ABSTRACT

Indonesia is an archipelago country that most of its area is a sea and have three time zones. Indonesia have't had national infrastructure like navigational system, source of timing and paging. All this time, that needs fulfilled with other country's infrastucture.

Indonesia's needs of navigational system, source of timing and paging can be fulfilled by Loran system (Long Range Navigational), it is a positioning determaining system of an object above the earth's surface. Loran is terestrial radio system that use radio wave propagation characteristic above earth's surface called groundwave. One Loran system, in a country, contain several sub system cell/chain form, like cell system in GSM. Where one Loran system, with wide coverage, made of one master station and minimal two sekondary stations. With self owning of navigational system, source of timing an paging, Indonesia can minimize their dependence from other country that will improve national defence.

This final task contain of prototype design of Loran signal generator and detector device on baseband level. The design of Loran signal generator seperated into two parts, signal master generator device and secondary signal. Master signal contain of navigation, timing and paging information, while secondary signal only contain navigation information. Signals Loran detection process occur in reciver. Output from this process are navigation, timing and paging information that displayed in reciever.