

Are You Suffering VCS Distress?

By Henry B. Cohen

With the Atari service fee a fixed \$36.50 plus shipping, the following step by step guide is offered to help solve the most common ailment of older VCS machines. The information was relayed to this writer by a service technician at Atari who must remain anonymous. Atari keeps all of its technical data confidential, and so a thorough guide to at-home repairs is not possible to prepare.

If, however, your VCS is exhibiting the following symptoms, this fix is probably for you.

Problem: After several seconds to several minutes of play all color is lost. Turning the machine off and on cures the trouble but only for a few more minutes. You may lose color, the remaining pattern is snowy or herringboned, the game is virtually impossible to play but sounds remain normal. The condition may come and go.

The solution lies in the fact that, due to FCC regulations, two capacitors are wired into the main printed circuit board. They apparently serve to limit stray television interference. If either or both of these capacitors fails, you will see the conditions described above. Simply removing the capacitors will instantly establish if they are the cause of the problem. They are not necessary for the game to work properly—only to maintain FCC radiation regulations. If your troubles clear up immediately, the capacitors are causing your problems and replacement is necessary.

Before going into repair details, the

following cautions are necessary. First, never work on any piece of equipment without unplugging it from its AC power source. Second, if you are not skilled at soldering find a friend who is. This is not the time to learn a new skill or practice your technique. Last, there may be some voltage stored in the large (illustrated) power capacitor. While it probably won't harm you, keeping your fingers away from the emanating leads and circuitry is a good idea. If you inadvertently short out the capacitor, cause its leads to touch themselves, or make contact with the common ground wiring (printed onto the circuit board) you will discharge the capacitor. This will usually result in a loud crackling noise. It may sound frightening, but do not be alarmed. It is a normal condition when a capacitor is shorted out.

It is also good practice to keep notes as to what things looked like before you began your repair. Then you will know what everything should look like after the repair is completed. The illustrations are of a machine approximately four to five years old. Yours may, due to revisions made over time, look somewhat different. It really doesn't matter as long as you take good notes or have some familiarity with electronic circuits.

The parts needed for this repair are two .22 microfarad (.22 uf) capacitors rated at 100 volts. Higher voltage ratings are preferred, but not necessary. These parts may be found at any radio parts store or Radio Shack. The part number at Radio Shack is 272-1058, the cost 69¢ a piece. Do not use electrolytic capacitors for this repair.

Step 1: Remove any game cartridge and all controller and power wires from console.



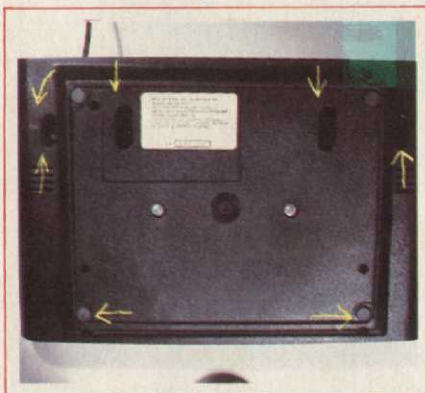
Step 2: Place unit face down and remove six phillips head screws as illustrated. Do not use any screwdriver that fits improperly or use unreasonable force. Do not loosen or remove the two silver screws located near the center of the unit.



Step 3: Turn unit face up. Ease the cover piece from the base using moderate force by lifting first the rear edge of the cover and then the front. Remove the six black rubber washers

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that rest on each switch shaft. Place the washers and the six mounting screws to the side.



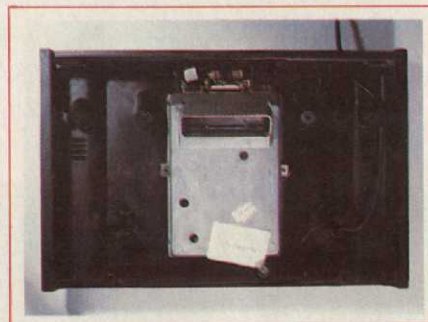
Step 4: Remove the phillips head screw on the lower right side of circuit board and lay it aside. Unplug the RCA connector on lower right side of circuit board. Gently loosen and disconnect the multi-pin ribbon connector from the console.



Step 5: Remove the circuit board. The console may be placed aside for now.



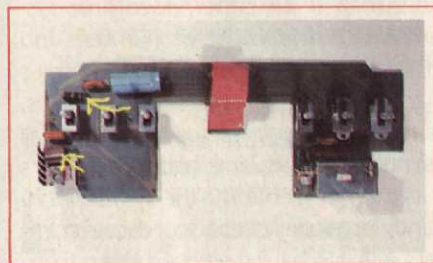
Step 6: Locate the two .22 uf capacitors on the left side of the circuit board as shown. Using a diagonal cutter (wire cutter)—not a scissors—snip the leads going to the capacitors. The unit may now be re-assembled and checked, or you may proceed to replace the capacitors without checking further.



Note: Replacement requires soldering skills. You must use a low wattage solder gun or pencil (under 30 watts) and rosin core solder. If you have little or no experience soldering find someone who does. A friend, the

local TV or radio service shop can do the job in a minute or two while you wait. The charge should be nominal.

Step 7: Reassemble the unit reversing the instructions given. Note that the two longest screws are used to join the front edge of the cover piece to the base of the console. The shortest of all seven screws is used to attach the left side of the printed circuit board to the base.



Electronic Games knows that this repair will work as published. This writer had the problem with his machine and repaired it as stated. We cannot be responsible if the repair does not work for you, or if you damage the machine through carelessness etc. Do not attempt any repair on a machine under warranty as this will void the warranty. ★