

## LMS 12 - German Pulse Magnetron



LMS12 was one of the few multicavity magnetrons to go in production in Germany before the end of the war. Its use was anyway limited to a few tens of airborne equipment operating at 3 cm, as the Bremen FuG244 also known as Berlin D, and to some experimental sets. Its shape departs considerably from that of LMS10, the first 10 cm multi-cavity magnetron copied from the British CV64.

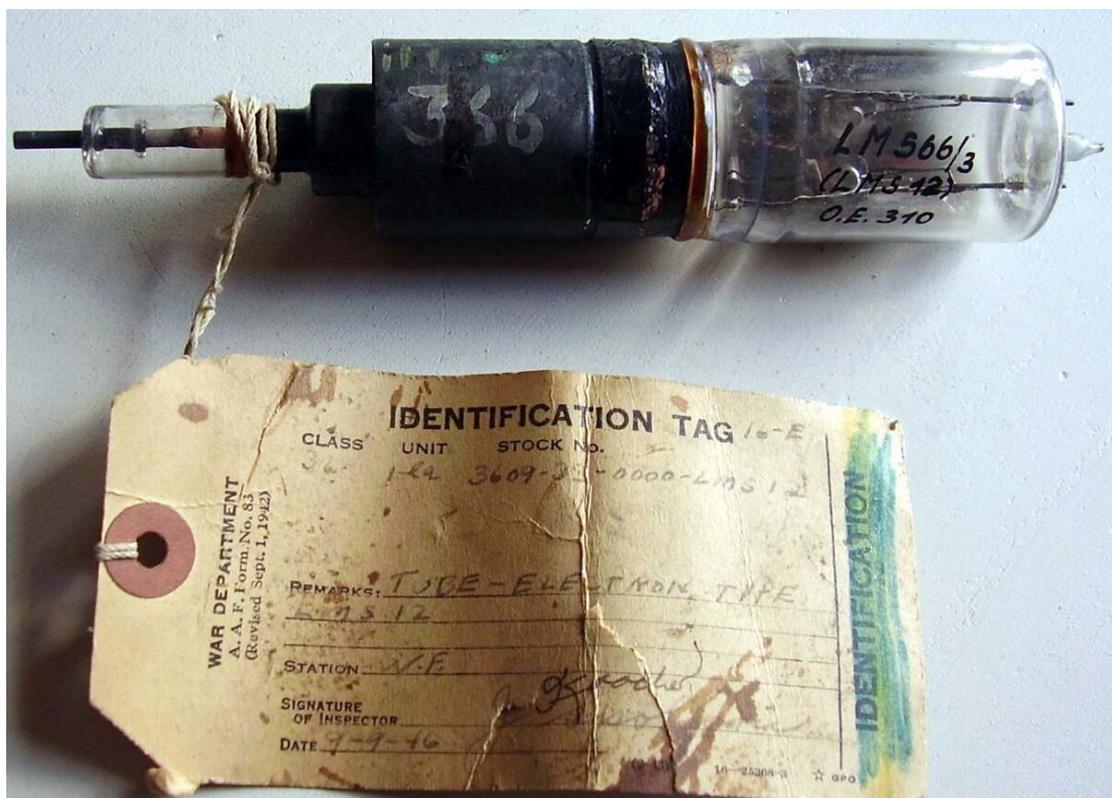
The device looks quite compact, about 180 mm length by 30 mm max diameter. Unipotential, indirect heating cathode, 18-cavity anode. Heater and cathode are connected to a couple of pin, coming out from the glass bulb at the largest side. On the opposite side, the coaxial RF output. The copper anode block is in the middle. On the glass body, the inscription 'LM 566/3 - (LMS 12) - O.E. 310' can be read.

Data can be found in the Hans Thomas Schmidt's pages:

<b>LMS 12</b> Telefunken	$\lambda = 3,05...3,25$ cm	$U_a = 16...20$ kV	In Fertigung  18 Resonatoren Impulsmagnetron Indirekt geheizte BaO-Kathode  Für "Berlin D", "Panorama Z", "Renner D", Pauke SK"
	$U_f = 12,6$ V	$I_a = 10...15$ A	
	$I_f = 1,7...1,8$ A	Tastfrequenz = 1500 Hz	
	$U_a = 16$ kV	$P_{HF} = 10$ kW	
	$I_a = 10$ A	$I_k = 80$ mA	
	Feld = 1900...2100 G	Impulslänge = 2 $\mu$ s	
	Impulslänge = 1 $\mu$ s	Tastverhältnis 1 : 350	
	Tastverhältnis 1 : 800		

<http://www.hts-homepage.de/Wehrmacht/Magnetronliste.html>

The LMS12 design was likely derived from that of allied magnetrons found in 3-cm captured sets, one American (Meddo apparatus, from the name of a small village in Holland where an American aircraft crashed) and a British H2X. It was modified to 18 cavities to decrease the magnetic field and use cobalt-free magnets. The design was ready at Telefunken since March 1944. It is to be underlined however that any production of special tubes at Telefunken was heavily conditioned by shortage of materials and by daily bombing of British and American aircraft. We know that Telefunken average production of the more known 10 cm LMS10 magnetron was around 5 units per month. We could assume then that only a few tens LMS12 units were made before the end of the war and part of them went destroyed in the daily bombing of the airfields and of sites where they were stored for experimental use..



The sample looks unused, still retaining its US War Department classification label, dated 1946.