LOW FREQUENCY SIGNAL GENERATOR TYPE SG81A

THE type SG81A is a wide range l.f. oscillator providing a maximum output of 1 watt into 600 ohms over a frequency range of 15 c/s to 200 kc/s.

The oscillator consists of a 12BH7 and an EF91 used in a capacitive-resistive Wien bridge network. The oscillator is stabilized by a thermistor in the anode circuit, and a second thermistor provides temperature compensation of the oscillatory output voltage. Thus a very constant output level is obtained.

The frequency is varied by means of a ganged variable capacitor and the frequency reading is calibrated on a drum scale of eight inches in length; a logging scale with fitted vernier is used in conjunction with the main scale.

The oscillatory voltage from the Wien bridge oscillator is fed via the SET LEVEL potentiometer to the control grid of a two stage buffer amplifier. The unit attentuator, tapped in one dB steps, is connected between the buffer amplifier and the output stage, and the output level meter, which consists of a moving coil meter and a rectifier bridge network, is connected across the whole of this attenuator. The amplified output of the buffer stage is resistance capacity coupled to the final output amplifier.

The application of negative feedback in the amplifier and output stages, together with stabilization in the oscillator, ensures a constant level with change of frequency. The output voltage is controlled by means of the unit and decade attenuators used together with the SET LEVEL control. The outstanding feature of this instrument is the excellent arrangement of the output terminations and the very convenient mode of attenuator switching. The decade attenuators are balanced pi networks providing full output either balanced or unbalanced, connected to or isolated from earth.