menus

This unlocks access to higher level settings that may be useful in certain scenarios.

Network \rightarrow Custom Firmware Tools \rightarrow CEX2DEX Tools \rightarrow DEX Debug Menus

A confirmation dialogue should appear once activated. Now in Settings → System Settings → Debug Settings you will have new options, it has been successfully enabled if the first one is "O Button Behaviour"

Fake Save Data Owner

DEX Menus are required to be activated for this to work.
Located in the Debug Settings, if this is enabled then save files do not need to be resigned to the console before they can be fully played without restrictions.

Auto at 68C

This is the default fan curve when webMAN is installed, and there's really no reason to change it. Others might like the "Auto #2" option, but personally I think the Auto at a certain temperature is better.

Better fan control for PS2

This only applies to BC PS3s, and only in Evilnat firmwares.

Network → Custom Firmware Tools → Fan Tools → PS2 Fan

Choose at least 40% from here to ensure the RSX does not get too hot, as webMAN's fan curves do not apply while playing a PS2 game. Less necessary if the system has

		already been Frankensteined.
Region Changing DEX Menus are required to be activated for this to work. Located in the Debug Settings, the console region can be changed to any region necessary.	Region Changing (HEN) Since HEN cannot access the DEX Menus, modifying the xRegistry.sys file is required in order to force a region change. This does not affect the internal console region itself, only changes it from PAL video output to NTSC video output. You can find a tutorial here.	

Things to Avoid

Drilling holes in the chassis

This completely destroys the intended cooling path of the air inside the chassis. Normally air is pulled in through the side and the top of the front, pulled across the disc drive and motherboard, through the power supply and then blown back out the side and rear to cool the CELL and RSX. Drilling holes in the bottom bypasses this top compartment which results in the disc drive, power supply and anything on the bottom of the motherboard running hotter as a result, reducing its lifespan.

Allowing the RSX to get above 70C (90nm only)

Heavily detailed in the "Unreliable Chips" section, you want to do everything within reason to keep a 90nm RSX under the transition temperature of 70C. Smaller process nodes are fine at hotter temperatures, but under 70C is usually a good recommendation for all chips whenever possible.

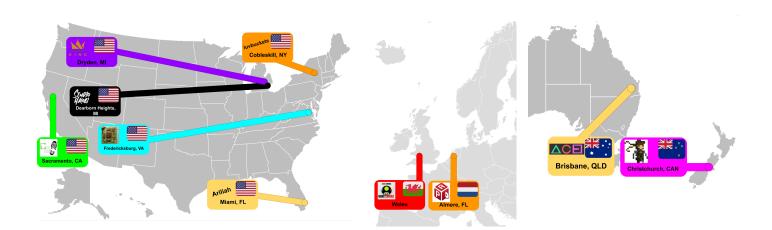
Frankensteining & Repairs

If you have one of the earlier models, it is more likely to die at some point than later ones. Repair requirements do depend on what has gone wrong, the two main ones being capacitor death and RSX failure.

As stated in the "Unreliable Chips" section, the original 90nm RSX (CXD2971) has a poor material set which leads to an early death, and the only real "fix" to this is the "Frankenstein" mod, which takes the 65nm or 40nm RSX from a later model PS3 and transplants it onto the original board, along with voltage and resistor mods so that the

system will accept the new chip and so you don't put too much voltage through it, also reducing its lifespan.

Tokin failure is the other major concern, but solutions are coming about for proper replacement capacitor arrays, most notably the RIP Felix Tantalisers. As of right now, there are eleven repair shops that I know perform these fixes:



Any prices listed below are in local currency.

Computer		ooter
	https://computerbooter.com	https://ebay.com/str/computerbooter916
SYSCON Erro	or Reading	\$50
CELL + RSX I	Delid	\$100
"Full Refurb" - Tokins	Replaced	\$200

- CELL + RSX - Miscellaneou - New CMOS	us Capacitor Replacement	
Frankenstein (65nm RSX)	All Computer Booter Frankensteins include: - CELL + RSX Delid - Tokins Replaced	\$600 (\$150 upfront)
Frankenstein (40nm RSX)	- CELL Plug - Replaced CMOS Battery - 6 month warranty	\$650 (\$150 upfront)

	Console King				
CONSOLE K·I·N·G	https://consoleking.ne	<u>t</u>			
Blu-Ray Drive	Blu-Ray Drive Connector Repair				
CELL + RSX Thermal Pac	\$99.99				
Frankie Only	\$349.99				
Full Frankie Service (65/40nm RSX) - CELL + RSX Delid - Tokins Replaced \$449.99 - CELL Plug - 19 blade fan					

NOTE

Due to some recent controversies with CK appearing on Reddit from long wait times and never receiving their system back, I cannot reasonably recommend their services at the present moment. It may improve with time, hence why their listings will not be removed from the doc, but be aware that he is one of the least trusted servicers at this point in time.

574010	Studio Halabi	
HALABI	https://studiohalabi.com/	https://www.ebay.com/str/studiohalabi
SYSCON Erro	or Reading	\$50

Acts as a deposit for any further repairs	
Frankenstein Service (65/40nm RSX) - CELL + RSX Delid - Tokins Replaced (+\$100) - CELL Plug - Thermal Pads Replaced	\$450 (\$100 upfront)
CELL + RSX Delid Thermal Pad Replacement	\$75
CELL + RSX Delid Thermal Pad Replacement Tokin Replacement	\$160

-		
	Fredericksburg	Console Mods
	https://www.facebook.c	com/Fredconsolemods/
Tokin Replace	ment	\$100
Frankenstein (65/40nm RSX) - CELL + RSX Delid - Thermal Paste + Pad Replacement - Cleaning inside		
An eBay store for selling pre-made consoles does exist, but do not currently know the name of it.		

	Ariliah Tech Mods	
	https://www.ebay.com	m/str/ariliahtechmods
Frankenstein Service (65/40nm RSX) - CELL + RSX Delid - Tokin Replacement		\$299.99 (\$100 upfront)
Pre-made consoles are also sold on the eBay store.		

luvbuckets

https://www.ebay.com/usr/luvbuckets

Primarily sells pre-made consoles, no direct services offered.

Squeept Video Games

https://www.ebay.com/str/squeeptvideogames

Primarily sells pre-made consoles and parts, no direct services offered. 2 year warranty on all Frankensteins.

RARE THINGZ	RareThingz	
RARE THINGZ	https://ps3deliddingservice.co.uk	
SYSCON Erro	or Reading	£15
CELL + RSX Delid		£30
Tokin Replacement		£60
Frankenstein (65nm RSX)		£230 (£50 upfront)
Frankenstein (40nm RSX)		£250 (£50 upfront)

	ProCo	nsoles
6 6	https://prod	consoles.nl
CELL + RSX I	Delid	€59
"YLOD Repair" This listing does not fully explain what it does, though likely either Tokin replacements or an RSX reball. A Frankenstein can be requested when ordering for some extra cost, though the exact amount is not listed. Only a 40nm RSX option is offered. Unknown if the appropriate voltage mod is also included. Has		€125

a flat "no fix no fee" policy while most Frankenstein servicers ask for some upfront given how much effort is required.

ΔCE	ACE Console Repair	
	https://aceconsolerepairs.com.au/	https://www.ebay.com.au/str/aceconsoles
CELL + RSX I	Delid	\$
"Full Refurb" Need to properly ask what is included in this package, likely Frankenstein + Tokins Replaced, unsure of what else.		\$440



Rambonz

Does not offer the service directly, but sells pre-Frankensteined consoles as a hobby. Variety of 65nm or 40nm RSX and varying models (CECHA/CECHB/CECHC) depending on what he has at the time, but all PS3s are delidded and have Tokins Replaced.