



Samsung LED TV LE37A659 (and similar models) T-Con Board Replacement

Color problems, like a “negative image” look or...

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INTRODUCTION

Color problems, like a “negative image” look or a gradual shift to white or dark “low contrast” picture, can be fixed on multiple TV models by replacing the T-Con board (for “timing controller”).

The following guide will show you an example picture failure which could hint to a problem with the T-Con board, and focus on the replacement of such board in a Samsung LE37A659 TV. It has been known to work with many other TV models.

The guide also links to another guide which shows you how to replace the gamma controller chip on the T-Con board itself (the AS15-F IC chip), but you should only try this if you have lots of experience with SMD soldering.



TOOLS:

Phillips #1 Screwdriver (1)



PARTS:

AS15-F (1)

Step 1 — Check whether the issue is with the T-Con board



- Typical symptoms: moiré patterns, "negative image" colors, colors with low contrast and turning white or dark over time, image distortion. See sample pictures.

Step 2 — Open the back cover



⚠ Before you begin, be sure to unplug the TV.

⚠ **Caution:** The circuit board contains capacitors (they look like cylinders) that can shock you if they discharge. Be careful not to touch them as you work. If possible, use a [capacitor discharge probe](#) to safely rid the capacitors of dangerous charges.

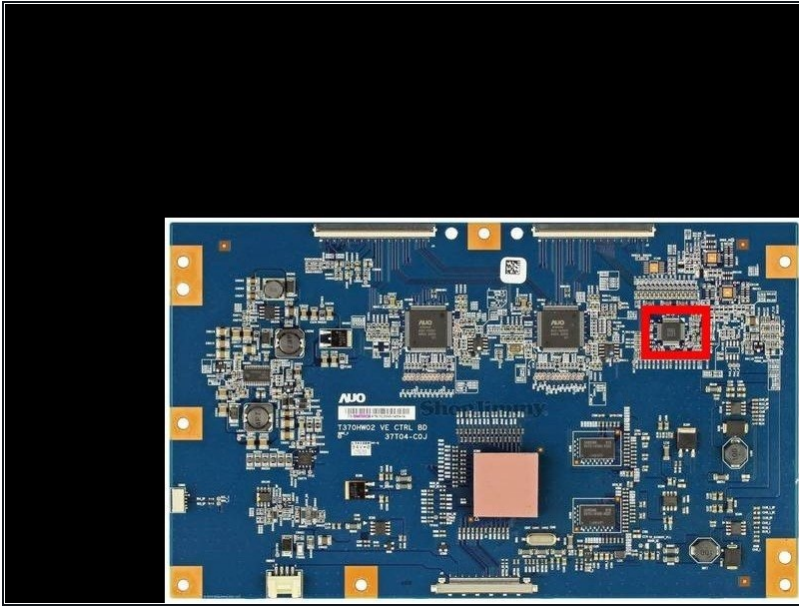
- Put the TV on a large, flat surface with the display facing down.
- Loosen all screws which hold the back cover. They are all the same size except for one (which is marked with an orange arrow in the picture). Be careful with the four screws in the lower center region - they hold the stand (the base).
- Take off the back cover without applying force. Collect all screws in a box or leave them sticking in the back cover - inside you will have more screws of the same type and you don't wanna lose count.

Step 3 — Removing the T-Con Board



- This is the interior of the TV, with the top facing you (bottom side of the picture). You see the power supply board in the center, and the main board. The T-Con board is hidden by a metal cover.
- To get to it, we will have to remove all screws on the parts that cover it. Luckily, the screws are marked with an arrow symbol.
- Remove the wall mount bar by loosening the two screws.
- Remove the metal part on the top which also is blocking access to the T-Con board.
- Remove the T-Con board connectors.
- Remove the 5 screws holding the T-Con boards and it's metal cover.
- Now you can carefully shift away the metal cover of the T-Con board below the other metal bar.
- Two flat ribbon cables are connected from the display to the T-Con board. They can be removed by carefully unlocking the socket (take some plastic lever or your fingernail and turn up the black hinge).

Step 4 — Replacing the TCon board or the AS15 chip



- The LE37A659 has a T-Con T370HW02 or similar. Find the T-Con number and search for the spare part on the internet to replace it.
- If you want to try to solder the AS15 chip yourself, it's the one marked red in the picture. Most similar TVs by Samsung have that chip, too, but the location may differ. You can buy it as spare part on ebay.
- I did not do the SMD soldering part myself (someone nice did it for me instead), but if you want to do this yourself here are some good pictures how to do it: <https://www.berlin-repariert.de/t-con-re...>

Step 5 — Reassembly



- Carefully put back the flat ribbon cables in the socket and push down the black lever.
- Continue with putting everything back together in the reverse order as you disassembled it.
- If you test your TV now, and vertical stripes appear which were not in the picture before (see sample picture), the flat cable does not correctly sit in it's socket or some contact ends are loose / scratched off. Put the cable cleanly in the socket and fix it correctly.

Put the TV parts back together in the reverse order. Ideally you have remembered before where which screw belongs to.