The

TELEVISION KIT

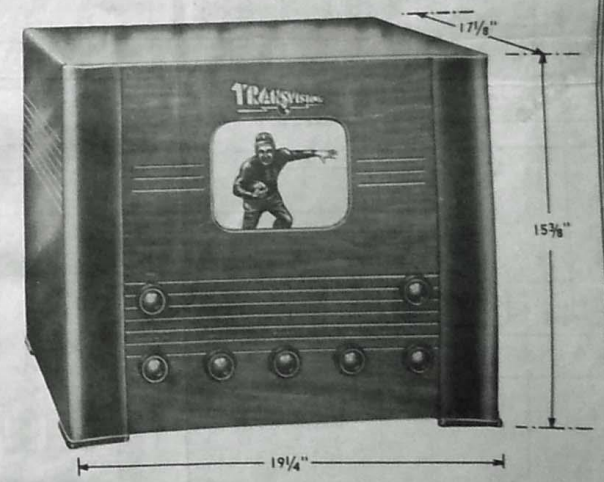
by

TRANSVISION

• ENGINEERED BY TELEVISION SPECIALISTS •

THE KIT FOR THE MILLIONS

CABINET for the TRANSVISION TELEVISION KIT



A handsome cabinet, made of selected grain wood, with beautiful hand-rubbed walnut finish. Has built-in support for Cathode Ray Tube; labeled knobs. Sturdy construction..... Price: $ 32.50

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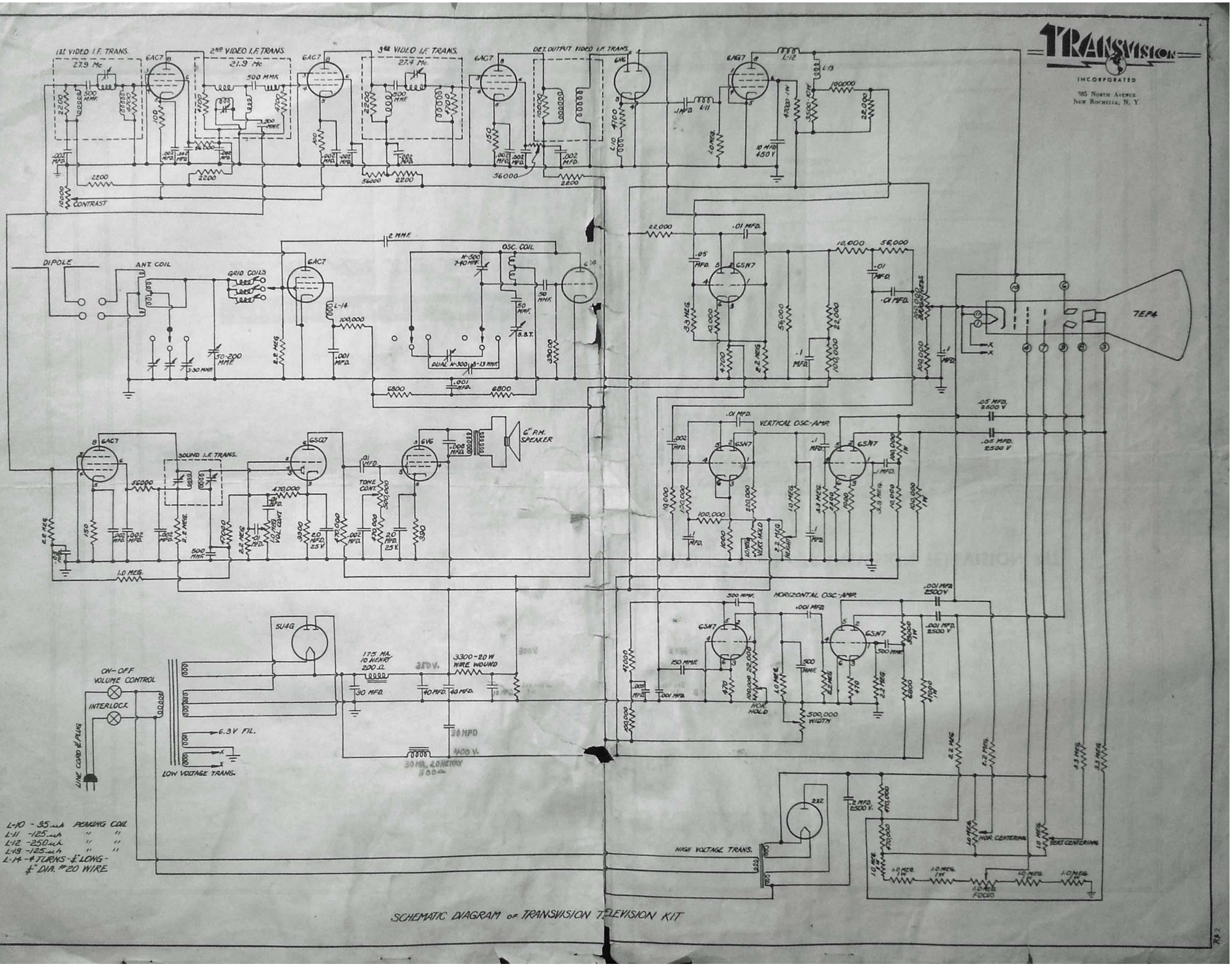


SCHEMATIC DIAGRAM of TRANSVISION TELEVISION KIT

INSTRUCTIONS

for

The

TELEVISION KIT

by

TRANSVISION

PRELIMINARY INSTRUCTIONS

Perhaps at this point, as you are about to commence the adventure of constructing a modern, advanced-design television set, a word of reassurance is in order. Particularly if you are a person without any technical background, you may feel at this moment that the job will prove too formidable. Such fears are completely unfounded. The assembly of this kit has been carefully broken down into correlated stages, each of which consists of simple operations easily performed by anyone who can use a screwdriver and a pair of pliers. If you scrupulously follow these instructions, step by step, stage by stage, your efforts cannot help but end in the successful completion of a television instrument that will not only open new avenues of superb entertainment for your leisure moments, but will also win the admiration and respect of your friends.

On the other hand, perhaps constructing electronic equipment is not a new experience for you at all, and consequently you have so much confidence in your ability to assemble this kit speedily that you regard these instructions as a retarding factor which you may safely ignore. Naturally, previous electronic experience is unquestionably an asset, especially in the practical sense of enabling one to build at a faster rate. NEVERTHELESS, THE URGENCY OF FOLLOWING THESE DIRECTIONS WITHOUT DEVIATION CANNOT BE STATED TOO STRONGLY. You see, when dealing with the high frequencies employed in television, a lot of unpredictable things can happen, and such "bugs" can wreck the performance of the set just as effectively as an error in theoretical design. In many respects our biggest job was actually to decide the physical location of every part, and to determine the length and position of every wire so that our carefully designed circuits would give their maximum performance. Why fall into the pitfalls that we have laboriously remedied when you can avoid them by JUST FOLLOWING DIRECTIONS?

SOME HELPFUL SUGGESTIONS IN SOLDERING

While almost every one has at one time or another used a screwdriver and pliers, not every one has handled an electric soldering iron. Again, don't be alarmed into thinking that soldering requires a great amount of skill or practice because it doesn't at all. Just guide yourself by the suggestions enumerated below and within minutes you will be soldering like an old timer.

1. In the first place, get a good iron. A cheap iron that fails to transmit enough heat to the joints will transform a job that should be genuine fun into a source of irritation. Furthermore, be sure to select an iron with a small tip. Large tips simply will not perform much of the close-quarter work that is required in the electronic field. A small iron known commercially as a "soldering pencil" is admirably suited for these purposes. (The retail price is roughly two dollars.)

2. Never use anything except ROSIN CORE solder. There is a reason for this admonition, too. Acid core solder, soldering pastes, and liquids all have an injurious effect upon insulation and upon the connections themselves, even when the pastes and liquids are termed "non-corrosive". A supply of rosin core solder is included with this kit.

3. "Tin" your iron, and keep it tinned at all times. Here is how to do it. If your iron is an old one, file the faces of the tip until clean while the iron is still cold. As a rule this step is unnecessary if the iron is a new one. Then, as soon as enough heat is developed, smother the tip freely in a pool of solder until it assumes a silvery or "tinned" appearance. This practice prevents corrosion of the tip in addition to facilitating the soldering of electrically sound connections. From time to time, re-tin by filing and submersion into solder as just described.

4. In making connections, bend a small hook at the end of a wire. Push it through the hole on a terminal lug, then pinch tight with pliers. This forms a good mechanical joint. Do not wrap wire for more than half a turn.

5. SOLDER EACH CONNECTION WHEN MADE. If more than one connection is made to the same point, use solder sparingly. Failure to do this may cause intermittent operation of the set.

6. AVOID COLD-SOLDERED JOINTS. Use plenty of heat. If sufficient heat is not provided to connection to make the solder flow easily, the wire is held in place only by rosin, and this condition actually serves to insulate the wire from its intended connection. Cold-soldered joints usually can be recognized by a dull appearance of the joint in place of the normal "silvery" appearance.

7. Large amounts of solder are not necessary to make good connections. The emphasis is on heat applied, not solder applied. Be "Scotch". Just use enough solder to make the connection.

OTHER SUGGESTIONS

1. Self-tapping screws.
   Many of the parts in this kit are mounted by the use of self-tapping screws. This type of screw can be recognized from ordinary machine screws by virtue of a small slot cut through the threads, and a slight taper at the end which makes starting them easy. The self-tapping screw has several advantages. It requires less time than a machine screw, eliminates the necessity for handling lockwashers and nuts, and, because of its self-holding properties, it does not work loose.

2. Pushback wire.
   Despite great pains to supply "pushback" wire exclusively with our kits, market shortages frequently compel us to substitute some other variety rather than send you none at all. Although from the electrical viewpoint it makes no difference what kind of wire you use, we naturally wish to give you the added convenience of simply pushing back the insulation at the end of a wire, and so avoid the slightly longer process of "skinning" it off with pliers. But in any case, if the ends are exposed for soldering as explained in CONSTRUCTION STAGE #2, the performance of the TRANSVISION kit will not be impaired in the smallest way.

3. Mark off each assembly step. In this way you can return to the exact point that you left, conveniently and easily. Equally important, you will not accidentally omit steps and then be forced to hunt tediously for them afterwards. It isn't smart to make time-consuming mistakes that a simple pencil mark will prevent. Be systematic. Check off each step as you perform it. In the long run you will save time.

USING THE DIAGRAMS

Since the wiring diagrams are an essential part of the assembly instructions, let us examine the very first diagram (Diagram A) in order to end once and for all any possibility for confusion.

The first point to see is that, like the others, this drawing considers the chassis to be turned upside down. Bearing this fact in mind, refer to the diagram and observe that in the lower left corner there is a square formed by a dashed line marked "Transformer A". Why a dashed line instead of a solid one? Because the transformer is to be placed on top of the chassis, and naturally this makes it invisible to some one looking into the bottom of the chassis as the drawing tells us to do. The dashed lines explain the difference between something like the transformer which goes on the top, and the tube sockets, terminal strips, wiring, etc. which go on the bottom. (Note the solid lines for these items.) Now there can be no mistake about putting in the transformer. It goes on top of the chassis in the upper left corner (since the diagram, a bottom view representation, indicates lower left). You use exactly the same procedure for every one of the remaining parts.

PHOTOGRAPHS

As a supplement to the diagrams we have also included numerous photographs that show the TRANSVISION kit in progressive stages of completion. Be sure to study these pictures frequently -- they depict a layout that will assist you materially if ever a doubt or uncertainty should arise.
WARNING: Note how wiring, capacitors and resistors are kept close to the chassis, and all lead lengths are kept to a minimum, as shown in the photographs.

RESISTORS AND CAPACITORS

Incidentally, if you don't know the difference between a resistor and capacitor, don't worry about it. The component you will want for each connection will be taken from a definite package. Simply reach for the package number given by the instructions and you will learn soon enough how to recognize a resistor from a capacitor. As for distinguishing between them on the diagrams, simply remember that a letter (such as "A" or "Q") has been assigned to capacitors, and a number (such as "1" or "15") has been assigned to resistors.

WE SAID IT BEFORE

. . . and at the risk of sounding repetitious, we'll say it again. For your own sake -- follow directions. Above all, never remove any parts from their respective packages until directed to do so by the instructions. Be forewarned now that identifying lost or stray parts is a difficult and irksome job.

After all, it should hardly be necessary to point out that even aside from money, a television kit also represents an investment of time and energy. As a result we strongly feel that you are entitled to a set which not only works, but works at peak efficiency as well. And that is exactly why we have weighed every detail that could possibly become a stumbling block.

Yet, if you are hasty and impetuous, you may lose completely the benefit of our guiding hand. So don't be careless. Don't skim over important words. If you have time to build the set at all, then take enough time to build it right.

CAUTION

Before you start to build your kit, be sure to arrange all the packages in numerical order, and check the amount of components in each envelope against the Parts List given on the last page of these instructions. If you have received too many or too few of any of the parts, make note of it so as to avoid any confusion when your kit is completed.

WARNING:- RETURN ALL COMPONENTS TO PROPER ENVELOPES. FAILURE TO HEED THIS WARNING WILL MAKE IT IMPOSSIBLE FOR YOU TO ASSEMBLE YOUR KIT. We suggest lining up your envelopes in numerical order in either a section of your antenna box or any other available box, in order to facilitate finding the various envelopes.

FACTORY GUARANTEE

Set is guaranteed to operate satisfactorily if directions are followed exactly. All servicing of component parts and assembled sets will be performed by our Service Department at factory cost. Set should be returned to the Service Department nearest your location, prepaid, and will be returned service charges C.O.D. including cost of shipping. Do not return sets for servicing to distributors, but to one of the agencies.

If set is returned to factory, servicing requires two to three days except by appointment.

As soon as you receive your kit, be sure to fill in and return to our factory at 385 North Avenue, New Rochelle, New York, your guarantee card which you received with your kit. No parts will be exchanged if this card has not been received at our factory. When and if you need a replacement part within the guarantee period (ninety days from date of purchase), return the part together with fifty cents in stamps, check or money order to cover mailing and handling, and the new part will be sent to you. Do not return any parts to your distributor—return them directly to the factory.

TRANSVISION now makes available to all Transvision kit buyers a TRUE FM sound reception system engineered to give all the advantages of a properly designed FM receiver.

The purchaser has the option of utilizing the kit in its present form, which receives FM sound by means of slope detection, giving sound reception quality which is superior to regular AM broadcast but which does not quite provide the static-free quality of TRUE FM.

If the purchaser prefers TRUE FM to the above method of reception, TRANSVISION makes available to him an FM conversion kit at the factory cost of $1.50, complete with easy-to-follow instruction sheets.

The reason TRANSVISION makes this feature optional is to prevent the exclusion of those buyers who possess neither the knowledge nor the instruments required for the proper alignment of a TRUE FM receiver. Only a properly designed, properly aligned FM receiver yields the benefit of FM. Otherwise, the performance achieved may be considerably inferior to regular AM reception.

ALL TRANSVISION kits now being supplied have a vastly superior, improved sync circuit which stabilizes the picture and reduces noise, giving steady non-slipping performance, even in areas of low signal strength or high noise levels.

Follow the directions given below to obtain the FM accessory kit:

___ 1. Remove the 6SQ7 tube and IF transformer #177 from kit and return to us, properly packaged in one of the four small cartons supplied.
___ 2. Return guarantee card in RF unit carton with $1.50 (check or money order).
___ 3. Make sure we have proper address.

CONSTRUCTION STAGE #1

BE SURE TO READ THE EXPLANATION OF EACH STEP COMPLETELY BEFORE YOU ATTEMPT TO PERFORM IT. REFER TO DIAGRAM A UNLESS OTHERWISE SPECIFIED.

Remember to check each step as you complete it.

____ 1. The best way to start building your TRANSVISION television kit is to mount the low voltage transformer. Select a medium-sized screwdriver and medium-sized pliers — these are the tools you will need for the job. Now pick out the following packages: #24, #103, #104, #108, #109, #110, #112, #140 and #158 (chassis).

____ 2. Mount the low voltage transformer (Package #24) in the position given by "Transformer A" on the diagram, sliding the green leads through hole "A" and the black leads through hole "B". At the same time fasten the terminal strip from Package #140 to the upper right transformer screw, which is taken from Package #110. The other screws and nuts come from Packages #108 and #109. Remember to place a proper sized lockwasher under each nut.

____ 3. Mount "Transformer B" (Package #25) in accordance with the diagram. Use screws, nuts and lockwashers from Packages #104, #108 and #109. Be sure that the red and yellow leads go through the top hole (A) and the black leads through the bottom hole.

____ 4. Take Package #21 (Transformer C) from the kit. With screws, nuts and lockwashers from Packages #103, #110 and #112, mount the transformer in its correct position on top of the chassis, remembering, of course, to include the terminal strip from Package #141 under the screw specified on Diagram A.

____ 5. Mount Choke H-A (Package #23), at the same time attaching a terminal strip from Package #130 to the lower right screw. Use the procedure of Step #2. By now you probably have discovered that the chassis can be rested on its bottom side, using the tw transformers as a support. Generally speaking, this is the most convenient position to use.

____ 6. At this point we are ready to mount the tube sockets. For this purpose screws, nuts and washers are taken from Packages #112, #110, and #103. Now take the socket in Package #95 and mount it on the right hand side of the chassis (Socket X-A on Diagram A). On the bottom of the socket, look for the dot between two of the terminal legs and be certain that it is pointed <u>down</u> toward Transformer B. As indicated by the solid lines, the metal part of the tube socket is placed next to the under surface of the chassis. Incidentally, thread the nuts only until snug. If you thread too far, you may destroy the thread of the screw.

____ 7. Now remove the fourteen sockets from Package #91 and fasten them to the chassis in the positions given by X-1 to X-14 on Diagram A, noting in particular the direction of the keyways. For Sockets X-3, X-4, X-5 and X-6 insert ground lugs from Package #115 instead of lockwashers, as illustrated by Diagram A.

____ 8. Draw Packages #174, #175, #176 and #177 from the kit. Mount them in their respective positions, taking great care to follow the dot color coding given by the diagram. Use nuts from Package #112 and washers from Package #103.

____ 9. Obtain Packages #129, #130, #131, #132, #133, #135, #137, #138, #139, #140 and #141. Using the self-tapping screws from Package #105, attach the terminal strips one by one to the chassis with the aid of Diagram A. Don't be discouraged if the first time you try a self-tapping screw it seems a little difficult. Choose a screwdriver with a blade that sinks completely into the slot found on the head of the screw. Grasp both the screwdriver and the chassis, then resolutely thread in the self-tapping screw with the suitable terminal strip resting under the screw head. The small holes in the chassis are the ones intended for the self-tapping screws. A final word of caution -- do not be confused into mounting at this time the terminal strip described in Step #14.

____ 10. Obtain Packages #40, #84 and #127. Notice how the brackets in Package #40 are designed to clamp over the top of the capacitor (Package #84), while the threaded lugs (spade lugs) slide through the holes in the chassis. Now take the capacitor, place it on top of the chassis in the location specified by the diagram (it doesn't matter which terminal goes through which hole), and fasten it to the chassis by using the brackets and nuts from Package #127 and Package #40.

____ 11. Mount the two capacitors from Package #83 in the same fashion.

____ 12. Slip the rubber grommets from Packages #101 and #102 into their respective holes (Diagram A). Don't neglect the one on the rear skirt of the chassis behind Transformer A. Diagram F.

____ 13. Examine the capacitors from Package #90 and look for the square, half-circle and triangle punched next to the different terminals of the inside set of lugs. Taking a capacitor, slide the outside row of lugs through the slots cut into a metal plate from Package #170, at the same time lining the triangle and half-circle with the two holes of this metal plate. Place this assembly in the spot labeled "CF-1", at the same time remembering to position the triangle, square and half-circle in the manner indicated by Diagram A. Using the contents of Packages #103, #110, #112, and #115, secure the plate firmly to the chassis. (The ground lug goes under the top screw.) With a sturdy pair of pliers, twist the four outside legs until the capacitor is locked tightly in place.

____ 14. Repeat the previous operation for the capacitor that goes in Position "CF-2". A terminal strip from Package #141 is fastened under the upper screw, and a lug from Package #115 goes under the lower screw.

____ 15. Obtain the terminal strip from Package #136, a screw from Package #110, a lockwasher from Package #103 and a nut from Package #112. With the head of the screw resting on the top of the chassis mount the terminal strip in the position shown on Diagram A.

____ 16. Take a ground lug from Package #115 and mount it with a self-tapping screw from Package #105 in the position shown on Diagram A (below Package #30).

____ 17. Take the metal support from Package #116. After locating its position (Package #29 -- upper left hand corner of the diagram) turn the chassis top side up so that the front edge is toward you. Using self-tapping screws from Package #105 and placing a lug from Package #115 under the right hand screw, mount the support with the vertical portion next to the front edge. It is necessary to attach the support this way because the small hole should appear in the upper right hand corner. See photographs.

____ 18. Remove the potentiometer from Package #29. Push the shaft through the large hole of the metal support from a back to front direction, extending the shaft over the edge of the chassis. Now fasten the potentiometer securely to the metal support with a nut from Package #147.

____ 19. In the front side of the chassis, <u>directly</u> below the assembly just mounted, you will find another pair of holes (P-2), one small, the other relatively large. Take the unit in Package #28 and pass the shaft through the larger of these two holes. Using a nut from Package #147, mount the unit so that the three terminals are faced away from the top surface of the chassis. (Note: as you have probably noticed, this unit is <u>not</u> represented on the diagram.)

____ 20. Still referring to the front side of the chassis, find the pair of holes marked "Package #32" on Diagram A directly to the right of the foregoing unit. It is here that the contents of Package #32 will be mounted, using the same procedure as before.

____ 21. Take the potentiometer in Package #30 and mount it in the holes located directly to the right of Package #32. Again, use the same procedure as before. This potentiometer goes to the spot marked Package #30 on Diagram A.

____ 22. Obtain the following packages: #35, #148, #167, #125, #112, #103 and #147. You should now have at your disposal a potentiometer, two small nuts, one large nut, two long screws, two round bushings, and a rectangular bakelite board. (The two extra long screws and bushings will be used later.) First, mount the potentiometer on the rectangular board. Next, locate the three holes (two small, one large) to the right of the potentiometer just mounted. Insert the two screws through the small holes so that the screw heads rest on the outside of the chassis. Pass a bushing over each screw. Next slide the rectangular board over the screws so that the shaft projects out of the chassis, and the three terminals once more face downward, away from the top surface of the chassis. The last step is to lock this assembly in place by means of the two small nuts.

____ 23. Using the contents of Packages #33, #34, #166 and #147, place a nut on the potentiometer bushing, threading it just far enough to allow the bushing to go through the bakelite mounting plate, and engage a second nut to hold it in position as shown on Diagram A. Mount both potentiometers in the same manner.

____ 24. Since the units described in Step #23 go on the <u>rear</u> side of the chassis, turn the chassis upside down and, allowing the two transformers to serve once more as supports, rest the rear side on the work bench. This gives us the same perspective of the rear skirt as seen on Diagram F. CAUTION: Be sure to mount these and the following controls exactly as shown on Diagram F.

____ 25. Employing the same procedure described in Step #22, use the screws, bushings, and nuts to mount the assembly. Refer to P-6 and P-7 on Diagram F, Packages #33 and #34 on Diagram A.

____ 26. Take the potentiometer from Package #31 and mount it on the rear skirt in the position given by P-8, Diagram F.

____ 27. Similarly, mount the potentiometer from Package #37 in the position P-9, Diagram F.

____ 28. Mount the potentiometer from Package #36 in the position P-10, Diagram F.

____ 29. Mount the potentiometer from Package #38 in the position P-11, Diagram F.

____ 30. Remove the contents of Package #82 and mount these capacitors between the foregoing pairs of potentiometers, observing the following precautions:
1. Since the terminals may not touch the chassis, it is evident that the top surface of a capacitor is the one that will raise these terminals furthest away from the chassis.
2. Remember to place one capacitor on top of the other.
3. As usual, the screw heads (Package #125) appear on the outside of the chassis, the nuts (Package #112) rest on the top capacitor. Refer to Diagram A and Diagram F.

____ 31. Take a terminal strip from Package #142, two screws from Package #110, two nuts from Package #112, and two lock washers from Package #103. In mounting the terminal strip, allow the screw head to rest on the <u>outside</u> of the chassis. (Terminal Strip 2 on Diagram F.)

____ 32. Attach a ground lug from Package #115 between potentiometers P-10, P-11 and the capacitors. Use a screw from Package #110 and a nut from Package #112. See L-1 on Diagram F.

____ 33. With two self-tapping screws (Package #105), temporarily mount the audio shield from Package #161 on the bottom side of the chassis so that the upright section is closer to the rear skirt. Then take a pencil or dark crayon and outline the rectangular area which the shield occupies. In order to facilitate wiring, the shield is now returned to Package #161. From this point on, however, it is important to keep all leads and circuit elements clear of the inscribed rectangle. (Note: the long dashed lines on Diagram A are "phantom" lines, meaning that the shield is returned to Package #161 as just explained.)

THIS COMPLETES CONSTRUCTION STAGE #1. BEGIN RIGHT NOW TO FORM THE HABIT OF CAREFULLY CHECKING YOUR WORK AT THE END OF EACH CONSTRUCTION STAGE. YOU'RE HUMAN -- HOW DO YOU KNOW THAT YOU HAVEN'T MADE A MISTAKE? REMEMBER, THE SOONER YOU FIND THEM, THE LESS TIME YOU WILL WASTE. IF POSSIBLE, GET SOME ONE ELSE TO CHECK YOUR WORK.

CONSTRUCTION STAGE #2

Now that the great majority of the mounting has been completed, we are at last ready to proceed with the wiring. Plug your soldering iron in the nearest electrical outlet, and, while it is still heating up, suppose we discuss some wiring practices which may prove helpful to those of you without any previous electronic experience. To begin with, it is advisable to start by making most of the ground connections. After that come the heater circuits, and here it is important to twist all wires so that hum interference will be avoided. When you first begin, if there is a tendency to underestimate the proper wire lengths, don't become impatient. Whether the wires are too short or too long, try doing it over again. After one or two practice trials you will quickly acquire the knack for guessing the right length with your first effort.

Another basic rule in making connections is, of course, to remove the insulating covering at the ends of the various leads, and then to solder the bare wire to the proper terminal. Therefore, whenever phrases like "connect Pin #2 to Terminal #5" or "solder Resistor #4 to Terminal #1" are used in the instructions that will follow, the constructor will understand that he must solder bare, exposed wire to the terminals or pins specified. And since most of the wire supplied in this kit is the type commonly known as "pushback" wire, he merely has to push back the insulation at the end of a lead, and bare wire is easily and quickly made available for soldering the required connection.

One final suggestion — within reason, don't make your wires excessively long.

Is your iron tinned? If it is, you are ready to begin. Throughout this stage refer to Diagram B. Solder is in Package #172.

____ 1. Find Package #179 and remove the wire it contains. Look at the octal (8-pronged) sockets on the chassis and take note of the four ground lugs on the outside metal rim. Now connect Pin #2 of Socket X-1 to the ground lug directly below. Then connect Pin #1 to Pin #2. Remember to avoid cold soldered joints. (The number of each pin is recorded on the base of the tube socket.)

____ 2. Connect Pin #1 to #8 of Socket X-2. Then connect #8 to the ground lug directly below.

____ 3. Ground lugs from Package #115 have been attached to Sockets X-3, X-4, X-5 and X-6. Connect each of them in turn to the ground lug directly below Pin #2 on the respective tube socket. Diagram B.

____ 4. Returning to Socket X-3, connect Pin #2 to the lug directly below. Then connect Pins #1 and #3 to Pin #2.

____ 5. The connections just described in Step #4 are also made on the following tube sockets: X-4, X-5, X-6 and X-12.

____ 6. On Tube Socket X-12 Pin #5 is connected to the ground lug directly below.

____ 7. On Tube Socket X-8 the following connections will be made: Pin #1 to Pin #2; Pin #2 to the ground lug directly below; Pin #2 to Pin #4.

____ 8. On Tube Sockets X-9, X-10, X-11, X-13 and X-14 connect Pin #8 to the ground lug directly below. On X-14 also connect pin #6 to the ground lug directly below it, and on X-11 connect Pin #4 to the ground lug directly below it.

____ 9. On Tube Sockets X-10 and X-11, connect Pin #3 to Pin #6.

____ 10. Take the yellow leads from Transformer A, twist them, cut to a suitable length, and connect to Pins #2 and #8 of Socket X-7. It does not matter which wire goes to which pin.

____ 11. Take the yellow leads of Transformer B, twist them, cut to a suitable length, scrape the enamel off the exposed wire and connect to the two large pins #1 and #4 of Socket X-A. It does not matter which wire goes to which pin.

____ 12. Twist the two heavy brown wires of Transformer A (Hole B), cut to a suitable length, scrape the enamel off the exposed wire and connect to Terminal #1 and Terminal #2 of Terminal Strip Y.

____ 13. Twist the two red wires of Transformer A (Hole A), cut to a suitable length, and connect to Pins #4 and #6 of Socket X-7.

____ 14. Since we are now ready to wire in the heater circuits, obtain Packages #180 and #181 from the kit. Refer to Sockets X-10 and X-13 on the diagram and note that Pin #7 of X-10 is wired to #7 of X-13, while #8 of X-10 goes to #8 of X-13. Examining the diagram further, observe that #7 of X-13 is connected to #7 of X-12. As a matter of fact, a #7 pin is always wired to a #7 pin, and for these connections wire from Package #181 will be used. Wire from Package #180 will be used for the other half of the heater connection. All of the following heater circuit wires must be twisted as shown on Diagram B.

____ 15. As explained in Step #14, wire #181 is connected from #7 on Socket X-10 to #7 on X-13, whereas wire #180 goes from #8 on X-10 to #8 on X-13. Employ any method you believe is best suited for estimating the proper length of each wire, but in case of doubt the following procedure is suggested: solder a long piece of wire to Pin #7 of X-10 and a long piece of wire #180 to Pin #8 of X-10. After twisting the pair as tightly as possible, guide these wires over to Pins #7 and #8 of X-13. Now, while the wires are still twisted, cut them to a length somewhat greater than actually necessary. Then untwist enough of the wires to make the required connections and cut to the exact length. Be sure to press the twisted pair against the chassis.

____ 16. In exactly the same manner, connect #7 of X-13 to #7 of X-12 and #8 of X-13 to #2 of X-12. Dress the twisted pair against the chassis.

____ 17. Still using twisted wires as before, connect #7 of X-12 to #7 of X-14 and #2 of X-12 to #8 of X-14. Dress wires against the chassis.

____ 18. Connect #7 of X-14 to #7 of X-11 and #8 of X-14 to #8 of X-11. Dress the twisted pair against the chassis.

____ 19. Connect #7 of X-11 to Terminal #1 of Terminal Strip Y and #8 of X-11 to #2 of Terminal Strip Y. Twist pairs, dress wires.

____ 20. Connect #7 of X-6 to #7 of X-5, #2 of X-6 to #2 of X-5. Twist pairs, dress wires.

____ 21. Connect #7 of X-5 to #7 of X-4 and #2 of X-5 to #2 of X-4. Twist pairs, dress wires.

____ 22. Connect #7 of X-4 to Terminal #1 of Terminal Strip Y and connect #1 of X-4 to Terminal #2 of Terminal Strip Y. Twist pairs, dress wires.

____ 23. Connect #7 of X-9 to #7 of X-8. Connect #8 of X-9 to #1 of X-8. Twist pairs, dress wires.

____ 24. Connect #7 of X-8 to Terminal #1 of Terminal Strip Y and connect #2 of X-8 to Terminal #2 of Terminal Strip Y. Twist pairs, dress wires.

____ 25. Connect #7 of X-3 to #7 of X-2 and connect #1 of X-3 to #8 of X-2. Twist pairs, dress wires.

____ 26. Connect #7 of X-1 to #7 of X-2 and connect #1 of X-1 to #8 of X-2. Twist pairs, dress wires.

____ 27. Connect #7 of X-2 to Terminal #1 of Terminal Strip Y and connect #8 of X-2 to #2 of X-8.

THIS COMPLETES CONSTRUCTION STAGE #2. BE SURE TO CHECK NOW FOR ANY ERRORS. CHECK YOUR WORK AGAINST BOTH THE INSTRUCTIONS AND DIAGRAM B.

CONSTRUCTION STAGE #3

Before starting to wire, mount the remaining terminal strip from Package #142, using screws, nuts and lockwashers from Packages #103, #110 and #112, on the lower part of the right hand skirt of the chassis, as shown on Diagram C. (Terminal Strip V.)

Keeping leads as short as possible and against chassis where possible, follow Diagram C, making the following connections with wire from Package #185:

____ 1. #3 on Potentiometer P-5 to #3 on Terminal Strip T.

____ 2. #1 on Potentiometer P-5 to #2 on Terminal Strip T.

____ 3. #2 on Potentiometer P-5 to #6 on Terminal Strip Z.

____ 4. #1 on Capacitor CF-3 to #3 on Terminal Strip S.

____ 5. #2 on Capacitor CF-3 to #1 on Socket X-A.

____ 6. #2 on Capacitor CF-3 to #1 on Potentiometer P-6.

____ 7. #2 on Socket X-13 to #2 on Capacitor CF-5.

____ 8. #5 on Socket X-13 to #1 on Capacitor CF-4.

____ 9. #2 on Capacitor CF-4 to #3 on Terminal Strip V.

____ 10. #6 on Terminal Strip V goes to #2 of Capacitor BB and #4 on Terminal Strip V goes to #2 of Capacitor AA. These leads should be twisted and then directed along the bend of the chassis.

____ 11. With wire from Package #180 connect #3 on Potentiometer P-3 to #2 on Terminal Strip B.

With wire from Package #182 make the following connections:

____ 12. #2 on Potentiometer P-3 to #5 on Terminal Strip J.

____ 13. #2 on Potentiometer P-4 to #1 on Terminal Strip Z.

____ 14. #4 on Capacitor CF-1 to #2 on Socket X-7.

____ 15. #2 on Capacitor CF-1 to #8 on Socket X-1.

____ 16. #4 on Socket X-1 to #2 on Terminal Strip F.

____ 17. #1 on Terminal Strip F to #3 on Terminal Strip D.

____ 18. #2 on Terminal Strip F to #1 on Terminal Strip J.

____ 19. #1 on Terminal Strip F to #2 on Terminal Strip K.

____ 20. #2 on Terminal Strip K to #2 on Capacitor CF-2.

____ 21. #5 on Socket X-7 to #3 on Capacitor CF-2.

____ 22. #3 on Socket X-8 to #3 on Terminal Strip L.

____ 23. #3 on Terminal Strip L to #1 on Socket X-9.

____ 24. #1 on Capacitor CF-2 to #3 on socket X-2.

____ 25. #2 on Capacitor CF-2 to #3 on Terminal Strip P.

____ 26. #3 on Capacitor CF-2 to #1 on Terminal Strip O.

____ 27. #4 on Capacitor CF-2 to #6 on Socket X-12.

____ 28. #3 on Terminal Strip P to #3 on Terminal Strip S.

____ 29. #1 on Terminal Strip O to #3 on Terminal Strip R.

____ 30. #2 on Terminal Strip K to #4 on Terminal Strip J.

____ 31. #4 on Terminal Strip J to #2 on Terminal Strip H.

____ 32. #5 on Terminal Strip J to #3 on Terminal Strip H.

____ 33. #2 on Terminal Strip H to #2 on Terminal Strip G.

____ 34. #3 on Potentiometer P-6 to #4 on Terminal Strip U.

____ 35. #2 on Socket X-14 to #1 on Capacitor BB.

____ 36. #5 on Socket X-14 to #1 on Capacitor AA.

____ 37. #4 on Terminal Strip O to #1 on Potentiometer P-10. (See Diagram F)

____ 38. #5 on Terminal Strip O to #2 on Potentiometer P-11. (See Diagram F)

____ 39. #3 on Terminal Strip P to #1 on Potentiometer P-11. (See Diagram F)

____ 40. #3 on Terminal Strip M to #1 on Potentiometer P-8. (See Diagram F)

____ 41. #1 on Terminal Strip N to #2 on Potentiometer P-9. (See Diagram F)

____ 42. #3 on Terminal Strip S to #3 on Potentiometer P-9. (See Diagram F)

____ 43. #1 on Potentiometer P-7 to #1 on Potentiometer P-6. (See Diagram F)

____ 44. #3 on Potentiometer P-7 to #3 on Potentiometer P-6. (See Diagram F)

____ 45. With wire from package #180 connect #2 on Potentiometer P-8 to #5 on Terminal Strip Z. (See Diagram F)

____ 46. With wire from the same package connect #1 on Potentiometer P-9 to #5 on Terminal Strip Z. (See Diagram F)

____ 47. With wire from package #179 connect #3 on Potentiometer P-11 to Ground Lug L-1. (See Diagram F)

____ 48. With the same wire (package #179) connect #2 on Potentiometer P-10 to Ground Lug L-1. (See Diagram F)

____ 49. The red lead coming from transformer B through hole A goes to #1 of Capacitor CF-3.

____ 50. The orange lead coming through the same hole (A) goes through the grommet protected hole K to the topside of the chassis. Now solder the cap from package #117 to the end of this orange lead.

AT THIS POINT CHECK ALL THE WIRING DONE SO FAR. BE SURE THAT ALL CONNECTIONS ARE IN AND THAT THEY ARE CORRECT. IF POSSIBLE, HAVE SOMEONE ELSE CHECK IT FOR YOU.

THIS IS A GOOD TIME TO LIFT UP THE CHASSIS AND SHAKE OUT ANY MISCELLANEOUS PIECES OF SOLDER, WIRE, ETC., THAT MAY HAVE FALLEN TO THE BOTTOM.

CONSTRUCTION STAGE #4

Refer to Diagram D for all the following connections, unless otherwise specified.

____ 1. Find the position of Terminal Strip W on the left side of the chassis. Now mount this remaining Terminal Strip in package #141 with screws from package #110, nuts from package #112, and lock washers from package #103. Allow the screwheads to rest on the outside of the chassis.

____ 2. Twist the black leads coming from the bottom hole (hole B) of Transformer B and lead them across the chassis to #1 and #3 on Terminal Strip W. It is important to press these wires snugly against the bottom of the chassis, running them under all the other wires.

____ 3. Twist the black wires coming from hole B of Transformer A; then connect one of these wires to #1 on terminal strip W, the other wire to #3. Be sure to scrape the enamel off the exposed wire.

____ 4. Solder the red-yellow wire from Hole A of Transformer A to #2 on Terminal Strip W.

____ 5. Twist the remaining green wires coming from Hole A of Transformer A and connect one of these wires to #1 on Terminal Strip Z; the other to #3 on terminal strip Z. These too, must be guided along the bottom of the chassis.

____ 6. In packages #69, #111, and #146, you will find a resistor, a long screw, and two fiber washers. Pass the screw through the hole in the far end of the left side of the chassis, allowing the head of the screw to remain on the outside. Place a washer over the screw, then fit the resistor over the washer. The final step consists of placing the last washer over the resistor and locking the entire unit securely with a nut from package #112. Resistor #31. (Note that terminals face downward towards rear skirt of chassis as shown on Diagram D).

____ 7. Take the choke from package #22 (Choke H-C), two screws from package #110, two nuts from package #112, and two lockwashers from package #103. Insert the screws into the two holes next to the resistor just mounted (Diagram D). Then, with its wires faced downwards into the bottom of the chassis, put the choke over the screws and fasten in place by means of the lock washers and nuts.

____ 8. From package #26 (Interlock Switch) remove the thin bakelite strip and the section with the spring plunger attachment; from package #159, the bottom cover. To avoid a possible error in mounting the interlock switch, be sure to place the bottom cover on the workbench so that it is resting on its four small legs. When this has been done, put the thin bakelite strip over the two holes drilled close to one of the sides, and then, with its plunger pointed upward, place the section with the spring attachment on top of the bakelite strip. Using screws from this same package and nuts from package #112, fasten this assembly securely to the plate. (The nuts rest against the top section of the interlock switch.)

____ 9. In package #26 there should still be two bakelite pieces and two small metal pieces. These components of the interlock switch may already have been assembled. If so, proceed directly to next step. If not, examine the bakelite sections, and note that one of them has four holes while the other has only two. Then take the four-hole section and rest its flat surface against the workbench, directing its straight long edge toward you. At this point the metal pieces should be examined, observing in particular two set screws that have been partially wound into threaded holes. With the long edge toward you, and the screw heads down, these metal pieces are now placed into the grooved portion of the four-hole bakelite section. The last step is to enclose the unit with the remaining bakelite section, taking care to match its straight long edge with the straight long edge of the first bakelite piece.

____ 10. Before mounting this unit to the chassis, grasp it firmly and look at its rear side. It is through these two holes that wires will eventually be inserted, and the set screws on the side of the unit will be used to clamp these wires tightly in place.

____ 11. With the set screws away from the chassis, mount the interlock unit against the side of the chassis between choke H-C and Terminal Strip W. The positioning should be such that the plunger will be accomodated when the bottom cover is attached. Use screws from package #125, and nuts from package #112.

____ 12. The lower terminal on the rear of potentiometer P-2 (switch section) should be connected to #1 on Terminal Strip W, while the upper terminal connects to slot #1 of the interlock switch. Using the contents of Package #180, and twisting the leads, solder them to the terminals on P-2. Be sure these leads are long enough for the pair to be pressed flat against the side skirt of the chassis, and guided to their respective destinations. In making the connection to the interlock switch, first expose about a half inch of bare wire, then feed it into the rear of the interlock switch and tighten by means of the set screw as explained in Step #10.

____ 13. Connect the red lead of choke H-C to #4 of capacitor CF-1.

____ 14. Connect the black lead of choke H-C to #5 of socket X-7.

____ 15. Connect the black lead of choke H-A to #2 on resistor 31, Hole J.

____ 16. Connect the read lead of choke H-A to pin #2 on socket X-7, Hole J.

____ 17. Take the large socket from Package #93 and pass the leads attached to it through grommet protected Hole H. These leads shall be connected in the following way:

____ 18. The thick, red one from pin #7 goes to #1 on potentiometer P-7.

____ 19. The <u>thick</u>, green one from pin #8 goes to #1 on filter capacitor CF-5.

____ 20. The <u>thin</u>, green one from pin #10 goes to #1 on terminal strip X.

____ 21. The thick, white one from pin #3 goes to #2 of filter capacitor CF-4.

____ 22. The thick, brown one from pin #4 goes to #6 of terminal strip Z.

____ 23. The thick, blue one from pin #9 goes to #2 on capacitor BB.

____ 24. The thick orange one from pin #6 goes to #2 on capacitor AA.

Twist the following two wires:

____ 25. The thin, yellow one from pin #11 goes to #1 on terminal strip Z.

____ 26. The thin, brown one from pin #1 goes to #3 on terminal strip Z.

____ 27. With wire from package #185 connect terminal #1 of capacitor CF-5 to #1 of terminal strip V. Dress wire against chassis.

With wire from Package #182 make the following connections and refer to Diagram D.

____ 28. #1 on Potentiometer P-4 to #2 on Resistor 31.

____ 29. #1 on Capacitor CF-1 to #1 on Resister 31.

____ 30. #3 on Capacitor CF-1 to #2 on Resistor 31.

____ 31. #1 on Resistor 31 to #2 on Terminal Strip F.

____ 32. #2 on Resistor 31 to #1 on Terminal Strip F.

____ 33. After twisting, guide the insulated leads of transformer C through the grommet protected hole ("B") at its side. Connect the one lead to pin #4 of socket X-1 and connect the other lead to pin #3.

____ 34. The control, unit P-1 on the top side of the chassis (see Construction Stage #1 and Diagram A) will now be connected in the circuit. Using a resistor from Package #59, connect one end to the ground lug L-P1 directly below; put some spaghetti on the other end and connect it to terminal #3 of P-1. Refer to Diagram H. This is a <u>rear</u> view representation of P-1.

____ 35. Referring to Diagrams D and H, terminal #2 of P-1 is to be connected to #1 of terminal strip A. First, connect wire from package #184 to #2 of P-1, then pass it through the grommet protected hole ("A") just below and solder the wire to #1 of terminal strip A.

____ 36. Referring to Diagrams D and H, Terminal #1 of P-1 is to be connected to pin #5 of socket X-1. As before, connect wire from package #184 to #1 of P-1 and then guide it through the grommet protected hole ("A"). Solder the wire to pin #5 of socket X-1.

____ 37. Using wire from Package #180, connect #1 on P-2 to L-2. Connect L-2 to the nearest outside lug of CF-1. Diagram D.

____ 38. Inspect the contents of Package #171. Probe an end of this shielding material with a pencil point or some other pointed instrument and note that it is capable of considerable expansion. This kind of a shield is slipped around wires in order to protect circuits from interference.

____ 39. Using wire from Package #182, terminal #3 of P-2 is to be connected to 3 of terminal strip B and, using wire from Package #184, terminal #2 of P-2 is to be connected to #1 of terminal strip B. Solder wire from Package #182 to #3 of P-2 and solder wire from Package #184 to terminal #2. Now slide a piece of shielding material described in step #38 over both of these wires. Push it up to about a half inch from terminal #3 of P-2, and at the same time leave a slight overlap of shielding material at the other end. Now carefully slit lengthwise along enough of the shielding material so that the ends of the wire are sufficiently free to permit connecting the lead in the proper manner. Then solder the slit portion of the shield to #2 of terminal strip B. Diagram D.

____ 40. Keeping lead as short as possible and using wire from Package #180 connect the black dot terminal of IF-A (sound I.F. Transformer) to #1 of terminal strip E.

____ 41. Keeping lead as short as possible and using wire from Package #183 connect the blue dot terminal of IF-A to #8 of socket X-3.

____ 42. Keeping lead as short as possible and using wire from Package #182 connect the red dot terminal of IF-A to #2 of terminal strip E.

____ 43. Keeping lead as short as possible and using wire from Package #184 connect the green dot terminal of IF-A to #4 and #5 of socket X-2.

The next steps deal with mounting resistors and capacitors. Solder them to the points as instructed, first cutting the leads to a suitable length. When spaghetti is required, take it from Package #173 and cut it slightly shorter than the lead on which it is to be placed before sliding it over the lead. Refer to Diagram D, (the resistors are numbered while the capacitors are lettered) and place the parts as shown on the diagram. Follow the chart below and be sure to check each step as you do it. The following is an illustration of how to use the chart below:

____ 1. Take a resistor from Package #____ and connect it from pin #____ on socket X____ to lug #____ on terminal strip ____ using spaghetti on both leads. Resistor #____ on Diagram D.

Step No.	Package No.	From	To	Resistor No. Diagram D
44	42	#2 on socket X-3	#5 on socket X-3	1
45	61	#3 on terminal strip E with spaghetti	#4 on socket X-3 with spaghetti	2 (This resistor must be placed in position shown on diagram).
46	61	#2 on socket X-2	#2 on terminal strip D	3
47	46	#3 on terminal strip D	#2 on terminal strip E	4
48	60	#1 on terminal strip E	#3 on terminal strip E.	5

Step No.	Package No.	From	To	Resister No. Diagram D
49	53	#1 on terminal strip D	#1 on terminal strip E	6
50	54	#2 on terminal strip E with spaghetti	#6 on socket X-3 with spaghetti	7
51	59	#3 on socket X-2	#1 on terminal strip D	8
52	59	#2 on terminal strip F with spaghetti	#6 on socket X-2 with spaghetti	9
53	47	#8 on socket X-2	#3 on socket X-2	10
54	43	#8 on socket X-1	#2 on socket X-1	11
55	66	#1 on Capacitor CF-1 with spaghetti	#2 on terminal strip A	12
56	56	#3 on potentiometer P-4 with spaghetti	Ground lug LC	13
				Capacitor No.
57	76	Ground Lug L-3 with spaghetti (ground end - black stripe)	#5 on socket X-3 with spaghetti	A
58	76	Ground Lug L-3 (ground end)	#6 on socket X-3 with spaghetti	B
59	76	Ground Lug L-3 (ground end)	#2 on terminal strip E with spaghetti	C
60	76	#1 on terminal strip A	Ground Lug under Pin #2 of socket X-1 (ground end)	D
61	74	#2 on terminal strip D with spaghetti (ground end).	#3 on terminal strip E	E
62	79	#3 on terminal strip B with spaghetti	#1 on terminal strip D with spaghetti	F
63	79	#1 on terminal strip B	#2 on socket X-2	G
64	79	#5 on socket X-1 with spaghetti (ground end)	#6 on socket X-2 with spaghetti	H
65	73	#1 on terminal strip E	#2 on terminal strip D	J
66	77	#3 on socket X-1 with spaghetti	#2 on terminal strip F with spaghetti (ground end)	K

THIS COMPLETES CONSTRUCTION STAGE #4. BE SURE TO CHECK NOW FOR ANY ERRORS YOU MAY HAVE MADE.

CONSTRUCTION STAGE #5

Connect the following resistors as instructed, being sure to keep the leads of the resistors as short as possible and use spaghetti from Package #173 when specified. Refer to Diagram E and place resistors as shown on the diagram.

Step No.	Package No.	From	To	Resister No. Diagram E
1	54	#1 on terminal strip K	#6 on socket X-4 with spaghetti	1
2	54	#3 on terminal strip J with spaghetti	#6 on socket X-5 with spaghetti	2
3	54	#1 on terminal strip H	#6 on socket X-6 with spaghetti	3
4	54	#1 on terminal Strip M	#2 on terminal strip M	4
5	54	Lug L-A	#2 on socket X-9 with spaghetti	5
6	67	#1 on terminal strip T	#2 on terminal strip U	6
7	67	#2 on terminal strip T	#2 on terminal strip U.	7
8	67	#3 on terminal strip T	#3 on terminal strip U	8
9	67	#4 on terminal strip T	#3 on terminal strip U	9
10	67	#4 on terminal strip T	#4 on terminal strip U	10
11	59	#5 on terminal strip T	#4 on terminal strip U	11
12	53	#5 on socket X-11 with spaghetti	#2 on terminal strip P	12
13	46	#1 on terminal strip K	#2 on terminal strip K	13
14	46	#3 on terminal strip J	#4 on terminal strip J	14
15	46	#1 on terminal strip H	#2 on terminal strip H	15
16	46	#1 on terminal strip G	#2 on terminal strip G	16
17	46	#8 on socket X-13	#6 on socket X-13	17
18	48	#8 on socket X-8 with spaghetti	#1 on terminal strip L	18
19	48	#3 on socket X-9 with spaghetti	Ground lug under pin #4 of socket X-9	19
20	49	#1 on terminal strip O	#2 on terminal strip O	20
21	56	#1 on terminal strip J	#2 on terminal strip J	21
22	56	#5 on socket X-10 with spaghetti	#1 on terminal strip S	22
23	56	#1 on terminal strip S	#3 on terminal strip S	23
24	56	#4 on terminal strip P	#5 on terminal strip P	24
25	56	#3 on terminal strip P	#2 on terminal strip P	25
26	50	#2 on terminal strip N	#4 on socket X-10	26
27	50	#2 on terminal strip R	#3 on terminal strip R	27
28	50	#2 on socket X-9 with spaghetti	#1 on terminal strip M	28
29	50	#6 on socket X-9 with spaghetti	#8 on socket X-9 with spaghetti	29
30	45	#6 on socket X-10	#2 on terminal strip S	30
31	45	#8 on socket X-13	#3 on socket X-13	31
32	51	#5 on socket X-9 with spaghetti	#4 on terminal strip J	32
33	51	#3 on terminal strip P	#4 on terminal strip P	33
34	51	#2 on socket X-9 with spaghetti	#2 on terminal strip J with spaghetti	34
35	51	#4 on terminal strip O with spaghetti	#1 on socket X-11	35
36	62	#4 on socket X-9 with spaghetti	#1 on socket X-9 with spaghetti	36
37	62	#1 on terminal strip R	#1 on socket X-13 with spaghetti	37
38	62	#2 on potentiometer P-7 with spaghetti	#1 on terminal strip V with spaghetti	38
39	62	#5 on terminal strip T with spaghetti	#3 on terminal strip V with spaghetti	39
40	62	#8 on socket X-13	#4 on socket X-13	40
41	61	#1 on socket X-9 with spaghetti	Ground lug below pin #4 of socket X-9 with spaghetti	41
42	61	#1 on socket X-14 with spaghetti	#8 on socket X-14	42
43	61	#8 on socket X-14	#4 on socket X-14	43
44	61	#6 on terminal strip V with spaghetti	#5 on terminal strip T with spaghetti	44
45	61	#2 on potentiometer P-6 with spaghetti	#4 of terminal strip V with spaghetti	45
46	59	#1 on potentiometer P-6 with spaghetti	#5 on terminal strip T with spaghetti	46
47	60	#1 on socket X-12	#4 on socket X-12	47
48	60	#2 on socket X-10	#1 on terminal strip N	48
49	60	#5 on terminal strip O	#2 on socket X-11 with spaghetti	49
50	41	#5 on Socket X-5 with spaghetti	#5 on terminal strip J	50
51	41	#5 on socket X-6	#3 on terminal strip H	51
52	44	#3 on socket X-11 with spaghetti	Ground lug under pin #1 of socket X-11 with spaghetti	52
53	44	#3 on socket X-14 with spaghetti	#3 on terminal strip O with spaghetti	53
54	42	#3 on socket X-4	#5 on socket X-4	54
55	57	#3 on terminal strip M with spaghetti	#1 on socket X-10 with spaghetti	55
56	63	#2 on terminal strip O with spaghetti	#5 on socket X-14 with spaghetti	56
57	64	#1 on terminal strip O	#2 on socket X-14	57
				Peaking Coil No.
58	19	#1 on terminal strip L	#2 on terminal strip L	H-4
59	17	#5 on terminal strip P	#1 on terminal strip X	H-2
60	16	#1 on terminal strip X	#8 on socket X-12	H-3

THIS COMPLETES CONSTRUCTION STAGE #5. ONCE AGAIN, BE SURE TO CHECK YOUR WORK. AT THIS POINT TURN THE CHASSIS OVER AND SHAKE OUT ANY EXCESS SOLDER OR OTHER MISCELLANEOUS BITS THAT MAY HAVE FALLEN IN THE CHASSIS.

CONSTRUCTION STAGE #6

Connect the following capacitors as instructed, being sure to keep the leads of the capacitors as short as possible and use spaghetti from Package #173 when specified. Refer to Diagram G and place capacitors as shown on the diagram.

Step No.	Package No.	From	To	Capacitor No. Diagram G
1	76	Lug L-4 (ground end)	#6 on socket X-4 with spaghetti	A
2	76	Lug L-4 (ground end)	#1 on terminal strip K with spaghetti	B
3	76	Lug L-4 (ground end)	#5 on socket X-4 with spaghetti	C
4	76	Lug L-5 (ground end)	#6 on socket X-5 with spaghetti	D
5	76	Lug L-5 (ground end)	#3 on terminal strip J with spaghetti	E
6	76	Lug L-5 (ground end)	#5 on socket X-5 with spaghetti	F
7	76	Lug L-6 (ground end)	#6 on socket X-6 with spaghetti	G
8	76	Lug L-6 (ground end)	#1 on terminal strip H with spaghetti	H
9	76	Lug L-6 (ground end)	#5 on socket X-6 with spaghetti	J
10	76	Lug L-6 (ground end)	#1 on terminal strip G with spaghetti	K
11	76	#2 on terminal strip M (ground end)	#4 on socket X-10 with spaghetti	L
12	80	#2 on terminal strip J with spaghetti	#2 on terminal strip N (ground end)	M
13	80	#2 on terminal strip N (ground end)	#1 on terminal strip S	N
14	80	#2 on socket X-10 with spaghetti	#4 on socket X-13 with spaghetti (ground end)	O
15	80	#2 on socket X-10 with spaghetti	#8 on socket X-9 with spaghetti (ground end)	P
16	80	#2 on terminal strip R with spaghetti (ground end)	#1 on socket X-13 with spaghetti	Q
17	80	#8 on socket X-8 with spaghetti (ground end)	#1 on terminal strip P	R
18	80	#1 on terminal strip Z	#5 on terminal strip Z (ground end)	A on diagram F
19	74	#4 on terminal strip P (ground end)	#4 on socket X-9 with spaghetti	S
20	79	#5 on socket X-10 (ground end)	#1 on socket X-10 with spaghetti	T
21	79	#2 on terminal strip M	#5 on socket X-12 with spaghetti (ground end)	U
22	79	#1 on terminal strip M	#5 on socket X-12 (ground end)	V
23	79	#3 on terminal strip L	#5 on socket X-9 with spaghetti (ground end)	W
24	77	#2 on terminal strip P with spaghetti	Ground lug under pin #6 of socket X-14 (ground end)	X
25	85	#3 on socket X-9	Ground lug under pin #4 of socket X-9	Y
26	85	#2 on socket X-11 with spaghetti	#4 on socket X-14 with spaghetti	Z
27	73	#2 on terminal strip O with spaghetti	#1 on socket X-14 with spaghetti	ZZ
28	73	#1 on socket X-11 with spaghetti	#5 on socket X-11 with spaghetti	YY
29	73	#3 on terminal strip O	#2 on socket X-11 with spaghetti	XX
30	72	#6 on socket X-11 with spaghetti	#3 on socket X-9 with spaghetti	WW
				Peaking Coil No.
31	17	#4 on socket X-12	#1 on terminal strip P	H-1
				Resistor No.
32	64	#3 on terminal strip P	#6 on socket X-12 with spaghetti	1
33	66	#3 on terminal strip R	#2 on socket X-13 with spaghetti	2
34	66	#2 on terminal strip R	#5 on socket X-13 with spaghetti	3
35	68	#3 on terminal strip P	#5 on terminal strip P	4

(This resistor should be held so that the lugs point downward and rest against the proper lugs on terminal strip P. Then solder the lugs so that the resistor is anchored in this position).

CAUTION: Be sure to keep all the following wires as short as possible. This is extremely important. Refer to Diagram G.

With wire from Package #184, make these connections:

____36. From green dot terminal on IF-4 to #5 on socket X-8.

____37. From green dot terminal on IF-3 to #4 on socket X-4.

____38. From green dot terminal on IF-2 to #4 on socket X-5.

____39. From green dot terminal on IF-1 to #4 on socket X-6.

With wire from Package #182, make these connections:

____40. From the red dot terminal on IF-4 to #1 on Terminal Strip K.

____41. From the red dot terminal on IF-3 to #3 on Terminal Strip J.

____42. From the red dot terminal on IF-2 to #1 on Terminal Strip H.

____43. From the red dot terminal on IF-1 to #1 on Terminal Strip G.

With wire from Package #183, make these connections:

____44. From the blue dot terminal on IF-4 to #8 on socket X-4.

____45. From the blue dot terminal on IF-3 to #8 on socket X-5.

____46. From the blue dot terminal on IF-2 to #8 on socket X-6.

With wire from Package #180, make these connections:

____47. From the black dot terminal on IF-4 to Ground Lug L-4.

____48. From the black dot terminal on IF-3 to Ground Lug L-5.

____49. From the black dot terminal on IF-2 to Ground Lug L-6.

____50. From the black dot terminal on IF-1 to #2 on Socket X-6.

With wire from package #181, connect:

____51. The yellow dot terminal on IF-2 to #4 on Socket X-3

____52. Take the RF section from Package #189. Mounting from the top side, take four self-tapping screws (Package #105) and attach the section to the chassis so that the shaft of the switch extends through the large hole provided for it. Note that this procedure locates the large tube socket toward the middle of the chassis, and the small tube socket near the front edge. Warning: do not make adjustments on the RF plate at any time. Failure to heed this warning will render the set inoperative.

____53. Connect the metal braided wire already soldered on lug L-RF to Lug L-C. Diagram D.

____54. File the shaft of the switch so that a flat surface will be presented to the knob when it is attached later on.

____55. Connect the metal braided wire already soldered on the ground lug under pin #6 of socket X-15 to lug L-6 on the chassis. Diagram D.

____56. Taking the twisted pair already soldered to socket X-15 of the RF unit, connect the black lead to #2 of socket X-6 and connect the yellow lead to #7 of socket X-6. Diagram D.

____57. Connect the wire already attached to #1 on terminal strip RF to #2 on terminal strip G. Diagram D.

____58. Connect the wire already soldered on pin #8 of socket X-15 to the blue dot terminal of IF-1. Diagram D.

____59. At this point the audio shield from Package #161 will be permanently joined to the chassis. Use three self-tapping screws from Package #105. Diagram D.

____60. Pass the free end of the line cord in package #96 through the grommet protected hole Z in the rear of the chassis. Tear along the groove in the middle of this cord for a length of roughly five inches, and then tie a knot with these loose ends against the back of the chassis. Diagram D.

____61. Solder one of these leads to #3 on terminal strip W, and connect the other to slot #2 of the interlock switch, tightening with the set screw. Diagram D.

____62. Obtain the insulated shaft extensions enclosed in Package #118. The long shaft goes on P-5 (Diagram A) and the two short ones on P-6 and P-7 (Diagram A). If these shafts lack set screws, or have large ones, use the set screws of Package #113.

IT IS ABSOLUTELY ESSENTIAL AT THIS POINT TO CHECK YOUR WORK WITH PAINSTAKING CARE. REMEMBER, ONE SMALL ERROR UNDETECTED NOW CAN EASILY RUIN MANY EXPENSIVE CIRCUIT PARTS LATER ON. DON'T PUT YOURSELF IN THE ABSURD POSITION OF ALLOWING IMPATIENCE TO NULLIFY-- IN A SPLIT SECOND-- HOURS OF CAREFUL WORK. BE PARTICULARLY SURE THAT NO LOOSE PIECES OF WIRE OR SOLDER ARE PERMITTED TO REMAIN IN THE CHASSIS.

CONSTRUCTION STAGE #7

1. In performing the remaining steps, frequent reference to the photographs will be particularly helpful.

2. Open Package #155 and observe that labels for the front panel appear on the enclosed paper. To make the required transfer from paper to panel, arrange the panel (Package #152) so that it is resting front side up, with the seven small holes toward the bottom. Soak the paper until the "decal" begins to work loose, and then carefully slide it from the backing sheet to the intended surface with a finger or some blunt implement. While the TRANSVISION "decal" may be affixed to a location of your own selection (such as between the two large holes), be sure to follow this order for labelling the controls: upper left--- "Tone"; upper right--- "Sound Sensitivity"; lower controls and progressing from left to right---"On-Volume-Off", "Contrast", "Brightness", "Focus", and "Channel (5432 1)". Suggestion: cut the sheet into its separate labels and apply each one individually to the panel.

3. Using a sharp knife or scissors, cut a circular hole, diameter 5½ inches, into the center of the cardboard sheet enclosed in Package #153. Suggestion: draw a preliminary circle on the cardboard with a compass, then cut out the hole.

4. Place the cardboard on the workbench so that the long edge is horizontal and the short edge is vertical. Next, take the loudspeaker in Package #39 and rest its face directly over the hole just cut into the cardboard, pointing the terminal strip downward but approximately 45 degrees to the right. Using a pencil, mark where the extreme upper and lower holes of the speaker appear on the cardboard. Now put the speaker aside and punch small holes through these two pencil spots.

5. Making sure that its seven small holes are still toward the bottom, turn the front panel over so that its reverse surface is toward you. Cover the large, rectangular hole in the middle with the grille cloth of Package #156, then place the cardboard over the grille cloth. Once again, lay the face of the loudspeaker directly over the hole cut into the cardboard, directing the terminal strip downward and to the right as before. Carefully holding these parts in place, slide them about until the upper and lower holes of both the speaker and the cardboard coincide with the holes drilled into the panel. At this point, remove the speaker and use the brads in package #178 to fasten the cardboard and cloth securely to the panel. (Note: the sole obstacle in performing this operation will probably concern the grille cloth, which from the appearance standpoint should naturally be mounted tightly. You may find it more practical, therefore, to attach the cloth tightly to the cardboard first, and then to proceed in accordance with the foregoing instructions. If this situation should develop, resort to any convenient solution that presents itself. For example, one possibility consists of glueing or cementing the cloth to the cardboard, another is stapling them together with an ordinary paper stapler, and a third, simply the use of paper clips.

6. Keeping the panel right side up, and the rear surface toward you, take the cellulose window from Package #100 and put it over the large hole above the grill cloth. Now fasten it securely to the panel with the brads in Package #178.

7. With the rosette screws in Package #123, nuts from Package #112, and lock washers from Package #103, mount the loudspeaker, allowing the screwhead to appear on the front side of the panel. Place the speaker in the position given by Step No. 5.

8. Take the two wooden blocks and the felt from the kit. To clarify the forthcoming operation, study the photographs to see how these blocks are used to support the long picture tube. Common sense should now quickly suggest a practical way for you to perform this task. For example, since the blocks must hold the picture tube snugly in place, carefully center the face of the tube (Package #5) upon the cellulose window. After resting the felt over the curved surfaces of the wooden blocks, you can accurately determine their position by holding them firmly against the tube and drawing their outlines against the panel with a pencil. Return the picture tube to Package #5. Using screws from Package #221, attach the blocks to the panel being careful not to damage the front of panel.

9. In order to join the panel to the chassis, use the contents of Packages #121, #124, #112, and #103. First slip the rosette screws through the small holes to the extreme lower left and right of the panel so that the heads appear on the front side. After sliding the metal spacers over the screws, guide the overlapping ends into the companion holes on the front edge of the chassis. Now fasten the assembly in place with the lock washers and nuts.

10. Protected by spaghetti from Package #173, the two bare leads of Transformer C located on top of the chassis now connect to the loudspeaker terminal strip, each wire going to a separate lug of your own selection.

11. At this point the metal braces in Package #97 should be installed on this assembly. Use self-tapping screws from Package #105 to join the braces to the chassis; use the wood screws from Package #144 to fasten the braces to the panel. Be sure to insert a washer from Package #103 under each screw.

12. Using self-tapping screws from Package #105, mount the metal supports (Package #98) for the picture tube on the chassis. See photographs for the location. Caution: do not allow these screws to injure any of the parts, such as capacitors, on the underside of the chassis, or to touch any bare wires.

13. Using self-tapping screws from Package #105, attach the bottom plate (Package #159) to the chassis. Be certain that the section of the interlock switch on the bottom plate is joined to its mate already on the chassis.

14. Take the picture tube saddle from Package #187 and holding it against the lower surface of the top holes in the two pieces just mounted, secure with the use of screws and nuts from Package #128 and #108. Pass the screws from a bottom to top direction and place lockwashers (Package #104) under the nuts.

15. To mount the picture tube safely, first rest the head against the wooden supports described in Step N . 8, then wrap felt around the neck, and fit it into the metal saddle of Step No. 14. Now the metal strip of Package #99 slides through the upright screws and by means of the wing nuts (Package #107) clamps the picture tube firmly into place. The final step is to insert the base of the tube into the large bakelite socket that up to now has been hanging free.

16. Take the knobs in Package #106 and attach them to the shafts protruding from the front of the panel.

17. Paste the warning tag in Package #122 on the side of the chassis next to the four-prong socket.

DO NOT CUT OFF THE CONTROL SHAFTS UNTIL YOU HAVE DECIDED WHETHER YOU WANT TO USE A CABINET OR THE PANEL SUPPLIED WITH THE KIT.

THIS COMPLETES THE CONSTRUCTION OF THE TRANSVISION KIT. DIRECTIONS FOR THE TUNING AND OPERATION OF THE SET WILL FOLLOW.

OPERATION AND ADJUSTMENT OF THE COMPLETED SET

1. First of all, place all of the tubes in their proper sockets except the 5U4 (low voltage rectifier) and the 2X2 (high voltage rectifier). Refer to Figure #1.

2. Insert the power cord into an A.C. electrical outlet and turn on the set. Inspect the glass tubes to see if they are lighted. A short circuit in the filament wiring will cause a hum in the low voltage power transformer. (Transformer A). If such a short circuit exists, it will be necessary to pull out the plug, check over your work and find the mistake.

3. Turn off the set and put the 5U4 into its socket. Now turn the set back on and be alert for the presence of noise or smoke, which of course, are other manifestations of short circuits.

4. Once more, turn off the set and this time put the 2X2 into its socket, attaching the cap securely to the top of the tube. Also check to see that the large bakelite socket is firmly in place on the picture tube. CAUTION: For the present, keep the set turned off. But whenever the power is on, remember, NEVER touch the cap on the 2X2.

5. With the chassis right side up and the rear of the set facing you, examine the six controls. A description of their function will now be given:

   (a) Upper extreme right (P-10 on Diagram BB) — horizontal "sync" or "hold" control.

   (b) Lower extreme right (P-11 on Diagram BB) — width control.

   (c) Upper middle (P-8 on Diagram BB) — vertical hold control.

   (d) Lower middle (P-9 on Diagram BB) — height control.

   (e) Second from left (P-7 on Diagram BB) — vertical centering control.

   (f) Extreme left (P-6 on Diagram BB) — horizontal centering control.

6. All controls on the rear skirt will be set at a half-way position.

7. At this point the controls on the front panel will be set in the following manner:

   (a) Contrast — turn it all the way clockwise.

   (b) Brightness — half way.

   (c) Focus — half way.

   (d) Channel — to the station you wish to see.

   (e) Sound Sensitivity — half way. (Movable plates meshed halfway into fixed plates).

8. Now connect the transmission line to antenna terminals marked either 1 or A, and 2 or D. A ground wire goes to the terminal marked either 3 or G. The set is now ready for operation.

9. Turn on the set and advance the volume control to nearly a full position. During the warm-up period, listen for any undue noise or hum which could be attributable to faulty wiring.

10. Observe the screen of the picture tube for a rectangular area of light ("raster") to appear. Adjust the brightness control to give a dim pattern. Turn the focus control to yield a clearly defined pattern.

11. Adjust the width and height controls so that the largest possible rectangle appears on the picture tube. This is the approximate size of the opening in front panel.

12. Assuming that a station is transmitting, a close examination will reveal streaks across the raster. Carefully work the horizontal and vertical hold controls until this rudimentary picture is synchronized-- that is, held steadily in position. (If the signal strength of the station is great enough, it may be necessary to reduce the contrast setting before a stable picture can be attained). The purpose of this adjustment is to impart the greatest possible detail and clarity to the picture, even at the expense of reducing brightness.

13. Examine the capacitor plates rotated by the Sound Sensitivity control, and be sure that they are approximately half closed. While looking at the picture tube, turn the Sound Sensitivity control to give these plates a more open position.

14. If because of the procedure in step #13 the contrast between light and dark areas or the brightness is not to your liking, turn the contrast and brightness knobs on the front panel until you have achieved the kind of picture you desire.

15. The final adjustments concern I.F. traps represented on Fig. #1. Before these adjustments can be made, however, it will be necessary to obtain an insulated or tuning screw driver, (most radio service stores sell this under the name of alignment tool). If none is available, get a small piece of hard wood, and then fashion it into the shape of a screw driver. The required size can be determined by referring to the screws at the top of the traps. AN ORDINARY SCREW DRIVER MAY NOT BE USED.

16. Loosen the screws located on the top of the Sound I.F. three full turns from tight. With a station transmitting a test pattern, manipulate the Sound I.F. screws for the loudest sound (audio) output. If necessary, turn the volume control.

17. Trap #2 has received approximate presetting before shipment. As a result, only a slight adjustment is required now, and this also will be carefully made for the greatest audio output. NOTE: If the detail of the picture is impaired, adjust for the best compromise.

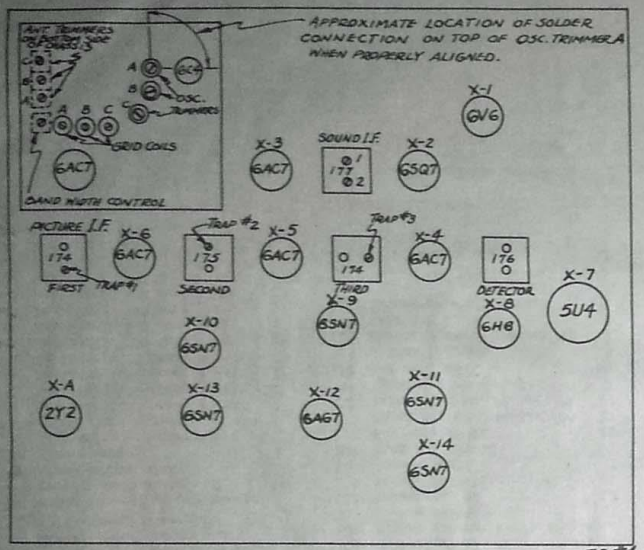
18. If you are completely satisfied with the picture as it now appears, Trap #1 and Trap #3 may be ignored. Otherwise, untwist the trimmer screw on Trap #1 several turns, then slowly tighten until the brightest picture is obtained. Repeat this procedure for Trap #3.

19. All of the permanent adjustments have now been made, and the TRANSVISION set is ready for normal operation. From this point on, the only controls subject to further regulation are the ones on the front of the panel, and occasionally the ones on the rear skirt. For example, suppose you wish to receive a different station. The channel switch is simply twisted to the desired band, and if necessary, other controls, like the Sound Sensitivity, are readjusted slightly to improve the reception of the new station. Possibly those of you accustomed to only two or three dials on the ordinary radio fear the added controls of the television set cause tuning to become a complex operation. If so, you shall be pleasantly surprised when you discover, after a few minutes practice, how genuinely simple the process actually is.

20. A description of the Radio Frequency Tuning Plate follows:

Unless otherwise stated, the R.F. plate has been pretured and set for three channels. These channels are the 54-60 megacycle band, the 66-72 megacycle band, and the 76-82 megacycle band.

	Channel No.	(In N.Y. area this is Station)
Trimmer A adjusts the 76-82 megacycle band	5	WABD -Dumont
Trimmer B adjusts the 66-72 megacycle band	4	WNBT -N.B.C.
Trimmer C adjusts the 54-60 megacycle band	2	WCBS-TV Columbia



TOP VIEW OF TUBES, I.F. TRANSFORMERS AND TRIMMERS FIG. #1

TROUBLE SHOOTING INFORMATION

All of the following information is given with the assumption that the circuit is correct and all components operative. Before any alignment is attempted, a logical analysis of the situation is extremely important in order that unnecessary adjustments with resultant mistakes, may be avoided.

The following important factors should be noted:

____ 1. Is the station is question transmitting signals (both sound and picture) at the time?

____ 2. Is television reception in your particular area satisfactory as indicated by owners of other television sets?

____ 3. Check your antenna system paying particular attention to see whether your television antenna is facing in the proper direction of the station that is transmitting.

Now, after having satisfied yourself on the above points we come to some of the possible conditions that might warrant alignment of some (or all) of the adjustments.

____ A. Picture is seen without sound.

____ B. Sound is heard without picture.

____ C. Picture is seen unsatisfactorily (vertical wedges should be sharply defined).

____ D. Sound is distorted.

____ E. Signal is received weakly.

____ F. Neither sound nor picture is received.

COMPLETE VISUAL ALIGNMENT PROCEDURE FOR TRANSVISION KIT

WARNING: - All steps must be in the following sequence.

____ 1. All tuning and adjusting must be done when the station is transmitting a test pattern only.

____ 2. Loosen trimmer screws on picture I.F. traps #1 and #3, being careful not to loosen to the point where the screw may fall out. Tighten the trimmer screw on I.F. trap #2 until screwdriver tight. This provides maximum bandwidth for the picture circuit.

____ 3. Before making the following adjustment observe that the silver half-moon (with the solder connection on top of it) of the oscillator trimmer A is on the side adjacent to the oscillator tube 6C4. See sketch. Now turn to the first position on the band switch, which is the one to the extreme left on the switch. NOTE: This corresponds to the highest frequency setting. Set the sound sensitivity trimmer to a half-way position. (Where the movable plates are half engaged with the fixed plates).

NOTE: In all of the following adjustments the contrast control should be set to the lowest point possible; just above the position where the picture begins to tear from lack of synchronization.

____ 4. Using the type of screw driver mentioned in step #15 on page 7 of these instructions, tune oscillator trimmer A for maximum vertical detail. (This corresponds to the minimum capacity setting or highest frequency setting that will still admit the picture from the desired station). NOTE: This adjustment does not correspond to the brightest picture obtainable but does correspond to the clearest picture with the sharpest detail as shown on the vertical wedges of the test pattern. For close adjustment of this point the sound sensitivity trimmer is used.

____ 5. Now adjust antenna trimmer A and grid coil A for brightest picture, readjusting the oscillator trimmer for best detail, if necessary.

____ 6. Loosen trimmer screw on I.F. trap #2 and watch the picture carefully for the point where the detail begins to fade. The proper setting of this screw is just short of this point.

____ 7. Adjust both trimmers on the sound I.F. for maximum sound output.

____ 8. Readjust trimmer on I.F. trap #2 for maximum sound output and if picture is affected adjust for the best compromise.

____ 9. Tighten trimmers on I.F. traps #1 and #3 to a point where the picture begins to get dim, then back off about one-eighth of a turn to the point where the picture is the sharpest.

____ 10. This completes the alignment of the Transvision Set on the highest frequency setting.

In areas where there are several television stations in active use, the following procedure should be followed:

____ 1. For alignment of the second band turn to the second position of the band switch, which is second highest in frequency, or one position to the right from the extreme left. For alignment of the third and last band the same procedure is followed with the band switch on the third position while making the above adjustments on the oscillator C, grid coil C and antenna trimmer C. Be certain not to touch any of the previously adjusted trimmers. NOTE: In the adjusting of oscillator trimmer C, the silver half-moon (with the solder connection on top) need not be in any particular position. Do not, at any time, touch the band width trimmer.

____ 2. Do not touch any of the trimmers on the I.F. traps.

____ 3. Repeat the above steps #1 to #10, except those referring to I.F. traps, using only the "B" adjustments that is, oscillator B, grid coil B and antenna trimmer B. Be certain not to touch any of the previously adjusted trimmers. NOTE: In the adjusting of oscillator trimmer B, the silver half-moon (with the solder connection on top) need not be in any particular position.

SPECIAL NOTES

TUBE BRIGHTNESS

The normal life of a television picture tube is several thousand hours. However, a spot can be burned into the screen very quickly if the brightness control is set at a high level. This becomes especially true as the raster is reduced and approaches the size of a spot.

NORMAL LINE TRACES

When there is no program being televised the raster will show white horizontal lines widely spaced. This is a normal condition which will disappear when a television signal is transmitted.

VERTICAL HOLD

Do not adjust the vertical hold so that the picture moves downward. The proper setting of the vertical hold is that point where the picture moves slowly upward just before locking into position. The contrast setting should be set at a normal picture setting for your particular locality.

VERTICAL LINEARITY

Under certain conditions the vertical linearity can be improved by reversing the line plug of the television set. This should be done when there is a test pattern being televised in order that the vertical wedges may show any improvement.

INTERRUPTIONS

During the transmission of television programs there may, occasionally, be interruptions in either sound or picture. It is advisable therefore, not to make any adjustments on your receiver until you are positive the station is not at fault.

CONTRAST CONTROL

The setting for the contrast control will usually be found near the upper end (right side) and normally affects the sound due to the type of circuit used.

HOLD CONTROLS

It has been found that, due to carelessness, the hold controls (located on rear skirt of chassis) are sometimes interchanged. If your set is troubled with poor synchronization or lack of height or width check these controls.

AUDIO DRIFT ON REGENERATION (SQUEAL)

In the event of sound drift or squeal, check the location of the 2.2 megohms grid resistor from pin #4 of 6AC7 to ground. In the instructions this is resistor #2 on Diagram D and must be placed exactly as shown and as closely as possible to the chassis.

INTERFERENCE:

A few words of explanation, at this point, regarding some types of interference and how they show up on the screen of the picture tube may save considerable time and adjustments later. Diathermy interference which originates in hospitals and medical offices usually appears as a horizontal strip of herringbone effect across a portion of the picture. Interference due to other television receivers in the immediate vicinity results in a disturbance on the screen similar to that caused by amateur radio transmitters. This is characterized by white horizontal bars across the screen which become whiter and more brilliant as the interference becomes stronger. In some cases the screen appears silvery or completely white.

PARTS-LIST OF TRANSVISION KIT ON REVERSE SIDE

PARTS LIST OF TRANSVISION KIT

7BP4 Cathode Ray Tube
Pretuned R.F. Unit
Instruction Sheets
Antenna and Lead-in Wire

No.	Description	Quantity
1	6AG7 Tube	4
3	6H6 Tube	1
4	6AG7 Tube	1
6	6SQ7 Tube	1
7	6V6 Tube	1
9	6SN7 Tube	5
10	5U4G Tube	1
11	2X2 Tube	1
16	Peaking Coil for 6AG7, 250 microhenrys	1
17	Peaking coil for 6AG7 and 6H6, 125 microhenrys	2
19	Peaking coil for 6H6 35microhenrys	1
21	Output transformer for P.M. speaker	1
22	Filter choke, 20 henrys, 300 ohms, 30 ma.	1
23	Filter Choke, 10 henrys, 200 ohms, 175 ma.	1
24	Power Transformer, low voltage	1
25	Power transformer, high voltage	1
26	Interlock switch	1
28	Volume Control, 1 meg., logarithmic taper, lg. shaft with switch	1
29	Tone control, .5 meg., logarithmic taper, lg. shaft	1
30	Brightness control, 100,000 ohms, linear taper, lg. shft.	1
31	Vertical hold control, 1 meg. short shaft, scr. dr. slot	1
32	Contrast control, 5,000 ohms linear taper, long shaft	1
33	Horiz. posit. control, 1 meg. linear taper, ½"shaft	1
34	Vert. posit. control, 1 meg. linear taper, ½" shaft	1
35	Focus control, 1 meg. linear taper, ½" shaft	1
36	Horiz. sync. control, .1 meg linear taper, short shaft with screw driver slot	1
37	Vert. Height control, 2 meg. linear taper, short shaft with screw driver slot	1
38	Width control .5 meg linear taper, short shaft with screw driver slot	1
39	P.M. speaker, 6"	1
40	High voltage condenser holder, all sizes	6
41	Resistor, 100 ohms, ½ Watt	2
42	Resistor, 150 ohms, ½ Watt	2
43	Resistor, 390 ohms, ½ Watt	1
44	Resistor, 470 ohms, ½ Watt	2
45	Resistor, 1000 ohms, ½ Watt	2
46	Resistor, 2200 ohms, ½ Watt	6
47	Resistor, 3300 ohms, ½ Watt	1
48	Resistor, 4700 ohms, ½ Watt	2
49	Resistor, 6800 ohms ½ Watt	1
50	Resistor, 10,000 " ½ "	4
51	Resistor, 22,000 " ½ "	4
53	Resistor, 47,000 " ½ "	2
54	Resistor, 56,000 " ½ "	6
56	Resistor, 100,000" ½ "	6
57	Resistor, 220,000" ½ "	1
59	Resistor, 470,000" ½ "	5
60	Resistor, 1 meg ½ "	4
61	Resistor, 2.2 meg ½ "	7
62	Resistor, 3.3 meg ½ "	5
63	Resistor, 39,000 ohm 1 Watt	1
64	Resistor, 47,000 " 1 "	2
66	Resistor, 100,000 " 1 "	3
67	Resistor, 1 meg 1 "	5
68	Resistor, 3500 ohms 10 "	1
69	Resistor, 3300 ohms 20 "	1
72	Capacitor, 150mmf. 500 Volts mica	1
73	Capacitor, 500 mmf 500 volts mica	4
74	Capacitor, .05 mfd 600 volts paper	2
76	Capacitor, .002mfd 600 volts paper	15
77	Capacitor, .005mfd 600 volts paper	2
79	Capacitor, .01 mfd 600 volts paper	7
80	Capacitor, .1 mfd 600 volts paper	7
82	Capacitor, .001mfd, 2500 volts mica	2
83	Capacitor, .05 mfd, 2500 volts, H.V. can	2
84	Capacitor, .2 mfd, 2500 volts, H.V. can	1
85	Capacitor, .001 mfd, 500 volts, ceramic or mica	2
90	Electrolytic condenser 40/30/20 10 mfd. 450/25 vlts	2
91	Tube socket, octal, bakelite	14
93	Tube socket, cathode ray tube	1
95	Tube socket, 4 prong	1
96	Line cord	1
97	Panel bracket	2
98	CRT legs	2
99	CRT clamps	1
100	Cellulose acetate window	1
101	Rubber grommet for 7/8"hole	1
102	Rubber grommet for 3/8"hole	4
103	Lockwasher #6	61
104	Lockwasher #8	12
105	Screw, self-tapping, #6	45
106	Wooden knob	7
107	Wing nut, #8-32	2
108	Hex nut, #8-32	12
109	Machine screw, #8-32x3/8"	10
110	Machine screw #6-32x3/8"	49
111	Machine screw #6-32x2½"	1
112	Hex nut, #6-32	69
115	Ground Lug, #6	9
116	Standard angle bracket	1
117	Grid cap	1
118	Extension shaft (long)	1
	(short)	2
121	Spacer (¼" long)	2
122	A.C. Warning tag	1
123	Machine screw, rosette head, #6-32 x 3/4"	2
124	Machine screw, rosette head, #6-32 x 1-1/8"	2
125	Machine screw, #6-32x1-1/8"	8
127	Hexagonal nut, #10-32	6
128	Machine screw, round head, #8-32 x 1½"	2
129	Terminal strip, 1R1, 3/8"	1
130	Terminal strip, 1P1, ¼"	3
131	Terminal strip, 2P1, 3/8"	1
132	Terminal strip, 1P2, ¼"	2
133	Terminal strip, 3P2, ¼"	2
135	Terminal strip, B2, ¼"	1
136	Terminal strip, P1, ¼"	1
137	Terminal strip, 2R2, ¼"	1
138	Terminal strip, R4R, ¼"	1
139	Terminal strip, R3, ¼"	1
140	Terminal strip, 1R 3/4"	3
141	Terminal strip, 1R1 ¼"	4
142	Terminal strip, 1R2R1, ¼"	2
144	Wood screw, #6x3/8"	4
145	Lockwasher, #10	6
146	Washer, fiber, #6x3/8"	2
147	Nut for volume control, 3/8"	13
148	Bakelite spacer, insulated 3/4"	4
152	Front panel	1
153	Speaker baffle	1
155	Decal "TRANSVISION"	1
156	Grille cloth	1
157	Felt (approx. 3"x1')	1
158	Chassis	1
159	Bottom plate	1
161	Audio shield	1
166	Insulating plate bakelite 3-3/8" x 1"	1
167	Insulating plate (1 control) bakelite 2-3/4" x 1"	1
170	Mounting plate for low voltage condenser	2
171	Shielded braiding	6'
172	Solder	4'
173	Spaghetti	3'
174	I.F. Transformer, first and third stages	2
175	I.F. transformer, 2nd stage	1
176	I.F. transformer, 4th stage	1
177	I.F. transformer, sound	1
178	Brads or tacks, 1/4"	20
179	Bare wire	18"
180	Wire, black #22	10'
181	Wire, yellow #22	14'
182	Wire, red #22	20'
183	Wire, blue #22	1'
184	Wire, green #22	2'
185	Wire, H.V. #22	10'
187	CRT saddle	1
188	CRT tube block	2
221	Wood screw, #4x3/4"	4

TRANSVISION FACTORY SERVICE DEPT.

108 FOURTH STREET

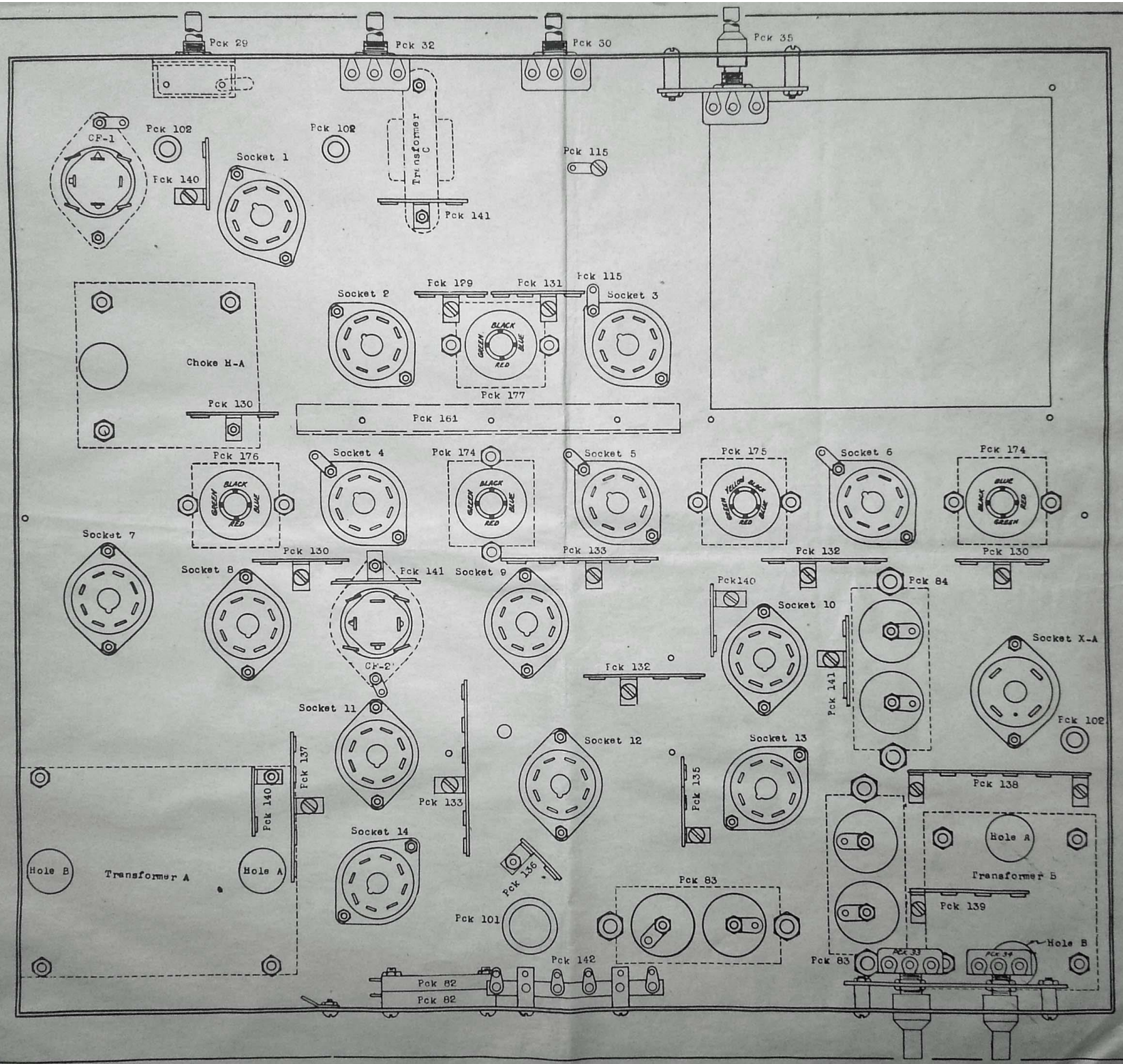
NEW ROCHELLE, N.Y.

PHONE NE 6-6000

FOR OTHER AGENCIES SEE LIST

SERVICE AGENCIES

Name	Street	City and State
Sonic Engineering Co.	2167 Steinway St.	Astoria, L. I.
Frank J. Caulfield	821 North Parkway	Baltimore 12, Md.
Griffeth Television & Radio Service	1042 Pine Heights Ave.	Baltimore 29, Md.
Hecht's Radio Service	506 North Eutaw St.	Baltimore, Md.
Ray's Radio & Amplifier Service	925 South Charles St.	Baltimore, Md.
Wilson's Radio Service	3600 Gynn Oak Ave.	Baltimore, Md.
Ra-Tel Engineering Co.	4040 Gage Avenue	Bell, Calif.
Mathew Radio & Television Service	Hamilton Street	Bloomingdale, N. J.
Frank's Radio Service	2375 Main Street	Bridgeport, Conn.
Harry W. Carson	Fourth & Green Sts.	Bridgeport , Pa.
Belt Service Labs	311 Fifty-first St.	Brooklyn 20, N. Y.
Carolton Radio Service	5023 16th Avenue	Brooklyn 4, N. Y.
Electronics Maintenance Co.	482 Sutter Avenue	Brooklyn, N. Y.
Greater Television Corporation	195 Flatbush Avenue	Brooklyn 17, N. Y.
Herbert V. Lord	707 St. John's Place	Brooklyn, N. Y.
O'Donohue Television & Recording	535 61st St.	Brooklyn, N. Y.
Zucci Radio & Television	811 Flushing Avenue	Brooklyn 6, N. Y.
Broyle's Electronic Service	722 Merton Avenue	Chester, Pa.
Tom Pecho	2540 Wentworth Ave.	Chicago, Ill.
Television Engineers, Inc.	1212 S. Komensky Ave.	Chicago, Ill.
Holub & Hogg	500 Reading Road	Cincinnati, O.
Home Radio Service	1646 East 55th St.	Cleveland 3, O.
Telectron Co.	1988 East 59th St.	Cleveland 3, O.
Marshall Distributing Co.	23174 Beech Ave.	Dearborn, Mich.
Ballan Radio & Television Co.	9733 Linwood Ave.	Detroit 6, Mich.
Carroll Television Co.	8444 Oakland Ave.	Detroit 1, Mich.
D & M Radio Service	13316 Hamilton Ave.	Detroit 3, Mich.
Mercury Radio & Elect. Service	14 Warren St.	Dover, N. J.
Liberty Radio Center	525 South 24th St.	Easton, Pa.
Precision Radio Service	303 Suffolk Ave.	East Brentwood,N.Y.
The Radio Laboratory	912 West 151st St.	East Chicago, Ind.
Fra-Bob Radio & Ignition Service	6 Evergreen Place	East Orange, N. J.
Carl's Radio Service	Arsenal at Erie	Flat Rock, Mich.
G. F. Beard	242 West Brookdale	Fullerton, Calif.
Thomsen's Television Service	81 Pine Hill Ave.	Glenbrook, Conn.
Radio Electronics Service	159 North Main St.	Gloversville, N.Y.
Ace Radio Service	15402 Turlington Ave.	Harvey, Ill.
Abington Radio & Television Serv	42 Centre St.	Hempstead, N. Y.
Daniel R. Capone	114 South Main St.	Houston, Pa.
Sam's Radio Shop	348 Warren St.	Hudson, N. Y.
United Air Lines Transport Corp.	129½ N. Gilbert St.	Iowa City, Iowa
Hudson's Radio Service	762 West Side Ave.	Jersey City, N.J.
Bright Spot Radio Shop	39 East Front St.	Keyport, N. J.
Radio Centre	110 Second St.	Lakewood, N. J.
Lenala Radio Service	10 West Camden Ave.	Lenala, N. J.
Paul E. Kirkwood	P.O.Box 1613	Long Beach 1,Calif.
Radio Vision Service	4014 Greenpoint Ave.	Long Island City,N.Y.
Radio Analysis Co.	9571 West Pico Blvd.	Los Angeles 35,Calif.
Amiee Associates	438 West 125 St.	New York, N. Y.
Ben's Radio & Television	33 West Mt. Eden Ave.	New York, N. Y.
Campus Electric Co.	342 East 176th St.	New York 57, N. Y.
Mandler's Radio Labs	162 Greenwich St.	New York, N. Y.
National Radio & Television Serv	57 First Ave.	New York, N. Y.
Phil-Rad Electronics Co.	3126 Decatur Ave.	New York 67, N. Y.
Reisman's Television Lab	319 Canal St.	New York, N. Y.
Sonic Engineering Co.	592 Columbus Ave.	New York, N. Y.
T. Strumpf	546 West 147th St.	New York, N. Y.
Winter's Radio Service	2835 Grand Concourse	New York 58, N. Y.
Broadway Radio & Photographics Co.	594 Broadway	Newark 4, N. J.
Central Radio Vision Co.	114 Central Ave.	Newark, N. J.
Marfred's Radio Co.	460 Broadway	Paterson, N. J.
Casey's Radio Service	169 Hall Ave.	Perth Amboy, N.J.
Frank J. Mulcahy	1444 North Marston St.	Philadelphia, Pa.
Sentinel Laboratories	1019 Appletree St.	Philadelphia, Pa.
Thomas D. Winters	1616 North St.	Philadelphia, Pa.
Ma-Co Radio Service	323 North Main St.	Port Chester, N.Y.
General Radio & Television Service	76 Main Street	Port Washington,N.Y.
A B C Radio & Television Co.	199 Knight Street	Providence, R.I.
Edward T. Weimer Co.	9473 220th St.	Queens Village,N.Y.
Freer & Freer	New Street	Ridgefield, Conn.
Ross Television Co.	51 Mt. Vernon St.	Ridgefield Park,N.J.
Electronic Engineering Co.	P.O. Box 72	Ridgewood, N. J.
Bill's Radio Sales & Service	852 Kinderkamack Road	River Edge, N. J.
Western Communications Co.	4330 El Cajon Blvd.	San Diego, Calif.
Tele-Radio	11 Windsor Place	South Norwalk,Conn.
Anchor Radio & Repair Service	105 Beach Street	Stapleton, L. I.
Dick Logue Radio Service	158 Canal Street	Stapleton, L.I.
Boulevard Radio Shop	4915 Kingshiway	St. Louis, Mo.
The Radio Hospital	5048 Easton Ave.	St. Louis, Mo.
Janssens Radio Service Co.	247 Harding Ave.	Teaneck, N. J.
Cleveland Park Radio Service Co.	3516 Connecticut Ave.	Washington 8,D.C.
Continental Radio Co.	301-11 Street, S.E.	Washington, D. C.
Winfield Scott McCachren	410 Bond Building	Washington 5,D.C.
Eugene E. Hotz		West Alton, Mo.
Radio Holmes Service	12 Haddon Ave.	Westmount, N. J.
James R. Howie	401 Lore Avenue	Wilmington, Del.


Pck 29
Pck 32
Pck 30
Pck 35
CF-1
Pck 102
Pck 102
Pck 140
Socket 1
Transformer C
Pck 141
Pck 115
Choke H-A
Pck 130
Socket 2
Pck 129
Pck 131
Pck 115
Socket 3
Pck 177
Pck 161
Pck 176
Socket 4
Pck 174
Socket 5
Pck 175
Socket 6
Pck 174
Socket 7
Pck 130
Socket 8
Pck 141
Socket 9
Pck 133
Pck 132
Pck 130
Pck140
Pck 84
Socket 10
CF-2
Pck 132
Pck 141
Socket X-A
Pck 102
Socket 11
Pck 137
Pck 140
Pck 133
Socket 12
Pck 135
Socket 13
Pck 138
Hole B
Transformer A
Hole A
Socket 14
Pck 136
Pck 83
Hole A
Transformer B
Pck 139
Pck 101
Pck 142
Pck 83
Hole B
Pck 82
Pck 82
DIAGRAM "A"

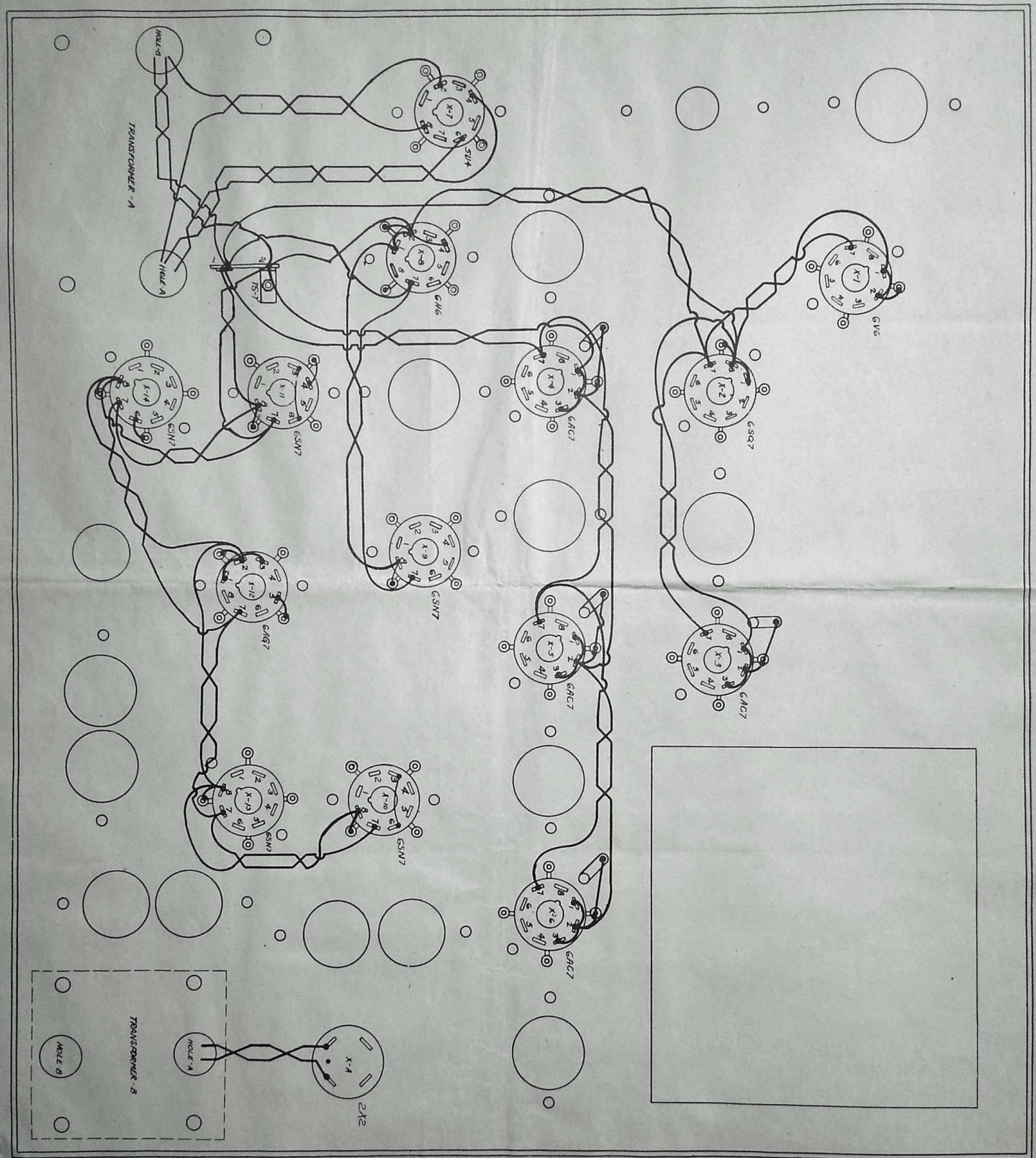


DIAGRAM "B"

R12

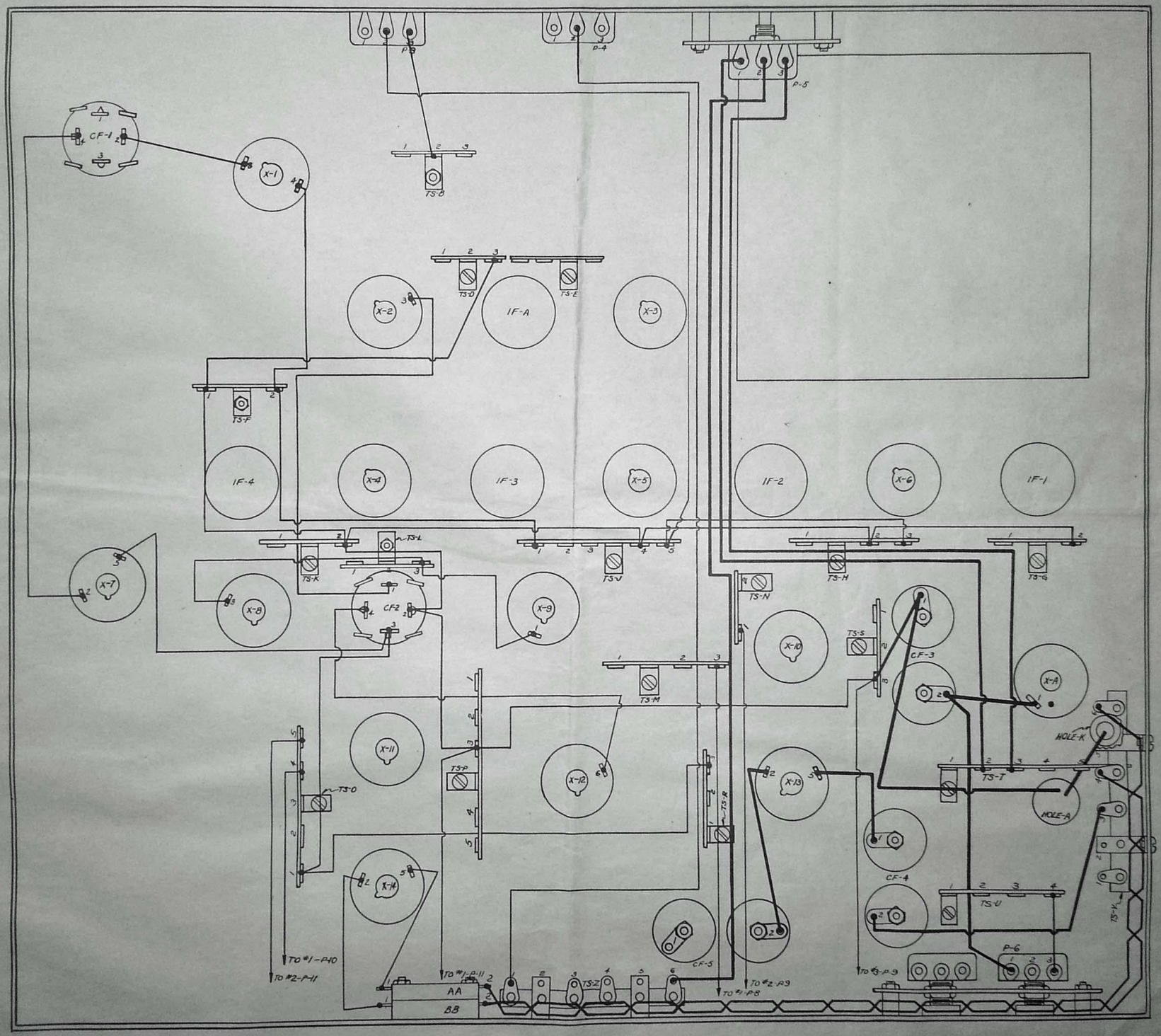


DIAGRAM "C"
P-3
P-4
P-5
CF-1
X-1
TS-B
TS-D
TS-E
X-2
IF-A
X-3
TS-F
IF-4
X-4
IF-3
X-5
IF-2
X-6
IF-1
TS-L
TS-K
TS-V
TS-H
TS-G
X-7
X-8
CF2
X-9
TS-N
X-10
TS-S
CF-3
X-A
TS-M
X-11
TS-P
X-12
TS-R
X-13
HOLE-K
TS-T
HOLE-A
TS-O
X-14
CF-4
TS-U
TS-Y
P-6
CF-5
TS-Z
AA
BB
TO #1-P-10
TO #2-P-11
TO #1-P-11
TO #1-P-8
TO #2-P-9
TO #3-P-9

All resistors are 1/2 W unless otherwise specified.

KEY TO RESISTORS

No.	Value
1	150 ohms
2	2.2 megs
3	2.2 megs
4	2,200 ohms
5	1.0 megs
6	47,000 ohms
7	56,000 ohms
8	470,000 ohms
9	470,000 ohms
10	3,300 ohms
11	390 ohms
12	100,000 -1 W
	100,000 ohms

KEY TO CAPACITORS

Letter	Value
A	.002 Mfd.
B	.002 Mfd.
C	.002 Mfd.
D	.002 Mfd.
E	.05 Mfd.
F	.01 Mfd.
G	.01 Mfd.
H	.01 Mfd.
J	500 Mmf.
K	.005 Mfd.

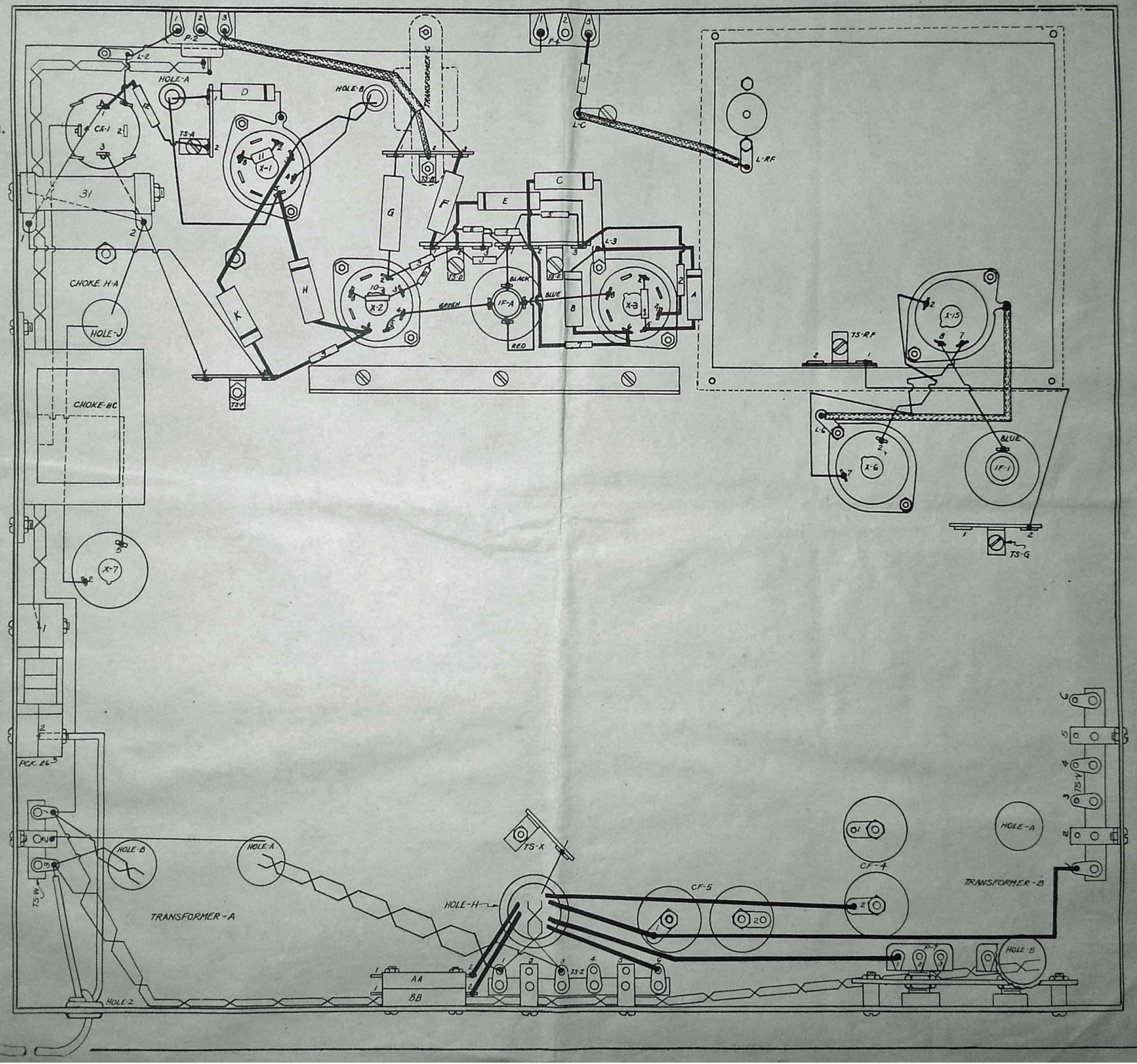


DIAGRAM "D"

All resistors are 1/2 W unless otherwise specified.

KEY TO RESISTORS

No.	Value
1	56,000 ohms
2	56,000 ohms
3	56,000 ohms
4	56,000 ohms
5	56,000 ohms
6	1 meg - 1 W
7	1 meg - 1 W
8	1 meg - 1 W
9	1 meg - 1 W
10	1 meg - 1 W
11	470,000 ohms
12	47,000 ohms
13	2,200 ohms
14	2,200 ohms
15	2,200 ohms
16	2,200 ohms
17	2,200 ohms
18	4,700 ohms
19	4,700 ohms
20	6,800 ohms
21	100,000 ohms
22	100,000 ohms
23	100,000 ohms
24	100,000 ohms
25	100,000 ohms
26	10,000 ohms
27	10,000 ohms
28	10,000 ohms
29	10,000 ohms
30	1,000 ohms
31	1,000 ohms
32	22,000 ohms
33	22,000 ohms
34	22,000 ohms
35	22,000 ohms
36	3.3 megs
37	3.3 megs
38	3.3 megs
39	3.3 megs
40	3.3 megs.
41	2.2 megs
42	2.2 megs
43	2.2 megs
44	2.2 megs
45	2.2 megs
46	470,000 ohms
47	1.0 meg
48	1.0 meg
49	1.0 meg.
50	100 ohms
51	100 ohms
52	470 ohms
53	470 ohms
54	150 ohms
55	220,000 ohms
56	39,000 ohms-1 W
57	47,000 ohms-1 W

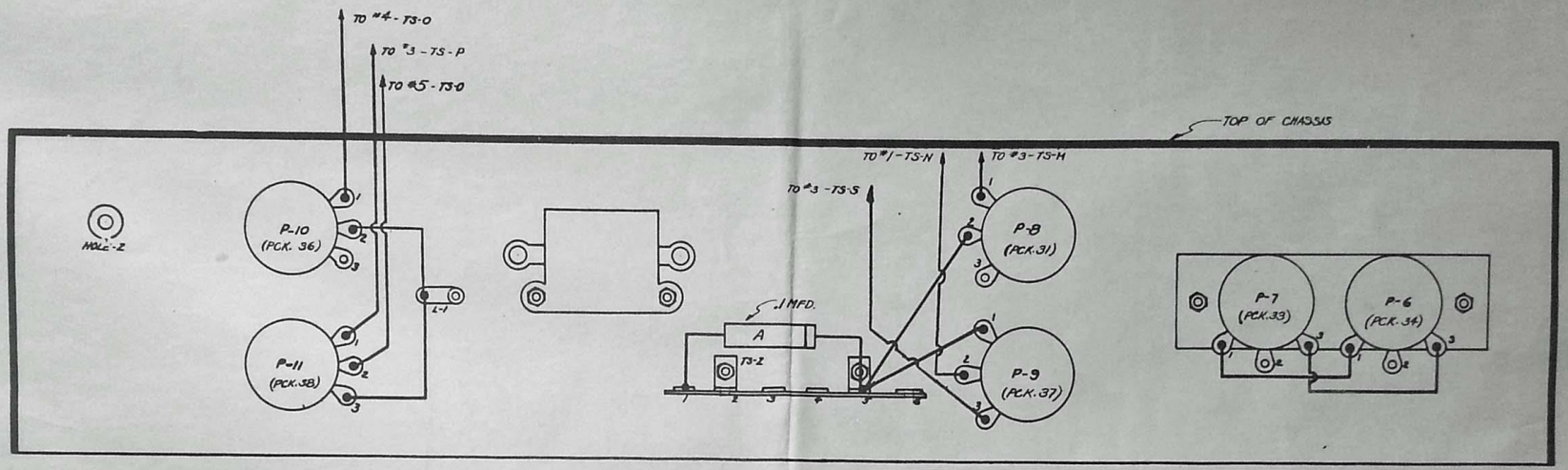


DIAGRAM "F"

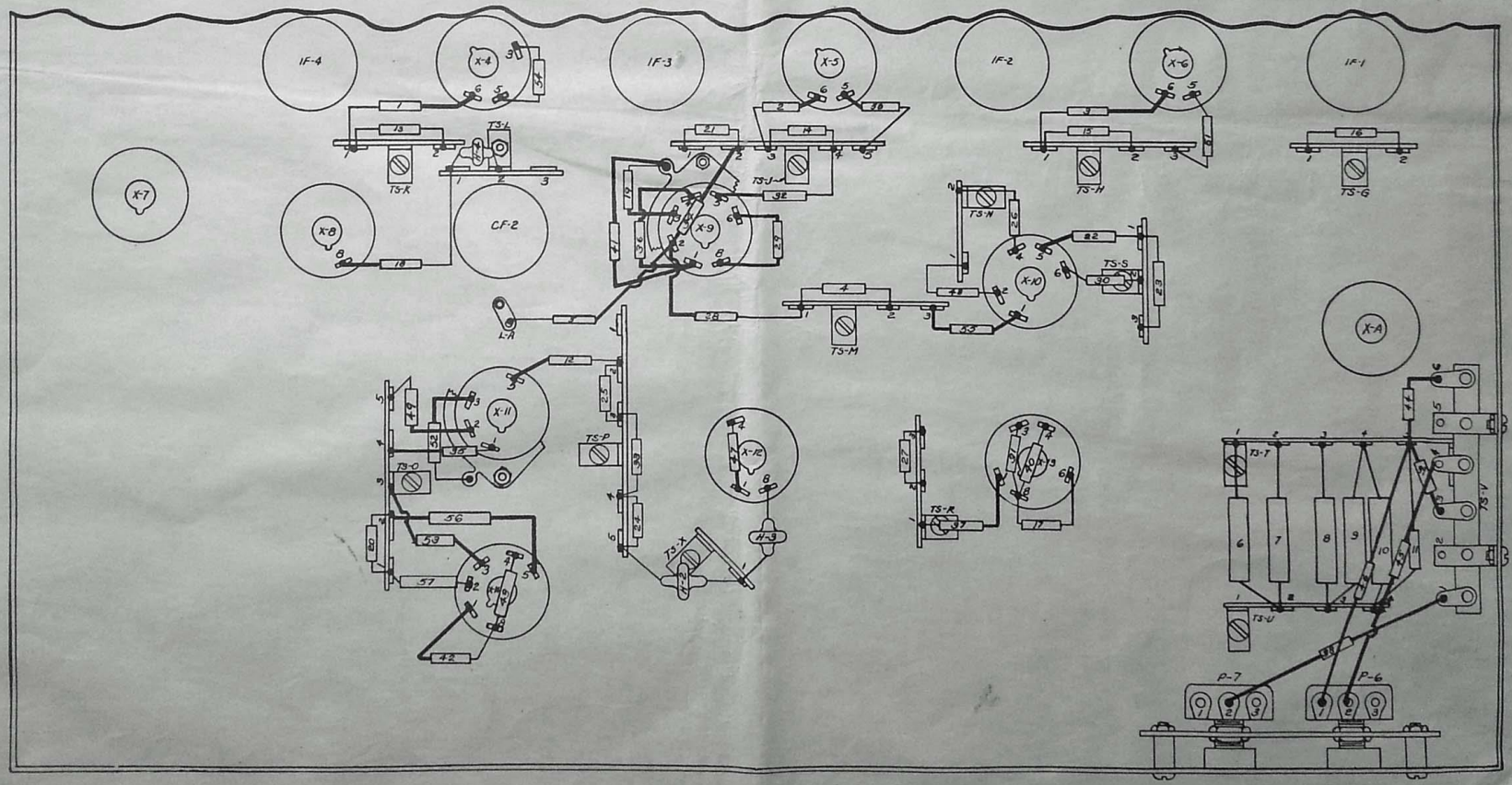
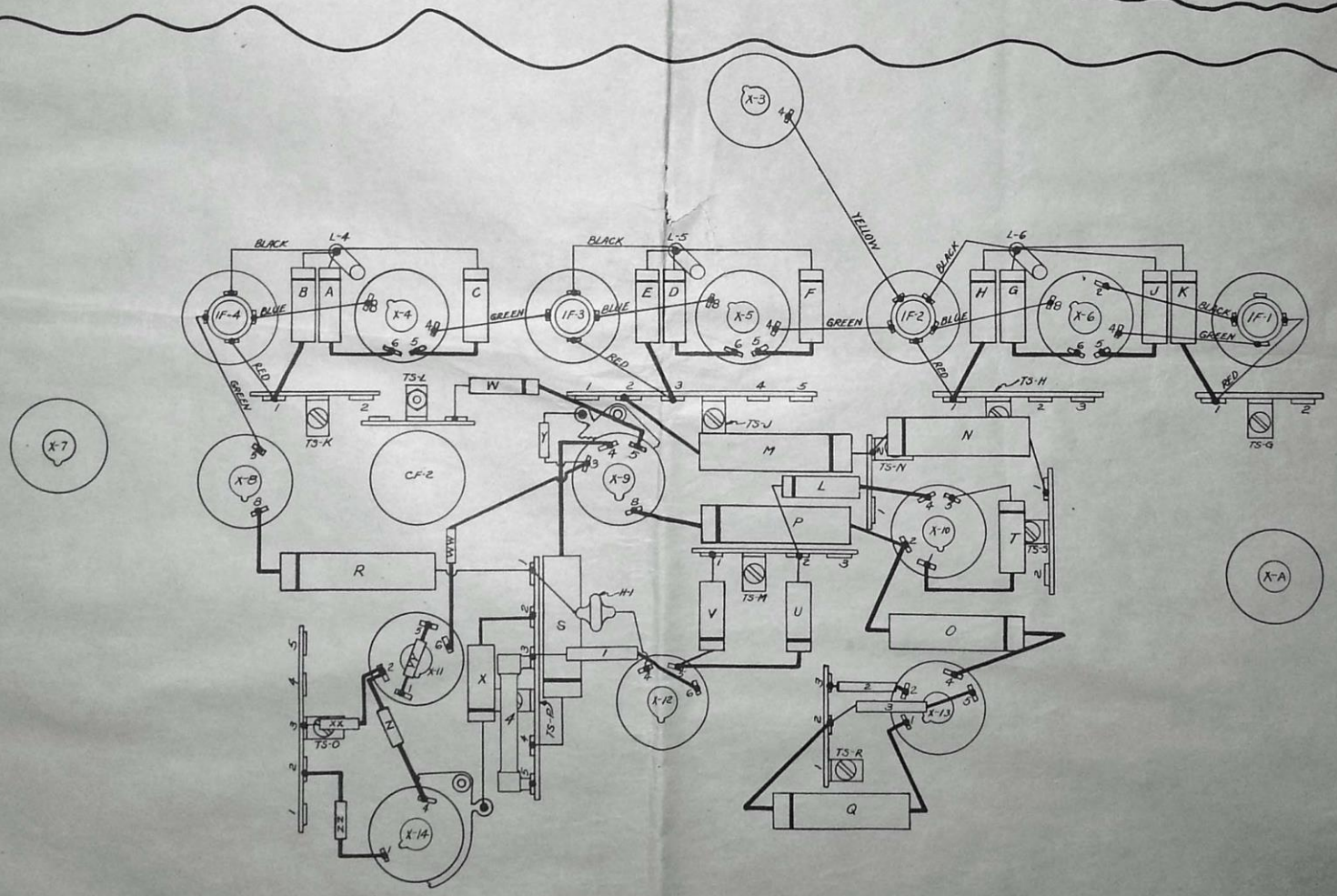


DIAGRAM "E"

5-23-47-10

R12

DIAGRAM "G"



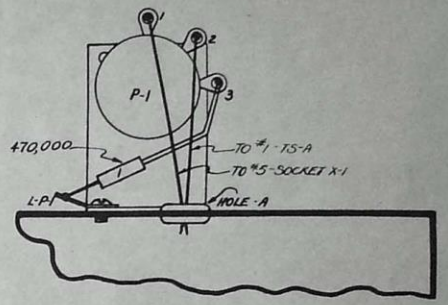


DIAGRAM "H"

KEY TO CAPACITORS

Letter	Value
A	.002 Mfd.
B	.002 Mfd.
C	.002 Mfd.
D	.002 Mfd.
E	.002 Mfd.
F	.002 Mfd.
G	.002 Mfd.
H	.002 Mfd.
J	.002 Mfd.
K	.002 Mfd.
L	.002 Mfd.
M	.1 Mfd.
N	.1 Mfd.
O	.1 Mfd.
P	.1 Mfd.
Q	.1 Mfd.
R	.1 Mfd.
S	.05 Mfd.
T	.01 Mfd.
U	.01 Mfd.
V	.01 Mfd.
W	.01 Mfd.
X	.005 Mfd.
Y	.001 Mfd.
Z	.001 Mfd.
ZZ	500 Mmf.
YY	500 Mmf.
XX	500 Mmf.
WW	150 Mmf.

KEY TO RESISTORS

No.	Value
1	47,000 - 1 W
2	100,000 - 1 W
3	100,000 - 1 W
4	3,500 - 10W