



Chromecast Teardown

We tore down the Google Chromecast on July 26, 2013.

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INTRODUCTION

Ding-dong, the dongle's here! Google knows that cat videos are more entertaining when viewed on a 72-inch HD display, so they packed Chrome into a compact dongle, threw an HDMI output on it, and provided the world with the cat videos we deserve! Join us as we tear down the Chromecast to find out how Google squeezed so many cats into one small package.

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TOOLS:

- [iFixit Opening Tools](#) (1)
- [Spudger](#) (1)

Step 1 — Chromecast Teardown



- Upon eagerly ripping open the Chromecast's box, we are greeted with more than just a dongle.
- The dongle's specs and features:
 - 1080p HDMI output
 - 2.4 GHz WiFi 802.11 b/g/n
 - 1080P maximum output video resolution
 - USB-powered
- Compatible with a variety of devices, including both iOS and Android devices

Step 2



- The Chromecast's sole port is the USB charging port. As if TVs don't have enough wires already, your favorite new dongle requires external power via USB.
- **i** When we hear "dongle," we don't usually think of external power. The Chromecast, however, requires external power via an available (**non-service**) USB port or via the USB charging cable and adapter.
- At least Google [sort of](#) mentioned this...

Step 3



- Model Number: H2G2-42.
- *i* Wasn't "42" the answer to life, the universe, and everything in [The Hitchhiker's Guide to the Galaxy](#)?
- *i* And H2G2 is an abbreviation given to the book, as well as the name of a [website](#) dedicated to making a guide to life, the universe, and everything.
- We see what you did there, Google. Your clever nerd humor will not be lost on us!
- Call us speculative, but it appears Google thinks this device is the answer to life, the universe, and everything.

Step 4



- To our relief (and maybe a little disappointment), it seems as if we won't need to pull out the [big guns](#) to get this little guy open.
- A [plastic opening tool](#) exploits the seam of our dongle, and just like that, we can start pulling out components.

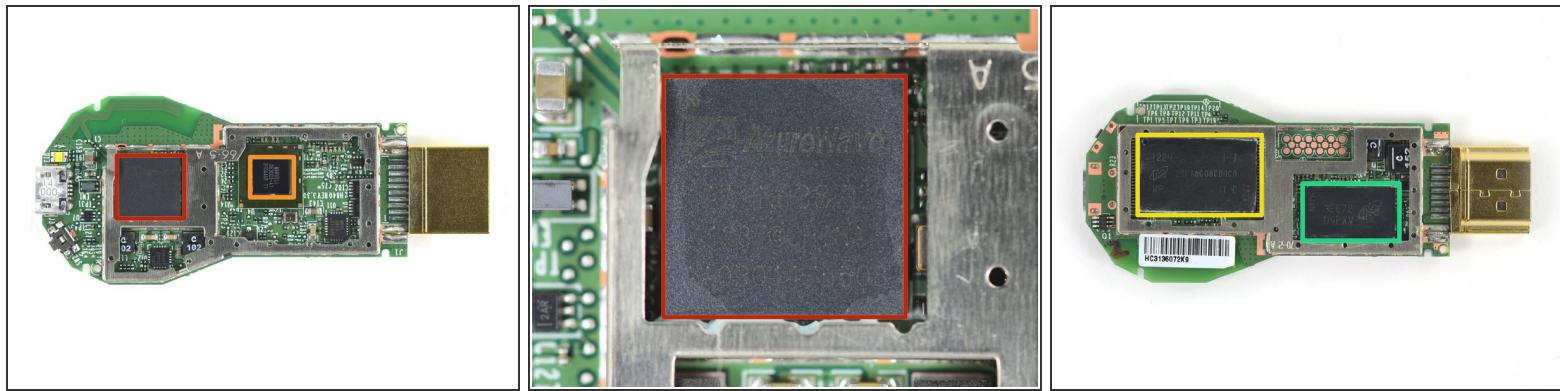
(i) Yes, we do enjoy typing the word "dongle."

Step 5



- The first thing out is, well, everything. Pulling the motherboard assembly out of the Chromecast leaves us with an empty shell.
- Almost empty, that is, except for some excessive thermal leftovers and a big hunk of aluminum heat sink.

Step 6



- The central nervous system:
 - AzureWave [AW-NH387](#) 802.11 b/g/n WLAN, Bluetooth and FM Combo Module
 - Marvell DE3005-A1 System on Chip
 - Micron [MT29F16G08MAA](#) 16 Gb (2 GB) NAND Flash Memory
 - Micron [D9PXB](#) 512 MB DDR3L SDRAM
- *i* DDR3L SDRAM (1.35 V) is a low voltage version of the DDR3 SDRAM (1.5 V).

Step 7



- With the motherboard out, only one component remains: a (relatively) ginormous heatsink. Made of solid aluminum and spanning the entire length of the device, it rests—lifeless hardware in a tiny coffin.
- We can't say we're surprised, though, as the product information states "Chromecast may get hot to the touch; this is normal."
- This is somewhat disconcerting, sort of like ["melt in your hand, not in your mouth."](#) or "side effects may include death."

Step 8



- **We've decided not to assign a repairability score to the Chromecast.**
- There's just nothing in it to repair. The Chromecast is essentially a luxury item with a limited use.

i Best hope for this little guy: after a long, fulfilling life of streaming kitten videos, the Chromecast is recycled responsibly.

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