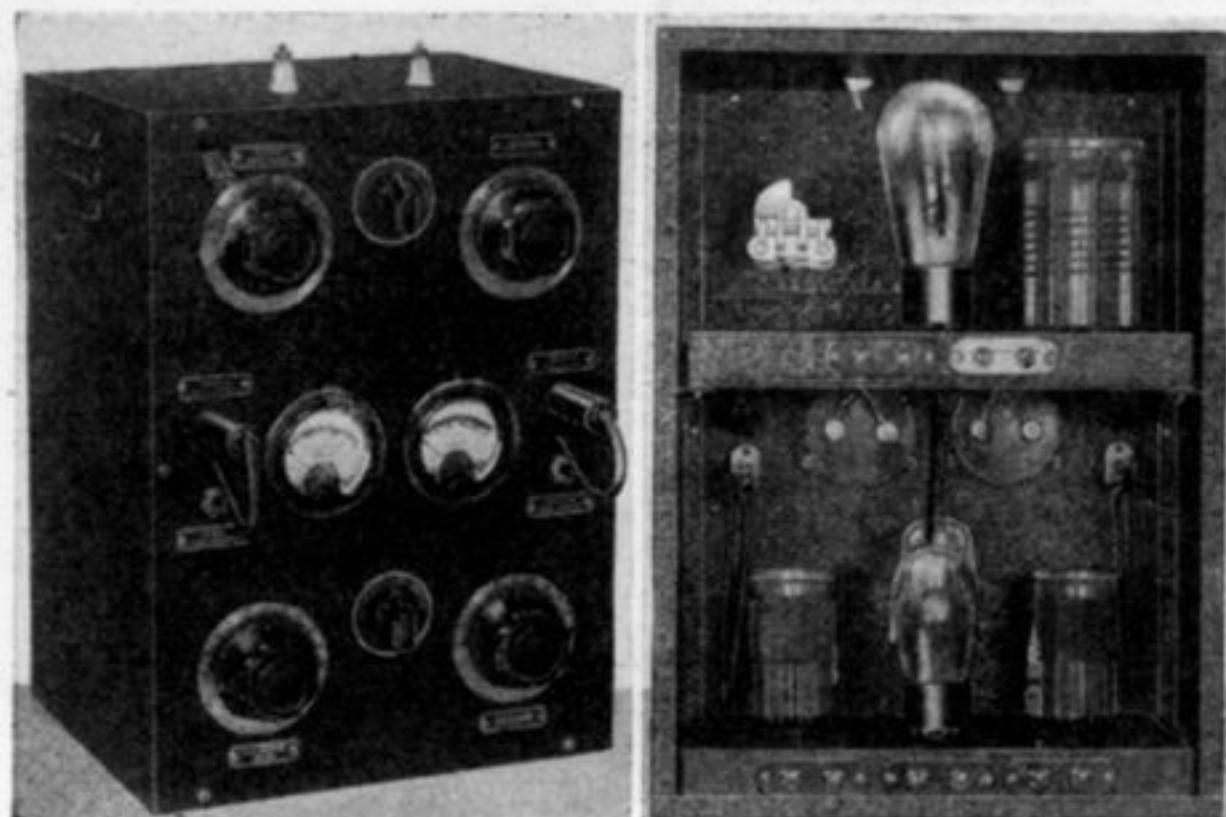


25 Watt Junior Transmitter

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Front and rear views of 25-watt Jr. transmitter.

● THE Trutest 25 watt Junior transmitter is one of straightforward design, employing exactly the same circuit as the now-popular Lafayette P46 transmitter, which has made a great number of friends. This circuit was chosen for simplicity of construction and operation, as well as its "sure-fire" performance. The circuit consists of the Les-tet oscillator buffer or doubler, using a 56-53 tube combination instead of the 2B6 tube, which is not generally available, driving a pair of 46's in parallel as the neutralized amplifier. At all times, the 46's act as an amplifier as all doubling is accomplished in the Les-tet circuit. This oscillator buffer-doubler is the most efficient doubler we have played with; it is very easy on the crystal, even though improperly adjusted, which it is almost impossible to do.

The tubes employed are also well known for their performance and economy. In view of this, it is felt that this is the ideal "transmitter kit" for the beginner, who wants to build a small transmitter, and still have that "professional" appearance. We

feel quite sure the Trutest 25 watt Junior transmitter has all this and more, as the photographs prove.

The tuning range of this transmitter is from 160 to 20 meters, sets of coils are available for all of the amateur bands included in this range. The output power on all of these bands will be 25 watts.

At this point, it might be explained why this transmitter is rated at 25 watts and why the P46 Lafayette transmitter is rated at 30 watts. This is explained by the fact that in the manufacturer's efforts to keep the cost of this transmitter and its power-supply at a minimum, only single-spaced tuning condensers are employed throughout, while the matched power supply unit for this transmitter only supplies 400 volts. With this voltage, the power output of this transmitter is limited. The P46 transmitter employs a larger power-supply, which delivers 600 to 650 volts; this requires the double-spaced condensers and higher-voltage "filter" condensers.

Because this is a small transmitter, do not get the idea from what has been said previously, that the results expected need be also small, for if you do, you are greatly mistaken. This little transmitter has a range of approximately 1000 miles on 80 meters CW, and a more or less unlimited range on 20 meters. As the

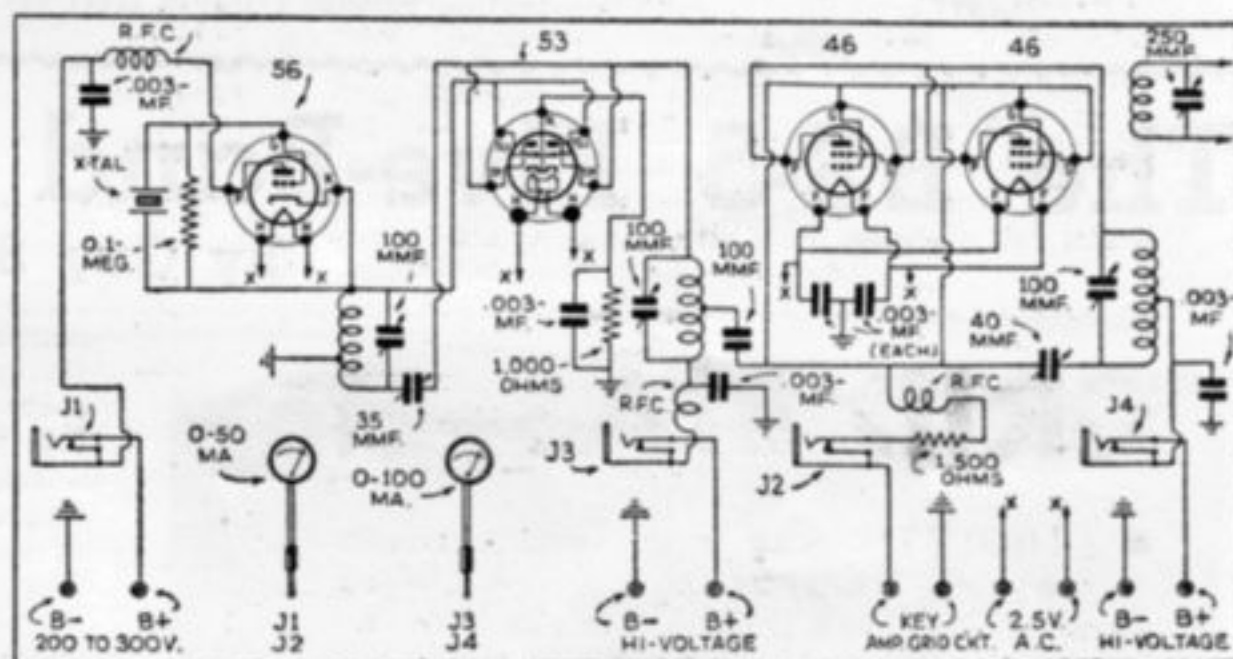
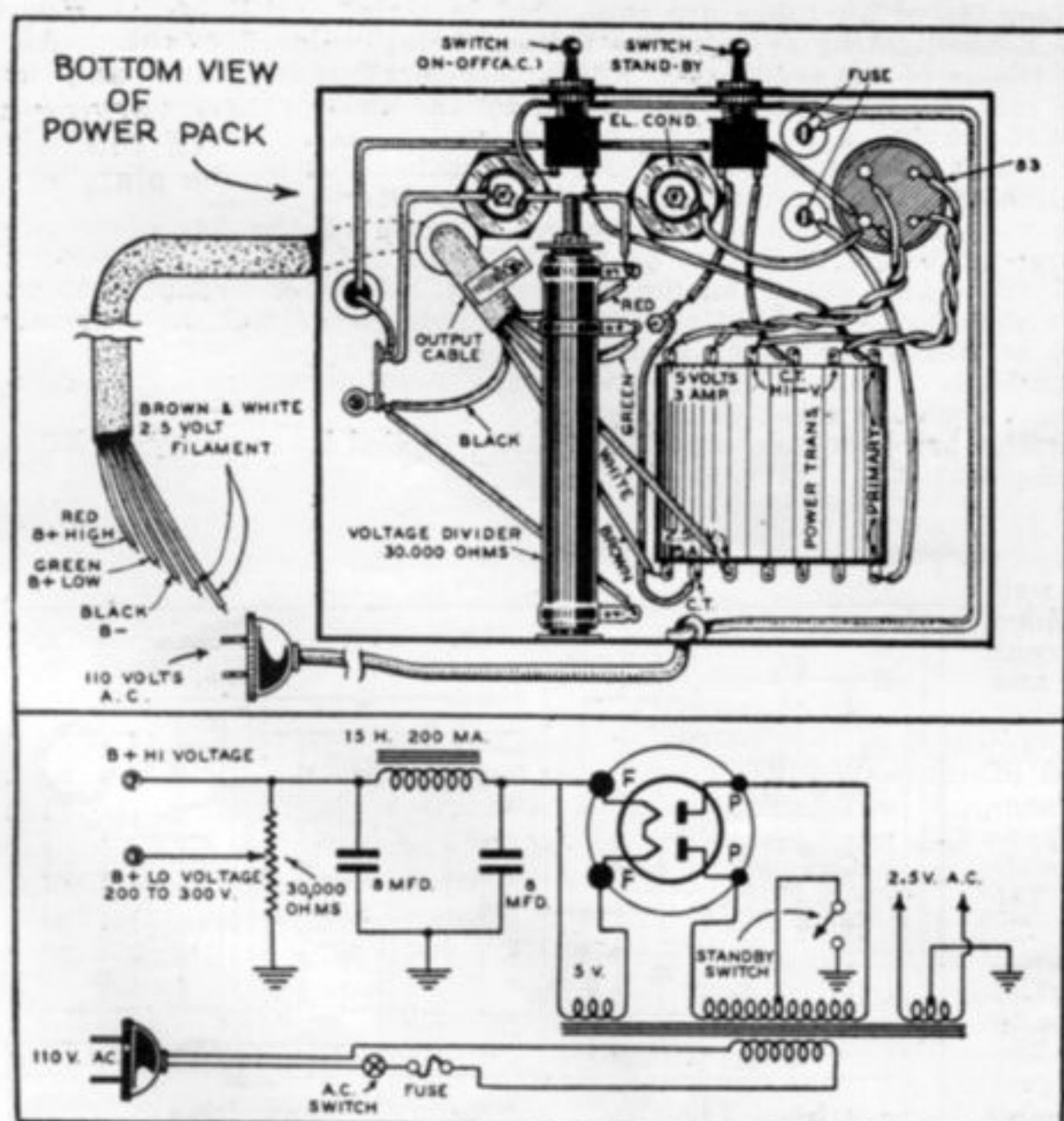


Diagram of 25-watt transmitter.



Make-up and diagram of power-supply unit for 25-watt transmitter.

range of all transmitters is, however, not alone governed by the transmitter itself, but the particular location and antenna installation, as well as the frequency, the range of any transmitter cannot accurately be given, due to these variable factors.

Testing and Operating: When the unit is completely wired and checked, the tubes, coils and crystal should be inserted, and a power supply capable of delivering 350 to 400 volts D.C. at approximately 150 milliamperes as well as 2½ volts at 6½ amperes, should be connected to the respective terminal strips. The Trutest power supply kit No. YY-21068 has been especially designed for this unit. However, as mentioned above any power supply delivering the proper voltages may be employed.

Coil Combinations

The coils to be used will depend entirely upon the choice of crystal and output frequencies. As a rule, the three stages will be tuned to the same frequency when operating on the 160, 80 and 40 meter bands. For 20 meter operation a 40 meter crystal is required, to be used with a 40 meter oscillator coil, a 20 meter doubler coil, and a 20 meter amplifier coil. It is possible, however, to obtain entirely satisfactory operation on the 80 and 40 meter bands when using 160 and 80 meter crystals, respectively, and doubling in the buffer stage. Possible combinations of coils and crystals for operation on the different bands may be seen on the chart below.

Output Band	Crystal	Osc. Coil	Buffer Coil	Amp. Coil
160M	160M	160M	160M	160M
80	160	160	80	80
80	80	80	80	80
40	80	80	40	40
40	40	40	40	40
20	40	40	20	20

An RF thermocouple meter may be inserted in one feeder to give an indication of the current there. While this is no indication of the power output, since different antennas will give different values of antenna current for the same power, it is very useful in tuning the antenna. It also (Continued on page 504)