

**INSTRUCTION MANUAL  
COMMUNICATOR IV (2 Meter )  
TRANSMITTER-RECEIVER  
MODEL 3341, 3341-CD, 3341-CAP**



**GONSET DIVISION**

**Young Spring & Wire Corporation  
801 South Main Street  
Burbank, California**

**MADE IN U. S. A.**

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520-513D

## WARRANTY POLICY

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in anyway, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

**DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.**

**THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.**

**GONSET DIVISION**  
**YOUNG SPRING AND WIRE CORPORATION**  
**801 SOUTH MAIN STREET, BURBANK, CALIFORNIA**

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## INTRODUCTION

The new Communicator IV is the latest addition to the Gonset Communicator line and embodies many new design concepts. The latest in engineering know-how has been integrated with established techniques to provide the ultimate in VHF reception and transmission.

This Communicator is a complete two-meter amateur radio station which can be used in mobile and fixed-station installations. Triple conversion is employed to achieve a high degree of frequency stability and selectivity. A new frame grid RF tube is employed to provide a very low noise figure, resulting in very outstanding VHF receiver sensitivity.

A transmitter power input of 20 watts to the push-pull final RF amplifier results in a clean signal of 12 to 14 watts into 50 ohms. An outstanding feature of this transmitter is the simplicity of tuning. Only two adjustments are required to tune the transmitter. A full 100% modulation capability is achieved by the use of push-pull modulation and audio shaping.

Other features include a push-to-talk mike provision; an integral transistorized two-way power supply; built-in antenna changeover relay; transmitter frequency spot switch; automatic noise limiter and adjustable squelch control.

## SPECIFICATIONS

### RECEIVER

Frequency Range:	143.7 Mc. to 148.3 Mc. (Special CAP frequency markers)
Sensitivity:	0.5 $\mu\text{v}$ (for 10 db $\frac{S + N}{N}$ )
Selectivity:	Noise figure 3-5 db
	6 db 10.3 Kc.
	20 db 15.5 Kc.
	60 db 47 Kc.
Frequency Stability:	Better than .05%
Spurious Rejection:	48 db down or better
Antenna Input:	50-75 ohms unbalanced (coaxial cable)
Intermediate Frequencies:	First IF 15-19 Mc.
	Second IF 2.3 Mc.
	Third IF 455 Kc.
Squelch Range:	0.1 $\mu\text{v}$ to 50 $\mu\text{v}$
'S' Meter:	Relative signal strength
Audio Output:	2 watts undistorted
Noise & Hum Level:	More than 40 db down

### TRANSMITTER

Frequency Range:	143.7 Mc. to 148.3 Mc.
Crystal Frequency:	6.0 Mc. to 6.167 Mc.
	8.0 Mc. to 8.222 Mc.
	External VFO input provision
Power Input:	24 watts DC to RF power amplifier
Spurious Emissions:	50 db or better
Output Impedance:	50-75 ohms unbalanced (coaxial cable)
RF Output Indicator:	Relative output
RF Bandwidth:	Less than 8 Kc.
Noise & Hum Level:	40 db below 100% modulation

### MODULATOR

Power Capabilities:	10 watts push-pull 6BQ5's Class AB <sub>1</sub> Audio (plate modulation)
Speech:	High level speech clipping and audio shaping
Microphone:	High impedance microphone with push-to-talk provision

POWER SUPPLY

12.6 VDC Input

Receive 7.2 amps

Transmit 10.3 amps

117 VAC Input

Receive 87.5 watts

Transmit 110 watts

## TECHNICAL DESCRIPTION

The Communicator IV is an AM transmitter-receiver for the 2-meter amateur band, designed for use on either a 12-volt DC source for mobile/portable operation or 117 VAC for fixed-station applications.

The receiver portion employs a frame grid 6ER5 RF amplifier, resulting in a good low-noise front end. A 6J6 oscillator uses an overtone crystal operating at 64.5 Mc. and multiplying to 129 Mc. for injection into the first mixer, a 6ER5. The crystal controlled first conversion provides for excellent frequency stability. The second oscillator, a 6C4, is tunable over the frequency range 12.7 Mc. to 16.7 Mc. and combines with the first I. F. frequency of 15 Mc. to 19 Mc. in the second mixer, 6AV6, resulting in a fixed frequency output of 2.3 Mc.

The 2.3 Mc. second I. F. signal is coupled through a double-tuned bandpass transformer to the third mixer, a 6BE6, where it is heterodyned against a 2755 Kc. oscillator, to produce the 455 Kc. third I. F. signal. Two stages of amplification, using 6BA6's, are employed at 455 Kc. Six tuned circuits provide the desired selectivity. A vacuum diode (1/3 of 6AV6), is used as a detector. This same tube is used as a delayed AVC rectifier furnishing delayed AVC to the R. F. amplifier. One-half of a 6AL5 is used as a highly effective automatic noise limiter switched in or out, as desired, by a front panel control. The other half of the 6AL5 is used for squelch operation to permit muting of the background noise in the absence of a signal. The first audio amplifier is the triode section of the 6AV6. This audio is then fed into the triode section of a 7059 in the modulator and into a 6BQ5 audio amplifier. An audio output jack is provided on the rear panel for an external speaker or headphones.

The transmitter uses either 6 or 8 Mc. crystals or an external VFO as the frequency source and the plate circuit of a 12BY7 is broadbanded, operating in the 24 Mc. to 24.66 Mc. range. A second 12BY7 triples to 72 Mc. -74 Mc. and a third 12BY7 doubles to the operating frequency of 144 Mc. -148 Mc. This signal is then fed into a 6360 push-pull amplifier running 24 watts input. Only two adjustments are necessary, the plate tuning and plate loading, resulting in simplicity of operation. The modulator portion uses a pentode section of a 7059 as a speech amplifier and the triode section as a phase inverter feeding a pair of 6BQ5 tubes in push-pull, providing 10 watts of Class AB<sub>1</sub> audio to plate modulate the final amplifier. The 7059 and 6BQ5 tubes serve a dual function as receiver audio and transmitter modulator.

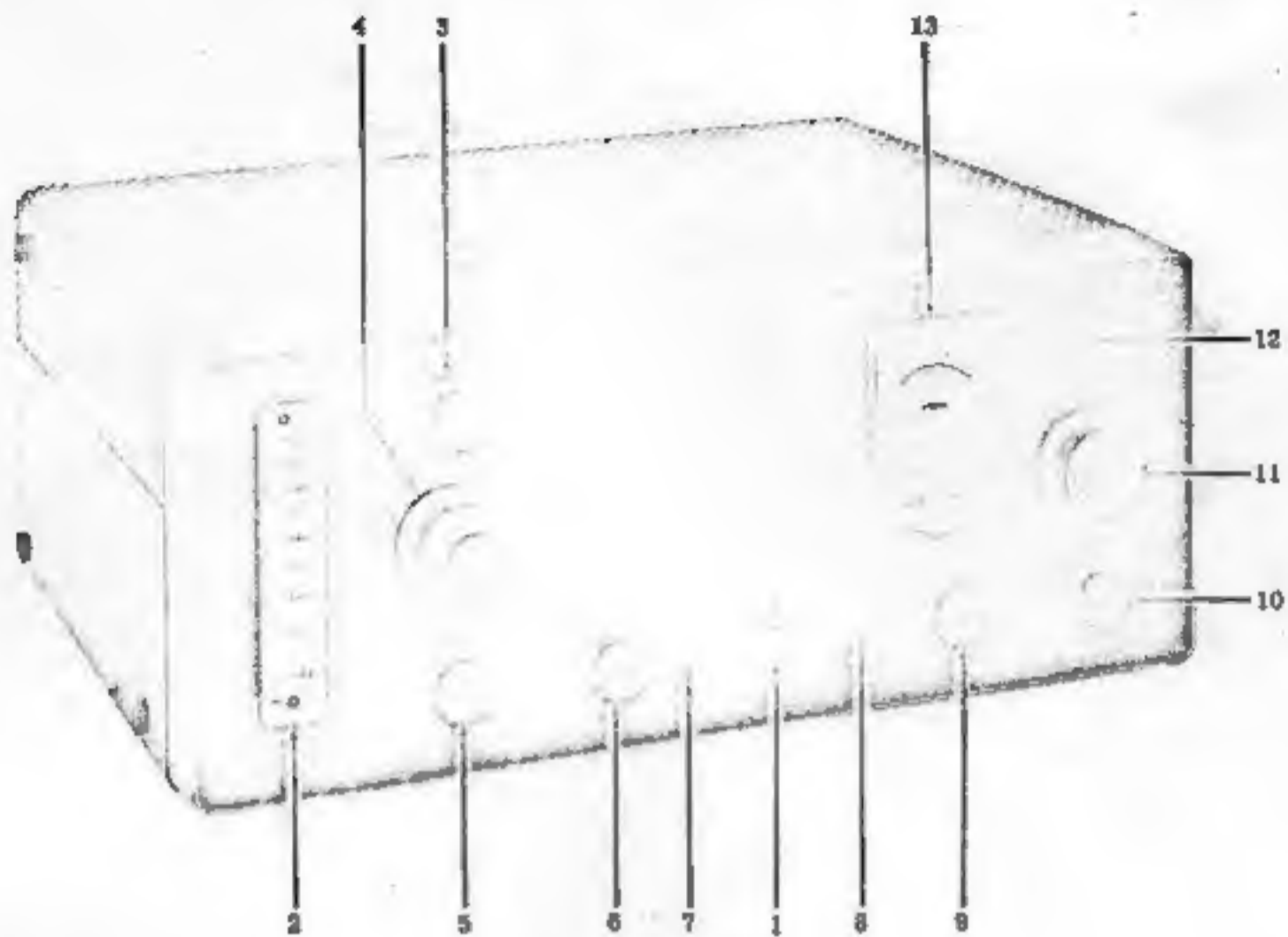
The universal power supply utilizes two 2N1554 transistors for 12 VDC operation. 117 VAC operation is possible merely by changing power cords. The two-way power transformer operates into a bridge rectifier circuit, and the output is filtered by a capacitor input filter.

A high impedance microphone with a push-to-talk switch is recommended. The push-to-talk feature operates a relay which switches:

- (1) The antenna from receive to transmit
- (2) B+ from receiver to modulator section
- (3) Ground from speaker to transmitter keying

In addition a bat handle switch on the front panel also provides transmit-receive operation in absence of a push-to-talk type mike.

An output meter reads relative output in transmit and acts as an "S" meter, giving relative readings, in the receive position.



1. MIKE JACK
2. RECEIVER TUNING DIAL
3. SQUELCH CONTROL - ANL OFF SWITCH
4. RECEIVER TUNING CONTROL
5. AUDIO GAIN CONTROL
6. POWER ON-OFF SWITCH
7. PILOT LIGHTS ON-OFF SWITCH
8. TRANSMITTER SPOT SWITCH
9. CRYSTAL SWITCH
10. PA LOAD CONTROL
11. PA TUNE CONTROL
12. T-R SWITCH
13. METER

FIG. 1, FRONT PANEL CONTROLS

## INSTALLATION & OPERATION

After unpacking the Communicator IV, check to make sure that all tubes and pilot lights are in place.

For fixed-station operation, check to see that the power switch is turned off and plug the AC cord into the receptacle on the rear of the unit. Place a crystal in one of the sockets on the rear and place the front panel crystal switch to the matching position. For VFO operation, a VFO with 6, 8 or 24 Mc. output can be employed by inserting the RF output plug into any one of the crystal sockets. A VFO jack is provided to connect to the VFO control for automatic operation.

**NOTE:** When using crystal control, the VFO must be turned off or VFO control disconnected. Otherwise, a signal from the VFO will be transmitted.

For mobile operation, change to the DC power cord supplied and connect to the .mmeter or accessory terminal.

**WARNING:** Observe negative ground polarity when connecting to the 12 VDC source. Otherwise, serious damage will result to some of the components.

The antenna circuit is designed for 50-75 ohm coaxial cable. A Gonset Telescoping Right Angle Whip Antenna (Gonset Part #621-018) will work very satisfactorily. However, to obtain the best possible performance, a good antenna is very important. Either a two-meter ground plane or a good directional array will greatly increase the range of the Communicator.

RECEIVER . . . Receiver operation is self-explanatory. The tuning meter serves as a relative carrier strength indicator and is not intended to read actual "S" units. On the rear of the unit is a potentiometer adjustment to set the "S"

meter to zero. This zero adjustment should be made without an antenna connected. To use the squelch function, turn the control counter-clockwise just to the point where the background noise disappears. This is the proper setting and is the most sensitive. A change in AVC voltage as small as 0.1 volt will gate the receiver when the threshold control is set properly. It is not necessary to turn it full clockwise. For best operation of the squelch, the noise clipper is left on at all times when the squelch is in use. A phone jack is provided on the rear for an external speaker or headphones. The internal loudspeaker is disconnected from the circuit when an output plug is inserted.

RECEIVER SELECTIVITY. . . As shipped from the factory, the bandwidth is approximately 10.3 Kc. wide at the 6 db points to conform with O. C. D. M. requirements. Reduced bandwidth to about 8.5 Kc. can be achieved by removing the top coupling capacitors on the 455 Kc. I. F. transformers T2, T3, T4. These 2 mmf QC type capacitors are connected between terminals 2 and 4 on the I. F. transformers. Clip the capacitors out with diagonal cutters. No readjustment is required after removing these capacitors.

TRANSMITTER. . . The transmitter portion of the Communicator is tuned by placing the T-R switch in the transmit position and/or the push-to-talk mike button depressed, alternately adjusting the PA load and PA tune controls for a MAXIMUM R. F. output meter indication. For determining the operating frequency, turn the SPOT switch on and tune the receiver for maximum meter indication. Turn the SPOT switch off before attempting to transmit.

A front panel switch is provided to turn off the pilot lamps when not desired. As an added feature, a handle is provided on the unit for easy portability.

For Civil Defense use the Communicator IV is supplied with a kit consisting of the following. Telescoping Antenna; Crystal Certificate; High Impedance Microphone, Yellow CD Canvas Carrying Case and appropriate CD decals.

This CD kit is Model 3363 and it is required to convert a Model 3341 to 3341 CD to qualify for O. C. D. M. matching funds.

A universal mounting kit, Model 3365, is also available for mobile installations consisting of the necessary mounting brackets and hardware for installing the Communicator IV under the dash.

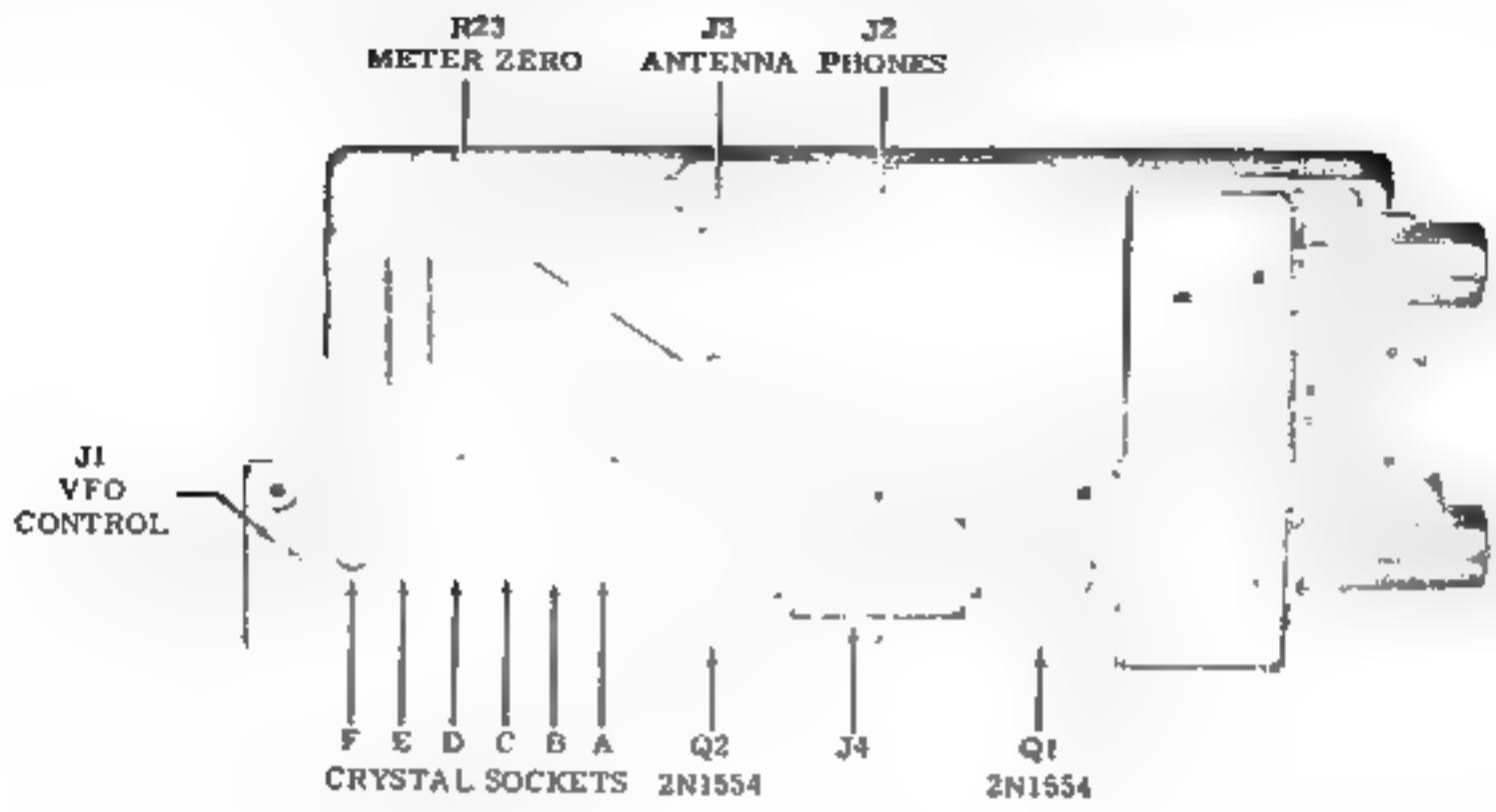


FIG. 2, CHASSIS, REAR VIEW

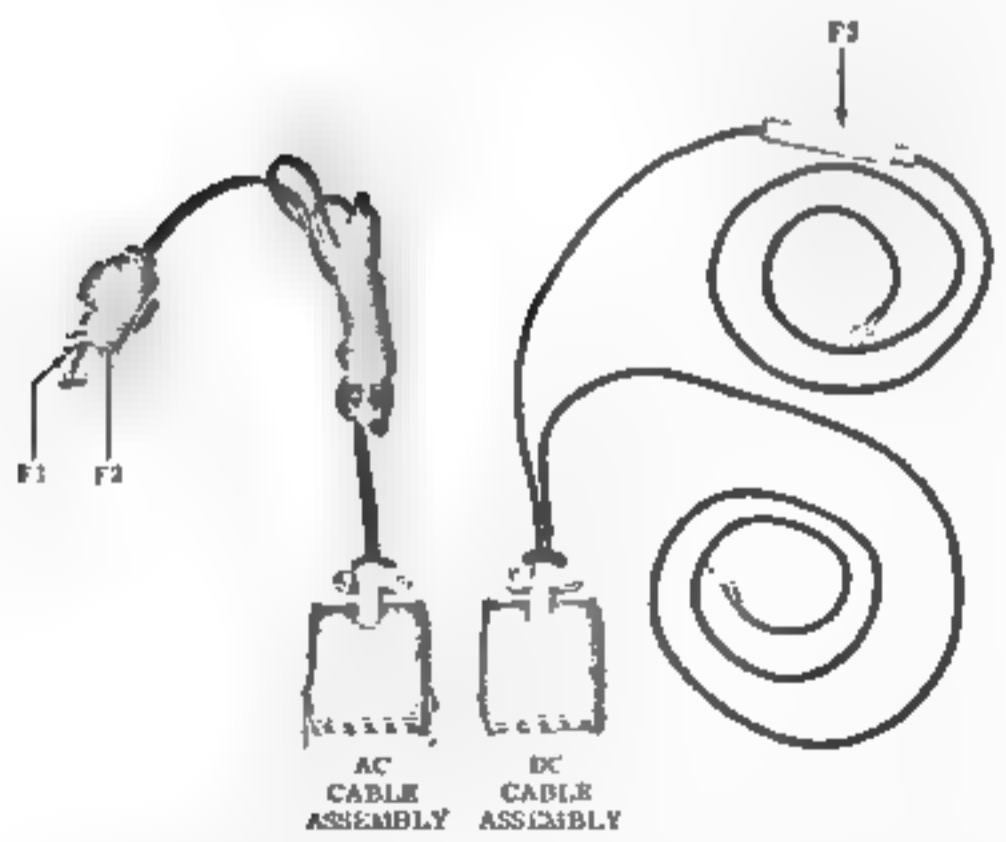


FIG. 3, POWER CABLES

# ALIGNMENT & TROUBLE-SHOOTING

## Alignment Tools Required

- (1) General Cement #5097 or equivalent.
- (2) General Cement #8606 or equivalent.
- (3) Small insulated screwdriver.

## RECEIVER ALIGNMENT

### 455 Kc. I. F. Alignment

Couple the signal generator through a .001 mfd. blocking capacitor to Pin 7 of V6, the 6BE6 third mixer and oscillator. Connect a VTVM to the AVC test point on the receiver. Align T4, T3, T2 at 455 Kc., setting the input level for an AVC voltage of -1 to -2 volts. Adjust each transformer top and bottom for maximum reading of VTVM. Repeat the procedure several times to compensate for minor interaction.

### 2.755 Mc. Oscillator Alignment

Set signal generator to 2.3 Mc. and adjust slug in L-10 for maximum reading of VTVM.

### 2.3 Mc. I. F. Alignment

Couple the signal generator through a .001 mfd. blocking capacitor to Pin 1 of V5, the 6AV6 second mixer. Set signal generator to 2.3 Mc. and adjust T1 top and bottom for maximum reading of VTVM.

### 12.7 - 16.7 Mc. Tunable Oscillator Tracking

Couple the signal generator through a .001 mfd. blocking capacitor to Pin 2 of V3, the 6ER5 first mixer. Set main tuning dial to 144 Mc. Set signal generator to

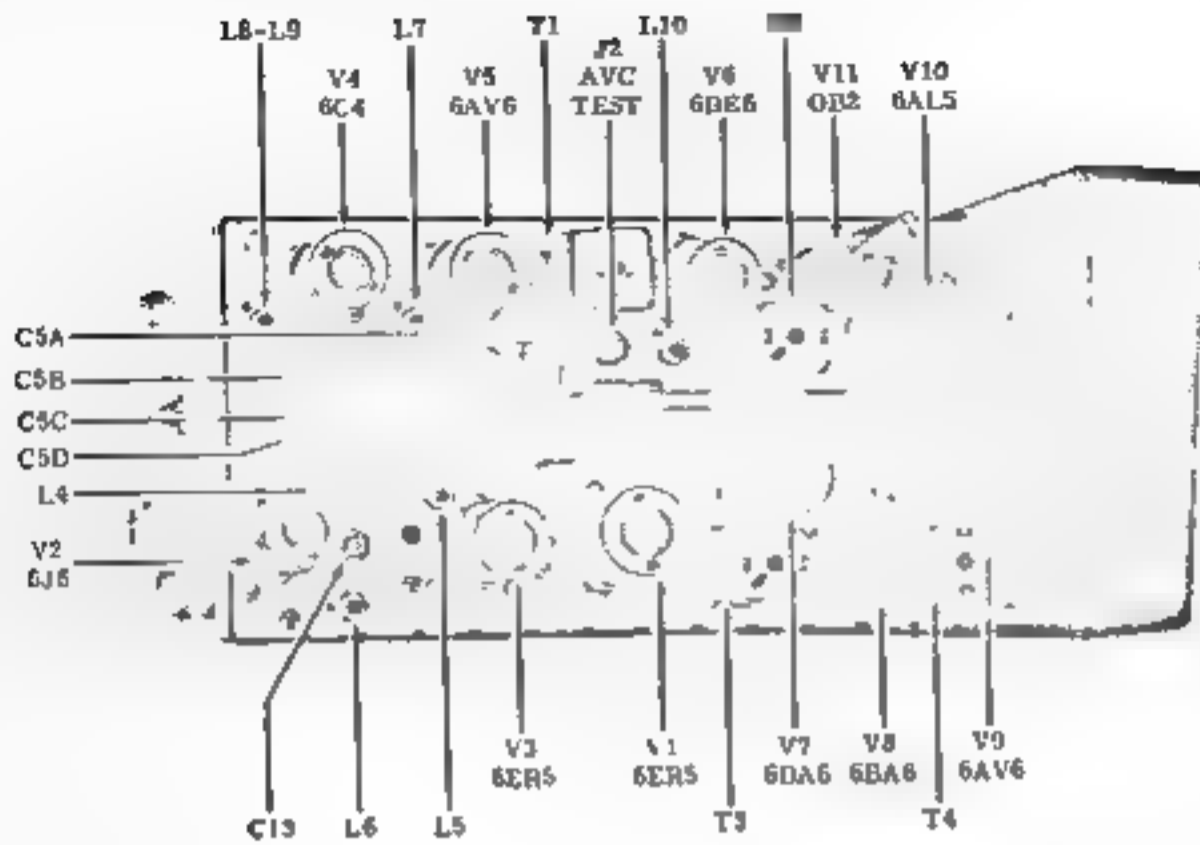


FIG. 4, RECEIVER SUB CHASSIS, TOP VIEW

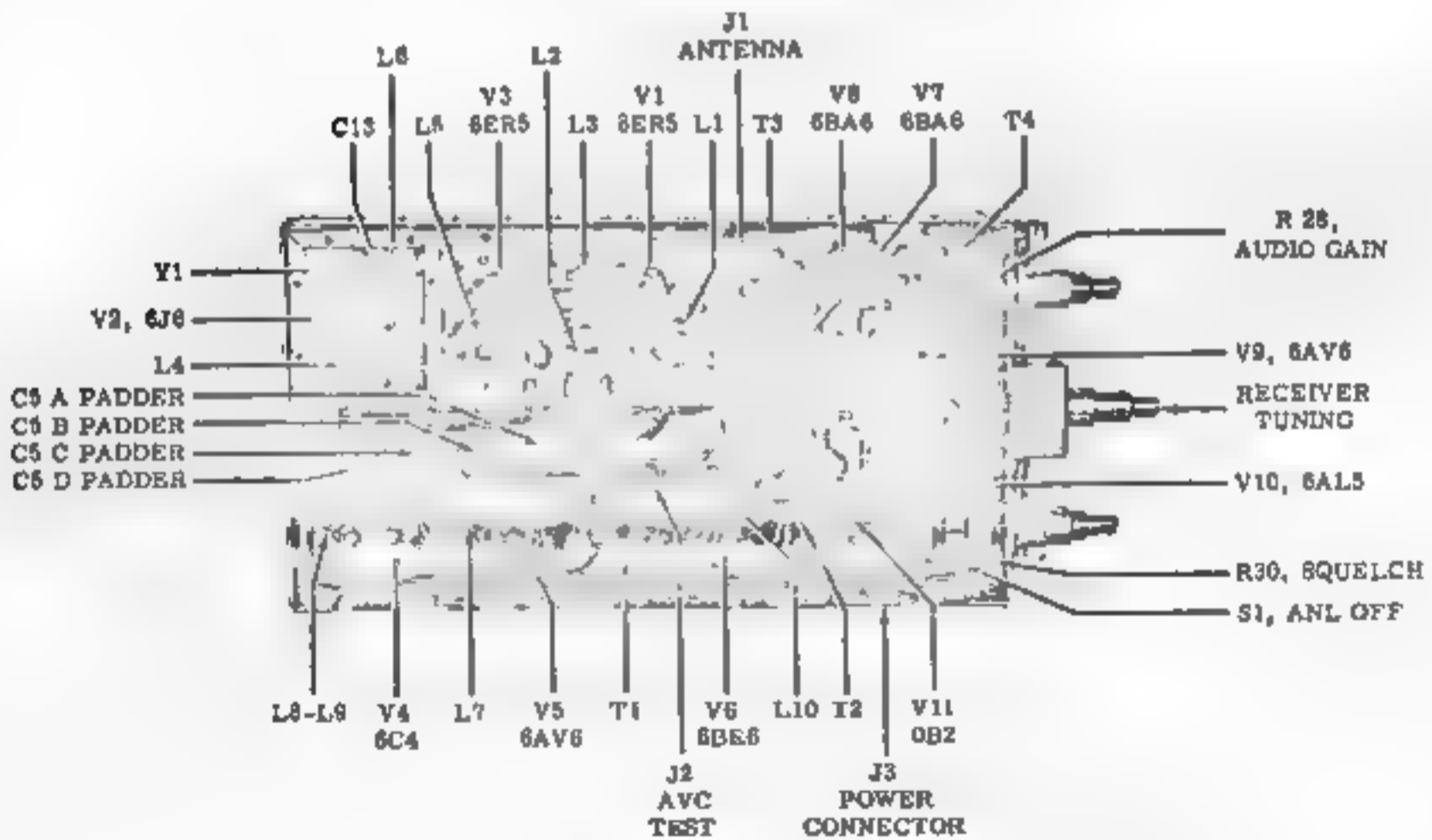


FIG. 5, RECEIVER SUB CHASSIS, BOTTOM VIEW

15.0 Mc., and adjust slug in Coils L8-L9 for maximum reading of VTVM. Turn main tuning dial to 148 Mc. and change signal to 19 Mc. Adjust slug in Coils L8-L9 for maximum reading of VTVM. If slug had to be moved away from chassis, add capacity by tightening C5D padder. If slug had to be moved toward chassis, loosen C5D padder. Return dial to 144 Mc. and injected frequency to 15 Mc. Repeat above procedure as often as necessary to achieve a reduction in VTVM reading with any further adjustment at either end of the band.

#### 15 - 19 Mc. Second Mixer Tracking

Set the main tuning dial to 144 Mc. and injected frequency to 15 Mc. Adjust slug in Coil L7 for maximum reading of VTVM. Turn main tuning dial to 148 Mc. and change injected frequency to 19 Mc. Adjust slug in Coil L7 for maximum reading of VTVM. If slug had to be moved away from chassis, add capacity by tightening C5C padder. If slug had to be moved toward chassis, loosen C5C padder.

Return dial to 144 Mc. and injected frequency to 15 Mc. Repeat above procedure as often as necessary to achieve a reduction in VTVM reading with any further adjustment at either end of the band.

#### 15 - 19 Mc. First Mixer Tracking

Set the main tuning dial to 144 Mc. and injected frequency to 15 Mc. Adjust slug in Coil L5 for maximum reading of VTVM. Turn main tuning dial to 148 Mc. and change injected frequency to 19 Mc. Adjust slug in Coil L5 for maximum reading of VTVM. If slug had to be moved away from chassis, add capacity by tightening C5B padder. If slug had to be moved toward chassis, loosen C5B padder. Return dial to 144 Mc. and injected frequency to 15 Mc. Repeat above procedure

as often as necessary to achieve a reduction in VTVM reading with any further adjustment at either end of the band.

### Crystal Oscillator Adjustment

Set grid dip meter to 64.5 Mc. and use as a diode detector. Couple grid dip meter to Coil L6. Starting with C-13 fully closed, slowly rotate counter-clockwise until crystal oscillator suddenly pops on. Advance slightly clockwise past this position and leave.

Set grid dip meter to 129 Mc. and couple to ground end of Coil L3. Adjust slug of L4 for maximum output as indicated by grid dip meter.

### R. F. Amplifier Tracking

Inject 144 Mc. signal into antenna connector of receiver and adjust dial to 144 Mc. Adjust C5A padder for maximum reading of VTVM. Repeat at 148 Mc. Adjust spacing of turns of Coil L2 and distance from L3 to obtain a peak VTVM reading at the same setting of C5A padder at either 144 or 148 Mc.

## TRANSMITTER ALIGNMENT

### Crystal Oscillator Check

Insert 8.0 Mc. and 8.22 Mc. band edge crystals in crystal sockets. Connect VTVM to Pin 2 of V1, the 12BY7 oscillator. Reading should be at least 20 volts on either crystal with push-to-talk switch depressed, or T-R switch in transmit position. C1, the 5-25 mmf. trimmer Capacitor in the grid circuit is set at the factory, but can be adjusted to zero in any single crystal. A hole is provided in the rear panel to mount an additional capacitor (E. F. Johnson Type #15M-11) to be wired across one of the crystals to zero in a second crystal frequency.

### 24 Mc. Alignment

Connect VTVM to junction of Coils L2 and R3 C7. Using 8.22 Mc crystal, adjust slug in Coils L1 and L2 for maximum VTVM reading. Using 8.0 Mc. and 8.22 Mc. crystals, keep switching from one crystal to the other and adjusting slugs in Coils L1 and L2 clockwise a small amount until VTVM reading does not change.

### 72 Mc. Alignment

Connect VTVM to junction of L4 and R5-C12. Using 8.22 Mc. crystal, adjust slug in Coils L3 and L4 for maximum VTVM reading. Using 8.0 Mc. and 8.22 Mc. crystals, keep switching from one crystal to the other and adjusting slugs in Coils L3 and L4 clockwise a small amount until VTVM reading does not change.

### 144 Mc. Alignment

Connect VTVM to center tap of Coil L6, the 6360 final grid coil. Using 8.22 Mc. crystal, adjust slug in Coils L5 and L6 for maximum VTVM reading. Switch to 8.0 Mc. crystal and adjust PA tune and PA load controls for maximum output on wattmeter. Keep switching from one crystal to the other and adjusting slugs in Coils L5 and L6 a small amount until VTVM reading does not change. Be sure to peak output into wattmeter each time you switch crystals. Switch to crystal position that has no crystal. There should be no reading of VTVM while you rotate the PA tune control 180°.

**CAUTION:** Make this test as short as possible, as damage to tubes can result under prolonged operation.

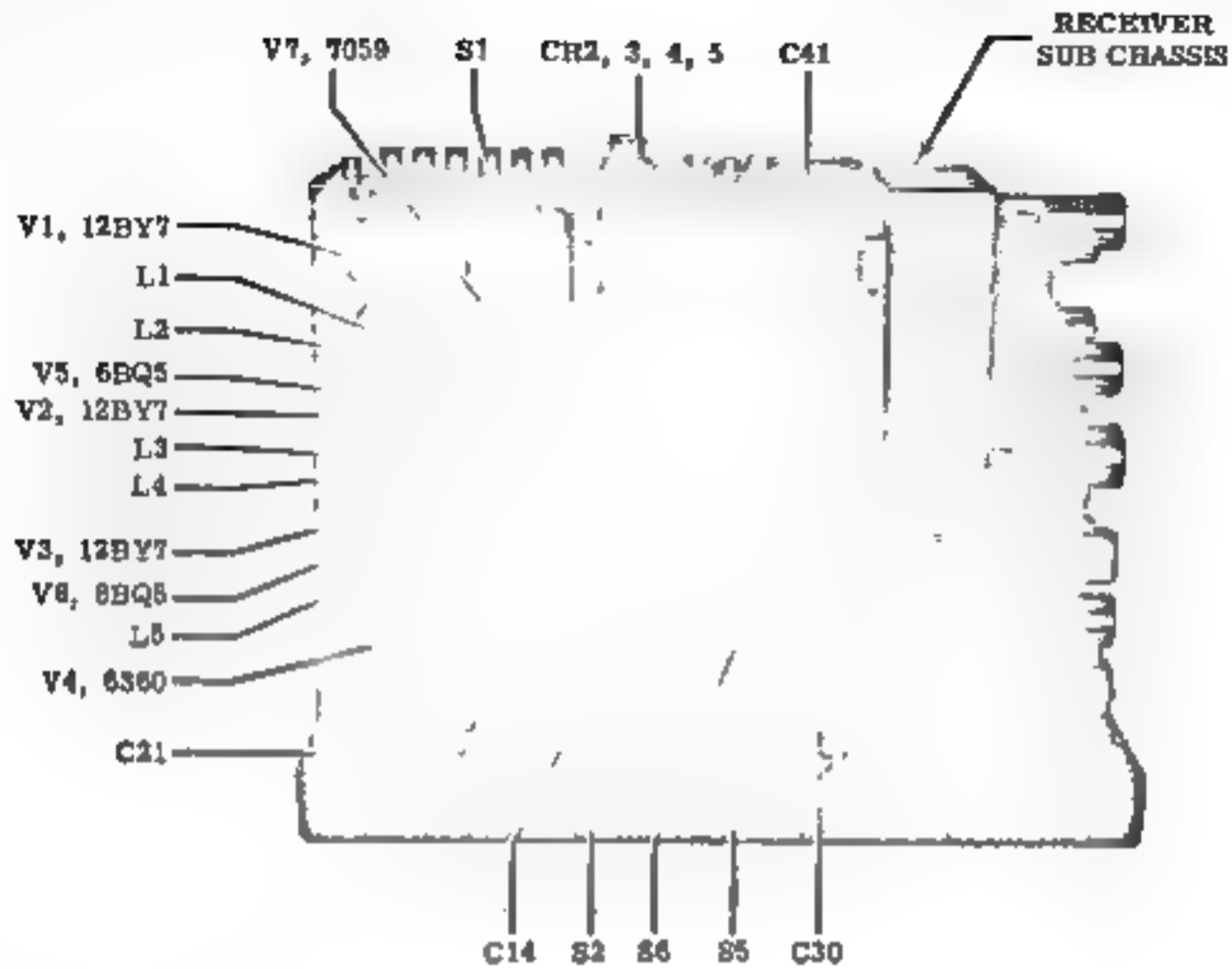


FIG. 6, CHASSIS, TOP VIEW

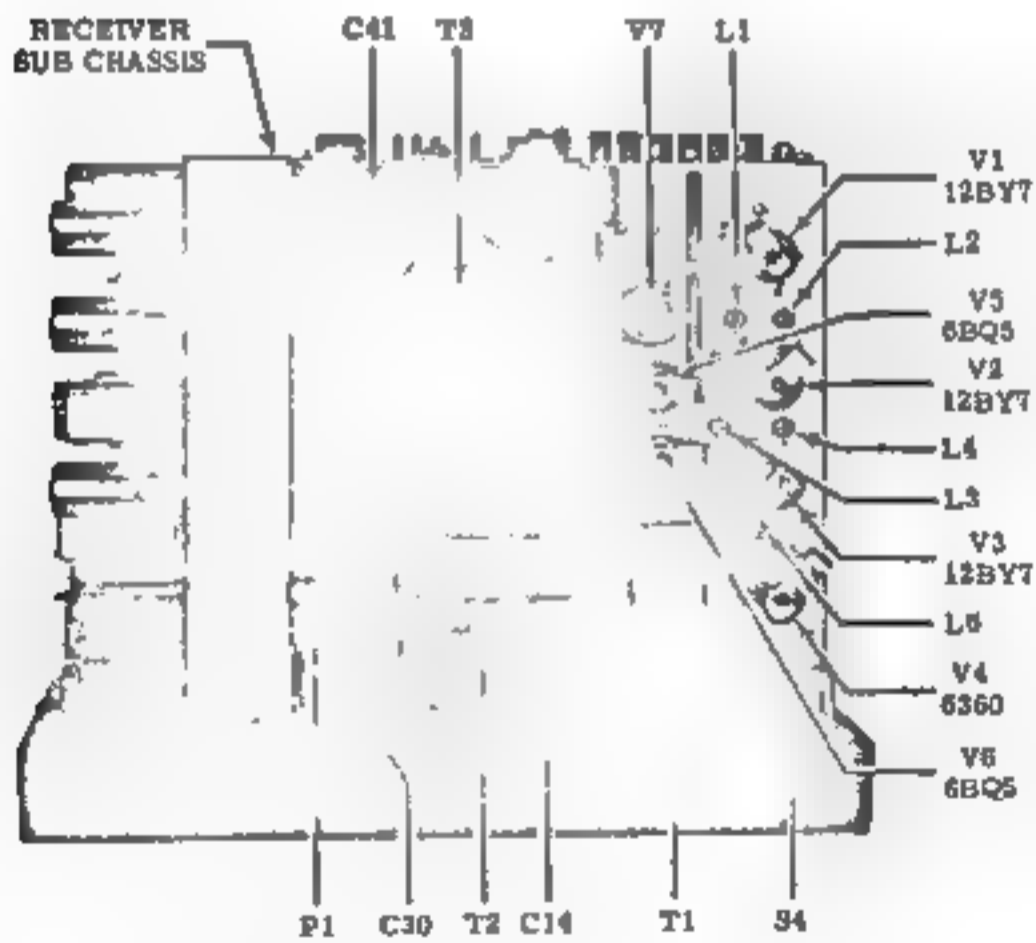


FIG. 7, CHASSIS, BOTTOM VIEW

## SPEECH AMPLIFIER AND MODULATOR

Using a diode detector with headphones, listen to modulation while speaking into microphone. Speech should be clear and free of distortion. The Communicator IV does not employ a microphone gain control.

### 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 measurements should be made to locate the trouble. Typical voltages are given in Figure 8 Voltage Charts and are also shown on the schematic diagram.

The push-to-talk relay 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. Such foreign matter often can be blown out with compressed air or the contacts can be cleaned with a burnishing tool. Care should be taken not to upset the blade tension on any of the contacts. Do not use liquid contact cleaners.

VOLTAGE CHART COU UNICATOR 4 TRANSMITTER (2M)

TUBE	PIN NUMBER								
	1	2	3	4	5	6	7	8	9
V1 12BY7	0	32 (2)	0	0	12.5 VAC	-	230	130	0
V2 12BY7	0	40*	0	0	12.5 VAC	-	260	60	0
V3 12BY7	0	-54*	0	0	12.5 VAC	-	250	145	0
V4 6360	-52*	0	-52*	12.5 VAC	0	250	200	250	-
V5 6BQ5	-	0	7.3 6.3 (1)	6.8 VAC	0	-	260	-	230
V6 6BQ5	-	0	7.3 6.3 (1)	12.5 VAC	6.8 VAC	-	260	-	230
V7 7059	160	-	38	0	12.5 VAC	54	1.5	110	60

\* SEE SCHEMATIC VOLTAGE AT INPUT TO FILTER 275 VDC ON TRANSMIT  
 (1) ON RECEIVE  
 (2) VARIES ACCORDING TO XTAL ACTIVITY

FIG. 8, VOLTAGE CHARTS (SHEET 1 OF 2)

VOLTAGE CHART COMMUNICATOR 4 RECEIVER (2M)

TUBE	PIN NUMBER						
	1	2	3	4	5	6	7
V1 6ER5	0	-.71	0	6.8 VAC	146	0	0
V2 6J6	37	83	6.8 VAC	0	-10	-3.7 (2)	0
V3 6ER5	-	0	6.5 VAC	0	146	0	3.6
V4 6C4	-	-	13 VAC	6.7 VAC	19.2	-1.5	0
V5 6AV6	0	.8	13 VAC	6.7 VAC	-	-	56
V6 8BE6	-1.55	0	13 VAC	6.7 VAC	28.5	28.5	-.14
V7 6BA6	-1	0	13.5 VAC	6.9 VAC	220	58 (3)	0
V8 6BA6	-1	0	13.5 VAC	6.9 VAC	212	58 (3)	0
V9 6AV6	-.82	0	0	6.7 VAC	-3.6	-.69	65
V10 6AL5	29 (3) 140 (4)	-1.85 (3) -1.85 (4)	2.3 VAC	6.8 VAC	-1.85 (3) -1.8 (4)	-	30 (3) 58 (4)
V11 0B2	105	-	-	-	105	-	0

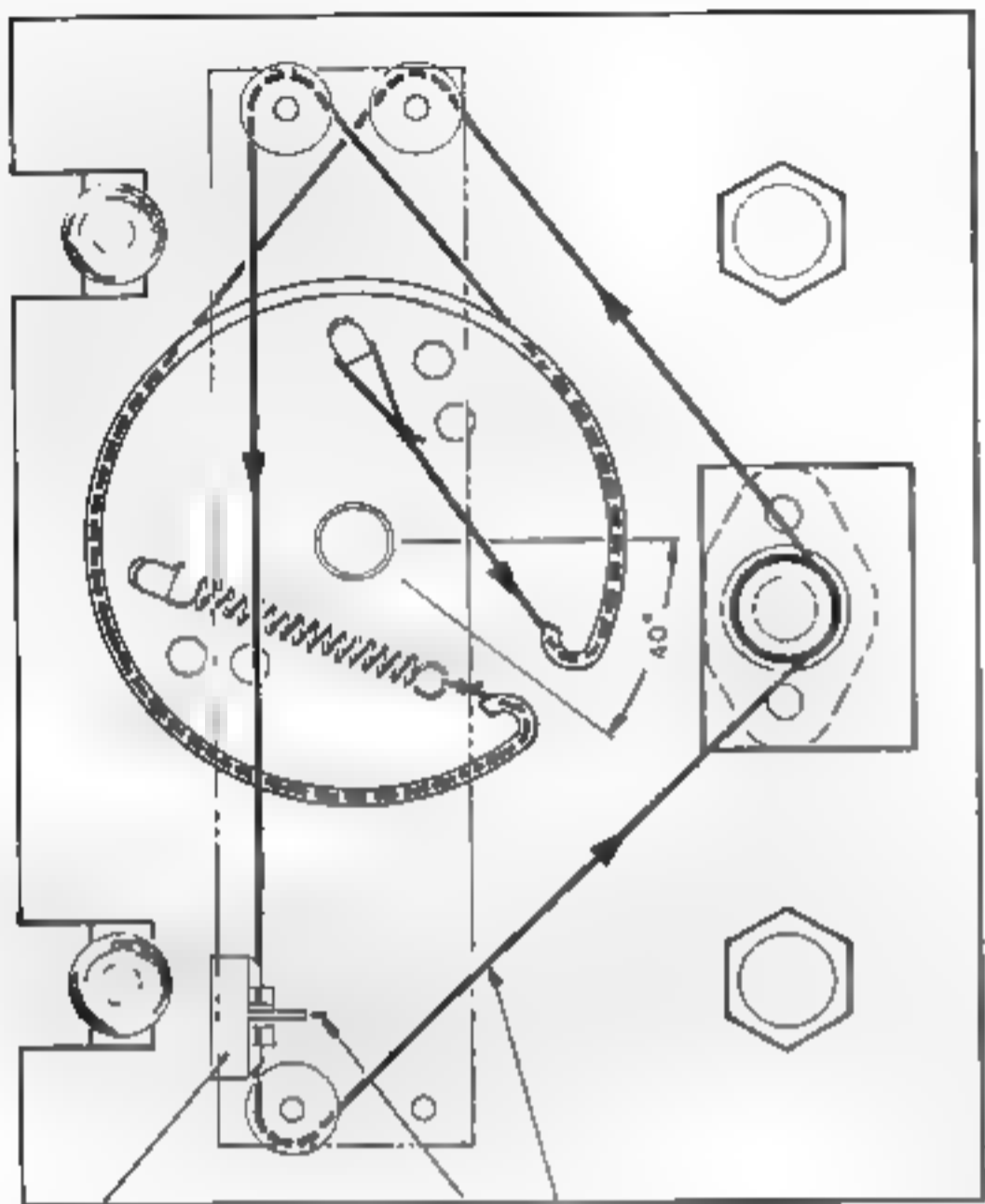
(3) WITH SQUELCH OFF

(4) WITH SQUELCH FULL ON

VOLTAGE AT INPUT TO FILTER 290 VDC ON RECEIVE.  
NO SIGNAL CONDITIONS.  
ANL ON.

ALL VOLTAGES ARE APPROX., TAKEN  
WITH VTVM AND MEASURED TO GROUND.  
LINE VOLTAGE 117 VAC.

FIG. 8, VOLTAGE CHARTS (SHEET 2 OF 2)



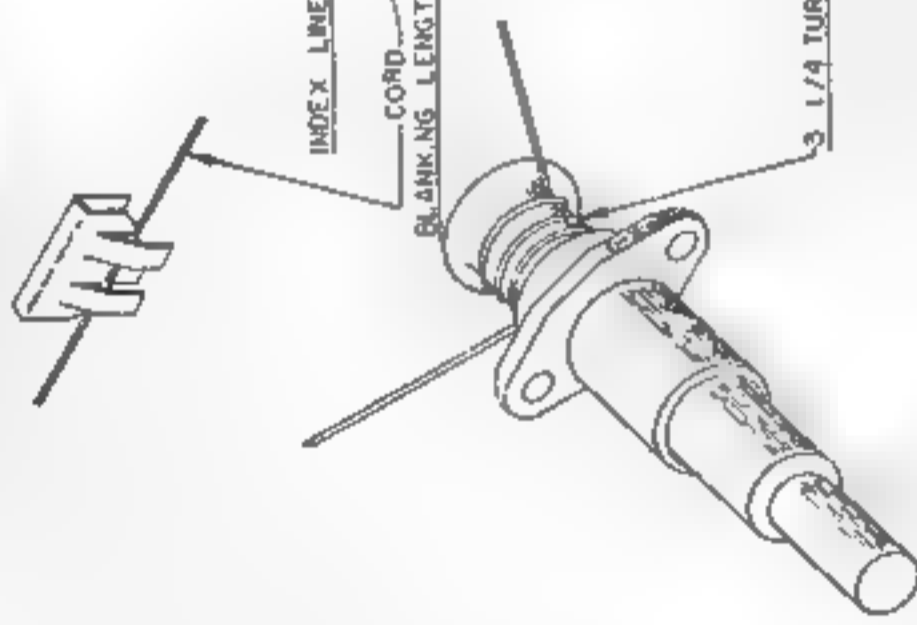
POINTER

REAR VIEW OF POINTER

INDEX LINE

CORD BLANKING LENGTH 2"

3 1/4 TURNS



DIAL CORD STRINGING DIAGRAM  
COMMUNICATOR IV

FIG. 9

FIG. 9, DIAL CORD STRINGING DIAGRAM

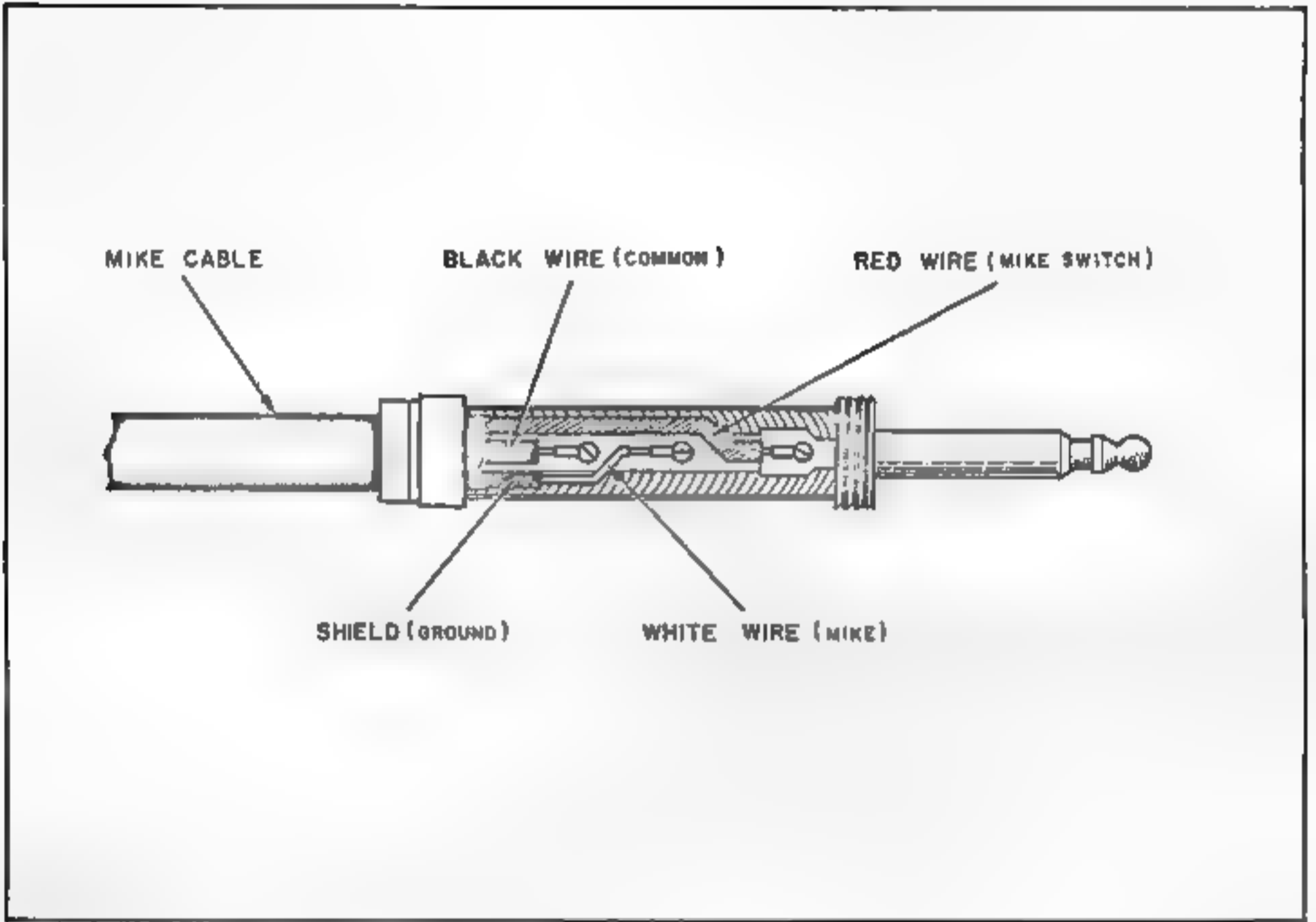
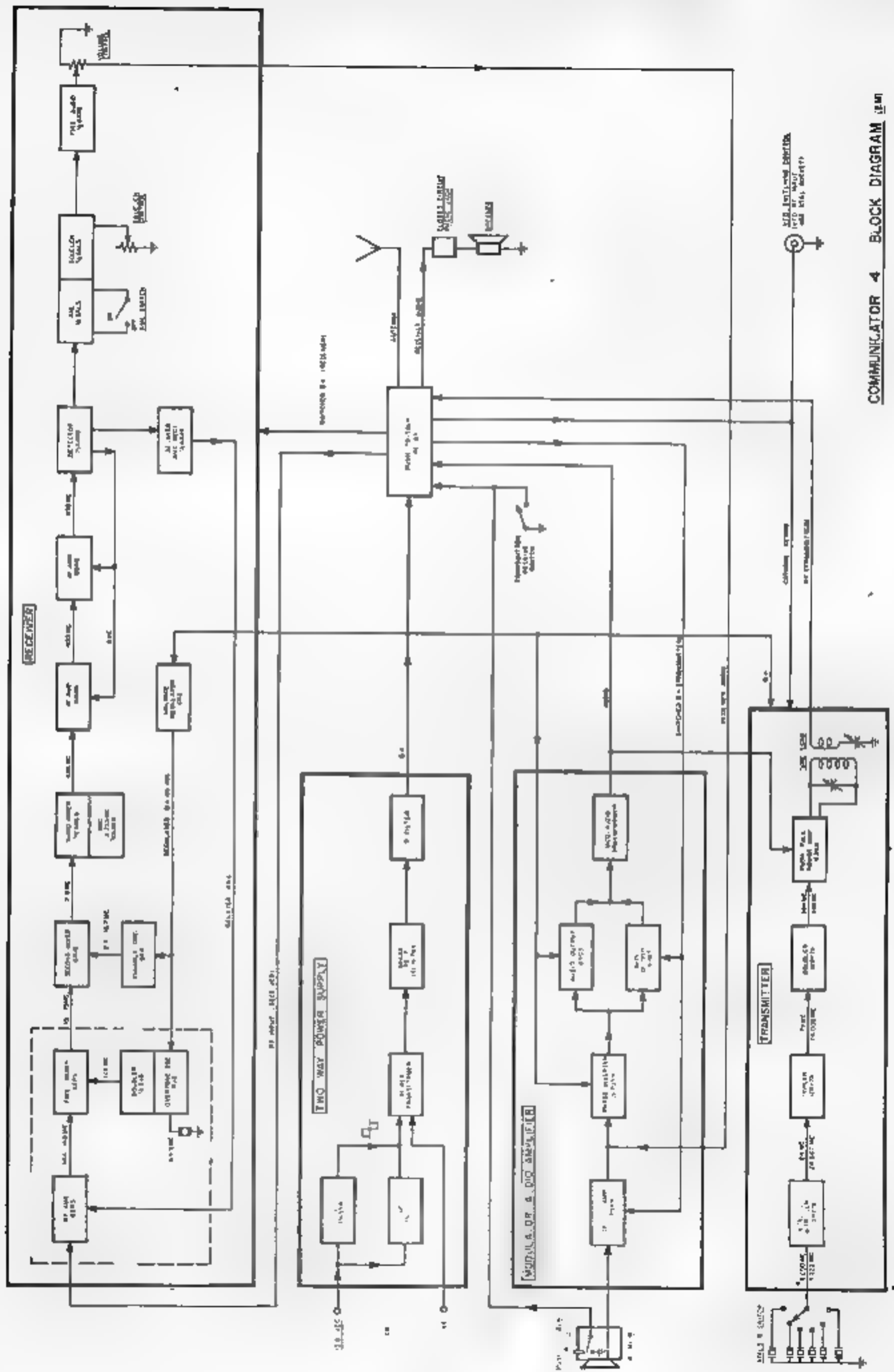


FIG. 10, PL-68 TYPE MIKE PLUG





COMMUNICATOR 4 BLOCK DIAGRAM (EM)

## RECEIVER PARTS LIST

Schematic No.	Description	Gonset Part No.
C1	20 $\mu\mu\text{f}$ Silver Mica 5%	088 046
C2	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C3	.01 $\mu\text{f}$ Disc 300 V	072-169
C4	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C5	4-Gang Tuning Capacitor	074 116
C6	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C7	2 $\mu\mu\text{f}$ Silver Mica	088-179
C8	5 $\mu\mu\text{f}$ Silver Mica	088-180
C9	.001 $\mu\text{f}$ Disc	072-108
C10	.01 $\mu\text{f}$ Disc 300 V	072-169
C11	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C12	.001 $\mu\text{f}$ Disc	072-108
C13	Variable Capacitor	075-009
C14	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C15	0.68 $\mu\mu\text{f}$ Tubular 10%	071-020
C16	5 $\mu\mu\text{f}$ Silver Mica	088-180
C17	.01 $\mu\text{f}$ Disc 300 V	072-169
C18	100 $\mu\mu\text{f}$ Tubular 5%	084-259
C19	.01 $\mu\text{f}$ Disc 300 V	072-169
C20	.01 $\mu\text{f}$ Disc 300 V	072-169
C21	.01 $\mu\text{f}$ Disc 300 V	072-169
C22	40 $\mu\mu\text{f}$ Tubular	084-037
C23	130 $\mu\mu\text{f}$ Silver Mica 5%	088-027
C24	47 $\mu\mu\text{f}$ Disc 10%	084-040
C25	.01 $\mu\text{f}$ Disc 300 V	072-169
C26	.01 $\mu\text{f}$ Disc 300 V	072-169
C27	.01 $\mu\text{f}$ Disc 300 V	072-169
C28	.01 $\mu\text{f}$ Disc 300 V	072-169
C29	.01 $\mu\text{f}$ Disc 300 V	072-169
C30	.01 $\mu\text{f}$ Disc 300 V	072-169
C31	.01 $\mu\text{f}$ Disc 300 V	072-169
C32	.01 $\mu\text{f}$ Disc 300 V	072-169
C33	.01 $\mu\text{f}$ Disc 300 V	072-169
C34	100 $\mu\mu\text{f}$ Silver Mica	088-017
C35	1 $\mu\text{f}$ Electrolytic 150 V	073-126
C36	.01 $\mu\text{f}$ Disc 300 V	072-169
C37	470 $\mu\mu\text{f}$ Disc	072-213
C38	.01 $\mu\text{f}$ Disc 300 V	072-169
C39	.001 $\mu\text{f}$ Disc	072-108
C40	.1 $\mu\text{f}$ Disc 100 V	072-174
C41	.001 $\mu\text{f}$ Disc	072-108

## RECEIVER PARTS LIST (CONT)

Schematic No.	Description	Gonset Part No.
C46	.01 $\mu$ f Disc 300 V	072-169
C47	.01 $\mu$ f Disc 300 V	072-169
C48	1000 $\mu$ f Feed-Thru	077-001
C49	1000 $\mu$ f Feed-Thru	077-001
C50	1000 $\mu$ f Feed-Thru	077-001
C51	.01 $\mu$ f Disc 300 V	072-169
C52	2 $\mu$ f Ceramic	
C53	2 $\mu$ f Ceramic	
C54	2 $\mu$ f Ceramic	
C55	.01 $\mu$ f Disc 300 V	
C56	.01 $\mu$ f Disc 300 V	
C57	37 $\mu$ f Tubular $\pm 1\%$	
C58	1.5 $\mu$ f Tubular $\pm .25 \mu$ f	
DS1	Dial Lamp #12	471-003
DS2	Dial Lamp #12	471-003
J1	Antenna Receptacle	344-010
J2	AVC Test Jack	342-017
J3	Power Receptacle	344-009
L1	Antenna Coil	011-122
L2	R-F Plate Coil	011-123
L3	First Mixer Grid Coil	011-124
L4	Crystal Oscillator Doubler Coil	012-446
L5	First Mixer Plate Coil	012-445
L6	Crystal Oscillator Plate Coil	012-444
L7	Second Mixer Grid Coil	012-443
L8-9	Tunable Oscillator Coil	012-442
L10	Third Oscillator Mixer Coil	012-448
R1	1 Meg $\Omega$ 1/2 W 10%	
R2	47K $\Omega$ 1/2 W 10%	
R3	2.2 Meg $\Omega$ 1/2 W 10%	
R4	10K $\Omega$ 1/2 W 10%	
R5	91 Meg $\Omega$ 1/2 W 10%	
R6	10K $\Omega$ 1/2 W 10%	
R7	1.5K $\Omega$ 1/2 W 10%	
R8	6.8K $\Omega$ 1 W 10%	
R9	4.7K $\Omega$ 1 W 10%	
R10	47 $\Omega$ 1/2 W 10%	
R11	15K $\Omega$ 1/2 W 10%	
R12	2.7K $\Omega$ 1/2 W 10%	
R13	47K $\Omega$ 1 W 10%	
R14	680K $\Omega$ 1/2 W 10%	

## RECEIVER PARTS LIST (CONT)

Schematic No.	Description	Gonset Part No.
R15	22K $\Omega$ 1/2 W 10%	
R16	100 $\Omega$ 1/2 W 10%	
R17	22K $\Omega$ 1/2 W 10%	
R19	100K $\Omega$ 1 W 10%	
R20	100K $\Omega$ 1/2 W 10%	
R21	100K $\Omega$ 1/2 W 10%	
R22	2.7K $\Omega$ 1 W 10%	
R23	100K $\Omega$ 1/2 W 10%	
R24	100K $\Omega$ 1/2 W 10%	
R25	2.7K $\Omega$ 1 W 10%	
R26	1 Meg $\Omega$ 1/2 W 10%	
R27	470K $\Omega$ 1/2 W 10%	
R28	1 Meg $\Omega$ Potentiometer	052-099
R29	270K $\Omega$ 1/2 W 5%	046-274
R30	250K $\Omega$ Potentiometer	052-100
R31	330K $\Omega$ 1/2 W 5%	046-334
R32	2.2 Meg $\Omega$ 1/2 W 10%	
R33	1 Meg $\Omega$ 1/2 W 10%	
R34	10K 2 W 10%	
R35	10 $\Omega$ 1/2 W 10%	
R36	22K 1/2 W 10%	
RFC1	RF Choke	027-078
RFC2	RF Choke	027-059
RFC3	RF Choke	027-059
RFC4	RF Choke	027-059
RFC5	RF Choke	027-078
T1	2.3 Mc. IF Transformer	014-014
T2	455 Kc. IF Transformer	014-079
T3	455 Kc. IF Transformer	014-079
T4	455 Kc. IF Transformer	014-079
Y1	64.5 Mc. Crystal	486-020
1	Knob, Large Tuning	212-057
5	Knobs, Medium W. Index	211-009
1	Knob, Large	212-004
1	Knob, Small Tuning	212-056
4	Rubber Bumper (Bottom)	222-001
4	Rubber Bumper (Side)	222-006
1	Handle	227-007

## TRANSMITTER AND POWER SUPPLY PARTS LIST

Schematic No.	Description	Gonset Part No.
C1	5-25 $\mu\mu\text{f}$ Variable	089-002
C2	100 $\mu\mu\text{f}$ Silver Mica 5%	088 017
C3	.01 $\mu\text{f}$ Disc 300 V	072-169
C4	.01 $\mu\text{f}$ Disc 500 V	072-173
C5	10 $\mu\mu\text{f}$ Silver Mica 5%	088-018
C6	.01 $\mu\text{f}$ Disc 500 V	072-173
C7	.01 $\mu\text{f}$ Disc 300 V	072-169
C8	.01 $\mu\text{f}$ Disc 300 V	072-169
C9	.01 $\mu\text{f}$ Disc 500 V	072-173
C10	.01 $\mu\text{f}$ Disc 500 V	072-173
C11	.01 $\mu\text{f}$ Disc 500 V	072-173
C12	.01 $\mu\text{f}$ Disc 300 V	072-169
C13	.01 $\mu\text{f}$ Disc 300 V	072-169
C14-A	50 $\mu\text{f}$ @450 WVDC )	3-Section Electro- lytic
C14-B	100 $\mu\text{f}$ @25 WVDC )	
C14-C	25 $\mu\text{f}$ @ 25 WVDC )	
C15	.01 $\mu\text{f}$ Disc 500 V	072-173
C16	.01 $\mu\text{f}$ Disc 500 V	072-173
C17	.001 $\mu\text{f}$ Disc 2KV	072-217
C18	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C19	.01 $\mu\text{f}$ Disc 300 V	072-169
C20	P.A. Tune Capacitor	074-122
C21	P.A. Load Capacitor	074-117
C22	.015 $\mu\text{f}$ Tubular 1.6 KV	085-047
C23	.003 $\mu\text{f}$ Tubular 1.6 KV 20%	085-092
C24	25 $\mu\text{f}$ @ 25 WVDC Electrolytic	073-127
C25	.01 $\mu\text{f}$ Disc 300 V	072-169
C26	.01 $\mu\text{f}$ Disc 300 V	072-169
C27	.01 $\mu\text{f}$ Disc 300 V	072-169
C28	.01 $\mu\text{f}$ Disc 300 V	072-169
C29	.01 $\mu\text{f}$ Disc 500 V	072-173
C30-A	80 $\mu\text{f}$ @450 WVDC )	2-Section Electro- lytic
C30-B	10 $\mu\text{f}$ @450 WVDC )	
C31	.1 $\mu\text{f}$ Disc 100 V	072-174
C32	.01 $\mu\text{f}$ Disc 300 V	072-169
C33	.01 $\mu\text{f}$ Disc 300 V	072-169
C35	.1 $\mu\text{f}$ Tubular 200 V 20%	085-002
C36	.01 $\mu\text{f}$ Disc 300 V	072-169
C37	.01 $\mu\text{f}$ Disc 500 V	072-173
C38	.1 $\mu\text{f}$ Tubular 200 V 20%	085 002
C39	1000 $\mu\mu\text{f}$ Feed-Thru	077-001
C40	1000 $\mu\mu\text{f}$ Feed-Thru	077-001

# TRANSMITTER AND POWER SUPPLY PARTS LIST (CONT)

Schematic No.	Description	Gonset Part No.
C41-A	50 $\mu$ f @ 25 WVDC )	2-Section Electro- lytic
C41-B	1000 $\mu$ f @ 25 WVDC )	
C42	.01 $\mu$ f Disc 1.5 KV	073-125
C43	.01 $\mu$ f Disc 1.5 KV	072-123
C44	.1 $\mu$ f Disc 100 V	072-174
C45	.01 $\mu$ f Disc 300 V	072-169
C46	.01 $\mu$ f Disc 300 V	072-169
C47	.01 $\mu$ f Disc 300 V	072-169
C48	.1 $\mu$ f Disc 100 V	072-174
C49	470 $\mu$ f Disc	072-213
C50	.01 $\mu$ f Disc 300 V	072-169
CR1	Silicon Diode	474-013
CR2	Silicon Diode IN-1763	474-012
CR3	Silicon Diode IN-1763	474-012
CR4	Silicon Diode IN-1763	474-012
CR5	Silicon Diode IN-1763	474-012
CR6	Germanium Diode IN-34A	475-013
CR7	Silicon Diode IN-1763	474-012
DS1	Dial Lamp	471-017
F1	Fuse 2A @ 125 V	482-001
F2	Fuse 2A @ 125 V	482-001
F3	Fuse 20A @ 32 V	482-008
J1	VFO Control Jack	344-010
J2	Phone Jack	342-001
J3	Antenna Jack	344-011
J4	Power Socket	344-175
J5	Mike Jack, 2 Circuit	342-002
K1	Relay 12 VDC	111-089
L1	Oscillator Plate Coil	012-440
L2	Tripler Grid Coil	012-441
L3	Tripler Plate Coil	012-439
L4	Doubler Grid Coil	012-438
L5-6	Final Drive Coil	012-447
L7	Final Plate Coil	011-121
L8	Transmitter Link Coil	011-125
M1	Meter	112-037
P1	Receiver Power Plug (P1 Plug Shell)	344-040 344 916
P2	Receiver Antenna Plug	344-174
Q1, Q2	Transistors 2N-1554	476-006

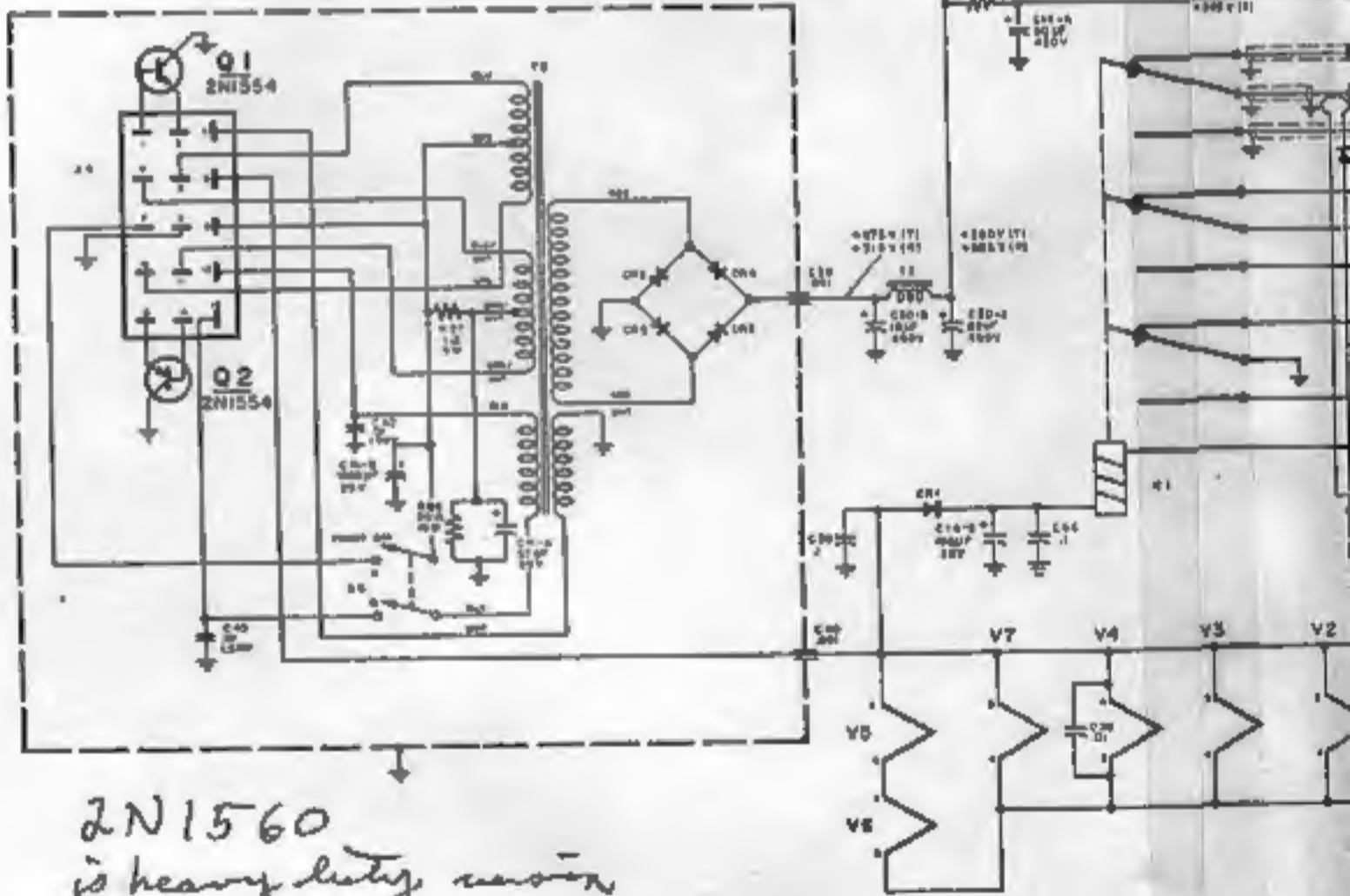
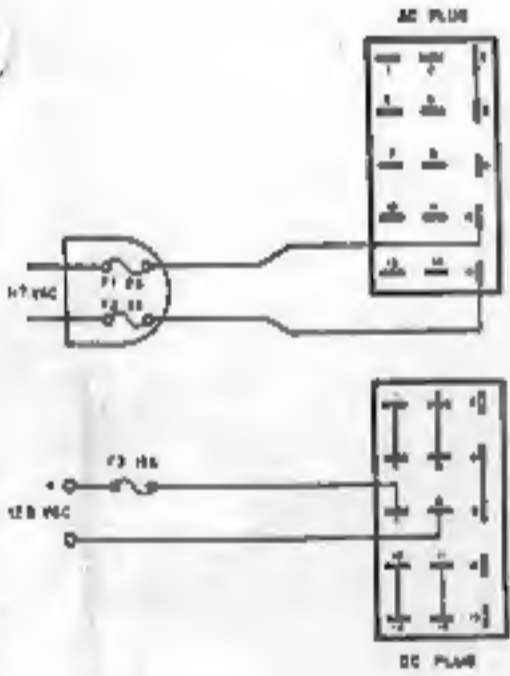
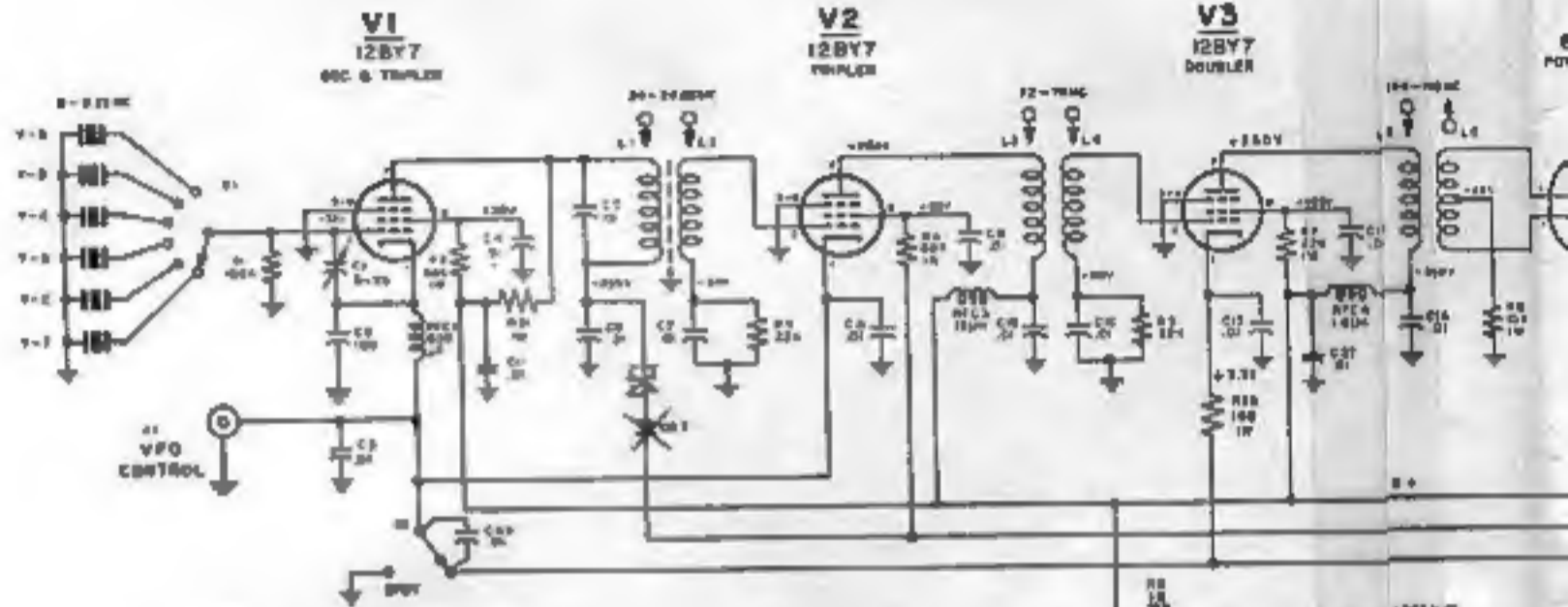
## TRANSMITTER AND POWER SUPPLY PARTS LIST (CONT)

Schematic No.	Description	Gonset Part No.
R1	100K $\Omega$ 1/2 W 10%	
R2	68K $\Omega$ 1 W 10%	
R3	22K $\Omega$ 1/2 W 10%	
R4	68K $\Omega$ 1 W 10%	
R5	22K $\Omega$ 1/2 W 10%	
R6	1K $\Omega$ 10 W 10% Wire Wound	049-082
R7	22K $\Omega$ 1/2 W 10%	
R8	15K $\Omega$ 1 W 10%	
R9	12K $\Omega$ 1 W 10%	
R10	33K $\Omega$ 1 W 10%	
R11	150K $\Omega$ 2 W 10%	
R12	270K $\Omega$ 1/2 W 10%	
R13	270K $\Omega$ 1/2 W 10%	
R14	150K $\Omega$ 1/2 W 10%	
R15	1 Meg $\Omega$ 1/2 W 10%	
R16	2.7K $\Omega$ 1/2 W 10%	
R17	150K $\Omega$ 1/2 W 10%	
R18	2.7K $\Omega$ 1/2 W 10%	
R19	470K $\Omega$ 1/2 W 10%	
R20	1.5 Meg 1/2 W 10%	
R21	470K $\Omega$ 1/2 W 10%	
R22	82K $\Omega$ 1/2 W 10%	
R23	25K $\Omega$ Potentiometer	052-097
R24	47K $\Omega$ 1 W 10%	
R25	47 $\Omega$ 1/2 W 10%	
R26	50 $\Omega$ 10 W 10% Wire Wound	049-081
R27	1 $\Omega$ 5 W 10% Wire Wound	049-080
R28	22K $\Omega$ 1 W 10%	
R29	15K $\Omega$ 1 W 10%	
R30	47 $\Omega$ 1 W 10%	043-470
R31	1.0 Meg 1/2 W	
R32	100 $\mu$ 1 W	
R33	100 $\mu$ 1 W	
RFC 1	R-F Choke 600 $\mu$ h	027-019
RFC 2	R-F Choke 15 $\mu$ h	027-080
RFC 3	R-F Choke 15 $\mu$ h	027-080
RFC 4	R-F Choke 1.8 $\mu$ h	027-078
RFC 5	R-F Choke 1.8 $\mu$ h	027-059
RFC 6	R-F Choke 1.8 $\mu$ h	027-059
S1	Crystal Switch	171-104
S2	Spot Switch	172-008

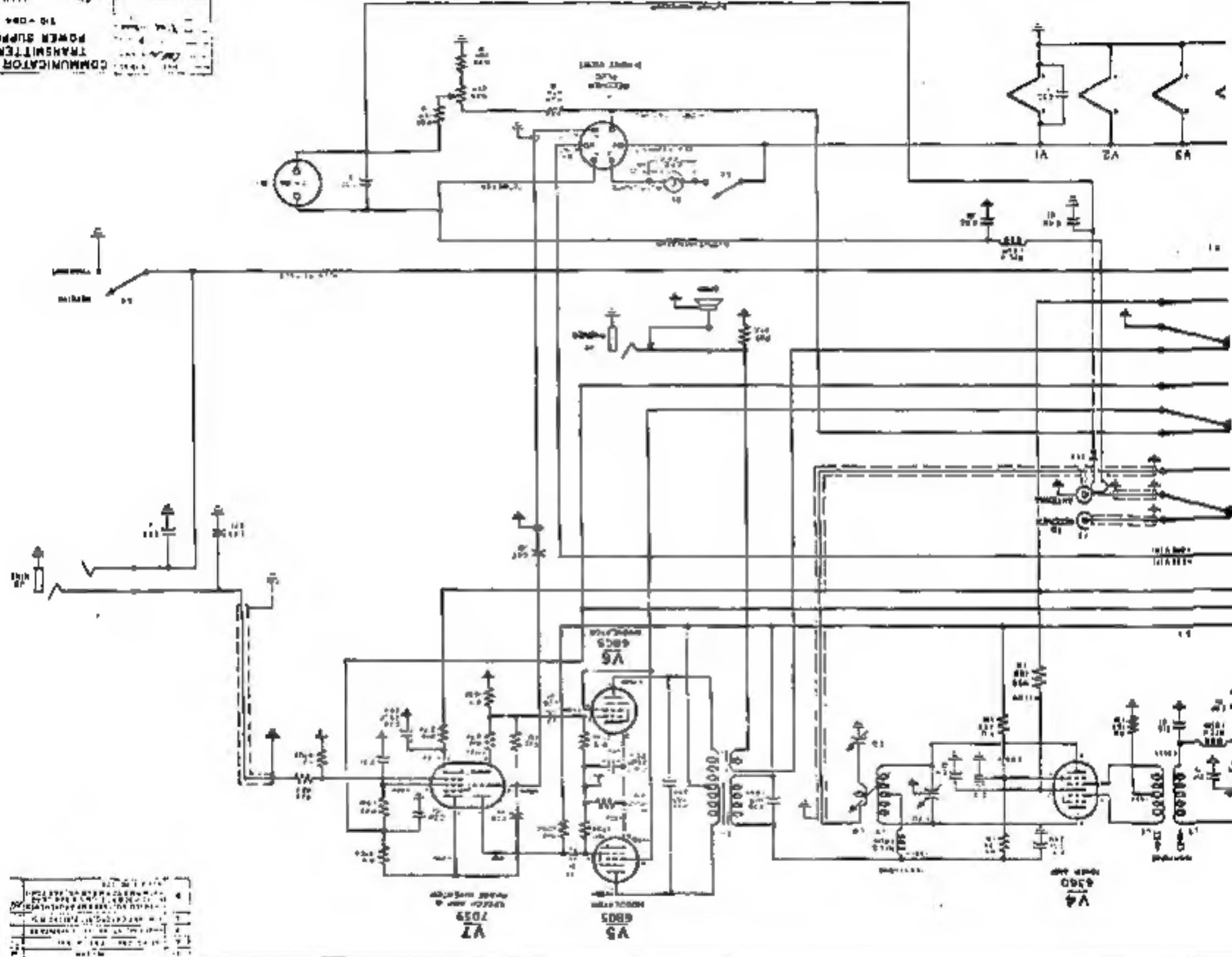
## TRANSMITTER AND POWER SUPPLY PARTS LIST (CONT)

Schematic No.	Description	Gonset Part No.
S4	T-R Switch	172-010
S5	Lamp Switch	172-001
S6	On-Off Switch	174-011
SPKR	Speaker 3.2 $\Omega$ VC	152-017
T1	Modulation Transformer	273-012
T2	Filter Choke	274-022
T3	Power Transformer	271-080
	Cable Assembly, D. C.	678-033
	Cable Assembly, A. C.	678-034
	Crystal Retainer	453-441
	Telescoping Right Angle Whip Antenna	621-018

UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/2 WATT, 10% AND ALL CAPACITORS IN 100P



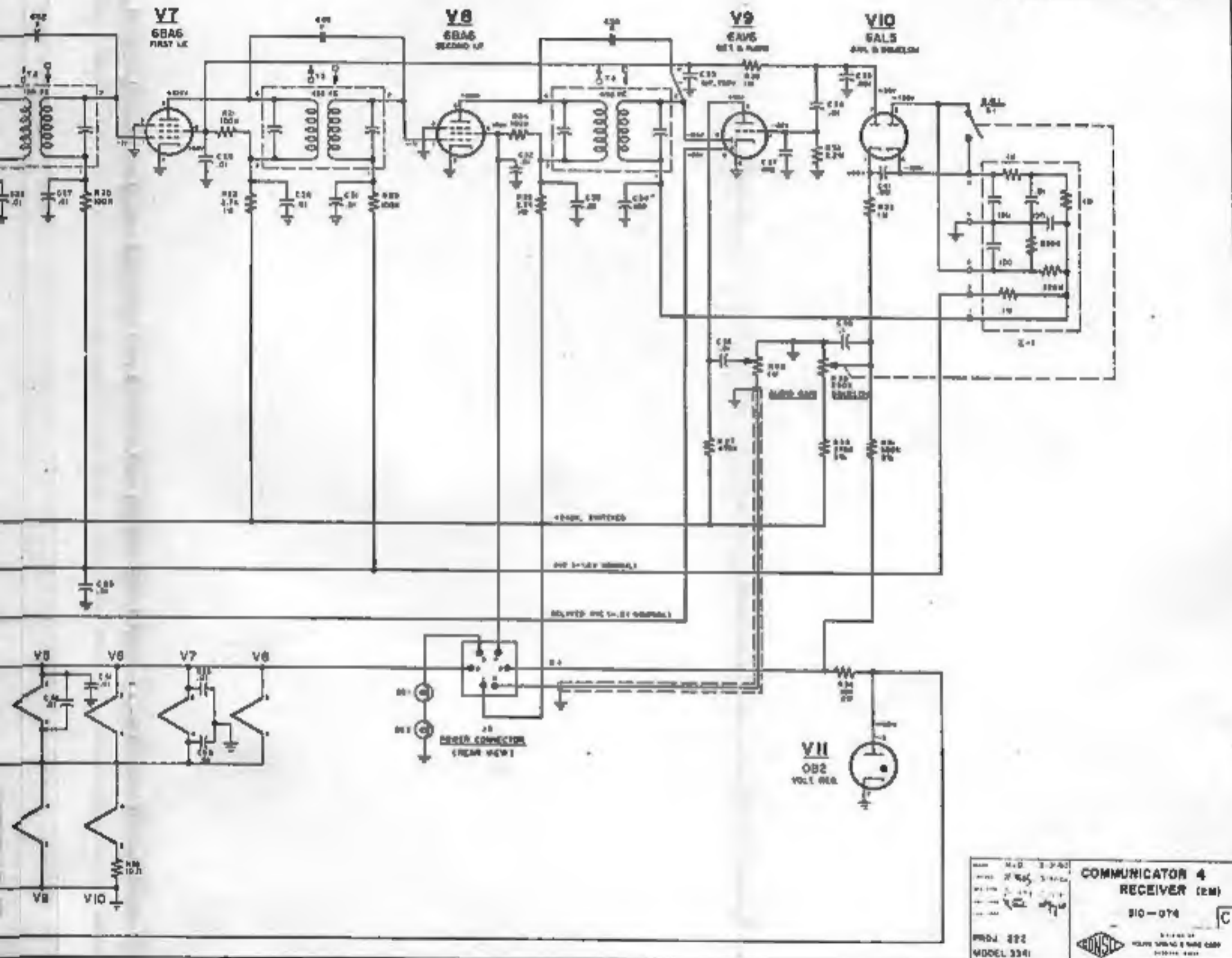
COMMUNICATOR TRANSMITTER POWER SUPPLY 10-084  
 MODEL 374  
 PROJ. 828



1. ALL VACUUM TUBES ARE TO BE OF THE TYPE SPECIFIED IN THE PART LIST.  
 2. ALL RESISTORS ARE TO BE OF THE TYPE SPECIFIED IN THE PART LIST.  
 3. ALL CAPACITORS ARE TO BE OF THE TYPE SPECIFIED IN THE PART LIST.  
 4. THE CIRCUIT IS TO BE ASSEMBLED ON A BOARD OF THE TYPE SPECIFIED IN THE PART LIST.  
 5. THE CIRCUIT IS TO BE TESTED AND ADJUSTED AS SPECIFIED IN THE PART LIST.  
 6. THE CIRCUIT IS TO BE DELIVERED IN THE ASSEMBLED AND TESTED CONDITION.  
 7. THE CIRCUIT IS TO BE DELIVERED WITH ALL NECESSARY PARTS AND TOOLS.  
 8. THE CIRCUIT IS TO BE DELIVERED WITH A COMPLETE SET OF INSTRUCTIONS.  
 9. THE CIRCUIT IS TO BE DELIVERED WITH A COMPLETE SET OF TEST PROCEDURES.  
 10. THE CIRCUIT IS TO BE DELIVERED WITH A COMPLETE SET OF SAFETY PRECAUTIONS.



REV	DESCRIPTION	APP	DATE
A	ADDED V7, C28, C29 & C30	WJ	7-18-40
B	REV WAVE 220		9-2-41
C	CHANGED VOLTAGE MEASUREMENTS SEE 50-40-381	WJ	



COMMUNICATOR 4  
 RECEIVER (2M)  
 310-074

PROD. 222  
 MODEL 3341

RAYON  
 ELECTRONIC & RADIO CO. INC.  
 1000 10th St. S.W.  
 ALBUQUERQUE, N.M.