

The California to Hawaii Attempt on 10 GHz

This summer Chip Angle, N6CA, and Paul Lieb, KH6HME, will attempt to contact one another on 10 GHz via the well-known California to Hawaii propagation path. Here WB6NOA covers the history of the VHF and above records held to date via the circuit, as well as the difficulties Angle and Lieb are facing in their attempt to establish yet another microwave record.

By Gordon West,* WB6NOA

This summer hams from southern California and Hawaii hope to establish a world-record terrestrial tropospheric ducting contact on the 10-GHz X-band. Chip Angle, N6CA, has spent the last few years completing final assembly, final testing, and final alignment of all of his homebrew equipment in Hawaii and his portable equipment at the U.S. mainland side of the circuit. Chip indicates the equipment is more than ready at each end of the 2400-mile path, and favorable July tropospheric ducting weather will hopefully move in, settle in, and create the path.

A Well-Known Path

The southern California to Hawaii VHF/UHF tropo path has been recognized for over 50 years. The military, conducting Operation Tradewinds, regularly established a San Diego to Hawaii path on VHF frequencies during summer months. It was also during the 1950s that internationally known VHF/UHF DXer John Chambers, W6NLZ, began VHF operating schedules in Hawaii with Tommy Thompson, KH6UK.

Sure enough, on July 8, 1957 John and Tommy made contact on 2 meters, and on June 22, 1959 they again made contact on 220 MHz. Back in the 1950s, 432 MHz was characterized as too high in frequency because of the 2400-mile path loss, yet Chambers indeed worked up a 432-MHz system and heard Tommy's signal from Hawaii. However, as life moved on, Tommy moved back to New Jersey, returning to his old callsign

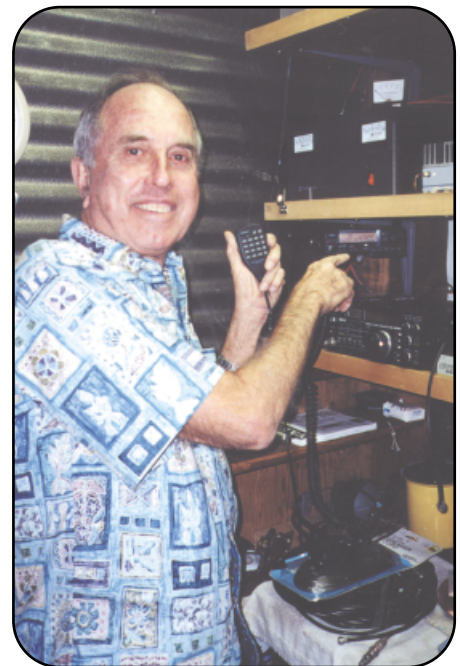
W2UK, and was not able to complete the path. For quite a few years after the W6NLZ to KH6UK contacts no one in Hawaii had that special fascination with VHF/UHF tropo ducting and the microwaves above.

Then Along Came Paul, KH6MHE

Twenty years went by with no California to Hawaii activities except for a few summertime reports of California 2-meter repeaters, where 20-watt mobile stations claiming to be in Hawaii were saying "aloha" for several hours on end. Of course, no one believed that an AM signal on 2 meters would ever propagate over the 2400-mile path, so the Hawaiian mobiles were told to quit pulling our legs and move on to another repeater.

Paul Lieb, KH6HME, was a southern California transplant to the big island of Hawaii. Paul was fascinated with the tropo ducting possibilities between Hawaii and the mainland, so he and Bob, W6PJA, assembled a 432-MHz beacon inside a tin shack on the side of the Mauna Loa volcano, 8200 feet above sea level. The shack was not very warm, as it gets chilly at that altitude. However, it was full of television translators who didn't mind an affable ham taking up a few feet of bench space to squirt a signal over a nearly impossible 2400-mile path back to the mainland.

Once operating, Bob was the first to hear the new beacon. Next the 432-MHz signal was armchair copy for Louis Anciaux, then WB6NMT, now KG6UH and HL9UH, whose home was perched on San Diego's Point Loma, at nearly the exact same spot as some of the original military tradewind tropo experiments. It



Paul Lieb, KH6HME, gets set for 10 GHz this July and August.

took Paul several hours to navigate the lava roads to get up to the beacon site. Once the beacon's signal dropped, the first 432-MHz contact was established on July 18, 1979, followed by the first CW 432-MHz contact made by Jay Mahoney, W6YDF.

In June 1981 Chip, N6CA, built and shipped to Paul the 1296-MHz beacon. Sure enough, after a couple of years trying they made the first 1296-MHz contact. On a day when Chip heard the beacon, he jumped in his 1976 Chevy van and coordinated with Paul on 2 meters SSB for an easy CW two-way on 1296 MHz. Chip's transverter was running 1 watt via a TRW-52601 transistor driven