

CHANGE NO. 2

INSTRUCTION BOOK CHANGE NOTICE

Date August 1972

Manual affected: Sideband Multi-Channel Exciter Model SME-6 IN 2045

Page 1-1, Section 1-1, second para

Line 5: Change "the CW" to "a"

Line 7: Delete "nine"

Page 1-2, Section 1-3,

Under Technical Specification AUDIO RESPONSE: Change all "2db" to "+1.5db".

Page 2-1, Section 2-2,

Line 6: Change "7-10" to "7-9".

Page 4-2, Section 4-2 d,

Delete the first paragraph in entirety, and replace with the following:

d. FREQUENCY SHIFT GENERATOR Z107. The frequency shift generator operates in the frequency shift keying (FSK) and facsimile (FAX) modes; it contains a 4.416 MHz oscillator section, a mixer section (utilizing the 3.0 MHz input from the power supply and the 4.416 MHz to provide 1.4166 MHz), and a 1.4166 MHz amplifier section, a keying modulator and dc amplifier section, and the FAX circuit. FSK operation is controlled by the SHIFT and FS LOOP switches.

In the second paragraph,

Line 13: Change "1.4166 MHz to "3.0 MHz".

Delete the third paragraph in entirety, and replace with the following:

When FSK or FAX operation is selected +12 vdc is supplied to both the frequency shift generator and to the VXCO in the power supply assembly. As a result the VXCO operates at the center frequency of 3.0 MHz. Upon application of the variable dc level (E MOD) from the SHIFT switch, the frequency of the VXCO is shifted above and below center frequency, corresponding to respective marks and spaces, by an amount determined by SHIFT switch setting

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THE TECHNICAL MATERIEL CORP., 700 Fenimore Road, Mamaroneck, New York

Attn.: Director of Eng. Services.

(+53, +106, +212, +425). The frequency-shifted VXCO signal of 3.0 MHz is reapplied to the mixer section which provides a 1.4166 MHz signal \pm the shift to the 1.4166 MHz amplifier section of the frequency shift generator and then to the converter and ALDC circuit, Z103.

Page 4-2, Section 4-2 f, second para,

Line 6: Change "incoming" to "output"

At end of para: Add "(Refer to Table 4-1)."

Page 4-3/4-4, Figure 4-1,

Change line from Power Supply Assembly marked "1.4166 MHz VXCO" to read "3.0 MHz VXCO."

Page 4-10, Section 4-3, para d. (4),

Delete this paragraph in entirety, and replace with the following:

(4) In the FSK and FAX modes of operation, the 3.0 MHz variable crystal-controlled oscillator (VXCO) is enabled in the power supply assembly, and its frequency is varied by the dc current produced in the FSK and FAX circuits of the frequency shift generator Z107. This in turn causes the same frequency variation in the 1.4166 MHz output of Z107. Since both the 250 kHz and 1.666 MHz inputs are inhibited in these modes, the 1.4166 MHz FSK-FAX input is coupled via jack J103 pin 8 and capacitor C4 to the input of 1.417 MHz amplifier Q2, thus bypassing 1.666 MHz amplifier Q1 and the balanced modulator circuit.

Page 4-10, Section 4-3, para f,

Delete thru line 8 of subparagraph (1), and replace with the following:

(1) Both FSK and FAX operation is initiated when MODE switch S102D (front) is set to either the FSK or FAX position as previously indicated in the discussion of MODE switching. In either of these positions S102D supplies a +12 vdc enable to both the 3.0 MHz crystal voltage controlled oscillator Z302 in the power supply assembly, and to the oscillator mixer in frequency-shift generator Z107. With the MODE switch in either the FSK or FAX positions, the 3.0 MHz VXCO input is applied to Z107 at pin M, and the 4.416 MHz oscillator on Z107 is enabled. These two signals are mixed, and their resultant signal (1.4166 MHz) is applied to the 1.4166 MHz buffer-amplifier section.

Page 4-12, Section 4-3, para f,

On the fifth line from top of the page,

Change "1.4166 MHz" to "3.0 MHz"

Page 4-12, Section 4-3, paragraph f(2),

Delete paragraph f(2) in entirety, and replace with the following:

(2) With +12 vdc applied to 3.0 MHz oscillator Z302, and with the variable dc input present, representing keyer frequency shift, the frequency of Z302 varies about the 3.0 MHz center frequency by an amount dictated by SHIFT switch S110. The shifted frequency is applied to the oscillator/mixer section, whose 1.4166 MHz output is also shifted. This shifted frequency is then applied to the buffer-amplifier section of frequency shift generator Z107. The input signal, pin M of jack J107, is amplified in buffer Q1, and applied to limiter Z1 which maintains amplitude within acceptable limits without destroying the frequency shift characteristics. The limited output is applied to emitter follower Q2 and then through 1.4166 MHz Level Adjust potentiometer R16 via pin H of jack J107 to converter and ALDC circuit Z103.

Page 4-12, Section 4-3 g(2),

Line 15 and 16: Delete "odd or even"

Line 18: Change "incoming" to "output" and "five odd or five even" to "ten"

Delete last sentence

Table 4-1: Delete information in table and substitute the following

Table:

TABLE 4-1. RF OUT FREQUENCY CHANNELS

Channel	Frequency Channels
1	1.6 to 2.0999 MHz
2	2.1 to 2.7999 MHz
3	2.8 to 3.7999 MHz
4	3.8 to 5.0999 MHz
5	5.1 to 6.9999 MHz
6	7.0 to 8.9999 MHz
7	9.0 to 11.9999 MHz
8	12.0 to 15.9999 MHz
9	16.0 to 21.9999 MHz
10	22.0 to 30.9999 MHz

CHANGE NO. 2 (continued)

Page 5-5, Table 5-2,

Under Step 6, "No FSK operation" and Step 7, change all references to "1.4166 MHz" to read "3.0 MHz"

Page 5-8, Section 5-3, i (3)

Change sentence after note to read as follows:

The oscillator frequency is a seven or eight digit number; for example:

Change example to the following:

(2) 17.783667 MHz Osc
1.416667 MHz IF
16.367000 MHz Output

Page 5-9, Section 5-3, j

Delete Section 5-3, j in entirety, and replace with the following:

j. FREQUENCY SHIFT GENERATOR/OSCILLATOR-MIXER Z107. (See figure 5-6.)

Perform the alignment of the frequency shift generator/oscillator-mixer as follows:

(1) Connect the frequency counter to the vertical output terminals of the oscilloscope. Set the MODE switch to the FSK position and the EXCITER switch to the ON position. On the rear panel of the SME-6, set potentiometer R101 to mid-range, SHIFT switch to +425 Hz (maximum shift position), SENSE switch to the (+) position, and S111 to the CONT. position.

NOTE

FSK adjustments must be made after the 3.0 MHz oscillator oven has warmed up for at least an hour.

(2) Set R22 and R23 on Z107 fully counterclockwise.

(3) Connect the oscilloscope to J107-M, and adjust R25 for a reading of 3.000000 MHz on the frequency counter.

(4) Mount the Z107 assembly on the extender board.

(5) Connect the oscilloscope to J105-H, and adjust potentiometer R16 for maximum signal output level on the oscilloscope and C20 for a frequency reading of 1.41666 MHz on the counter.

(6) Return the Z107 assembly to the proper chassis socket.

(7) With the oscilloscope connected to J105, adjust R25 (if required) for a frequency reading of 1.41666 MHz on the counter.

CHANGE NO. 2 (continued)

(8) Adjust potentiometer R23 for a frequency of 1.416241 MHz on the counter. Set the SENSE switch to the (-) position and adjust potentiometer R22 for a frequency reading of 1.417091 MHz on the counter.

(9) Repeat step (8) until the frequencies are within 5 Hz.

(10) Set the SHIFT switch to the ± 212 Hz position and the SENSE switch to the (+) position. The frequency counter should read 1.416878 MHz ± 15 Hz.

(11) Repeat step (10) for the ± 106 Hz SENSE switch position and for the ± 53 Hz position. The tolerance is ± 7 Hz for the ± 53 Hz position.

(12) Mount the Z107 assembly on the extender board.

(13) Connect the oscilloscope to J103-A and set the MODE switch to the CW position. Observe the peak-to-peak amplitude on the oscilloscope. Set the MODE switch to the FSK position, and adjust R16 on Z107 for the same peak-to-peak amplitude displayed in the CW mode.

(14) Place MODE switch in FAX position and set potentiometer R28 fully cw.

(15) Apply 0-10 volts power supply to FAX terminals on rear panel and set for 1.0 volt input.

(16) Adjust potentiometer R29 for 1,416,266 ± 5 Hz reading on the counter.

(17) Reset input to 10.0 volts and adjust potentiometer R28 for 1,417,066 ± 5 Hz reading on counter.

(18) Repeat steps (15) through (17).

(19) Check for linearity by varying input from 1.0 to 10.0 volts. Counter should change 89 ± 5 Hz for every 1.0 volt change from 1.0 to 10.0 volts shown in Table 5-3.

Page 5-11, Figure 5-8,

Change "Z101" to "Z104", on the figure title.

Change the reference designation for the resistor located just above R73 from "R74" to "R88".

Change the reference designation for the resistor located to the left of T6 from "R50" to "R87".

Add the reference symbol for C52 just above and perpendicular to R69.
Page 5-11, Figure 5-9,

Change the reference designation for the resistor located to the right of Z1 from "R118" to "R25".

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Page 5-11, Figure 5-9, continued

Change the reference designation for the variable capacitor located in the lower right hand corner of the board from "C57" to "C37".

Change emitter orientation tab on Q19 from upper left hand to upper right hand.

Reverse the polarity symbol for CR4.

Change transformer orientation dot for T3 from right handside of T3 to left hand side.

Page 5-12,

Delete page 5-12 in entirety, and replace with new page 5-12 provided with this change.

Page 5-13, Figure 5-12,

Add reference symbol for R35 parallel to and between R26 and C25.

Add reference symbol for C32 parallel to and to the right of R32.

Add reference symbol for C33 parallel to R33 and to the right of Q6.

Add reference symbol for R34 parallel to and just above C26.

Show existing variable symbol for R27 in broken line form and add fixed resistor symbol for R27. In reference to this, add the following note:

If a variable R27 is used, the fixed R27 and R34 symbols should be deleted.

Change the reference designation for the capacitor located to the right of L1 from "C29" to "C34".

Page 5-13, Figure 5-13,

Delete the reference symbol for "R38" and add a jumper in its place.

Change the reference symbol "L3" to "R72".

Change the reference symbol "L9" to "R73".

Add reference symbol for R70 parallel to and just above R63.

Add reference symbol for R71 parallel to R67 and above Q11.

Add reference symbol for C62 perpendicular to R41 and to the left of Z3.

Page 5-14, Figure 5-14,

Delete in entirety the Component Location drawing for Z115 and replace it with the drawing provided with this change.

Page 5-15/5-16, Figure 5-16,

Delete in entirety the reference symbol for R15.

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Section 6, Parts List,

Delete Section 6 in entirety, and replace with new Section 6 provided with this change.

Page 7-1/7-2, Table 7-1,

Change TMC Drawing Number for Figure 7-5 from "CK1484" to "CK1920".

Change TMC Drawing Number for Figure 7-9 from "CK1328" to "CK1330".

Change TMC Drawing Number for Figure 7-10 from "CK1491" to "CK1328".

Page 7-3/7-4 and 7-5/7-6, Figure 7-1,

Delete Figure 7-1 in entirety, and replace it with the new figure provided with this change.

Page 7-7/7-8, Figure 7-2,

Correct the spelling of the title: "Gerenerator" to "Generator".

Change the reference designation of the 33K resistor at the base of Q12 from "R88" to "R74".

On Last Symbol chart, change R87 to R88.

Add to Missing Symbol chart, "R43 thru R47, R50, R67".

Page 7-9/7-10, Figure 7-3,

Change the value of the following capacitors from "5, 25V" to "6.8, 25V":
C7, C10, C13, C14, C38, C61, C62, C65, C68, C72, C73, C80, C81.

Change the value of C70 from "4, 35V" to "6.8, 35V".

Change the value of the following capacitors from "10, 15V" to "10, 25V":
C4, C6, C9, C11 and C71.

On Missing Symbols chart, delete "R36".

Page 7-13/7-14, Figure 7-5,

Delete in entirety the Schematic Diagram for Z107, and replace it with the Schematic provided with this change.

Page 7-15/7-16, Figure 7-6,

Change the value of R13 from "100K" to "47K".

Change the value of R11 from "27K" to "10K".

In Last Symbol chart change "C31" to "C34" and "R34" to "R35".

Add symbol for R35, 1K in parallel with C25 and T4 primary.

Add symbol for C32, 0.1 between ground and the junction of R29, R30 and the base of Q5.

Add symbol for C33, 0.1 between ground and the junction of R32 and the base of Q6.

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Page 7-15/7-16, Figure 7-6, continued

Add symbol for C34 between ground and the junction of pin 14 and L1.

Page 7-17/7-18, Figure 7-7,

Change the value of the following capacitors from "4, 35V" to "6.8,35V":
C21, C57.

To Missing Symbols chart, add "R38", "L3", and "L9".

On Last Symbol chart, change "C61" to "C62" and "R69" to "R73".

Delete in entirety "R38", the resistor between Z3 and C37.

Add the following:

to Z1 - "AO-125"

to Z2 - "AO-125"

to Z4, 8 - "TZ223"

to Z5,6,9,10 - "TZ225"

to Z7,11 - "TZ226"

Change the value of the following resistors from "22" ohms to "47"
ohms:

R7, R13, R45, and R51

Change the value of the following resistors from "10" ohms to "22"
ohms:

R18, R56

Delete the symbol for L3 in entirety, and add in its place the symbol
for R72, 470 ohms.

Delete the symbol for L9 in entirety, and add in its place the symbol
for R73, 470 ohms.

Add symbol for R70, 10 ohms in the base lead of Q4.

Add symbol for R71, 10 ohms in the base lead of Q11.

Add symbol for C62 between the ground on Z3 and the junction of R37
and the Z3 input terminal.

Page 7-19/7-20, Figure 7-8,

Change value of C2 from ".01" to "20uf, 50WV".

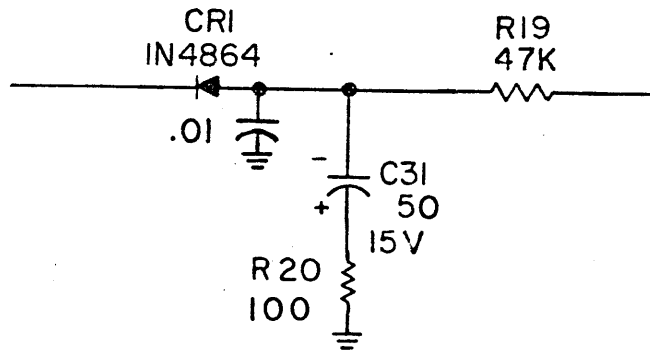
Change value of R4 from "2K" to "5K".

CHANGE NO. 2 (continued)

Page 7-19/7-20, Figure 7-8, continued

Add a capacitor symbol in broken line form between ground and the junction of CR1 and C31. Mark value of capacitor .01. Remove ground symbol from C31 symbol and add a resistor in series with C31 to ground. Mark resistor as R20, 100. Change value of C31 from .01 to "50, 15V", and add the following note:

Note: R20 deleted and C31 replaced by .01 to ground when exciter is used with HFLA-1K.



Page 7-21/7-22, Figure 7-9,

Delete Figure 7-9 in entirety, and replace with new drawing provided with this change.

Page 7-25/7-26, Figure 7-11,

Delete in entirety the resistor R15.

Add "R1915" to Missing Symbols chart.

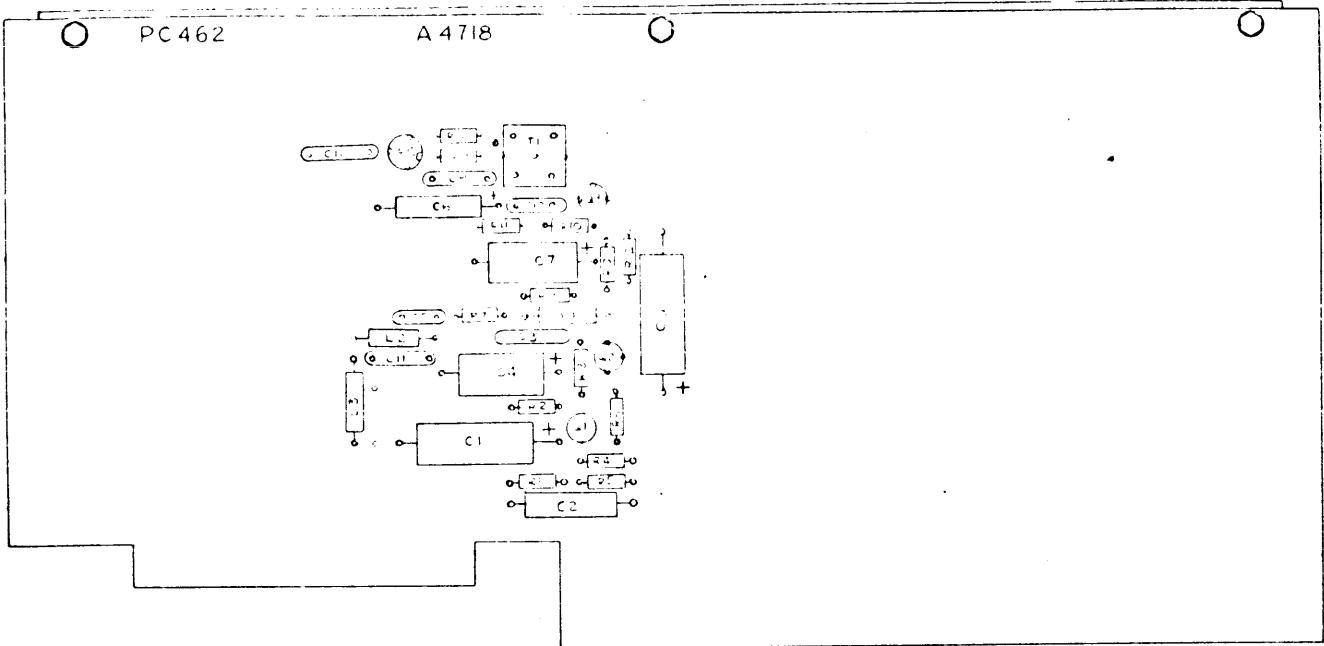


Figure 5-10. AM Amplifier Z108, Component Location

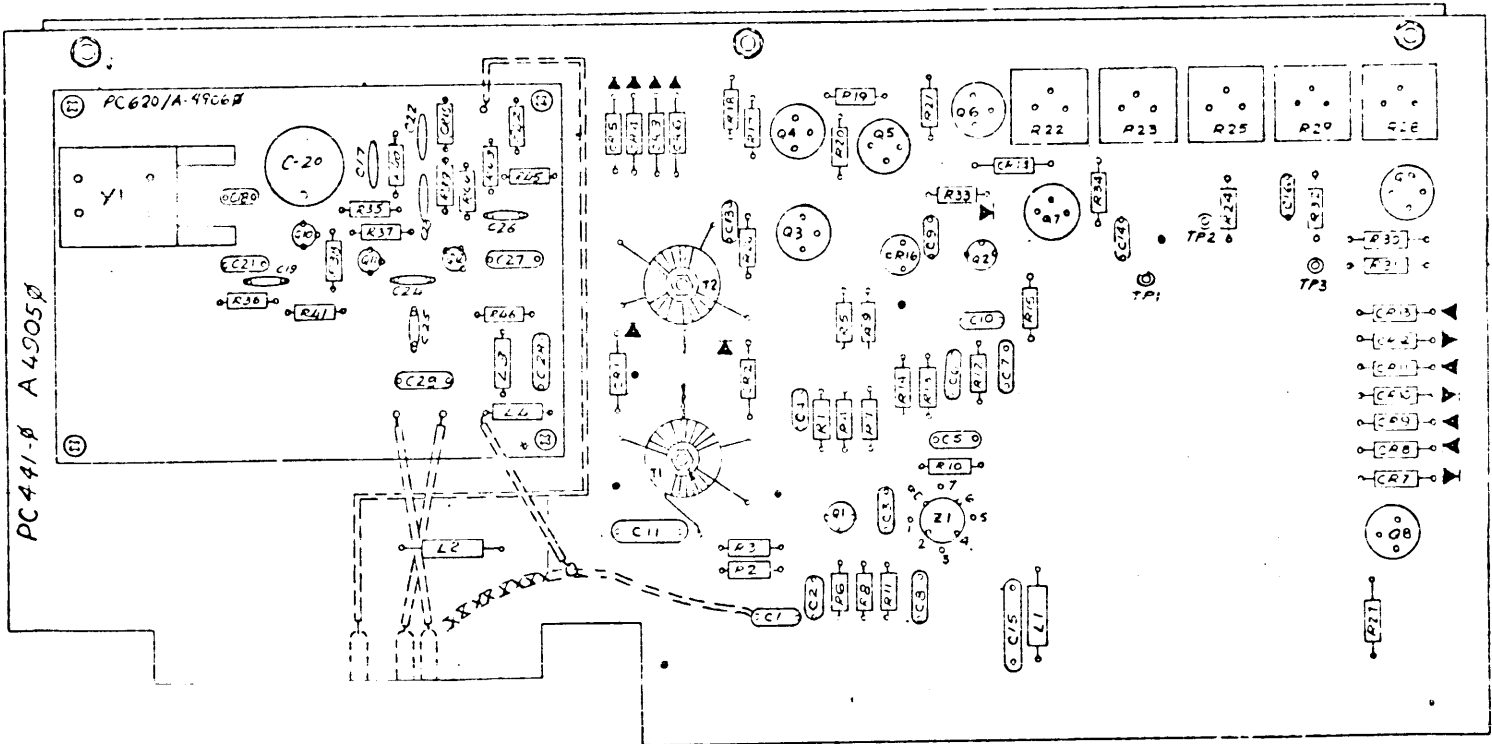


Figure 5-11. Frequency Shift Generator Z107, Component Location

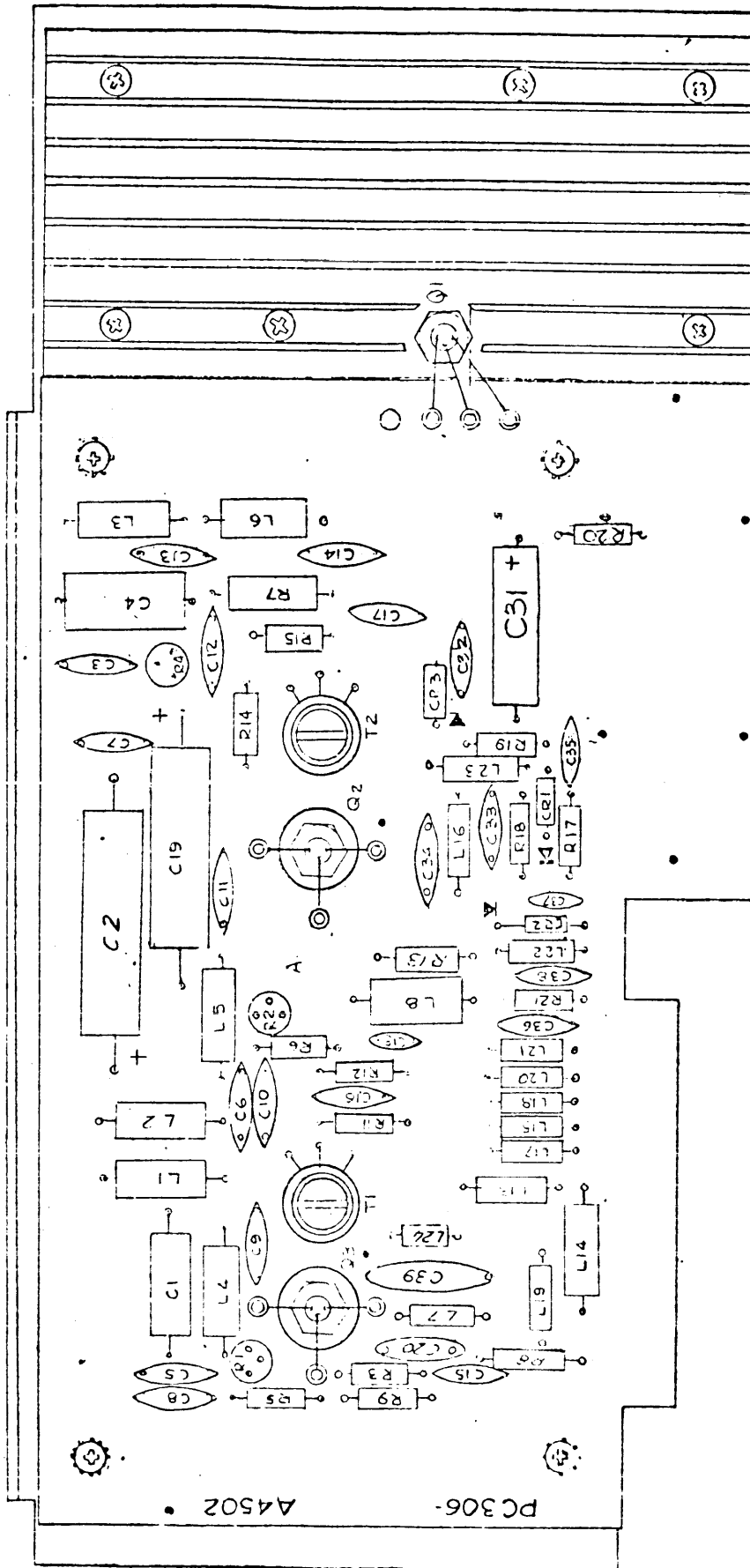


Figure 5-14. RF Output Z115, Component Location

SECTION 6

PARTS LIST

6-1. INTRODUCTION

The parts list presented in this section is a cross-reference list of parts identified by a reference designation and TMC part number. In most cases, parts appearing on schematic diagrams are assigned reference designations in accordance with MIL-STD-16. Wherever practicable, the reference designation is marked on the equipment, close to the part it identifies. In most cases, mechanical and electro-mechanical parts have TMC part numbers stamped on them.

To expedite delivery when ordering any part, specify the following:

- a. Reference symbol.
- b. Description as indicated in parts list.
- c. TMC part number.
- d. Model and serial numbers of the equipment containing the part being replaced; this can be obtained from the equipment nameplate.

For replacement parts not covered by warranty (refer to warranty sheet in front of manual), address all purchase orders to:

The Technical Materiel Corporation
Attention: Sales Department
700 Fenimore Road
Mamaroneck, New York

The following assemblies are standard in all configurations of the SME()-6:

<u>Assembly or Sub-Assembly:</u>	<u>Page</u>
SME()-6, Main Chassis	6-2
A4656, Carrier Generator, (Z104)	6-8
A4717, Converter and ALDC, (Z103)	6-16
A4647, RF Amplifier, (Z101)	6-20
A4502, RF Output, (Z115)	6-25
AX652, Power Supply	6-28
A4512, PC Board "A" (Power Supply), (Z304)	6-29
A4513, PC Board "A" (Power Supply), (Z303)	6-30

The following additional assemblies are customer-specified options:

<u>Assembly or Sub-Assembly:</u>	<u>Page</u>
A4707, Sideband Generator, (Z105 and/or Z109)	6-32
A4718, AM Amplifier, (Z108)	6-41
A4905, Frequency Shift Generator	6-43
A4906, Oscillator Mixer (P/O FSK Generator)	6-46
A4647, Amplifier, (Additional channel capability; any or all of the following: Z102, Z111-113).	6-20

SME()-6

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C101 thru C103	Cap, Fxd, Mica, 1000 uuf, <u>+10%</u> , 300 WVDC	CB21QB102K
C104 C105 thru C109	Cap, Fxd, Cer, 20,000 uuf, +80%-20%, 500 WVDC Same as C101	CC100-24
C110 C111 C112 C113 and C114	Same as C104 Same as C101 Cap, Dis, Cer, 10,000 uuf, +80%-20%, 25 WVDC Same as C101	CC100-41
C115 C116 and C117	Same as C112 Same as C101	
C118 C119 C120	Same as C112 Same as C112 Same as C112	
C121 C122 C123 C124 C125 C126 C127 C128 C129 C130 C131 C132	Cap. Dis, Cer, 1000 uuf, GMV, 500 WVDC Same as C121 Same as C121 Same as C121 Same as C112 Same as C112 Same as C112 Same as C121 Same as C121 Same as C121 Same as C121 Same as C121 Same as C121 Same as C121	CC100-29

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REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C132	Same as C121	
C133	Same as C112	
C134	Same as C121	
C135	Same as C121	
C136	Same as C121	
C137	Same as C121	
C138	Same as C112	
thru		
C149		
C150	Cap, Fxd, Mylar, 1.0 mfd, <u>+5%</u> , 50 WVDC	CN114-1R0-5J
C151	Same as C112	
thru		
C160		
C161	Same as C101	
C162	Same as C112	
CR101	semiconductor, Device, Diode	1N914
CR102	Same as CR101	
DS101	Lamp, Incand, 28.0 volts, ac/dc, .04 amps	BI110-7
DS102	Same as DS101	
F101	Fuse, Ctg, 1 amp at 115 volts or 1/2 amp at 230 volts	FU102-1.00 FU102-0.50
F102	Same as F101	
J101	Conn, Recp, Fml, 30 double contacts	JJ319A15DFE
thru		
J105		
J106	NOT USED	
J107	Same as J101	
thru		
J109		
J110	NOT USED	
J111	Same as J101	
thru		
J113		

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REF SYMBOL	DESCRIPTION	TMC PART NUMBER
J114	NOT USED	
J115	Same as J101	
J116	Conn, Recp, Male, 3 contacts	MS3102A16S-5P
J117	Jack, Tel, Key	JJ034
J118	Jack, Tel, Mike	JJ033
J119	Conn, Recp, Male	JJ333-104P-FS-4
J120	Conn, Recp, 1 female contact, 52 ohms, BNC type	UG625/U
J121	Same as J120	
J122	NOT USED	
J123	Same as J120	
thru		
J125		
K101	Relay, Arm, Min.	RL143-4
K102	Relay	RL156-5
L101	Coil, RF, Fixed, 120 uh, 315 ma,	CL240-120
thru		
L104		
L105	Coil, Rf, Fixed, Ferrite Bead	CL349-1
L106	Same as L105	
L107	Same as L101	
thru		
L109		
L110	NOT USED	
L111	Same as L101	
L112	NOT USED	
L113	Same as L101	
L114	Same as L101	
L115	NOT USED	
L116	Same as L101	
thru		
L118		
M101	Meter	MR191-9
R101	Res, Var, Comp, 1000 ohms <u>+10%</u> , 1/2 watt	RV106UV8B102A

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REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R102	Res, Var, Comp, 100 ohms, <u>+10%</u> , 2 watts	RV4NAYSD101A
R103	Res, Var, Comp, 500 ohms, <u>+20%</u> , 2 watts	RV4NAYSD501A
R104	Same as R103	
R105	Res, Var, Comp, 25000 ohms <u>+10%</u> , 2 watts	RV4NAYSD253A
R106	Res, Var, Comp, 1000 ohms, <u>+10%</u>	RV110-1
R107A,B	Res, Var, Comp, Panel Section 1K ohm Log Rear Section 10K ohm Linear	RV108-2
R108	Res, Fxd, Comp, 680 ohms <u>+5%</u> , 1/4 watt	RC07GF681J
R109	Res, Fxd, Comp, 220 ohms, <u>+5%</u> , 1/4 watt	RC07GF221J
R110	Same as R109	
R111	Res, Fxd, Comp, 2200 ohms, <u>+5%</u> , 1/4 watt	RC07GF222J
R112	Res, Fxd, Comp. 390 ohms, <u>+5%</u> , 1/4 watt	RC07GF391J
R113	Res, Fxd, WW, 1 ohm, <u>+0.5%</u>	RW126-4-1R0
R114	Same as R113	
R115	Res, Fxd, Comp. 47000 ohms, <u>+5%</u> , 1/4 watt	RC07GF473J
R116	Same as R115	
R117	Res, Fxd, Comp, 1000 ohms, <u>+5%</u> , 1/4 watt	RC07GF102J
R118	Same as R117	
R119	Same as R117	
R120	Res, Fxd, Comp, 3900 ohms, <u>+5%</u> , 1/4 Watt	RC07GF392J
R121	Res, Fxd, Comp, 56000 ohms, <u>+5%</u> , 1/4 watt	RC07GF563J
R122	Res, Fxd, Comp, 27000 ohms, <u>+5%</u> , 1/4 watt	RC07GF273J
R123	Res, Fxd, Comp, 1500 ohms, <u>+5%</u> , 1/4 watt	RC07GF152J
R124	Res, Fxd, Comp, 150 ohms, <u>+5%</u> , 1/4 watt	RC42GF151J
R125	Same as R124	
R126	Res, Fxd, Comp, 5600 ohms <u>+5%</u> , 1/4 watt	RC07GF562J
R127	Res, Fxd, Comp, 8200 ohms, <u>+5%</u> , 1/4 watt	RC07GF822J
R128	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R129	Same as R117	
R130	Same as R117	
R131	Same as R128	
thru R133		

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R134 thru R137	Same as R117	
R138	Same as R109	
R139	Res, Fxd, Comp, 2200 ohms, <u>+5%</u> , 1/2 watt	RC20GF222J
R140	Same as R139	
R141	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/2 watt	RC20GF471J
R142	Res, Var, Comp, 10000 ohms, <u>+10%</u> , 2 watt	RV106UX8B103A
R143	Res, Fxd, Comp, 330000 ohms, <u>+5%</u> , 1/4 watt	RC07GF334J
R144	Same as R113	
R145	Res, Fxd, Comp, 47 ohms, <u>+5%</u> , 1/4 watt	RC07GF470J
R146	Res, Fxd, Comp, 100 ohms, <u>+5%</u> , 1/4 watt	RC07GF101J
R147	Same as R146	
S101	Sw, Rotary, Channel	SW473
S102	Sw, Rotary, Mode	SW475
S103	Sw, Rotary, Carrier Suppression	SW474
S104	Sw, Rotary, Meter	SW476
S105	Sw, Toggle, DPDT	ST22N
S106	Same as S105	
S107	NOT USED	
S108	NOT USED	
S109	Sw, Toggle, SPDT	ST103-11-62
S110	Sw, Rotary, Shift	SW447
S111	Sw, Rotary, Loop	SW446
TB101	NOT USED	
TB102	NOT USED	
TB103	Term, Bd, Barrier	TM100-6
TB104	Same as TB103	
TB105	Term, Bd, Barrier	TM100-8
Z101	RF, Amp, Assy	A-4647
and		
Z102		
Z103	Converter/ALDC Assy	A-4717

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
Z104	Carrier Generator Assy	A-4656
Z105	Upper Sideband Generator Assy	A-4707-1
Z106	NOT USED	
Z107	FS Generator Assy	A-4905 &
		A-4906
Z108	AM Amplifier Assy	A-4718
Z109	Lower Sideband Generator Assy	A-4707-2
Z110	NOT USED	
Z111	Same as Z101	
thru		
Z113		
Z114	NOT USED	
Z115	RF Output Assy	A-4502

A4656 ✓

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Cap, Disc, Cer, 100,000 uuf, +80-20%, 25 WVDC	CC100-44
C2	Cap, Disc, Cer, 10000 uuf, +80-20%, 500 WVDC	CC100-16
C3 thru C5	Same as C2	
C6	Cap, Fxd, Mica, 2700 uuf, <u>+1%</u> , 500 WVDC	CML12F272F5S
C7	Cap, Fxd, Mica, 680 uuf, <u>+1%</u> , 300 WVDC	CML11F681J3S
C8	Cap, Fxd, Mica, 3900 uuf, <u>+1%</u> , 300 WVDC	CML12F392G3S
C9	Cap, Fxd, Mica, 1300 uuf, <u>+1%</u> , 500 WVDC	CML12F132F5S
C10	Cap, Fxd, Mica, 3600 uuf, <u>+1%</u> , 500 WVDC	CML12F362G5S
C11 and C12	Same as C1	
C13	Same as C8	
C14 thru C16	Same as C1	
C17	Same as C8	
C18 thru C20	Same as C1	
C21	Same as C2	
C22 thru C26	Same as C1	
C27	Cap, Elec, 10 ufd, 25 WVDC	CE105-10-25
C28	Same as C1	
C29	Same as C2	
C30	Cap, Fxd, Mica, 300 uuf, <u>+5%</u> , 500 WVDC	CM111E301J5S

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C31	Same as C2	
C32	Cap, Fxd, Mica, 15 uuf, <u>+5%</u> , 500 WVDC	CM111C150J5S
C33	Same as C30	
C34 and C35	Same as C2	
C36	Same as C30	
C37	Same as C2	
C38	Same as C32	
C39	Same as C30	
C40	Same as C1	
C41	Same as C30	
C42	Same as C2	
C43	Same as C2	
C44	Cap, Disc, Cer, 1000 uuf, <u>+80-20%</u> ,	CC100-29
C45 thru C47	Same as C1	
C48	Cap, Fxd, Mica, 470 uuf, <u>+1%</u> , 500 WVDC	CM111F471F5S
C49	Cap, Fxd, Mica, 51 uuf, <u>+2%</u> , 500 WVDC	CM111E510G5S
C50	Same as C7	
C51	Cap, Fxd, Mica, 82 uuf, <u>+1%</u> , 500 WVDC	CM111E820F5S
C52	Cap, Fxd, Mica, 600 uuf, <u>+5%</u> , 300 WVDC	CM111F601J3S
C53 thru C56	Same as C2	
C57	Cap, Fxd, Mica, 910 uuf, <u>+5%</u> , 100 WVDC	CM111F911J1S
C58	Same as C2	

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C59	Same as C49	
C60	same as C57	
C61 and C62	Same as C2	
C63	Cap, Fxd, Mica, 1000 uuf, <u>+1%</u> , 100 WVDC	CM111F102F1S
C64 thru C66	Same as C2	
C67	Same as C1	
C68	Same as C27	
C69	Same as C27	
C70	Cap, Elec, 150 ufd, 15 WVDC	CE105-150-15
C71	Same as C2	
C72	Cap, Elec, 2 mfd, 50 WVDC	CE105-2-50
C73	Same as C72	
C74	Same as C1	
C75	Same as C2	
C76	Same as C1	
CR1	Diode, Ref, Silicon	1N751
CR2	Diode, Silicon, Computer Diode	1N914
CR3	Same as CR1	
CR4	Diode, GE, Silicon	1N34A
L1	Coil, 1,000 uh, <u>+10%</u> , 135 ma	CL275-102
L2	Coil, 180 uh, <u>+10%</u> , 260 ma	CL275-181
L3	Same as L2	

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
L4	Coil, 1500 uh, <u>+10%</u> , 275 ma	CL275-151
L5 thru L7	Same as L1	
L8	Coil, 33 uh, <u>+10%</u> , 505 ma,	CL275-330
L9	Same as L8	
L10	Coil, 22 uh, <u>+10%</u> , 565 ma	CL275-220
L11 and L12	Same as L1	
L13	Coil, 220 uh, <u>+10%</u> , 250 ma	CL275-221
L14	Same as L1	
Q1	Transistor, Silicon, Epox	2N3646
Q2 thru Q14	Same as Q1	
R1	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/4 watt	RC07GF471J
R2	Res, Fxd, Comp, 47 ohms, <u>+5%</u> , 1/4 watt	RC07GF470J
R3	Res, Fxd, Comp, 100000 ohms, <u>+5%</u> , 1/4 watt	RC07GF104J
R4	Same as R3	
R5	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R6	Res, Fxd, Comp, 2200 ohms, <u>+5%</u> , 1/4 watt	RC07GF222J
R7	Res, Fxd, Comp, 3900 ohms, <u>+5%</u> , 1/4 watt	RC07GF392J

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R8	Same as R6	
R9	Res, Fxd, Comp, 150 ohms, <u>+5%</u> , 1/2 watt	RC20GF151J
R10	Same as R6	
R11	Res, Fxd, Comp, 220 ohms, <u>+5%</u> , 1/4 watt	RC07GF221J
R12	Same as R5	
R13	Res, Fxd, Comp, 33000 ohms, <u>+5%</u> , 1/4 watt	RC07GF333J
R14	Res, Fxd, Comp, 1,000 ohms, <u>+5%</u> , 1/4 watt	RC07GF102J
R15	Res, Fxd, Comp, 100 ohms, <u>+5%</u> , 1/4 watt	RC07GF101J
R16	Same as R14	
R17	Same as R15	
R18	Same as R13	
R19	Same as R5	
R20	Same as R14	
R21	Same as R15	
R22	Same as R14	
R23	Res, Var, 100 ohms, <u>+30%</u> , 1/2 watt	RV124-1-101
R24	Res, Var, 500 ohms, <u>+30%</u> , 1/2 watt	RV124-1-501
R25	Same as R5	
R26	Same as R7	
R27	Same as R24	
R28	Same as R14	
R29	Same as R14	
R30	Same as R14	
R31	Same as R1	
R32	Same as R2	
R33	Same as R13	

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R34	Same as R5	
R35	Same as R14	
R36	Same as R14	
R37	Res, Fxd, Comp, 150 ohms, <u>+5%</u> , 1/4 watt	RC07GF151J
R38	Res, Fxd, Comp, 120 ohms, <u>+5%</u> , 1/4 watt	RC07GF121J
R39	Same as R13	
R40	Same as R5	
R41	Same as R14	
R42	Same as R2	
R43	NOT USED	
thru		
R47		
R48	Same as R14	
R49	Same as R37	
R50	NOT USED	
R51	Same as R13	
R52	Same as R5	
R53	Same as R2	
R54	Same as R14	
R55	Same as R14	
R56	Same as R15	
R57	Same as R3	
R58	Same as R3	
R59	Same as R6	
R60	Same as R5	
R61	Same as R7	
R62	Same as R6	
R63	Same as R9	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R64	Same as R5	
R65	Same as R11	
R66	Same as R5	
R67	NOT USED	
R68	Same as R14	
R69	Same as R15	
R70	Same as R14	
R71	Res, Fxd, Comp, 180 ohms, <u>+5%</u> , 1/4 watt	RC07GF181J
R72	Same as R71	
R73	Same as R5	
R74	Same as R13	
R75	Same as R1	
R76	Same as R15	
R77	Same as R1	
R78	Res, Fxd, Comp, 22000 ohms, <u>+5%</u> , 1/4 watt	RC07GF223J
R79	Res, Fxd, Comp, 6800 ohms, <u>+5%</u> , 1/4 watt	RC07GF682J
R80	Res, Fxd, Comp, 1200 ohms, <u>+5%</u> , 1/4 watt	RC07GF122J
R81	Res, Fxd, Comp, 68 ohms, <u>+5%</u> , 1/4 watt	RC07GF680J
R82	Res, Fxd, Comp, 3300 ohms, <u>+5%</u> , 1/4 watt	RC07GF332J
R83	Same as R15	
R84	Res, Fxd, Comp, 4700 ohms, <u>+5%</u> , 1/4 watt	RC07GF472J
R85	Same as R5	
R86	Same as R5	
R87	Same as R38	
R88	Same as R13	

A4656

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
T1	Transformer RF, Tuned	TT285-12
T2	Transformer RF, Tuned	TT285-11
T3	Transformer RF, Tuned	TT296-6
T4	Same as T3	
T5 thru T7	Same as T3	
T8	Transformer RF, Tuned	TT296-4
T9	Same as T8	
T10	Transformer, RF, Tuned	TT296-5
Z1	Dual, Flip, Flop	NW159
Z2	Same as Z1	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Cap, Fxd, Cer, 100,000 uuf, +80-20%, 25 WVDC	CC100-44
C2 and C3	Same as C1	
C4	Cap, Fxd, Cer, 10000 uuf, +20-20%, 50 WVDC	CC100-42
C5	Cap, Fxd, Mica, 1000 uuf, <u>+1%</u> , 100 WVDC	CM111F102F1 S
C6 and C7	Same as C1	
C8 and C9	Cap, Fxd, Mica, 6800 uuf, <u>+2%</u> , 500 WVDC	CM112F682G3S
C10	Same as C4	
C11	Same as C1	
C12	Cap, Fxd, Cer, 20000 uuf, +80-20%, 25 WVDC	CC100-40
C13	Same as C1	
C14	Same as C4	
C15	Cap, Fxd, Cer, 750 uuf, <u>+5%</u> , 300 WVDC	CM111F751J3
C16 thru C18	Same as C1	
C19	Cap, Fxd, Cer, 1000 uuf, +80-20%	CC100-29
C20	Same as C1	
C21	Same as C15	
C22	Same as C4	
C23	Same as C1	
C24	Cap, Fxd, Cer, 100000 uuf, +80-20%, 100 WVDC	CC100-28
C25	Same as C15	

A4717

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C26	Same as C1	
C27	Same as C24	
C28	Same as C24	
C29 and C30	Same as C1	
C31	Same as C4	
C32	Same as C24	
C33	Same as C24	
C34	Same as C1	
CR1	Diode	DD139
CR2	Same as CR1	
L1 thru L3	Coil, 1000 UH, <u>+20%</u> , 135 ma	CL275-102
L4	Coil, 68 uuf, <u>+ 10%</u>	CL275-680
L5 thru L7	Same as L1	
L8	Coil, 120 uh, <u>+10%</u> , 20 ma	CL275-121
L9	Coil, 2220 uh, <u>+10%</u> , 250 ma	CL275-221
Q1	Transistor	2N3646
Q2 and Q3	Same as Q1	
Q4	Transistor	2N3295
Q5 thru Q7	Same as Q1	
R1	Res, Fxd, Comp, 22000 ohms, <u>+5%</u> , 1/4 watt	RC07GF223J
R2	Res, Fxd, Comp, 5600 ohms, <u>+5%</u> , 1/4 watt	RC07GF562J
R3	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/4 watt	RC07GF471J

A4717

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R4	Res, Fxd, Comp, 10 ohms, <u>+5%</u> , 1/4 watt	RC07GF100J
R5	Res, Fxd, Comp, 1000 ohms, <u>+5%</u> , 1/4 watt	RC07GF102J
R6	Res, Var, 500 ohms, <u>+30%</u>	RV124-1-501
R7	Res, Fxd, Comp, 120 ohms, <u>+5%</u> , 1/4 watt	RC07GF121J
R8	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R9	Same as R5	
R10	Res, Fxd, Comp, 100 ohms, <u>+5%</u> , 1/4 watt	RC07GF101J
R11	Same as R8	
R12	Res, Fxd, Comp, 22 ohms, 1/4 watt	RC07GF220J
R13	Res, Fxd, Comp, 47000 ohms, <u>+5%</u> , 1/4 watt	RC07GF473J
R14	Same as R5	
R15	Res, Fxd, Comp, 180 ohms, <u>+5%</u> , 1/4 watt	RC07GF181J
R16	Same as R4	
R17	Same as R5	
R18	Res, Fxd, Comp, 1500 ohms, <u>+5%</u> , 1/4 watt	RC07GF152J
R19	Res, Fxd, Comp, 12000 ohms, <u>+5%</u> , 1/4 watt	RC07GF123J
R20	Res, Fxd, Comp, 2700 ohms, <u>+5%</u> , 1/4 watt	RC07GF272J
R21	Same as R3	
R22	Res, Fxd, Comp, 220 ohms, <u>+5%</u> , 1/4 watt	RC07GF221J
R23	Same as R22	
R24	Res, Fxd, Comp, 330 ohms, <u>+5%</u> , 1/4 watt	RC07GF331J
R25	Res, Fxd, Comp, 15000 ohms, <u>+5%</u> , 1/4 watt	RC07GF153J
R26	Res, Fxd, Comp, 27000 ohms, <u>+5%</u> , 1/4 watt	RC07GF273J
R27	Same as R6 when variable, or Res, Fxd, Comp, 27 ohms, <u>+5%</u> , 1/4 watt	RC07GF270J

A4717

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R28	Same as R5	
R29	Res, Fxd, Comp, 820000 ohms, <u>+5%</u> , 1/4 watt	RC07GF824J
R30	Res, Fxd, Comp, 330000 ohms, <u>+5%</u> , 1/4 watt	RC07GF334J
R31	Res, Fxd, Comp, 220000 ohms, <u>+5%</u> , 1/4 watt	RC07GF224J
R32	Same as R8	
R33	Res, Fxd, Comp, 4700 ohms, <u>+5%</u> , 1/4 watt	RC07GF472J
R34	Same as R22	
R35	Same as R5	
T1	Transformer, Var,	TT296-1
T2	Transformer, Var	TT296-2
T3	Transformer, Var	TT296-3
and T4		
Z1	Filter Band Pass	FX286

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Cap, Fxd, comp, 10000 PF, $\pm 20\%$, 100 WVDC	CC-100-43
C2	Cap, Var, Glass, 1.0-52.0 PF, 1000 WVDC	CV116-2
C3	NOT USED	
C4	Same as C1	
thru		
C6		
C7	Same as C2	
C8	NOT USED	
C9	Same as C1	
thru		
C13		
C14	same as C2	
C15	Same as C1	
thru		
C19		
C20	Same as C2	
C21	Cap, Fxd, Elec, 6.8 mfd, $+50-20\%$, 35WVDC	CE122-6R8-35
C22	Same as C1	
thru		
C37		
C38	NOT USED	
C39	Same as C2	
C40	Same as C1	
thru		
C42		
C43	Same as C2	
C44	NOT USED	
C45	Same as C1	
thru		
C47		
C48	NOT USED	
C49	Same as C1	
C50	Same as C2	
C51	Same as C1	
thru		
C55		
C56	Same as C2	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C57	same as C21	
C58 thru C61	Same as C1	
C62 CR1	Factory Selected Diode, Semiconductor Device, Voltage Regulator	IN759A
CR2	Diode, Semiconductor Device,	IN914
CR3	Same as CR2	
CR4	Same as CR1	
CR5	Same as CR2	
CR6	Same as CR2	
L1	Coil, Radio Frequency, 120 uh, <u>+20%</u> , 20ma	CL275-121
L2	Same as L1	
L3	NOT USED	
L4	Same as L1	
thru		
L8		
L9	NOT USED	
L10	Same as L1	
Q1	Transistor	2N3646
Q2	Same as Q1	
Q3	Same as Q1	
Q4	Transistor	2N5179
Q5	Same as Q1	
thru Q10		
Q11	Same as Q4	
R1	Res, Fxd, Comp, 470 ohms, <u>+ 5%</u> , 1/2 watt	RC20GF471J
R2	Res, Fxd, Comp, 47 ohms, <u>+ 5%</u> , 1/4 watt	RC07GF470J
R3	Res, Fxd, Comp, 560 ohms, <u>+ 5%</u> , 1/4 watt	RC07GF561J
R4	Res, Fxd, Comp, 3900 ohms, <u>+5%</u> , 1/4 watt	RC07GF392J
R5	Res, Fxd, Comp, 22000 ohms, <u>+ 5%</u> , 1/4 watt	RC07GF223J

A4647

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R6	Res, Fxd, Comp, 1000 ohms, <u>+5%</u> , 1/4 watt	RC07GF102J
R7	Same as R2	
R8	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/4 watt	RJ07GF471J
R9	Res, Var, Comp, 500 ohms, <u>+30%</u> , 1/2 watt	RV124-2-501
R10	Same as R4	
R11	Same as R5	
R12	Same as R6	
R13	Same as R2	
R14	Same as R8	
R15	Same as R4	
R16	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R17	Same as R6	
R18	Res, Fxd, Comp, 22 ohms, <u>+5%</u> , 1/4 watt	RC07GF220J
R19	Same as R8	
R20	Res, Fxd, Comp, 47000 ohms, <u>+5%</u> , 1/4 watt	RC07GF473J
R21	Same as R1	
R22	Same as R3	
R23	Same as R2	
R24	Res, Fxd, Comp, 3300 ohms, <u>+5%</u> , 1/4 watt	RC07GF332J
R25	Same as R5	
R26	Same as R6	
R27	Res, Fxd, Comp, 10 ohms, <u>+5%</u> , 1/4 watt	RC07GF100J
R28	Same as R3	
R29	Res, Fxd, Comp, 5600 ohms, <u>+5%</u> , 1/4 watt	RC07GF562J

A4647

REF SYMBOL	DESCRIPTION	PART NUMBER
R30	Res, Fxd, Comp, 8800 ohms, $\pm 5\%$, 1/4 watt	RC0702880J
R31	Same as R6	
R32	Same as R8	
R33	Same as R29	
R34	Same as R16	
R35	Same as R6	
R36	Same as R6	
R37	Res, Fxd, Comp, 270 ohms, $\pm 5\%$, 1/4 watt	RC0702271J
R38	NOT USED	
R39	Res, Fxd, Comp, 68 ohms, $\pm 5\%$, 1/4 watt	RC0702680J
R40	Same as R37	
R41	Same as R37	
R42	Same as R5	
R43	Same as R4	
R44	Same as R6	
R45	Same as R2	
R46	Same as R6	
R47	Same as R6	
R48	Same as R4	
R49	Same as R5	
R50	Same as R6	
R51	Same as R2	
R52	Same as R8	
R53	Same as R4	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R54	Same as R16	
R55	Same as R6	
R56	Same as R18	
R57	Same as R8	
R58	Same as R20	
R59	NOT USED	
thru		
R62		
R63	Res, Fxd, Comp, 560000 ohms, <u>+5%</u> , 1/4 watt	RC07GF564J
R64	NOT USED	
thru		
R66		
R67	Same as R63	
R68	Res, Fxd, Comp, 1500 ohms, <u>+5%</u> , 1/4 watt	RC07GF152J
R69	Res, Fxd, Comp, 56 ohms, <u>+5%</u> , 1/4 watt	RC07GF560J
R70	Same as R27	
R71	Same as R27	
R72	Same as R8	
R73	Same as R8	
Z1	Oscillator, Oven	AO-125(*)
Z2	Oscillator, Oven	AO-125(*)
Z3	Mixer, Bal	NW163
Z4	Transformer, RF, Adjustable	TZ-223(**)
Z5	Transformer, RF, Adjustable	TZ-225(**)
Z6	Same as Z5	
Z7	Transformer, RF, Adjustable	TZ-226(**)
Z8	Same as Z4	
Z9	Same as Z5	
Z10	Same as Z5	
Z11	Same as Z7	
	* Oscillator Frequency	
	** Type determined by Oscillator Frequency	

RF OUTPUT A-4502 ✓

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Capacitor, Fixed, Plastic: 0.82 uf, ±5%, 60 WVDC	CN114R82-5J
C2	Capacitor, Fixed, Electrolytic, 20uf, 50 WVDC	CE105-20-50
C3	Capacitor, Fixed, Ceramic, 10000 uuf, +80-20%, 500 WVDC	CC100-16
C4	Same as C1	
C5 Thru C17	Same as C3	
C18	Capacitor, Fixed, Mica: 620 uuf, ±½%, 500 WVDC	CM111F621D5S
C19	Capacitor, Fixed, Electrolytic: 50 uf, 50 WVDC	CE105-50-50
C20	Capacitor, Fixed, Mica, 2200 uuf, ±2%, 500 WVDC	CM112F222G5S
C21 thru C30	Not used	
C31	Capacitor, Fixed, Electrolytic, 50 uf, 15 WVDC, or Same as C3	CE105-50-15
C32 thru C34 C35	Same as C3	
C36	Capacitor, Fixed, Ceramic: 1,000 uuf, 500 WVDC	CC100-29
C37	Same as C3	
C38	Same as C35	
C39	Same as C3	
C39	Capacitor, Fixed, Mica, 1100 uuf, ±½%, 500 WVDC	CM112F112G5S
CR1	Semiconductor Device, Diode	IN4864
CR2	Semiconductor Device, Diode	IN100
CR3	Same as CR2	
L1	Coil, Radio Frequency: 120 uh, ±10%	CL240-120

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REF SYMBOL	DESCRIPTION	TMC PART NUMBER
L2 thru L6	Same as L1	
L7	Coil, Radio Frequency, 3.90 uh, <u>+20%</u>	CL240-3R9
L8	Same as L1	
L9 thru L12	Not Used	
L13	Coil, Radio Frequency: fixed, 120 uh, <u>+10%</u>	CL275-121
L14	Same as L1	
L15 thru L22	Same as L13	
L23	Coil, Radio Frequency: fixed, 212 uh, <u>+10%</u> ,	CL275-2R2
L24	Coil, Radio Frequency, 5.60 uh, <u>+20%</u>	CL240-5R6
Q1	Transistor	2N5070
Q2	Transistor	2N3375
Q3	Transistor	2N3296
R1	Resistor, Variable, Composition: 10,000 ohms, <u>+30%</u> , 0.5 watts	RV124-1-103
R2	Same as R1	
R3	Resistor, Fixed, Composition: 22 ohms, <u>+5%</u> , $\frac{1}{2}$ watt	RC20GF220J
R4	Resistor, Variable, Composition: 5,000 ohms, <u>+30%</u> $\frac{1}{2}$ watt	RV124-1-502
R5	Resistor, Fixed, Composition: 5600 ohms, <u>+5%</u> , $\frac{1}{2}$ watt	RC20GF562J
R6	Resistor, Fixed, Composition: 3300 ohms, <u>5%</u> , $\frac{1}{2}$ watt	RC20GF332J
R7	Resistor, Fixed, Composition: 1000 ohms, <u>+5%</u> , 1 watt	RC32GF102J
R8	Same as R3	

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REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R9	Resistor, Fixed, Composition: 1000 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF102J
R10	Not Used	
R11	Resistor, Fixed, Composition: 47 ohms, $\pm 5\%$, $\frac{1}{4}$ watt	RC07GF470J
R12	Same as R9	
R13	Resistor, Fixed, Composition: 10 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF100J
R14	Resistor, Fixed, Composition, 100 ohms, $\pm 5\%$, 1/2 w	RC20GF101J
R15	Resistor, Fixed, Composition: 2200 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF222J
R16	Not used	
R17	Same as R9	
R18	Resistor, Fixed, Composition: 220 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF221J
R19	Resistor, Fixed, Composition: 47000 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF473J
R20	Same as R14	
R21	Resistor, Fixed, Composition: 43,000 ohms, $\pm 5\%$, $\frac{1}{2}$ watt	RC20GF433J
T1	Transformer, Radio Frequency: fixed,	TZ220
T2	Transformer, Radio Frequency: fixed,	TZ219

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C301	Cap, Fxd, Cer, 100000 uuf, +80-20%, 300 WVDC	CC100-37
C302	Cap, Fxd, 100 mfd, 200 WVDC	CN112A-105M2
C303	Cap, Fxd, Elec, 150 mfd, 75 WVDC	CE105-150
C304	Cap, Fxd, Mtlz, 47 mfd, $\pm 5\%$, 400 WVDC	CN114R47-5J
C305	Same as C301	
C306	Same as C301	
C307	NOT USED	
C308	Same as C301	
C309	Cap, Fxd, Elec, 50 mfd, 50 WVDC	CE105-50-50
CR301	Scond, Dev, Dio	1N2484
CR302	Same as CR301	
J301	Conn, Recp, ML, 14 contacts, 20 AWG.	JJ242-5P
J302	Conn, Recp, RF, 48 ohms, 500 WVDC, male contact (one contact)	JJ211
J303	Conn, Recp, Fml, 12 double contacts	JJ319-6DPE
J304	Same as J303	
J305	Same as J302	
J306	Conn, Recp, Fml, 14 contacts, 20 awg	JJ242-5S
L301	Coil, RF, Fxd, 120 uh, 311 ma	CL275-121
P301	Conn, Pl, Fml, 5 contacts,	PL225-8S
R301	Res, Fxd, Comp, 47 ohms, $\pm 5\%$, 1/2 watt	RC20GF470J
R302	Res, Fxd, WW-5W, 15 ohms, 577 ma	RW107-10
T301	XFMR, SD, 115/230 VAC, 50/60 Hz	TF0352
XZ301 and XZ302	Soc, Elec, Tube, 1250 WVDC, 3 amps, 8 contacts	TS100-3
Z301	1 MHz Standard	NF116-1
Z302	Ovenized Oscillator	AO-121
Z303	PC, Bd, B	A-4513
Z304	PC, Bd, A	A-4512

PC BD A POWER SUPPLY A-4512 ✓

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Capacitor, Fixed, Electrolytic, 150 mfd, 75 WVDC	CE105-150-75
C2	Capacitor, Fixed, Electrolytic, 200 mfd, 50 WVDC	CE105-200-50
C3	Same as C2	
C4	Same as C1	
CR1	Rectifier, Semiconductor, Device	DD144-6

PC BD B POWER SUPPLY A-4513 ✓

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Capacitor, Fixed Electrolytic, 25 mfd, +50-15%, 50 WVDC	CE107-6
C2	Same as C1	
C3	Same as C1	
C4	Same as C1	
C5	Same as C1	
CR1	Semiconductor, Device Diode	1N100
CR2	Same as CR1	
CR3	Semiconductor, Device, Diode	1N4619
CR4	Semiconductor, Device, Diode	1N753A
CR5	Same as CR3	
CR6	Semiconductor, Device, Diode	1N972B
CR7	Same as CR4	
Q1	Transistor	2N1481
Q2	Same as Q1	
Q3	Same as Q1	
Q4	Transistor	2N3638
Q5	Same as Q1	
Q6	Same as Q4	
Q7	Same as Q1	
R1	Resistor, Fixed, Composition, 470 ohms, ±5%, ¼ watt	RC07GF471J
R2	Resistor, Fixed, Composition, 1000 ohms, ±5%, ¼ watt	RC07GF102J
R3	Resistor, Variable, Composition, 1000 ohms, ±30%, ½ watt	RV124-1-102
R4	Same as R2	
R5	Same as R2	

PC BD B POWER SUPPLY A-4513

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R6	Resistor, Fixed, Composition, 10000 ohms, ±5%, ¼watt	RC07GF103J
R7	Same as R2	
R8	Same as R3	
R9	Resistor, Fixed, Composition, 4700 ohms, ±5%, ¼watt	RC07GF472J
R10	Resistor, Fixed, Composition, 1500 ohms, ±5%, ¼watt	RC07GF152J
R11	Resistor, Fixed, Wirewound, 1 ohms, ±2%, 5 watt	RR114-1.0W
R12	Same as R3	
R13	Resistor, Fixed, Composition, 6800 ohms, ±5%, ¼watt	RC07GF682J
R14	Same as R2	
R15	NOT USED	
R16	Same as R9	
R17	Resistor, Fixed, Composition, 150 ohms, ±5%, ¼watt	RC07GF151J
R18	Resistor, Variable, Composition, 10000 ohms, ±30%, ½ watt	RV124-1-103
R19	Same as R17	

A4707 ✓

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Cap, Disc, Cer, 100000 uuf, +80-20%, 25 WVDC	CC100-44
C2	Cap, Fxd, Mica, 22 uuf, <u>+5%</u> , 500 WVDC	CM111C220J5S
C3	Cap, Disc, Cer, 10000 uuf, <u>+20%</u> , 50 WVDC	CC100-42
C4	Cap, Elec, 10 mfd, +75-15%, 25 WVDC	CE122-10-25
C5	Same as C3	
C6	Same as C4	
C7	Cap, Fxd, Elec, 6.8 mfd, 25 WVDC	CE122-6R8-25
C8	Same as C3	
C9	Same as C4	
C10	Same as C7	
C11	Same as C4	
C12	Cap, Fxd, Elec, 22 mfd, 16 WVDC	CE122-22-16
C13	Same as C7	
thru		
C14		
C15	Same as C1	
C16	NOT USED	
C17	Same as C1	
C18	Same as C12	
C19	NOT USED	
C20	NOT USED	
C21	Same as C1	
and		
C22		
C23	Same as C1	
C24	Same as C1	
C25	Same as C1	
thru		
C27		
C28	Cap, Fxd, Mica, 3900 uuf, <u>+2%</u> , 300 WVDC	CM112F392G3S

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C29 thru C32	Same as C1	
C33	Same as C28	
C34 thru C36	Same as C1	
C37	Cap, Var, Cer, 9-35 uuf, 100 WVDC	CV112-8
C38	Same as C7	
C39	Same as C12	
C40	Same as C1	
C41	Cap, Disc, Cer, 100000 uuf, +80-20%, 100 WVDC	CC100-28
C42	Same as C41	
C43	Same as C1	
C44	Same as C1	
C45	Same as C12	
C46 thru C48	Same as C1	
C49	Same as C41	
C50	Same as C1	
C51	Same as C1	
C52	Cap, Fxd, Mica, 10000 uuf, <u>+5%</u> , 100 WVDC	CM112F103J1S
C53 and C54	Same as C41	
C55 and C56	Same as C1	

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C57	Same as C41	
C58	Same as C1	
C59	Same as C41	
C60	Same as C41	
C61	Same as C7	
C62	Same as C7	
C63 and C64	Same as C12	
C65	Same as C7	
C66	Same as C12	
C67	Cap, Fxd, Mica, 300 uuf, <u>+5%</u> , 500 WVDC	CML11F301J5S
C68	Same as C7	
C69	Cap, Fxd, Elec, 6.8 mfd, 35 WVDC	CE122-6R8-35
C70	Same as C69	
C71	Same as C4	
C72	Same as C7	
C73	Same as C7	
C74	Same as C41	
C75	Same as C41	
C76	Same as C12	
C77	Same as C3	
C78	NOT USED	
C79	NOT USED	
C80	Same as C7	
C81	Same as C7	
CR1	Diode, Silicon	1N914
CR2	Same as CR1	
CR3	Same as CR1	
CR4	Diode, Ref, Silicon	1N961

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
CR5 and CR6	Same as CR1	
CR7	Diode,	1N4245
K1	Relay, Armature, Min	RL143-4
L1 thru L3	Coil, 1000 uh, $\pm 10\%$, 135 ma	CL275-102
L4	NOT USED	
L5 thru L10	Same as L1	
L11	NOT USED	
L12 thru L17	Same as L1	
Q1 thru Q7	Transistor, Silicon	2N3646
Q8	Transistor, GE	2N1225
Q9 and Q10	Transistor, Silicon	2N863
Q11	Same as Q8	
Q12	Same as Q8	
Q13	Same as Q9	
Q14 thru Q16	Same as Q9	
Q17 and Q18	Same as Q1	
Q19	Same as Q8	
Q20	Same as Q1	

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
Q21 thru Q26	Same as Q1	
Q27	Transistor	2N696
Q28	Same as Q1	
Q29	Same as Q1	
R1	Res, Fxd, Comp, 1200 ohms, <u>+5%</u> , 1/4 watt	RC07GF122J
R2	Res, Fxd, Comp, 47000 ohms, <u>+5%</u> , 1/4 watt	RC07GF473J
R3	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R4	Res, Fxd, Comp, 56000 ohms, <u>+5%</u> , 1/4 watt	RC07GF563J
R5	Res, Fxd, Comp, 100000 ohms, <u>+5%</u> , 1/4 watt	RC07GF104J
R6	Same as R4	
R7	Res, Fxd, Comp, 470000 ohms, <u>+5%</u> , 1/4 watt	RC07GF474J
R8	Res, Var, 5000 ohms, <u>+5%</u>	RV124-1-502
R9	Same as R3	
R10	Res, Fxd, Comp, 22000 ohms, <u>+5%</u> , 1/4 watt	RC07GF223J
R11	Res, Fxd, Comp, 1500 ohms, <u>+5%</u> , 1/4 watt	RC07GF152J
R12	Res, Fxd, Comp, 100 ohms, <u>+5%</u> , 1/4 watt	RC07GF101J
R13	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/4 watt	RC07GF471J
R14	Same as R10	
R15	Same as R3	
R16	Same as R13	
R17	Same as R12	
R18	Same as R11	
R19	Same as R2	

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R20	Res, Fxd, Comp, 1500 ohms, $\pm 5\%$, 1/4 watt	RC07GF153J
R21	Res, Fxd, Comp, 1000 ohms, $\pm 5\%$, 1/4 watt	RC07GF102J
R22	Res, Fxd, Comp, 5600 ohms, $\pm 5\%$, 1/4 watt	RC07GF562J
R23	Same as R22	
R24	Res, Fxd, Comp, 270 ohms, $\pm 5\%$, 1/4 watt	RC07GF271J
R25	Res, Fxd, Comp, 47 ohms, $\pm 5\%$, 1/4 watt	RC07GF470J
R26	Res, Fxd, Comp, 330 ohms, $\pm 5\%$, 1/4 watt	RC07GF331J
R27	Same as R21	
R28	Same as R21	
R29	Res, Fxd, Comp, 22 ohms, $\pm 5\%$, 1/4 watt	RC07GF220J
R30	Res, Fxd, Comp, 3300 ohms, $\pm 5\%$, 1/4 watt	RC07GF332J
R31	Same as R24	
R32	Same as R24	
R33	Same as R30	
R34	Same as R29	
R35	Same as R21	
R36	Same as R30	
R37	Same as R3	
R38	Same as R3	
R39	Res, Fxd, Comp, 680 ohms, $\pm 5\%$, 1/4 watt	RC07GF681J
R40	Res, Fxd, Comp, 8200 ohms, $\pm 5\%$, 1/4 watt	RC07GF822J
R41	Res, Fxd, Comp, 390 ohms, $\pm 5\%$, 1/4 watt	RC07GF391J
R42	Same as R30	
R43	Same as R25	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R44	Same as R5	
R45	Res, Fxd, Comp, 330000 ohms, <u>+5%</u> , 1/4 watt	RC07GF334J
R46	Same as R22	
R47	Same as R12	
R48	Res, Fxd, Comp, 6800 ohms, <u>+5%</u> , 1/4 watt	RC07GF682J
R49	Same as R3	
R50	Same as R48	
R51	Same as R21	
R52	NOT USED	
R53	Res, Fxd, Comp, 2200 ohms, <u>+5%</u> , 1/4 watt	RC07GF222J
R54	Same as R25	
R55	Res, Fxd, Comp, 4700 ohms, <u>+5%</u> , 1/4 watt	RC07GF472J
R56	Same as R8	
R57	Same as R53	
R58	Same as R12	
R59	Same as R25	
R60	Res, Fxd, Comp, 820 ohms, <u>+5%</u> , 1/4 watt	RC07GF821J
R61	Res, Fxd, Comp, 150000 ohms, <u>+5%</u> , 1/4 watt	RC07GF154J
R62	Same as R53	
R63	Same as R3	
R64	Res, Fxd, Comp, 180 ohms, <u>+5%</u> , 1/4 watt	RC07GF181J
R65	Same as R29	
R66	Same as R21	
R67	Same as R53	

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R68	Same as R22	
R69	Same as R22	
R70	Same as R1	
R71	Same as R11	
R72	Same as R21	
R73	Same as R22	
R74	Same as R10	
R75	Same as R40	
R76	Same as R25	
R77	Same as R20	
R78	Res, Fxd, Comp, 3900 ohms, <u>+5%</u> , 1/4 watt	RC07GF392J
R79	Same as R21	
R80	Res, Fxd, Comp, 10 ohms, <u>+5%</u> , 1/4 watt	RC07GF100J
R81	Same as R13	
R82	Same as R22	
R83	Same as R10	
R84	Same as R21	
R85	Same as R24	
R86	Same as R12	
R87	Res, Fxd, Comp. 220000 ohms, <u>+5%</u> , 1/4 watt	RC07GF224J
R88	Same as R53	
R89	Same as R78	

A4707

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R90	Same as R20	
R91	Same as R21	
R92	Res, Fxd, Comp, 56 ohms, $\pm 5\%$, 1/4 watt	RC07GF560J
R93	Same as R21	
R94	Same as R1	
R95	Same as R64	
T1	Transformer, Audio, Matching	TF359
T2	Transformer, RF, Tuned	TT285-11
T3	Same as T2	
T4	Transformer, RF Tuned	TT286-7
Y1	Crystal, Quartz	CR109-147
Z1	BAL. MOD.	NW163
Z2*	Filter, Bandpass; 250 kHz, Upper Sideband	FX195-4
	Filter, Bandpass; 250 kHz, Lower Sideband	FX195-5
	<p>* - Particular filter supplied depends upon option specified. A4707 plus FX195-4 becomes A4707-1, which is the Upper Sideband option; A4707 plus FX195-5 becomes A4707-2, or the Lower Sideband option. When ISB option is specified, two A4707 boards are supplied; one containing FX195-4, and the other containing FX195-5, thus providing both A4707-1 and A4707-2, to permit operation on either or both sidebands independently and simultaneously.</p>	

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1	Cap, Fxd, Elec, 125 ufd, 15 WVDC	CE105-125-15
C2	Cap, Fxd, Elec, 10 ufd, 25 WVDC	CE105-10-25
C3	Cap, Fxd, Cer, 100000 PF, +80-20%, 25 WVDC	CC100-44
C4	Cap, Fxd, Elec, 25 ufd, 25 WVDC	CE105-25-25
C5	Cap, Fxd, Cer, 10,000 uuf, +80-20%	CC100-41
C6	Cap, Fxd, Elec, 10 ufd, 25 WVDC	CE105-10-25
C7	Cap, Fxd, Elec, 40 ufd, 15 WVDC	CE105-40-15
C8	Same as C3	
C9	Cap, Fxd, Elec, 100 ufd, 15 WVDC	CE105-100-15
C10	Cap, Fxd, Mica, 3900 PF, $\pm 1\%$, 300 WVDC	CM112F392G3
C11	Same as C3	
C12	Cap, Fxd, Cer, 200000 uuf, +80-20%, 25 WVDC	CC100-33
L1	Coil RF, 330 uh, $\pm 10\%$, 215 ma.	CL275-331
L2	Coil RF, 220 uh, $\pm 10\%$, 250 ma.	CL275-221
L3	coil RF, 1000 uh, $\pm 10\%$, 135 ma.	CL275-102
R1	Res, Fxd, Comp, 3300 ohms, $\pm 5\%$, 1/4 watt	RC07GF332J
R2	Res, Fxd, Comp, 10000 ohms, $\pm 5\%$, 1/4 watt	RC07GF103J
R3	Res, Fxd, Comp, 1500 ohms, $\pm 5\%$, 1/4 watt	RC07GF152J
R4	Res, Fxd, Comp, 18 ohms, $\pm 5\%$, 1/4 watt	RC07GF180J
R5	Res, Fxd, Comp, 470 ohms, $\pm 5\%$, 1/4 watt	RC07GF471J
R6	Res, Fxd, Comp, 270 ohms, $\pm 5\%$, 1/4 watt	RC07GF271J
R7	Res, Fxd, Comp, 1000 ohms, $\pm 5\%$, 1/4 watt	RC07GF102J
R8	Same as R5	
R9	Same as R2	

A4718

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R10	Res, Fxd, Comp, 47000 ohms, $\pm 5\%$, 1/4 watt	RC07GF473J
R11	Res, Fxd, Comp, 100 ohms, $\pm 5\%$, 1/4 watt	RC07GF101J
R12	Same as R5	
R13	Res, Fxd, Comp, 47 ohms, $\pm 5\%$, 1/4 watt	RC07GF470J
R14	Same as R5	
R15	Res, Var, Comp, 100 ohms, ± 30 , 1/2 watt	RV124-1-101
T1	Transformer RF Tuned	TT285-15
Q1	Transistor,	2N3646
Q2	Same as Q1	
Q3	Same as Q1	

A4905

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1 thru C4	Cap, Disk, Cer, 10000 uuf, +80%-20%	CC100-41
C5	Cap, Disk, Cer, 20000 uuf, +80%-20%, 25 WVDC	CC100-40
C6	Same as C1	
C7	Cap, Mica, Fxd, 5 uuf, <u>+10%</u> , 500 WVDC	CM111C050K5S
C8	Same as C5	
C9	Same as C1	
C10	Same as C1	
C11	Cap, Disk, Cer, 200000 uuf, +80%-20%, 25 WVDC	CC100-33
C12	NOT USED	
C13	Cap, Disk, Cer, 1000 uuf, +80%-20%,	CC100-29
C14	Same as C13	
C15	Cap, Mica, Fxd, 100000 uuf, +80%-20%, 25 WVDC	CC100-44
C16	Same as C13	
CR1	Semiconductor, Diode	1N914
CR2	Same as CR1	
CR3	Semiconductor, Diode, Silicon	1N34A
CR4 thru CR6	Same as CR3	
CR7 and CR8	Semiconductor, Diode, Silicon	1N755A
CR9 thru CR13	Semiconductor, Diode, Silicon	1N627
CR14	Semiconductor, Diode, Silicon	1N752A

A4905

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
L1	Coil, 1000 UH, <u>+10%</u> , 135 MA	CL275-102
L2	Coil, 220 UH, <u>+10%</u> , 250 MA	CL275-221
Q1 and Q2	Transistor, Silicon	2N3646
Q3	Transistor, Silicon	2N1711
Q4 thru Q8	Transistor, Silicon	2N696
Q9	Same as Q3	
R1	Res, Fxd, Comp, 6800 ohms, <u>+5%</u> , 1/4 watt	RC07GF682J
R2	Res, Fxd, Comp, 2200 ohms, <u>+5%</u> , 1/4 watt	RC07GF222J
R3	Res, Fxd, Comp, 470 ohms, <u>+5%</u> , 1/4 watt	RC07GF471J
R4	Res, Fxd, Comp, 1500 ohms, <u>+5%</u> , 1/4 watt	RC07GF152J
R5	Res, Fxd, Comp, 1000 ohms, <u>+5%</u> , 1/4 watt	RC07GF102J
R6	Res, Fxd, Comp, 10000 ohms, <u>+5%</u> , 1/4 watt	RC07GF103J
R7	Same as R2	
R8	Same as R5	
R9	Res, Fxd, Comp, 4700 ohms, <u>+5%</u> , 1/4 watt	RC07GF472J
R10	Res, Fxd, Comp, 22000 ohms, <u>+5%</u> , 1/4 watt	RC07GF223J
R11	Same as R6	
R12	Same as R10	
R13	Same as R10	
R14	Same as R3	
R15	Same as R9	
R16	Res, Var, 1000 ohms, <u>+30%</u>	RV124-1-102

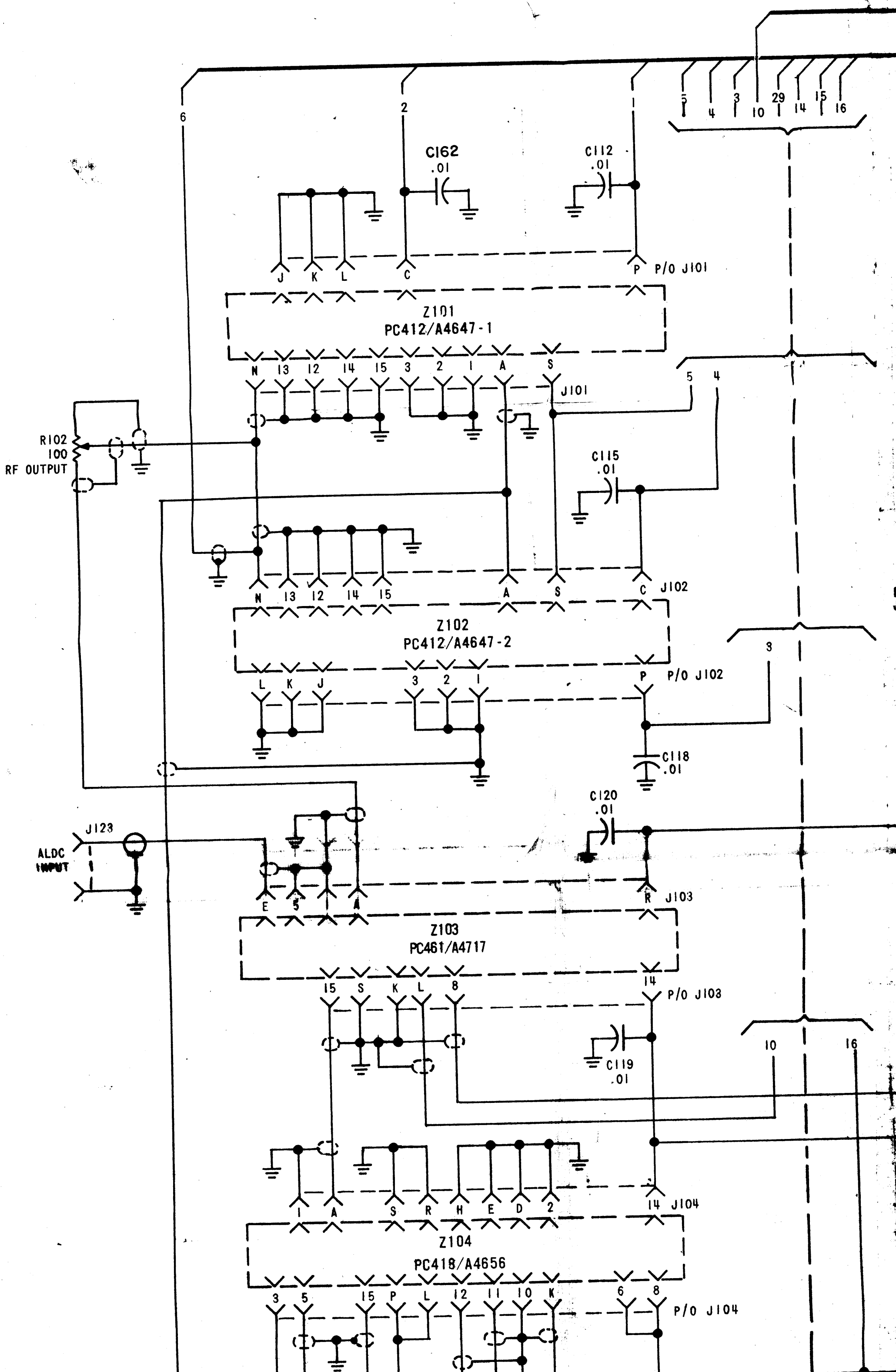
A-4905

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R17 thru R20	Res, Fxd, Comp, 47000 ohms, <u>+5%</u> , 1/4 watt	RC07GF473J
R21	Same as R1	
R22	Same as R1	
R23	Res, Var, 10000 ohms, <u>+5%</u> ,	RV119-2-103D
R24	Same as R17	
R25	Same as R23	
R26	Same as R6	
R27	Res, Fxd, Comp, 220 ohms, <u>+5%</u> , 1/4 watt	RC07GF221J
R28	Same as R1	
R29	Same as R23	
R30	Same as R6	
R31	Res, Fxd, Comp, 100000 ohms, <u>+5%</u> , 1/4 watt	RC07GF104J
R32	Same as R6	
R33	Res, Fxd, Comp, 330 ohms, <u>+5%</u> , 1/4 watt	RC07GF331J
R34	Same as R5	
T1	Transformer, 795 KHz, "Q" 710, "L" <u>+20%</u> , 250 UH	TZ216
T2	Transformer, 795 Kc/S, "Q" 710, "L" <u>+20%</u> , 250 UH	TZ218
Z1	Network Int., Ckt., 3.0 WVDC, <u>+10%</u>	NW137

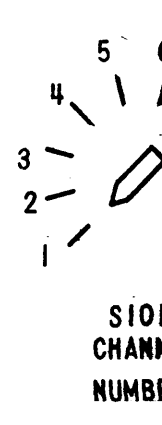
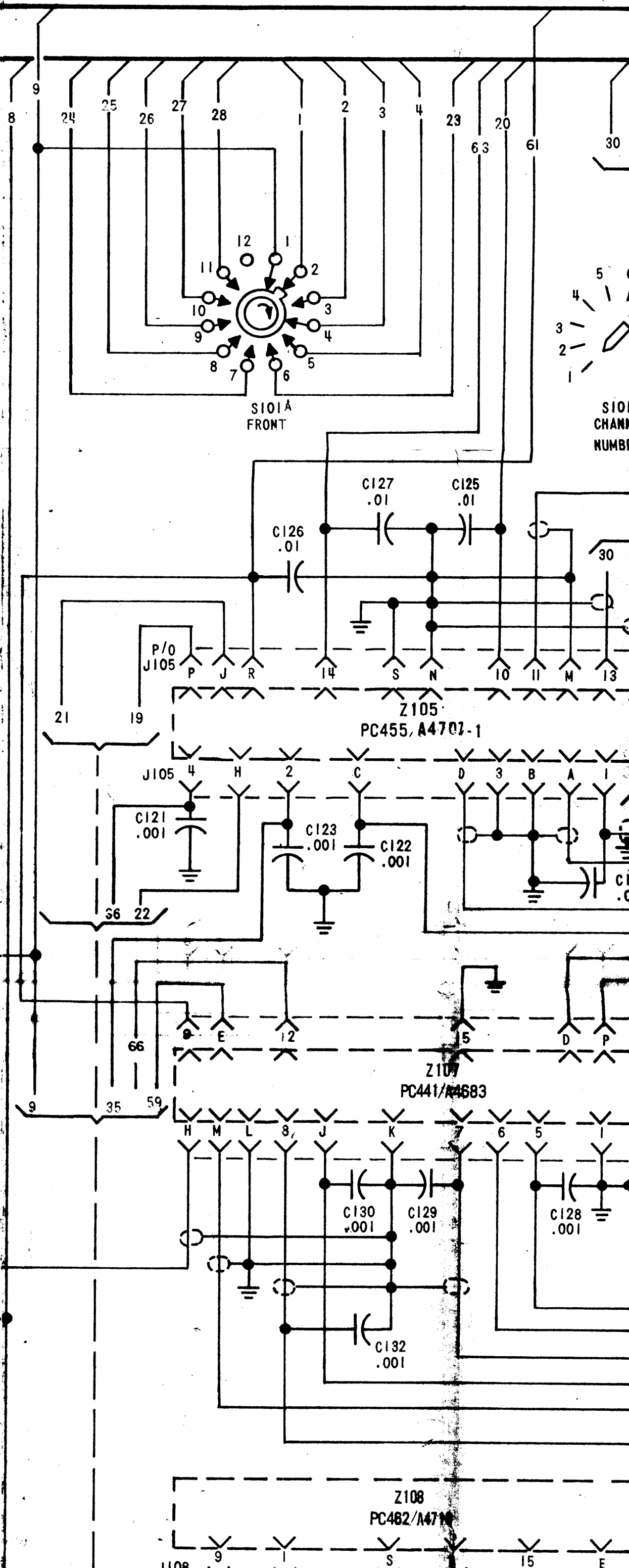
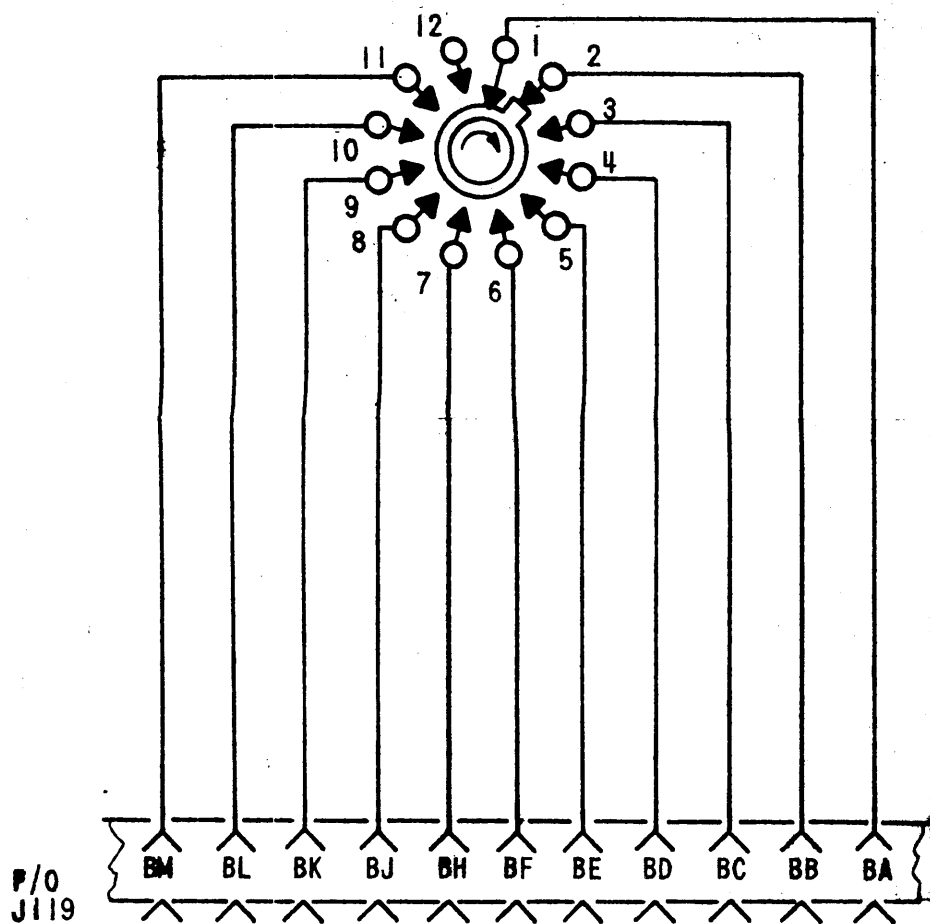
REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C1 thru C16	NOT USED	
C17	Cap, Disk, Cer, 10000 uuf, +80%-20%	CC100-41
C18	Cap, Fxd, Mica, 110 uuf, <u>+2%</u> , 500 WVDC	CM111F111G5S
C19	Same as C17	
C20	Cap, Var, 8-50 uuf, 350 WVDC	CV109-9
C21	Cap, Fxd, Mica, 220 uuf, <u>+5%</u> , 500 WVDC	CM111F221G5S
C22	Same as C17	
C23	Same as C17	
C24	Cap, Fxd, Cer, 1000 uuf, +80%-20%	CC100-29
C25	Same as C24	
C26	Same as C17	
C27	Cap, Fxd, Mica, 100 uuf, <u>+2%</u> , 500 WVDC	CM111F101G5S
C28	Cap, Fxd, Mica, 200 uuf, <u>+2%</u> , 500 WVDC	CM111F201G5S
C29	Same as C27	
CR1	NOT USED	
thru		
CR14		
CR15	Diode, Semiconductor, Device	1N961B
L1	NOT USED	
L2	NOT USED	
L3	Coil, RF, 220 uh, <u>+10%</u> , 250 ma	CL275-221
L4	Same as L3	
Q1	NOT USED	
thru		
Q9		
Q10	Transistor, Silicon	2N3646
thru		
Q12		
R1	NOT USED	
thru		
R34		

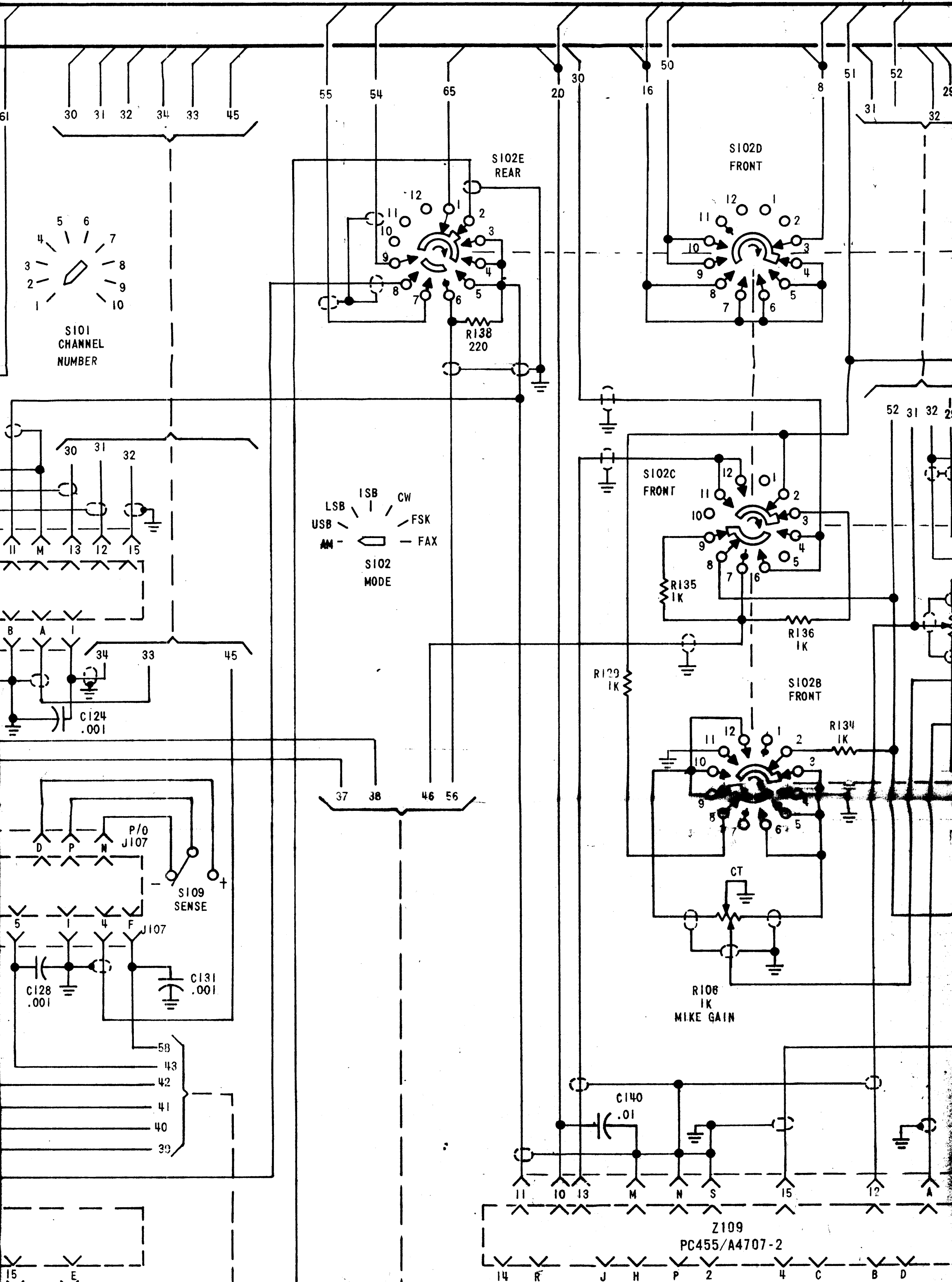
A4906

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R35	Res, Fxd, Comp, 100 ohms, $\pm 5\%$, 1/4 watt	RC07GF102J
R36	Res, Fxd, Comp, 2200 ohms, $\pm 5\%$, 1/4 watt	RC07GF222J
R37	Res, Fxd, Comp, 68000 ohms, $\pm 5\%$, 1/4 watt	RC07GF683J
R38	Res, Fxd, Comp, 18000 ohms, $\pm 5\%$, 1/4 watt	RC07GF183J
R39	Res, Fxd, Comp, 3300 ohms, $\pm 5\%$, 1/4 watt	RC07GF332J
R40	Same as R35	
R41	Same as R35	
R42	Res, Fxd, Comp, 1500 ohms, $\pm 5\%$, 1/4 watt	RC07GF152J
R43	Res, Fxd, Comp, 22000 ohms, $\pm 5\%$, 1/4 watt	RC07GF223J
R44	Res, Fxd, Comp, 4700 ohms, $\pm 5\%$, 1/4 watt	RC07GF472J
R45	Same as R42	
R46	Same as R35	
Y1	Crystal, Quartz	CR18/AU- 4.416667 MHz



S101B
FRONT
CHANNEL SELECTOR





S101
CHANNEL
NUMBER

LSB
USB
AM
ISB
CW
FSK
FAX
S102
MODE

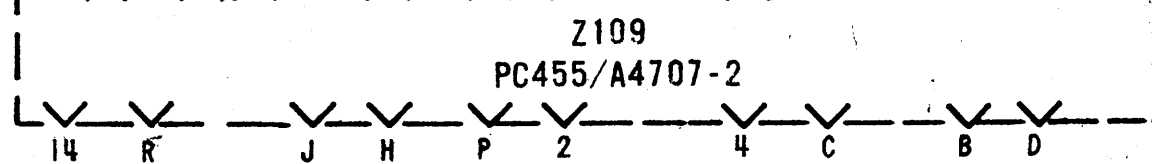
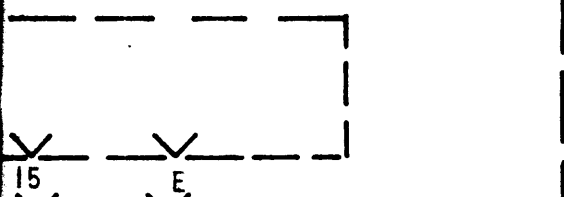
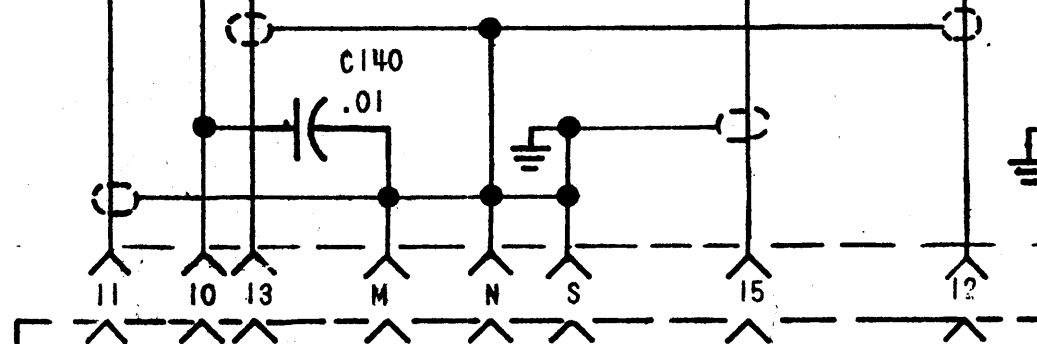
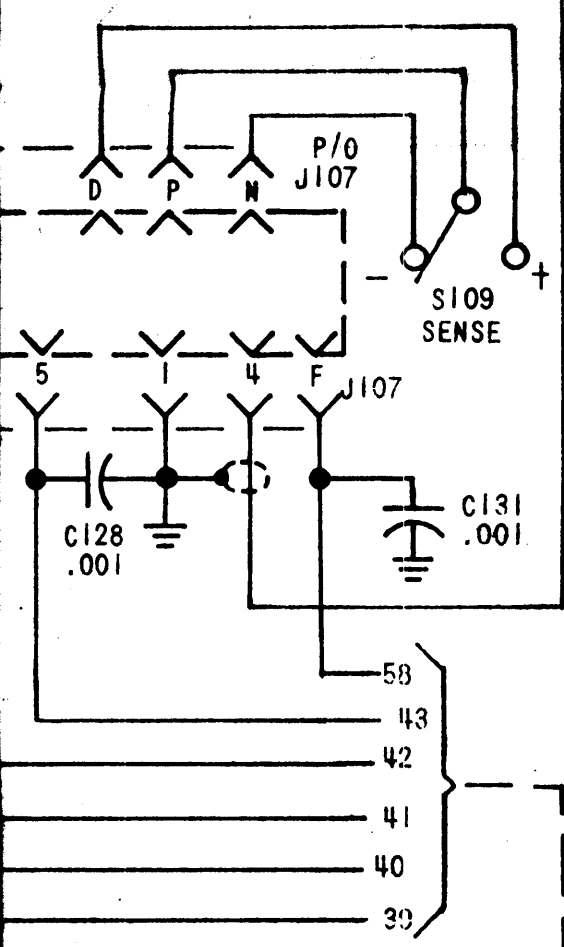
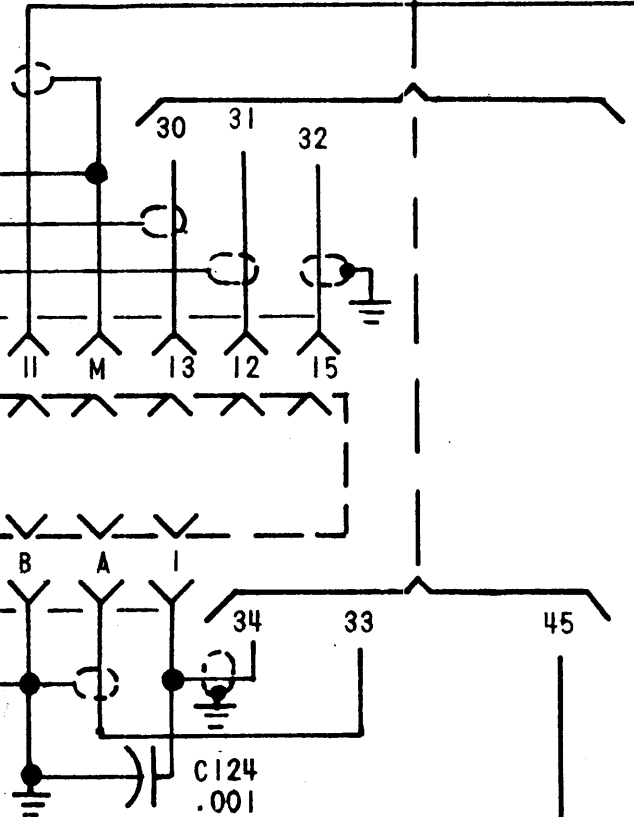
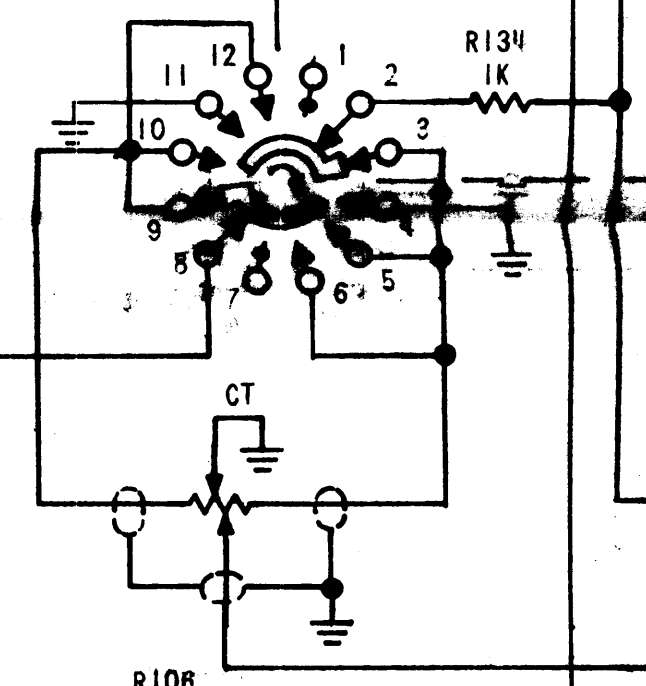
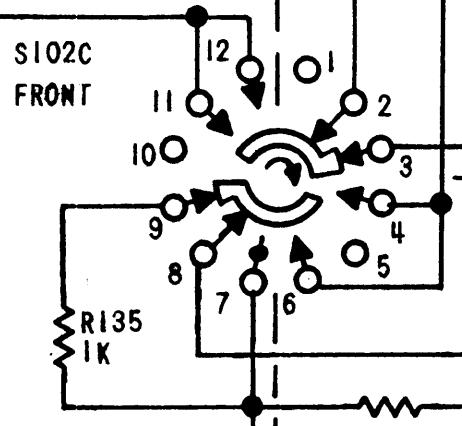
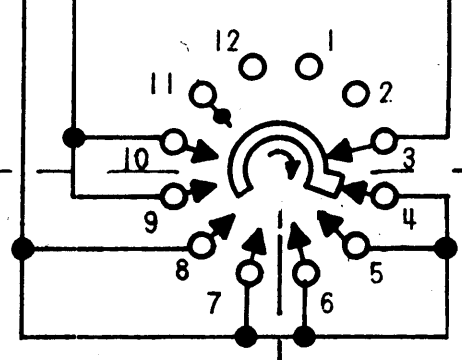
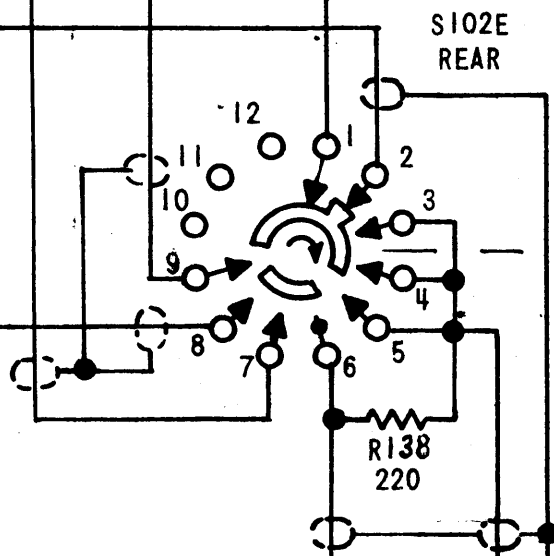
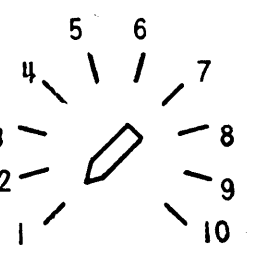
S102D
FRONT

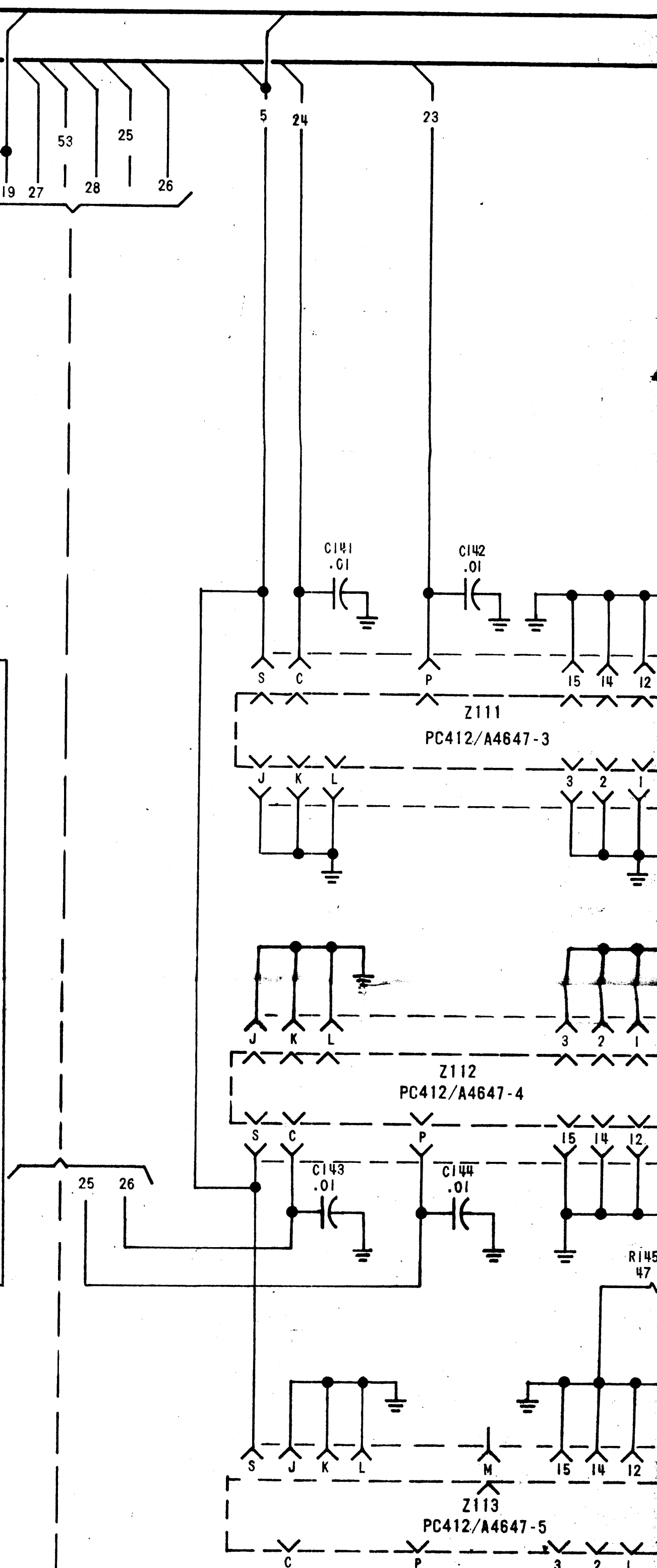
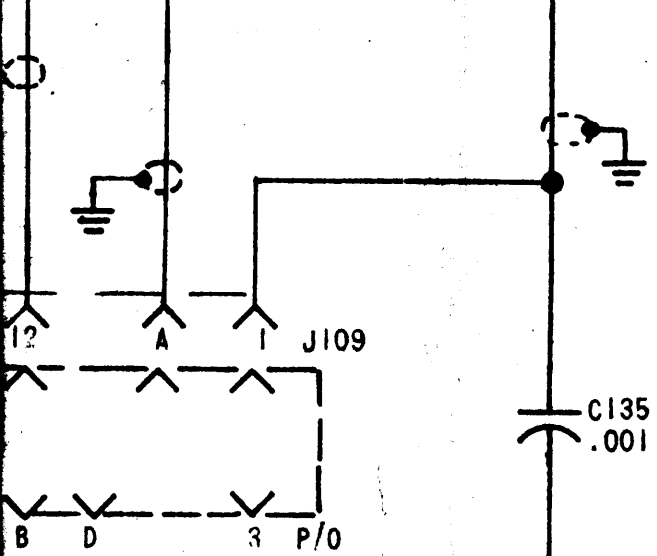
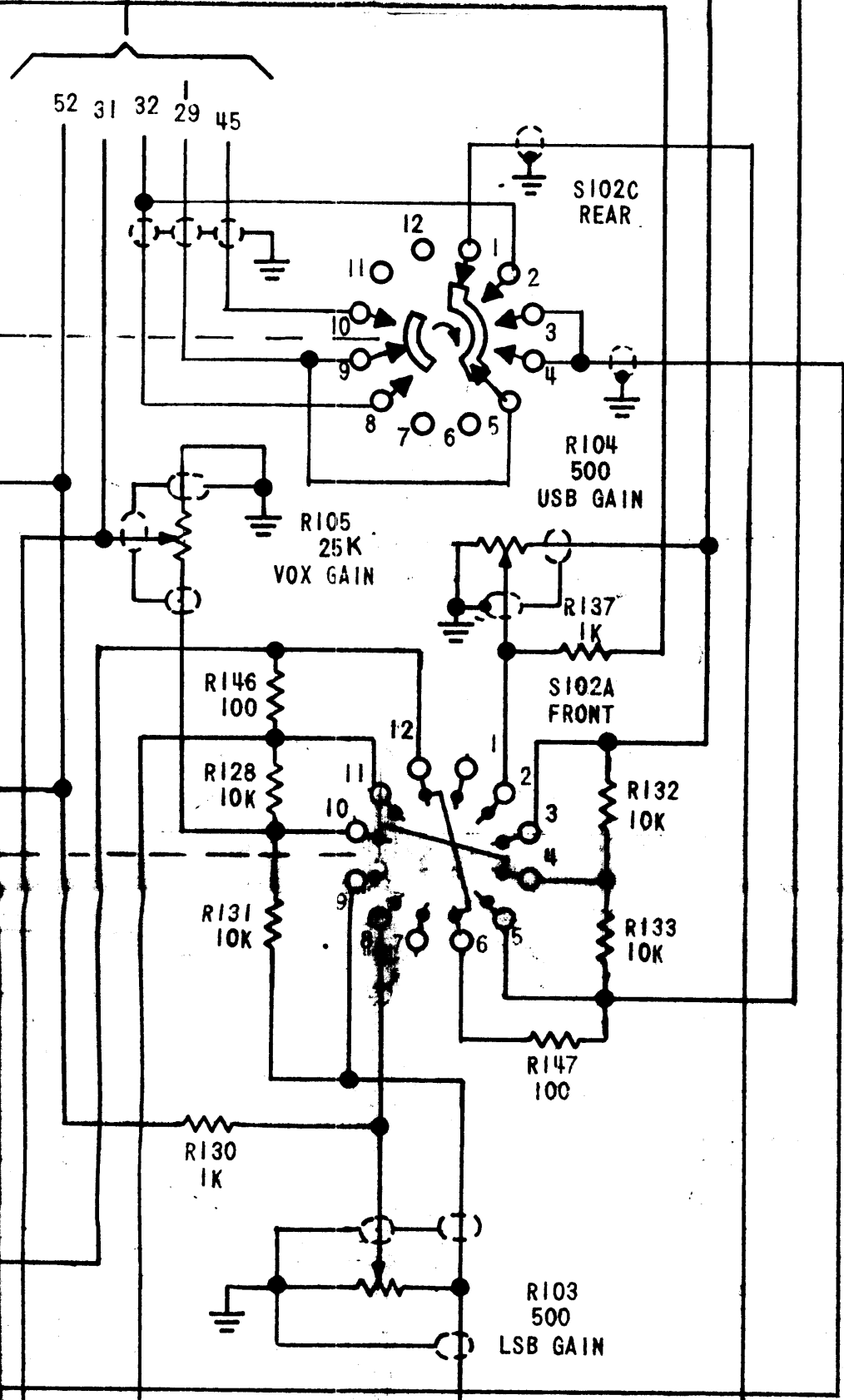
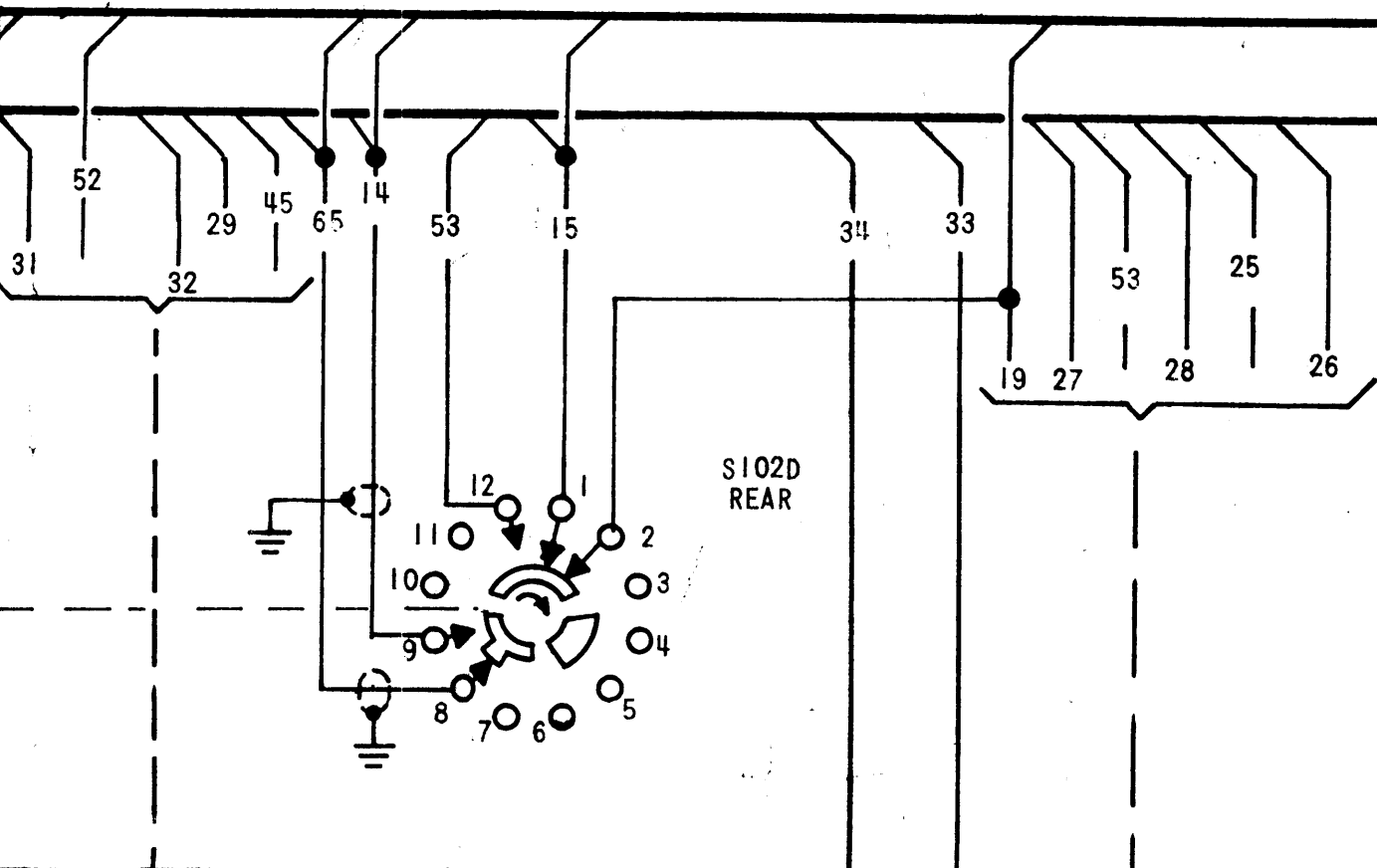
S102C
FRONT

S102B
FRONT

R108
1K
MIKE GAIN

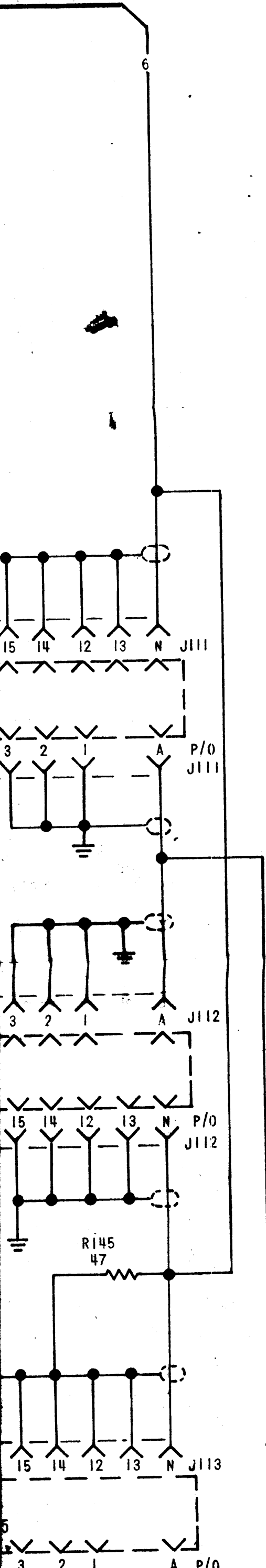
Z109
PC455/A4707-2





TO
SHEET
2

EXPERIMENTAL DATA	
XI	REVISED & UPDATED
Ø	ORIGINAL RELEASE FOR PRODUCTION
A	REVISED & UPDATED
B	C16Z WAS C110 (DUPLICATION)



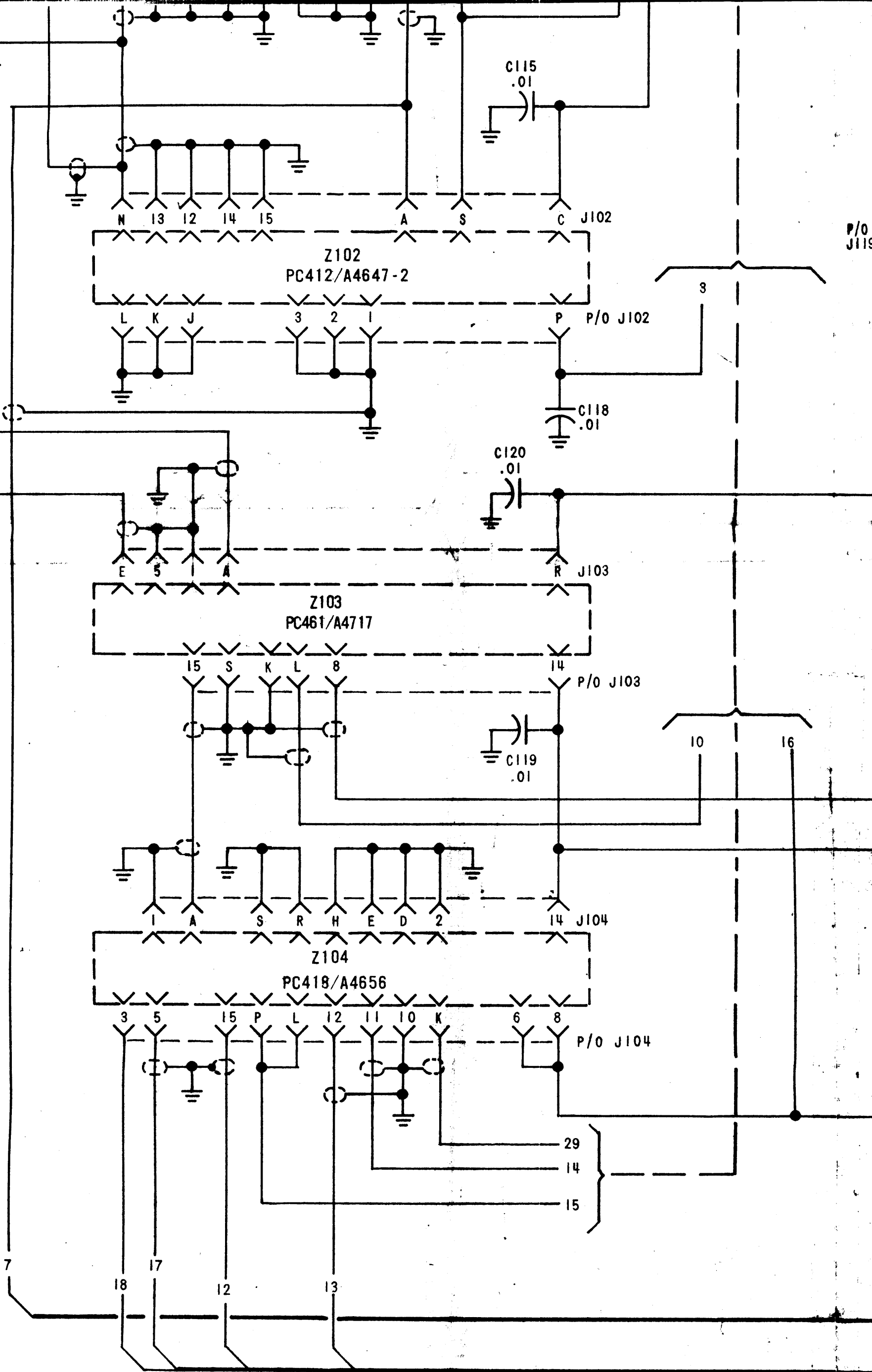
TO
SHEET
2

EXPERIMENT RELEASE						
XI	REVISED & UPDATED	12/10/68		KH		
D	ORIGINAL RELEASE FOR PRODUCTION	12/7/6		RG		KG
A	REVISED & UPDATED	8-4-69	19526	KD	LL	UBP
B	C16Z WAS C110 (DUPLICATION)	9/2/72	20889	GE	EJ	EJ

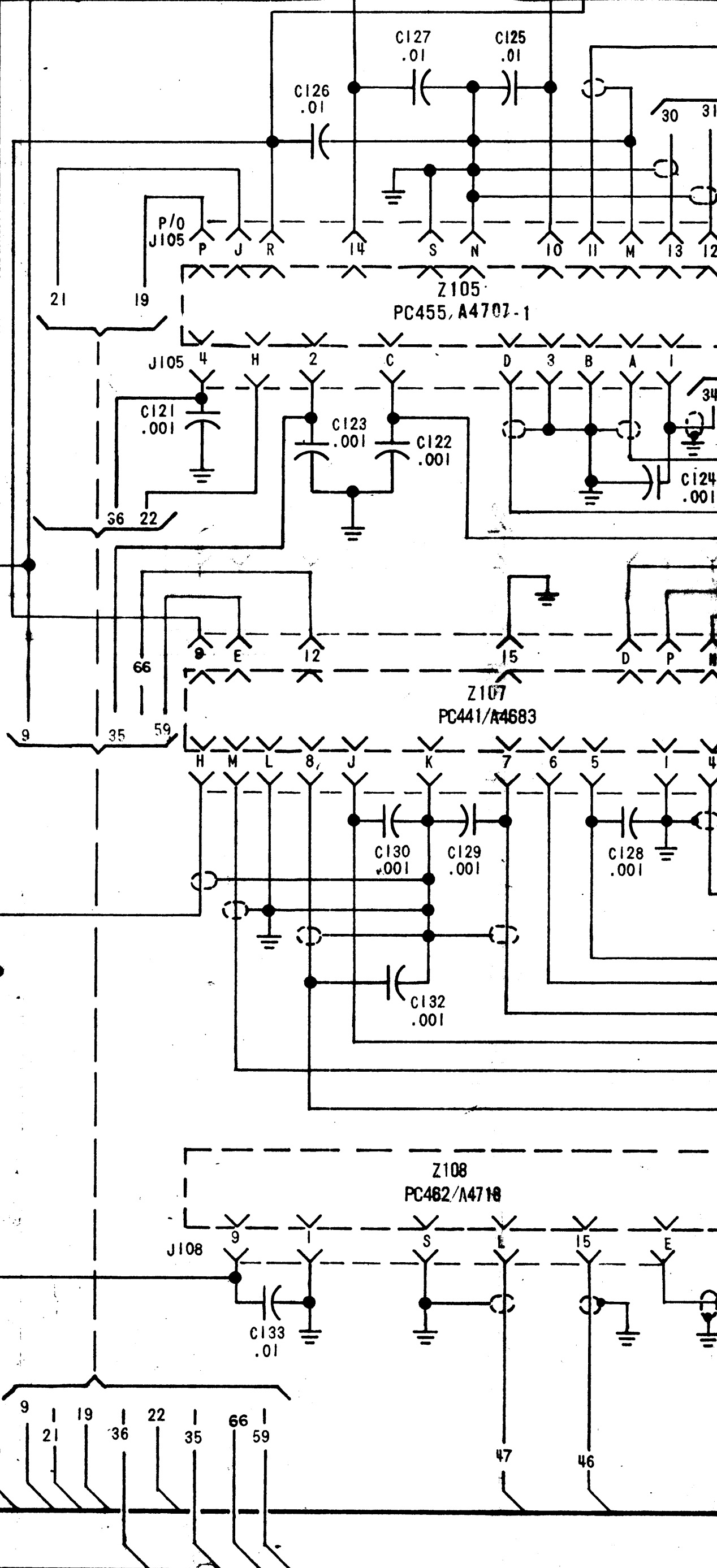
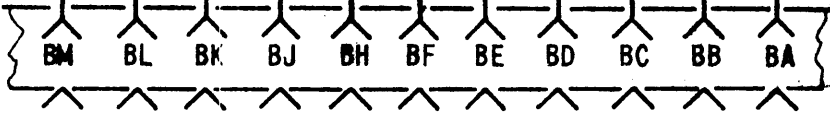
R102
100
RF OUTPUT

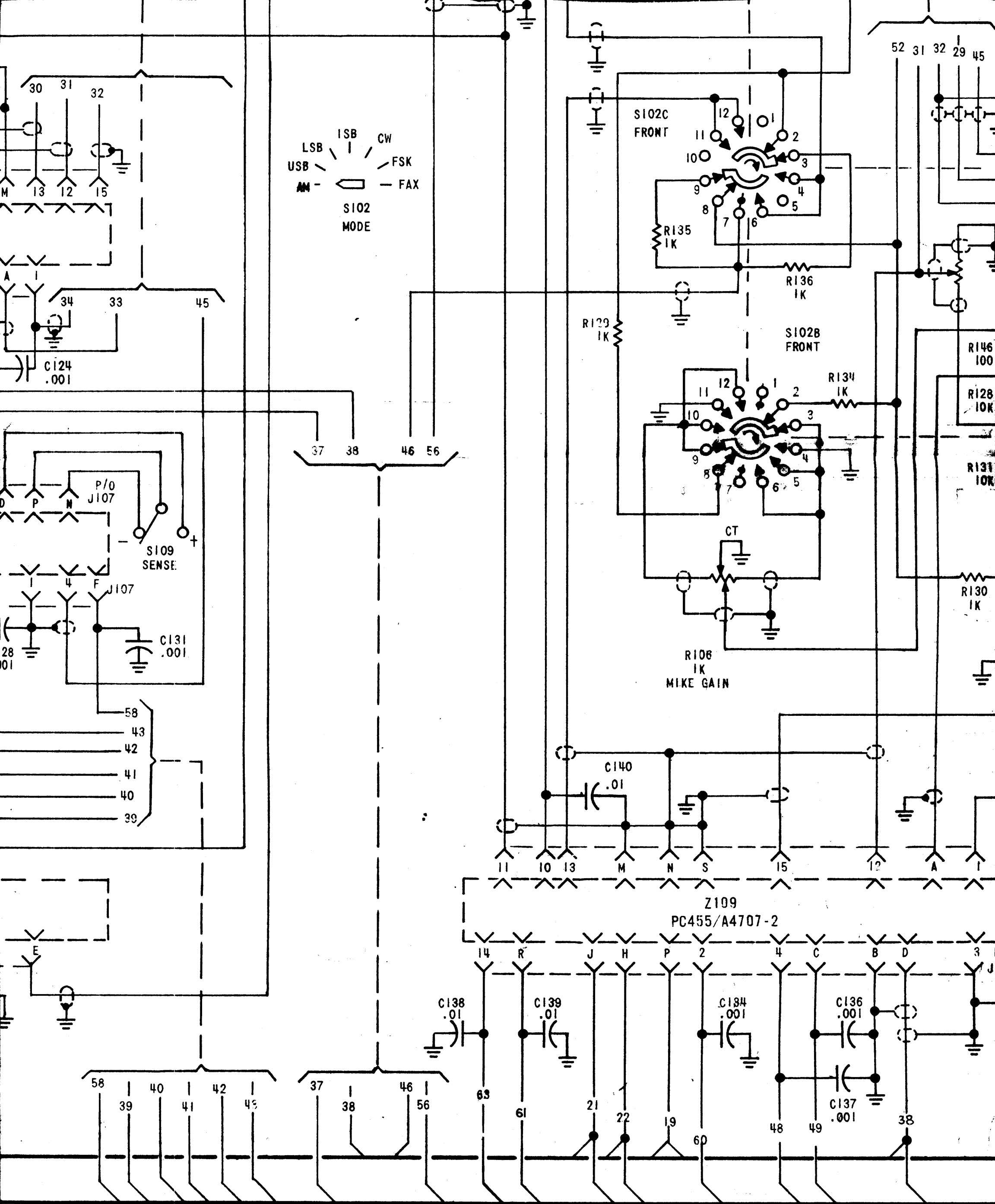
P/O
J119

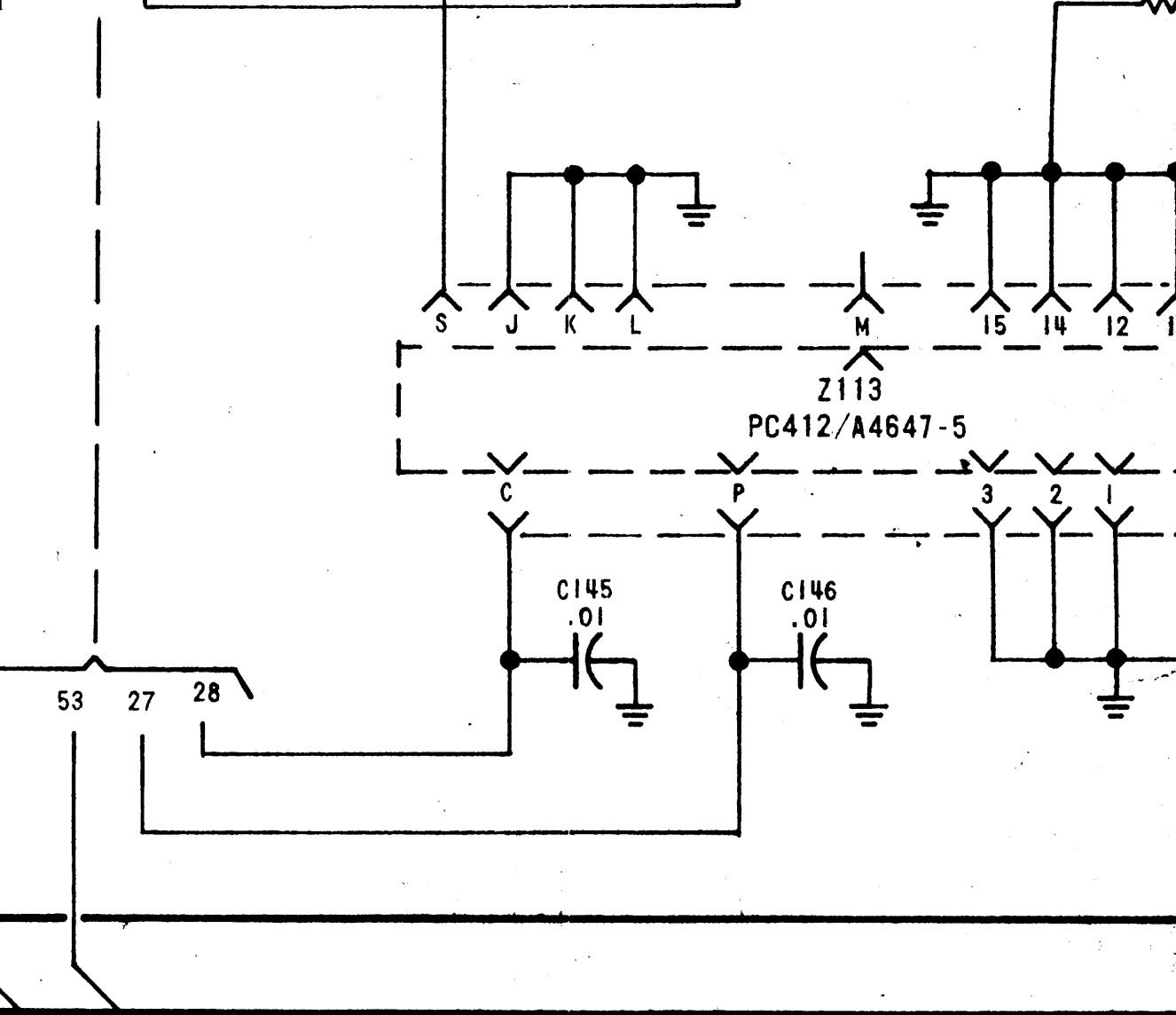
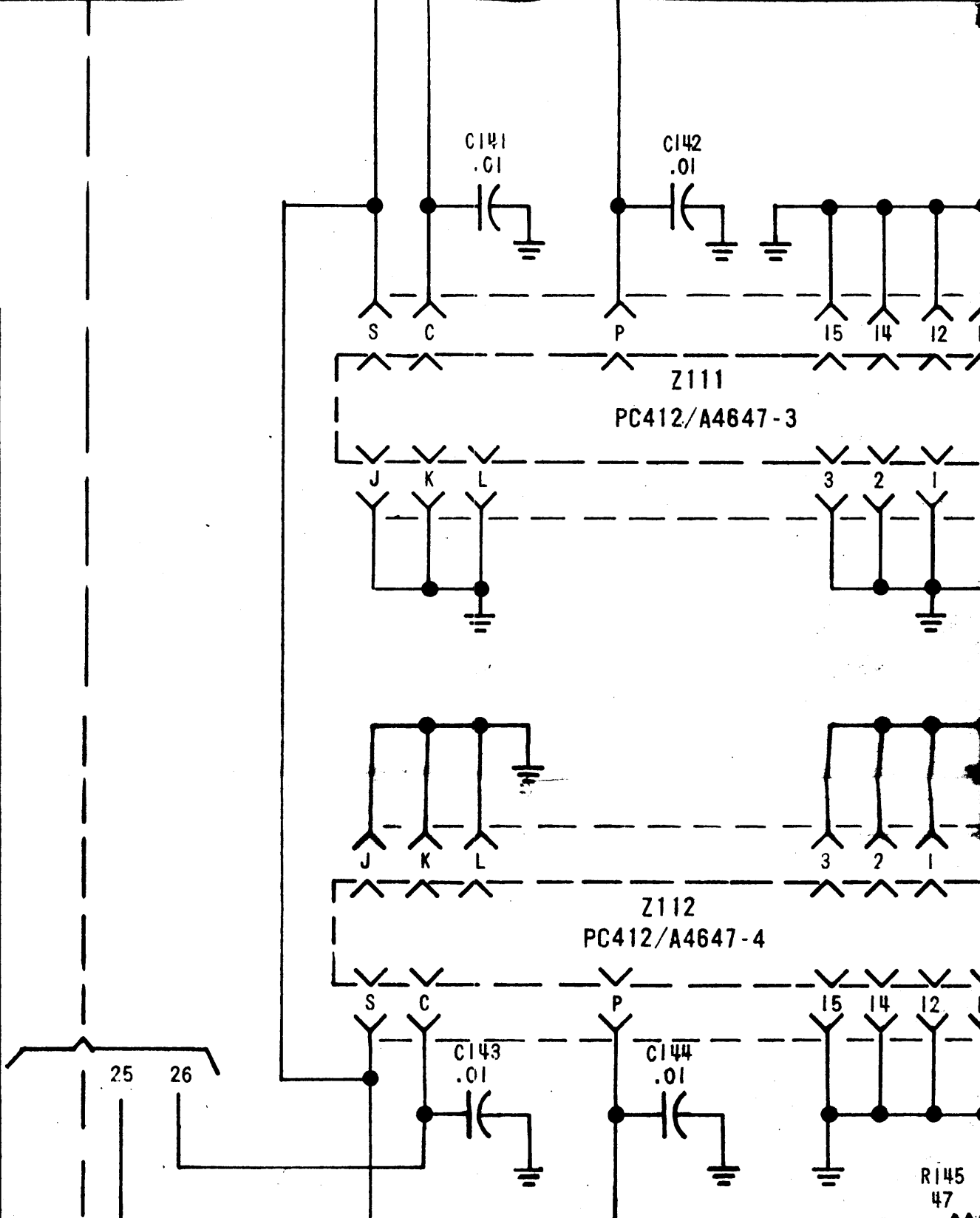
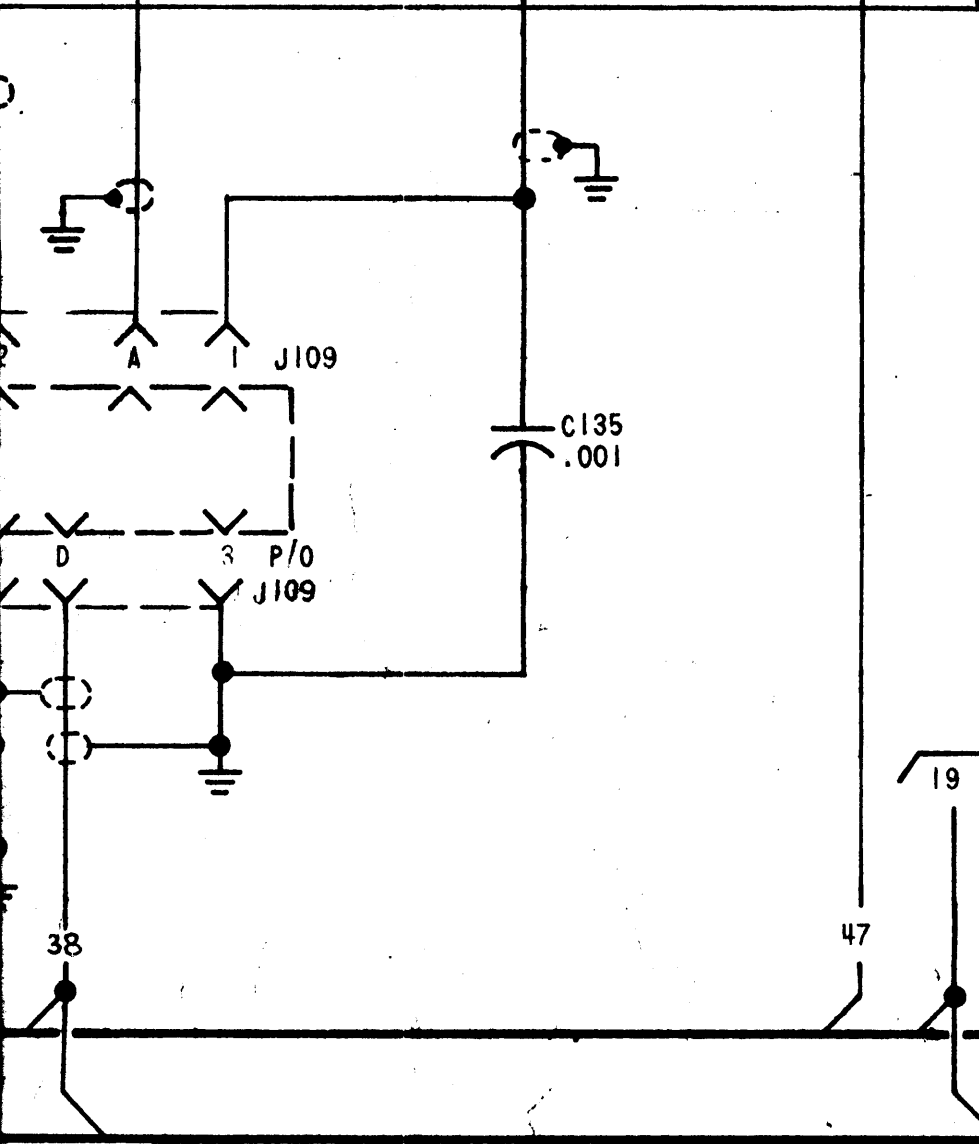
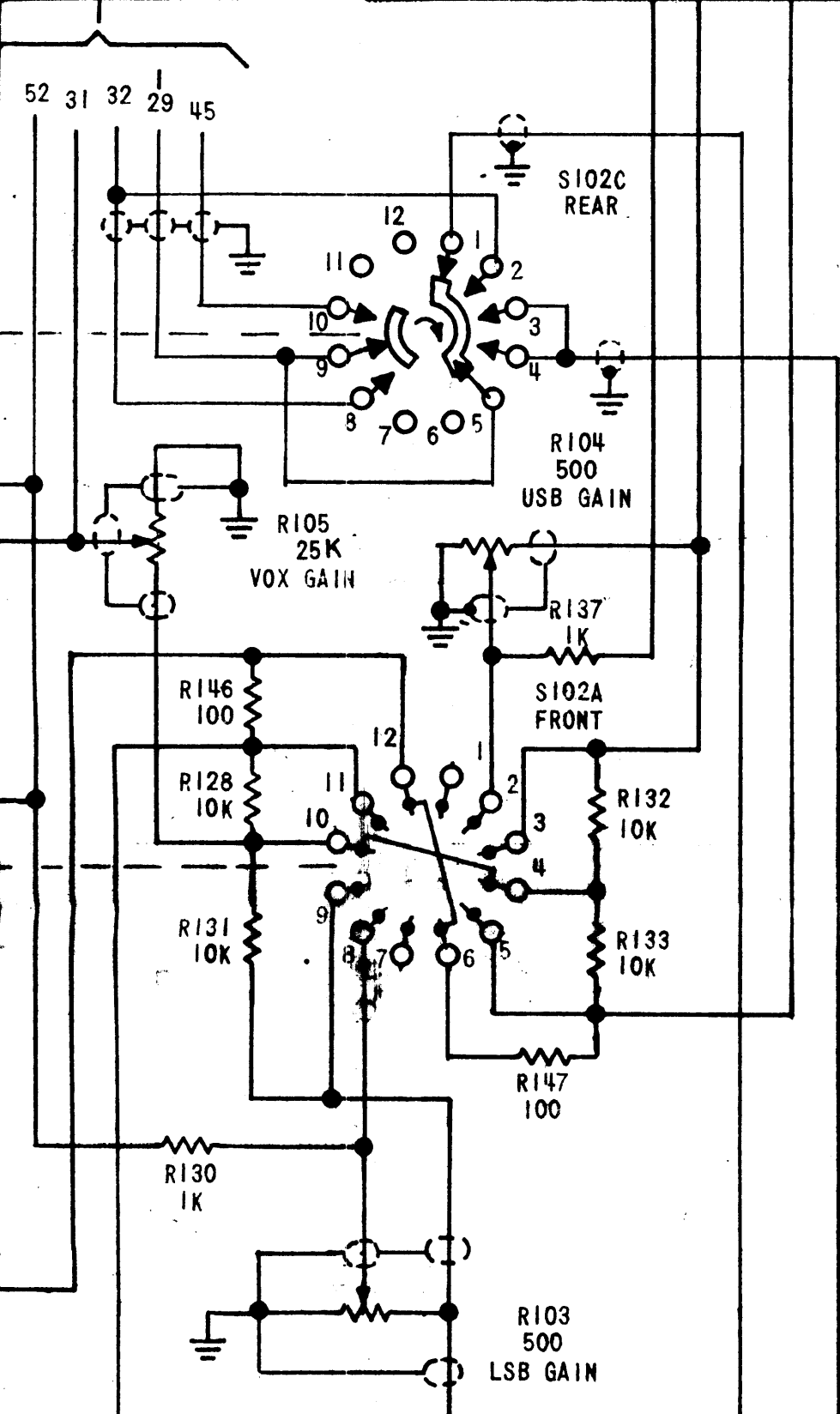
J123
ALDC
INPUT

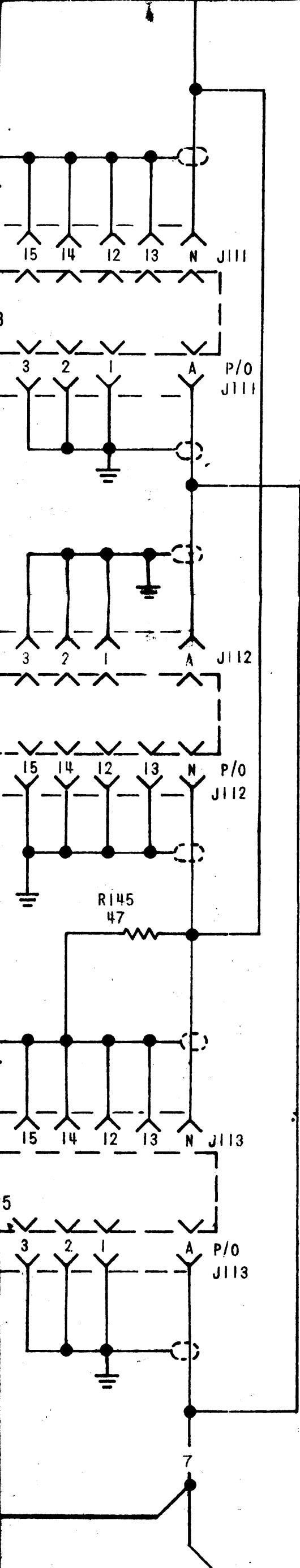


P/O
J119









TO
SHEET 2

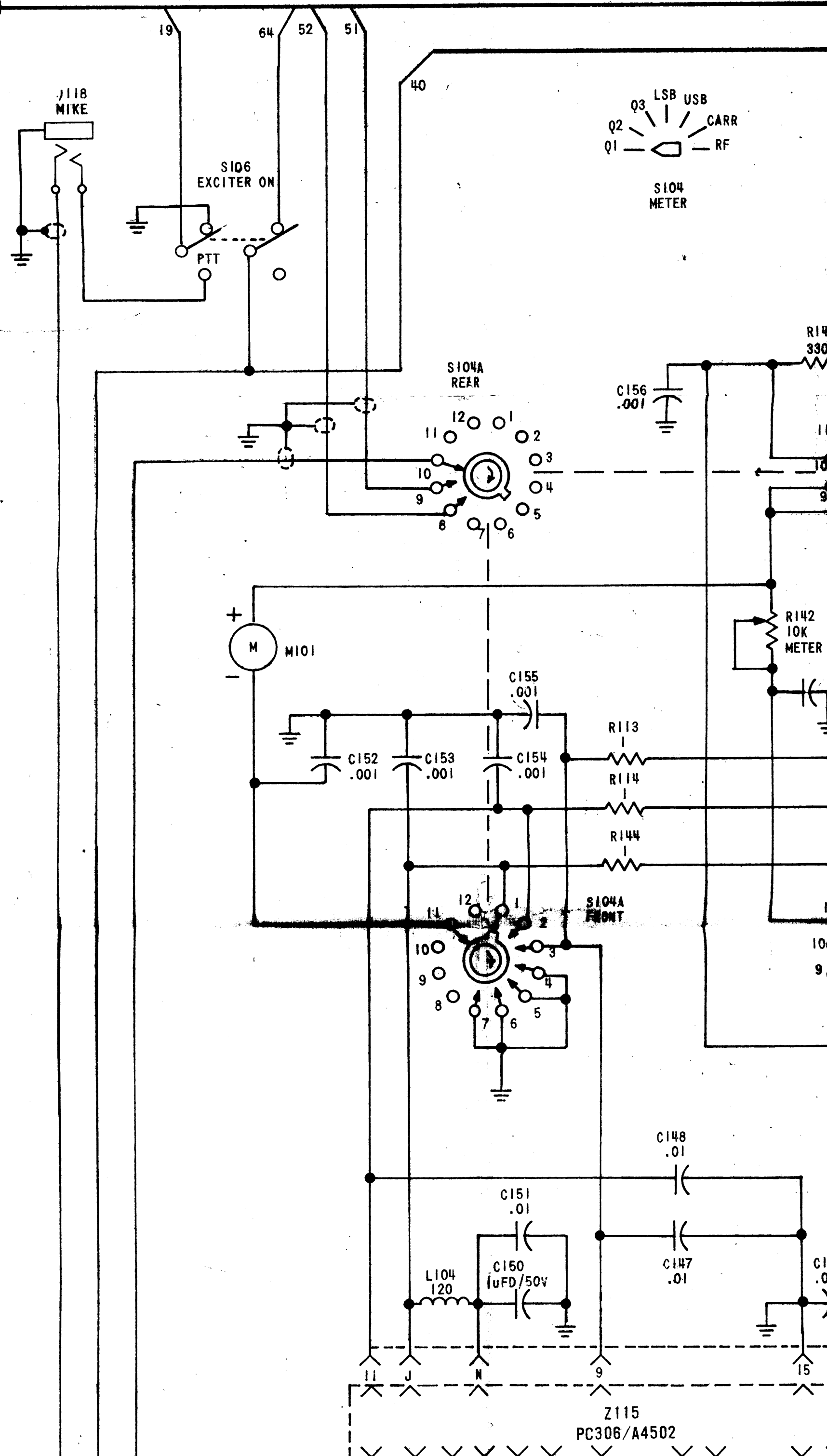
QTY REQ	ITEM	PART NO.	POSE
			C. POSE
			DATE 12-27-63
			DATE
			DATE 12-20-63
			DATE 11-7-63
			DATE 7-13-68

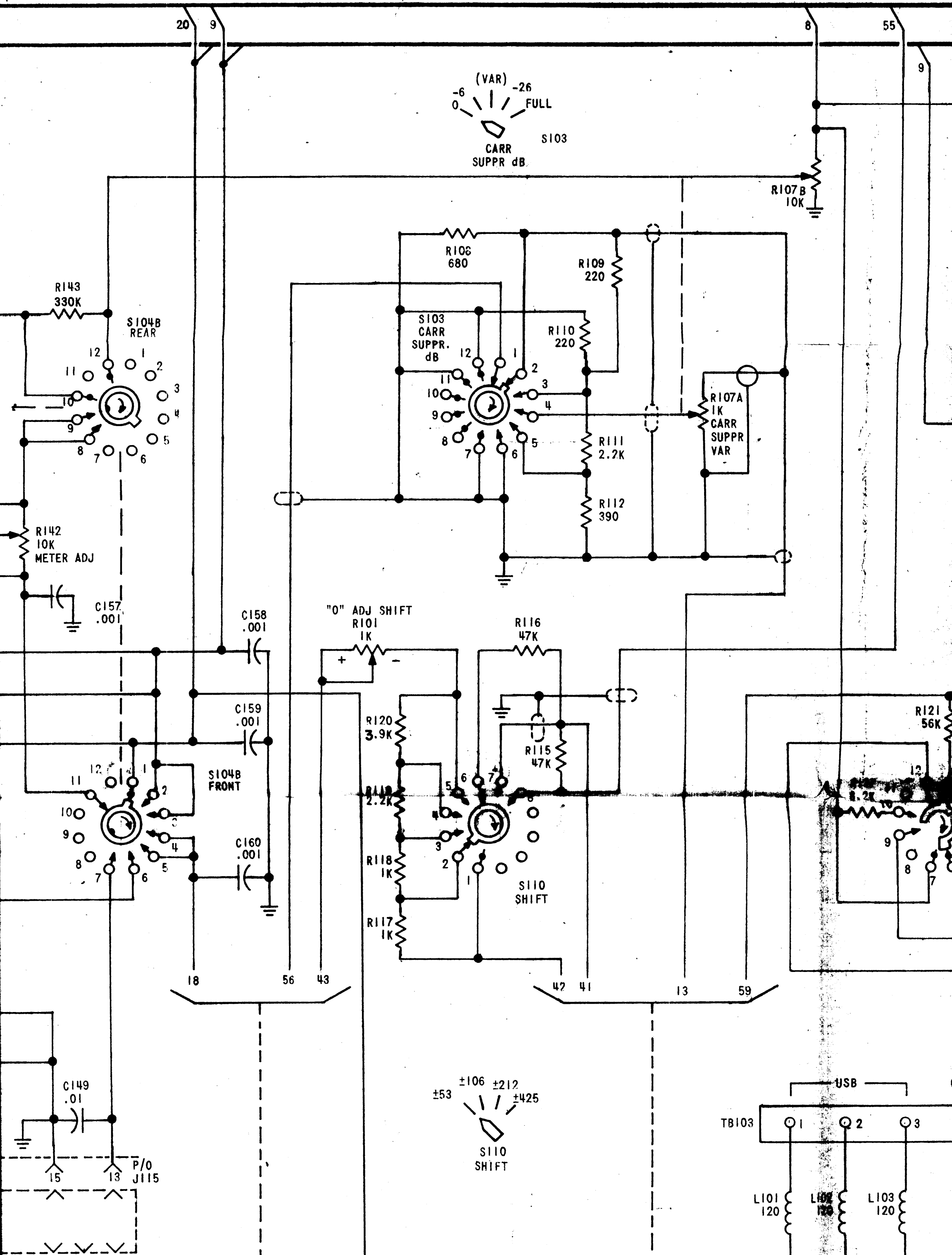
TO
SHEET 2

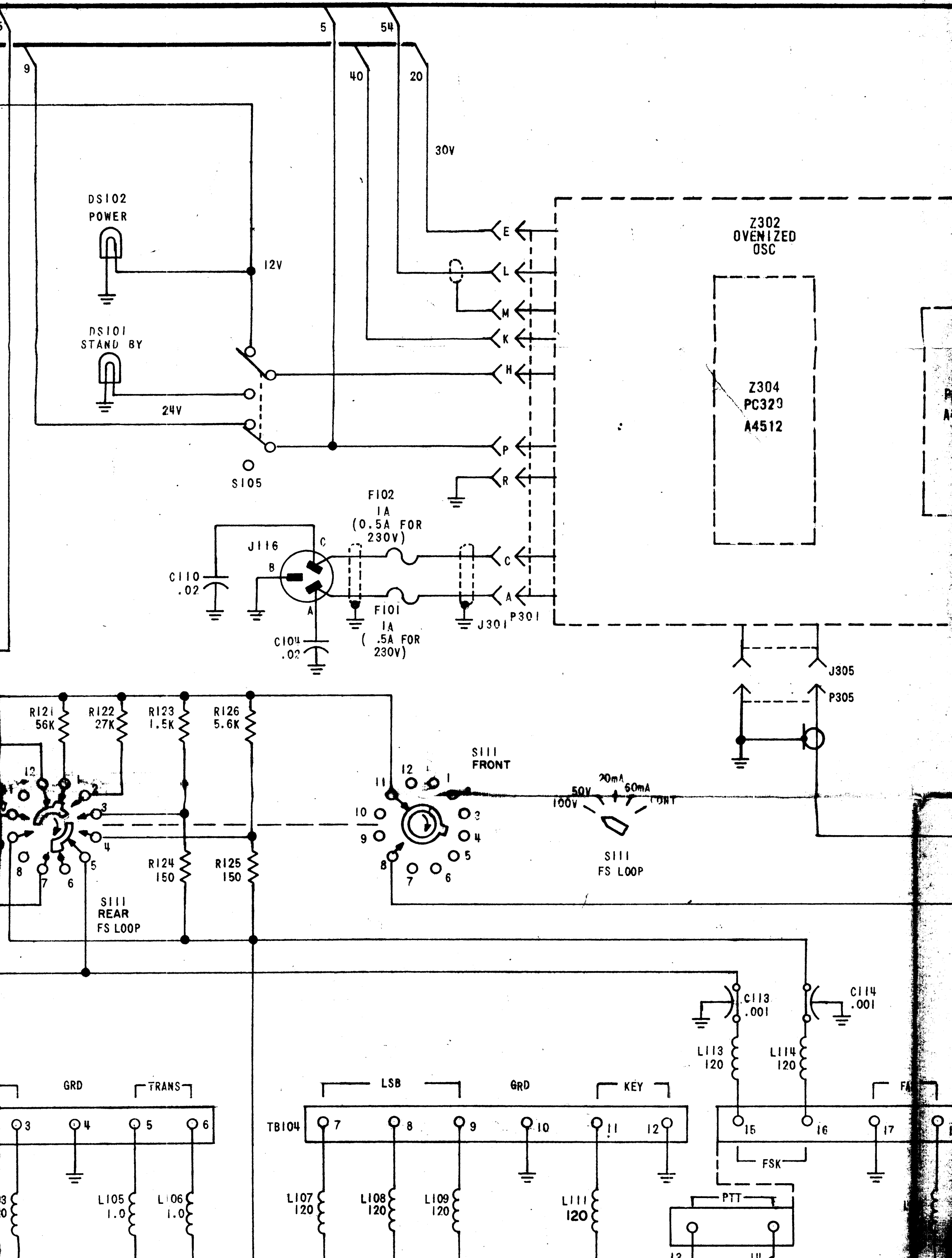
QTY. REQ.	ITEM	PART NO.	POSE	DESCRIPTION
APPROVAL		DATE		
<i>[Signature]</i>		12-27-63		
MECH. DES.		DATE		
REVT. DES.		DATE		
<i>[Signature]</i>		12-20-63		
CHECKED		DATE		
<i>[Signature]</i>		11-7-68		
DRAWN		DATE		
<i>[Signature]</i>		7-13-68		

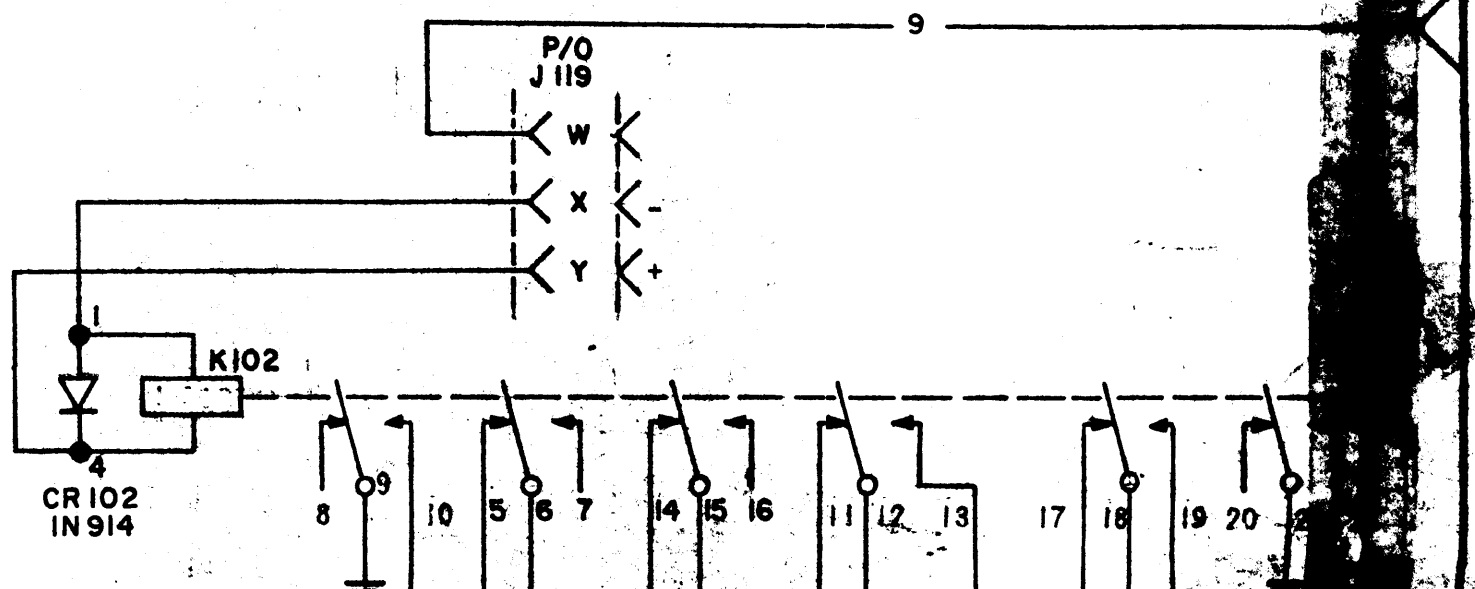
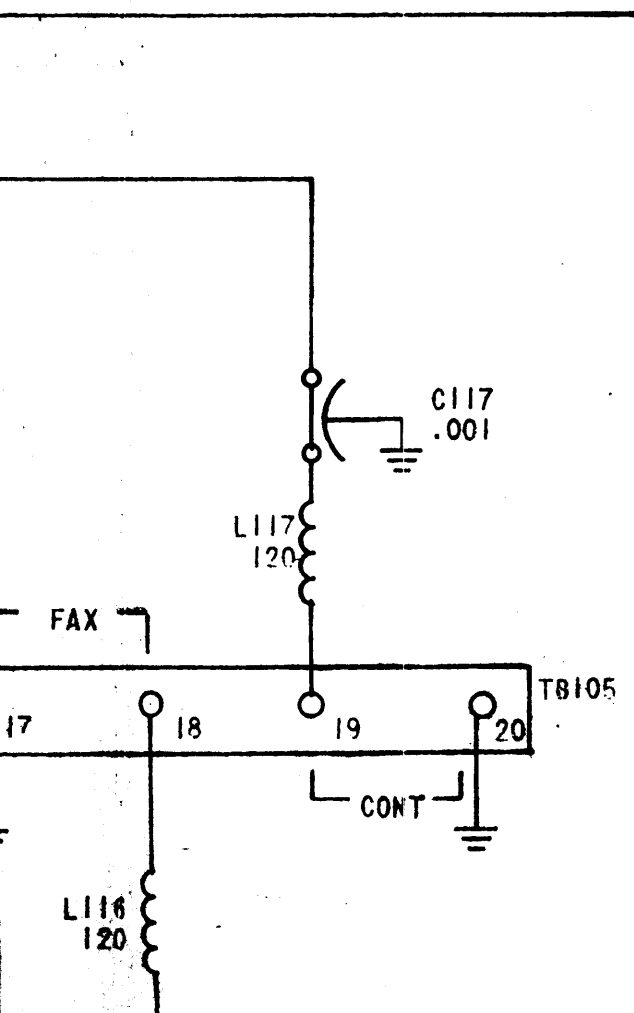
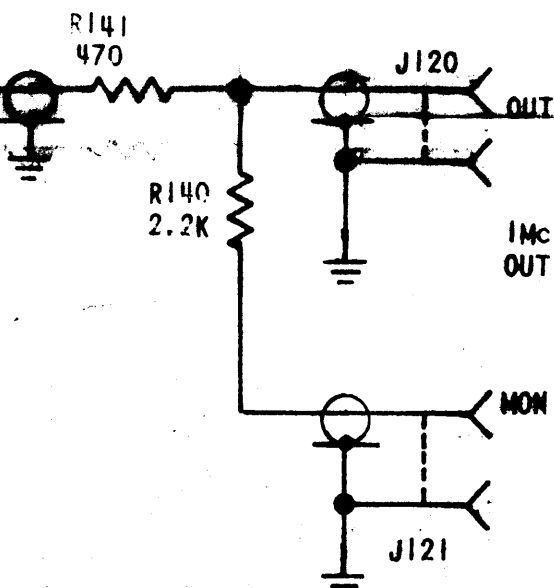
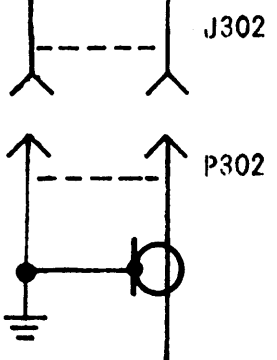
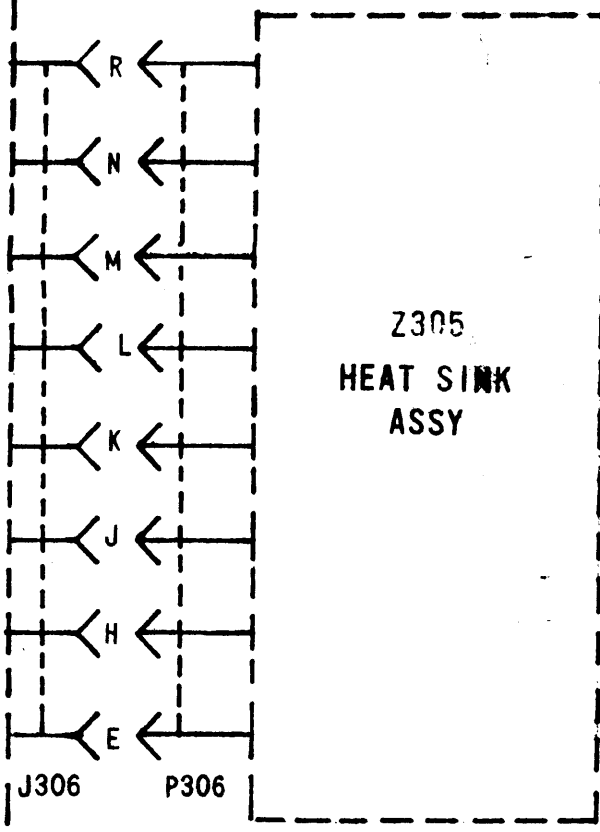
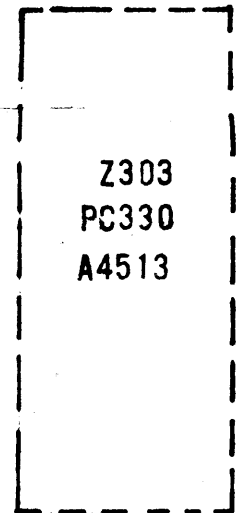
Figure 7-1.
SME-6. Interconnecting Diagram
(Sheet 1 of 2)

TO SHEET 1









	REVISED & UPDATED	4/19/68			
	ORIGINAL RELEASE FOR PRODUCTION	4/21/68		RS	
A	REVISED & UPDATED	8-4-69	19526	KD	KH/OP
B	R120 VAL. W/5.9K L111 & L118W/1.0	9/2/72	20889	SE	EJ CD

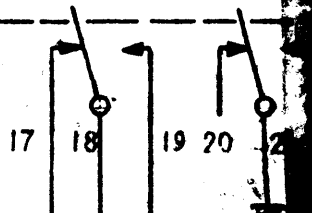
100 SERIES	
LAST SYMBOLS	MISSING SYMBOLS
C162	
DS102	
F102	
J125	J108, J110, J122
L118	L110, L112, L115
M101	
R147	
S111	S107, S108
TB105	TB101, TB102
Z115	Z106, Z110
K102	J114 Z114
CR102	

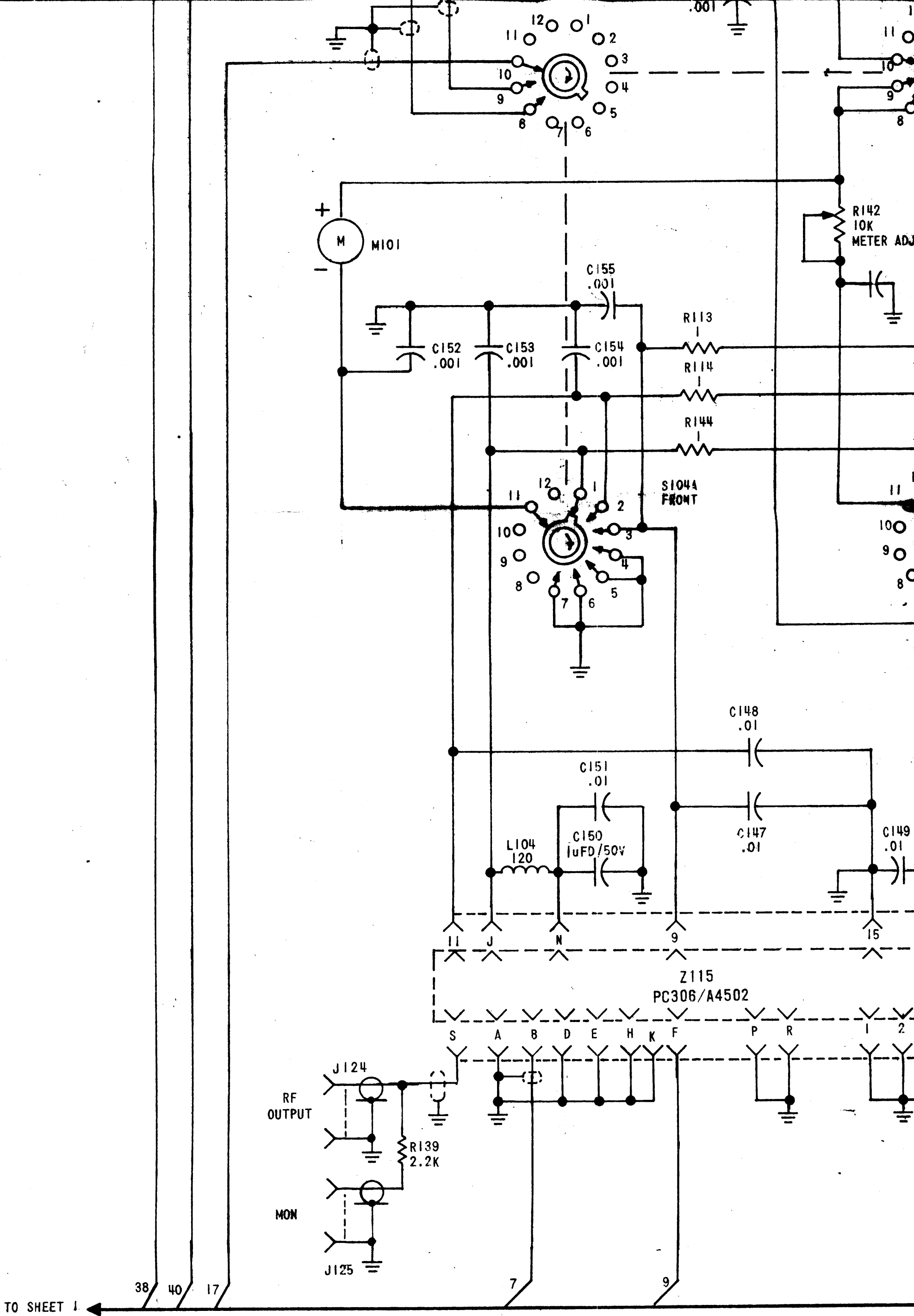
300 SERIES	
LAST SYMBOLS	MISSING SYMBOLS
P306	P303, P304

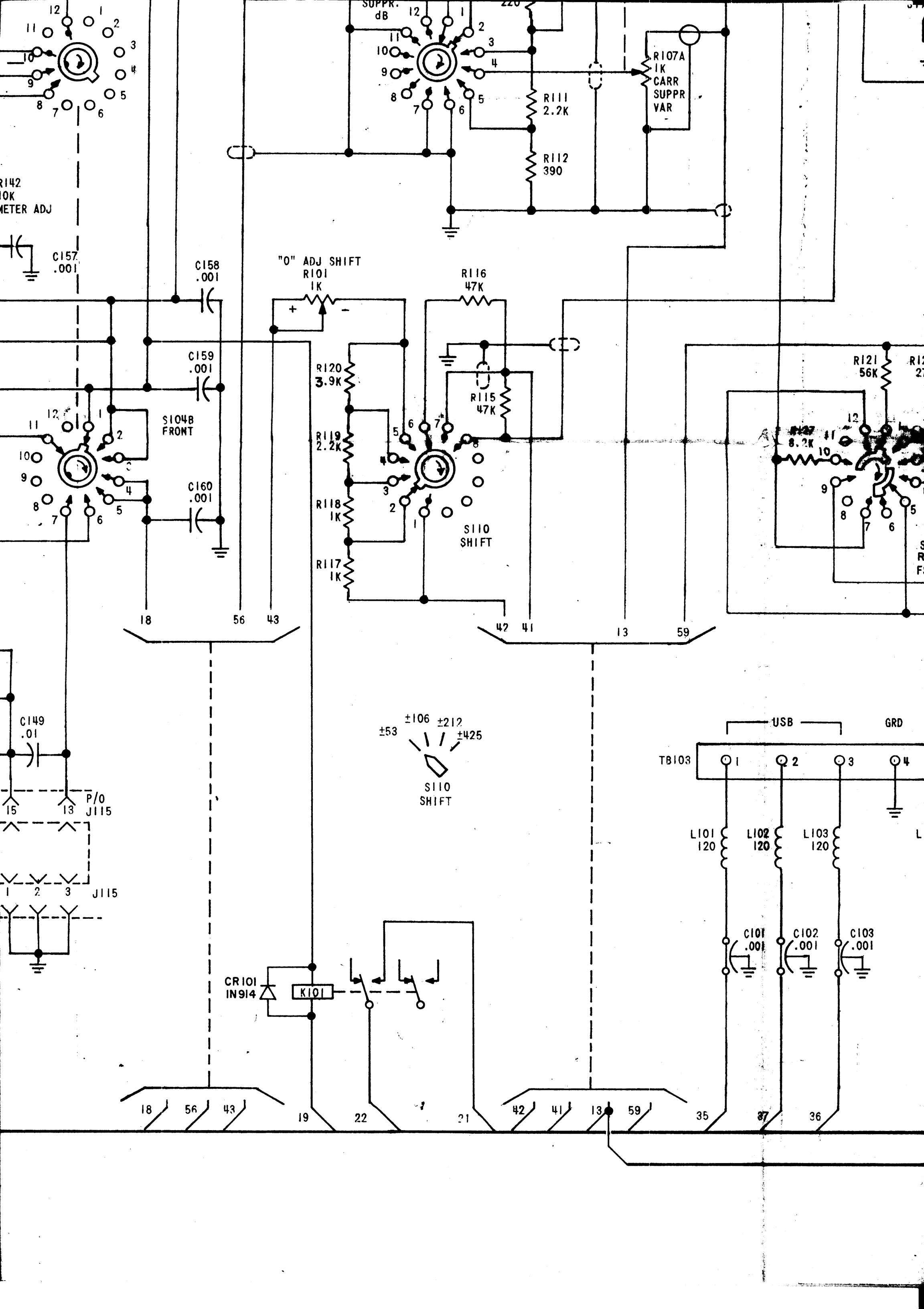
UNLESS OTHERWISE SPECIFIED:

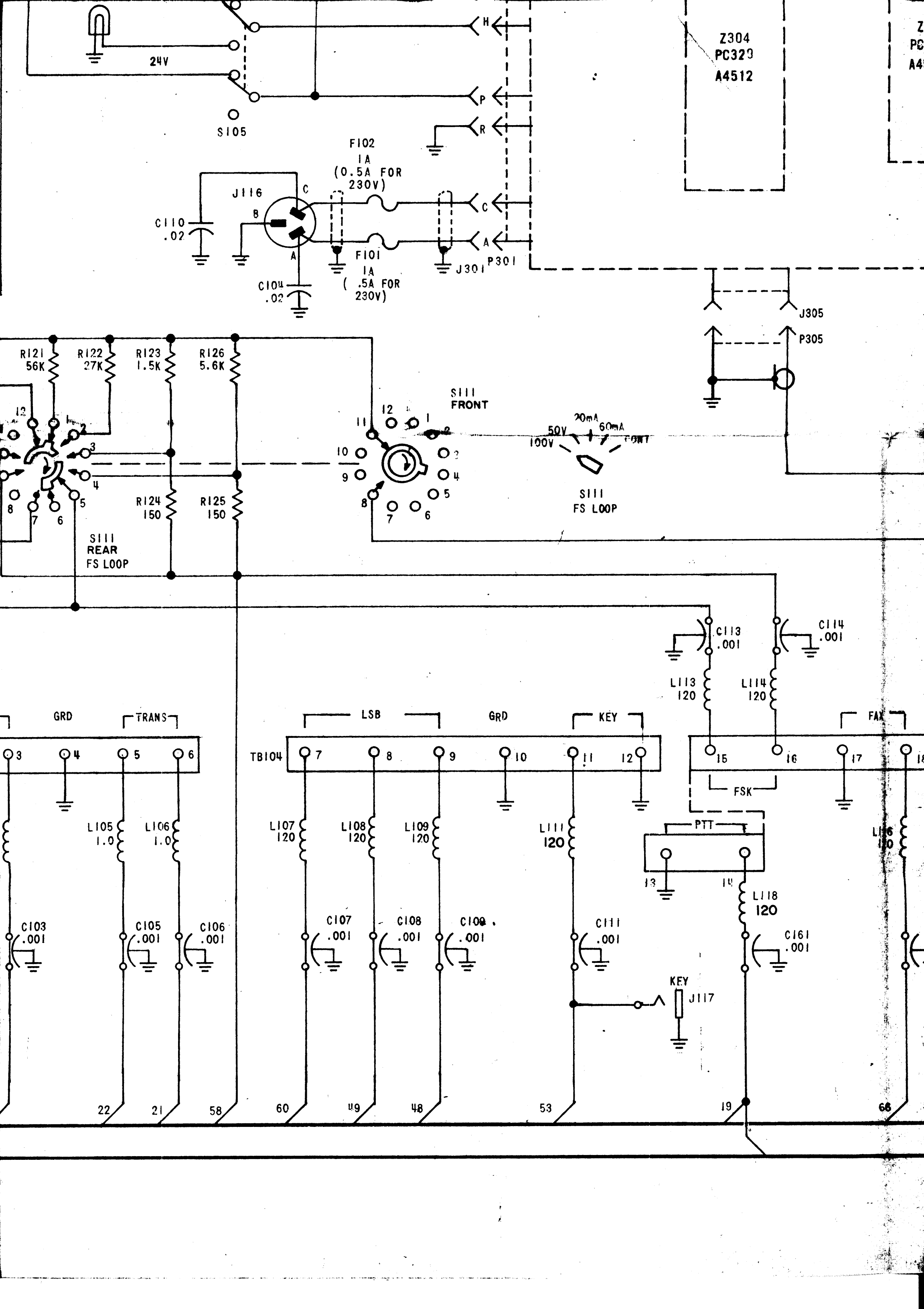
1. ALL RESISTORS ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS
3. ALL INDUCTANCE VALUES ARE IN MICROHENRIES.

BREAKOUT	
LAST NUMBER	MISSING NUMBER
56	11, 44, 57

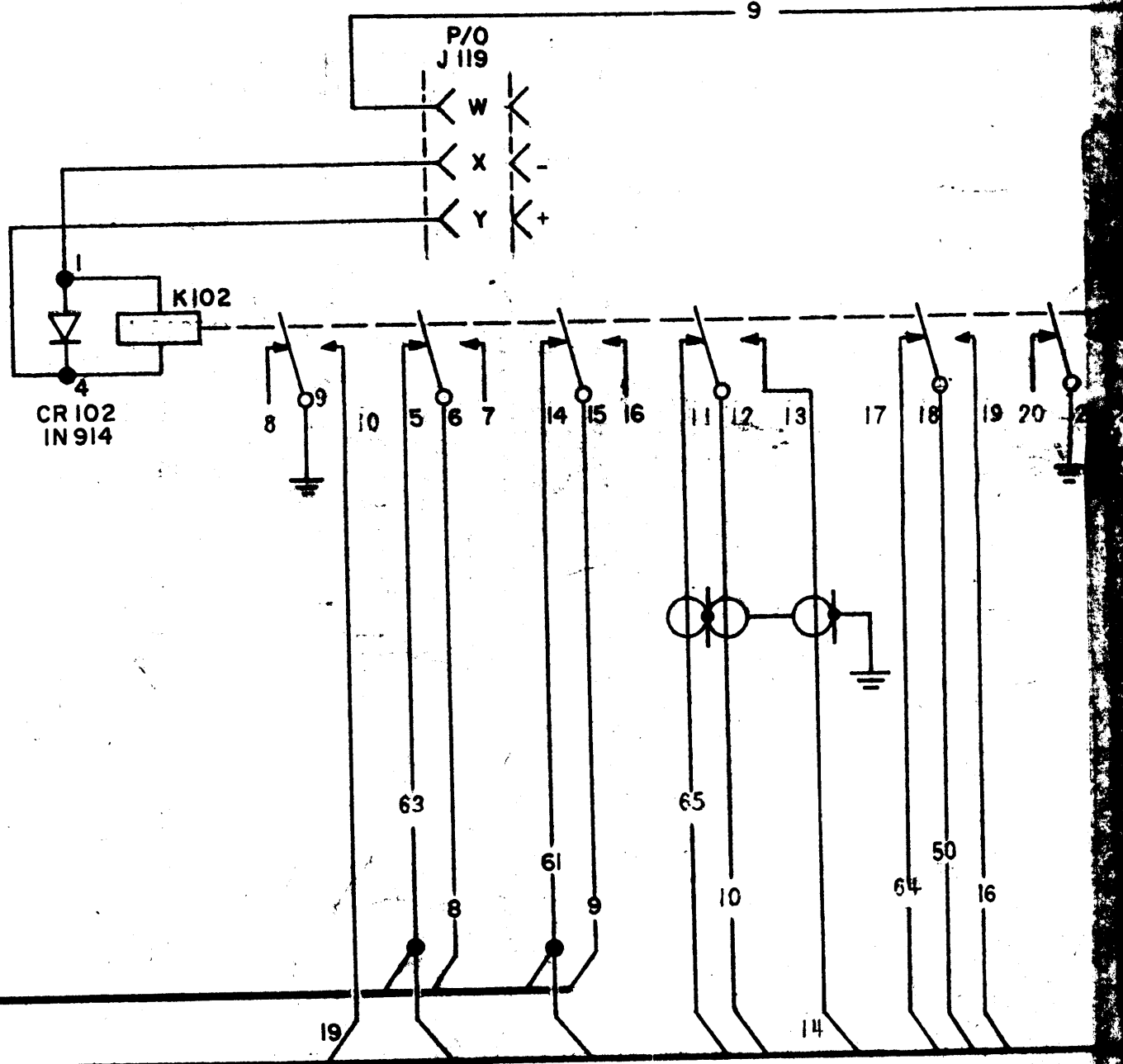
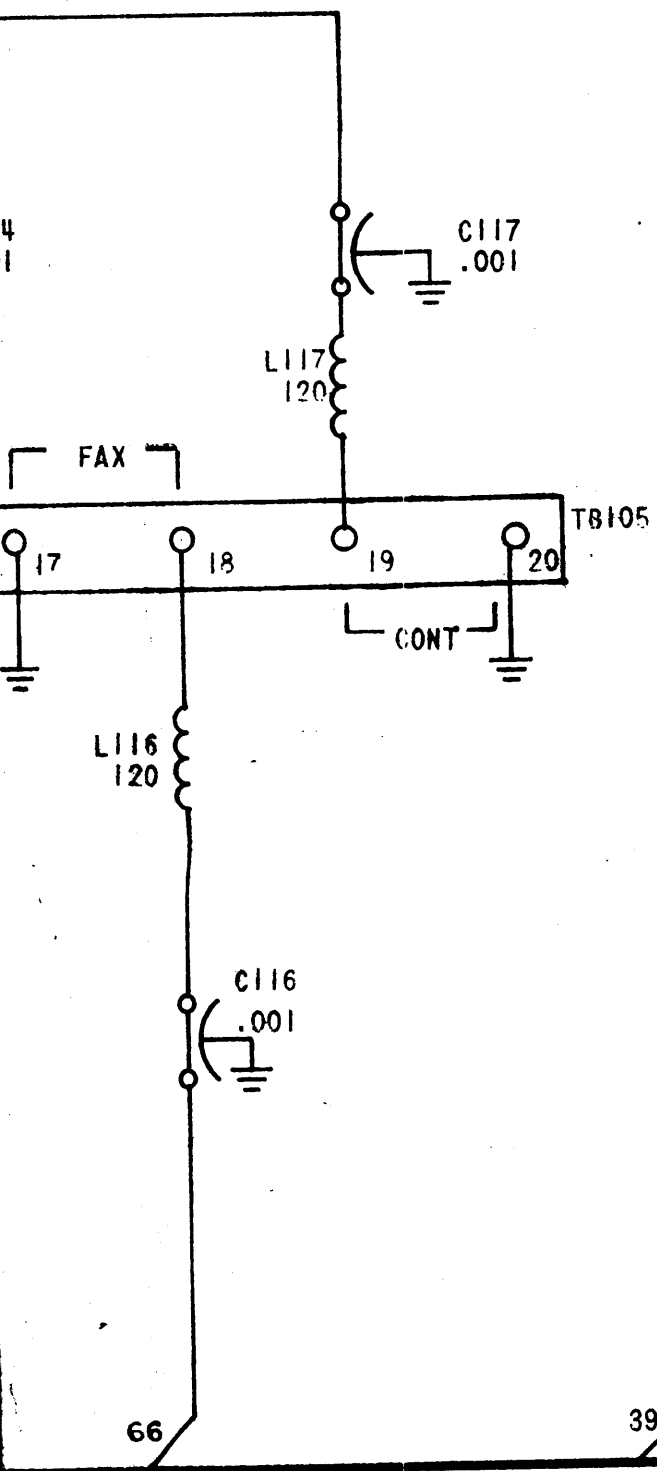
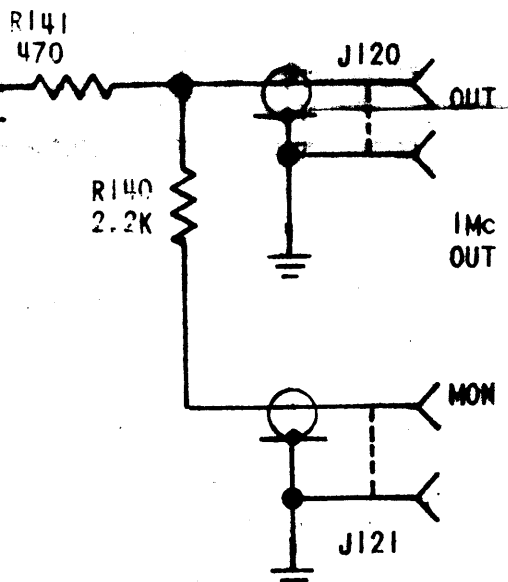
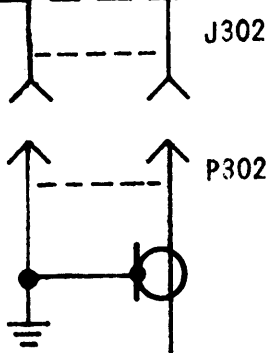
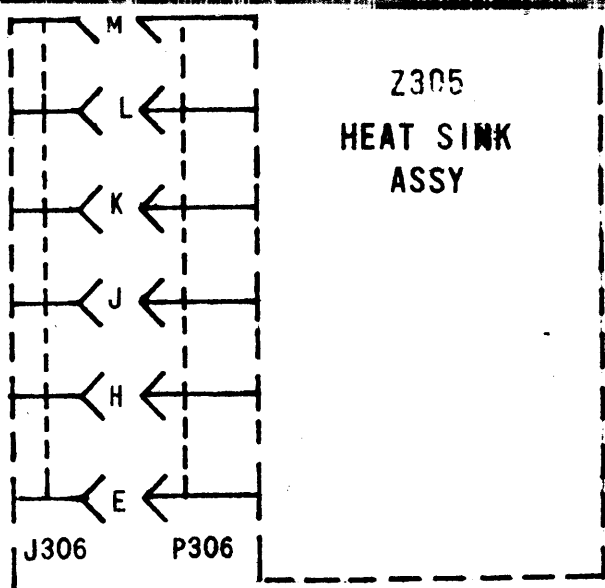








Z303
PC330
A4513



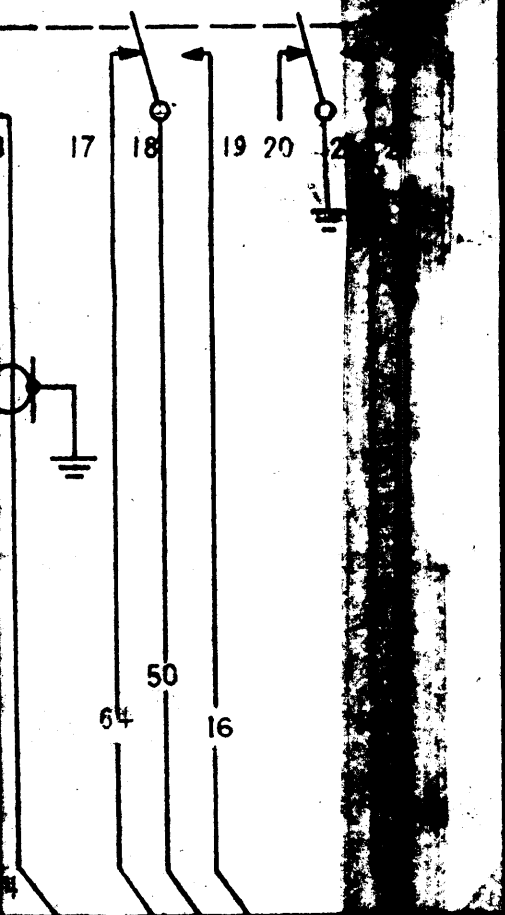
100 SERIES	
LAST SYMBOLS	MISSING SYMBOLS
C162	
DS102	
F102	
J125	J106, J110, J122
L118	L110, L112, L115
M101	
R147	
S111	S107, S108
TB105	TB101, TB102
Z115	Z106, Z110
K102	J114 Z114
CR102	

300 SERIES	
LAST SYMBOLS	MISSING SYMBOLS
P306	P303, P304

UNLESS OTHERWISE SPECIFIED:

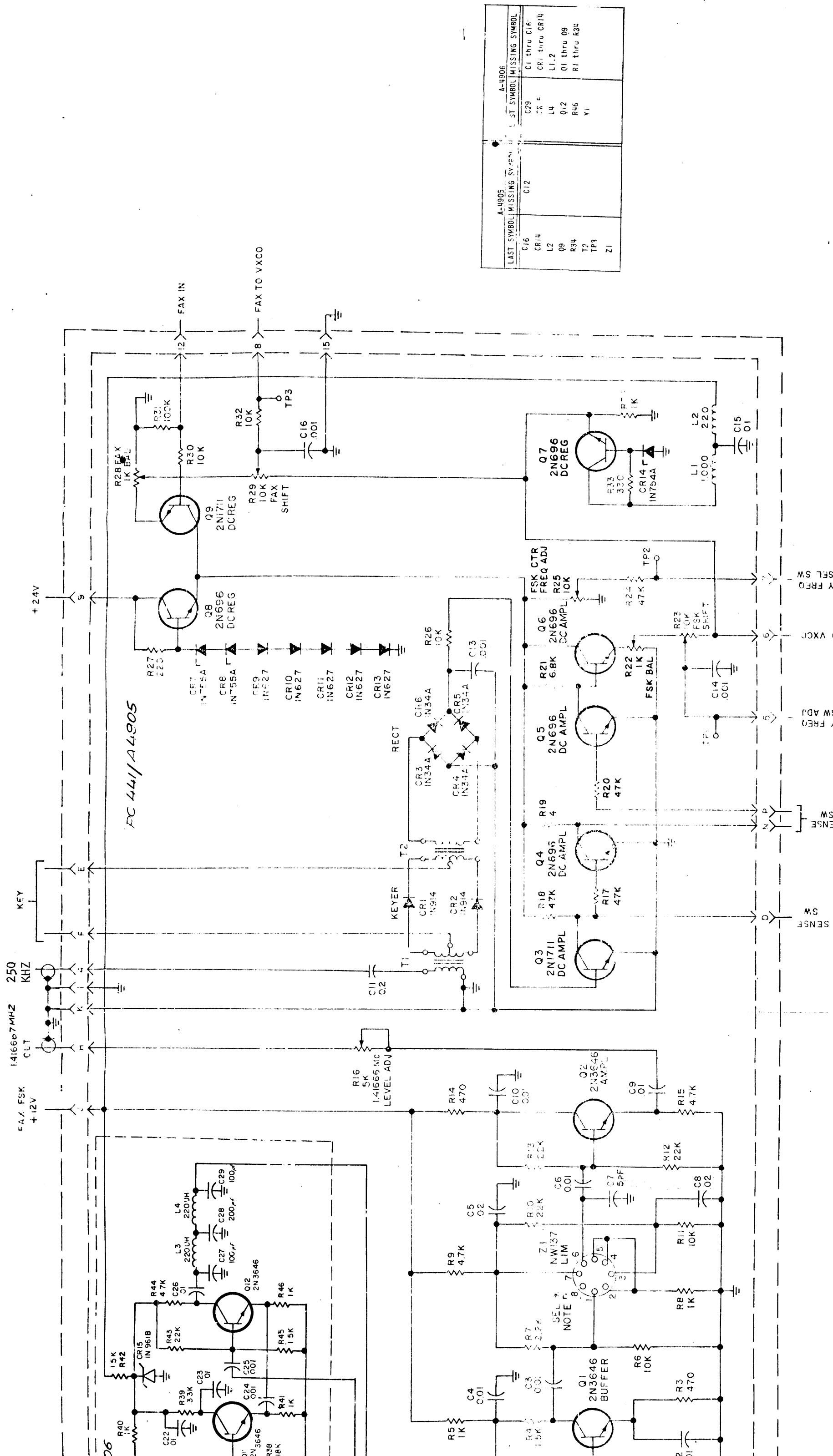
1. ALL RESISTORS ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS
3. ALL INDUCTANCE VALUES ARE IN MICROHENRIES.

BREAKOUT	
LAST NUMBER	MISSING NUMBER
66	11, 44, 57



QTY	UNIT	PART NO.	DESCRIPTION
			MATERIAL
		20-60	
		11-7-68	
		11-7-60	

Figure 7-1.
SME-6. Interconnecting Diagram
(Sheet 2 of 2)



PC 441/A4905

A-4905		A-4906	
LAST SYMBOL MISSING SYMBOL	LAST SYMBOL MISSING SYMBOL	LAST SYMBOL MISSING SYMBOL	LAST SYMBOL MISSING SYMBOL
C16	C12	C29	C1 thru C16
CR14		CR E	CR1 thru CR14
L2		L4	L1, 2
Q9		Q12	Q1 thru Q9
R34		R46	R1 thru R32
T2		Y1	
TP3			
Z1			

UNLESS OTHERWISE SPECIFIED

1- ALL RESISTANCE VALUES ARE IN OHMS, 1/4W

2- ALL CAPACITANCE VALUES ARE IN MICROFARADS

3- ALL INDUCTANCE VALUES ARE IN MICROHENRIES

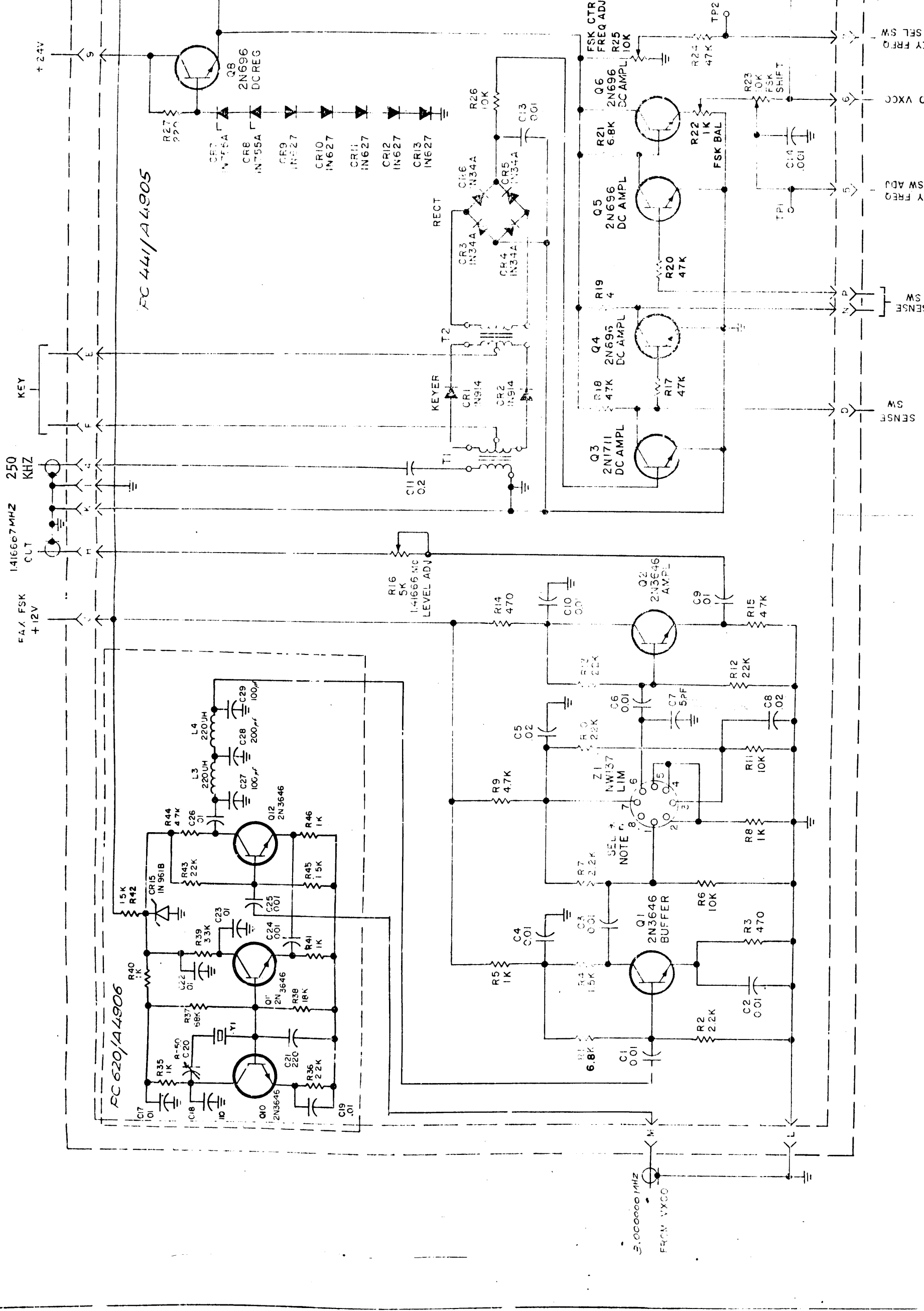
*"n" SYMBOL DENOTES FLAT SIGNIFYING FIN 6 OR 1/2 INCH

SYMBOL SERIES 1600

FIGURE 7-5. FREQUENCY SHIFT GENERATOR. 7107. SCHEMATIC DIAGRAM

A09722045

7-13/7-14



UNLESS OTHERWISE SPECIFIED

1- ALL RESISTANCE VALUES ARE IN OHMS, 1/4W

2- ALL CAPACITANCE VALUES ARE IN MICROFARADS

3- ALL INDUCTANCE VALUES ARE IN MICROHENRIES

* "T" SYMBOL DENOTES FLAT SIGNIFYING PIN 6 ON TRANSISTORS

SYMBOL SERIES I600

FSK "E" TO KEY FREQ
"E" TO VXCC
FSK "E" TO SEL SW ADJ
KEY FREQ TO SEL SW

TP1
TP2

SENSE SW
SENSE SW

FSK CTR FREQ ADJ
R25
R26

R27
R28

Q8
Q9

CR7
CR8
CR9
CR10
CR11
CR12
CR13

Q3
Q4
Q5
Q6

R18
R19
R20
R21
R22

C11
C12
C13

T1
T2

KEYER

RECT

Q10
Q11
Q12

R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
R45
R46

C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29

L1
L2
L3
L4

Y1

Q1
Q2

Z1

R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15

C3
C4
C5
C6
C7
C8
C9

Q1
Q2

Q3
Q4

Q5
Q6

Q7
Q8

Q9
Q10

Q11
Q12

Q13
Q14

Q15
Q16

Q17
Q18

Q19
Q20

Q21
Q22

Q23
Q24

Q25
Q26

Q27
Q28

Q29
Q30

Q31
Q32

Q33
Q34

Q35
Q36

Q37
Q38

Q39
Q40

Q41
Q42

Q43
Q44

Q45
Q46

Q47
Q48

Q49
Q50

Q51
Q52

Q53
Q54

Q55
Q56

Q57
Q58

Q59
Q60

Q61
Q62

Q63
Q64

Q65
Q66

Q67
Q68

Q69
Q70

Q71
Q72

Q73
Q74

Q75
Q76

Q77
Q78

Q79
Q80

Q81
Q82

Q83
Q84

Q85
Q86

Q87
Q88

Q89
Q90

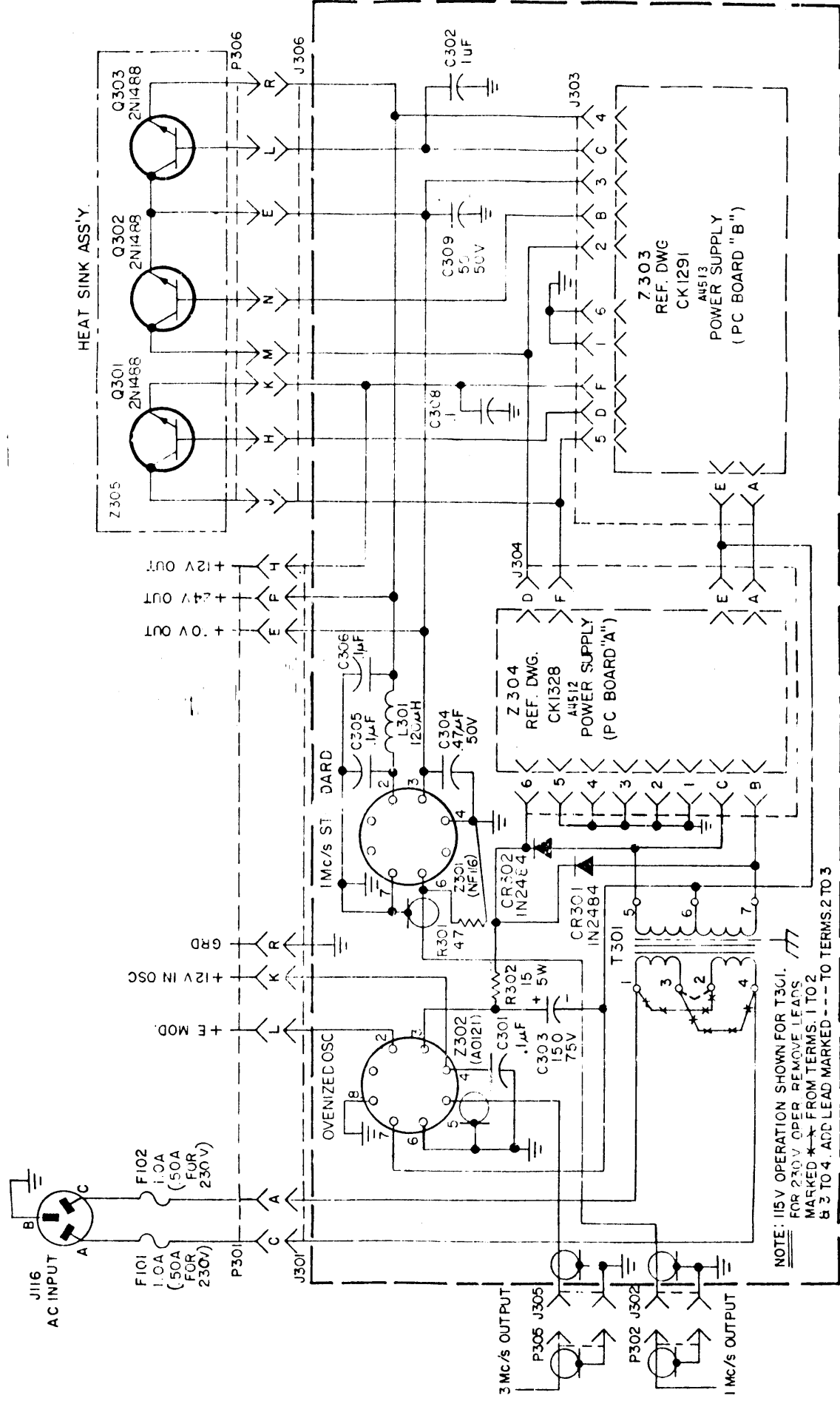
Q91
Q92

Q93
Q94

Q95
Q96

Q97
Q98

Q99
Q100



LAST SYMBOLS	MISSING SYMBOLS
C309	C307
CR302	
F102	
J306	
L301	
P306	
Q305	
R302	
T301	
Z305	
	P-303, P-304

FIGURE 7-9. POWER SUPPLY ASSEMBLY INTERCONNECT DIAGRAM
A09722045 7-21/7-22

TOTAL SHEETS)

PRELIMINARY
 FINAL
MATERIAL LIST
FOR

TMC MODEL - SME () -6
TITLE - SIDEBAND MULTI-CHANNEL
EXCITER

REVISION

REV.	SHEET (S)	DATE	APPR.
0			

USED ON
MODEL -

CONSISTS OF
SUPPORTING LISTS

- A-4647
- A-4707-1
- A-4707-2
- A-4718
- AX5039
- BMA478

LAST SYMBOLS

Z113

SYMBOLS NOT USED

- Z103, 104, 106, 107
- Z110

COMPILED W/TB
 CHECKED L. SOUTHERN
 ENG APPR _____
 ENL APPR _____
 ISS DATE 8/27/72

ENGINEERING JOB NUMBER
 # E _____

MATERIAL LIST

SME () -6
REV. ϕ

PAGE 1 OF

PART NUMBER	DESCRIPTION	USED ON	QTY.	QTY. PER UNIT	REFERENCE SYMBOLS	SPECIAL NOTES REFER TO S1200
A-4647	R.F. AMP	SME () -6 SME () -6 SME () -6 SME () -6 SME () -6			Z101 Z102 Z111 Z112 Z113	1, 111 1, 111 1, 111 1, 111 1, 111
A-4707-1	USB GEN	SME () -6 SME () -6	1	1*	Z105	1 50
A-4707-2	LSB GEN	SME () -6 SME () -6	1	1*	Z109	1 50
A-4718	AM AMP	SME () -6 SME () -6	1	1*	Z108	1 50
AX5039	BASIC EXC ASSY	SME () -6	1	1*		1
BMA305	FSK-FAX ASSY	SME () -6 SME () -6	1	1*		1 50, 114
BMA478	FSK-FAX ASSY	SME () -6 SME () -6	1	1*		1 50
CA1151-7	CELL, ASSY, PWR	SME () -6	1	1*		2
CK1490	SCHEMATIC DIAG	SME () -6	1	1*		