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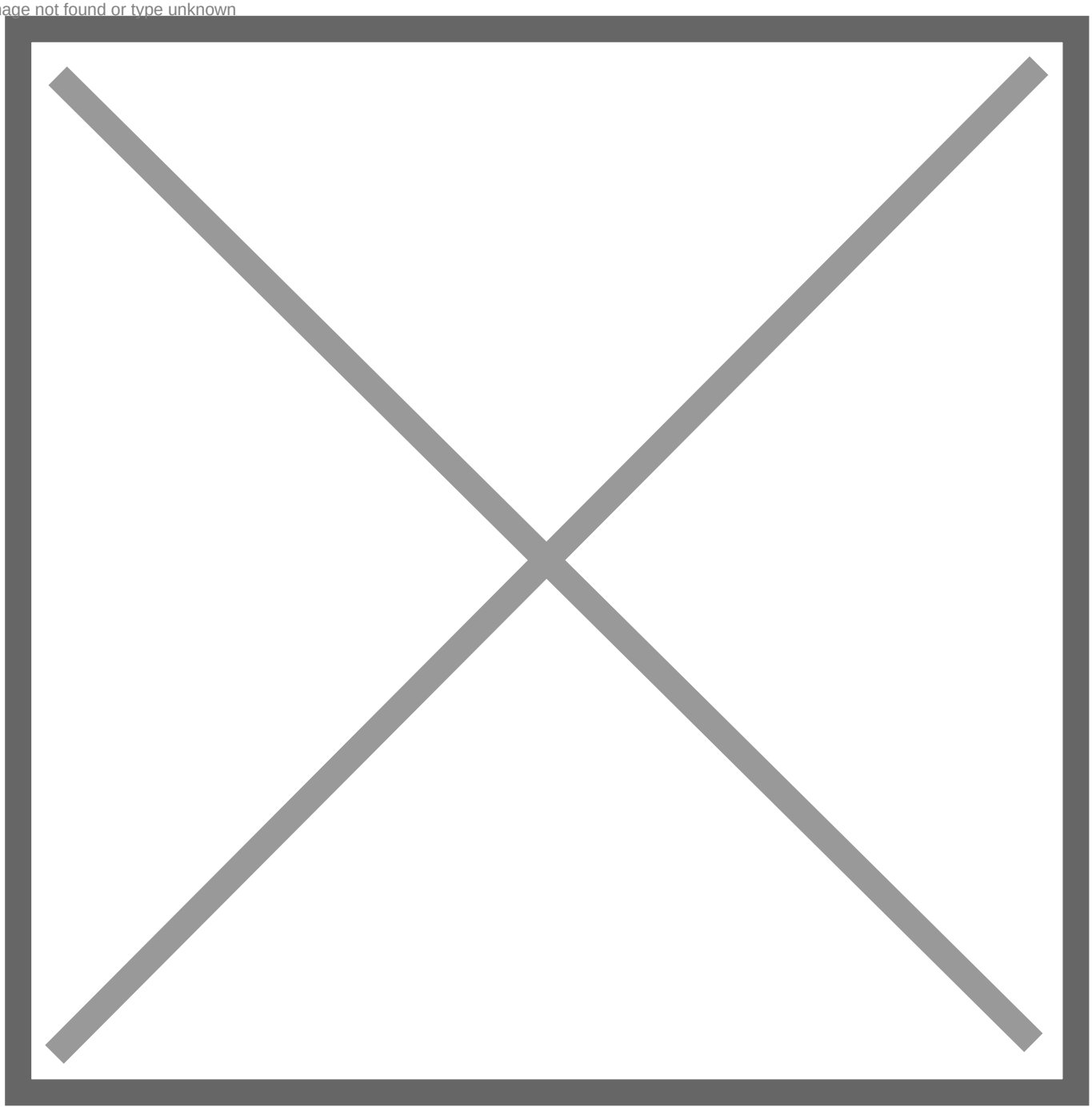

Sound Mirror

Malta

WCJV+9C Triq it-Targa, In-Naxxar

Commission

1934

Completion

1935

Other denominations

il widna [The Ear]

Original use

Military/sound mirror

Current use

Military/sound mirror

Engineers

Royal Engineers (British Military Heritage)

Concrete by reinforcement

Reinforced concrete

Construction method

Cast-in-place concrete, in-situ concrete

Architectural concrete

Architectural concrete

Structural types

Vertical wall structure

Description

This curious element, which may seem set in the landscape in a puzzling way, serves a very specific purpose. It is a defensive element designed to amplify the sound waves made by airplanes approaching the island, in order to anticipate possible air attacks.
The construction of this type of defense infrastructure was promoted by the British Empire in the 1930s to protect its overseas colonies. Later, the Second World War made them necessary in the south of England. While a number of sound mirrors of different shapes and sizes are still standing on the British coast, the one in Malta is the only one left in the entire Mediterranean basin.
The position and shape of these elements was calculated following careful study, which took into account the expected direction and height of the attacks, as well as any nearby elements, natural or man-made, that had to be avoided or that could cause interferences or reverberations. Optimization of the element's placement and design, and the use of the most efficient electronic equipment, would help increase the possible reaction time toward mounting a defense.
The sound mirror in Malta, finished in 1935, is a very long vertical concrete wall with a double curvature and a series of buttresses at the back to improve its stability. Its design was based on another sound mirror built a few years earlier in Denge, in the county of Kent, England.
The initial tests showed an average listening distance of about 25 miles (the human ear alone reaches less than five), but its effectiveness was called into question after numerous confusions and failures in the detection of attacks. Eventually, sound mirrors became obsolete, replaced by other more precise technologies, including radar.

Links

Andrew Grantham