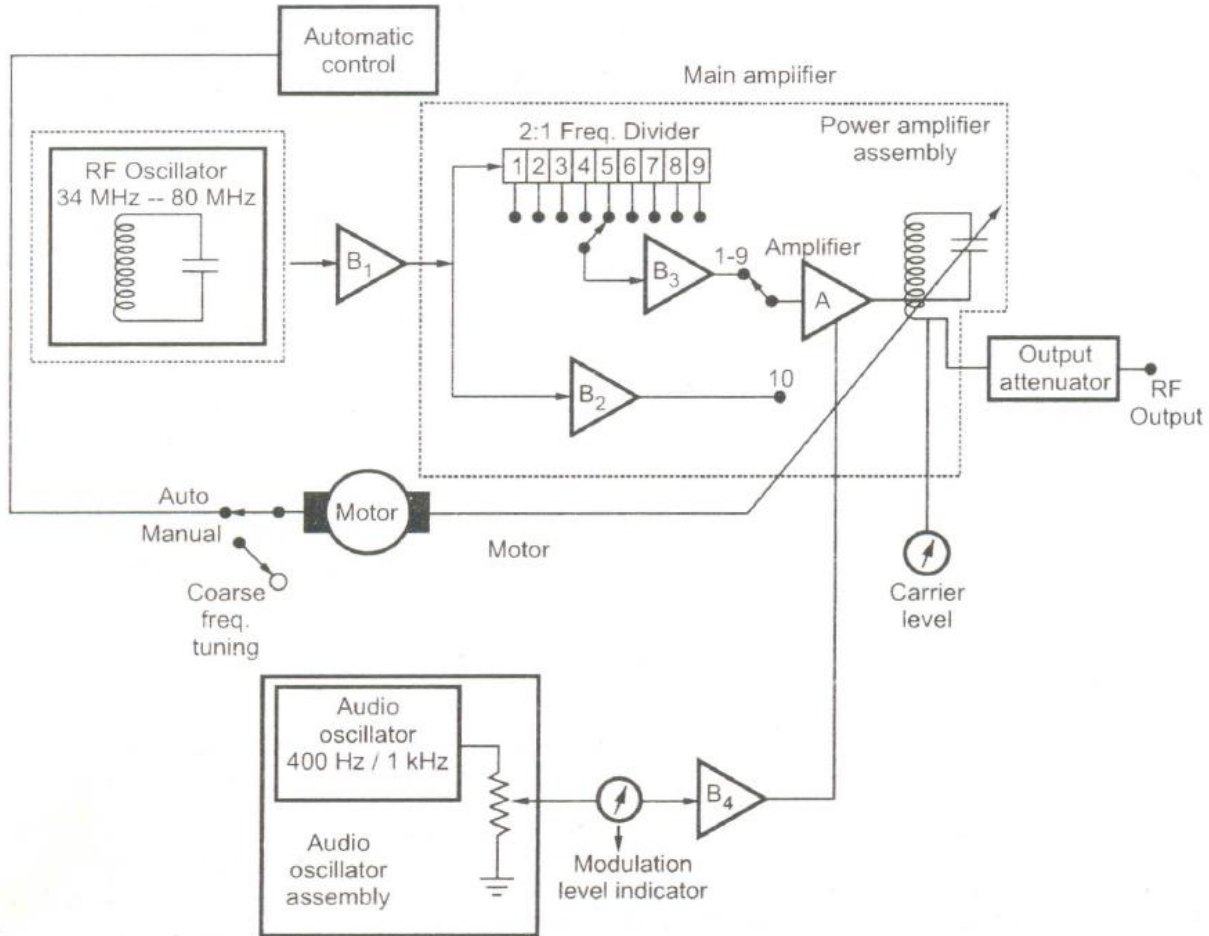


## BLOCK DIAGRAM OF SIGNAL GENERATOR

The block diagram of conventional standard signal generator is shown in the Fig.



Signal for modulation is provided by an audio oscillator. The frequency given by this oscillator is in the range of 400 Hz to 1 kHz. The modulation takes place in main amplifier, in power amplifier stage. The level of modulation can be adjusted up to 95% by using control devices.

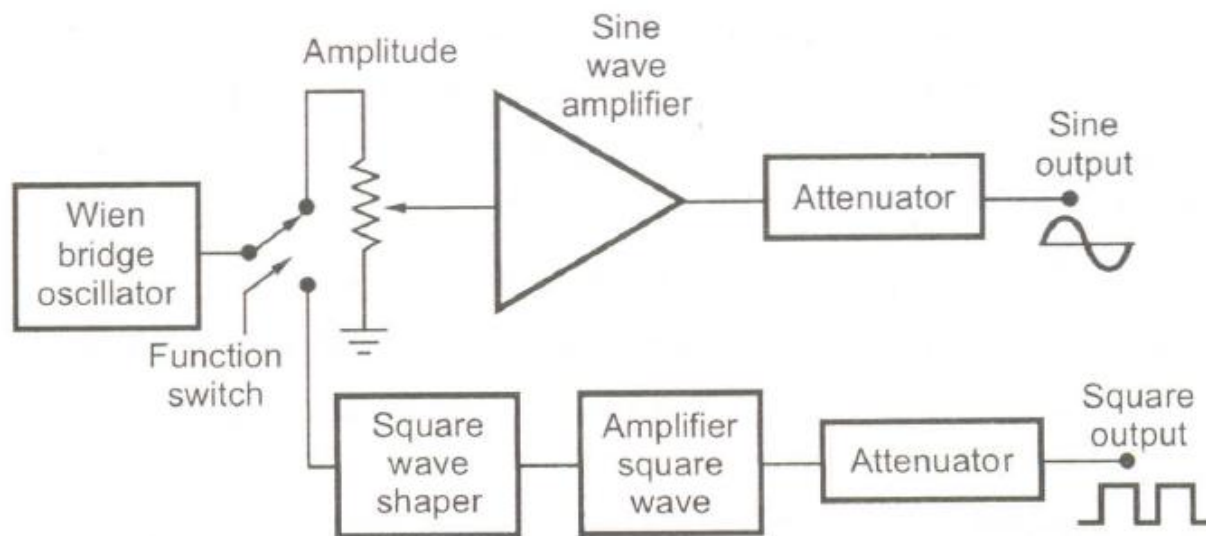
The lowest frequency range obtained by using frequency divider is the highest frequency range divided by 29 or 512. Thus, frequency stability of highest range is imparted to the lowest frequency range. The effects of frequency range selection is eliminated as same oscillator is used for all frequency bands. The master oscillator is tuned automatically or manually. In automatic controller for tuning master oscillator, a motor driven variable capacitor is used. This system is extensively used in programmable automatic frequency control devices. The oscillator can be fine tuned by means of a large rotary switch with each division corresponding to 0.01 % of main dial setting.

The internal calibration is provided by 1 MHz crystal oscillator. The small power

consumption of the instruments makes output with very low ripple. The supply voltage of the master oscillator is regulated by temperature compensated reference circuit. The output of the main amplifier is given to an output attenuator. The attenuator controls the amplitude level and provides the required stable **RF** output.

**AF sine and square wave generator:**

The block diagram of an AF sine-square wave generator is as shown in the Fig



As per our previous discussion, Wien bridge oscillator is the heart of an AF sine-square wave generator. Depending upon the position of switch, we get output as square wave output or sine wave output. The Wien bridge oscillator generates a sine wave. Depending upon the position of switch, it is switched to either circuit. In the square wave generation section, the output of the Wi en bridge oscillator is fed to square wave shaper circuit which uses schmitt trigger circuit. The attenuators in both the sections are used to control output signal level. Before attenuation, the signal level is made very high using sine wave amplifier and square wave amplifier.

Source : <http://elearningatria.files.wordpress.com/2013/10/ece-iii-electronic-instrumentation-10it35-notes.pdf>