

S.E.R. FAQ **NotTaR of Television Sets** : [Troubleshooting tips](#)

[Home](#) [Copyright](#) © 1994-2007, Samuel M. Goldwasser. All Rights Reserved. Reproduction of this document in whole or in part is permitted if both of the following conditions are satisfied: 1. This notice is included in its entirety at the beginning. 2. There is no charge except to cover the costs of copying. I may be contacted via the [Sci.Electronics.Repair FAQ](#) (www.repairfaq.org) [Email Links Page](#).

[Download](#)[Feedback](#)

[<< Warning about disconnecti..](#) | [Index](#) | [Program to aid in diagnos.. >>](#)

Troubleshooting tips

Many problems have simple solutions. Don't immediately assume that your problem is some combination of esoteric complex convoluted failures. For a TV, it may just be a bad connection or blown fuse. Remember that the problems with the most catastrophic impact on operation like a dead TV usually have the simplest solutions. The kind of problems we would like to avoid at all costs are the ones that are intermittent or difficult to reproduce: the occasional interference or a TV that refuses to play 'StarTrek Voyager'.

If you get stuck, sleep on it. Sometimes, just letting the problem bounce around in your head will lead to a different more successful approach or solution. Don't work when you are really tired - it is both dangerous (especially with respect to TVs) and mostly non-productive (or possibly destructive).

Whenever working on precision equipment, make copious notes and diagrams. You will be eternally grateful when the time comes to reassemble the unit. Most connectors are keyed against incorrect insertion or interchange of cables, but not always. Apparently identical screws may be of differing lengths or have slightly different thread types. Little parts may fit in more than one place or orientation. Etc. Etc.

Pill bottles, film canisters, and plastic ice cube trays come in handy for sorting and storing screws and other small parts after disassembly. This is particularly true if you have repairs on multiple pieces of equipment under way simultaneously.

Select a work area which is wide open, well lighted, and where dropped parts can be located - not on a deep pile shag rug. The best location will also be relatively dust free and allow you to suspend your troubleshooting to eat or sleep or think without having to pile everything into a cardboard box for storage.

Another consideration is ESD - Electro-Static Discharge. Some components (like ICs) in a TV are vulnerable to ESD. There is no need to go overboard but taking reasonable precautions such as getting into the habit of touching a **SAFE** ground point first.

WARNING: even with an isolation transformer, a live chassis should **NOT** be considered a safe ground point. When the set is unplugged, the tuner shield or other signal ground points should be safe and effective.

A basic set of precision hand tools will be all you need to disassemble a TV and perform most adjustments. These do not need to be really expensive but poor quality tools are worse than useless and can cause damage. Needed tools include a selection of Philips and straight blade

screwdrivers, socket drivers, needlenose pliers, wire cutters, tweezers, and dental picks. For adjustments, a miniature (1/16" blade) screwdriver with a non-metallic tip is desirable both to prevent the presence of metal from altering the electrical properties of the circuit and to minimize the possibility of shorting something from accidental contact with the circuitry. A set of plastic alignment tools will be useful for making adjustments to coils and RF transformers.

A low power (e.g., 25 W) fine tip soldering iron and fine rosin core solder will be needed if you should need to disconnect any soldered wires (on purpose or by accident) or replace soldered components. A higher power iron or small soldering gun will be needed for dealing with larger components.

CAUTION: You can easily turn a simple repair (e.g., bad solder connections) into an expensive mess if you use inappropriate soldering equipment and/or lack the soldering skills to go along with it. If in doubt, find someone else to do the soldering or at least practice, practice, practice, soldering and desoldering on a junk circuit board first! See the document: [Troubleshooting and Repair of Consumer Electronic Equipment](#) for additional info on soldering and rework techniques.

For thermal or warmup problems, a can of 'cold spray' or 'circuit chiller' (they are the same) and a heat gun or blow dryer come in handy to identify components whose characteristics may be drifting with temperature. Using the extension tube of the spray can or making a cardboard nozzle for the heat gun can provide very precise control of which components you are affecting.

For info on useful chemicals, adhesives, and lubricants, see "Repair Briefs, an Introduction" as well as other documents available at this site.

[<<Warning about disconnecti..](#) | [ToC](#) | [Program to aid in diagnos..>>](#)