

Type 72 beacons

1933 trial installation at 200MHz – transmits a pulse every second
antenna (dipole and reflector) rotates at 1rpm

type 72X first installation mid-1936 **beacon watch used to time signals ***
206.5 – 218.5MHz; R1110 receiver used
antenna enclosure (large wooden cylinder) initially at top of mast

type 72DM dipole and reflector
182.5 – 218.5MHz; better transmitter introduced
antenna moved lower down mast to make way for radar antenna
whole arrangement rotates around mast

1939 more beacons in use; so 180 – 220MHz
R1147 receiver introduced

type 72DP 200 – 250MHz **no beacon watch needed ***
new signals; carrier modulation by medium freq.

* Antenna rotation is kept accurate at 1rpm by a master clock. Before departure, pilot rotates beacon-watch bezel (compass graduations) so that watch's second hand points to 360° on the bezel as the second hand of the beacon master clock marks the minute (and the beacon antenna rotates through north). Bezel is then locked.

Beacon rotates at 1rpm, transmitting a pulse every second.

During the flight, whenever the loudest second-pulse is heard, the second hand is pointing to the bearing of the aircraft from the beacon.

Bearing accuracy with experienced operator and average conditions ±5°.

Some web sites refer to the transmission of north markers. These are transmitted by land-based rotating loop radiobeacons, such as the Orfordness beacon and some marine beacons. These are described in HO117 and similar publications. (The north markers mean they lack the security of the Type 72.)

The brief life of naval homer beacons

1936 – Type 72 beacon enters service.

1938 – Experimental YE installed on USS Saratoga, May 1938.

“Aircraft Homing Devices,” NRL File F42-1169H, National Archives; NRL CRMO

1943 – HMS Victorious refitted in USA: Type 72DM beacon replaced by YE beacon. #

1944 – YE and YG beacons replace Type 72 beacons on other RN ships.

1947 – YE beacon on Victorious replaced by tacan beacon. #

1960s – Some YG beacons still in use for naval aircraft without tacan.

* D. Quinn and R. D. Holland, "C.W. radio aids to homing and blind approach of naval aircraft," in *Journal of the Institution of Electrical Engineers – Part IIIA: Radiocommunication*, vol. 94, no. 16, pp. 953-960, March-April 1947.

(<https://www.nonstopsystems.com/radio/pdf-hell/article-part3a-1947-Quinn.pdf>)

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