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# Case Study 13.1: The Stockert Radio Telescope, Germany

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## **Presentation and analysis of the site**

*Geographical position:* Stockert mountain, D-53902 Bad Münstereifel, Nordrhein-Westfalen, Germany

*Location:* Latitude 50° 34' 10"N, longitude 6° 43' 19"E. Elevation 435m above mean sea level.

*General description:* The 33,000m<sup>2</sup> property holds the 25m radio telescope together with 10m millimetre radio telescope, a laboratory/workshop building, a residence for observers and a house for the site manager.

*Inventory of the remains:* The 25m radio telescope stands on a pyramidal base, with technical rooms spread through several stories. All the electrical supply rooms are in the basement of the pyramid. The upper floors host the control room, receiver controls, computers, etc.

When the telescope was inaugurated in 1956, it had a mast supporting a dipole-reflector feed (1 in Fig. 13.1.1). In 1968 the dipole feed was replaced by a four-leg support system that permitted either prime focus or secondary focus operation. The low noise receivers (LNRs) were normally placed in the cabin behind the elevation drive (5). The azimuth drive (6) operated through a gear that allowed full rotation. This required a complex system of brush contacts (10) between the LNRs and the back-end electronics.

*History of the site:* The 25m Stockert radio telescope was used for astronomical research from its inauguration in 1956 until its closure in 1995. Between 1956 and 1966 it was run by the Bonn University Astronomy Department. In 1966 the Max-Planck-Institut für Radioastronomie was founded in Bonn and took over operations at the Stockert site. In 1978, however, after the 100m Effelsberg radio telescope had been completed, the operation of the Stockert site reverted to Bonn University.

Bonn University sold the Stockert site to an investor in 1995, and in that same year a foundation called the 'Förderverein Astropeiler Stockert e.v.' was set up with the aim of restoring the 25m radio telescope. This group of active supporters started to press for the status of a 'historical monument' for the radio telescope, and this was achieved in 1999. In 2005 the Nordrhein-Westfalen-Stiftung (<http://www.nrw-stiftung.de/>) purchased the site from the former investor and allocated funds for a massive refurbishing of the instrument, thus promising a secure future.

*Cultural and symbolic dimension:* Observations with the Stockert radio telescope were made at 21 and 11 cm wavelength. Several extended surveys were made of both the radio continuum and the HI line. Pulsar observations were also carried out with the Stockert telescope.

*Authenticity and integrity:* In order to maintain the structure of the telescope, rusted sections have been replaced and the whole instrument has been painted. Virtually every system of the telescope needed new electronics: the drive system and the astronomical control system as well as the receivers have been renewed. Many of the old electronic racks are still standing: they will be preserved as historical background.

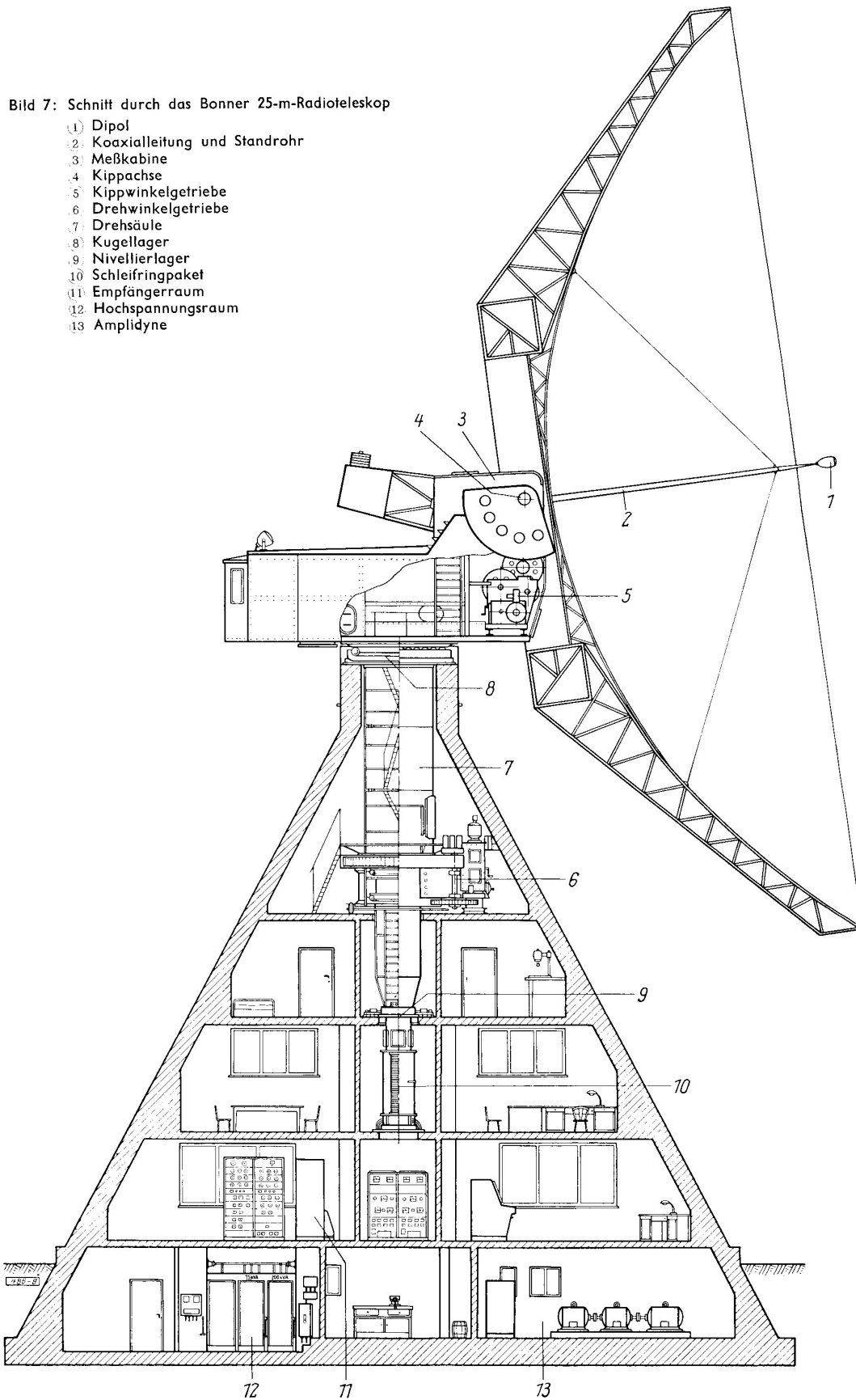


Fig. 13.1.1. The original technical drawing of the 25m Stockert telescope. After Mezger (1958).



**Fig. 13.1.2.** A recent aerial photograph of the Stockert site. © Robert Spieß, Essen.

## Present site management

*Present use:* The site is closed at present.

*Protection:* Since 1999 the Stockert radio telescope has had the status of a ‘historical monument’.

*Management, interpretation and outreach:* The further use of the Stockert telescope has been entrusted to the Förderverein. Their aim is to modernise the observational possibilities, to make the instrument available to amateurs, and to support schools in technical education as well as to preserve the historical instrument for posterity.

## Additional bibliography

Mezger, P.G. (1958). “Technische und astronomische Messungen mit dem Bonner 25m Radioteleskop”, *Telefunkenzeitung* 122, 213–223.

Wielebinski, R. (2007). “Fifty years of the Stockert Radio Telescope and what came afterwards”, *Astronomische Nachrichten* 328(5), 388–394.