

October 1, 1982

CHANGE 1
TO
KWM-380/HF-380 SERVICE BULLETIN NO 8

Attached is a revised issue of KWM-380/HF-380 Service Bulletin No 8 titled, "Product Improvement," dated 22 December 1980.

This revision makes the following changes:

1. Page 1, serial number effectivity table; TBD is replaced by serial numbers.
2. Page 3, step N; step is revised to remove R408 instead of lifting one lead.
3. Page 3, step P; step is revised to install new resistor instead of connecting lead of old resistor.
4. Page 4, parts list; added 680- Ω resistor R408, CPN 745-0743-000, quantity 1.
5. Page 9, figure 2 (Sheet 3); schematic changed to show revised connection of L109 from junction of C119, C120, R152, and R153 to junction of C183 and CR109.

Black bars in the margin indicate the location of the changes. This revised issue replaces the entire original publication.



SERVICE BULLETIN

Collins Telecommunications Products Division/Rockwell International

● 350511

KWM-380 TRANSCEIVER (622-5093-001)
HF-380 TRANSCEIVER (622-3580-001)
RECEIVER/EXCITER ASSEMBLY A3 (638-6908-002)

SERVICE BULLETIN NO 8

PRODUCT IMPROVEMENT

This service bulletin applies to the following:

EQUIPMENT	APPLIES TO SERIAL NUMBERS	PRODUCTION CUT-IN SERIAL NUMBERS
KWM-380 622-5093-001	17 and below, 19, 20, 21, 23 thru 29, 31, 32, 33, 35, 36, 37, 39, 41 thru 52, 54 thru 57, 59, 60, 61, 63, 65, 66, 67, 69, 71 thru 75, 81 thru 86, 88 thru 100, 102 thru 111, 113, 114, 115, 117 thru 129, 132 thru 152, 154, 155, 157, 158, 160 thru 181, 183 thru 189, 191 thru 199, 201 thru 212, 214, 215, 216, 221 thru 231, 233 thru 237, 239, 241, 243 thru 247, 249 thru 274, 277 thru 282, 284 thru 293, 295, 297, 298, 300, 302, 303, 306 thru 319, 321, 322, 324 thru 329, 331 thru 334, 336 thru 340, 342, 343, 344, 346 thru 350, 352, 354 thru 377, 379, 380, 382 thru 396, 399, 400, 402, 403, 405 thru 411, 413 thru 416, 418 thru 431, 433 thru 440, 442, 443, 444, 446 thru 463, 465, 466, 468 thru 472, 474 thru 484, 486 thru 489, and 491	18, 22, 30, 34, 38, 40, 53, 58, 62, 64, 68, 70, 76, 77, 78, 79, 80, 87, 101, 112, 116, 130, 131, 153, 156, 159, 182, 190, 200, 213, 217 thru 220, 232, 238, 240, 242, 248, 275, 276, 283, 294, 296, 299, 301, 304, 305, 320, 323, 330, 335, 341, 345, 351, 353, 378, 381, 397, 398, 401, 404, 412, 417, 432, 441, 445, 464, 467, 473, 485, 490, 492 and above
HF-380 622-3580-001	12 and below, 14 thru 19, 21, 22, 23, 24, 26 thru 35, 37 thru 41, 44, and 46	13, 20, 25, 36, 42, 43, 45, 47 and above

Production cut-in for receiver-exciter circuit card A3 (638-6908-002) is REV J.



Three product improvement modifications are made to receiver/exciter assembly A3 by this service bulletin.

1. A capacitor is added to prevent the meter from pinning when AGC is switched on.
2. Two diodes are added to the if amplifier output to reduce the popping noise during AGC attack.
3. RF gain function is changed by adding two resistors and two diodes. This will produce a true "ORing" operation and allow the AGC threshold to be preset. The control range of the rf gain pot is spread out over the full rotation of the pot.

Estimated time required is 3 man-hours.

The modification parts are itemized in the material information paragraph. For information concerning parts, contact Collins Service Center, Rockwell International, 6001 Threadgill Avenue, El Paso, Texas 79924. Reference KWM-380/HF-380 Service Bulletin No 8 in all correspondence.

No special tools or equipment are required.

MODIFICATION PROCEDURE

- A. Turn off all power to the transceiver.
- B. Remove the dust cover by removing the four screws adjacent to the four feet on the bottom of the transceiver.

NOTE: All changes are made to receiver/exciter assembly A3, located on the bottom of the unit. Taking care to not damage adjacent components, these modifications can be made without removing A3 from the chassis. If circuit card A3 is not removed, installation of contacts (gold-plated square pins) can be made easier by first removing the square plastic spacers from the contacts before soldering. Refer to figure 1 while performing steps C through T. Sleeve leads as required using insulation sleeving (152-2473-000). Figure 2, sheets 1 and 4, show the changes to the schematic diagram made by this service bulletin. Figure 2, sheets 2, 3, 5, 6, 7, and 8, show additional changes necessary to update the schematic to the REV J configuration of receiver/exciter assembly A3.

- C. Install contacts, 372-2656-130 (square pins) at E1 and E2 (holes in board) and solder. Refer to figure 1, detail A.
- D. Install 1N4454 diode CR702 (353-3644-010) with cathode to E1 as shown in figure 1, detail A.
- E. Install 1N4454 diode CR703 (353-3644-010) with cathode to E2 as shown in figure 1, detail A.



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- F. Remove both leads of resistor R407 and install a contact (372-2656-130) in each hole.
- G. Connect the R407 leads to the new contacts.
- H. Install 100- μ F capacitor C411 (184-9102-100) to the new contacts with the positive side to the bottom of R407 as shown in figure 1, detail C.
- I. Remove the right-hand lead (cathode) of CR403 and install a contact (372-2656-130) in the vacated hole. Connect the CR403 lead to the new contact.
- J. Remove the right-hand lead (cathode) of CR400 and install a contact (372-2656-130) in the vacated hole. Connect the CR400 lead to the new contact.
- K. Position 1N4454 diode CR406 (353-3644-010) as shown in figure 1, detail B, section BB. Connect the cathode end to the contact installed in step I.
- L. Position 1N4454 diode CR407 (353-3644-010) as shown in figure 1, detail B, section BB. Connect the cathode end to the contact installed in step J.
- M. Remove the right-hand lead of C405 and install a contact (372-2656-130) in the vacated hole. Connect the C405 lead to the contact.
- N. Remove resistor R408 and install a contact (372-2656-130) in the hole that was occupied by the right-hand lead.
- O. Remove the right-hand lead of resistor R410 and install a contact (372-2656-130) in the vacated hole. Connect the R410 lead to the new contact.
- P. Install a new R408 (745-0743-000) between the original left-hand hole and the contact installed in step M.
- Q. Connect the right-hand lead of 5.11-k Ω resistor R424 (705-1030-000) to the contact (E3) installed in step N.
- R. Connect the right-hand lead of 7.50-k Ω resistor R425 (705-1038-000) to the contact installed in step O.
- S. Cut a terminal strip (797-3615-001) into one block of five holes.
- T. Position the terminal block as shown in figure 1, detail B, and secure it to the circuit card using commercially available epoxy or bonding adhesive.
- U. Connect the left-hand leads of CR406, CR407, R424, and R425 into the terminal block as shown.
- V. Stamp RWK REV J on receiver/exciter card A3 near the latest REV letter.
- W. Reinstall the transceiver dust cover.
- X. Mark SB 8 on the service bulletin information chart. If the transceiver does not have an information chart, install a chart (280-3778-010) near the nameplate.



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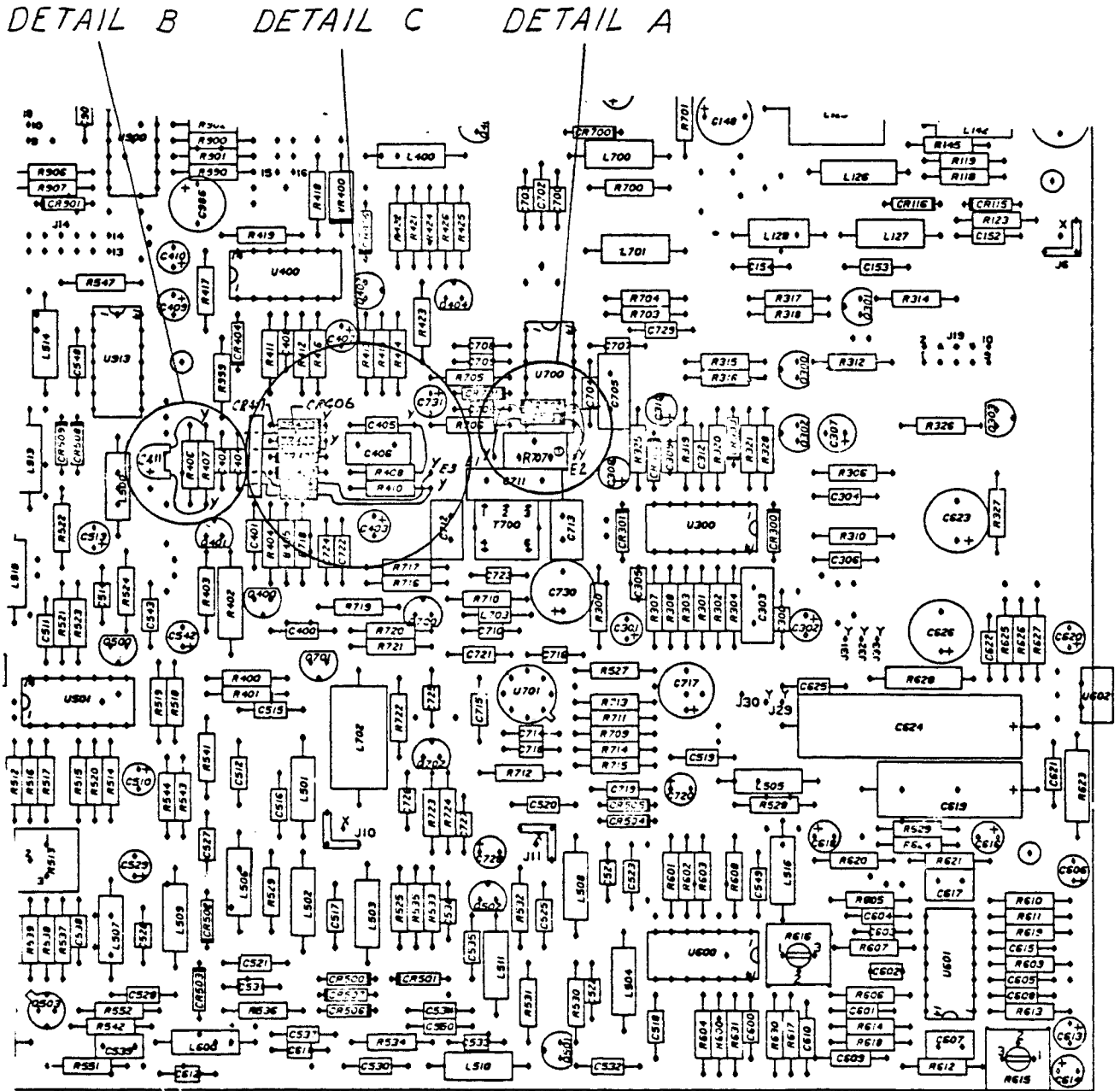
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MATERIAL INFORMATION

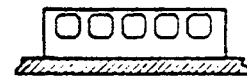
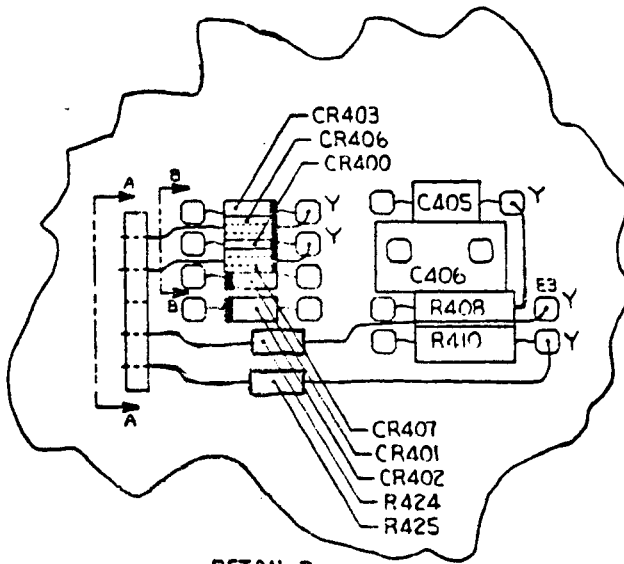
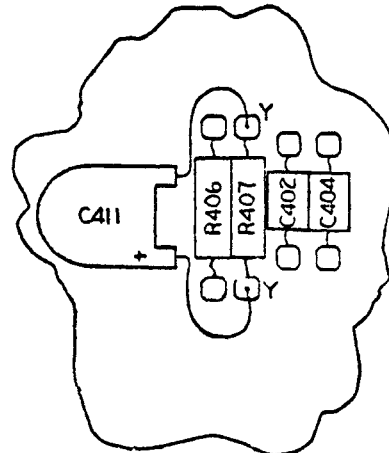
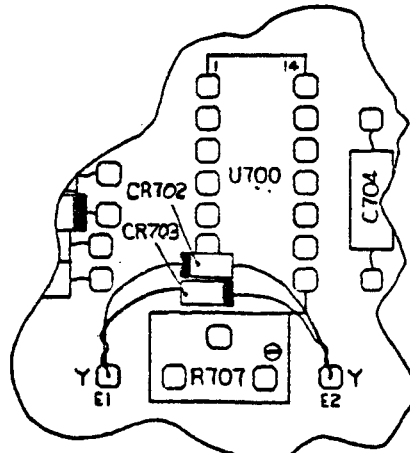
The parts listed below are required to modify one KWM-380 or one HF-380.

<u>COLLINS PART NUMBER</u>	<u>QTY</u>	<u>UNIT PRICE</u>	<u>DESCRIPTION</u>
353-3644-010	4		Diode, 1N4454, CR406, CR407, CR702, CR703
372-2656-130	9		Contact (gold-plated square pin)
705-1030-000	1		Resistor, 5.11 k Ω , R424
705-1038-000	1		Resistor, 7.50 k Ω , R425
184-9102-100	1		Capacitor, 100 μ F, C411
152-2473-000	150 mm (6 in)		Sleeving, insulation
797-3615-001	1		Strip, terminal
745-0743-000	1		Resistor, 680 Ω , R408
*280-3778-010	1		Chart, information

*Order if needed.



P/O Receiver/Exciter A3, Component Installation Diagram
Figure 1 (Sheet 1 of 2)

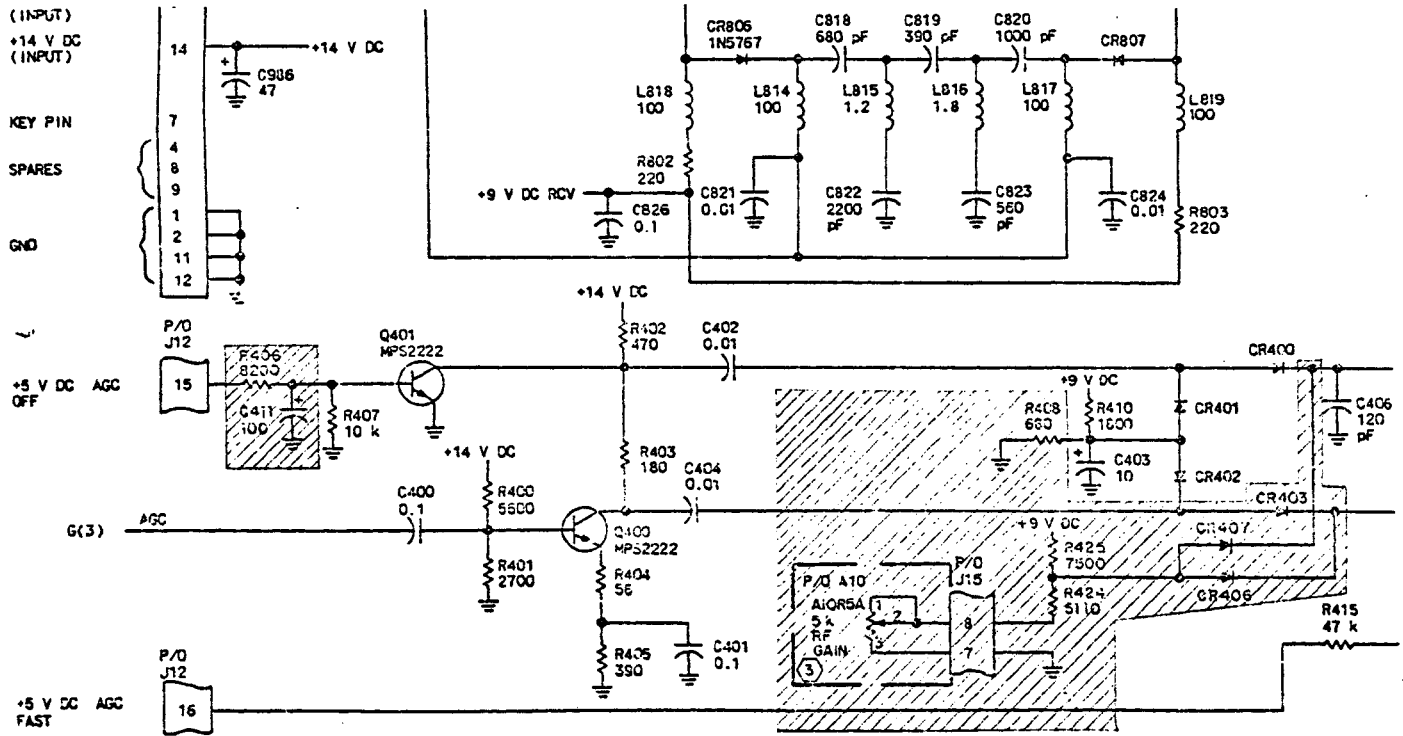


SECTION A-A
ROTATED 90°
COUNTERCLOCKWISE



SECTION B-B
ROTATED 90°
COUNTERCLOCKWISE

P/O Receiver/Exciter A3, Component Installation Diagram
Figure 1 (Sheet 2)

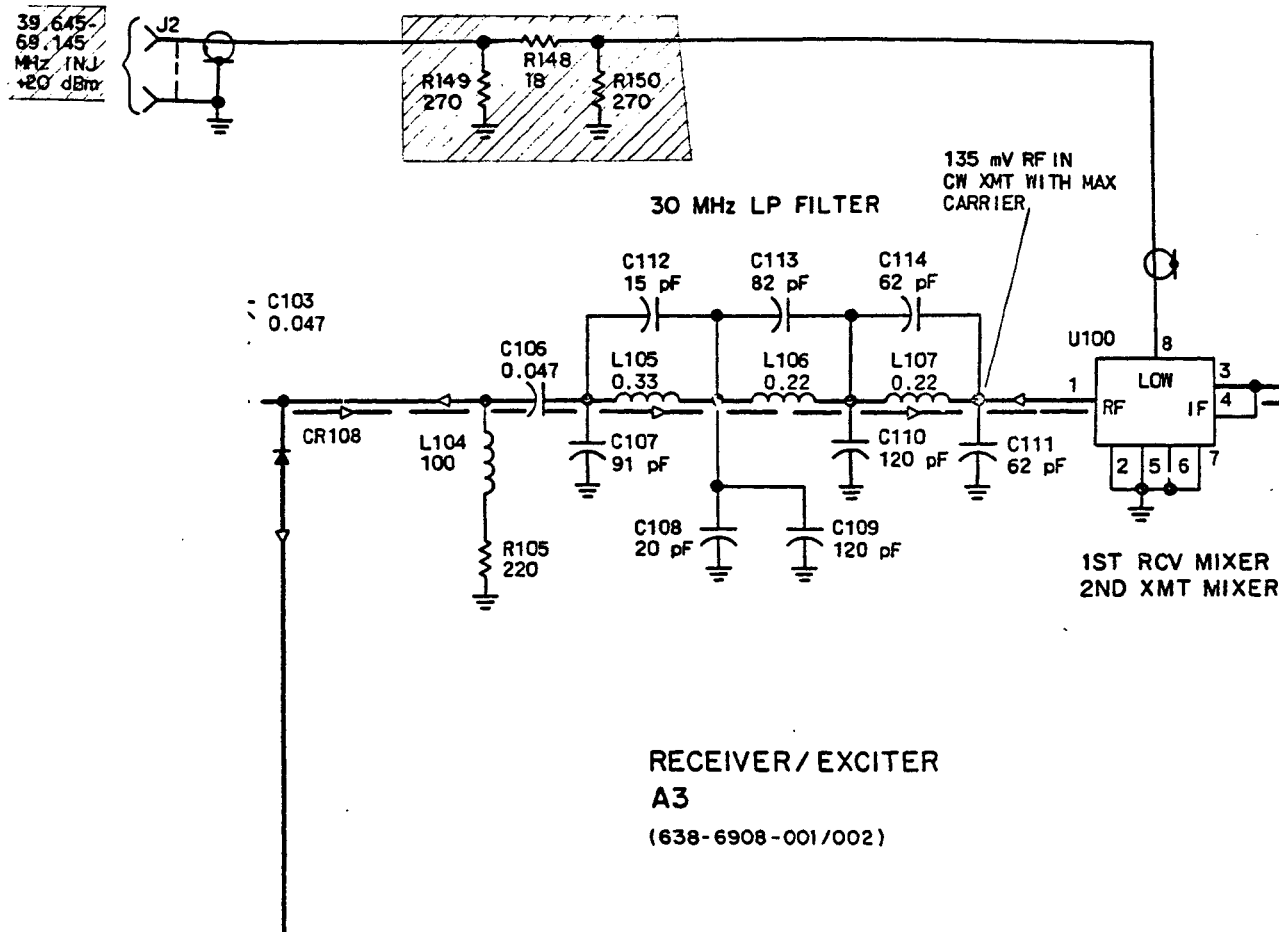


P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 1 of 8)

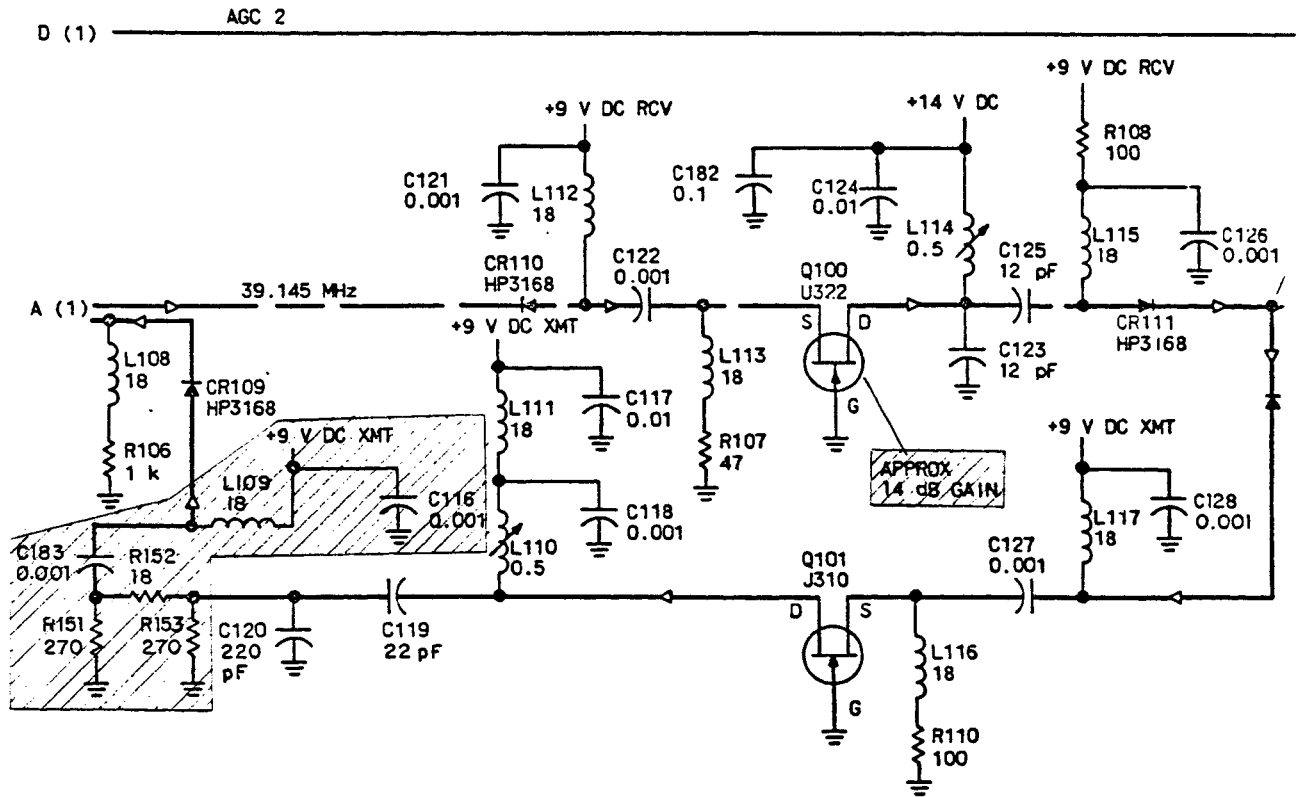


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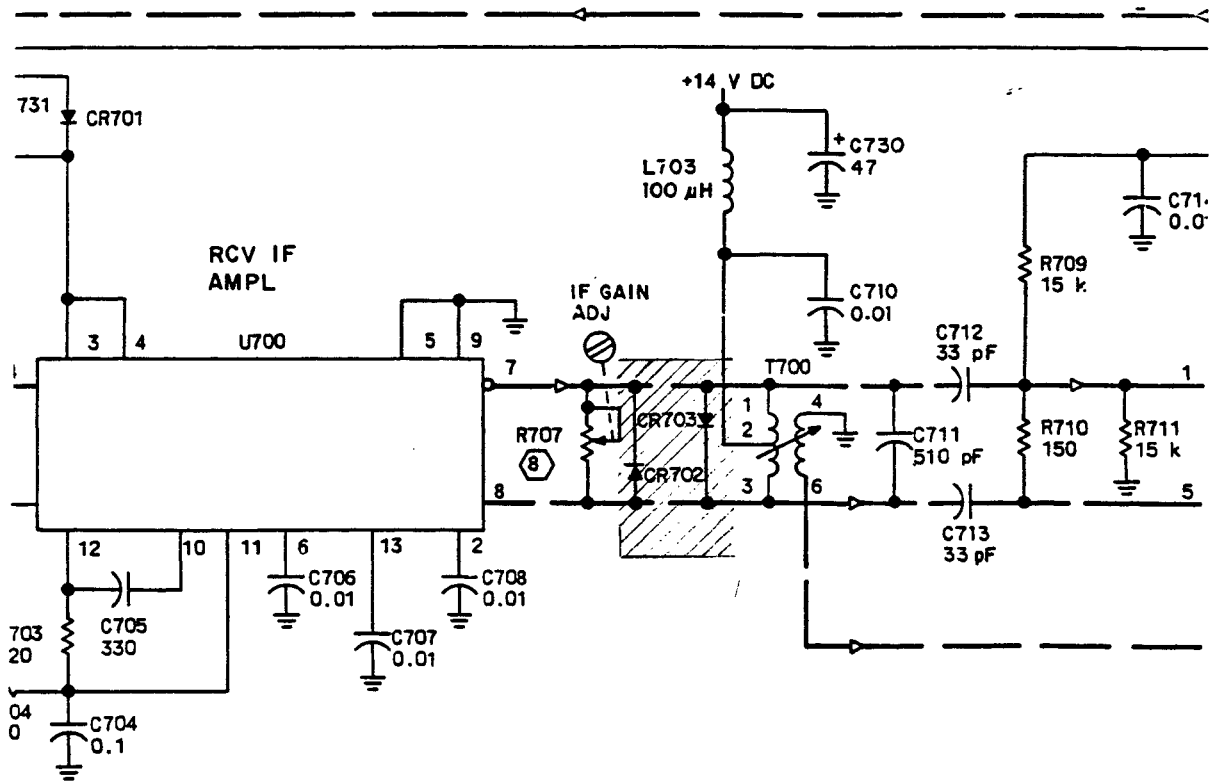
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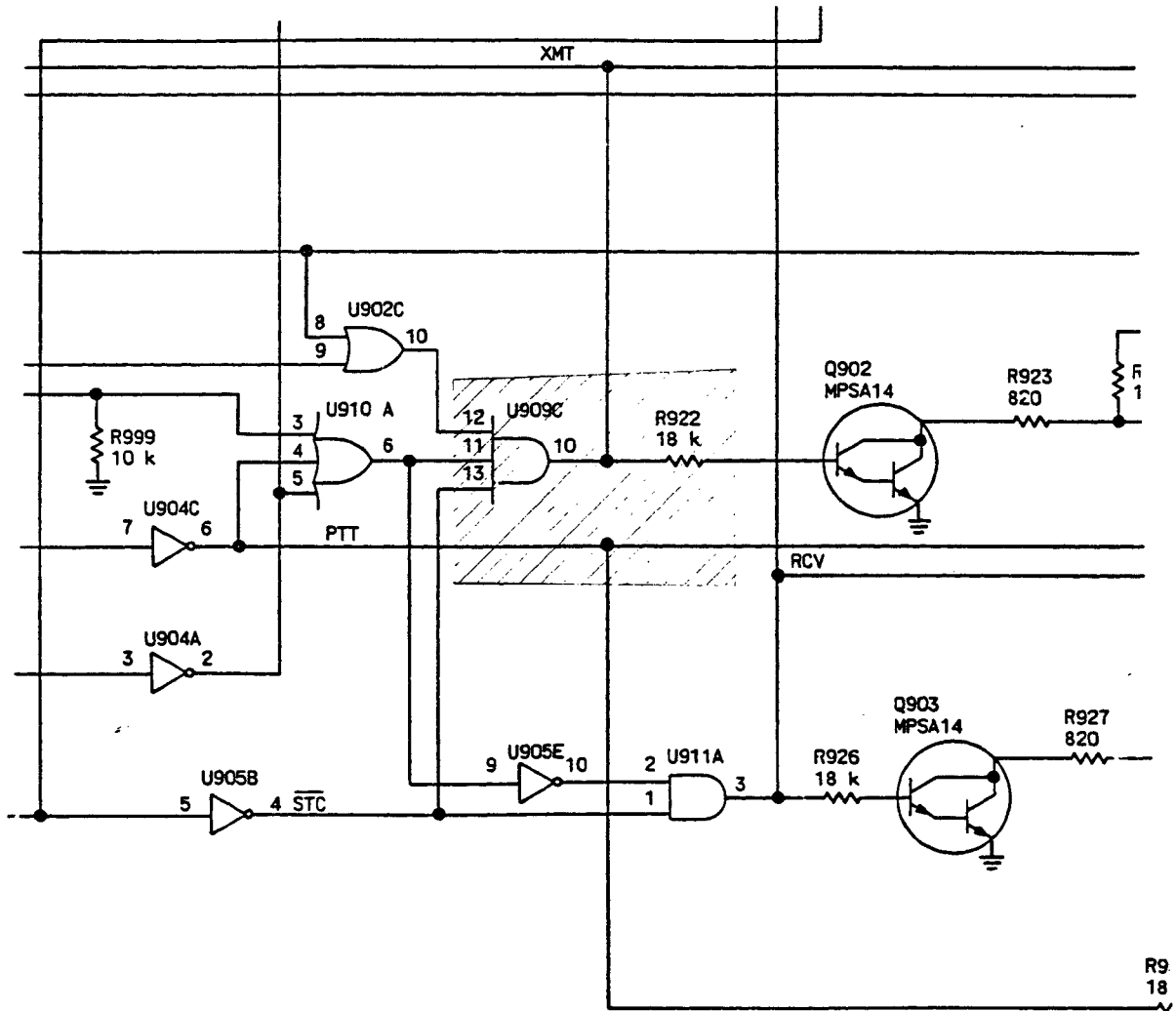
P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 2)



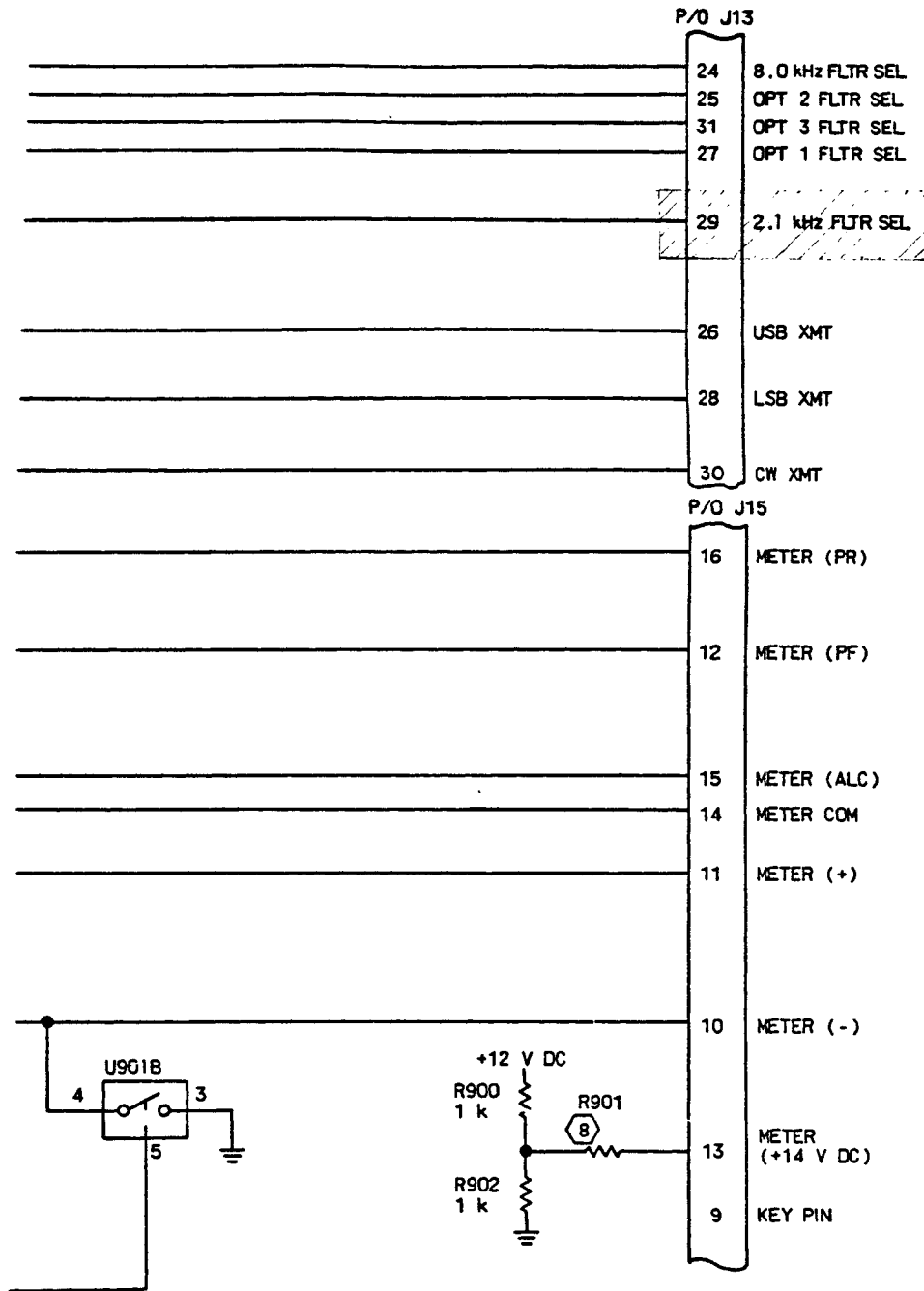
P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 3)



P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 4)



P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 5)

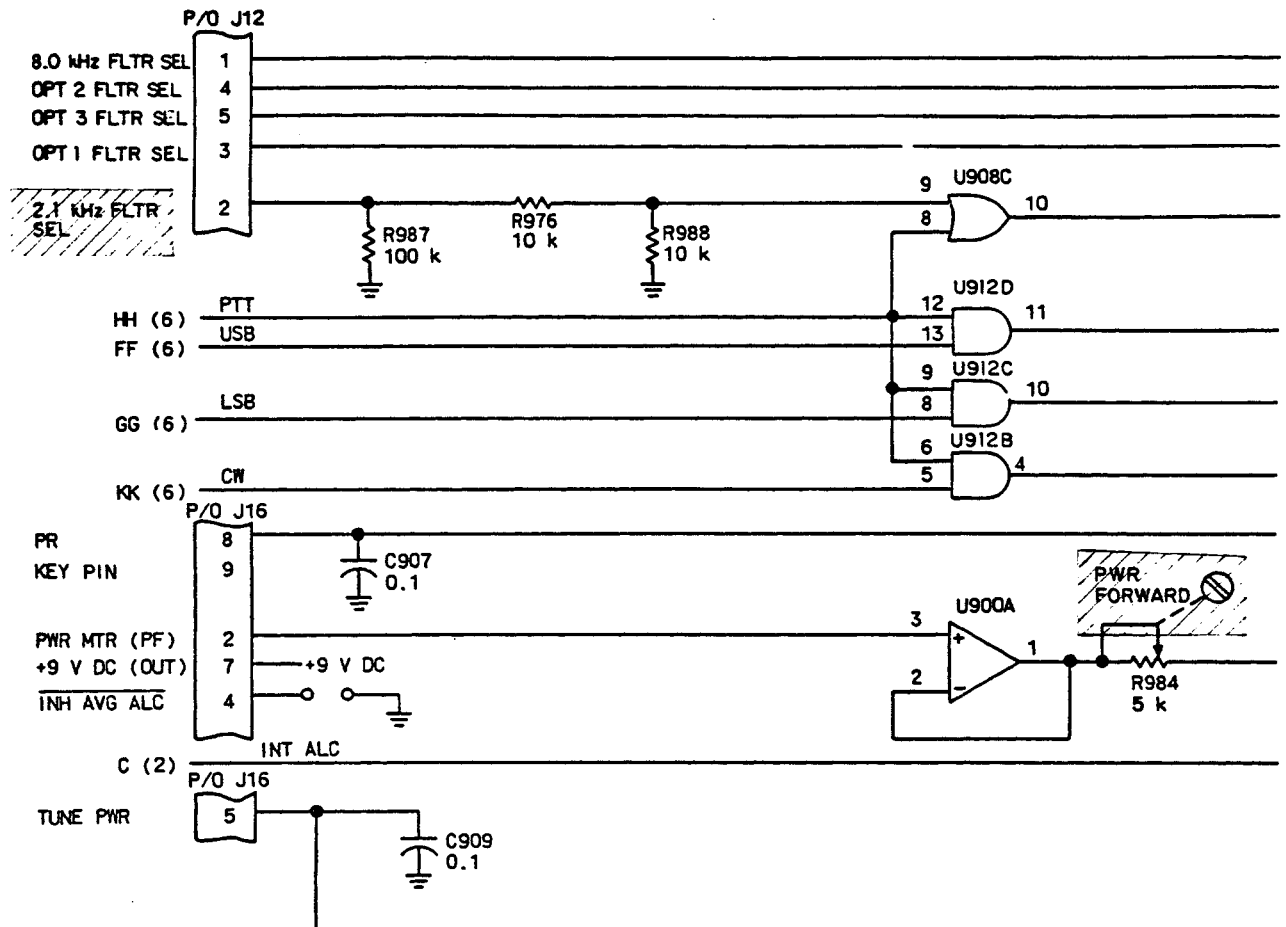


P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 6)



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P/O Receiver/Exciter A3, Schematic Diagram
Figure 2 (Sheet 7)



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NOTES:

- ① UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, INDUCTANCE VALUES ARE IN MILLIHENRYS AND DIODES ARE TYPE 1N4454.
- ② PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION, PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
- ③ RF GAIN, AF GAIN, CARRIER LEVEL, MIC GAIN, VOX AND ANTIVOX GAINS, AND CW AND SSB DELAYS ARE FRONT PANEL CONTROLS.
- ④ SPARE RESISTOR.
- ⑤ J4 AND J5 ARE JUMPERED TOGETHER IF NOISE BLANKER IS NOT INSTALLED.
- ⑥ TYPE DESIGNATIONS SHOWN MAY BE GENERIC IN FORM AND ARE FOR REFERENCE ONLY. SEE APPLICABLE PART LIST FOR REPLACEMENT PARTS.
- ⑦ OPTIONAL SPEECH PROCESSOR CONNECTS BETWEEN J26 AND R508 (MIC GAIN POT)
- ⑧ COMPONENT VALUES THAT DIFFER BETWEEN CARD PART NUMBER ENDINGS.

REF	COMPONENT VALUE	
DES	-001	-002
C119	18 pF	22 pF
C120	180 pF	220 pF
C131	180 pF	220 pF
C132	18 pF	22 pF
C133	18 pF	22 pF
C134	180 pF	220 pF
C162	180 pF	220 pF
C163	18 pF	22 pF
L208	NOT USED	2.7 μH
L209	NOT USED	2.7 μH
R144	715	2200
R216	330	820
R223	330	820
R304	1 M	100 k
R306	1 k	100
R312	47 k	10 k
R314	47 k	10 k
R526	1200	NOT USED
R554	100 k	1 M
R604	100 k	1 k
R702	1 k VAR	NOT USED
R707	22 k FIX	20 k VAR
R901	5600	5900
R990	NOT USED	100 k

CHANGES

- ⑨ THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. SPECIAL HANDLING METHODS AND MATERIALS MUST BE USED TO PREVENT EQUIPMENT DAMAGE.
- ⑩ TEST VOLTAGES AND WAVEFORMS SHOWN ARE NOMINAL.