

Rancang bangun perangkat keras demodulasi untuk sistem penentuan jarak kawasan ikan = Design of hardware demodulasi for recognize distance of fish species system

Lusindah, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20279839&lokasi=lokal>

Abstrak

Rangkaian pendeteksi amplitudo dapat dijadikan dasar untuk pembuatan system pendeteksi jarak kawasan ikan menggunakan gelombang akustik. Proses penentuan jarak dilakukan dengan membandingkan antara rangkaian pembangkit pulsa pada pengirim dengan pendeteksi amplitudo pada penerima.

Sistem radio komunikasi menggunakan modulasi amplitudo untuk memancarkan frekuensi gelombang radio. Hal ini dilakukan dengan memodulasi sinyal, menumpangkan sinyal informasi pada sinyal pembawa (*carrier*). Kemudian sinyal informasi diambil kembali, yaitu selubung dari gelombang yang dimodulasi, proses ini dinamakan demodulasi. Salah satu metode demodulasi adalah penggunaan *envelope detector*. Keluaran dari rangkaian ini akan digunakan filter *low pass*, yang berfungsi meneruskan frekuensi rendah dan menghilangkan *ripple* keluaran *envelope detector*, rangkaian ini disebut pendeteksi amplitudo.

.....Amplitude detector circuit can be based for built the system of recognize distance of fish species using acoustic reflection. Process to get the value of distance from comparation between outputs of generator pulse at transmitter with output of amplitude detector at receiver.

Most radio communications systems today utilize amplitude modulation to broadcast a certain frequency over the radio waves. This is done by taking a modulating signal, mixing it with a carrier signal and retrieving the original signal, the modulating signal that is supposed to be broadcasted. The way that the original signal is retrieved is by a process called demodulation. Demodulation is the process of removing the carrier and modulating signal from each other and returning the modulating signal, or signal of interest. One method of performing demodulation is through the use of an envelope detector. Output of envelope detector will be used for low pass filter that output stays at or near the peak value of envelope long enough to be measured, this circuit called amplitude detector.