A Closer Look at RADAR during World War II

What began as a laboratory experiment developed into a new military technology that would serve as a powerful offensive and defensive weapon for the Allies throughout World War II. RADAR (RAdio Detection And Ranging) is a system capable of detecting objects using radio waves to determine range, angle, and location. RADAR was utilized throughout the war to locate air, ground, and sea targets.

In the Pacific, RADAR did not possess a long enough range to be able to detect ships in such vast oceans. LORAN (LOng RAnge Navigation) was created as a solution to this problem, and also made it possible to use it without breaking radio silence. Military personnel, scientists, engineers, fabricators, technicians, and radio operators all played an integral role in building and deploying the use of RADAR systems throughout the Pacific Theater.

Bombing

The development of the bombsight helped to make RADAR a strategic weapon. RADAR allowed for more accurate bombing and precision targeting of military and industrial locations. Because of RADAR, Allied Air Forces were better able to attack targets at night and during inclement weather.
A Closer Look at RADAR during World War II cont.

Chain Home RADAR

The British Royal Air Force (RAF) built Chain Home Early Warning RADAR stations during World War II to detect and track aircraft. Chain Home RADAR provided the RAF with almost 30 minutes of warning time to intercept threats. The system could detect German formations before they could reach the English Channel. British Women’s Auxiliary Air Force (WAAF) plotters and duty officers helped to run these stations during the war. Pictured here, women tellers recorded information from the Filter Room and relayed it to plotters, who reproduced it on their map.

Monitoring Weather

Military meteorologists used RADAR to track various types of weather, and in particular, storms. Typhoon Cobra was the U.S. Navy’s designation for a tropical storm cyclone that struck the U.S. Pacific Fleet in December 1944. Pictured here is the eye structure of the storm as captured on RADAR.

An image of Typhoon Cobra captured by the RADAR of a U.S. Navy ship. The typhoon, located east of the Philippines, was the second tropical storm to be observed using RADAR, December 18, 1944. National Oceanic and Atmospheric Administration Photograph Library.
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Fire Control

RADAR was also used to direct gunfire and used to aim anti-aircraft guns.

Fire Control RADAR was commonly used by night fighters to locate a precise position of a detected target. This type of RADAR helped guide pilots close enough to a target to see it, aim their guns, and hit it.

The Mark 8 fire control RADAR (shown here) directed large-caliber battleship and cruiser guns. It was also ideal for fire control against surface targets.

Naval Surface Search

The SG Surface Search RADAR was installed on destroyers and larger ships to assist in locating enemy surface ships, coordinating attack by surface vessels, and to aid in navigation.

The SG Surface Search RADAR could detect large ships at a distance of 15 miles and a submarine periscope at five miles, due to its gyro-stabilized mount.