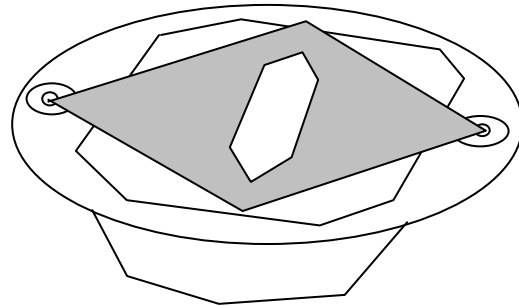
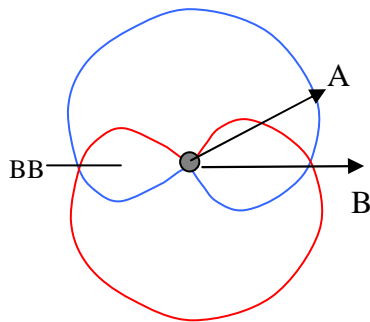


## UHF direction finder Type AN/ARA-25 en ARA-50

The UHF D/F is a cavity-backed slot antenna. The slot is in a conducting plate of which one corner is terminated with  $50\ \Omega$ , and the opposite corner is connected to the UHF receiver. The two connections are swapped 100 times per second with a fast coax relay.



The complete antenna can be rotated with a small dc motor. The fast coax relay and the  $50\ \Omega$  termination are on the rotating part. A rotating coax joint and two sliprings for the 100Hz relay control are visible on the axis.



The antenna diagram is a cardioid

Continuous switching between the red and blue diagram produces a 100Hz square wave at the audio output of the UHF receiver. For instance with a signal coming from the direction "A", the audio output is highest when the coax relay is in the "blue" position.

When the signal is strongest in the "blue" time, the antenna is rotated clockwise, if the signal is strongest in the "red" time, the complete antenna rotates counter clockwise. The smaller the difference, the slower the rotation until rotation stops in position B. Position BB also has equal strengths, but is not stable.

