



# Emerson Research Model CKS1850 “SmartSet” Alarm Clock Teardown

Let's take apart an alarm clock that automatically sets the time through the power of black magic and voodoo when plugged in.

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## TOOLS:

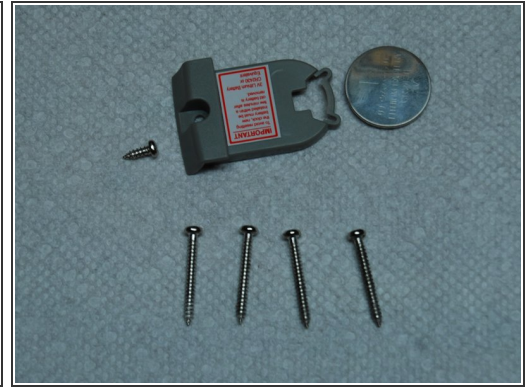
- [Heat Gun](#) (1)
  - [Essential Electronics Toolkit](#) (1)
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## Step 1 — Emerson Research Model CKS1850 “SmartSet” Alarm Clock Teardown



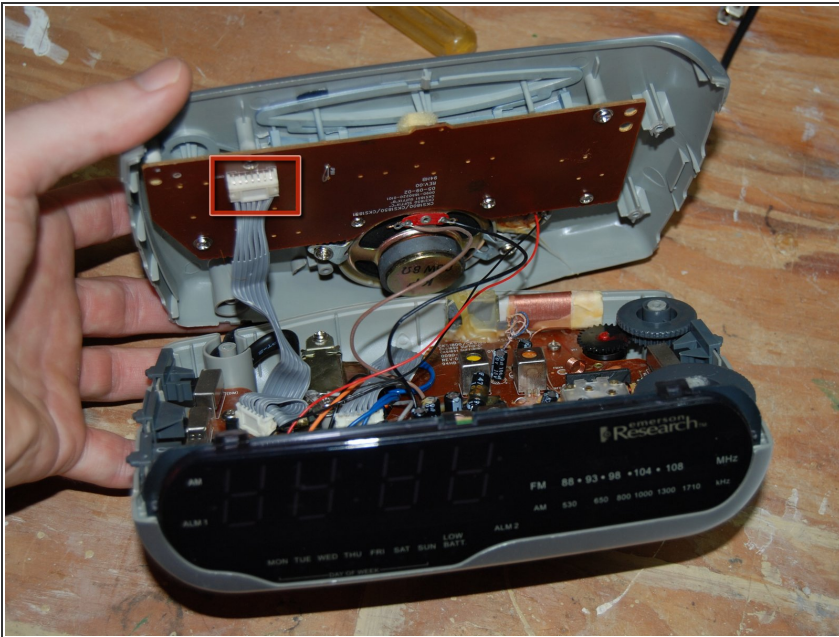
- The Emerson Research SmartSet alarm clock automatically sets the time through the power of black magic and voodoo when plugged in.
- That pale blue display, while calming during the day, while be so bright as to make it nearly impossible to sleep at night.
- That said, let's tear it apart.

## Step 2



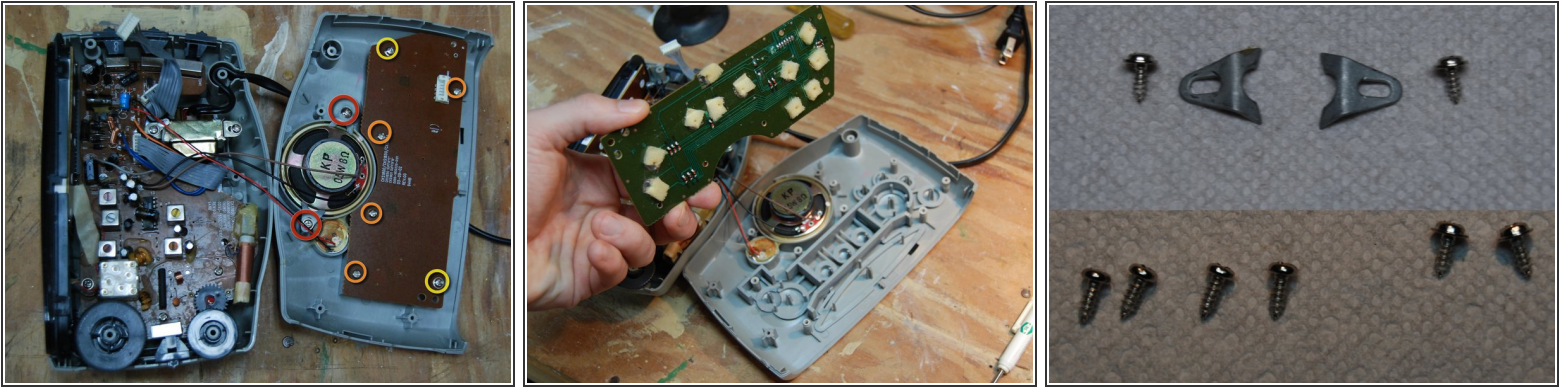
- Remove 5/16" screw and slide out battery tray.
- Remove four 1" screws.
- Note the address on the ID sticker. Maybe send them a Christmas card and see if they send one back.


## Step 3



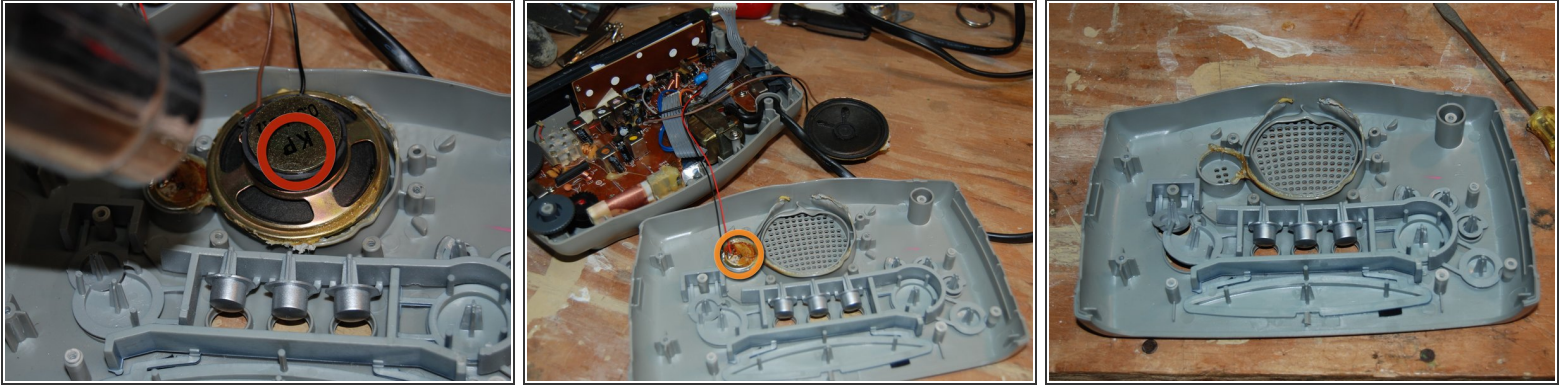
- ⚠ There is a ribbon and three wires connecting lid to bottom shell.
- Carefully, pulling from front to rear, pull away lid from bottom shell and display cover.
- ⓘ Mark this ribbon as *top*. Or not. You know your powers of memory better than me.
- Grip ribbon connector by corners (not wires) and pull straight back away from board connector.


## Step 4



-  The speaker and chime wires are soldered to the board.
- Gently lay lid flat. Imagine it's a sandwich you don't want to upset
  - Remove two 5/16" screws and two speaker brackets.
  - Remove four 5/16" screws from board.
  - Remove two more 5/16" screws from board.
  - Remove the board. Appreciate how easy everything's been so far.

## Step 5



 This is the hardest part of the teardown. Take a shot. Meditate. Prepare.

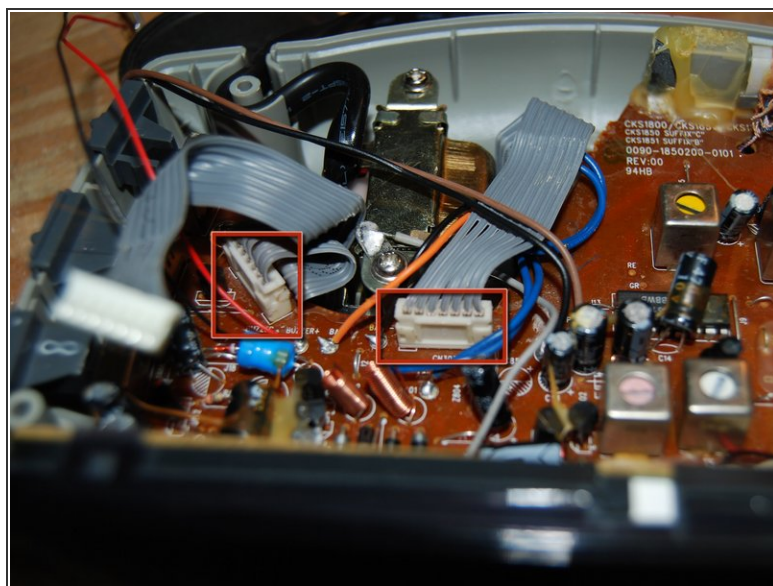
- Carefully heat the glue along the plastic frame of the speaker. It will be difficult to heat the glue without deforming the plastic frame, as gratuitous amounts of glue were used and the frame wilts at the mere suggestion of heat. For those of you who can shoot fine lasers from your eyes, this would be a fine time to utilize that skill.
- Pull the speaker away. If you're patient, you might be able to pull out the speaker without damaging the frame too badly. If patience eludes you, as soon as you apply heat, get something to use as a wedge, start prying, and pray for the best.
- Carefully heat and remove chime. This is much easier to remove than the speaker.


## Step 6



- Once you pull away the Sleep/Snooze buttons away from lid, the lid is disassembled.
- Congratulations. Hard part over.

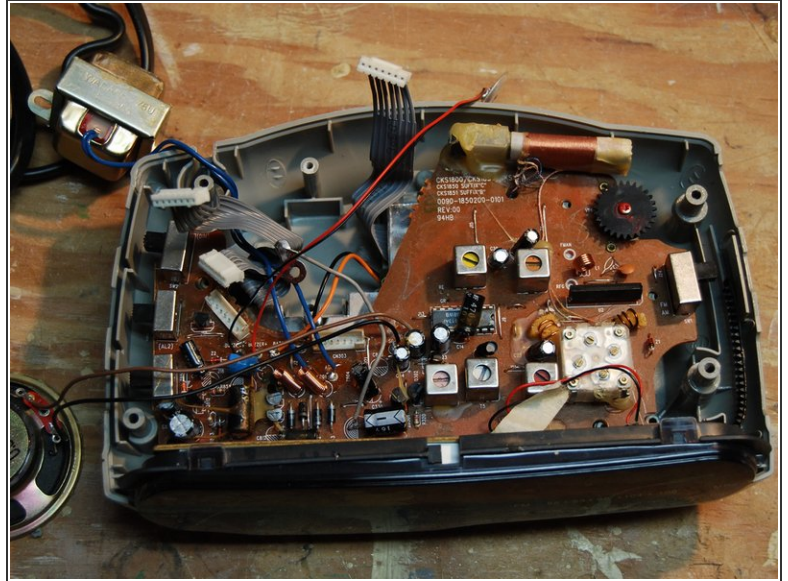
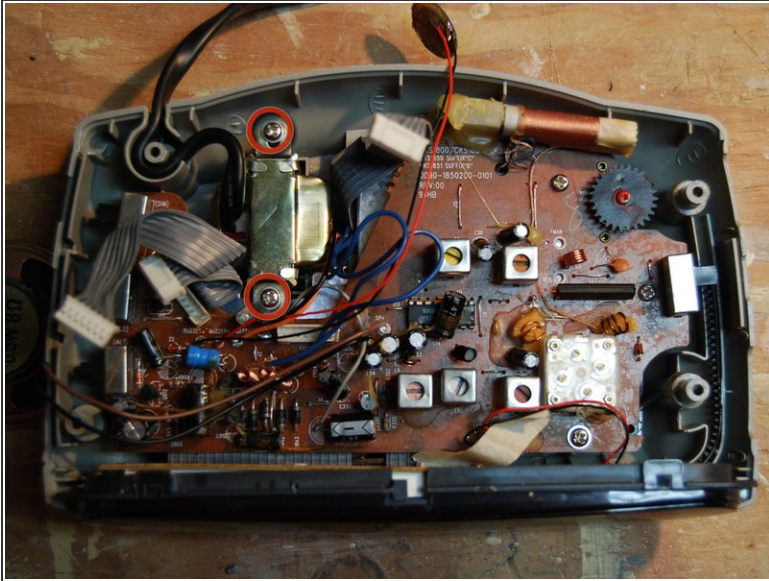
## Step 7



- Moving on to the bottom shell....
-  Mark ribbons, if desired. Left/Right, Tim/Tom—your choice.
- Remove two ribbon connectors from board. Grip each ribbon connector by corners (not wires) and pull straight up and away from board connector.

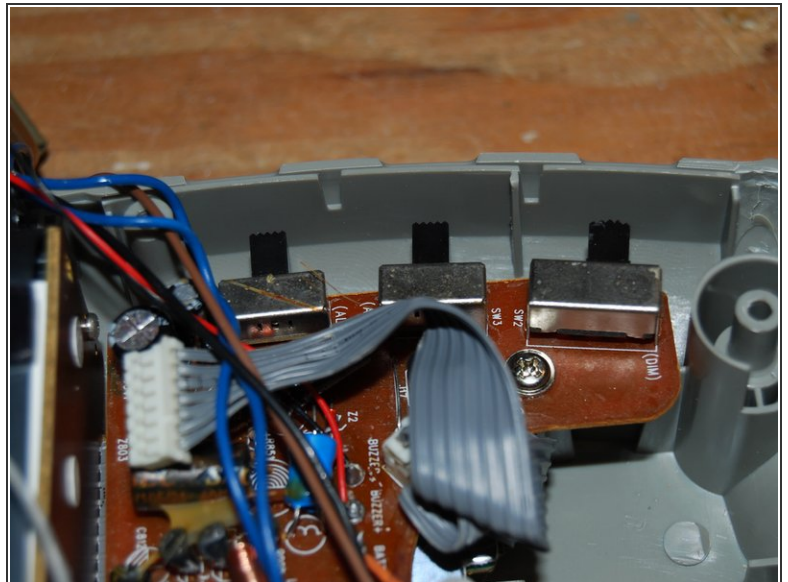
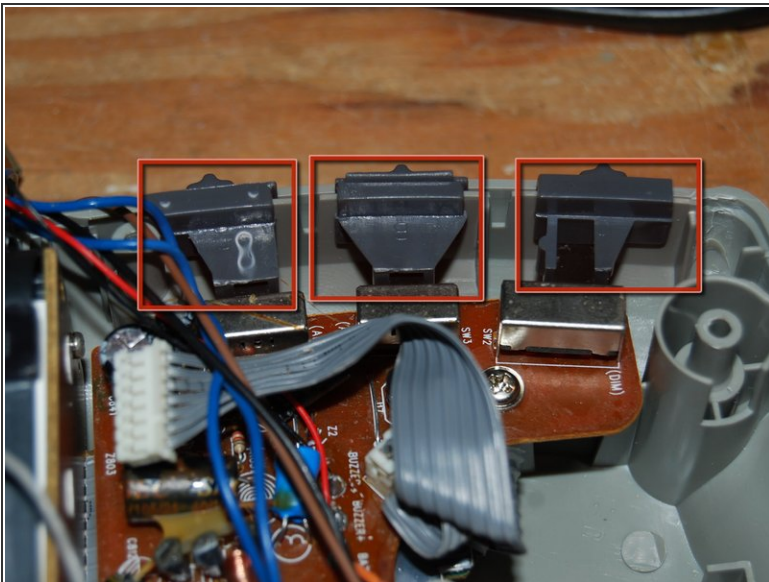
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## Step 8



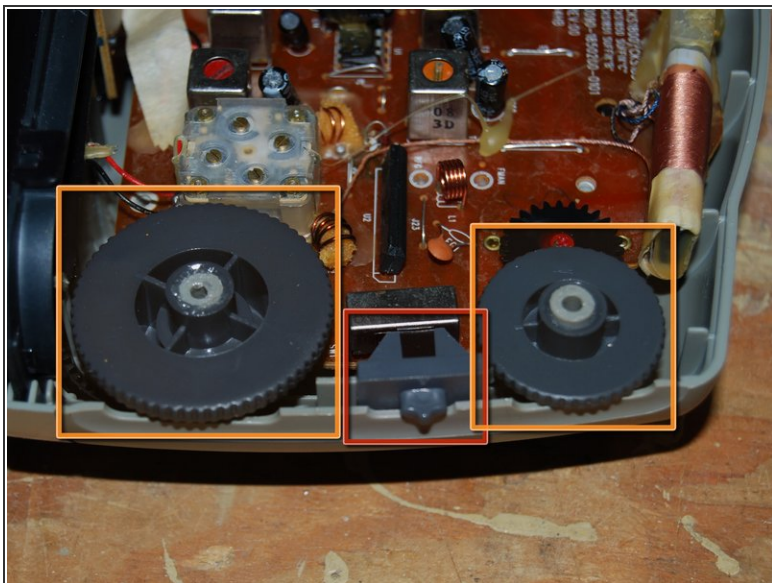
- Remove two 9/16" screws from power source.
- Remove power source from bottom shell.

## Step 9



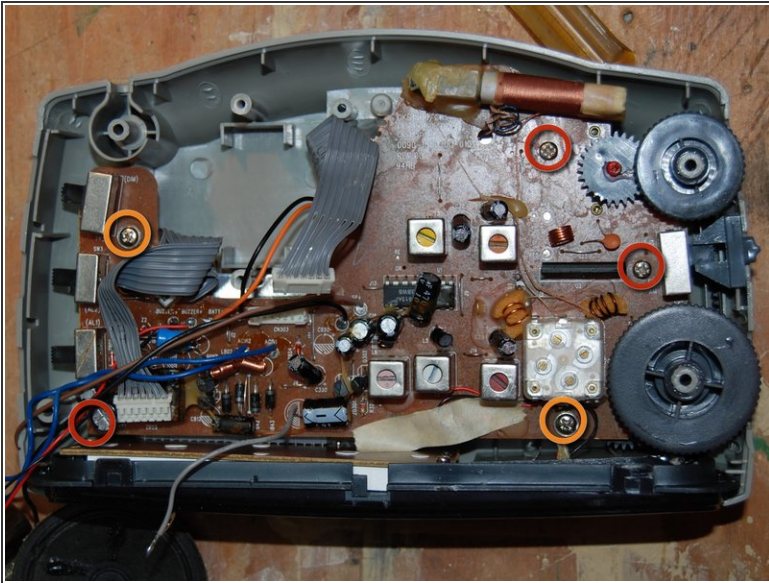
- Remove three selector switches. They pull off easily. Note their locations. Or play Tetris later figuring out where they go.

## Step 10



- Remove one selector switch...
- ...and two thumb knobs.

## Step 11



- Remove three 5/16" screws...

- ...and two more 5/16" screws.

**i** (I know you just removed those two thumb screws and switch shown in the picture. We all make mistakes. Deal with it.)

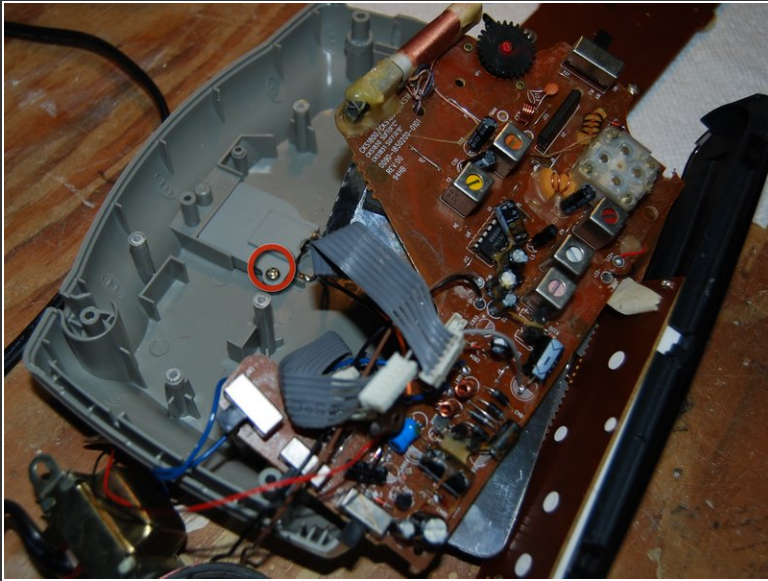
## Step 12



⚠ Don't lift the board yet: there's still a wire connected to the battery tray connector.

- Rotate board so that two screws securing the display board are accessible.
- Remove two 3/8" screws.

## Step 13



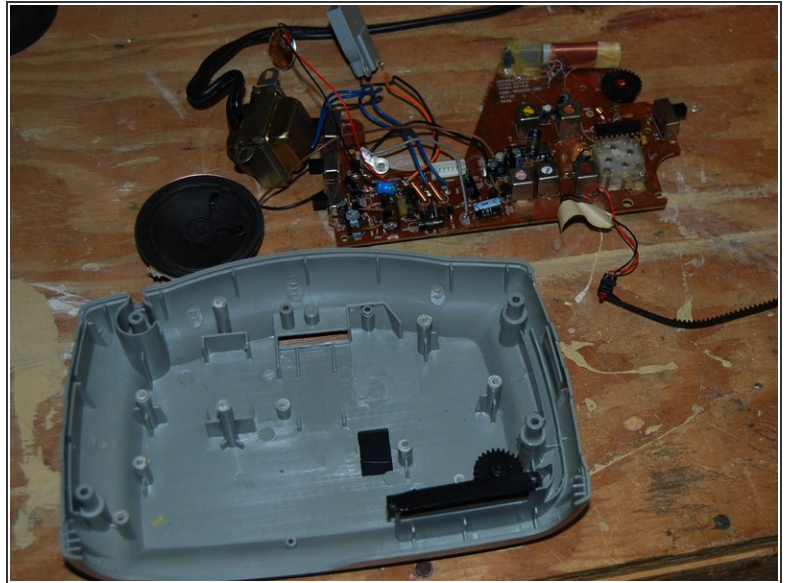
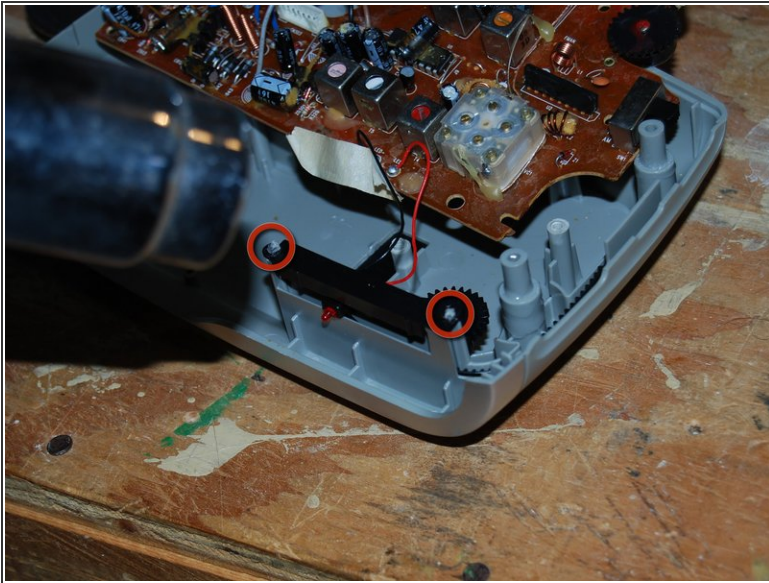
- Slide main board and display board forward to access battery tray connector.
- Remove 5/16" screw.
- Remove battery tray connector by pulling the connector away from the bottom shell.

## Step 14



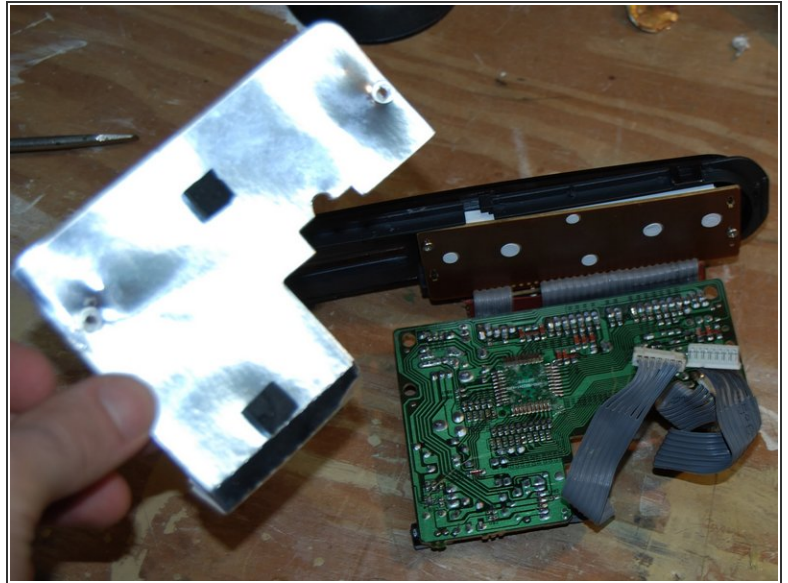
- Pull display cover and display board away from bottom shell and set aside.

## Step 15



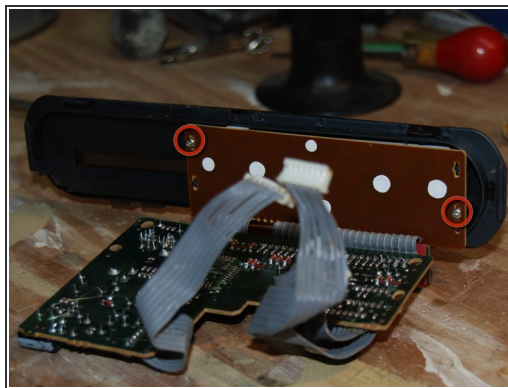
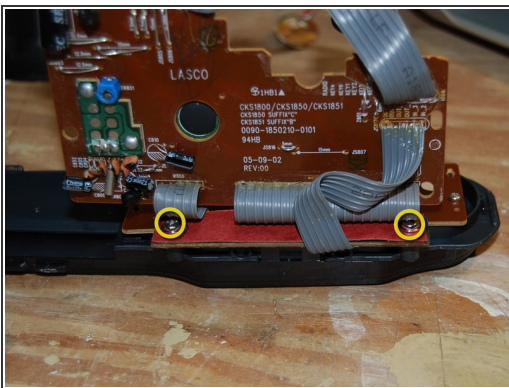
- Very carefully heat the bracket securing the radio frequency indicator LED assembly. You will likely not be able to do this without breaking it.
- Pull out radio frequency indicator LED assembly.
- Separate main board from the bottom shell.

## Step 16



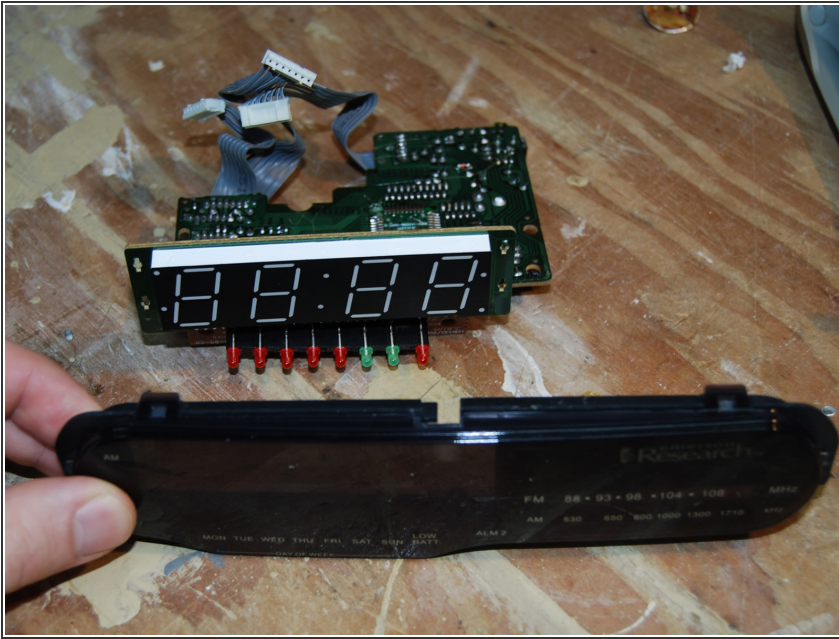
- Back to the display....
- Pull away the reflective shield.

## Step 17



- Remove two 5/16" screws.
- and two more 5/16" screws.
- Separate the display cover from the display board.

## Step 18



- Separate the display cover from the display board.

## Step 19



- You're done. Drink a beer. (Or, if you have access to it, a tall glass of horchata.)