

ABSTRACT

LORAN (LOng RAnge Navigation) is technology of terrestrial navigation that uses groundwave to decide an object position on the earth surface. LORAN applies the principal of groundwave propagation for its dispersion. Loran signal works on 90 to 110 KHz frequencies.

LORAN system consists of a master station and at least two secondary stations that placed hundred miles separately and organized on chain. The master signal consists of navigation information, timing and paging, while secondary signal consists of position information only. The LORAN signals detection process happen at the receiver. The outputs of detection process are information of navigation; timing and paging that are displayed on the receiver.

This final project would design and analyze the transmittance and acceptance of timing and paging information of LORAN signal using FPGA. Timing is the diffusion of time information, coded into pulse which is distributed through the master station. Paging is the diffusion of brief text information, coded onto pulse which is distributed through the master station. Through the existence of timing and paging services, receiver will get accurate information of time and text.

Keywords: LORAN, Navigation, Timing, Paging, FPGA