



# Magnavox Odyssey 100 Teardown

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## INTRODUCTION

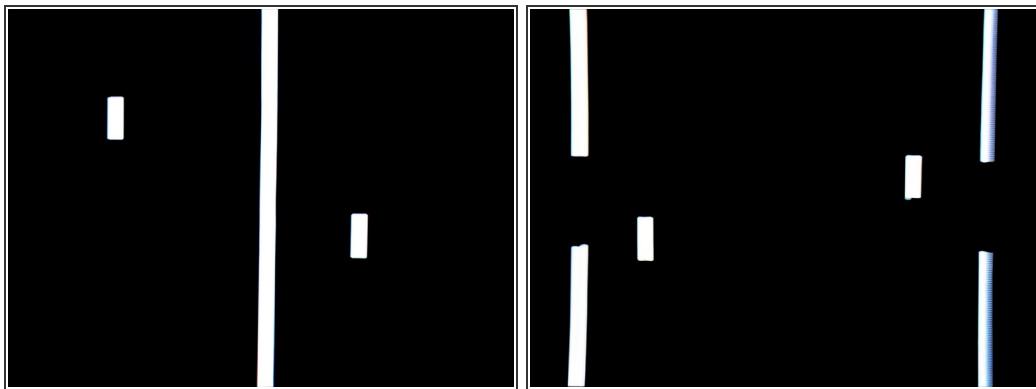
The Magnavox Odyssey was the world's first home game console. The machine, designed by [Ralph Baer](#) (the father of video games), was released in 1972. This particular machine is the Odyssey 100 -- the immediate successor to that groundbreaking console. Join us as we take a journey back in time to 1975 and peek inside one of the great forefathers of the video game industry.

This system represented Magnavox' attempt to simplify a video game system into as few components as possible. As a result, the Odyssey 100 contained four integrated circuits and included on-board controls. The end result was one of the simplest consoles of all time.

## TOOLS:

- [Flathead Screwdriver](#) (1)
- [Socket Wrench](#) (1)

## Step 1 — Magnavox Odyssey 100 Teardown



- The Magnavox Odyssey 100 was nothing short of awesome (for 1975):
  - Black & White graphics
  - **Two** games! (tennis and hockey)
  - Manual scoring
  - Three control knobs for each player
  - On-board "sound"
- Here's some screen shots of tennis and hockey. Can you guess which one is which?

## Step 2



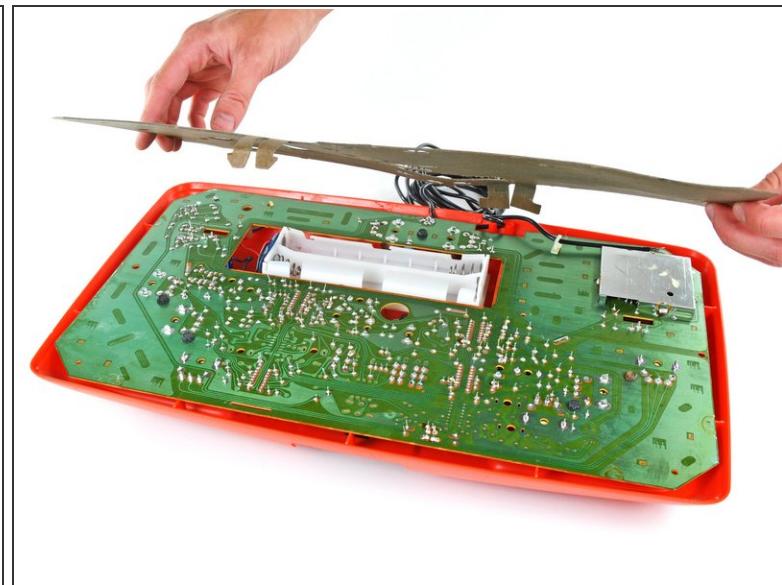
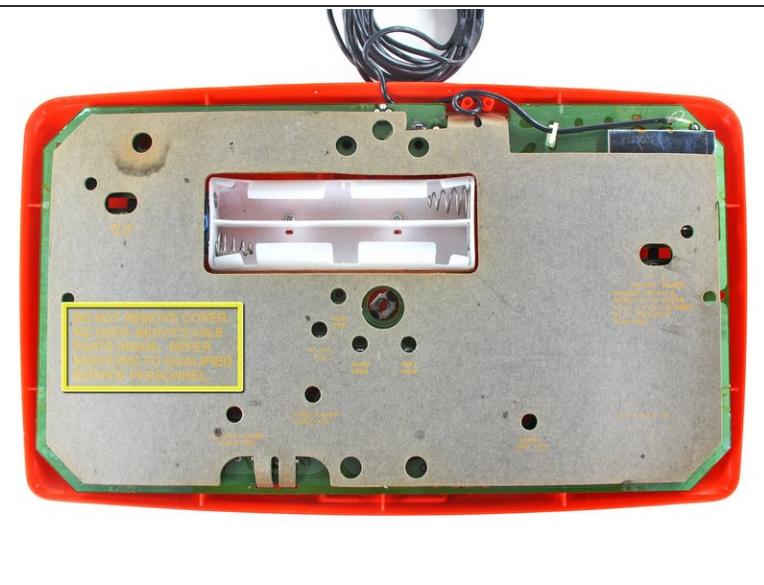
- The Odyssey 100 had an extremely simple design. The controls include:
  - Control knobs (X, Y, and ball trajectory)
  - Manual scoreboard sliders
  - I/O and game select switches
  - Wall position and game speed knobs
- That's quite the departure from today's [DualShock 3 Repair](#) controller, which has two analog sticks, a d-pad, and 13 buttons.
- Let's see what's inside...

## Step 3



- This thing is covered by at least four US patents. Who knew?
- Something you don't see too frequently nowadays... Made in USA!
- A single flathead screw is all that holds the bottom panel to the Odyssey 100.
- The lower case can be lifted off to reveal...

## Step 4



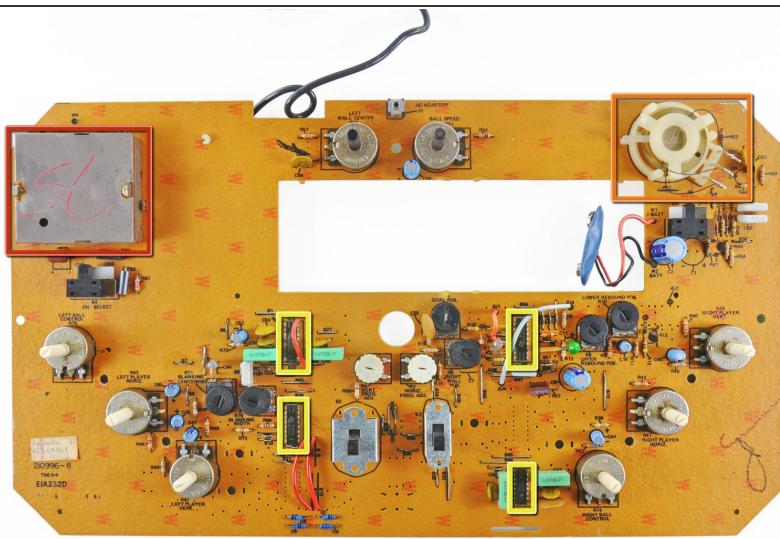
- ... A cardboard [!] shield.
  - Apparently the Odyssey 100 does not have any user-serviceable parts inside. Only one way to find out...
- At this point, the battery holder for six "C" cell batteries is visible.
  - The Odyssey 100 had the option of being powered by either an external wall adapter or by batteries.
- Also visible at this point are the potentiometers used to adjust various parameters such as right wall position, goal position, and vertical/horizontal frequency. Who needs automatic adjustments anyway?
- The cardboard shield can be easily removed to reveal the back of the board.

## Step 5



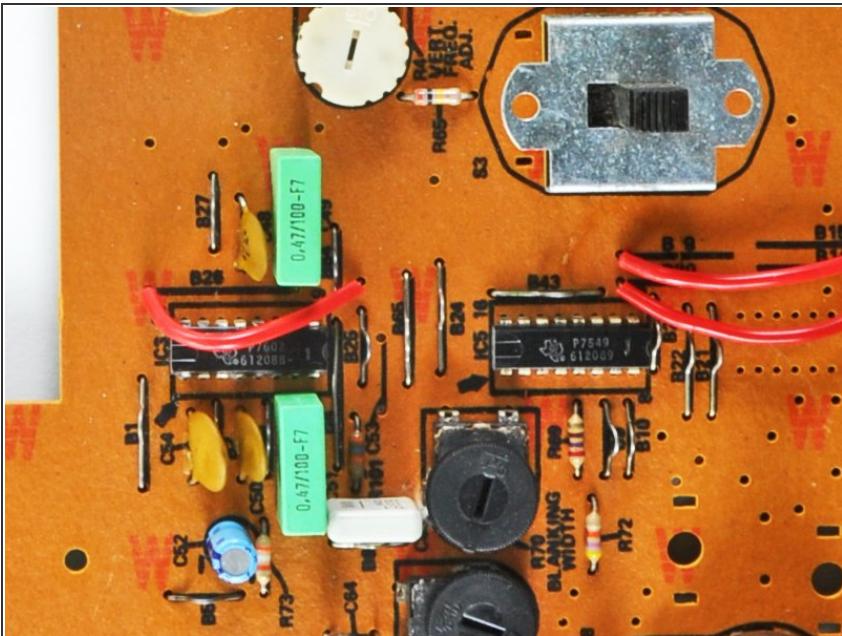
- The back of the board is relatively featureless due to the use of through-hole components.
- A couple hex-head screws firmly hold the board to the upper case. Apparently Magnavox didn't want it escaping from its home.
- After pulling off the six control knobs, the upper case can be lifted right off the board.

## Step 6



- The board is interesting in that it is has a single layer of conductive traces connecting all the components. Contrast this to modern circuit boards, which can sometimes have eight [!] PCB layers.
- The larger components on the board include:
  - RF modulator
  - Buzzer
- ICs provided by Texas Instruments. These 16 pin [DIPs](#) are quite the departure from TI's [OMAP 3630](#) found in the Droid 2. The logo is still just as cool, though.

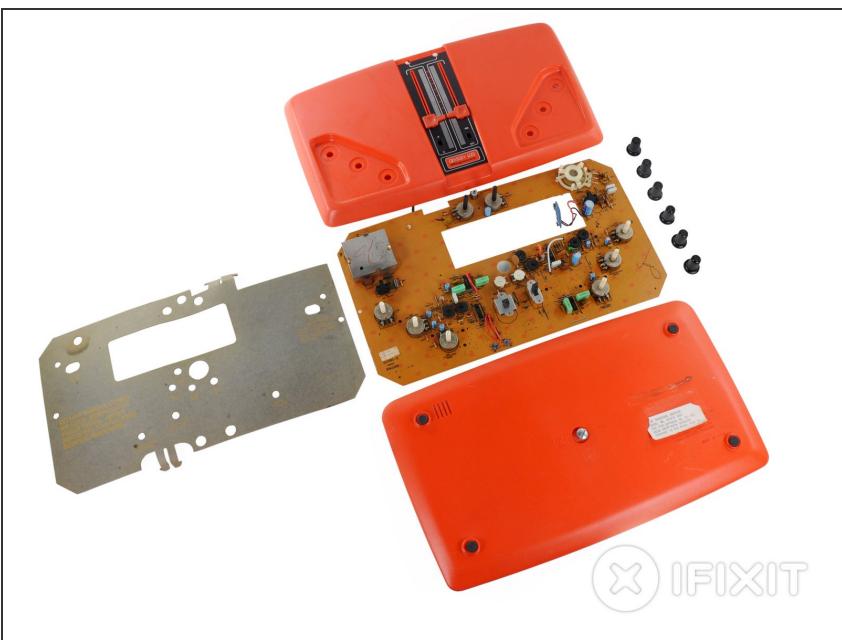
## Step 7



- It's also interesting to note that the Odyssey 100 utilized discrete circuitry. Magnavox had proposed a single chip design for the Odyssey 100, but wanted a device able to be released immediately even if Texas Instruments didn't deliver the chips on time. A single chip design would be one of the improvements found in the Odyssey 200.

*(i)* The discrete design of the circuit explains the many external jumper wires and through-hole components found on the board.

## Step 8



- In a matter of just seven steps, the the unbelievably-easy-to-disassemble Odyssey 100 remains torn asunder.
- We haven't heard too many requests for repair parts for this console, but we do have a brand new [game console parts store](#) to help keep your (slightly more modern) consoles running.

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- Keep an eye on our [teardown](#) page or [blog](#) for a detailed look at another retro game console tomorrow!

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