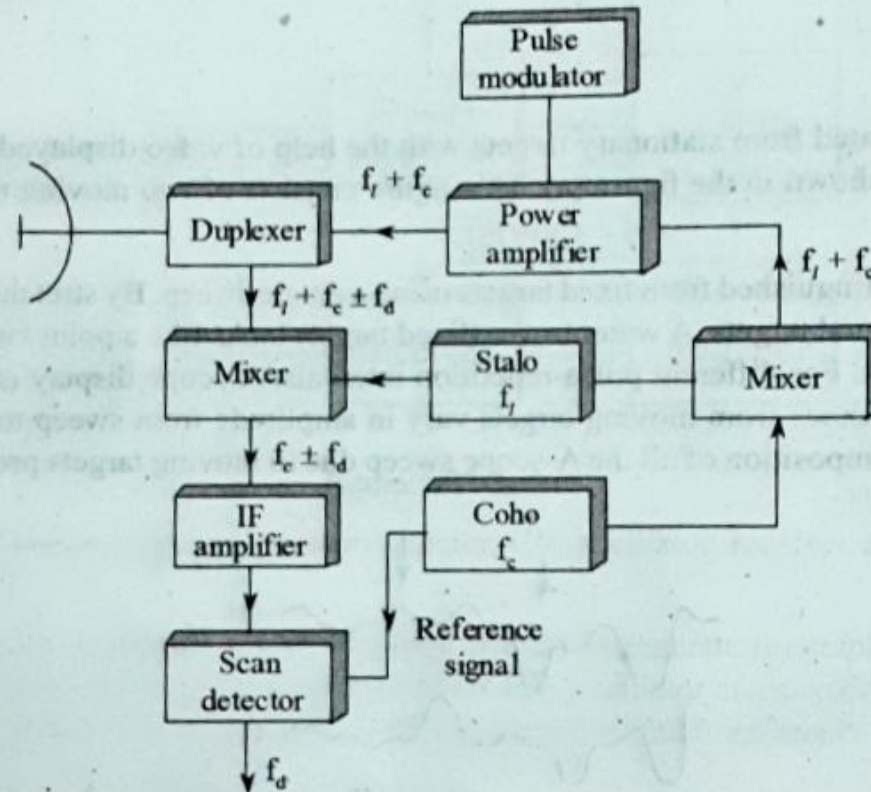


Moving Target Indicator (MTI) Radar discriminates the moving targets from clutters (unwanted echoes from stationary objects) by using the concept of Doppler frequency shift. The basic block diagram of MTI radar using power amplifier as a transmitter is as shown in the figure,



Figure

The principle of MTI radar is similar to the pulse doppler radar but the main difference is the way of generation of reference signal. In MTI radar, reference signal is generated by a stable oscillator it is called coho i.e., coherent oscillator, whose frequency is same as intermediate frequency. In the receiver the output of coho, f_c is mixed with a stable local oscillator, f_l which is called stalo. The combination of stalo, coho and the mixer in which low level amplification is provided is called "receiver exciter".

The major purpose of stalo in MTI radar is to provide the required frequency transformation that is from intermediate frequency (IF) to transmitted frequency. Since stalo functions as a local oscillator in the receiver, phase shift is cancelled. In the end, the IF echo signal and the coho reference signal are fed as inputs to the phase detector, which produces an output proportional to the phase difference between the two input signals.