Display Corrector

for Wells Gardner 19K6100 Series Monitors
and Atari Star Wars/Empire Strikes Back arcade games

Notice Regarding this Upgrade

─────────── **Warning!** ───────────
Although this upgrade has been tested and the
techniques used will not directly cause harm to your
video game, if you do something wrong you can very
seriously damage the game electronics!

To perform this upgrade you should:

- Be familiar with safe handling procedures for electronic components.
- Have soldering skills and proper equipment.
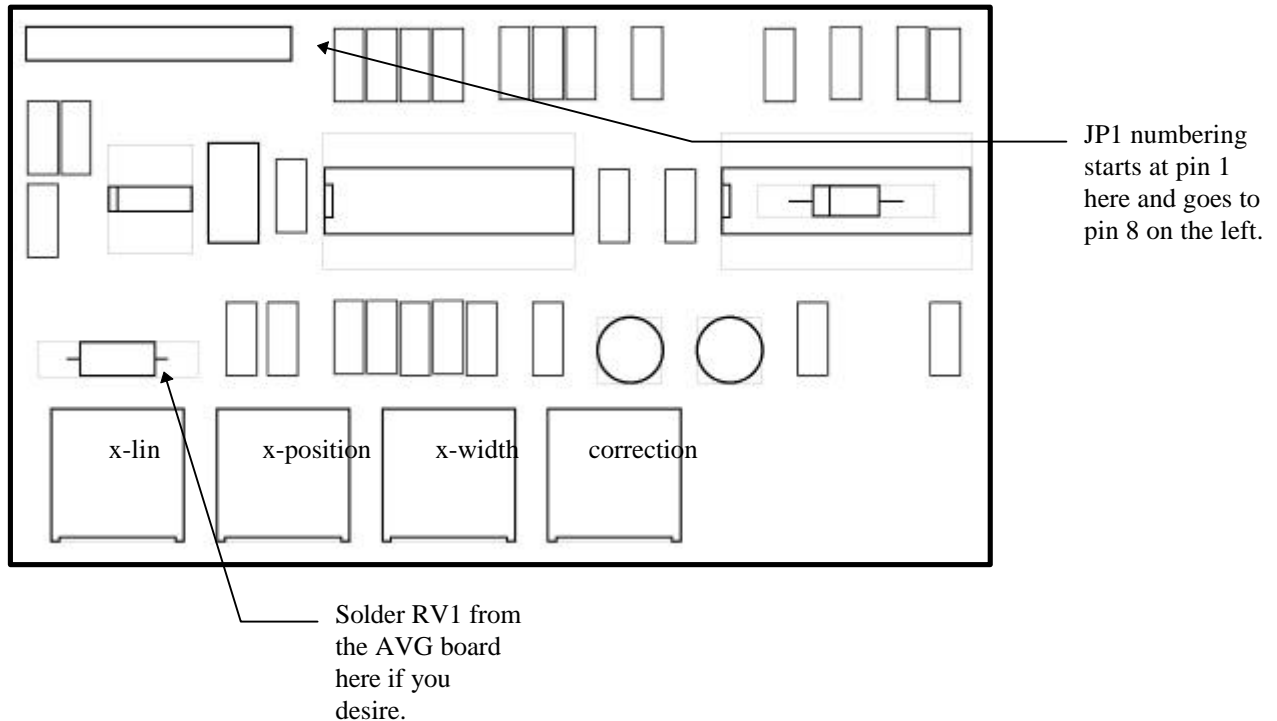- Be able to follow directions.

Arcade games are rugged equipment, but anytime you start messing around with something (particularly something electronic) you accept a certain amount of risk that you may break something.

This kit carries with it no guaranty of compatibility to your particular game. Although this kit has been tested in numerous Star Wars arcade games, there's a remote possibility that some of them are different. If you carefully follow these instructions, you should do fine and everything will work. I'll try to help walk you through any problems you have, but if this looks like it's above your confidence level please recruit someone locally to install the kit for you!

Please read these instructions completely through before starting. If at any point your PCB looks significantly different than what you see in here, contact the dealer your purchased it from for assistance!

This upgrade should ONLY be used on a genuine Atari Star Wars boards. You will be connecting the Display Corrector to the Star Wars AVG board (A038463—the "back" board in a Star Wars boardset). Refer to the included diagrams and connect the pins on the Display Corrector to the appropriate points on the Star Wars AVG board.

Wells Gardner Display Corrector Installation and Customization Instructions For Star Wars:

JP1 numbering starts at pin 1 here and goes to pin 8 on the left.

x-lin   x-position   x-width   correction
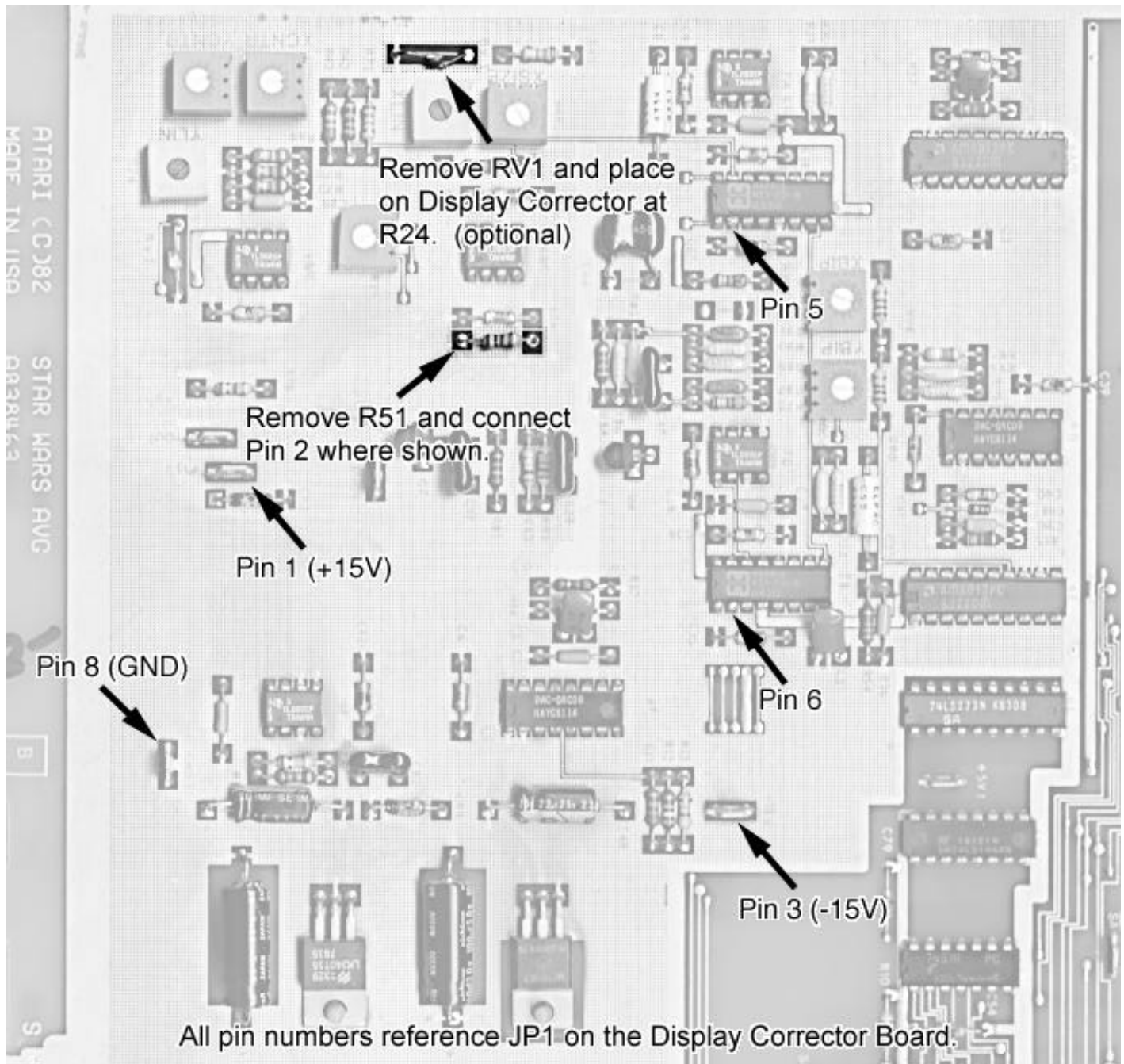
Solder RV1 from the AVG board here if you desire.

As shipped, the Display Corrector is roughly adjusted to provide a usable picture on most Star Wars boardsets. You'll need to adjust "x-position" and "x-width" for your particular boardset. Use the "cross-hatch" display in the Star Wars or Empire Strikes Back self-test mode. Once the width and position are set how you like, set the "correction" amount to your liking. You won't be able to get perfectly straight lines, but it'll be a vast improvement. The "x-lin" control will not have any effect unless you install RV1 from the AVG board into the R24 position on the display corrector.

Hints/Tips:

- Get everything hooked up and working before you remove RV1 and place it on the Display Corrector.

- If you want to be able to see "before and after" effects of the Display Corrector, put a switch in line with Pin 6 on the Display Corrector. An open-circuit on Pin 6 will disable the display corrector. (Use for "multigame" cabinets too.)

- The .1" header on JP1 can be mated to a standard .1" header cable. You can solder directly to the pins if you prefer. (I use the header to test each Display Corrector before I ship it.)

- Try to keep wire lengths short to avoid picking up interference.

- The LEDs light if the +15V and -15V supplies are on. If either LED is significantly brighter than the other check your AVG voltages.

No more easter-egg shaped Death-Star explosions in Star Wars!

Remove RV1 and place on Display Corrector at R24. (optional)

Pin 5

Remove R51 and connect Pin 2 where shown.

Pin 1 (+15V)

Pin 8 (GND)

Pin 6

Pin 3 (-15V)

All pin numbers reference JP1 on the Display Corrector Board.

The 8-pin .1" header on the Display Corrector should be connected to the Star Wars AVG as follows:

Display Corrector Header Pin	Location on AVG
1	+15V test point
2	R51 pad closest to "Star Wars AVG" lettering on end of AVG board
3	-15V test point
4	No connect
5	Pin 2 of 7B (LF13201 or HI3-201-5 usually)
6	Pin 2 of 7E (LF13201 or HI3-201-5 usually)
7	No connect
8	Ground test point