Myths and Misinformation
The Volksempfänger and
Early German Radio Receivers

I was asked to clarify the Volksempfänger story, understandably because several versions of myths and misinformation are floating around.

Myth: The Volksempfänger was designed not to be sensitive.

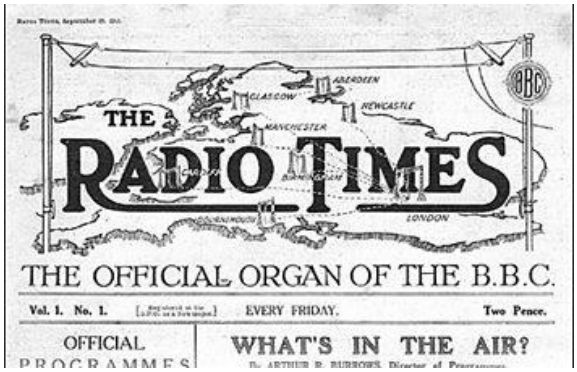
False: The original design was from a Marconi military radio receiver design and even the first Volksempfänger {people's receiver}, 3L Astranova 1931-1932, pictured left, was quite sensitive and increased in later models. This model could only receive medium wave, aka AM broadcast band 550 kHz–1700 kHz. Good sensitivity resulted from using a long antenna and TRF with Regen (Tuned radio receiver frequency with regeneration).

Myth: The radio receiver could not receive long distance.

False: The next model of the Volksempfänger, pictured left, was the VE301 released in August 1933. Reception was from longwave 150-350 kHz and medium wave 550-1700 kHz which could be 100s to 1000s of miles away.

Why longwave? Propagation of a longwave broadcast does not depend on the outer atmosphere but instead hugs the ground, can go long distances, can go through big buildings and under water.

For example: on February 1, 1942, WLWO, Mason, Ohio broadcast VOA's first message using shortwave to the BBC who in turn, rebroadcasted on longwave and medium wave into Germany and the rest of Europe. Known as BBC Radio 4 LW, 198 kHz, BBC increased its longwave power to two million



watts where it remained on the air until 2019.

BBC began in 1922 from Marconi's studio in London using the call sign 2LO. It quickly became the largest radio broadcaster in the world and remains the largest today with a weekly listening audience of over 490 million.

Shown is a picture of the medium wave and longwave BBC station in 1934.

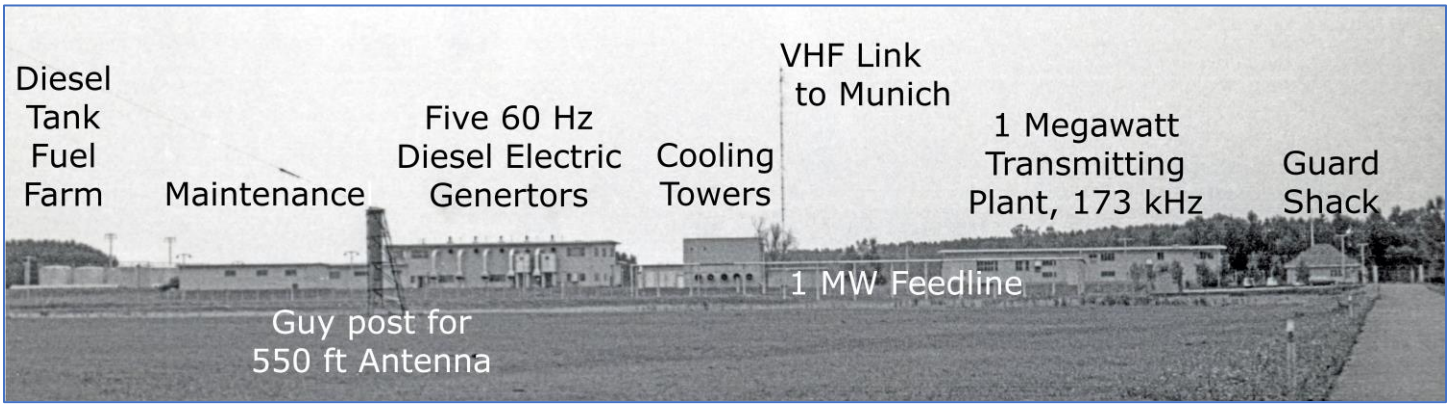
In 1937 Germany released a radio receiver for the wealthy, Olympia 384W Sachsenwerk receiving longwave and medium wave.

In 1938 the model VE301 Dyn was released.

Next was the Deutscher Kleinempfänger (German Small Receiver) DKE 38 built from 1938 to 1944 covering longwave and medium wave.

In 1941 Siemens released the German Canteen Barracks troop morale radio receiver, K32GWB, for use by its military who received longwave, medium wave and shortwave.

In the early 1950s VOA built a one-million-watt longwave (173 kHz) station near Munich, Germany. The last half of this video is about that 1 MW station: https://youtu.be/lPfw4BwBQzw



We often forget while shortwave can go around the world, high power longwave can easily travel 2000+ miles, daytime or nighttime without the restrictions from the outer atmosphere. This was a wise decision by Germany to use longwave.

There was no shortwave band on the Volksempfanger, however, for the Russian under the blanket Phelix radio receiver, it had shortwave but incorrect coils for the VOA. That was easily modified by a radio experimenter (aka Ham Radio Operator).

For the moment let's step back and look at the bigger picture.

Let's set aside the Nazi ideology for the moment and look at how Germany deployed available technology before and during WWII.

First, Hitler's communication minister, Joseph Goebbels, was an awesomely brilliant person. His PhD was in communications in 1921, just at the time radio was emerging worldwide. He instantly recognized the value of technology for strategic control. Today he would be the person on stage introducing the iPhone explaining how it will change the world. His famous quote demonstrated his understanding of radio, "The radio will be for the twentieth century what the press was for the nineteenth century."

Germany gained an early understanding of the radio spectrum and brilliantly decided to use longwave rather than shortwave as explained previously. They were not trying to broadcast around the world. All they required was to reliably cover Germany anytime day or night. Longwave was the perfect solution.

However, VOA USA needed to go around the world and shortwave was the only practical solution. That's why all you hear around the museum is shortwave.

Germany heard the VOA broadcast via longwave from the BBC who received it from the USA via shortwave. Early on, VOA and BBC worked closely, and that cooperation continues today.

Eventually VOA built about 15 relay stations around the world to rebroadcast the signal from one of the four USA transmitting plants. BBC continued to be a relay station for VOA and at one point VOA took over one of the BBC plants and provided all the maintenance and operations for that facility.

One more wrinkle to this story. Again, forget shortwave for the moment.

VOA also made extensive use of mediumwave, aka AM broadcast. VOA had several ½ MW and 1 MW AM broadcast relay stations rebroadcasting the shortwave VOA signal from the USA.

Remember Goebbels PhD was in strategic physiological communications. He knew the best time to broadcast was in the evening when workers were home and near the radio receiver, not at work.

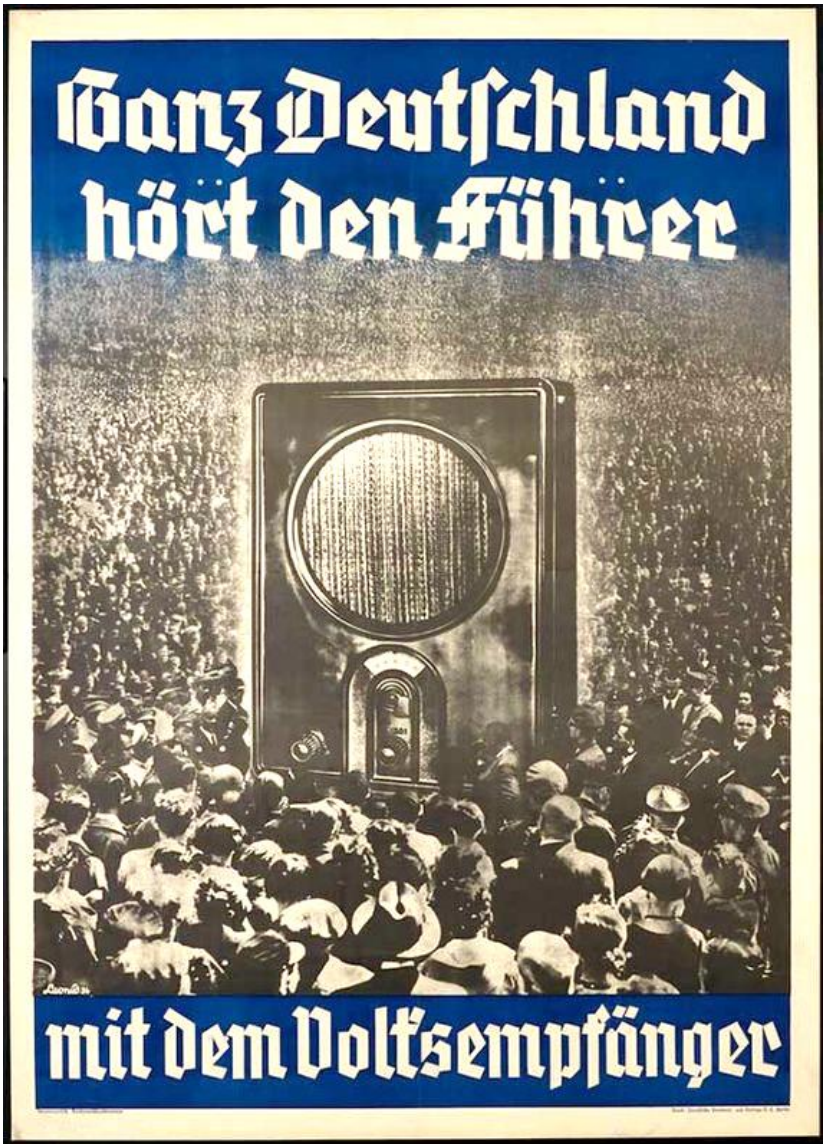
Well . . . so did the VOA. That is why you see numerous tape recorders in the VOA Munich 1 MW Longwave building. They would receive the broadcast from the USA when there was a shortwave path to Munich and then rebroadcast to Germany at night when the workers were home.

Remember what Crosley did with his ½ MW medium wave WLW station in 1934? The world was his audience. The same for the VOA. A 1 MW medium wave station at nighttime went worldwide to a simple radio receiver found in nearly every home, AM broadcast.

Goebbels was smart but so was the VOA. VOA/BBC used every trick in the propagation book to effectively push its signal to the destination. High power longwave and medium wave were critical to the success of the VOA.

Germany is about 3/4 the size of Texas. It didn't take much power to push medium wave or longwave around Germany at nighttime.

Also, the BBC station in Woofferton, England is only 1400 miles from Munich, Germany. About the same as Cincinnati to Albuquerque, NM. Easily reachable at nighttime with medium power on mediumwave or longwave.



All of Germany hears the Führer
with the People's Receiver.

Leland L. Hite

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