

Model 810, I placed the switch in its 500-1600 KC OSC. position, operating the unit as an RF generator. Making use of the stages shown in Fig. 2B, tube sections V2A and V3A form a multivibrator-type RF oscillator. The output frequency is made variable by employing the same tuned circuits used in the TRF receiver setup. The dial on the panel thus selects the generated signal, which is then coupled to the output cable by way of the cathode follower V2B. If desired, the RF output can be modulated with a 600-cycle tone by merely flipping the MOD. switch

to its on position. I will describe this modulation source presently.

With the function selector in the position designated as 200-600 KC OSC., the generator circuit of Fig. 2B automatically falls into a tuning range covering the intermediate radio frequencies. This signal, too, can be modulated or unmodulated and used for either signal injection or IF alignment purposes.

The block diagram of Fig. 2C represents operating circuits of the tester when set up as an audio amplifier. In this case, the function switch is in the AUDIO AMPL. position, and the modulation switch is turned off. This functional arrangement is used for complete signal tracing of the audio section of a radio, or as an auxiliary amplifier in itself. An input signal of 10 millivolts or more will normally produce a good aural indication from the instrument's speaker.

Placing the function switch in its one remaining position, namely 600 CPS AUDIO, I discovered that the unit operated as a simple audio oscillator or generator. The stages involved are shown in the block diagram of Fig. 2D. The relaxation oscillator, operating from the B+ supply, consists basically of an NE2 neon bulb, a .002-mfd charging capacitor, and a 5.6-megohm limiting resistor. The fixed frequency of the oscillator is 600 cycles, and its out-

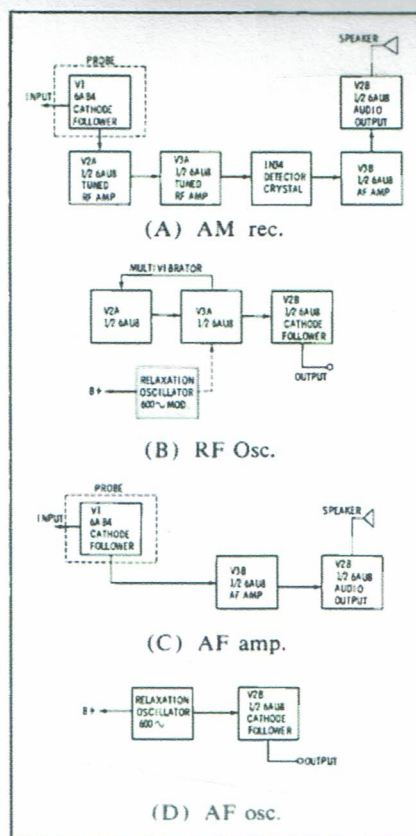


Fig. 2. Block diagrams of Model 810.

put waveform is sawtooth in nature.

For this phase of operation, I also found it necessary to place the MOD. switch in its "on" position, thus applying B+ to the oscillator circuit and shorting out the instrument's speaker at the same time. As shown in Fig. 2B, this same relaxation oscillator is used to modulate the output frequency when the instrument is used as an RF or IF signal generator. The cathode follower V2B offers a low-output impedance, which makes it suitable for driving transistor circuits.

Aside from the signal-tracing and signal-injection functions of the Model 810, it also provides a test circuit for transistors. As shown in Fig. 3, two test sockets, a positive and negative meter jack, and a leakage-gain switch are located on the front panel directly below the speaker grille. In addition to the test circuits, a separate millimeter

must be plugged into the panel jacks and used as an indicating device. The instrument's manual gives step-by-step instructions for checking transistors, as well as general hints on servicing transistor receivers.

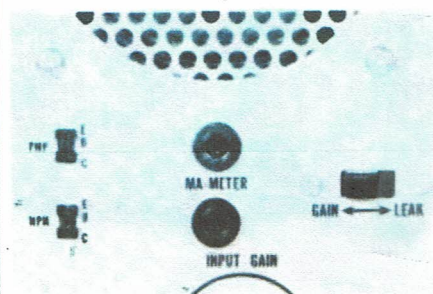


Fig. 3. Front panel provisions of the Hickok tester for checking transistors.