



Germany's first broadcasting transmission from the radio station Königs Wusterhausen on 22 December 1920

1. The radio station Königs Wusterhausen

After selecting the site as a result of propagation research in 1911 the transmitting and receiving station Königs Wusterhausen was set in operation as Central Radio Station of the German army during World War 1 in 1916. The station had its own power supply, 2 quenched-spark transmitters, and 2 arc transmitters of increased efficiency plus 2 large plane aerials carried by 5 lattice steel masts, each of 150 m height.

After the end of the war the postal administration Deutsche Reichspost took over the transmitting station Königs Wusterhausen. Their transmitters, complimented by transmitters of the demobilized army, were used for telegraphy within the inland radio network (Reichsfunknetz). In the course of the year 1919 press and commercial radio communications were introduced, to transmit telegraphic news from news agencies to a limited number of receiving stations [7].

2. The administration and radio to "all"

Within the ministry of Deutsche Reichspost the head of department and later State Secretary, Dr. Hans Bredow, was responsible for matters of radio communications. Dr. Bredow intended to use radio transmissions modulated with voice and music for commercial and entertainment broadcast. Together with Dr. Meißner, the inventor of the Meißner feedback circuit, he had gained experience with mobile military tube transmitters by making telephony tests during the war. On 16 November 1919 he presented radio transmissions to representatives of the national press in a lecture at the organisation Urania. The technical quality of the transmissions was not perfect so that most of the visitors did not recognize the prospects of radio to "all". Only the publicist H. Dominik saw the chances and reported positively about the new opportunities [7].

3. Telephony tests in Königs Wusterhausen

In January 1920 Dr. Bredow instructed the Main Radio Station Königs Wusterhausen to make test transmissions of voice and music in cooperation with the Telegraphentechnisches Reichsamt (TRA). This would help to solve the technical problems.

Among others a 5 kW arc transmitter manufactured by the company Lorenz was operated on 85.8 kHz (2700 m) during the non-transmission periods of the commercial broadcast. The arc transmitter was upgraded on a trial basis by adding an intermediate circuit and a magnetic amplifier to modulate the transmitter. This improvement resulted in a usable modulation of the transmitter by using a microphone for voice, live music and music from a gramophone. The technical employees in Königs Wusterhausen were able to evaluate and improve the modulated transmissions and the studio conditions by themselves because of their musical background. Moreover they enjoyed playing music.

A successful demonstration was given to representatives of the Swedish Telegraph administration in September 1920 [1]. Success was also confirmed by postal receiving stations in Germany which were responsible for commercial radio and by receiving stations outside Germany. Reports were received from stations at distances up to 1700 km [4], [7]. Reports from private individuals in Germany could not be expected at that time because they were prohibited to listen to radio transmissions.

4. The Christmas concert

In December 1920 the tests reached such a level that an instrumental concert of violin, cello and harmonium were able to be transmitted. A concert was announced via radio for the 22 December 1920. The transmission itself was announced with the phrase: "This is Königs Wusterhausen on wavelength 2700 m. As a sign that the station has attained full age and does no longer serve as guinea pig..."

The Christmas concert was arranged by the employees of the Königs Wusterhausen radio station. They received praising reception reports, for instance from Luxembourg, Kiel, Veendam / Netherlands [2], [3], [6], [7]. This Christmas concert is regarded as the birth of German broadcast. For the first time all characteristics of broadcast were performed by transmitting live music, music from gramophone records, voices and an arrangement of a program.

5. The further development


After this first Christmas concert tests were continued. More concerts were arranged, the modulation was tested using telephone lines, a live transmission of the opera "Madam Butterfly" was made from Berlin, and speeches to the parliament "Reichstag" were transmitted. After the technicians constructed their own so-called "concert transmitter" by using discarded components from arc and tube transmitters they began to transmit regular Sunday concerts. These concerts were arranged every Sunday from 11 p.m. to 1 a.m. until January 1926 [1].

On one hand the test transmissions from Königs Wusterhausen showed the technical feasibility to the responsible authorities in German ministries. On the other hand public interest in broadcast was kindled.

The development of German broadcast was characterized by two aspects. One point was the implementation of broadcast in studios and radio technology to which the trials in Königs Wusterhausen made a contribution. The second point included the political, legal and economic responsibilities for carrying out the technical operation under the specific circumstances in Germany. The Reichspost, the Ministry of the Interior and the Ministry of War were of the opinion that radio communications had to remain state-controlled. A free allocation of licences to operate receiving and transmitting stations was refused. The political implementation of a broadcast system in Germany was accompanied and controlled to a large extent by Dr. Hans Bredow. Pressurised by the radio industry and other parties, a system was developed which included the operation of transmitting technology by the Reichspost. The programs were performed by private companies which were controlled by the State. The whole system was financed by the fees of its participants. On this basis the public broadcasting service was officially started in Germany on 29 October 1923.

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6. The transmitting station Königs Wusterhausen in this day and age

The building in which the Christmas concert was given has been retained to the greatest possible extent. Today the building hosts a museum illustrating the development of radio technology.

References

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