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If you have one of the Atari ST computers with the SM124 monochrome monitor, chances are quite good that you have come to accept the wide (black or white) border surrounding the usable area of the screen. You may have thought -what a waste-, but probably only grumbled about it, and went back to work. If you've got the time (about 15 minutes) the tools (3 or 4 available from any Radio Shack), and the nerve (not too much needed), this article will explain how you can have a LARGER, usable screen!

**Tools:** You'll need

- a **Phillips screwdriver**, preferably a #1 size,
- two TV tuning tools:
  - a **hex-tool, 3/32'**,
  - and a **flat blade tool** (screwdriver like) around **1/8'** in width.Both of these tools should be made of insulated (**plastic**) material, the longer the better.
- A make-up mirror or similar mirror is handy also.

You might also want to lay down a thick towel on your work area so that you won't scratch up the face of your monitor. Make sure that you give yourself enough working space for both the monitor and the CPU/Keyboard as you will need to have them hooked up to make the adjustments.

Boot your system with either the desktop, with one or more windows opened, or call up a text file. The Ideal situation is to have text reaching all four corners of the screen, so you will be able to compare one 'edge' to the other.

Now unplug your monitor power cord from the socket in the cabinet, and turn the monitor around so that the rear of the case is facing you. Place the towel or padding on the work area in front of you and carefully tip the entire unit onto the glass face. Using the Phillips screwdriver, remove the 5 screws holding the cabinet together (two on the bottom, one on each side about 3/4 of the way up, and one just above the power cable socket. Once these have been removed, put them somewhere out of the way where they won't be lost (a cup or bowl works good for holding parts). Now gently lift straight upwards on the rear sides of the case, and it should begin to lift away. TAKE CARE! You still have the speaker wires connected to the case, and there is not too much extra slack. Carefully reach into the case and find the speaker connector that attaches to the monitor main board, and pull it straight away from the board to disconnect it. Don't be too concerned about the orientation of the plug, as it will work in either direction. Once you have done this, continue to lift the rear section of the cabinet, feeding the CPU-Monitor cable through the opening as necessary.

Set the cabinet well out of the way, and we get into the real MEAT of the mod! Tip the monitor back on to its bottom and arrange the mirror so that you can see the screen while working at the rear of the unit. Re-connect the power cord to the monitor and be VERY CAREFUL where you put your fingers, as there are some HIGH voltages in there Jack! Grab your plastic flat-blade tool and start looking along the right rear of the motherboard. Near the front of the board, neatly tucked between the CRT and a heat sink/power board is a row of **3 adjustable controls or potentiometers** about 1/2' in diameter. They are labeled, **-VLIN-**, **-VSIZE-** and **-VHOLD-**. We will be adjusting the **-VSIZE-**, which is the middle of the three. Gently slip your tool into the slot of the pot, and while watching the screen in the mirror, begin

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to turn the tool slightly (don't put too much pressure on the pot, as that can affect the setting). The top and bottom of the screen will begin to move, together or apart! Expand the screen to within approximately 1/2' to 3/4' of the top and bottom of the plastic frame on the front of the monitor.

That task done, we will swap tuning tools, going for the **hex**-shaped one. Looking near the left rear corner of the mother board, close to where the power cord socket is located, you will find a plastic shaft with a slot in it sticking straight up from the board, and just ahead of that, a strange looking device composed of a small diameter tube, with what appears to be a couple of spools of wire on it, an **adjustable coil**. Inside that tube, there is a small, somewhat fragile core of graphite, which WILL break if mistreated. Gently lower your hex-tool into this tube, and you will feel it slide home into the core. By turning this core (without pressing down on the core) gently in a **clockwise** direction, and watching the mirror, you will see the screen shrink slightly at first, but then grow **WIDER!** Remember to leave about 1/2- to 3/4- border from the plastic bezel.

What may have happened is that not only did your picture get larger, but also it looks off-center. We can fix that by adjusting the **magnets** at the end of the CRT 'neck's. The magnets look a lot like Q's about 1 to 2 inches forward of the wiring at the very end. They are colored dark grey or black and have a little 'ear' sticking out so that you can adjust them to get the picture back centered on the screen. Don't worry about touching the magnets, but keep your hands away from wiring that may be 'HOT'. Once you get the picture well centered, you may have to re-adjust the two size controls, as they are all inter-related.

Once you have the size and orientation to your liking, it is time to **sharpen** up the screen image. Remember the **slotted plastic shaft at the left rear of the motherboard?** This is the **-FOCUS-** control, and you can adjust it with your flat-blade plastic tool to get things back to tack-sharp. Now you have a CUSTOM TUNED monitor that should be much easier to read and use, and you did it yourself!

To **re-assemble** the monitor, unplug it first for safety. Then slide the CPU-Monitor cable through the rear cabinet section, and with your third hand (if you are Zaphod Beeblebrox) remember to re-connect the speaker wires. There is an indicator as to which way it was originally connected. One side has two slots, and the other side only has one, but the speaker WILL work even if the connector is reversed. If you feel adventurous, you might want to add on an AUDIO OUT jack to these leads.

Finally, having re-assembled the screws and the case in general, re-connect the monitor to the CPU and enjoy the BIG PICTURE! If you have any problems, check first that the LED at the front of the monitor is lit indicating that there is power to it. If not, you may have a loose power cord or you might have blown a fuse. The fuse is located on the vertical power board at the side near the VSIZE pot and can be easily found at Radio Shack.

Enjoy your 'New' monitor and if you have any questions, you can leave me a message on CompuServe at PPN 75046,476