INSTRUCTION MANUAL

GONSET
"COMMUNICATOR 111"

Transmitter-Receiver

DIRECTORY OF COMMUNICATOR MODELS COVERED BY THIS BOOK:

3133	2 Meter Amateur
3133-CD	2 Meter F.C.D.A.
3133-CAP	2 Meter C.A.P.
3136	6 Meter Amateur
3136-CD	6 Meter F.C.D.A.
3139	112-132 MC.
3215	132-152 MC.

801 S. MAIN ST. GONSET BURBANK, CALIF.

520—251—MBP

GONSET COMMUNICATOR III

PERTINENT DATA

POWER INPUT:	Low voltage d-c or 115 volts a-c 60 to 400 cycles using appropriate power cord. On d-c the fused wire is hot, regardless of polarity.
POWER DRAIN:	95 watts on transmit, 75 watts on receive.
CRYSTAL:	Fundamental type in FT-243 type holder. Refer to individual schematic for crystal multiplication factor and fundamental frequency range.
MICROPHONE:	Push-to-talk single button carbon (telephone type F2 or T-1 recommended), high output-ceramic,crystal, or high impedance dynamic or controlled reluctance (minus 48 to 55 db). Hot mike lead connects to ring of PL-68 plug. Push-to-talk switch connects to tip. Carbon mike must have separate ground leads. "Hot" mike lead of high impedance mike must be shielded. "Crystal-Carbon" mike switch must be thrown to corresponding position. Gain control ordinarily is run full on except for p-a use.
TUNE-UP:	Turn meter switch to EXCITER position and adjust exciter and final grid controls for maximum meter indication. Then turn meter switch to OUTPUT and, with push-to-talk button depressed, adjust PA TUNE and LOAD controls for maximum meter indication. After completion turn meter switch to RECEIVER for use as receiver tuning indicator.
CRYSTAL SPOTTER:	Turn meter switch to SPOT position. This turns transmitter oscillator on to permit spotting on receiver dial. Do not attempt to transmit with meter switch in SPOT position.
USE AS P-A SYSTEM:	Connect 4 to 8-ohm voice coil of good trumpet speaker to connector marked PA on rear recess. Insert shorted PL-55 plug in front-panel headphone jack. Operate TR-PA switch (rear of transmitter) to PA. Adjust GAIN control as required.
MATING CONNECTORS:	Type 83-1SP coax connector. Type PL-68 mike plug. Type 13A or M-93 Cinch "phono plug" p-a voice coil, VFO, and I.F. out connectors.
TUBE COMPLEMENT:	Refer to individual schematic for specific equipment.
VIBRATOR:	Mallory 1501 (6 volts) All Models.

GENERAL

The Gonset COMMUNICATOR in an AM transceiver designed for use on either low voltage d-c or 115 volts a-c. The receiver has a noise figure of approximately 5db, and the transmitter a power output of approximately 6 watts at nominal supply voltage. These figures will vary slightly with frequency and different 6BZ8 and 2E26 tubes.

POWER SOURCE

The power supply circuit is automatically changed from a-c to d-c and vice versa by jumpers in the two plugs. Except on special order, all sets are factory wired for 12-volt d-c operation but may be easily converted for use on 6 volts.

When operating mobile, it is recommended that except for very short periods the vehicle engine be

run at charging speed during transmissions. Of the two power-cord wires, the fused lead connects to the "hot" battery terminal.

Because of the heavy current drawn on transmit (15 amps) when using 6 volt supply, it is desirable that heavy wire be used to supply voltage to the COMMUNICATOR in a 6 volt vehicular installation. No. 8 B&S gauge is recommended from the battery or starter terminal up to the point where the flexible cable furnished with the COMMUNICATOR is attached. For casual operation in "stray" 6 volt automobiles simply clip on the ammeter terminal or main "hot" terminal under the dash. Voltage will be adequate when the generator is charging but it may on the shy side when the motor is not running.

Adequate power is obtained for 12-volt operation when the power cord supplied is connected to the vehicle ammeter or "accessory" terminal. Be sure to ground the unfused power-cord lead.

The 12 volt model not only draws half as much current, but a given voltage drop in the wiring amounts to less when figured on a percentage basis (as compared to a 6 volt system). For this reason, use of very heavy wire is not required with the 12 volt model.

Units covered by this manual can be converted from 12 to 6 volt operation by changing tie point connections as indicated on the schematics.

"12 volt" models referred to in this manual actually are designed for 13.5 volt input (design center). Many "12 volt" automobiles actually deliver approximately 15 volts under light or moderate loads after the generator has been charging for a time.

It should also be pointed out that high compression cars with 12 volt ignition produce much more electrical noise than a typical 6 volt car, particularly with regard to ignition noise but also regulator noise, generator noise et cetera. This is mentioned only so that the reader will know that it is a normal condition.

RECEIVER

Receiver operation is self-explanatory except for squelch. On reception the tuning meter serves as a *relative* carrier strength indicator. Note that the meter is not intended to read actual "S" units.

SQUELCH OPERATION

The COMMUNICATOR III employs a highly effective carrier-actuated squelch circuit which may be used or not as desired. In the absence of a signal the exceptionally flat a-v-c characteristic of the COMMUNICATOR receiver normally will cause a high background noise which becomes objectionable if prolonged, as when maintaining a standby watch on C.D., C.A.P., or other net frequencies. The squelch facility permits muting of this background noise.

The squelch circuit employs a biased series-gate diode which is indirectly actuated by the a-v-c voltage. The combination is very effective, gating cleanly on an a-v-c voltage change as small as 0.1 volt when the threshold control is set carefully. The circuit is designed so that compensating factors tend to hold the threshold setting substantially constant over a moderate change in supply voltage to the COMMUNICATOR.

To disable the squelch, just turn the squelch control slightly past the point where the gate "opens" on background noise with no station tuned in. It is not necessary to turn it full clockwise.

To use the squelch, back off the threshold control counter-clockwise just to the point where the background noise disappears, and stop there. This makes the squelch the most sensitive (so that it will open on weak signals). Unfortunately, this also makes the squelch sensitive to electrical noise that is sufficiently strong to cause the a-v-c voltage to change. This means that, if such noise (such as very strong ignition noise or interference from a nearby commutator motor) is intermittent in nature, the threshold control must be backed off enough to prevent the intermittent noise from triggering the squelch. It will then take a stronger carrier to open the squelch. In extremely noisy locations it may be necessary to turn the threshold control full counter-clockwise to prevent triggering of the squelch by noise. Such operation will be possible only if the desired signals are quite strong.

Certain limitations to the operation of the squelch should be kept in mind. For instance, the normal change in quiescent a-v-c voltage that occurs as the receiver is tuned over the band will cause the threshold setting to change slightly as one tunes over the band. For this reason it is recommended that the squelch be used only after a station is tuned in, and that it be disabled when "looking around the band." For best operation of the squelch, the noise clipper is left on at all times when the squelch is in use.

TRANSMITTER

The COMMUNICATOR transmitter is designed for intermittent service with a "transmit" time not to exceed 10 minutes during any 20 minute period. If the transmitter "on" time exceeds this duty cycle, or if the COMMUNICATOR is operated for a long period in an unusually high ambient temperature, it is recommended that the back screen be removed (when this can be done safely).

The output circuit is designed to work either into a quarter wave whip screwed into the coaxial connector on the top at frequencies above 100 Mc., or into 50 or 70 ohm coaxial line having a moderately low standing wave ratio.

The exciter portion of the transmitter is tuned by operating the meter switch to EXCITER position and, with the push-to-talk button depressed (or the RECEIVE-TRANSMIT switch in TRANSMIT position) adjusting the EXCITER and FINAL GRID controls for maximum meter indication. Repeat these adjustments since the two controls are slightly interacting.

To complete the transmitter tuning, set the meter switch to OUTPUT position and alternately adjust the PA TUNE and LOAD controls for maximum meter indication. When the tuning meter switch is in OUTPUT position the meter indicates relative r-f voltage across the coax output terminal, and therefore the maximum obtainable indication will vary somewhat depending upon the impedance of the load to which the transmitter is connected.

When tuning up, either insert a microphone in the mike jack or throw the microphone selector switch to CARBON; otherwise feedback may occur.

The SPOT position of the tuning meter switch provides a handy means for checking the receiver dial calibration as might be desirable for net operation or for determining if the received signal is close enough to cause QRM. To use this facility, merely operate the meter switch to SPOT and tune the receiver in the vicinity of the transmitter frequency for maximum meter indication. It is suggested that this be done with the VOLUME control reduced to avoid possible feedback. On some models it is possible that more than one response will be found on the receiver dial. However, any spurious responses will invariably be much weaker and far removed from the correct setting. Remove the meter switch from SPOT position before attempting to transmit.

The microphone input circuit takes either a carbon microphone or a high-impedance high-output type crystal, controlled reluctance, or dynamic (approximately minus 46-50 db level). In both cases the microphone is connected between shell (ground) and the *ring* of a PL-68 plug. This is the standard connection for a carbon microphone. A ceramic crystal microphone, such as the Astatic M-101, may be used for close talking if not down more than —55 db.

The "Xtal-Carbon" switch on the rear panel recess should be thrown to the correct position for a particular microphone. The adjacent slotted shaft is the audio gain control for the transmitter and for p-a work. The transmitter speech system is designed for close talking, rather than "studio" type pick up, and ordinarily the gain control will be run full on. The main function of the gain control is to permit reduction of the audio gain if desired when using the COMMUNICATOR as a public address system.

PUBLIC ADDRESS OPERATION

The small "snap in" coaxial connector (phono type connector) is for connection to the 4 to 8 ohm voice coil of an external speaker for p-a work. A good trumpet-type PM speaker with husky magnet is recommended for best coverage with good efficiency. To use the unit for p-a work, connect the external speaker, insert a shorted PL-55 plug into the headphone jack, and throw the PA-TR switch to PA. Press the mike button to talk and adjust the GAIN control to the desired level.

ANTENNA AND COMMUNICATION RANGE

The communication range of the COMMUNICATOR via tropospheric propagation depends largely upon terrain factors and the antenna employed. At extreme ranges the weather also is a determining factor.

It is not within the scope of this manual to attempt to cover thoroughly the considerations involved in v-h-f propagation, nor the design on antennas. Summarizing briefly, the higher the elevation of the site, the greater the tropospheric range, particularly when the height of the antenna above ground is low. Also, the higher the antenna above ground, the greater the range, particularly when the site is not elevated. (Height of the antenna above ground becomes less important when the station is located atop a hill.)

The range also is dependent upon the same factors at the other end of the circuit, as well as the character of the intervening terrain. It also is dependent upon the transmitter power, receiver sensitivity, and antenna gain of the other station. Because some stations employ more transmitter power and many have less receiver sensitivity, it is possible to hear more stations than can be worked. The very high sensitivity of the receiver in the COMMUNICATOR tends to make this condition the more noticeable.

To obtain the best possible performance from the COMMUNICATOR at a given site, a good antenna is important. For general coverage fixed-station work with vertical polarization, a Gonset ground-plane antenna is recommended. A good directional array such as one of the Gonset Yagi arrays will greatly increase the range and reduce QRM problems. These arrays may be oriented for either vertical or horizontal polarization.

The receiver in the 6 meter models tunes down to 49 Mc., to permit watching the 49-50 Mc range for ionospheric "openings." The large number of industrial radio assignments in this frequency range makes it almost certain that stations will be heard at distances from 700 to 1500 miles when the 6 meter band is open to sporadic E layer transmission. Likewise an approaching F2 layer opening will first be noted by the reception of 49-50 Mc. industrial signals at distances between 2000 and 2500 miles when there are stations to hear at that distance.

When using coax, RG-8/U or RG-11/U is recommended in preference to the smaller types in order to minimize line loss. If the antenna is located more than about 120 feet from the COMMUNICATOR, a worthwhile reduction in line loss can be realized by the use of 450 ohm open wire "Gonset Line" stocked by jobbers for TV use. Enough RG-11/U is used to get the line outside the building, then a balun consisting of a half wave phase inverter section of coax (allowing for velocity factor of 0.66) is used to convert to the open line. Four spacers then are removed and the open line is tapered from 1 inch down to 1/2 inch at the point where it attaches to the two ends of the inner conductor in the balun loop. The tapered section must be kept pulled taut. If the antenna is designed for connection to coax, a similar balun may be employed at the antenna end.

For mobile work a quarter wave car top whip will provide good performance as a ground-plane type antenna. If the car does no have a metal top, a coaxial "sleeve" type antenna may be used. The latter must be cut precisely to frequency for good results.

For portable use, emergency work or casual mobile operation above 100 Mc., the quarter wave whip furnished with the COMMUNICATOR may be used by screwing it directly into the coax fitting on the unit.

Surprisingly good results have been obtained using the COMMUNICATOR in this manner with it setting on the front seat of a metal-top sedan, though of course much better results will be obtained with a regular mobile type antenna connected via coaxial line.

In some cases an ordinary side-cowl auto radio antenna will give nearly as good results as a car top whip. Above 120 Mc. the antenna is extended to approximately 3/4 wavelength and undesirable out-of-phase radiation from the lower quarter wave is partially suppressed by proximity to the windshield

support post. On 6 meters it is extended only to 1/4 wavelength. Best results with this arrangement require that the lead-in be of the type using polyethylene insulation. (Most of the better quality auto radio antennas employ this type lead in.) An extension cable of RG-59/U or TV-59 using the proper fittings will permit use of the auto radio antenna either for its intended purpose or for occasional "picnic" use of the COMMUNICATOR as a mobile unit.

When working mobile, it will be noticed that a "flutter" is apparent on both the transmitted and received signal, particularly when the signal is weak. The a-v-c in the COMMUNICATOR receiver has been designed with a fast time constant which minimizes the effect when the received signal is moderately strong, but it will still occur to some extent, particularly when traveling at high speed and the "flutter" rate is high. When working mobile-to-mobile the effect is of course accentuated, as the amount of flutter is thereby compounded by the transmitter flutter being superimposed upon the receiver flutter (assuming both vehicles are in motion).

This "flutter" is typical of v-h-f mobile operation and is not caused by any peculiar characteristic of the COMMUNICATOR.

RECEIVER AUDIO SYSTEM

The second detector, noise clipper, and audio system of the COMMUNICATOR receiver have been designed for maximum intelligibility of weak signals. Because the individual characteristics have been engineered to complement each other as an overall system, often it will be found that it is possible to copy weak signals which are not intelligible on a receiver having a comparable measured noise figure (which is the figure of merit commonly employed as a yardstick of receiver sensitivity). This is true even in a quiet location where a noise clipper ordinarily would not be needed for suppression of impulse type noise.

It is recommended that the noise clipper be left on all the time, the clipper in-out switch being provided primarily to assist in aligning the r-f and i-f trimmers on background noise when a signal generator is not available.

TRANSMITTER AUDIO SYSTEM

It will be noted that a Class A single-ended beam tetrode is used in preference to a Class B modulator. The reason for this is that when "square wave" audio is involved, as when heavy speech clipping is employed at high modulation percentages, the former type modulator compares very favorably with the latter, with the advantages of more constant plate current drain and elimination of a driver stage and its transformer. It also facilitates designing the modulator for integral speech clipping, making the incorporation of a separate speech clipper unnecessary (as well as adjustment thereof).

The speech system of the COMMUNICATOR is designed so that to obtain maximum practical speech clipping one need only talk closer to or louder into the microphone, up to the point where the maximum tolerable distortion is obtained.

With voice waveforms and sufficient audio input to produce heavy speech clipping, the percentage modulation is held to approximately 85-90 per cent, and under no conditions is it possible to exceed this modulation percentage. This means that "splatter" from negative peak clipping is avoided, and no critical adjustments are involved.

The audio characteristics of the transmitter, from microphone input through the modulator, have been engineered to provide maximum utilization of the carrier power from the standpoint of intelligibility under favorable receiving conditions.

TVI AND OTHER INTERFERENCE

When operated in an area in which television signals are of sufficient strength to provide a completely snow-free picture, ordinarily no difficulty with TVI will be encountered if the COMMUNICATOR and antenna are both located a reasonable distance from the TV set and TV antenna respectively. Use of coaxial line with the COMMUNICATOR will tend to minimize TVI. Often moving frequency to another part of the band will cure any trouble encountered.

With the 6 meter COMMUNICATOR some TVI is bound to occur to channel 2 on very nearby television receivers, through no fault of the COMMUNICATOR. The frequency is so close that traps are of little help when the interference is bad. If it is only moderate, a Drake model TV-300-HP filter ahead of the TV receiver often will cure the trouble completely. The TVI situation can be greatly helped simply by locating the antenna as far from the TV antenna as possible. A vertically polarized antenna on the COMMUNICATOR will tend to minimize the interference if the antennas are close and at about the same height above ground. Coax should be used to feed the COMMUNICATOR antenna. Confining operation to the lower end of the band (near 50 Mc.) will also help.

Spurious radiations from the COMMUNICATOR are minimized through the use of seven tuned circuits in the transmitter. The loaded Q of the antenna coupling circuit is sufficient to provide considerable rejection of frequencies removed from the carrier by as little as 8 Mc. Spurious radiations are further minimized through the use of high Q gang-tuned tank circuits in the multiplier chain, rather than the "broad band" slug tuned tank circuits sometimes employed. In the 6 meter models a low pass filter is incorporated in the common antenna lead, to minimize spurious responses in the receiver and to minimize radiation of transmitter harmonics.

In spite of these precautions a few micro watts of power will be radiated on some frequencies which are a spurious multiple of the crystal frequency. In some instances this infinitesimal amount of power may be sufficient to interfere with nearby taxicab, police, etc. receiving installations designed for reception of mobile units, particularly if one or both antennas are well elevated. In other cases the interference to other services may be due to receiver image response at the other end.

Such interference can be avoided simply by choosing crystal frequencies which do not interfere. Usually such services will be glad to cooperate to the extent of giving a telephone check as to which crystal frequencies interfere and which do not.

RECEIVER SELECTIVITY

The selectivity of the receiver is about as great as can be utilized with a receiver having a tunable high frequency oscillator and designed for mobile use (with accompanying wide variations in heater supply voltage during operation). Also, it is about as great as can be utilized successfully for "net" operation without resorting to very close tolerance transmitter crystals. Reception of transmitters using plated overtone crystals prone to drift would also be complicated by greater selectivity. The band width of the i-f system of the various COMMUNICATOR models is a compromise between these factors and QRM considerations. Use of five i-f transformers results in a good "shape factor" (low ratio of skirt selectivity to nose selectivity).

TRIMMER ADJUSTMENTS

The r-f and oscillator trimmers on the tunable receivers will seldom require adjustment. To check them, tune the receiver near the middle of the band, turn off the noise clipper, and adjust the compression trimmers accessible through the front two of the three trimmer holes on the under side of the chassis for maximum background noise. The antenna input trimmer slug tunes so broadly that retuning should never be required.

Repeaking or checking the i-f trimmers requires removal of the receiver from the cabinet. It may be done on background noise if the transformers are not too far out of adjustment. If one of the transformers is replaced it probably will require a signal generator for realignment. This should be connected to the antenna cable, and the output level of the generator reduced as alignment proceeds, in order to prevent overload. It is important that final alignment (touching up all i-f trimmers) be done either on background noise or with the signal generator reduced to the point where the tuning meter just moves slightly.

The rearmost trimmer on the bottom of the cabinet is the oscillator trimmer and should not be touched unless the calibration is off more than about 100 kc., as day to day variations in temperature, humidity, etc. may cause this much error in calibration. The oscillator trimmer should be set *after* the adjacent mixer trimmer has been peaked at the center of the band, as the latter pulls the oscillator trimmer slightly. It is for this reason that the mixer trimmer always should be peaked on background noise rather than a signal.

REMOVAL OF INDIVIDUAL UNITS

To remove the transmitter section from the cabinet (including the receiver audio output section) pull off all knobs, remove the meter-switch nut, disconnect the cable connectors involved, and remove four cabinet screws on the antenna connector. Slide the chassis rearward about four inches and then tip downward to the angle that allows the final-amplifier shield to clear the top of the cabinet. Observe the under-chassis components of the transmitter as the chassis is removed to make certain that no parts are disturbed by contact with the transmitter shelf. *Do not use force during any part of the removal process since damage to the meter-switch wafer and the 4-gang condenser may easily result.* Reverse the procedure to replace the transmitter.

To remove the receiver, unscrew the four screws on the bottom of the cabinet, remove the four receiver knobs, disconnect cables involved, and slide unit back out of the cabinet. To replace, reverse the procedure.

To remove the power supply, unscrew the six screws on the bottom of the cabinet, remove the nut from the toggle switch, disconnect cable, and lift unit up and out. To replace, reverse the procedure.

F.C.D.A. MODEL COMMUNICATORS

The "C-D" model 2 meter and 6 meter COMMUNICATORS are certified by the manufacturer to meet applicable F.C.D.A. specificaions, and thereby qualify under the F.C.D.A. financial participation program.

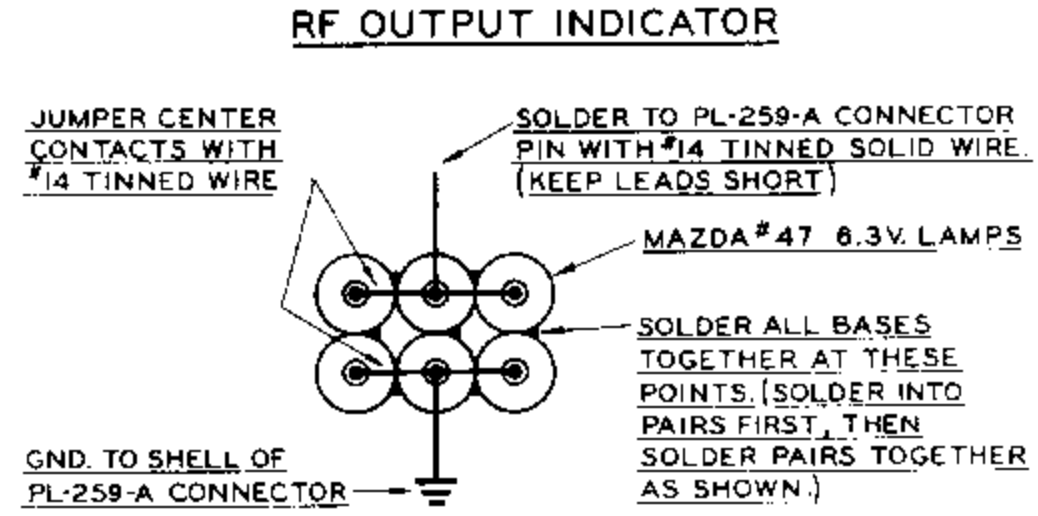
While basically similar to the standard amateur counterparts, the C-D models differ in certain details in order to meet F.C.D.A. specifications for utility porable equipment under classifications U-14 and U-16. In addition to differences in accessories furnished (crystal, microphone, carrying case, etc.) there are other differences in certain components, physical construction, and in inspection and test procedure during manufacture.

TROUBLE SHOOTING

When trouble develops the first thing to look for is a defective tube, as this trouble will represent about 90 per cent of that encountered in service.

If the trouble is not traced to a defective tube, then voltage and resistance measurements should be made, referencing the schematic diagram.

RF OUTPUT INDICATOR



BOTTOM VIEW

DUMMY ANTENNA LOAD

A convenient and easily constructed dummy antenna load is shown in the accompanying illustration. The connecting leads to the PL-259-A connector should be kept very short. This r-f output indicator gives a check on carrier power output and a rough check on audio gain and modulation capability, and a periodic

check with such a unit is recommended. When the lamps light to normal brilliancy the output is approximately 6 watts, which is average for a properly operating COMMUNICATOR. (The output varies slightly from unit to unit because of tube variations, etc.) When speaking directly into one of the recommended microphones at conversational voice level there should be a noticeable upward flicker. Whistling into the microphone should cause a pronounced increase in lamp brilliancy.

HEADPHONE OPERATION

For special applications where headphone operation is desired and the speaker must be muted, a closed circuit headphone jack is provided on the front panel. When a pair of low impedance (600 ohm type) headphones are inserted in the jack the voice coil winding of the speaker is automatically disconnected. High impedance phones will work but give less volume.

USING COMMUNICATIONS RECEIVER AS I-F STRIP

For home station use it is possible to use any good communications receiver having (or adjustable to) an i-f bandwidth of not less than about 10 kc following the i-f strip in the COMMUNICATOR. This in effect makes a composite double-conversion superheterodyne having much greater selectivity than the COMMUNICATOR receiver alone.

This is accomplished by connecting the input of the communications receiver through coaxial cable to the I.F. OUT jack on the rear apron of the COMMUNICATOR receiver. Tune the communications receiver accurately to the center of the COMMUNICATOR i-f passband (refer to schematic for i.f.). It will be noted that a definite quieting occurs in the communications receiver output as a signal is approached on the COMMUNICATOR receiver dial. This is the result of normal a-v-c action in the COMMUNICATOR even though the signal is still outside the communications receiver passband.

The I.F. OUT jack is also connected to the a-v-c bus of the COMMUNICATOR receiver through a 10-megohm resistor. Thus by connecting a VTVM to the jack a sensitive alignment indicator is obtained.

PUSH-TO-TALK RELAYS

The relays employed in the COMMUNICATOR III ordinarily will be trouble free for several years of normal use, without need for adjustment. However, when the equipment is exposed to wind blown dust, sand, etc., difficulty may be encountered with foreign matter lodging between contacts or between the pole piece and armature.

Such foreign matter often can be blown out with compressed air. If it has caused contact arcing, the contacts should be burnished with a tool similar to Western Electric (Graybar) relay burnishing tool no. W.E.265-C. Care should be taken during this process not to upset the reed or blade tension on any of the contacts. Do not use liquid contact cleaners.

MISCELLANEOUS NOTES

When removing the receiver from the main cabinet for any reason, it is extremely important that the dressing of the high frequency R-F leads not be disturbed, as some are quite critical.

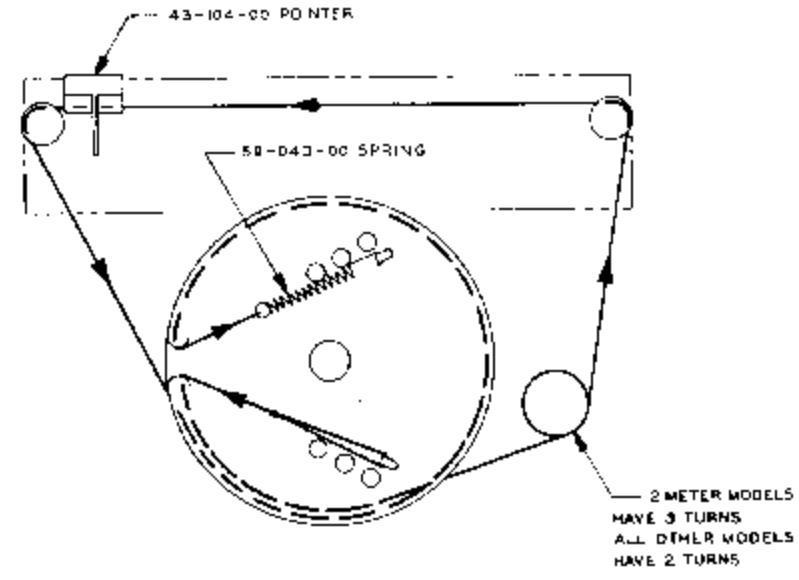
Trouble sometimes is encountered in getting positive contact in the microphone jack when a worn PL-68 plug is employed. The jack spring contacts are adjusted for use with a new plug, and if trouble is encountered when using a worn plug it is suggested that a new plug be substituted rather than tamper with the spring adjustment.

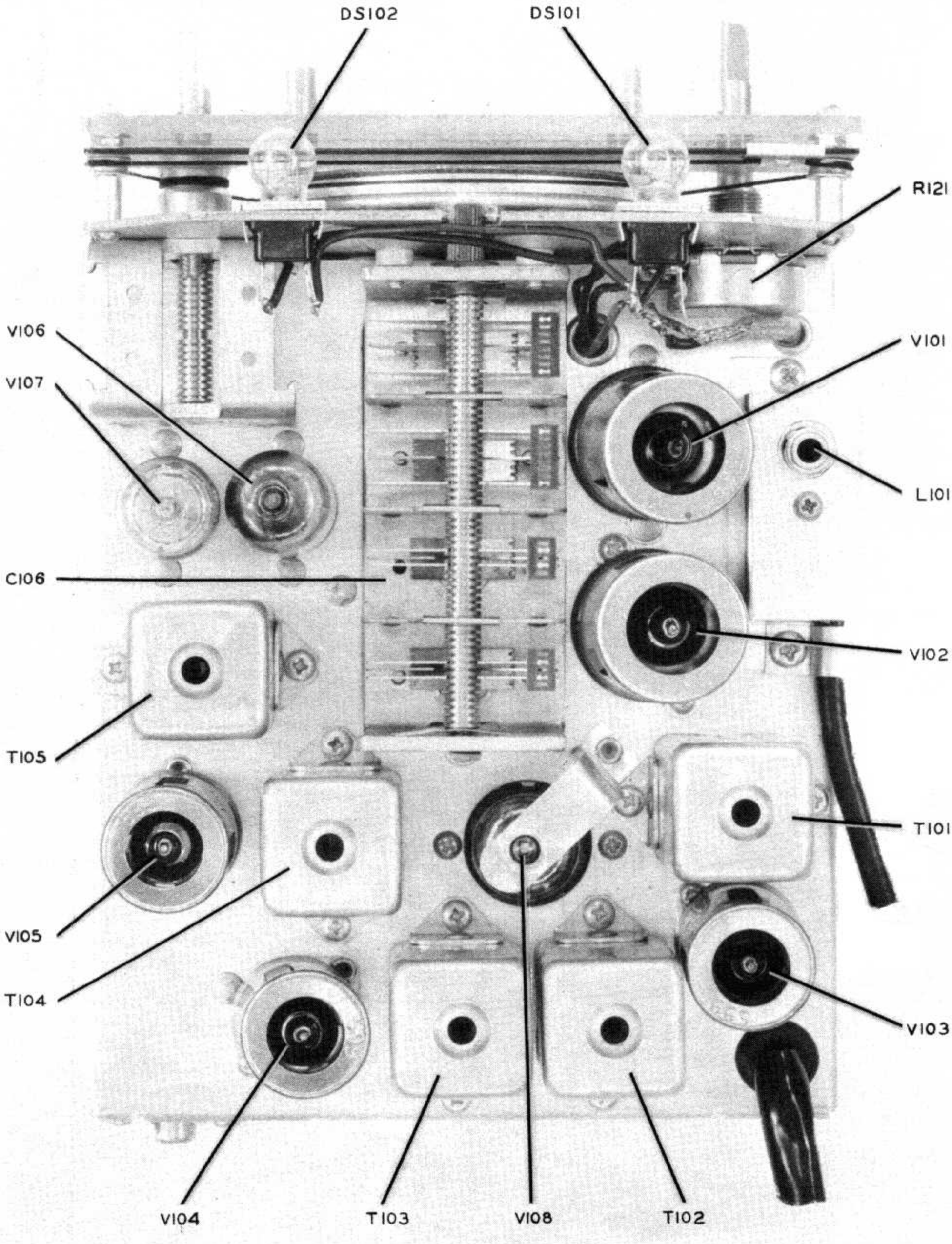
Most microphones of the push-to-talk type incorporate a switch section to break the microphone lead when the button is released. When controlling the COMMUNICATOR by means of the front-panel RECEIVE-TRANSMIT switch, it is necessary to short this switch section; otherwise no transmitter modulation is obtained.

The transmit-receive relays in the COMMUNICATOR are arranged to be closed during receive. When the set is first turned on, the relays may close immediately due to the charging surge of the power-supply filter condensers or they may not close until the tube heaters approach operating temperature. In any event the relays should close within 15 seconds after the set is turned on. If they do not click on within this time, make certain that the PA-TR switch is in TR position before suspecting trouble.

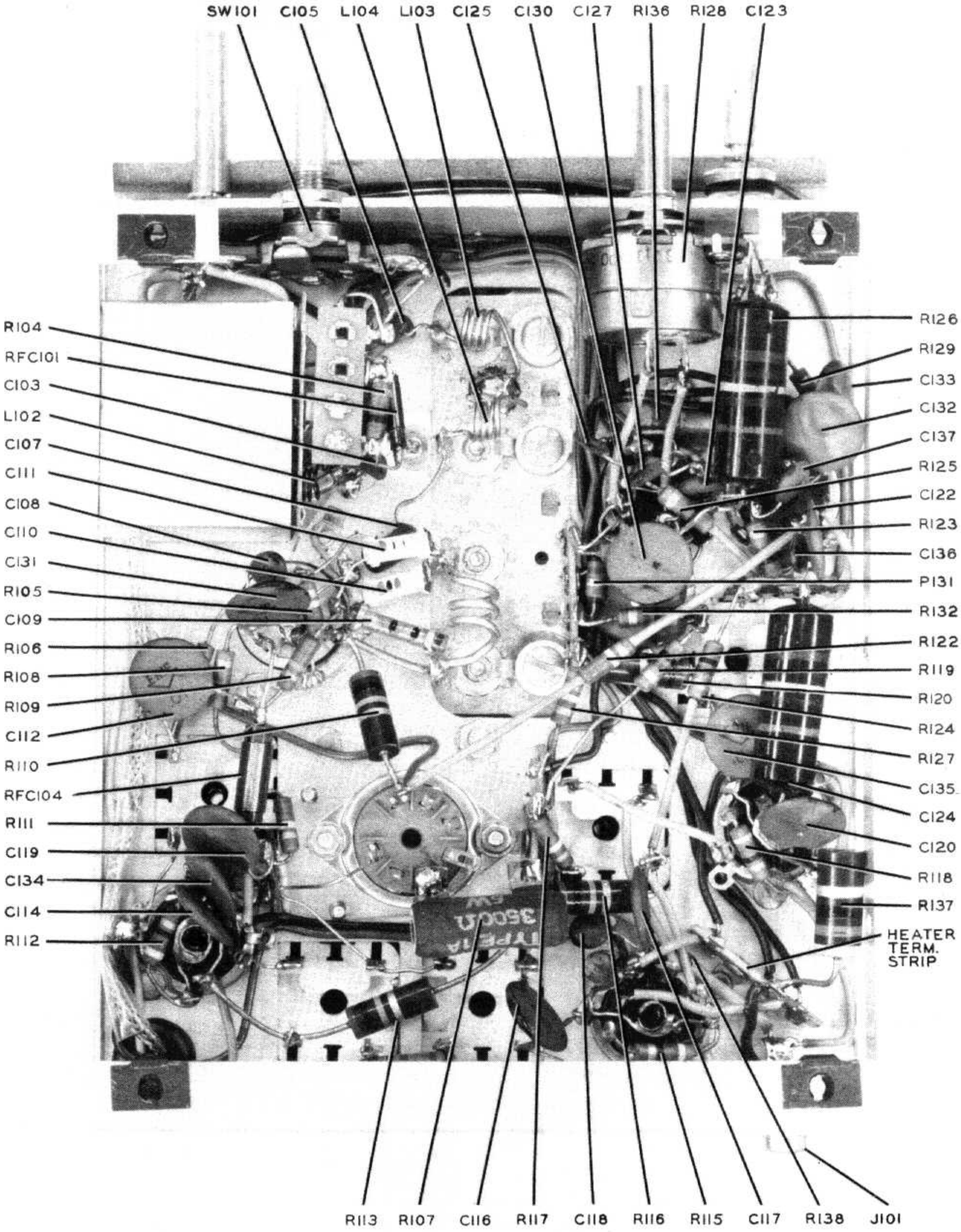
The COMMUNICATOR should never be turned on unless all tubes are in their sockets. The tube filaments are connected in a series-parallel arrangement and removing a tube may seriously unbalance the current distribution causing excessive filament voltage to be applied to one side of the string.

RECEIVER DIAL CORD STRINGING DIAGRAM

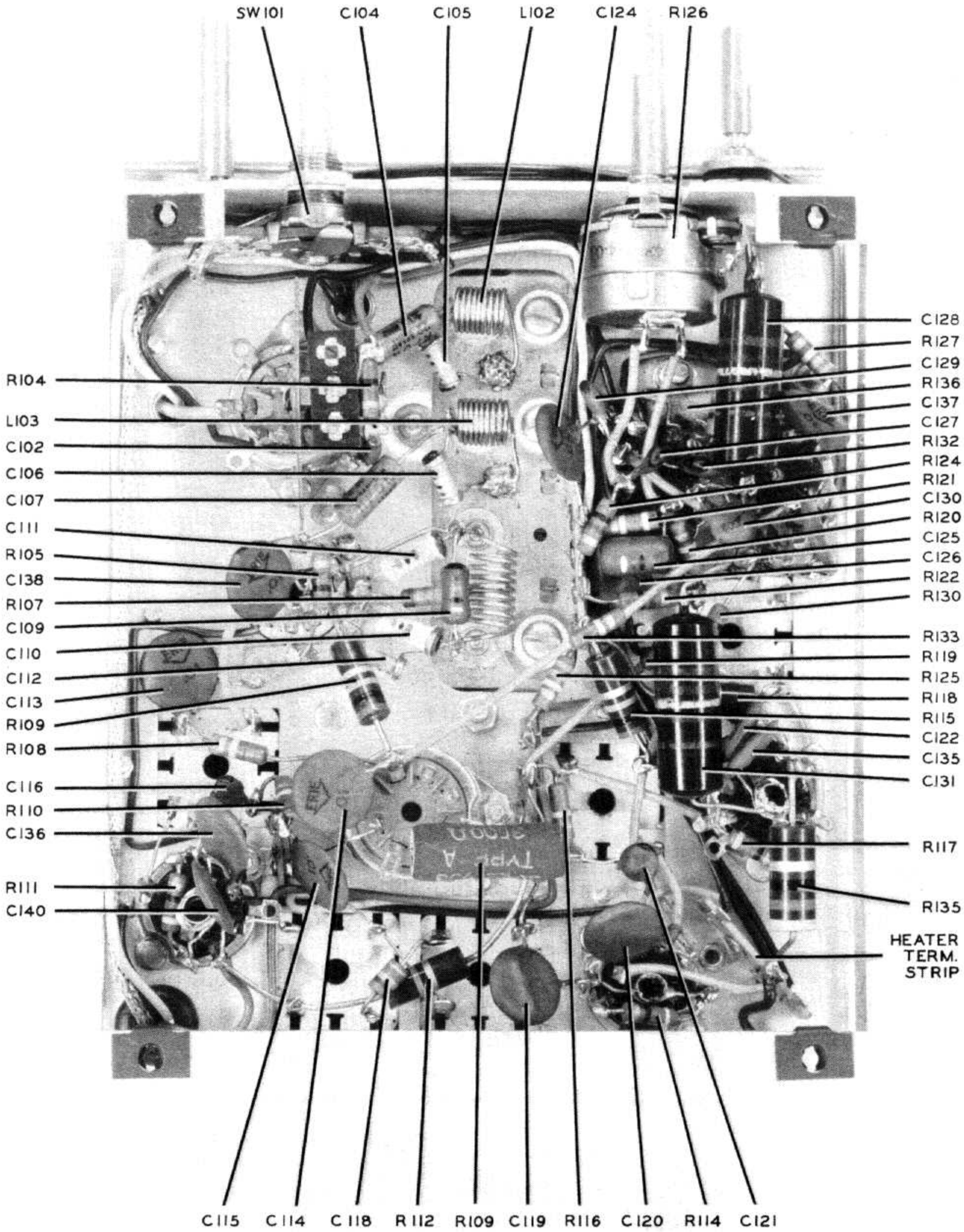




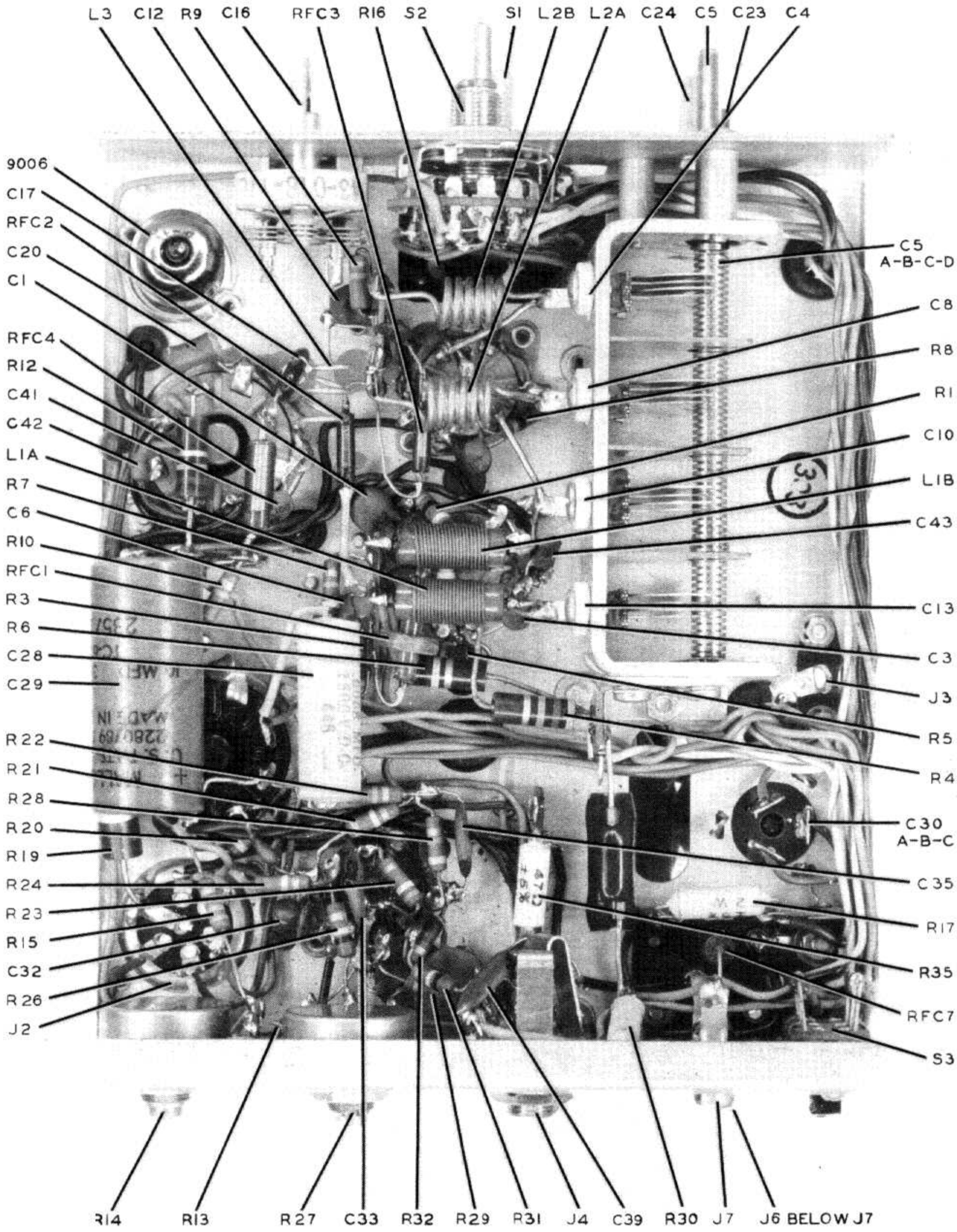
RECEIVER — TOP VIEW



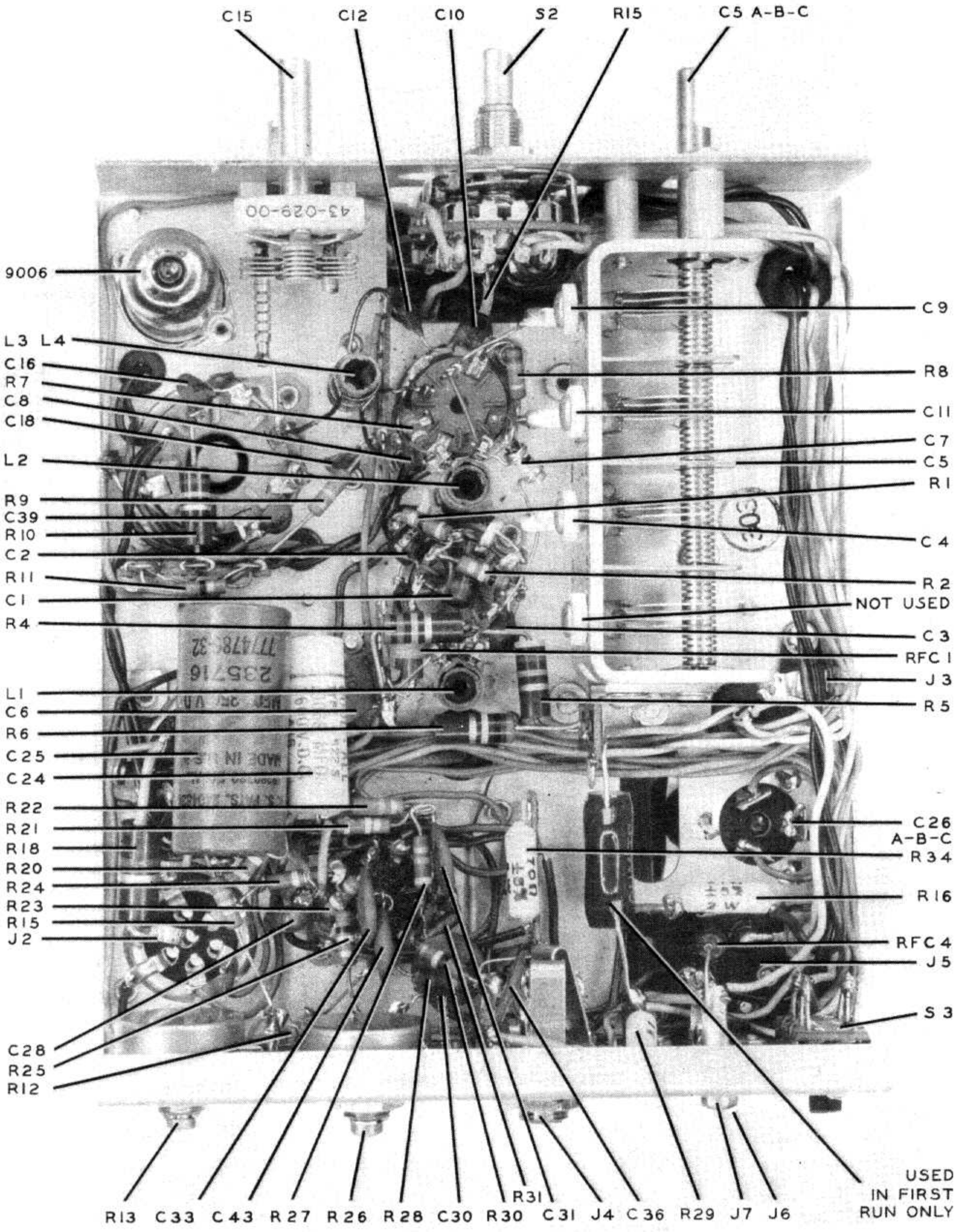
2 METER RECEIVER — BOTTOM VIEW



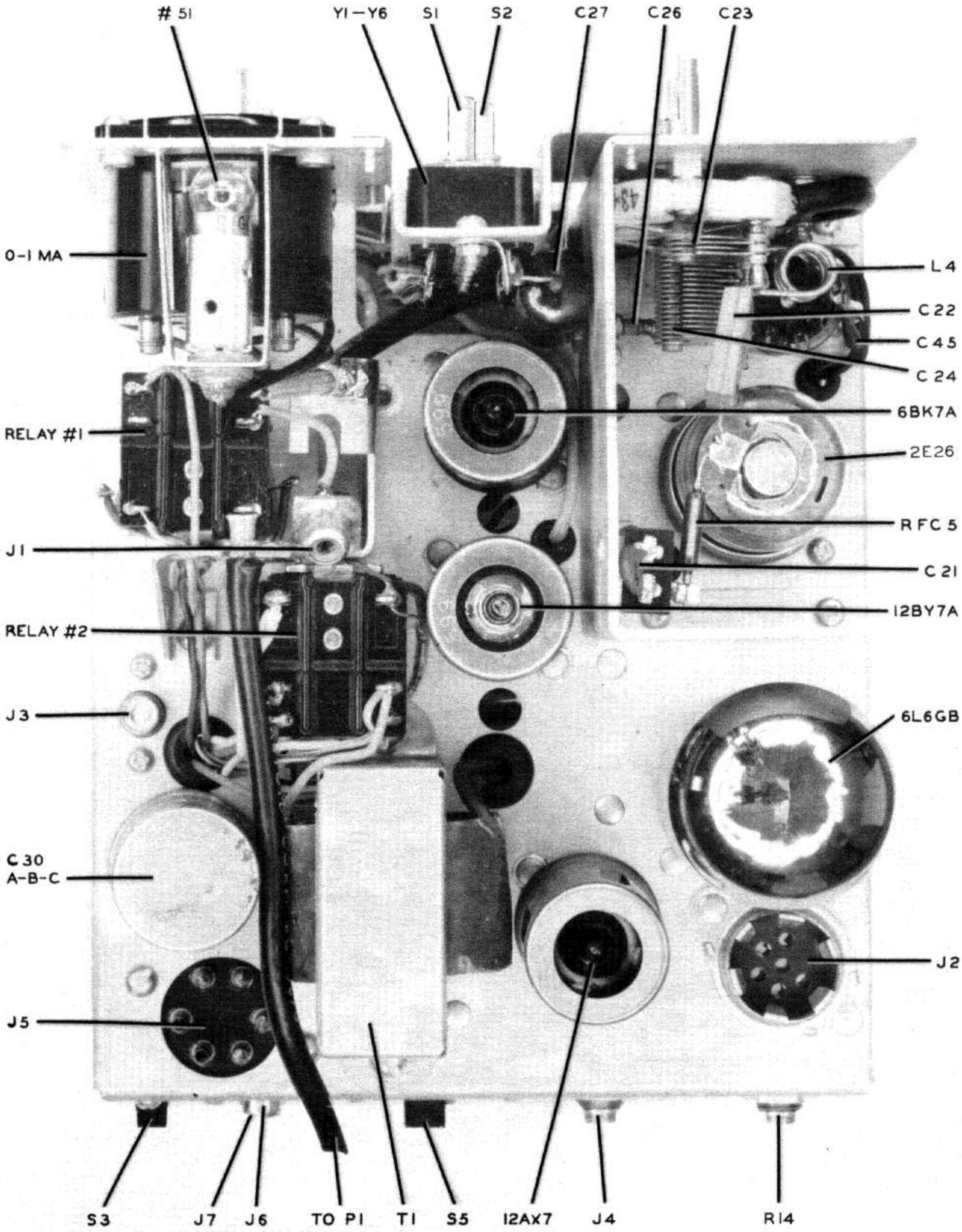
6 METER RECEIVER — BOTTOM VIEW



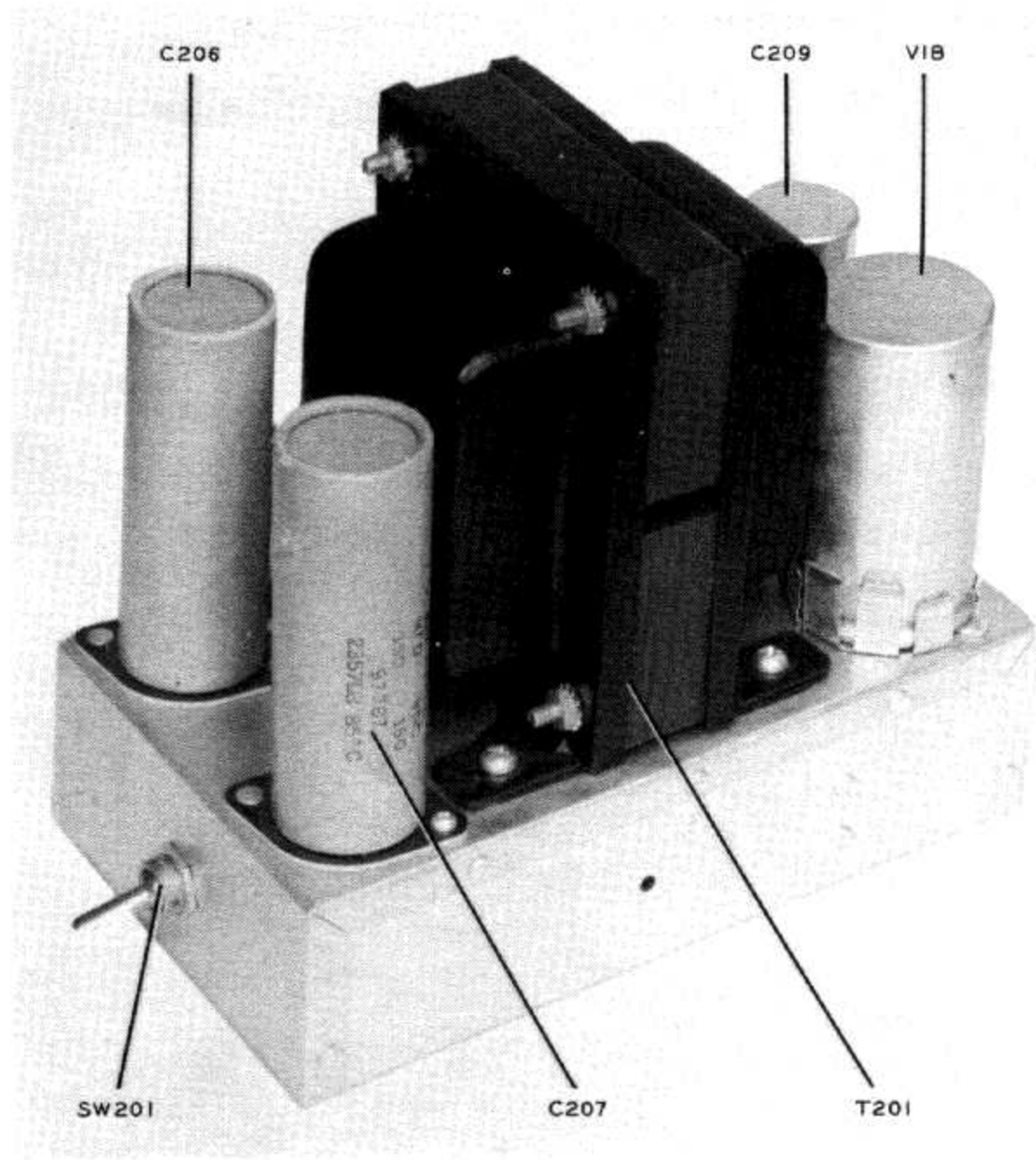
2 METER TRANSMITTER — BOTTOM VIEW



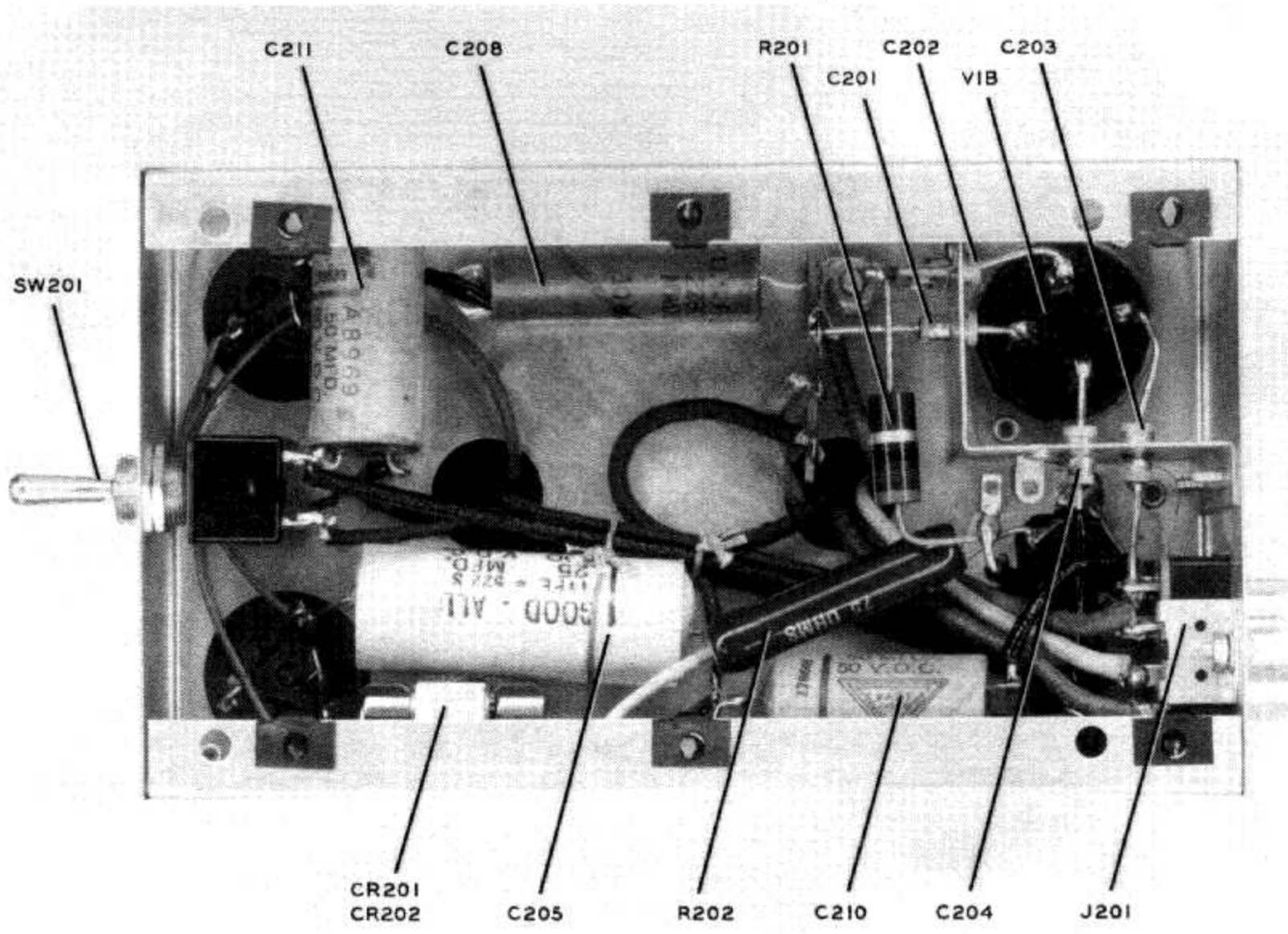
6 METER TRANSMITTER — BOTTOM VIEW



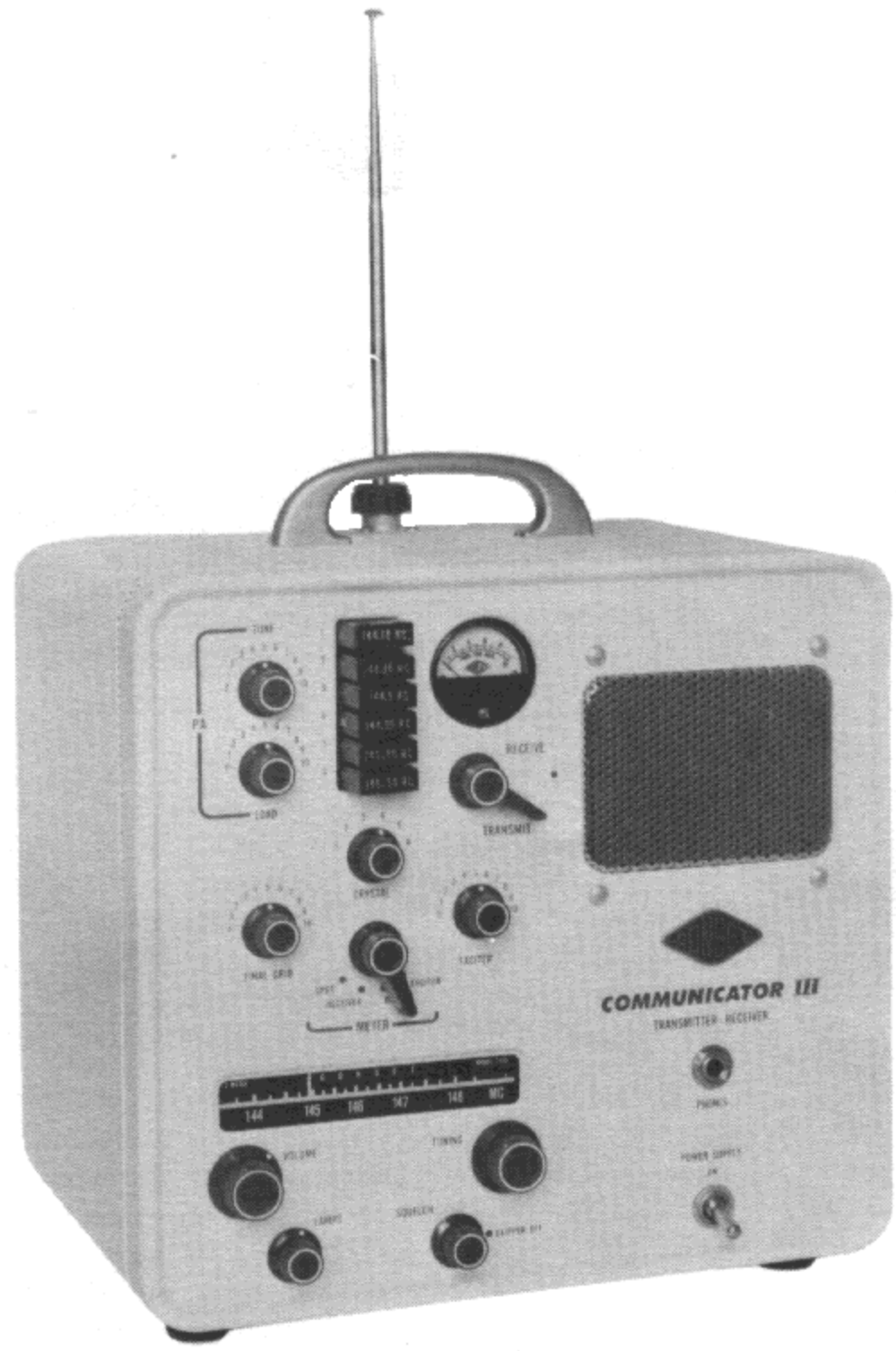
TRANSMITTER — TOP VIEW



POWER SUPPLY — TOP VIEW



POWER SUPPLY — BOTTOM VIEW



WARRANTY

The Gonset Division warrants this product to be free from defective material and workmanship when new, and will remedy any defect or replace any defective part other than the vibrator unit free of charge for a period of 3 months from date of original purchase, provided warranty registration card is filled in and mailed to us. This warranty does not apply to units which have in any way been abused or misused, either deliberately or accidentally, or have been altered.

The defective unit or part must be returned to us transportation charges prepaid, after first getting authorization to return.

No dealer or other person is authprized to assume any further liability on our behalf when selling this unit.

OPERATOR LICENSE REQUIRED FOR TRANSMISSION

Operation of the transmitter in this equipment requires a Federal Communications Commission license. Operation without a license is illegal and is subject to penalty.

DANGER, HIGH VOLTAGE

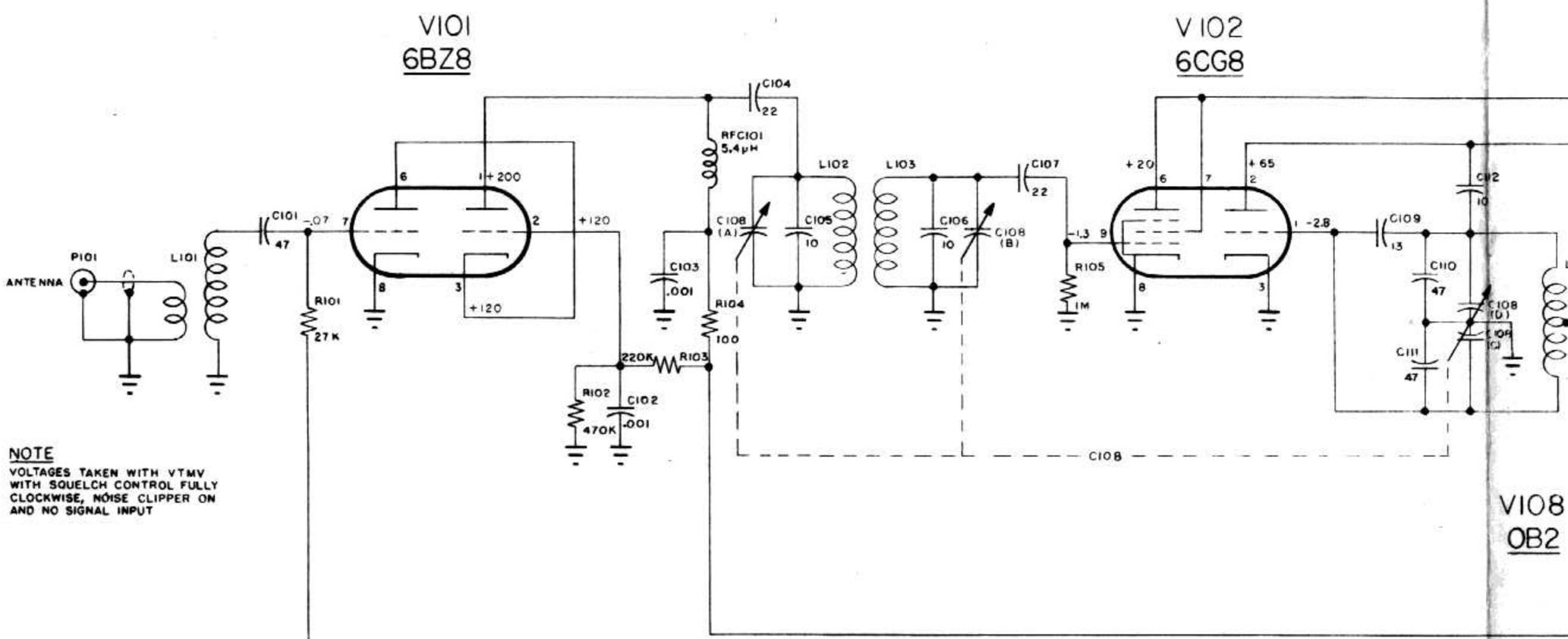
The voltages employed in this unit are sufficient to cause fatal shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock. Note especially that plate voltage appears on the plate cap of the 2E26 at all times the power supply is on, regardless of the position of the transmit-receive switch.

Made in U.S.A.

GONSET DIVISION
YOUNG SPRING & WIRE CORP.

801 S. MAIN STREET

BURBANK, CALIF.



TO CONVERT 12-VOLT COMMUNICATOR III FOR 6-VOLT OPERATION
(ALL ARE SHIPPED FROM FACTORY CONNECTED FOR 12 VOLTS)

WARNING

TO AVOID DAMAGE TO COMPONENTS, REFER TO PAGE 5 OF THE INSTRUCTION MANUAL BEFORE REMOVING ANY UNIT FROM THE CABINET

RECEIVER

LOCATE THREE-LUG TERMINAL STRIP AT THE REAR CORNER OF UNDER SIDE CHASSIS, DIAGONALLY OPPOSITE DIAL LIGHT SWITCH. REMOVE BROWN WIRE FROM TERMINAL "B" AND CONNECT TO TERMINAL "C".
CONNECT A SHORT JUMPER WIRE FROM TERMINAL "A" TO TERMINAL "C". GROUND TERMINAL "B" TO THE CENTER SHIELD OF THE ADJACENT TUBE SOCKET.

V103
6BH6

V104
6BH6

V105
6BH6

T101 T102 T103 T104 T105

R106 10K 1W

L104

C108 .001

R107 6800

C113 .01

R108 270K

C116 .001

R110 220K

C111 .01

R111 47

C140 .01

R138 2.2K

C117 .01

C118 .75

R137 10M

C119 .01

R113 220K

C139 .001

J101 LF. PICK UP

R114 47

C120 .01

C121 .001

R116 220K

R117 47

C122 .01

R118 1W 10K

C123 100

R119 1M

+105 1-5

V108
0B2

C114 .01

C115 .01

AVC

-0.8

R112 1W 10K

R115 1W 10K

R109 5W 3500

B+

B+ (REG)

R125 330K

R130 1M

R126 500K SQUELCH

C131 .1

R129 2.2M

C128 .1

R124 1M

R122 1M

R127 330K

C126 .01

R128 1M

SW102

-0.6

C127 .001

R120 220K

R121 470K

C125 100

R123 220K

C124 .01

DS101

DS102

SW101

12V

6V

BRN.

BLK.

YEL.

YEL.-A.F.

BLU.-S. METER

RED-B+

P102
POWER SUPPLY

VOLUME

R134 250K

C134 .01

C133 .001

R133 220K

V106
6AV6

R132 1M

C130 .002

C132 .002

C129 .001

V107
6AL5

C101	47 µµF, Disc Ceramicon, GMV
C102	.001 µF, Disc Ceramicon, GMV
C103	.001 µF, Disc Ceramicon, GMV
C104	22 µµF, NPO Tubular, ±5%
C105	10 µµF, NPO Tubular, ±5%
C106	10 µµF, NPO Tubular, ±5%
C107	22 µµF, NPO Tubular, ±5%
C108	Capacitor, 4 Gang
C109	13 µµF, Insulated Tubular Ceramic NPO, ±5%
C110	47 µµF, Noninsulated Tubular Ceramic N030, ±2%
C111	47 µµF, Noninsulated Tubular Ceramic N030, ±2%
C112	10 µµF, NPO Tubular, ±5%
C113	.01 µF, Disc Ceramicon, GMV
C114	.01 µF, Disc Ceramicon, GMV
C115	.01 µF, Disc Ceramicon, GMV
C116	.001 µF, Disc Ceramicon, GMV
C117	.01 µF, Disc Ceramicon, GMV
C118	.75 µµF, Tubular, ±10%
C119	.01 µF, Disc Ceramicon, GMV
C120	.01 µF, Disc Ceramicon, GMV
C121	.001 µF, Disc Ceramicon, GMV
C122	.01 µF, Disc Ceramicon, GMV
C123	100 µµF, Tubular GPSL, ±10%
C124	.01 µF, Disc Ceramicon, GMV
C125	100 µµF, Tubular GPSL, ±10%
C126	.01 µF, Disc Ceramicon, GMV
C127	.001 µF, Disc Ceramicon, GMV
C128	.1 µF, Tubular, 200 WVDC
C129	.001 µF, Disc Ceramicon, GMV
C130	.002 µF, Disc Ceramicon, GMV
C131	.1 µF, Tubular, 200 WVDC
C132	.002 µF, Disc Ceramicon, GMV
C133	.001 µF, Disc Ceramicon, GMV
C134	.01 µF, Disc Ceramicon, GMV
C135	.01 µF, Disc Ceramicon, GMV
C136	.01 µF, Disc Ceramicon, GMV
C137	.01 µF, Disc Ceramicon, GMV
C138	.01 µF, Disc Ceramicon, GMV
C139	.001 µF, Disc Ceramicon, GMV
C140	.01 µF, Disc Ceramicon, GMV
R101	27K Ohms, ½ Watt
R102	470K Ohms, ½ Watt
R103	220K Ohms, ½ Watt
R104	100 Ohms, ½ Watt
R105	1 Megohm, ½ Watt
R106	10K Ohms, 1 Watt
R107	6800 Ohms, ½ Watt
R108	270K Ohms, ½ Watt
R109	3500 Ohms, 5 Watts, 5%
R110	220K Ohms, ½ Watt
R111	47 Ohms, ½ Wa
R112	10K Ohms, 1 W.
R113	220K Ohms, ½
R114	47 Ohms, ½ Wa
R115	10K Ohms, 1 Wa
R116	220K Ohms, ½
R117	47 Ohms, ½ Wa
R118	10K Ohms, 1 W.
R119	1 Megohm, ½ W.
R120	220K Ohms, ½
R121	470K Ohms, ½
R122	1 Megohm, ½ W.
R123	220K Ohms, ½
R124	1 Megohm, ½ W.
R125	330K Ohms, ½
R126	500K Ohms, Po
R127	330K Ohms, ½
R128	1 Megohm, ½ W
R129	2.2 Megohms,
R130	1 Megohm, ½ W
R131	1 Megohm, ½ W
R132	1 Megohm, ½ W
R133	220K Ohms, ½
R134	250K Ohms, Po
R135	47 Ohms, 2 Wa

...S, ½ WATT	R136 6.8 OHMS, 1 WATT
...MS, 1 WATT	R137 10 MEGOHMS, ½ WATT
...OHMS, ½ WATT	R138 2.2K OHMS, ½ WATT
...S, ½ WATT	
...MS, 1 WATT	
...OHMS, ½ WATT	SW101 SWITCH, PILOT LAMP
...S, ½ WATT	SW102 SWITCH, LINEAR TAPER
...MS, 1 WATT	
...OHM, ½ WATT	
...OHMS, ½ WATT	P101 PLUG, ANTENNA CONNECTOR, CINCH #11855
...OHMS, ½ WATT	P102 PLUG, POWER SUPPLY, CINCH #12032
...OHM, ½ WATT	
...OHMS, ½ WATT	
...OHM, ½ WATT	DS101 LAMP, PILOT, G.E. #12
...OHMS, ½ WATT	DS102 LAMP, PILOT, G.E. #12
...OHMS, POT. LINEAR TAPER	
...OHMS, ½ WATT	
...OHM, ½ WATT	RFC101 5.4 µH
...EGOHMS, ½ WATT	RFC102 1.9 µH
...OHM, ½ WATT	
...OHM, ½ WATT	
...OHM, ½ WATT	L101 COIL, CASCODE INPUT
...OHMS, ½ WATT	L102 COIL, CASCODE PLATE
...OHMS, POT. AUDIO TAPER	L103 COIL, MIXER GRID
...S, 2 WATTS	L104 COIL, OSCILLATOR

T101	TRANSFORMER, I.F. 2.3 MC
T102	TRANSFORMER, I.F. 2.3 MC
T103	TRANSFORMER, I.F. 2.3 MC
T104	TRANSFORMER, I.F. 2.3 MC
T105	TRANSFORMER, I.F. 2.3 MC

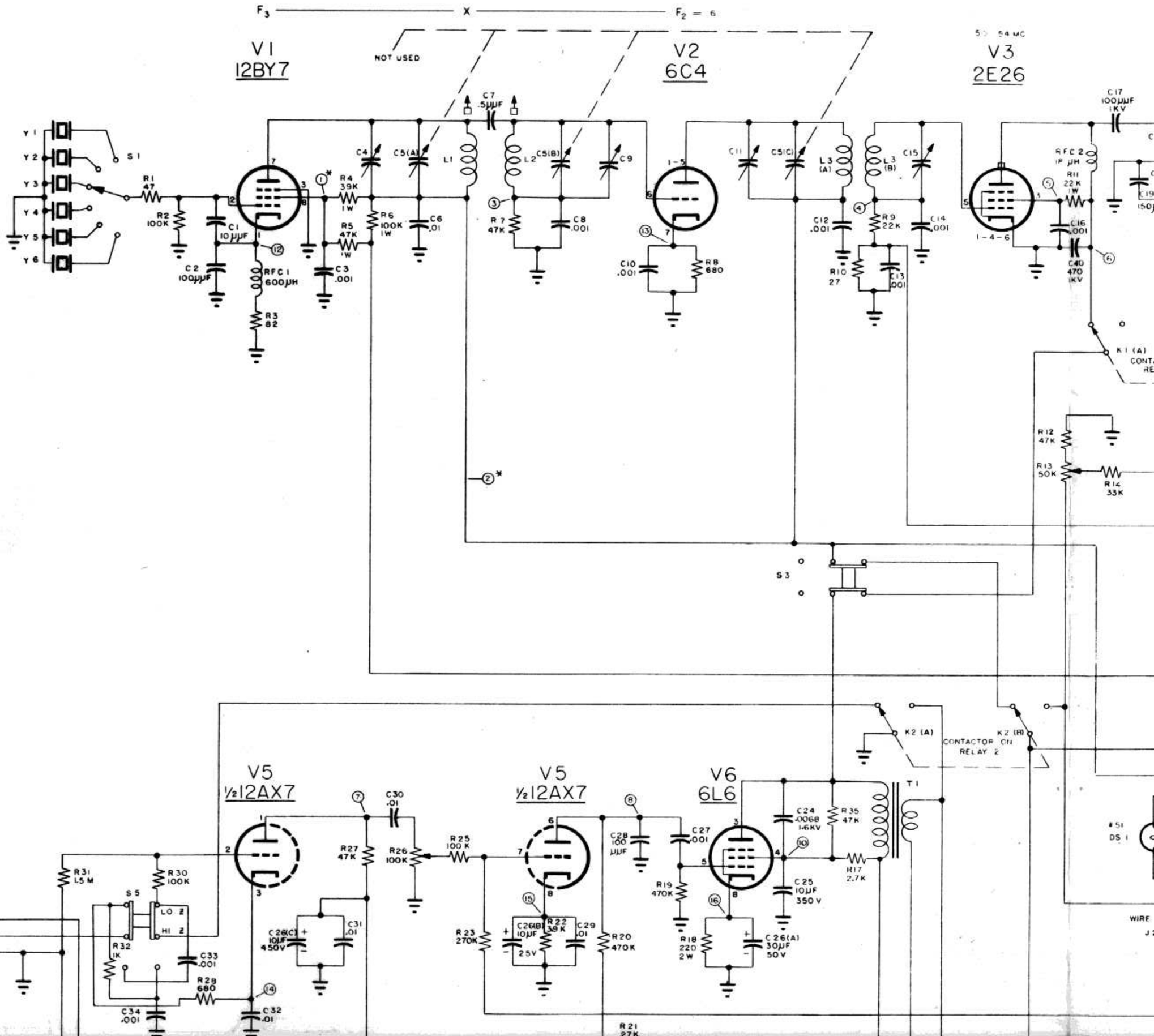
J101 JACK, I.F. PICKUP, CINCH #8171

NOTES:

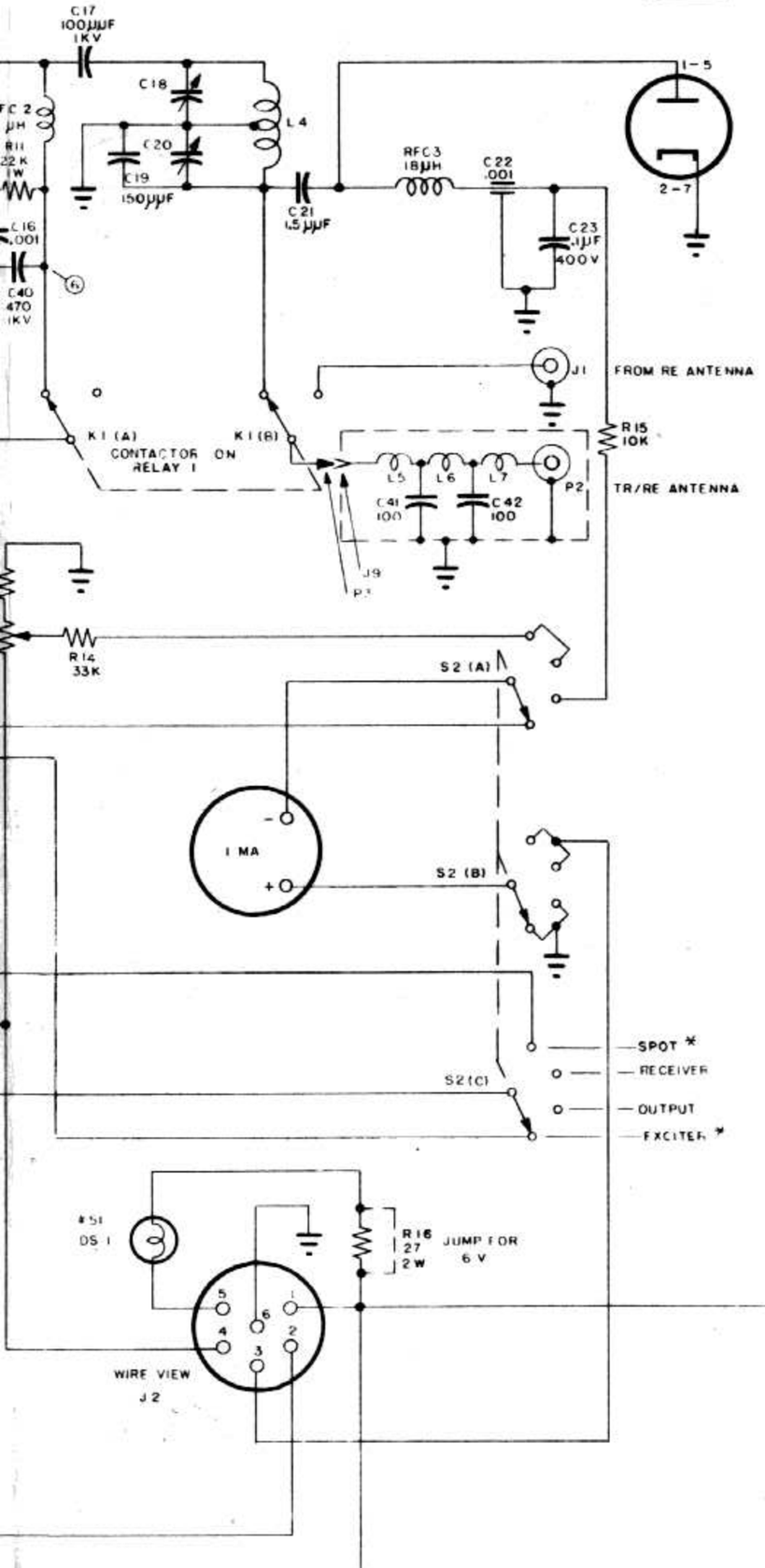
FOR 6-VOLT OPERATION:

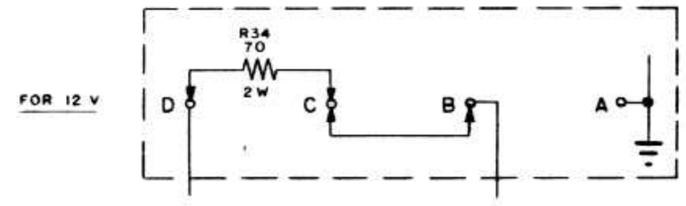
1. DISCONNECT BROWN POWER CABLE LEAD FROM PIN B OF HEATER TERMINAL STRIP. CONNECT LEAD TO PIN C.
2. CONNECT WIRE JUMPER FROM PIN A TO PIN C OF HEATER TERMINAL STRIP.
3. GROUND PIN B OF HEATER TERMINAL STRIP.

GONSET BURBANK, CALIF.		
ENG.	SCHEMATIC RECEIVER MODEL 3136-R COMMUNICATOR	510-017
DWN. 6-57 BB		
CKD.		
APP. 9-26-57		

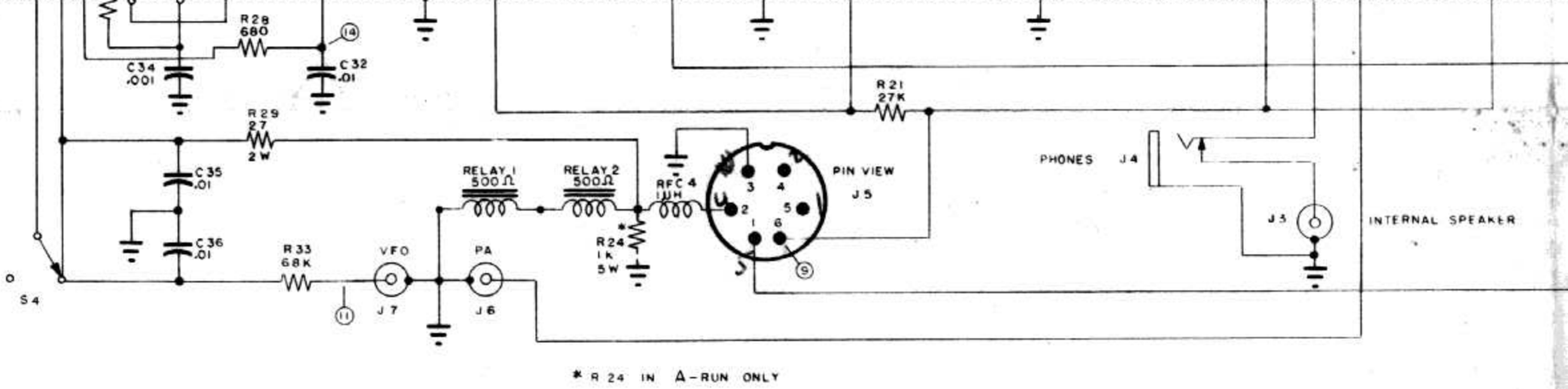

F3
X
F2 = 6
NOT USED
V1
12BY7
V2
6C4
V3
2E26
50 - 54 MC
Y1
Y2
Y3
Y4
Y5
Y6
S1
R1 47
R2 100K
C1 10 µµF
C2 100µµF
RFC 1 600µH
R3 82
R4 39K 1W
R5 47K 1W
C3 .001
R6 100K 1W
C4
C5(A)
C6 .01
L1
C7 .5µµF
L2
C5(B)
C8 .001
R7 47K
C9
C10 .001
R8 680
C11
C5(C)
L3 (A)
L3 (B)
C12 .001
R9 22K
R10 27
C13 .001
C14 .001
C15
C17 100µµF 1KV
RFC 2 IP µH
R11 22K 1W
C16 .001
C40 470 1KV
1-4-6
K1 (A)
CONTACTOR ON RELAY 1
R12 47K
R13 50K
R14 33K
S3
K2 (A)
K2 (B)
CONTACTOR ON RELAY 2
V5
½12AX7
V5
½12AX7
V6
6L6
T1
MIC. J8
S5
LO 2
HI 2
R31 1.5 M
R32 1K
R30 100K
C33 .001
R28 680
C34 .001
C32 .01
C31 .01
C26(C) 10µF 450V
R27 47K
R26 100K
C30 .01
R25 100 K
R23 270K
C26(B) 10µF 25V
R22 39 K
C29 .01
R20 470K
R21 27K
C28 100 µµF
C27 .001
R19 470K
R18 220 2W
C26(A) 30µF 50V
C24 .0068 1.6KV
C25 10µF 350 V
R35 47K
R17 2.7K
WIRE
#51
DS 1

V4
9006



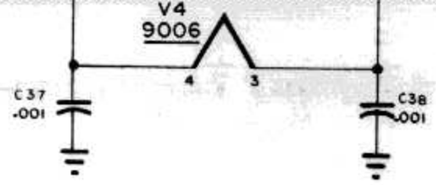


VOLTAGE CHART			
ALL VOLTAGES MEASURED WITH VTVM HAVING INPUT RESISTANCE OF AT LEAST 10 MΩ. (50Ω INPUT, NO SIGNAL)			
NUMBER	DESCRIPTION	TRANSMIT	RECEIVE



* R 24 IN A-RUN ONLY

C1	10 µµF, Silver Mica, ±5%
C2	100 µµF, Silver Mica, ±5%
C3	.001 µF, Disc Ceramicon GMV
C4	Trimmer On C5(A)
C5	Capacitor, Tuning 4 Gang
C6	.01 µF, Disc Ceramicon GMV
C7	.5 µµF, Tubular Ceramic, ±10%
C8	.001 µF, Disc Ceramicon GMV
C9	Trimmer On C5(B)
C10	.001 µF, Disc Ceramicon GMV
C11	Trimmer On C5(C)
C12	.001 µF, Disc Ceramicon GMV
C13	.001 µF, Disc Ceramicon GMV
C14	.001 µF, Disc Ceramicon GMV
C15	Capacitor, A.P.C. Final Grid
C16	.001 µF, Disc Ceramicon GMV
C17	100 µµF, Silver Mica 1000 WVDC, ±10%
C18	Capacitor, A.P.C. Final Plate
C19	150 µµF, Silver Mica, ±5%
C20	Capacitor, A.P.C. 50 µµF
C21	1.5 µµF, Miniature Tubular, ±10%
C22	.001 µF, Feed-thru Type, 20%
C23	.1 µF, Molded Paper Tubular, 400 WVDC
C24	.0063 µF, Tubular, 1600 WVDC
C25	10 µF, Electrolytic, 350 WVDC, 85°C
C26A	30 µF, 50 WVDC — Electrolytic
B	10 µF, 25 WVDC — Electrolytic
C	10 µF, 450 WVDC — Electrolytic
C27	.001 µF, Disc Ceramicon GMV
C28	100 µµF, Tubular Ceramic
C29	.01 µF, Disc Ceramicon GMV
C30	.01 µF, Disc Ceramicon GMV
C31	.01 µF, Disc Ceramicon GMV
C32	.01 µF, Disc Ceramicon GMV
C33	.001 µF, Disc Ceramicon GMV
C34	.001 µF, Disc Ceramicon GMV
C35	.01 µF, Disc Ceramicon GMV
C36	.01 µF, Disc Ceramicon GMV
C37	.001 µF, Disc Ceramicon GMV
C38	.001 µF, Disc Ceramicon GMV
C39	.001 µF, Disc Ceramicon GMV
C40	470 µµF, Disc Ceramicon 1 KV, 20%
C41	100 µµF, DM 15 Silver Mica
C42	100 µµF, DM 15 Silver Mica
C43	.001 µF, Disc Ceramicon GMV
R1	47 Ohms, ½ Watt
R2	100K Ohms, ½ Watt
R3	82 Ohms, ½ Watt
R4	39K Ohms, 1 Watt
R5	47K Ohms, 1 Watt
R6	100K Ohms, 1 Watt
R7	47K Ohms, ½ Watt
R8	680 Ohms, ½ Watt
R9	22K Ohms, ½ Watt
R10	27 Ohms, ½ Watt
R11	22K Ohms, 1 Watt
R12	47K Ohms, ½ Watt
R13	50K Ohms, Pot. S Meter Adj.
R14	33K Ohms, ½ Watt
R15	10K Ohms, ½ Watt
R16	27 Ohms, 2 Watts
R17	2.7K Ohms, ½ Watt
R18	220 Ohms, 2 Watts
R19	470K Ohms, ½ Watt
R20	470K Ohms, ½ Watt
R21	27K Ohms, ½ Watt
R22	3.9K Ohms, ½ Watt
R23	270K Ohms, ½ Watt
R24	See Notes
R25	100K Ohms, ½ Watt
R26	100K Ohms, Pot. Audio Gain
R27	47K Ohms, ½ Watt
R28	680 Ohms, ½ Watt
R29	27 Ohms, 2 Watts
R30	100K Ohms, ½ Watt
R31	1.5 Megohms, ½ Watt
R32	1K Ohm,
R33	68 Ohm,
R34	70 Ohm,
R35	47K Ohm,
J1	Jack, Rc
J2	Jack, Rc
J3	Jack, In
J4	Jack, Ex
J5	Jack, Ma
J6	Jack, PA
J7	Jack, VF
J8	Jack, Mi
J9	Jack, An
S1	Switch,
S2	Switch,
S3	Switch,
S4	Switch,
S5	Switch,
L1	Coil, Os
L2	Coil, Mu
L3A	1st Coil
L3B	2nd Coil
L4	Coil, Fi
L5	Trap Co
L6	Trap Co
L7	Trap Co



½ WATT
½ WATT
2 WATT
, ½ WATT

CVR. ANTENNA CONNECTOR, CINCH #11613
CVR. POWER SUPPLY, CINCH #11916
NTERNAL SPEAKER, CINCH #8171
XTERNAL PHONES, SWITCHCRAFT #12-A
AIN POWER SUPPLY, CINCH #M-76
A, CINCH #8171
FO, CINCH #8171
ICROPHONE, SWITCHCRAFT #S-12-B
NTENNA TRANSMITTER-RECEIVER, INTERNAL

CRYSTAL, SPECIAL
METER, SPECIAL
SLIDE, TR-PA, WIRT #SW-726
TRANSMIT-RECEIVE, SPECIAL
SLIDE, CARBON-XTAL, WIRT #SW-726

SCILLATOR PLATE
ULTIPLIER GRID
L, MULTIPLIER PLATE
L, 2E26 GRID
INAL PLATE
IL
IL
IL

RFC1 600 µH
RFC2 18 µH
RFC3 18 µH
RFC4 1 µH

K1 RELAY, DPDT 24 VDC COIL, POTTER & BRUMFIELD #KA-1256
K2 RELAY, DPDT 24 VDC COIL, POTTER & BRUMFIELD #KA-1256

T1 TRANSFORMER, MODULATION, KAPITOL #M-1036

P1 PLUG, TRANSMITTER ANTENNA CONNECTOR, CINCH #M-95
P2 PLUG, ANTENNA TRANSMITTER-RECEIVER, EXTERNAL
P3 PLUG, ANTENNA TRANSMITTER- RECEIVER, INTERNAL

DS1 LAMP, PILOT, G.E. #51

NOTES:

R24 1K OHMS, 5 WATTS (IN FIRST RUN MODELS ONLY)

FOR 6-VOLT OPERATION:

1. REMOVE WIRE JUMPER BETWEEN PINS B AND C OF HEATER TERMINAL STRIP.
2. CONNECT WIRE JUMPERS BETWEEN PINS A AND B AND BETWEEN PINS C AND D OF HEATER TERMINAL STRIP.
3. CONNECT WIRE JUMPER ACROSS RESISTOR R16

ALL VOLTAGES MEASURED WITH VTVM HAVING INPUT RESISTANCE OF AT LEAST 10 MΩ. (50Ω INPUT, NO SIGNAL)

NUMBER	DESCRIPTION	TRANSMIT	RECEIVE
1	12BY7 SCREEN VOLTS	+125	
2	12BY7 PLATE VOLTS	+250	
3	6C4 BIAS VOLTS	-40	0
4	2E26 BIAS VOLTS	-45	
5	2E26 SCREEN VOLTS	+150	
6	2E26 PLATE VOLTS	+235	
7	12AX7 PLATE VOLTS PIN 1, XTAL	+180	
	CARBON	+180	+200
8	12AX7 PLATE VOLTS PIN 6	+90	+85
9	MAIN SUPPLY B+ VOLTS	+250	+200
10	6L6 SCREEN VOLTS	+240	+190
11	VFO BLOCKING BIAS	0	-6
12	12BY7 CATHODE VOLTS	+1.25	
13	6C4 CATHODE VOLTS	+6.5	
14	12AX7 CATHODE VOLTS PIN 3, XTAL	+1.5	
	CARBON	+1.5	+4
15	12AX7 CATHODE VOLTS PIN 8	+1	+1
16	6L6 CATHODE VOLTS	+13.5	+10
*	SPOT 12BY7 SCREEN VOLTS		+60
	PLATE VOLTS		+15
*	EXCITER 12BY7 SCREEN VOLTS		+100
	PLATE VOLTS		+200

* RECEIVE ONLY
METER FUNCTION SWITCH

GONSET BURBANK, CALIF.		
ENG. J. STERNER DWN. H.v.D. 7-'57 CKD. APP. J.E.S. Sept '57	SCHEMATIC MODEL 3136 TRANSMITTER	510 - 013

A 6V B

A-B SHORTED
FOR 6V OPER.

A 12V B

R201
15
2W

BLUE (12V)

BRN. (6V)

YEL.

RED

BLK. (6V)

GRN. (12V)

VIB

C201
1000

C202
1000

C203
1000

C204
1000

POWER INP
J 201

3 2 1
6 5 4
9 8 7
12 11 10

T 201

BLK. (SM)

BLK. (SM)

RED (SM)

CR 201

R202

RED B+

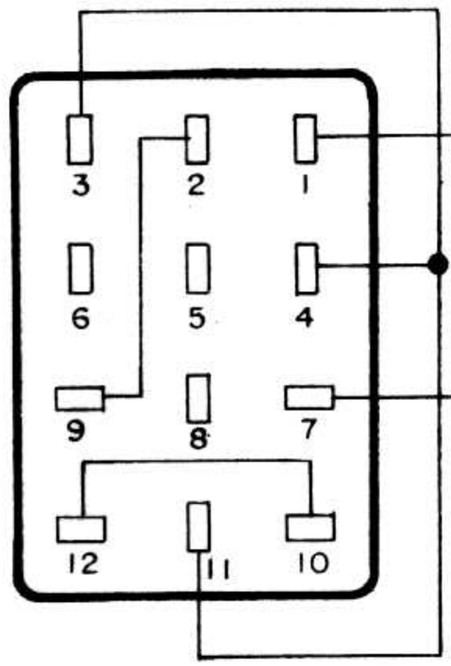
C210
.5
50V

NPUT

A SW 201 B

C211
.5
50V

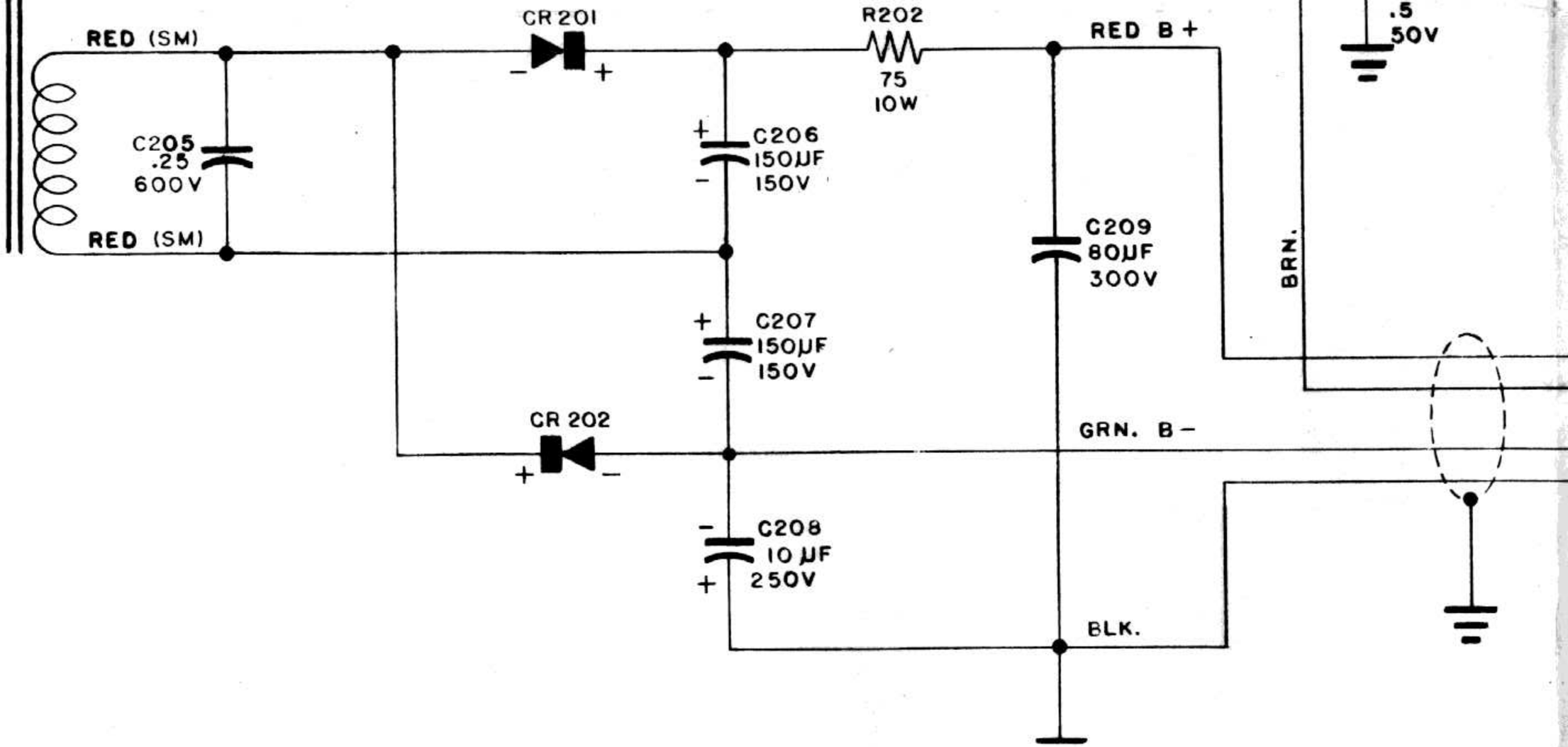
P 202
6V, 12V DC CONNECTION



20 A – 6V
10 A – 12V

GND. HOT

P 203
115V AC CONNECTION



C201	.001 μF, Shoulder Type Feed-thru, GMV	
C202	.001 μF, Shoulder Type Feed-thru, GMV	
C203	.001 μF, Shoulder Type Feed-thru, GMV	
C204	.001 μF, Shoulder Type Feed-thru, GMV	
C205	.25 μF, Tubular Ceramic, 600 WVDC	
C206	150 μF, Electrolytic, 150 WVDC	
C207	150 μF, Electrolytic, 150 WVDC	
C208	10 μF, Electrolytic, 250 WVDC	
C209	80 μF, Electrolytic, 300 WVDC	
C210	.5 μF, Tubular Paper, Hash Filter, 50 WVDC	
C211	.5 μF, Tubular Paper, Hash Filter, 50 WVDC	
R201	15 Ohms, 2 Watts, 10%	
R202	75 Ohms, 10 Watts, 10%	
CR201	Rectifier, Silicon, Sarkes-Tarzian #M-500	
CR202	Rectifier, Silicon, Sarkes-Tarzian #M-500	
P201	Plug, Power Output, Cinch #F-60	
P202	Plug, 6V/12V DC Connection, Jones #S-312-CCT	
P203	Plug, 115V AC Connection, Jones #S-312-CCT	
J201	Jack, Power Input, Cinch-Jones #P-312-AB	
SW201	Switch, Toggle DPST, Arrow H&H #81024	
T201	Transformer, Power, Kapitol #T-2180	
Vib	Vibrator, Mallory #1501	

NOTES:

For 6-Vol
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4. C
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Mallory T
for eithe

C211
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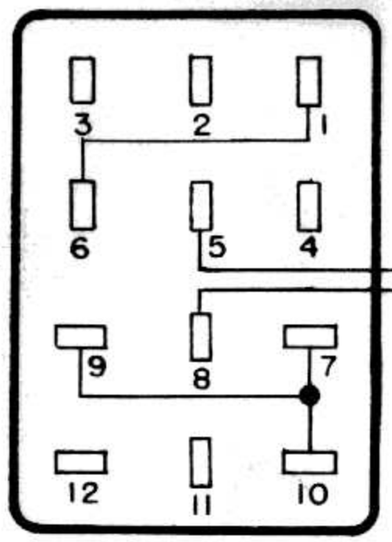
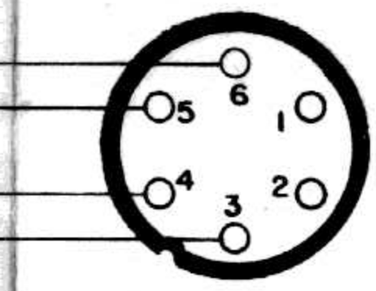
50V

P 203
115V AC CONNECTION



POWER OUTPUT TO
TRANSMITTER
P 201



TO CONVERT 12-VOLT COMMUNICATOR III FOR 6-VOLT OPERATION
(ALL ARE SHIPPED FROM FACTORY CONNECTED FOR 12-VOLTS)

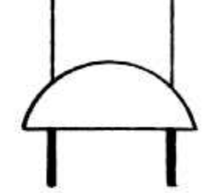
WARNING

TO AVOID DAMAGE TO COMPONENTS, REFER TO PAGE 5 OF THE INSTRUCTION MANUAL BEFORE REMOVING ANY UNIT FROM THE CABINET

POWER SUPPLY

CONNECT SHORTING JUMPER ACROSS 15 OHM 2 WATT RESISTOR NEAR VIBRATOR CAGE. LOCATE TERMINAL STRIP UNDER THIS RESISTOR. TRANSPOSE BROWN AND BLUE WIRES FROM TRANSFORMER. REMOVE GREEN WIRE FROM POWER PLUG PIN 9. REMOVE BLACK WIRE FROM TERMINAL STRIP AND SOLDER TO PIN 9 OF POWER PLUG. SOLDER GREEN WIRE TO VACANT TIE POINT.

5A
FUSE
IN PLUG
2A



OLT OPERATION:
CONNECT WIRE JUMPER ACROSS R201.
INTERCHANGE HEAVY BLUE AND BROWN
LEADS FROM TRANSFORMER T201.
DISCONNECT GREEN LEAD FROM PIN 9
OF POWER INPUT JACK J201. DISCONNECT
HEAVY BLACK TRANSFORMER LEAD FROM
TERMINAL STRIP.
CONNECT HEAVY BLACK LEAD TO PIN 9
OF JACK J201. CONNECT GREEN LEAD
TO TERMINAL STRIP.

TYPE 1501 6-VOLT VIBRATOR IS USED
HER 6 OR 12-VOLT OPERATION.

	GONSET BURBANK, CALIF.		
	ENG. A.KING	SCHEMATIC: POWER SUPPLY COMMUNICATOR III	
3139	DWN. H.V.D 7-'57		
3136	CKD AWK.		510-006
3133	APP. F.S. 9-19-57		
MODEL USED ON			