

NAS Whidbey HF/MARS station provides daily weather information for the USS Sampson (DDG102)

The USS Sampson (DDG-102) an Arleigh Burke-class destroyer, named to honor Rear Admiral William T. Sampson, was a destroyer underway in the Pacific and received daily weather forecasts from Washington DC via NAS Whidbey HF/MARS station for a ten-day test period in July.



The initiator of the test was LT Nathan Admiraal, an active-duty officer in Virginia. LT Admiraal has been investigating ways to hone the Navy's backup communications for the present satellite communications. LT Admiraal contacted Rich Courtney, a retired Navy weather Chief Warrant Officer in Road Island. Mr. Cortney is also a key individual in Air Force Military Auxiliary Radio System (MARS). For the technical implementation for the ship, Robert Davidson, retired Navy officer presently working in Washington DC was recruited.

LT Admiraal and Mr. Cortney decided the best HF station to perform the modulation Mode testing was NAS Whidbey HF/MARS Station in Oak Harbor, WA. They contacted retired Navy officer Terry Sparks, the Assistant Officer in Charge of the NAS Whidbey HF/MARS station and ask him to be a part of the HF Working Group.

Mr. Davidson, also a retired Officer, formatted a laptop computer with the appropriate software to do multiple modes of modulation reception. The computer was shipped to Pearl harbor and received by the Sampson, just before getting underway.

Mr. Sparks worked with Willie Oliver, the station's Chief Operating Officer and retired Aviation Technician, and together they established a test bed station and prepared it to complete the modulation mode transmission testing.

The test was named Pacific Communications ten-day test, PACCOM10D for reference purposes. On July 21st the first of a sequence of ten-day tests commenced. The weather messages for each day were prepared by the team on the east coast and emailed to the west coast NAS Whidbey HF/MARS Station.

Each day the message was sent to the Sampson using the four different modulation modes via HF transmissions.



With atmospheric condition changes each day, 3 of the modes took minor to major transmission hits. One of the modes, Olivia, was 100% every day. Since the transmission speed was faster using the second-best mode, MT63, it became the preferred mode. Should propagation of signal be very poor, the slower mode would always be an option.

On Day six of the test, an additional mode was added to evaluate the potential for transmitting pictures via HF using MFSK modulation. Sampson reported the first picture to be great. As a result, a picture providing weather information was sent each day.

Upon completion of the test, the USS Sampson will save the test results, daily messages, and ship those and the lap top computer back to Washington DC.

The HF Working Group will analyze the information and formulate recommendations for enhanced Navy Communications. The entire team are, **Retired Navy and Still Serving.**