



VT98 / CV1098 / 533 (E960T, 10E/224) pulsed radar transmitting triode.



The valve measures 350x85mm overall, plus the grid connection, and weighs just over 2kg. The anode cooling block is 85x50mm. The grid connector extends approx 43mm from the glass, not including the flexible braid.

This valve was used in the Chain Home Low (CHL) WWII radar systems, and replaced the [NT57T](#) silica valve in the MB2 mobile ground radar transmitter. It is basically a [VT58](#) with a thoriated tungsten filament, but is more powerful at 100kW peak pulse output.

The valve is marked:

- 10E/224
- VT98
- 82-750
- Serial 12508

Also known as CV1098. More pictures below, including a dissected valve and a Westinghouse WL-533.

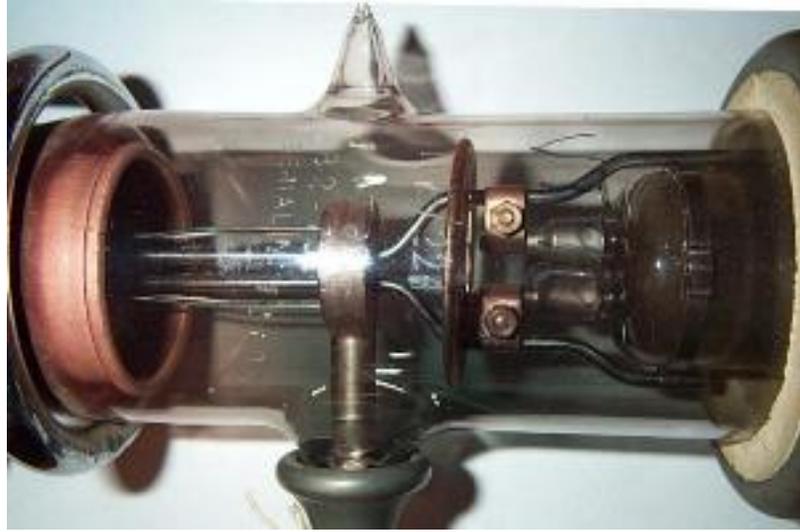
See also [The Radar Pages CHL section](#), [VT58A](#) and [VT98A](#).

Filament voltage	8.25V
Filament current	35A
max anode dissipation	750W
Max anode voltage	23kV

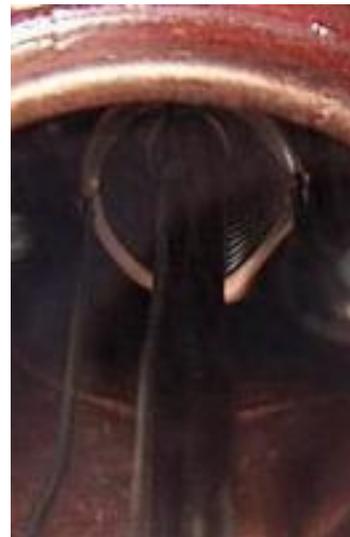
The valve was capable of operating at 100MHz, and with suitable precautions at up to 250MHz. It required forced-air cooling at 90 cu.ft./min with a pressure drop across the valve equal to 2" of water.

The internal structure can be seen here





Anode and base view. The figures 2663 are stamped into the centre dome. View into the anode. The grid can be seen.



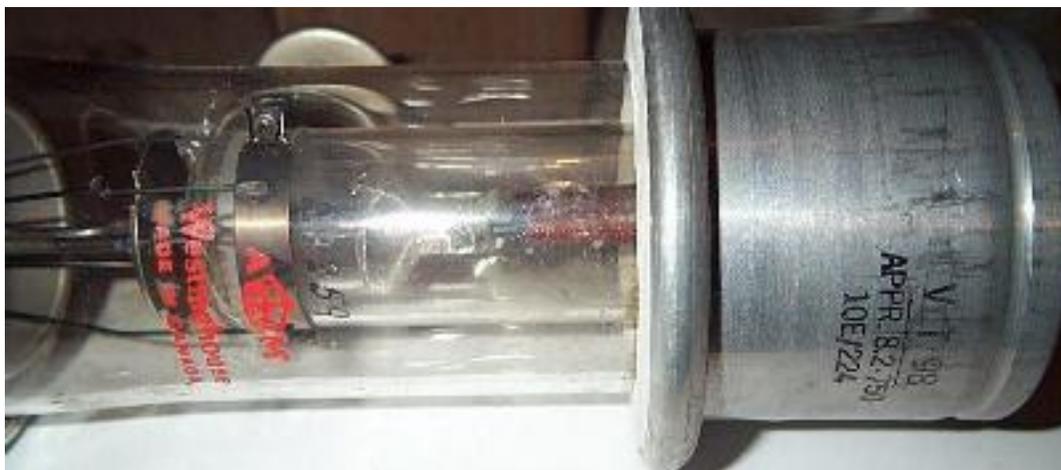
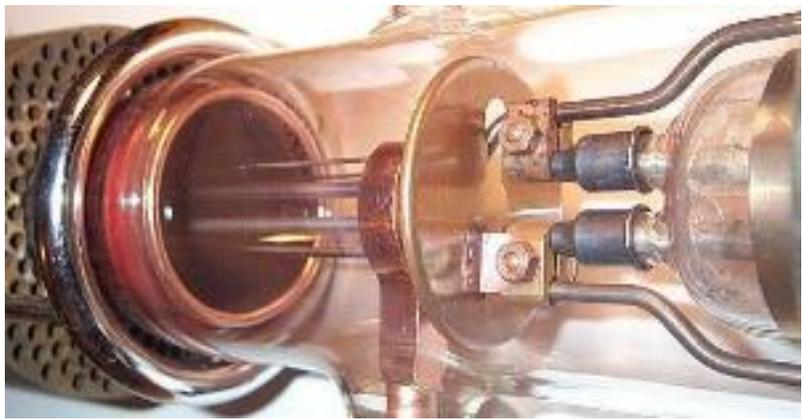
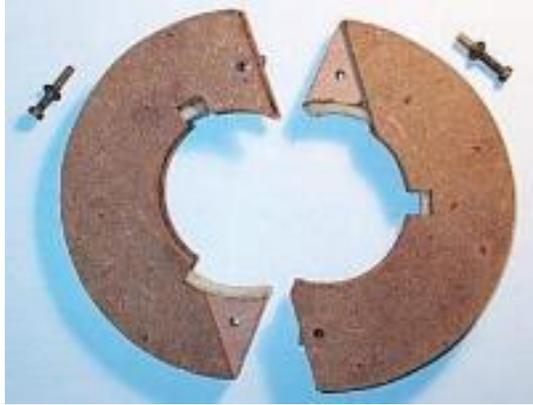
This GEC CV1098 serial number 864 is marked with a filament voltage of 8.75 volts, different from the basic spec. sheet, but does not carry a filament current marking.

It came with this wooden ring surrounding the corona



ring.





Closeup of a VT98 made by Westinghouse, showing the Air Ministry markings and 'Made in Canada'. The internal structure differs from the VT98s shown above, and the exhaust pip is in the base, rather than on the side of the main glass tube, and this results in a different internal arrangement. The anode cooling is made up of fins, as opposed to the drilled more solid block of the other examples.

The difference in the filament seal caused by the

addition of the exhaust tube, and the longer glass structure in that area may be a weakness, as I have a number of broken examples, all broken at the filament seal.



Three pictures of a dissected VT98 valve, this particular one being a Westinghouse made valve. The inside of the anode can be seen, along with the filament and the grid. This is from a Westinghouse made valve.

The anode measures 47mm by 115mm internally, and along with the cooling block weighs 1.4kg.

The filament is 32x8mm, with the wire almost 1mm thick.

The grid is 58x15mm.

These dimensions may not be typical of all VT98s.



Westinghouse WL-533. This shows both the VT98 marking and also Westinghouse WL-533. It was made in the USA.





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