



SERVICE BULLETIN

Collins Telecommunications Products Division/Rockwell International

● 350487

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

SERVICE BULLETIN NO 18

ELIMINATE RF POWER BURST WHEN UNKEYING TRANSCEIVER

HF/KWM-380 Service Bulletin No 12 must be installed prior to installation of this bulletin. This service bulletin applies to the following:

EQUIPMENT	APPLIES TO SERIAL NUMBERS	PRODUCTION CUT-IN SERIAL NUMBER
HF-380 622-3580-001	206 and below	207
KWM-380 622-5093-001	2099 and below	2100
Production cut-in for receiver-exciter card A3 (638-6908-002) is REV T.		

This modification eliminates the 2-ms rf power burst which occurs when the transceiver is unkeyed. It also increases the delay time to a nominal 20 ms between keying the transceiver and the start of rf output. This allows more time for an external linear amplifier relay to switch into transmit before rf is present.

The change consists of making seven circuit trace cuts; adding seven square pins, two jumper wires, two capacitors, one resistor, and two diodes; changing the value of two capacitors and one resistor.

Estimated time required is 2.0 man-hours.

The modification parts are itemized in the material information paragraph. For additional information concerning parts, contact Collins Telecommunications Products Division/Rockwell International, Service Parts Department, Cedar Rapids, Iowa 52498. Reference HF/KWM-380 Service Bulletin No 18 in all correspondence.

No special tools or equipment are required.

MODIFICATION PROCEDURE

- A. Disconnect primary power and other external cables from the transceiver.



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CAUTION: THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. SPECIAL HANDLING METHODS AND MATERIALS MUST BE USED TO PREVENT EQUIPMENT DAMAGE. THE MAINTENANCE OPERATOR AND ALL TOOLS SHOULD BE GROUNDED.

- B. Set the transceiver on its side with the power transformer on top. Remove the dust cover by removing four screws adjacent to the four feet on the bottom of the transceiver.
- C. Place the transceiver on a work bench with the bottom side up.

NOTE: All changes are made to the receiver-exciter circuit card A3, located on the bottom of the transceiver. Taking care to not damage adjacent components, these modifications can be made without removing A3 from the chassis. Refer to figure 1 for location of components. Refer to figure 2 for a schematic diagram which includes the changes made by this service bulletin.

Unplug ribbon cables, as necessary, to gain access to the areas to be modified.

Use a 25- to 30-watt soldering iron with a tip designed for use with printed circuits. The tip should be clean to ensure proper melting of the solder prior to component removal or when securing new components to the card. Take care to avoid application of excessive heat.

- D. Cut the circuit trace just below U911 to disconnect U910-8 from R922.
- E. Cut the circuit trace to the right of R922 to disconnect R922 from the rest of the circuit line.
- F. Make five circuit cuts near U913 to disconnect U913-8, -9 from ground. U913-8 and U913-9 will still be connected together.
- G. Remove and discard resistor R968. Mount a new 10-k Ω resistor R968 (745-0785-000) above R947 as shown in detail M, section DD, to make room for a square pin.
- H. Refer to figure 1, detail M, for location and install five square pins (372-2601-045). Lift component leads, as necessary, and reconnect the leads to the pins after the square pins are installed.
- I. Lift the right-hand lead of L517 and install a square pin (372-2601-045) in the hole vacated by the lead. Connect the L517 lead to the new square pin.
- J. Install 1N4454 diode CR510 (353-3644-010) with the cathode connected to the square pin at the right-hand lead of L517 and the anode connected to the square pin at the left-hand lead of C554.
- K. Install a jumper wire (428-0282-050) from the square pin at the bottom lead of R922 to the thru hole to the right of U913-9.



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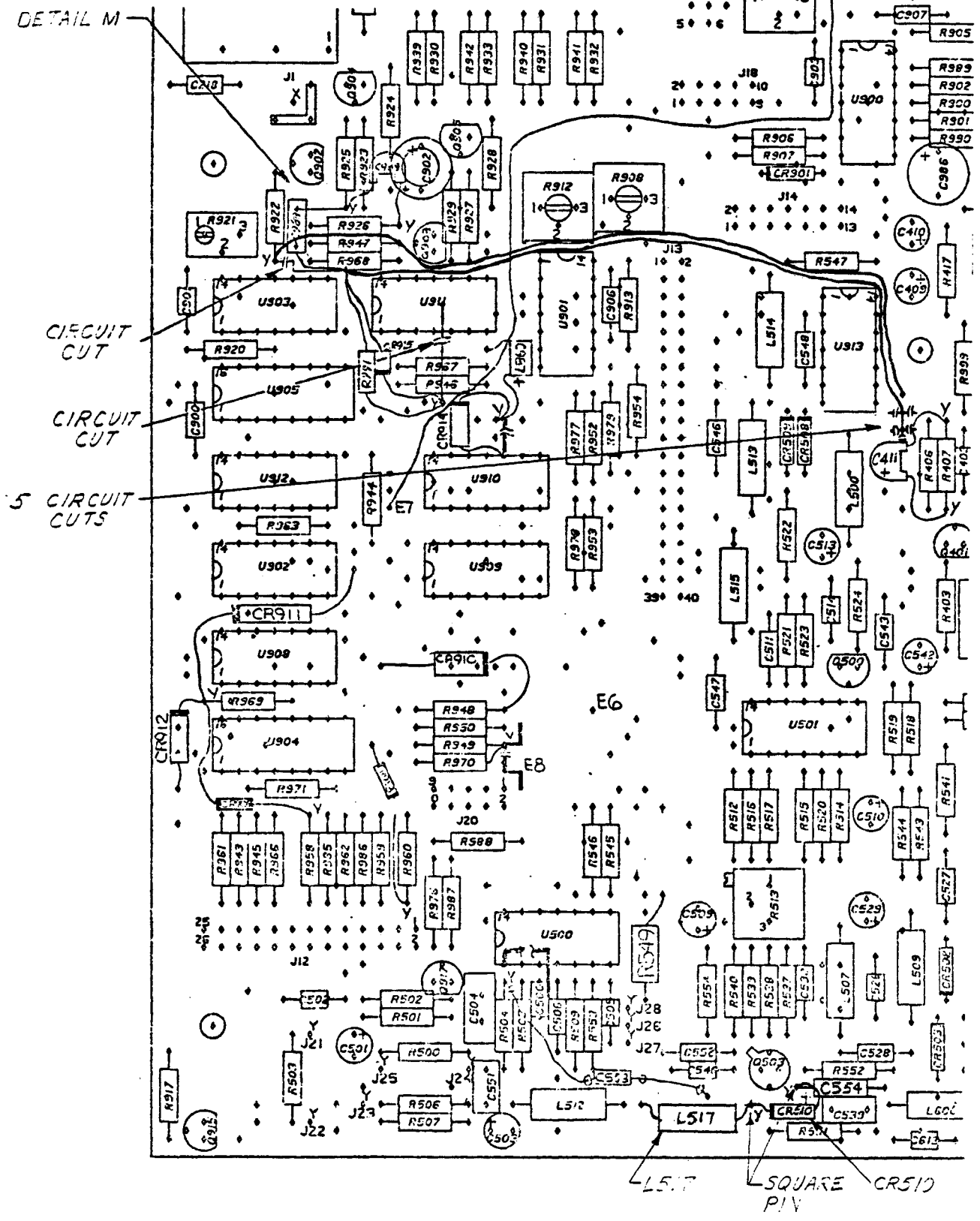
- L. Install a jumper wire (428-0282-050) from the square pin just below R968 to the thru hole to the right of U913-8.
- M. Remove 47- μ F capacitor C902 and replace it with a 10- μ F capacitor (184-9102-610).
- N. Install 0.1- μ F capacitor C988 (913-5019-440) from the square pin at the bottom lead of R925 to the square pin below R968.
- O. Install 1.5- μ F capacitor C989 (184-9102-800) with the positive lead connected to the square pin at the right-hand lead of R926 and the other lead connected to the square pin at the bottom of R925. Refer to figure 1, detail M, section D-D.
- P. Install 220-k Ω resistor R991 (745-0833-000) from the square pin below R968 to the square pin below R946.
- Q. Install 1N4454 diode CR915 (353-3644-010) with the anode to the square pin below R968 and the cathode to the square pin below R946.
- R. Solder and inspect all new connections.
- S. Mark SB 18 on the receiver-exciter card near the part number.
- T. Reinstall the dust cover.
- U. Mark SB 18 on the service bulletin information chart. If the equipment does not have an information chart (280-3778-010), order one and attach it near the nameplate.

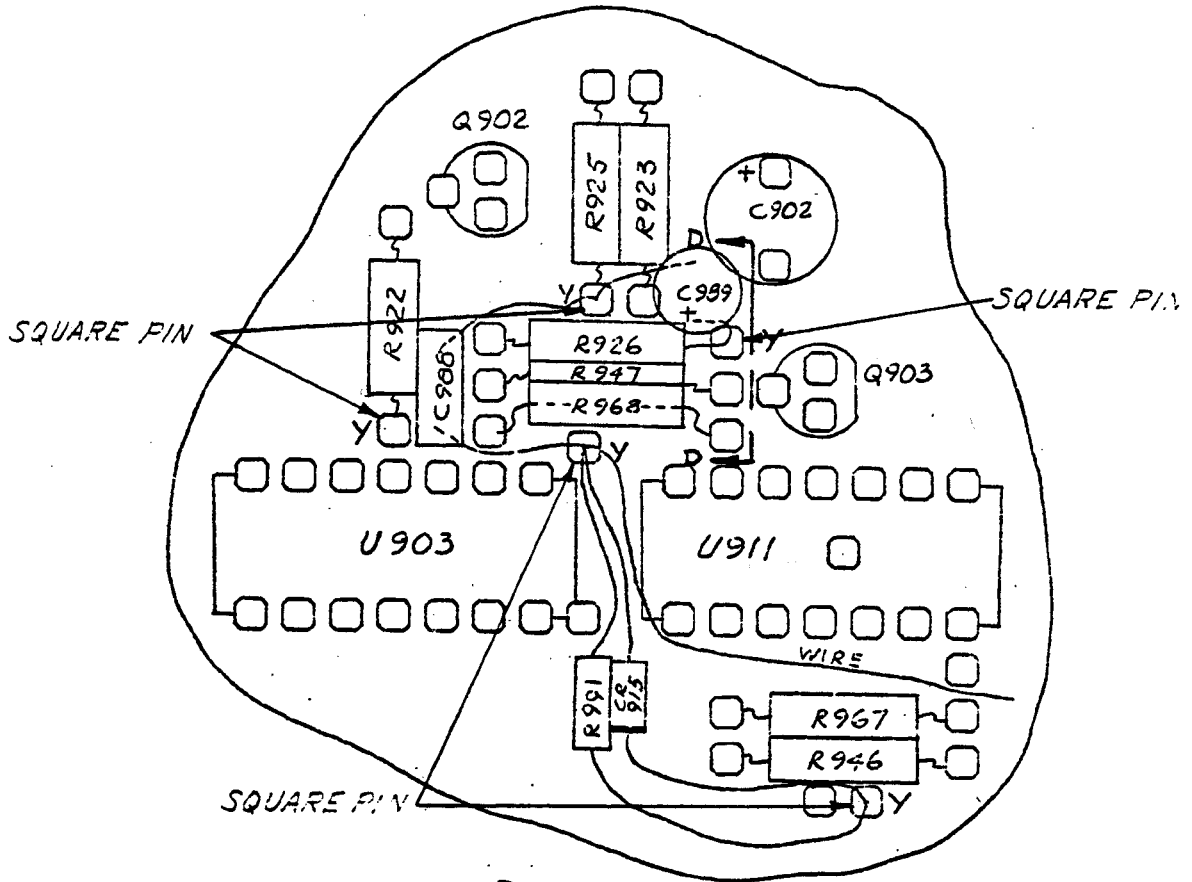
MATERIAL INFORMATION

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

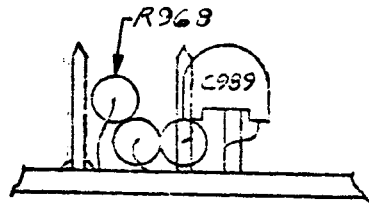
<u>COLLINS PART NUMBER</u>	<u>QTY</u>	<u>UNIT PRICE</u>	<u>DESCRIPTION</u>
745-0785-000	1		Resistor, 10 k Ω , R968
372-2601-045	7		Pin, square
913-5019-460	1		Capacitor, 0.15 μ F, C554
353-3644-010	2		Diode, 1N4454, CR510, CR915
184-9102-610	1		Capacitor, 10 μ F, C902
913-5019-440	1		Capacitor, 0.1 μ F, C988
184-9102-800	1		Capacitor, 1.5 μ F, C989
745-0833-000	1		Resistor, 220 k Ω , 1/4W, R991
428-0282-050	450 mm (18 in)		Wire, #30 AWG
*280-3778-010	1		Chart, information

*Order if needed.



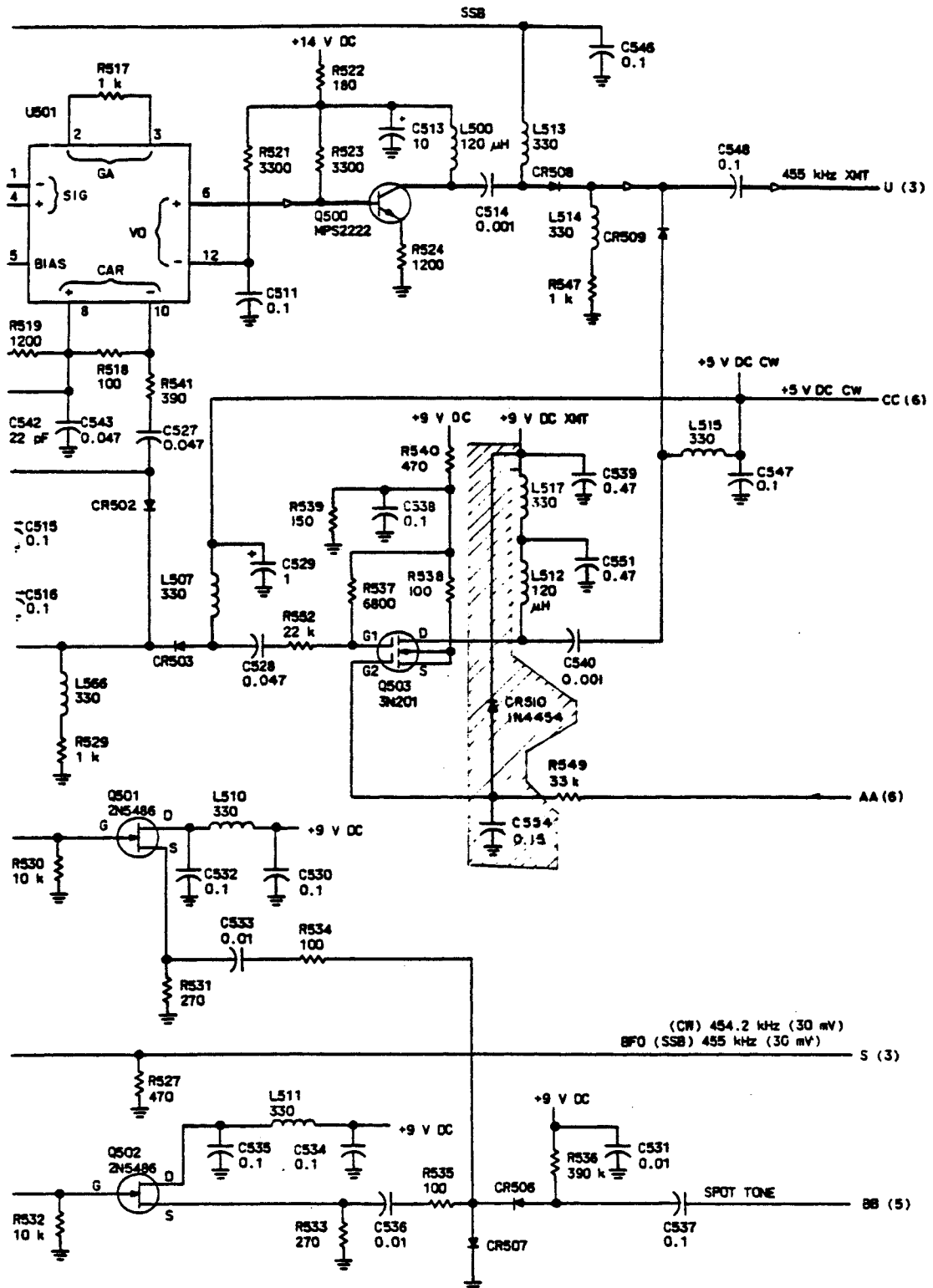


DETAIL M



SECTION D-D
ROTATED 90°
CLOCKWISE

P/O Receiver-Exciter Circuit Card A3.
Figure 1 (Sheet 2)

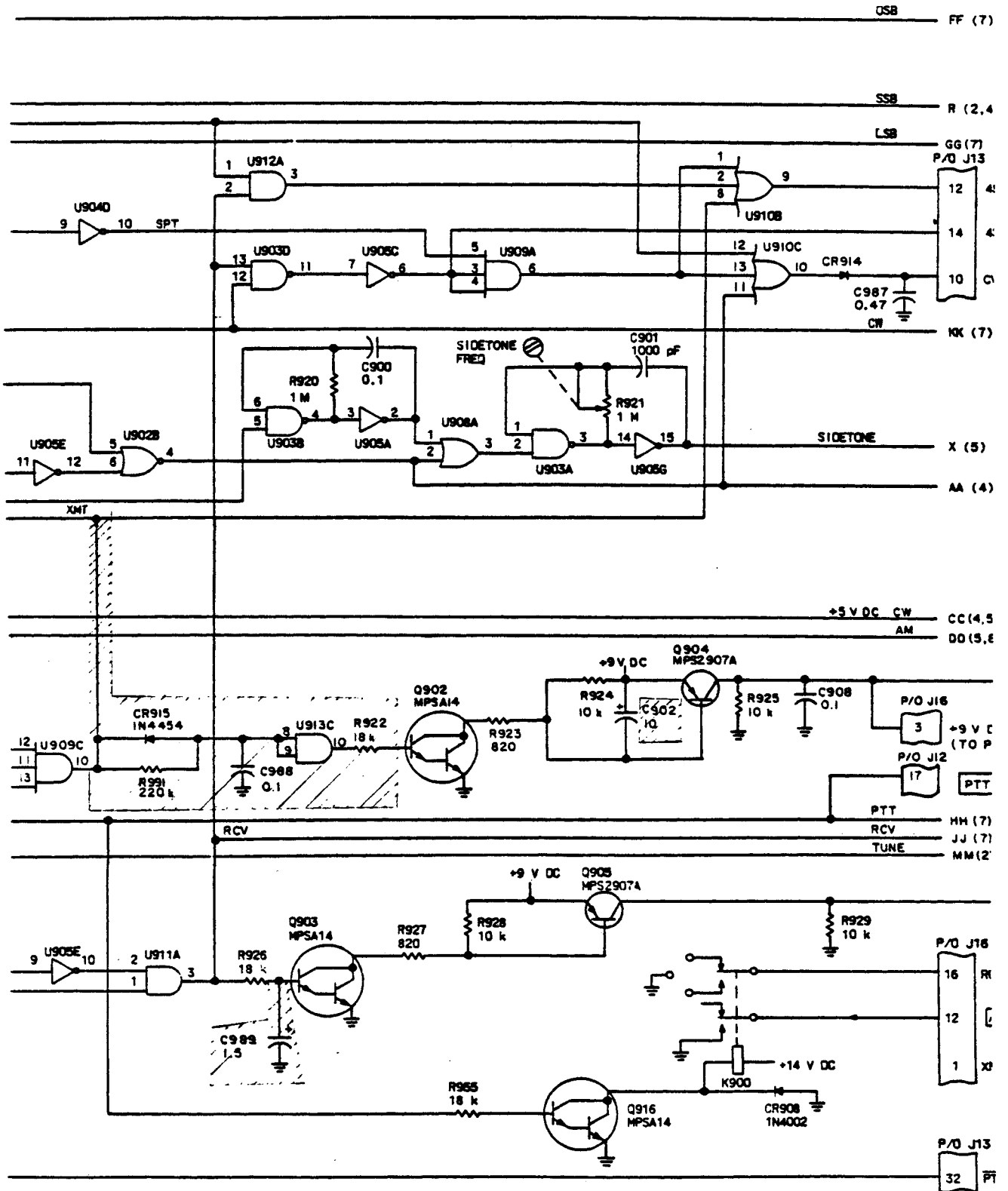


634-6913
TPA-1687-084



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

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