How to paint your computer case

Introduction

I will start by stating I am not an expert paint master of any kind, simply a hobbyist that has some knowledge about what works. If you find a way to improve on this document, feel free to send me your addendum/changes, and It will be a pleasure to update it for all to have and learn. Email me a Word or text document or a simple email at TexasTandyRestorations@gmail.com. Please make sure you give me your name and state so I can provide proper credits to changes.

This method could pretty much be applied to any ABS/plastic surface you want to paint. It is not about stripping all previous paint and redoing it from bare skin, but to give it a new, cleaner look and remove the decades of use it is showing.

Note: If your belief is that a scratched-up unit with original 1980s paint brings more value to your system, I will say this: sure, if you're a collector with a serial No. 000001 machine; otherwise, it's just a computer. If you feel differently, I respect your choice, but this is not about the debate over should you or should you not do this.

This is a document to help someone do it because they want to and, hopefully, to not get hideous results like the 8-bit guy and his Coco repaint video. If you have not seen the video, look it up on YouTube, then know that everything he explains in that video that is paint related *is wrong!* Please do not duplicate what he did unless you want the same crappy results.

Now, in my explanation I use two spray products: one is commercially available over the counter at most auto paint shops or, I assume, online; and the second is the paint primer. Priming the computer case (which I will refer to as "skins") properly is as important as the preparation to the priming you will do, leading to the actual painting of the skins.

If any base layer of the process is "cheaped out" during prepping, cleaning, sanding and priming, this will be reflected as faults at the paint level on the final product. Period. If you're trying to do all this document entails in one day, then stop now; do it another time, please.

Ready? Let's proceed.

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The process to paint the skins on your computer is not difficult once you understand the mistakes that are commonly made and do not perform them yourself.

Process to repainting:

1. Strip computer of everything that will not be painted
2. Remove all unwanted labels, stickers, and glue
3. Sand and remove scratches/dings
4. Final wiping/cleaning
5. Priming
6. Painting
7. Reassembly of hardware
8. Rest and beer

Tools needed:

Aside from the obvious screwdrivers and cutters you will need to remove the hardware from the computer lower and upper case, you will need a TROX 10 or 15 (I've seen both) to remove, if you have the luck of such a model as not all are removable, a removable bezel. If you have a non-removable bezel model, I will cover that in the prep section of this document. Just know your "taping" skills will be put to the test.

I use:

- 800, 2000, 3000 and 4000 grit "wet or dry" 3M Imperial sandpaper
- 99.99% isopropyl alcohol
- Blue painter tape
- Heat gun
- Sem #39133 Primer, « Flexible Primer Surface »
- Colour Match by Tasco Aerosol Spray Paint Can (or any other colour you want to do or use)
- Razor blade (*sometimes needed*)

Strip computer of everything that will not be painted

I assume you know how to take everything off your lower and upper portions of your case (if you don't, contact me). Before we move to the next step, I only have one mention:

If you have a screwed-in-place CRT bezel, read the following:

You will need to remove the CRT to remove your bezel because there are two hidden screws (see image) beneath the CRT. Then you will need to remove the five screws that are already removed in the image, and then gently remove the Radio Shack label between the disk drive to show the last three screws. The bezel will then come right out.

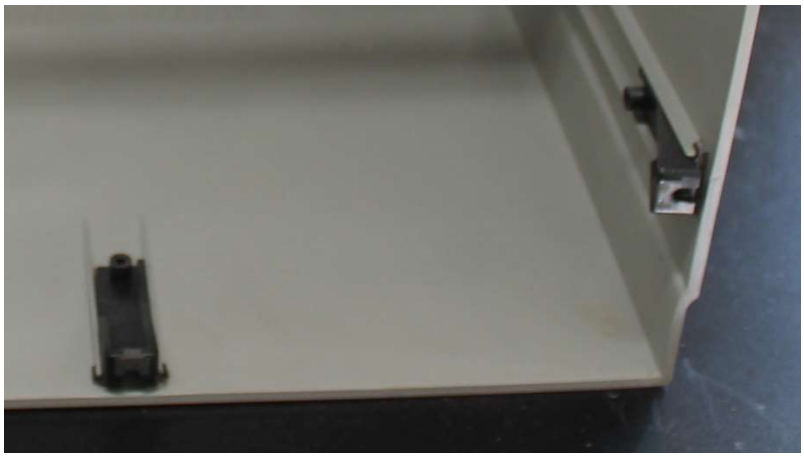
If you have a non-screwed-in-place CRT bezel, read the following:

If you are unfortunate to have one of the earlier cases that were NOT screwed-in-place but plastic welded-in-place, well, there isn't a way to remove it unless you break the welds and then "re-weld it," which I strongly suggest you DO NOT DO.

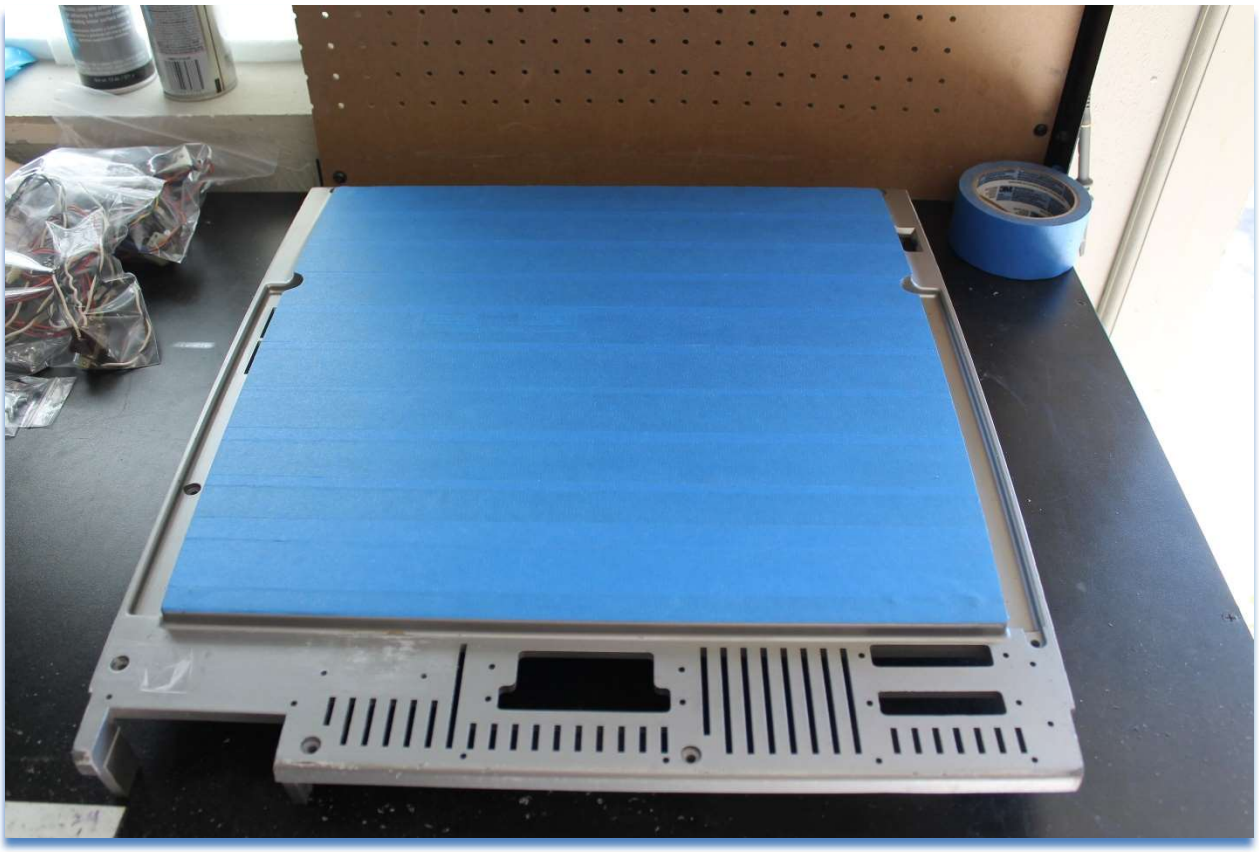
This is where taping skills come in handy. The easier way out of this is to basically block the bezel from being painted by using blue painter's tape. Also, since you cannot remove the bezel, you can just leave the CRT in place. Tape it from edge to edge using the CRT as surface to make your taping easier. If it goes past the bezel edge, just cut it off by sliding the razor blade between skin and bezel and voila!

(NOTE: this photo was taken for another job I did that had a non-removable bezel. Notice no screws between floppy drive bays.)

You do not need to remove anything else. The pillars are glued in place, so do not take them off; it does not matter for a paint job.



Next, turn over your base and remove the feet from it, and tape the center part. Why? Well, first, it means less painting, but, if you observe your base, you will notice this is how it was done at the factory. The ABS plastic is bare in the middle where labels are located.



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Now is your chance to address scratches and dings, using your 800 and 2000 grit sandpaper. You should run it lightly on the existing paint to permit better adherence to the old base. I normally sand the entire skin's surface (aside blacked-off areas). The idea is to score the old paint and wear out the scratches into a smooth surface. Deeper dings I usually leave alone; it's a choice. If you want or have a ding deep enough that requires "bondo," then this would be the time to do it. Make sure it cures 24 hours and then sand to level with the rest of the skin before priming it.

Below is side-by-side image of the same computer, before and after sanding.

So, no matter how bad you think it is, it's likely only surface issues which, with a bit of patience, will become better.

With ABS, how you sand depends little on if you do circle or straight lines, but more on pressure. It will make the difference between looking sanded or scarred. So easygoing takes longer but gives the best results.

This is plastic, not steel. The harder you press into it, the more heat you generate. The more the plastic softens, the more the sandpaper rips into it, causing "micro shredding," making the surface worse than before rough to the hand versus smooth.

As the examples above show, with a bit of sanding and patience, you can improve on the faults, moving the skins from the rough look to a ready-to-be-repainted surface.

Now, once you are happy with the results, get a clean rag and wipe it all down twice. Removing sanding dust is important because it contains silica broken beads, and that will hinder the quality of your priming job that is to follow.

My habit is to wipe it down with a dry cloth, and then I use 99.99% isopropyl alcohol and give it a once over. Why? Because it dries extremely fast, leaves no traces of itself and the wetness will pull the micro dust from the scoring you have been doing with your sandpaper. This preps the surface for maximum adherence so the primer will get the best possible grip on it.

In general, you will find the lower portion of your skin is usually less damaged than the upper portion because the rubber feet take most of the hits, but you need to sand/clean it as well or the primer will bubble on the old paintjob.

When done, have a beer and read the rest on paint principals. This will save you endless hours of problems and fixing it later.

Before any priming or painting, shake the aerosol can. Not one minute, not until you hear the ball bearings inside the can move about or guess it's flowing around freely enough… Your guesses, all of them, are wrong. Period.

Aerosol is composed of three things, paint, thinner and propellant, and they will set in layers when the can is not in use. So that can of paint/primer that has been sitting in the store for weeks is surely now in a petrified version that state.

Shake the can, horizontally and vertically, inverting it head down and back up, for at least five to six minutes; 10-12 for one with flakes in it (such as I use).

Failure to "mix" the paint properly will lead to clogged nozzles, spitting, inconsistent layering and change of pressure, causing heavy applications then light and "puddling" on the surface you're trying to apply it to.

Spray painting do's and do not's

1. How to spray

Spray paint distance is recommended eight to ten inches away, perpendicularly from surface to the nozzle. You begin to spray outside the area and move left to right, or right to left, in a single pass, ending the spray outside the surface you are painting. You are trying to lay an even surface of paint each pass.

DO NO perform the swing-of-the-wrist quick spray so many people do. All you're achieving is maximum application of paint in the center of the arch you're creating with your winging wrist (nearest point to surface). This causes uneven application of paint and, in almost all cases, running paint occurs.

Bob Vila explains it in these terms: "*Imagine that your arm is a paintbrush and the spray can in your hand, the bristles. Proceed to paint in a sweeping motion, stroking across the surface and then back again, letting the spray fall a few inches past each side of the workpiece. Depress the valve slightly as you hit the first edge, then completely as you go over the opposite edge. You should hear short bursts of air, not a prolonged hiss. If you just wave the can back and forth, spraying constantly, you are bound to end up with a heavy, dripping, unsatisfactory result.*"

2. Is it too cold to paint?

The temperature where you paint makes all the difference between a nice paint job and a terrible, sandy feeling when painted on the surface.

Spray paint does not work well in very cold weather. Anything under 65°F is risky; under 50°F, your paint will crack before it dries completely.

Why? Simple. It's coming out of the nozzle at about 40 mph as tiny droplets and, if the surface or air through which it has to travel is cold, it will form a "shell" before it hits the surface and will not "apply" properly; it feels rough like sandpaper to the touch.

3. My hand hurts after a few minutes of painting.

Some people have a hard time holding the pressure consistently on the nozzle. A quick and simple solution is a device that sells for a few dollars, and most hardware stores will have a version of this "spray can handle."

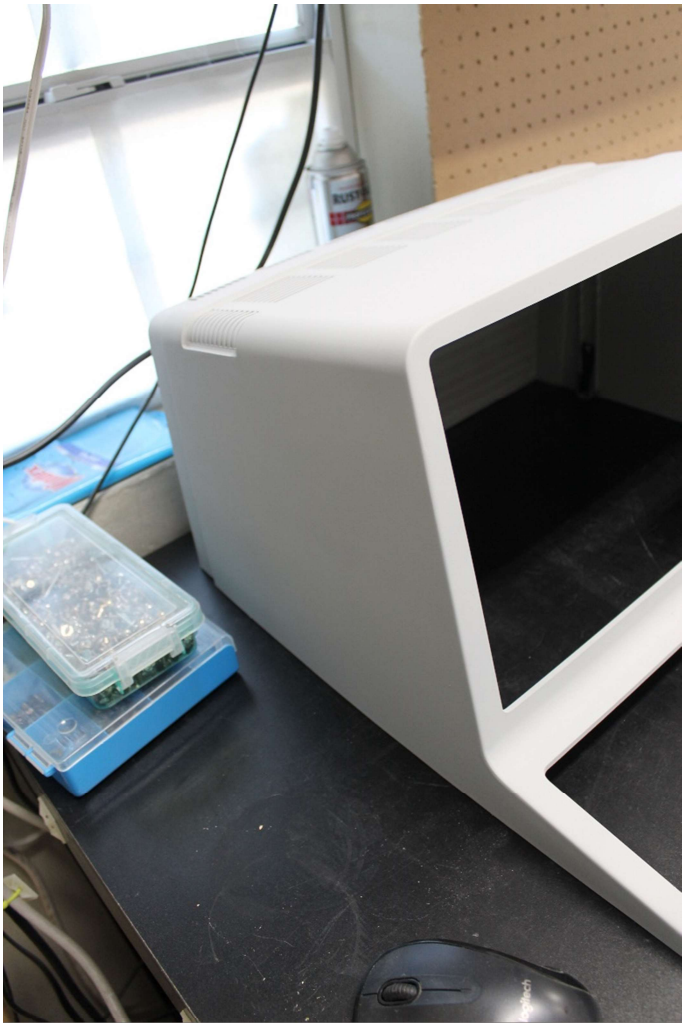
Rust-oleum makes a very good one that they sell on amazon for 8$ called the "Rust-oleum 241526 comfort grip."

So you have sanded the surface and everything is ready to begin the paint process. Yes, primer is also painting, so you paint one layer, let it dry about 30-60 minutes (depending on temperature: the hotter the weather, the less time) and then do a second pass, then a third.

At this point, it is beer time again. You need this primer to rest and bond with the old underneath it. I suggest 24 hours, but eight is usually plenty.

Like I do each time, you begin to admire your work and go, "Man, this is going to be nice," Invite your wife, who doesn't really care about your hobby, to come and see how good it is looking.Yeah, we are all like that. Pride in our work shows in the result.

Note: do not leave this in barn or shed. The morning dew will stick to the paint and you will have to "dry it out." Indoors or in an enclosed area is best to let this rest.



The following morning, you will examine it in the light of day preferably, as the sun will show defects more than standard neon lights. It is possible you will see a "shading" of the primer on the case. If you applied every layer evenly, this is not your fault; it is the primer being absorbed by the under layer.

I would suggest retouching the area with a pass or two to make sure it looks even across the whole area. Why? Because it can cause shading in the paint afterward.

From this point, I prep again for the paint.

Taking a 3000 grit sandpaper and a bowl of cold water, I dip it in to wet it and then lightly sand the whole case again, running my hand over each place I sand to make sure the primer roughness is gone, Yes, sand in a circular motion here.

Once you are done, rinse the case with fresh water and let it dry completely by either wiping it down or using your compressor to blow it dry.

It is time to proceed with the paint.

No matter what brand, type or colour you're painting your case, the same method applies; eight to ten-inch brushing passes in layers, slightly overlapping (1/8") to make complete coverage.

Note: a computer case is not a square or flat surface, especially true of the bottom case of a TRS-80 Model 3, so be aware that painting in one direction may not cover every angle or corner of your case. I use stacked boxes and walk around my case when I paint to ensure I get everything evenly laid out.

After the first coat, wait 30 minutes to one hour and paint the second coat. Wait the same amount of time again, then paint the final coat.

It's beer time once again. Rest and let the paint bond and dry at least 24 hours.

If you rush this part, you will quickly discover that the final polishing will end up in a mess if you do not let the paint dry and cure completely.

Yes, you're excited. I understand. Go ahead and call your wife to admire your work again. She will surely lavish you with "wow, looks new, well done."

This image shows the first coat of paint being applied. You can see the overlapping lines.

Once this, dries, the lines will disappear.

The last step is 4000 grit or higher wet sandpaper work.

This is ONLY to polish the surface of any tactile ridges that occurred during painting, to make it soft as a baby's bottom. This is an exercise in pressure, slow round circles, barely pressing on the paper with fingers or device. You are not here to remove paint. If it does remove some paint, then step back and touch up the area, let it dry another 24 hours and restart the polishing.

Mostly, you will feel the light grit surface on the flat surfaces, like a speckle of sand as you run you hand on it.

Once you're done, rinse with fresh water and let it dry. You're done unless, like some people prefer, you can apply ion the same way as previously mentioned in this document. Get a clear coat and apply it over the final paint job.

I do not, as the paint I acquire is from a PPG dealer. They colour matched from a Model 3 case make the paint with clear coat in it.

I hope you enjoyed this document and found it useful in one way or another.

Oh yeah… You're final project? You need to show us all! We love to see someone accomplish something so involved, yet so rewarding.

And now that your case is done and dry, time to reassemble it.