



Antenna Pattern Range

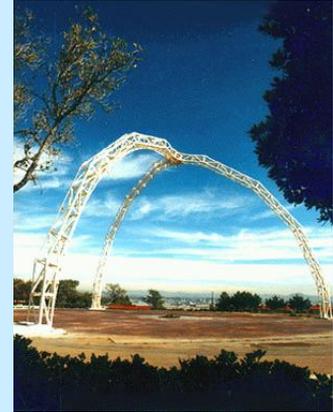
SSC Pacific ensures communication through HF antenna design & testing

Background

Navy scientists in World War II expected there was more to failed radio communications than weather patterns, and the SSC Pacific Model Range was born. Accurate, scale model ships allow the Navy to develop complex High Frequency (HF) antenna designs that work when installed, enhancing capabilities and significantly reducing cost and schedule. Even in the computer age, 1/48-scale brass model ships provide the most accurate, cost effective broadband HF antenna design and full magnitude and phase antenna pattern collection for HF direction finding arrays. The pattern range has also been used for antenna pattern collection of VHF/UHF antennas, from conformal vehicular antennas to landing modules for exploring Mars.

The Technology

SSC Pacific's Antenna Pattern Range features an award-winning arch built entirely of non-metallic materials. The ground plane beneath the arch has been treated to mimic the electrical properties of sea water and designed to minimize edge reflections. A trolley on one leg of the arch can position a transmit antenna anywhere from horizon to zenith, while a turntable at the center of the ground plane rotates the antenna under test 360 degrees, allowing pattern collection over a full hemisphere. Recent upgrades to measurement equipment allow rapid pattern collection of multiple antennas for a large number of frequencies.



Antenna Pattern Range



Brass Model Machine Shop



1:48 Scale Brass Ship Models

[\(Website Version\)](#)

For a more detailed information sheet on this subject, or a bundle of all Division 554 information sheets, Make requests to Business Development Manager, 55403@spawar.navy.mil, (619) 553-6538

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