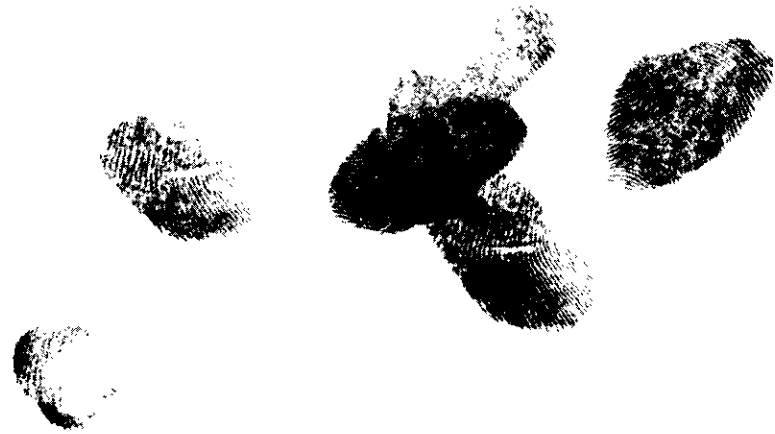
Charles Phillips



Servicescope

Tektronix products get dirty, too!

Part II—Dry cleaning

In Part I of this article we described the tools and techniques used to give your Tektronix instrument a bath, or perhaps "shower" would be a more appropriate term. There are times when the customer needs quick turn around on an instrument and can't tolerate the 24-hour drying time needed for a wet wash. In this instance, dry cleaning may serve as a reasonable alternative.

The wash booth makes a convenient place to perform the dry cleaning operation. With the side and bottom panels removed, compressed air and a small paint brush will remove most of the interior dust, unless the instrument has been in a greasy environment.

To clean the front panel you should reinstall the side covers and lightly spray the front panel only, using the 5% Kelite solution and rinsing with water. Be careful not to get excess water in the instrument. Just a little spray applied on an angle works best.

Use a toothbrush and detergent to clean the knobs and connectors, and rinse with warm water. The side covers can be removed and, along with the bottom panel, be washed separately after removing the instrument from the booth. They should be placed in the oven to dry. Compressed air is used to remove as much water as practicable from the front panel area, and the instrument is then placed in the oven for 15 to 20 minutes, or until you're ready to work on it.

The graticule and graticule cover may be cleaned as described in Part I. A word of caution regarding the use of glass cleaner—some leave a static charge on the graticule, which will distort the crt trace until it bleeds off. Soap and water is the best solution.

Air filters can be cleaned easily with detergent and hot water. A cleansing powder, such as Ajax, sprinkled on a wet filter and allowed to soak a minute or two, will help on extra greasy ones. We recommend not using oil or filter coat on any filters as there is the possibility of oil getting inside the instrument.

Cleansing cam switches

Unless you are having problems with the cam switches in the instrument, we do not recommend removing the switch covers during the cleaning procedure. You should also take care not to spray detergent into the switches.

If a cam switch needs cleaning, this can best be accomplished by removing the switch cover and spraying the switch with a 5% solution of Kelite spray white with an equal amount of ammonia (non-sudsing, non-soapy type). The switch should then be thoroughly rinsed with soft or distilled water. The switch contacts should then be sprayed with isopropyl alcohol, let set for 60 seconds, and blown out with compressed air. Occasionally operate the switch in all positions while the alcohol is still on the contact area, and while blowing out the instrument. Oven dry in the usual manner.

Cam switches need no lubrication as the switch pads are designed to operate dry for the life of the instrument.

Conclusion

Whether you wet wash or dry clean an instrument will be determined by how dirty the instrument is, and the time available to do the job. Solid state instruments can be washed as easily and safely as vacuum tube types. Precautions against spraying detergent and water directly on power transformers and covered cam switches should be diligently observed. Cleaning agents such as trichlorethylene, Freon, and others containing halogens, should not be used. They can damage aluminum electrolytic capacitors and some printed circuit board materials used in critical applications.

It takes valuable time to properly clean an instrument. However, the improvement in maintainability and the increase in user satisfaction makes the investment a worthwhile one.

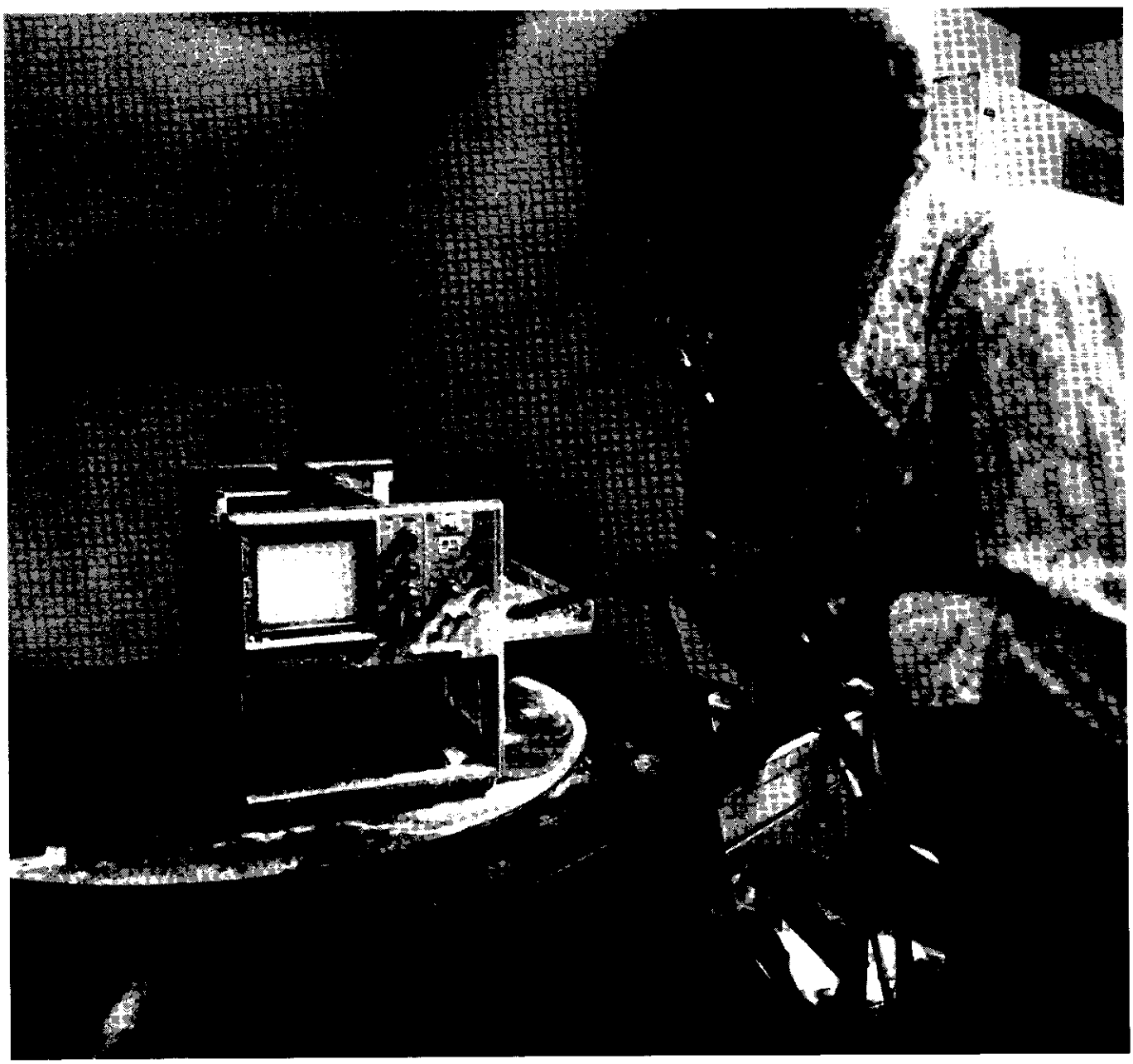


Fig. 1. Dave Phillips, Factory Service Center, washes a 7000-Series Oscilloscope.