

Meissner

6 Tube AC-DC Kit

BROADCAST AND SHORT WAVE 10-1199

This Kit available from your Local Distributor.

GENERAL

The Meissner 6-tube AC-DC, No. 10-1199 kit, was designed to answer the requirements of a two band, low cost receiver.

It has a high impedance primary antenna coil which permits the use of almost any length of antenna available. It also has one stage of untuned R. F. and an I. F. wave trap.

This receiver covers a frequency range of 530 KC to 1650 KC and from 5.7 MC to 18 MC, and will operate satisfactorily on voltages from 105 to 125, either D. C. or 50-60 cycles A. C. Extra filtering is required if it is desired to operate on A. C. below 50 cycles.

ASSEMBLY

As the kit is unpacked, all parts should be checked against the parts list at the bottom of this instruction sheet. Any discrepancies should be reported at once to the supplier from whom the kit was purchased.

The parts should be mounted in the following sequence:

- (1) Mount all sockets, making sure that the keyway in the central hole of each is turned in the direction corresponding to that shown in the pictorial diagram, which shows the bottom view of the chassis.
- (2) Mount the dial bracket on the front of the gang condenser.
- (3) Assemble the tuning drive in the following manner:
 - a. Mount the dial drum on the condenser shaft.
 - b. Double the dial string and thread the doubled portion through the hole in the rim of the pulley from the inside out.
 - c. Hook the free end of the spring into one of the holes in the flat part of the pulley.
 - d. Close the gang condenser and rotate the pulley until the hole in the rim occupies the same position as the figure of the hour 7 on a clock face—then tighten the set screw.
 - e. Mount the tuning shaft, looping the string around it $2\frac{1}{2}$ turns, in such a direction that the string leaves the tuning shaft without crossing. Detail of shaft mounting—Figure (1).

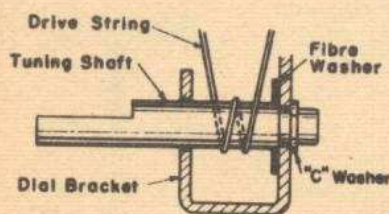


Fig. 1

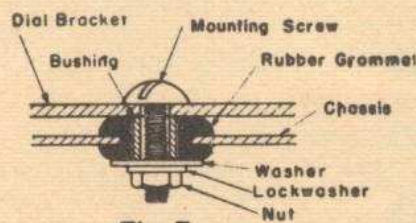


Fig. 3

- f. Stretch the string over the rim of the pulley. Figure (2) shows the position of the string in the completely strung up drive.

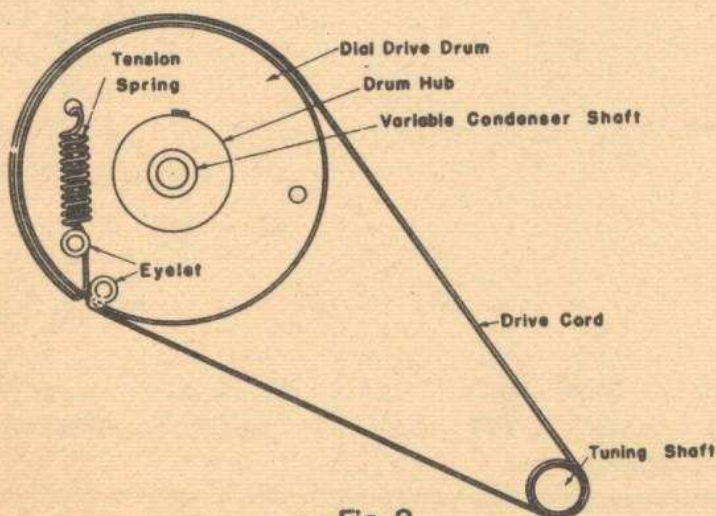


Fig. 2

- (4) Mount the condenser mounting bracket on the rear of the gang condensers, using the 6-32x3-16" screw that is supplied for this purpose.
- (5) Mount the variable condenser, putting three soft rubber grommets in the three mounting holes in the chassis (one on top and two in front), then assemble the mounting accessories in accordance with the detail drawing in Figure (3). Tighten the mounting screw and nut snug.
- (6) Mount the volume control and the band switch, seeing that the locating lug on these controls engages in the holes in the chassis provided for the purpose of preventing rotation of the controls.
- (7) Mount the IF transformers, rotating them so as to have the leads go directly to their proper terminals with a minimum of crossed leads.
- (8) Mount the speaker, using two or more black bakelite washers between speaker and chassis (six are supplied), so the center of the speaker will be on the center line of the variable condenser shaft. Thread the leads from the output transformer through the hole at the left of the speaker.
- (9) Mount the antenna coil on top of the chassis with the lugs protruding below the chassis.
- (10) The IF wave trap is mounted by removing the lock nut which locks the adjustable iron core and the small mounting screw, which is also in the base. After the coil is held in place on the chassis, the lock nut is then screwed on the adjustable iron core screw and the mounting screw tightened in its proper place. After the wave trap is adjusted, the lock nut should be tightened against the chassis.
- (11) The remaining coils and parts should be mounted in accordance with the pictorial diagram.
- (12) The dial scale mounts on the dial bracket, using wood dowels as spacers between the two.
- (13) The dial light assembly clips into the upper left hand corner of the dial. The leads should be threaded through the hole at the rear of the chassis. The leads from the filter choke also thread through this hole. A top view of the layout of parts is shown on the schematic diagram.

WIRING AND ALIGNMENT

Having completed the assembly as above outlined, the set is ready for wiring. The set stands inverted very conveniently for this operation.

It will be found most convenient to wire the filament circuit (pins No. 2 and No. 7 on most tubes) complete before any other wiring or parts are installed. Then follow up with additional wiring, resistors and condensers. It will be found a great help in wiring if each wire in the pictorial diagram is marked over with a colored pencil as the corresponding wire is installed in the set.

Lead, resistor, and condenser placements should follow those shown in the pictorial diagram as closely as possible. Ground variable condenser frame to chassis using the flexible wire provided.

It is recommended that the wiring be rechecked before the tubes are inserted in the receiver or the line cord connected to the power line. After this check is made, the voltages on the tube terminals should be checked against the voltage chart provided, if a volt-meter is available.

Lugs No. 4 and No. 6 on the 35Z5GT tube socket are used as convenient tie points, as no connection is made through these to the tube itself.

Assemble the pointer on the gang condenser shaft by pressing the projections on the back of the pointer into the hole in the end of the shaft. Close the gang condenser and set the pointer horizontal.

If a service oscillator or signal generator is available for alignment, its use will facilitate adjustment of the receiver and insure maximum sensitivity.

The signal generator should be connected to the signal grid or pin No. 8 of the 6SA7 mixer tube. This connection should be made through a .0005 to .25 mfd. condenser, the condenser being between the high side of the signal generator and the connection to the mixer grid. The signal generator should be set to 456 KC, which is the IF frequency, and the volume control of the receiver should be set at maximum or extreme clockwise. The output of the signal generator should then be turned up until a signal is heard and then the trimmers on the IF transformers adjusted (with insulated shaft screwdriver) for maximum output, reducing the output of the generator as the receiver becomes progressively more sensitive, always using as weak a signal as possible.

After the IF transformers have been properly adjusted, remove the connection from the generator to the mixer grid, reconnecting the generator to the antenna binding post. Leaving the frequency of the signal generator at 456 KC, adjust the wave trap by turning the adjusting screw which protrudes through the chassis. This adjustment should be made for the minimum of signal output. The generator output should be increased as the adjustment proceeds to insure maximum IF rejection.

When the IF transformers are adjusted for a maximum sensitivity, the antenna and oscillator trimmers should be adjusted in the following manner:

- (1) Check the dial pointer position to see that it is horizontal when the gang condenser is closed.
- (2) Set the band switch in the broadcast position or counter clockwise.
- (3) Rotate the gang condenser until the pointer indicates 1400 KC.
- (4) Adjust the signal generator to 1400 KC and connect the output of the signal generator to the antenna lead, using a .0002 mfd. condenser between the antenna and the high side of the oscillator. Increase the generator output to a medium level and adjust the oscillator trimmer, which is located through a hole on the top of the chassis just to the right of the speaker. The next step is to adjust the antenna coil by adjusting the trimmer which is closest to the chassis. Both of these trimmer adjustments should be made for maximum output, decreasing the gen-

erator signal strength as the set progressively becomes aligned. Leaving connections as they are, turn the dial pointer to approximately 600 KC and reset the signal generator for 600 KC, increasing the generator output until a signal can be heard. Adjust the padder screw, which is located near the center of the chassis, to maximum output. The best adjustment is obtained by simultaneously adjusting the padder screw and rocking the tuning control around 600 KC. Variation in wiring in circuit capacities may give the maximum output for 600 KC very slightly in error of 600 KC on the receiver dial.

- (5) In the aligning of the short wave band, the band switch must be turned clockwise. Replacing the .0002 mfd. condenser with a 400 ohm resistor between the antenna post of the receiver and the output of the generator, set the generator to 16 megacycles and also the receiver dial pointer to 16 megacycles. Then adjust the oscillator trimmer, which is located through a hole on top of the chassis just to the right of the broadcast trimmer, for maximum output. When adjusting the oscillator trimmer on the short wave band, the trimmer should be tightened and then loosened to the second peak. The second peak will be the correct peak for this adjustment. Next adjust the short wave antenna coil, which is a trimmer located near the top of the coil. As before, the adjustments of these trimmers should be made with as low a signal level from the generator as possible, as the alignment proceeds. The padding of the short wave band is fixed.

CAUTION

The power line is connected directly to this chassis. The receiver must be suitably protected by a non-metallic cabinet and non-metallic knobs so that no one can make contact with any metal part of this radio when in operation. A cabinet back must be used to prevent accidental contact with the chassis. This back should have small holes or slots to permit ventilation yet prevent contact. Mounting screws used to hold the set in a cabinet should also be covered to prevent contact.

VOLTAGE ON SOCKET PIN NUMBERS

TUBE	1	2	3	4	5	6	7	8
12SK7GT RF	0	24VAC	0	grid	1.2DC	95VDC	37VAC	75VDC
35Z5GT	NC	110VAC	110VAC	NC	110VAC	NC	76VAC	112VDC
12SA7GT	0	12VAC	95VDC	95VDC	grid	0	24VAC	grid
12SK7GT IF	0	37VAC	0	grid	1.2DC	95VDC	50VAC	95VDC
12SQ7GT	0	grid	0	diode plate	diode plate	10VDC	12VAC	0
35L6GT	0	76VAC	95VDC	95VDC	grid	NC	50VAC	6VDC

Measurements taken with 1,000 ohms per volt meter. 115 volts AC line. NC indicates "No Connection": all voltages indicated are positive with respect to chassis unless otherwise marked.

COMPLETE PARTS LIST

- | | |
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| <ul style="list-style-type: none"> 1 Chassis No. 02859 1 Input IF Transformer No. 16-6658 1 Output IF Transformer No. 16-6660 1 Broadcast and short wave antenna coil No. 14-2860 1 Broadcast and shortwave oscillator coil No. 14-2862 1 Series peaking coil No. 02864 1 IF Wave trap No. 15-2866 1 PM speaker with output transformer No. 25274 1 Variable condenser No. 26128 1 Filter choke No. T-20C65 6 Octal sockets, 25-8209 3 Tie lugs 1 Padder 22-7007 1 500K ohm volume control with switch, 19701 1 Band switch, 25273 1 Dial mechanism plate, 02865 1 Trimmer base assembly, 17738 1 Dial drum, 19706 4 Wood dowels, 15393 1 Dial cord and spring assembly, 02869 1 Dial Shaft, 19703 1 "C" washer for dial shaft, 16653 1 Bakelite washer for dial shaft, 16637 1 Dial scale, 25276 1 Pilot socket and 6-8 volt pilot light, 19710 & 19711 1 Dial pointer, 19705 3 Knobs, 19709 & 25277 1 Line cord; 12434 | <ul style="list-style-type: none"> 1 Binding post assembly, 19740 2 Black rubber grommets for 3/8" hole, 14211 1 Black rubber grommet for 3/16" hole, 19216 3 Gum rubber grommets 5/32 I.D. for 1/4" hole, 19727 1 Condenser mounting bracket, 19132 4 Chassis mounting brackets, 19133 2 Solder lugs, 11422 1 180 ohm resistor 5% 1/2 W. carbon, RC20AE181J 2 470,000 ohm resistor 20% 1/2 W. carbon, RC20AE474M 1 15 megohm resistor 20% 1/2 W. carbon, RC20AE156M 1 3.3 megohm resistor 20% 1/2 W. carbon, RC20AE335M 1 22,000 ohm resistor 10% 1/2 W. carbon, RC20AE223K 1 2.2 megohm resistor 20% 1/2 W. carbon, RC20AE225M 1 220 ohm resistor 10% 1/2 W. carbon, RC20AE221K 1 100 ohm resistor 10% 1/2 W. carbon, RC20AE101K 1 2,200 ohm resistor 20% 1/2 W. carbon, RC20AE222M 1 39,000 ohm resistor 10% 1/2 W. carbon, RC20AE393K 2 .02 mfd. 400 volt paper condenser, 28117 1 .002 mfd. 600 volt paper condenser, 28150 3 .05 mfd. 400 volt paper condenser, 28103 1 .01 mfd. 400 volt paper condenser, 28119 1 20-20 mfd. 150 volt electrolytic condenser, 18163 3 .00022 mfd. 20% mica condenser, CM20A221M 1 .0036 mfd. 2% silver mica condenser, CM35C362G 1 .00047 mfd. mica condenser, CM20A471M 2 12SK7GT tubes 1 each of the following tubes: 12SA7GT, 12SQ7GT, 35L6GT, 36Z5GT. Miscellaneous assortment of screws, nuts, washers, hookup wire and solder. |
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10-1199
PICTORIAL WIRING
DIAGRAM

BC & SW AC-DC RECEIVER

Note "A"
1 Knurled Nut
Washer
Nut
Chassis Lug
Screw
Bakelite
Washers

