

Sinclair Micro-TV Restoration

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After restoring the world's largest B&W TV, the monumental 1952 30 inch Dumont Royal Sovereign, I restored the world's smallest TV, my 1978 2 inch Sinclair MTV-1 pocket TV.

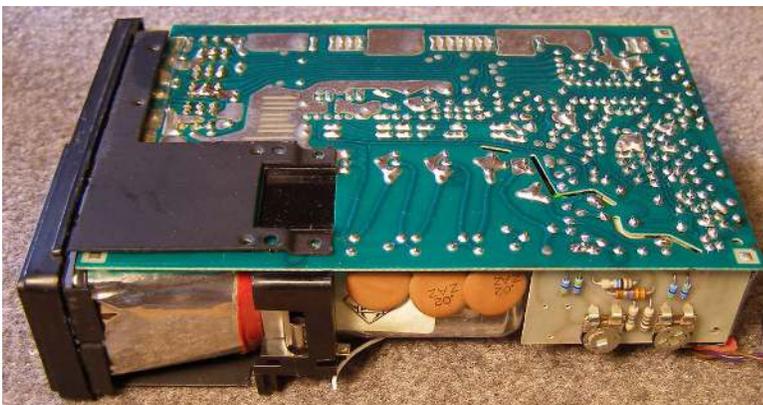
This hand-held TV, produced in England, features both European and American TV standards, an internal battery pack of 4 NiCads, and a 2-inch CRT. It covers the VHF and UHF TV bands, three different video-sound carrier spacings, 4.5, 5 and 6 MHz, and different scan rates for the various TV standards.

The circuit is a mixture of four special-purpose ICs and discrete components. A voltage multiplier generates the 2 kV high voltage for the CRT.

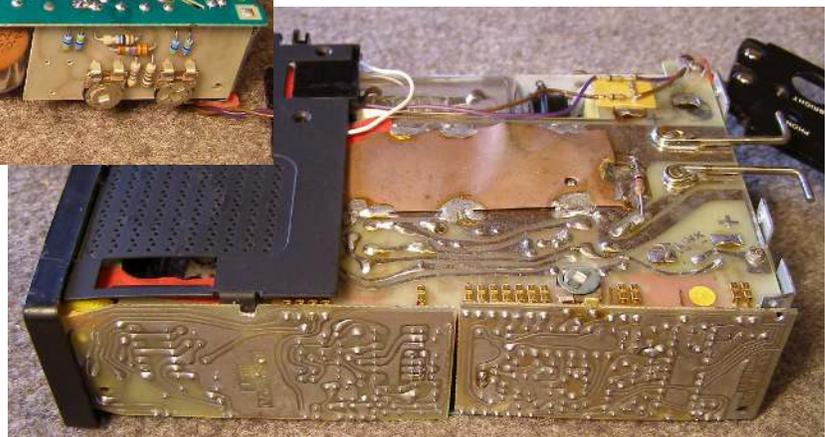
It originally sold for about \$395.



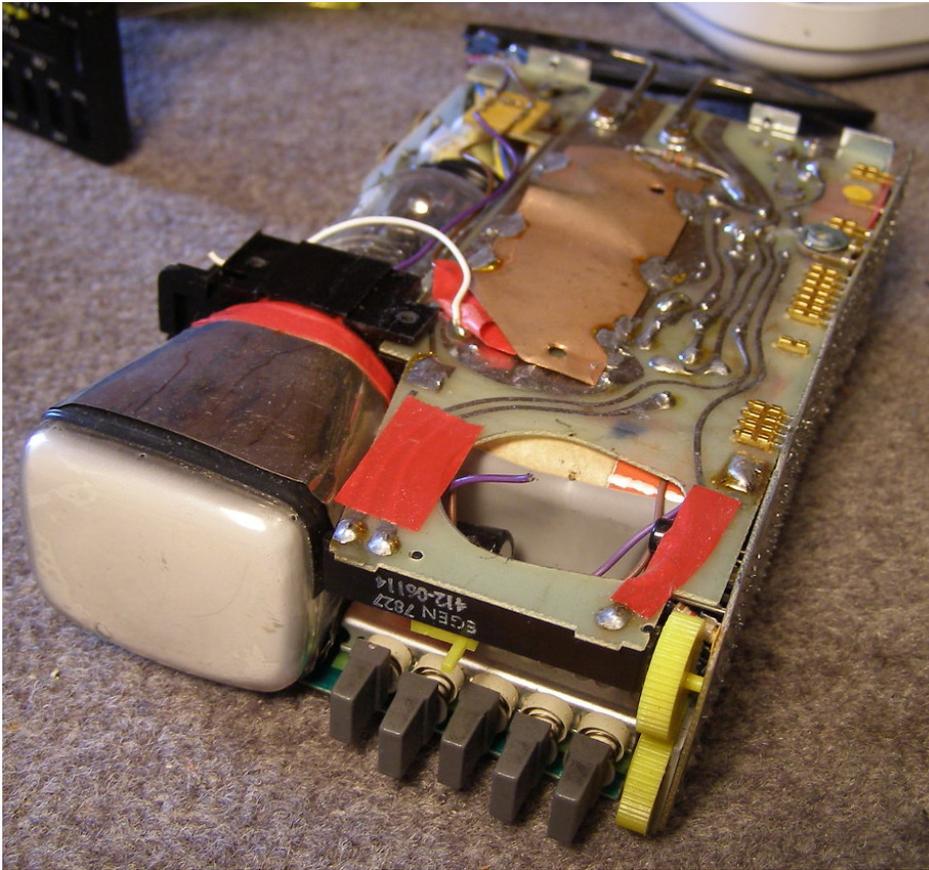
When I acquired this set over 10 years ago, it was non-functional. To try to make it work, a second parts set was acquired. Fortunately, the Venn diagram of the individual components included a subset of working modules that could be combined to produce one working TV.



The top and bottom of the unjacketed set are shown here:

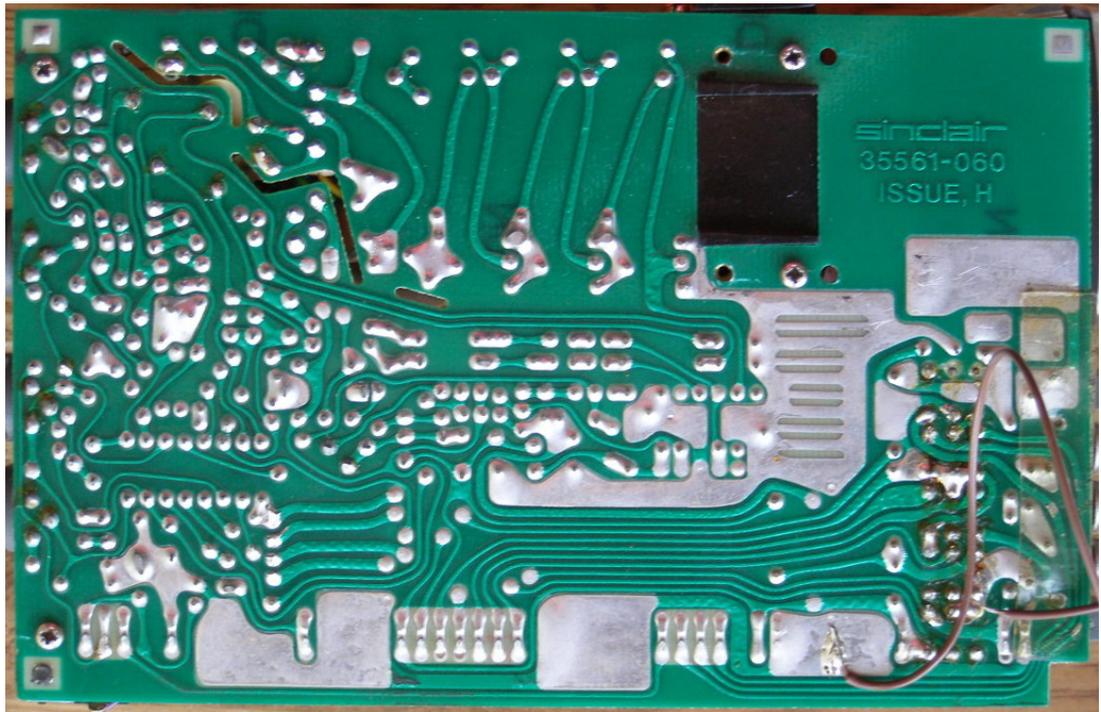


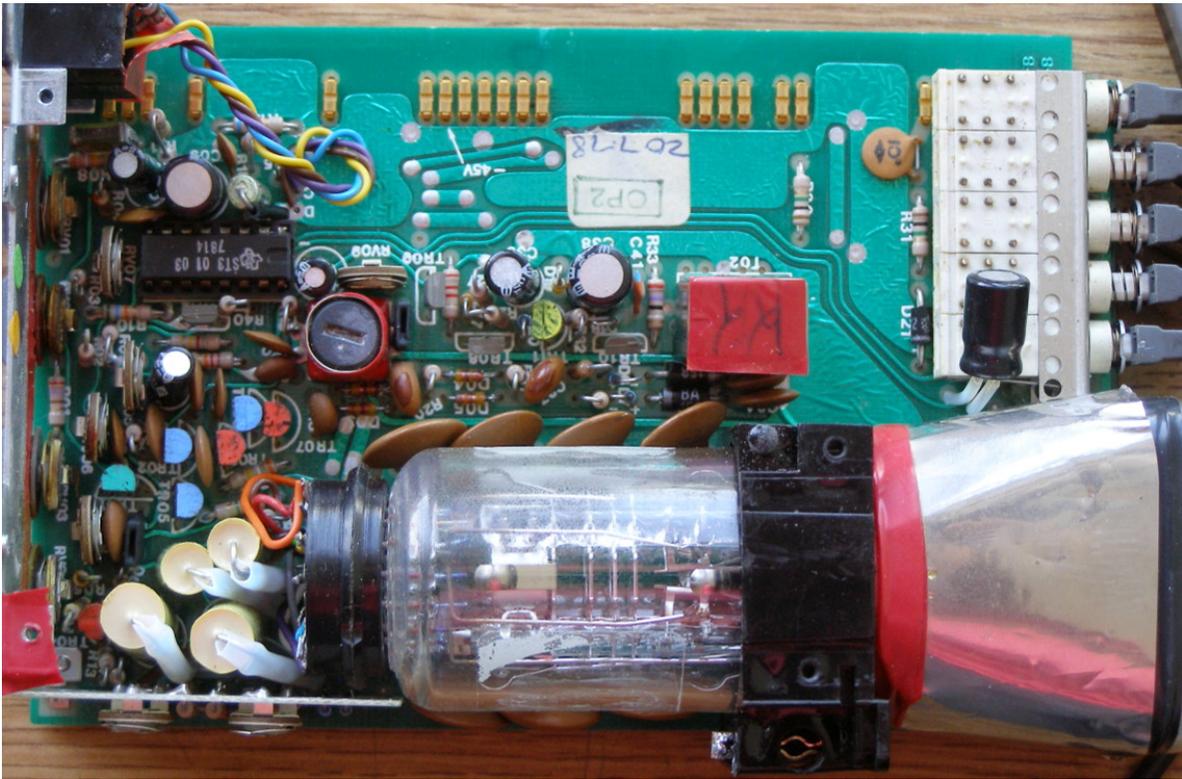
The set comprises a large circuit board onto which three modules plug into it along the sides. Four NiCad battery cells are placed wherever there is some room, which is pretty rare.



A view of the set with the speaker grill removed. The speaker sits in the hole just above the push buttons.

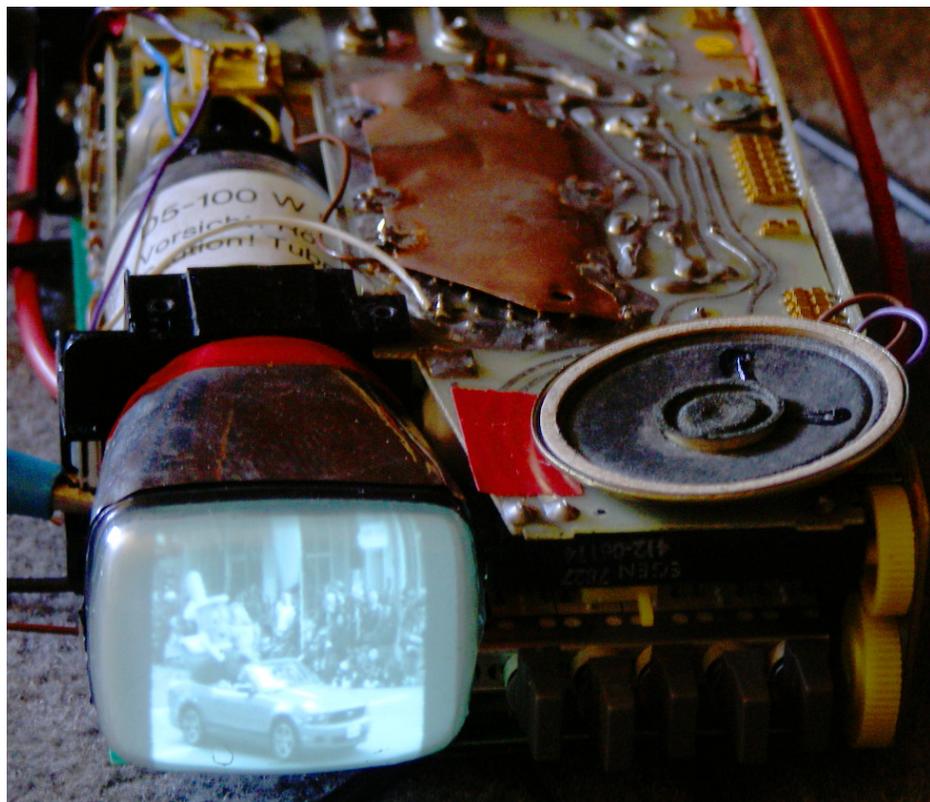
The 2 kV high voltage multiplier is shown across the top of the PC board. The cuts in the board isolate the high-voltage points from other circuits.



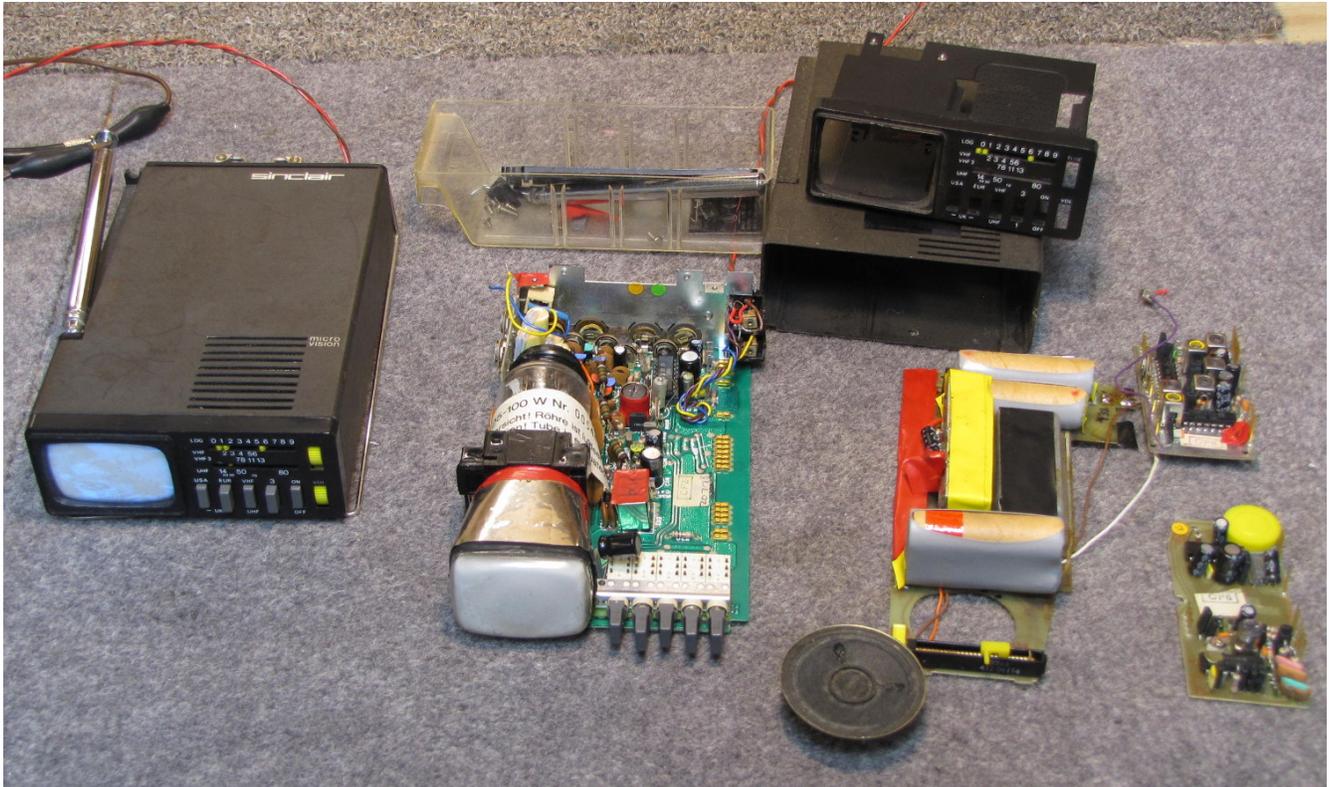


The top of the set shows the electrostatic-deflection 2 inch CRT, the HV generator below and behind it, and the deflection circuit IC at the upper left. Three other ICs are on modules plugged into this board.

The push buttons control the frequency band received and the TV standard to be selected. The RF tuning is by varactors in the RF section, controlled by a tuning potentiometer on the front panel.



The working set is pictured next to the “donor” set, where most of the modules are non-functional.



Two close-ups of the very sharp picture:





John Staples has restored many TV sets, including the landmark RCA sets: the 621 and 630, the projection set and the color CT-100, as well as building working examples of a mechanical TV display and an iconoscope-based TV camera.