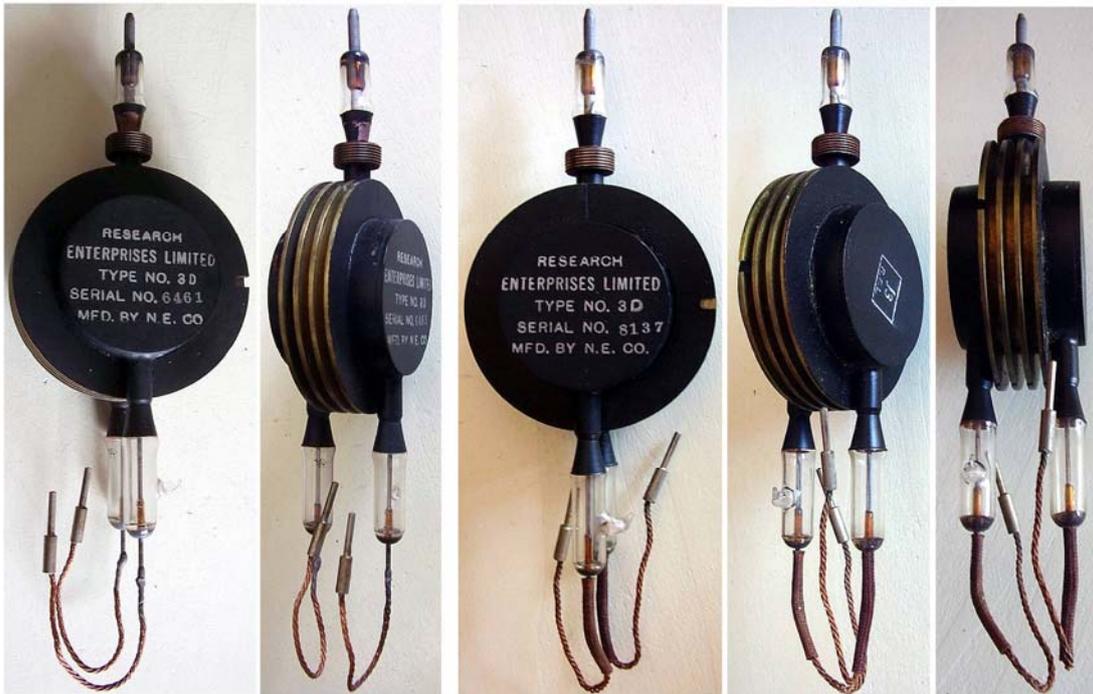


REL-3D – Early Canadian S-Band Magnetron



- From left, two images of a very early sample, still with bare filament leads, and images of a later sample with partially insulated wires. Click on image to enlarge.

Early 10 cm Canadian unstrapped cavity magnetron.. This is one of the very early magnetron entered in production during WWII. Directly derived from the British prototype brought to U.S. and Canada by the Tizard Mission in 1940, it is exactly equivalent to the [E-1189/NT98](#). It is identical to UK3108, 315B, E-1189, A.P. W2510, NT98. It is also equivalent to CV1255. One of the samples owned by another collector, Rod Burman, has the double marking 3D/E-1189.

Used in the early productions of Canadian REL 10-cm Naval radar Type RX/C and in the APF trailer of the Army radar Type GL 3. Rated for 5 kW minimum pulse power these radar sets were capable of detecting a submarine periscope at some 6 miles. Still unstrapped, the typical output pulse of the magnetron was limited to about 8-10 kW. A klystron [Type 8](#), directly derived from the [Sutton NR89](#), was used as local oscillator in the receiving section.

The collection includes different samples of this tube, all made for Canadian REL by Northern Electric Corporation, a Canadian company related to Bell Telephone and to Western Electric. Early samples were delivered by Northern Electric from February 1941.

The first sample in the collection is very early and still retains the bare filament flying wires as in the early prototype. In the other sample spaghetti tubings cover short lengths of the heater rods, over the welding zone.

The story of the Canadian development of magnetrons can be read [here](#). Information on the early development of British magnetron valves can be found in this [document](#), thanks to Eric Tauecchio.

Heater operates at 6 volts, 1.2 amps.



- Click to enlarge