

2. Tune up procedure over the power range or at specific operating power levels. Rule's No. 2.983(d)-(9)

2.1 Transmitter

Pulse radars employ a pulse-excited magnetron as the transmitter tube.

The magnetron used in this radar has a fixed cavity resonator which determines the oscillating frequency. Accordingly, this radar transmitter has no more frequency-adjust circuitry.

2.2 Receiver

Pulse radars receive the reflected signal from targets, therefore receiving signal has the same frequency as the transmitter power output. Thus, the radar receiver is tuned to the transmitting frequency. This radar has a super heterodyne type receiver with a Front-End module. The Front-End module consists of a GaAs FET low noise amplifier, a double balanced mixer and a FET local oscillator. Tuning of the receiver is accomplished by controlling the local oscillator frequency. The local oscillator consists of a FET and a varactor diode. It's oscillating frequency is controlled by the voltage across the varactor diode. Tuning is made by an automatic tuning circuit controlling the voltage, so that the signal frequency from the mixer coincide with intermediate frequency of the receiver.