



PlayStation 3 Super Slim WiFi Antenna Replacement

This guide explains how to replace an internal antenna with an external antenna to increase wireless range.

Written By: Shane Winter



INTRODUCTION

Reading the [PlayStation 3 Super Slim Teardown](#) will introduce the inner workings of the Playstation 3 Super Slim and an in depth look at the motherboard.

The instructions for the replacement of the antenna itself can be found starting at Step 19.

[PlayStation 3 Super Slim Teardown](#)



TOOLS:

- [Phillips #00 Screwdriver](#) (1)
 - [Phillips #1 Screwdriver](#) (1)
 - [T8 Torx Security Bit Screwdriver](#) (1)
 - [iFixit Opening Tools](#) (1)
-

Step 1 — PlayStation 3 Super Slim Teardown



- Primed and ready to bare all and prove its worth, the PlayStation 3 Super Slim packs a lot of power in a super compact form factor. Notable specs include:
 - HD 1080p, 1080i, 720p, 480p, and 480i output
 - LPCM 7.1ch surround sound, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, DTS-HD, AAC
 - Cell Broadband Engine™
 - RSX® GPU
 - 256MB XDR Main RAM and 256MB GDDR3 VRAM
 - Available with 12 (flash memory), 250, or 500 GB (upgradable!) internal storage

Step 2



- Not that we're complaining, but we had to get our PlayStation 3 Super Slim in a bundle. It seems that after countless adventures, [Nathan Drake](#) finally found a treasure worthy of praise.
- What exactly is included in this bundle? Glad you asked:
 - 250 GB PlayStation 3 Super Slim System
 - DualShock 3 Wireless Controller
 - AV Composite Cable (sadly no HDMI cable is included in this bundle)
 - AC Power Cord
 - USB Cable (required for charging the DualShock controller)
 - Uncharted 3: Drake's Deception (Game of the Year Edition) + Dust 514 (Downloadable content included)

Step 3



- We wanted to see how the PS3 Super Slim stacks up to the standard slim model, the console it replaces.
- Call us silly, but our test gave us the results we were expecting. The Super Slim might have gotten a bigger name, but it shed some serious size.
- Though the backsides of both consoles look similar, they give us a lot of insight into some of the revisions made for the Super Slim.
- For starters, the cooling vents are considerably smaller, which most likely means that the fan itself is smaller and has less heat to deal with.
- Secondly, the port layout is shifted ever-so-slightly, answering a question we get a lot about motherboard compatibility: No, you cannot swap Slim and Super Slim motherboards.

Step 4



- Perhaps the biggest change in the new model—and [biggest gripe](#) from consumers—is the switch to a manual top-loading disc drive.
- The door is thin, cheap-feeling plastic, and means this PS3 now requires overhead clearance to change the disc. No more cramming the PS3 into a short shelf.
- We suspect that ditching the tray was necessary to cut both costs and size in the Super Slim. It's a design choice that has been met with a lot of criticism, though, reminding us of another recent [size-conscious change](#).
- In addition to the immediate benefit to Sony's margins, lowering production costs also future-proofs the PS3. When the Playstation 4 is finally released, it's almost a certainty that the PlayStation 3 Super Slim will still be sold alongside the new console, but at a much lower price point.

Step 5



- The bottom section of the Super Slim looks similar to its predecessor, with the exception of a [missing Wi-Fi indicator light](#).
- ★ Fear not, the lack of a Wi-Fi indicator light does not actually mean that the Super Slim is lacking Wi-Fi.
- Still present on the front of the Super Slim are two USB 2.0 ports, a hard drive indicator light, and a plethora of supported logos—including the typical Blu-ray Disc logo.

Step 6



- The PS3 Super Slim's hard drive bay cover pops right off and reveals a bright blue Phillips screw.
- After removing said screw, the [Hitachi TravelStar Z5K320](#) 2.5" SATA II 3.0Gbps 250 GB 5400 RPM hard drive comes right out.
- ❗ In case you weren't keeping track, that's a single Phillips and no more than 5 or 10 minutes for a hard drive swap.
- Perhaps the coolest thing about the PlayStation's hard drive is that Sony allows you to upgrade your console with any 2.5" laptop hard drive. No fancy firmware, no wacky enclosures—just you, your console, and as much storage as you can cram in there.

Step 7



- Small rubber feet hide three of the outer case's screws and provide the PlayStation 3 Super Slim with some grip.
- We don't think that these feet are much of a nuisance; they are easy to remove, add function, and clean up the look of the console.
- Blocking access to the fourth screw, a wild Warranty Void sticker appears! [And, it's gone.](#)
- We think that stickers like this are [bogus](#), and we think you should, as well.

Step 8



- A plastic opening tool makes quick work of the outer bezels.
- Located underneath the front outer bezel, we find the ever-tempting [laser warning sticker](#).
- Removing the bezels also provides access to the screws we need to remove to get inside the Super Slim.

Step 9



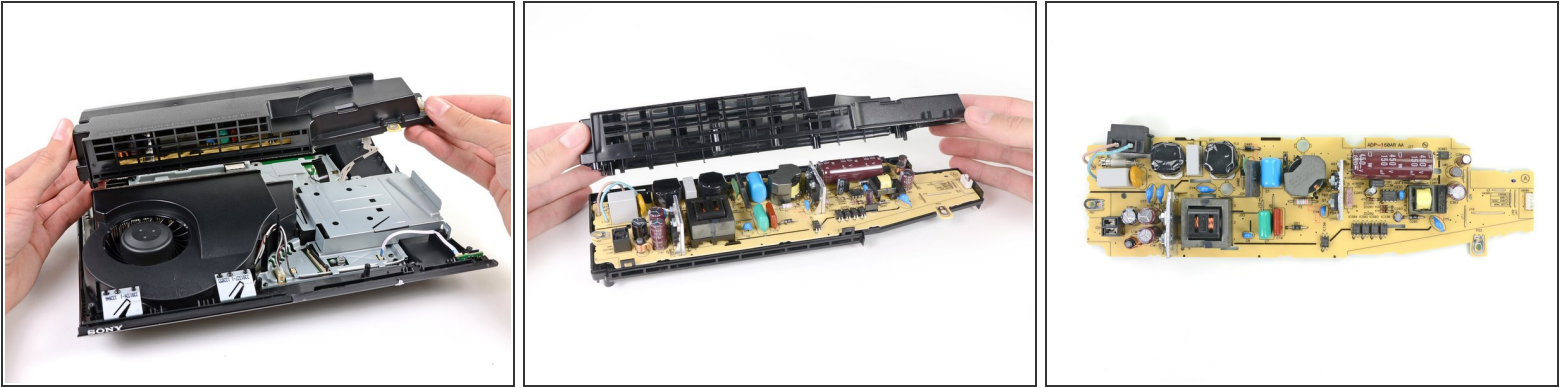
- And here we go! What wonders and surprises will we find inside the PS3 Super Slim? The only way to find out is by moving the top cover out of the way.
- It looks like internal plastic casing covers almost every component.

Step 10



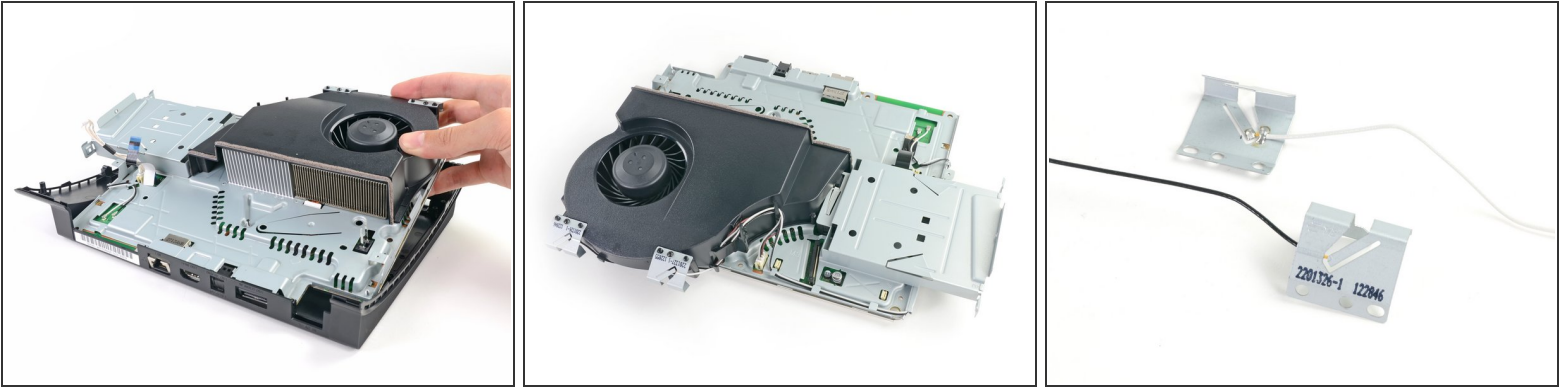
- After removing the top cover, we continue our exploration by removing the manual top-loading disc tray.
- Say what you will about the tray-free disc loader in the Super Slim, but it's definitely a repair-friendly design.
- The laser lens is labeled as KEM-850 PHA 0672 23020A.
- We read some [conflicting reports](#) about the noise level from the PS3 Super Slim's disc drive and were sure to include a look at Sony's noise reduction efforts:
 - We found the drive is mounted on super soft rubber bumpers and surrounded by a noise-reducing plastic tray, which should dampen vibrations.
 - However, this won't do much to muffle sounds coming straight off the drive through the thin, plastic tray door.

Step 11



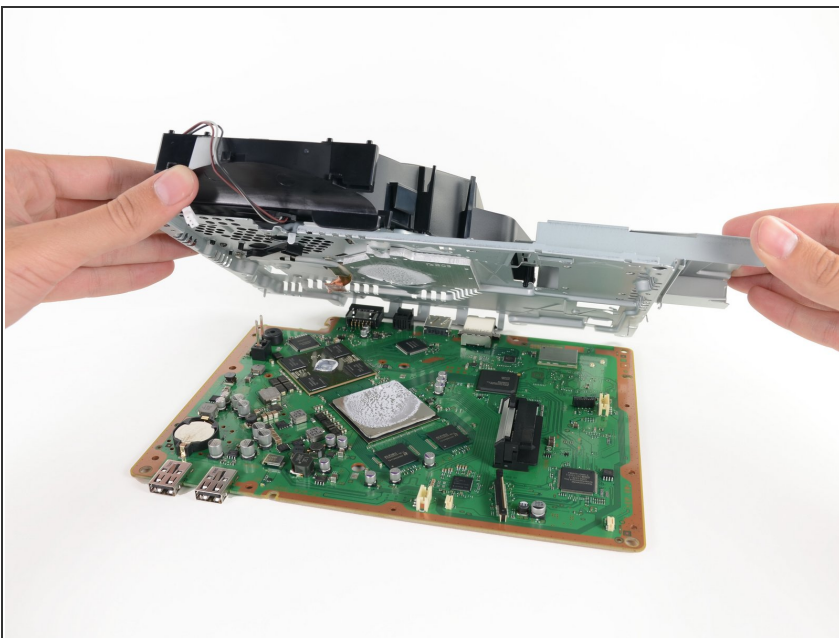
- The power supply module is easily removed from the rear side of the case.
- Despite the clean layout of components, the power supply's internals are very difficult to get at, as its internal case is held together by four screws and several tough plastic clips.
- In a similar fashion to the PS3 Slim, the power supply is designed for inputs ranging from 100V to 240V AC, making it usable across the globe.
- It seems the overall power consumption has been lowered as well. While the PS3 Slim was rated at 12 V and 18 A DC, the Super Slim is rated at 12 V and 13 A DC.

Step 12



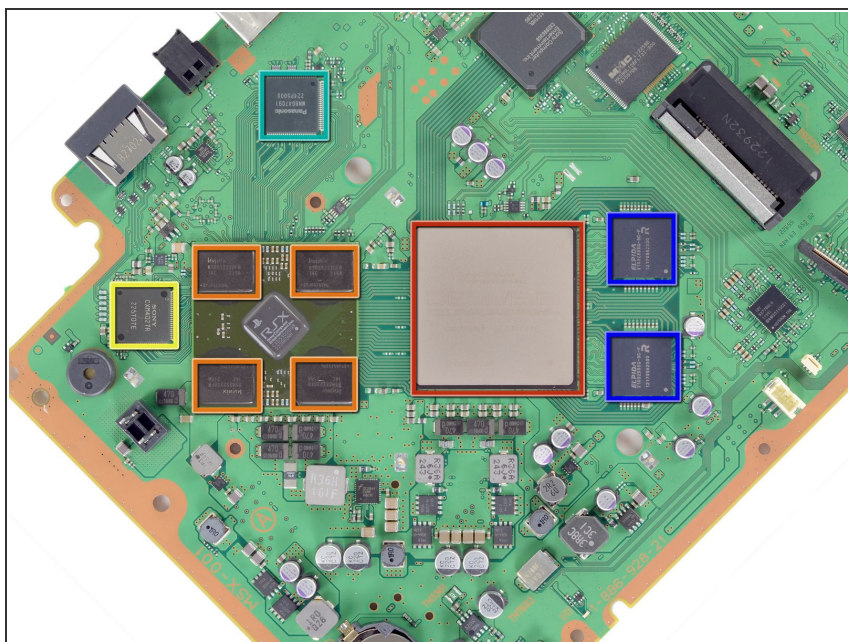
- The motherboard/fan assembly is dispatched from the lower case as we continue our quest.
- We were a bit miffed to find that the entire motherboard assembly must be removed to access the fan or heat sinks, but it does make for a very compact and solid design.
- On the front of the fan assembly, we find the Wi-Fi and Bluetooth antennas.
 - Engraved on the antennas we find the logo for [TE Connectivity](#). According to TE Connectivity, their "antenna designs have been applied to a wide range of wireless products including... revolutionary gaming consoles."

Step 13



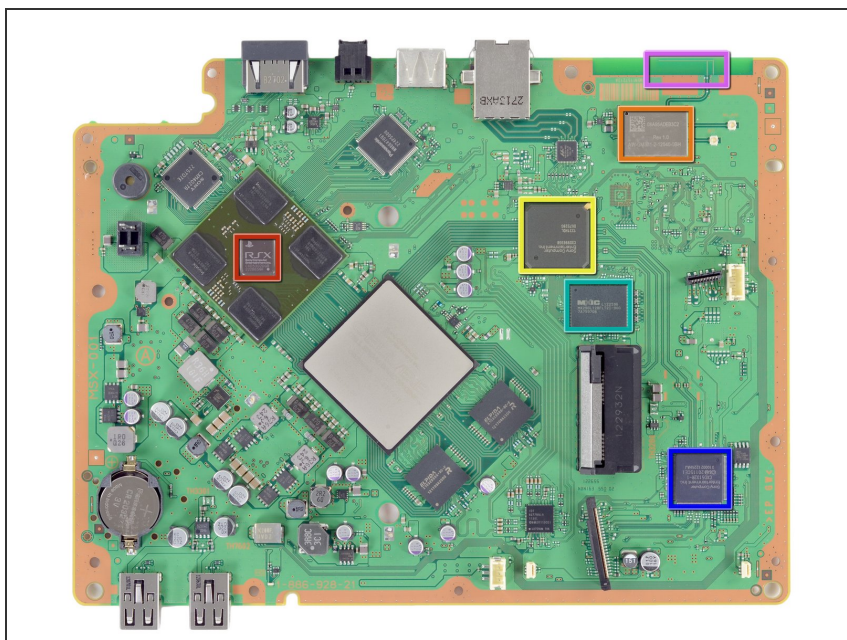
- Under door number two...the motherboard!
- After a few tense moments, we were finally able to lift the metal frame off the motherboard.
- A quick inspection reveals [adequate](#) thermal paste on the GPU, but a less-than-perfect job on the CPU.
- Room for improvement for happy hackers?

Step 14



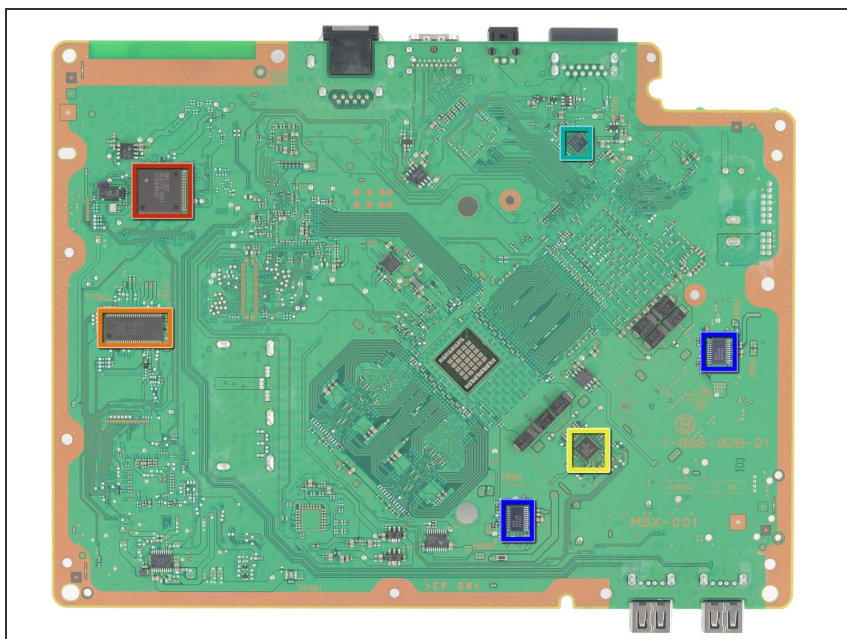
- Turning the motherboard 45 degrees gives us a look at some of the major players behind the PlayStation 3 Super Slim's processing power:
 - Cell Broadband Engine CXD2996BGB
 - Hynix H5RS5223DFA 512 Megabits GDDR3 VRAM (times four chips = 256 MB)
 - Sony CXM4027R MultiAV driver
 - Panasonic MN8647091 HDMI transmitter
 - Elpida [X1032BBBG-3C-F](#) 1 Gb (on two chips for 256 MB total) XDR DRAM

Step 15



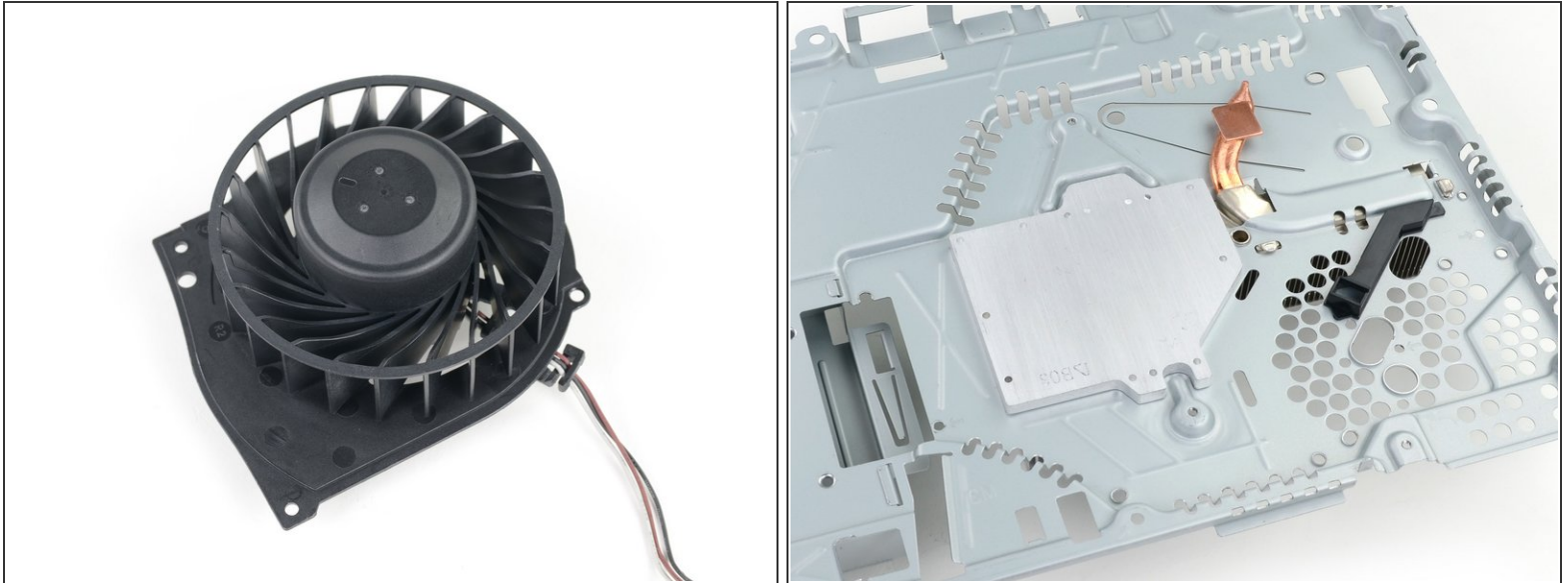
- Some of the more...[Cartesian](#) ICs on the top of the motherboard:
 - Sony RSX CXD530 "Reality Synthesizer"
 - Marvell Avastar [88W8781](#) SoC WLAN/Bluetooth chip
 - Sony CXD9963GB I/O bridge controller
 - Macronix MX29GL128FLT2I flash storage
 - Sony CXD5132R SATA/PATA Blu-ray drive controller
 - Integrated PCB Wi-Fi antenna

Step 16



- A few minor acts on the flip-side:
 - SW3-302 SCEI 1220EM42E
 - BD7761EFV 227 T25
 - Intersil ISL6332 MDRZ H223BCC
 - IDT 4227ANLG 1149L
 - Texas Instruments TPS53123 Dual Synchronous Step-Down Controller

Step 17



- The Super Slim loses its cool as we remove the squirrel cage fan and two heatsinks.
- ⓘ The Super Slim has definitely dropped some size and weight in the fan since the [Slim](#).
- For this (final?) iteration of the PS3, Sony has leveraged new technology to make the same console smaller, lighter, and quieter, rather than significantly improving performance.

Step 18



- PS3 Super Slim Repairability: **7 out of 10** (10 is easiest to repair)
- The hard drive is easy to access, repair, and upgrade.
- The tray-free disc loader is modular, making it easy to replace.
- Standard tools, except a T8 Security bit.
- There is a pesky, but mostly harmless "Warranty Void" sticker.
- Power supply is held behind lots of clips; however, we don't expect many internal repairs to the power supply.
- The entire motherboard assembly must be removed to access the fan or heat sinks.
- Sliding disc tray door feels janky, and may break after repeated use.

Step 19 — WiFi Antenna



- Remove the rubber feet from the underside of console.
- Remove the screws hidden under the rubber feet and the screw under the warranty sticker.

Step 20



- Use a flat-head screwdriver to remove the security screws on the side.
- Remove the side cover and front flaps.

Step 21



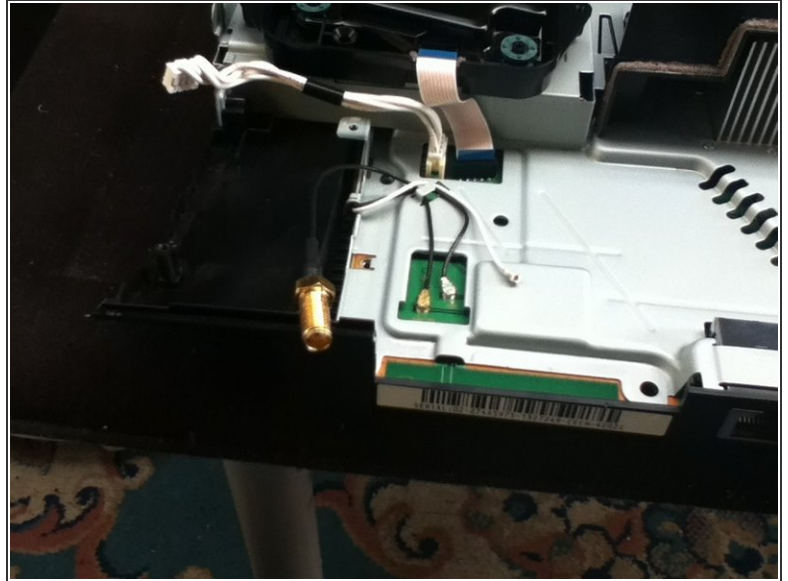
- Remove two screws from the disk tray to remove the top.

Step 22



- Do not remove the disk tray. Instead, lift it to reveal the screw that holds that side of the power board in place.
- Then remove the power assembly to uncover the Bluetooth and wireless connections.

Step 23



- Remove the wireless aerial from the motherboard so that you can replace with a toggle antenna.

Step 24



- Drill a hole for the toggle antenna through the top of the console and the flap.

To reassemble your device, follow these instructions in reverse order.