

**AC-3803 CONTROL INTERFACE KIT (641-7150-001)
CONTROL INTERFACE CIRCUIT CARD (638-6910-001)****SERVICE BULLETIN NO 1****IMPROVE RFI FILTERING AND ENSURE COMPATIBILITY WITH CU-380 COUPLER**

This service bulletin applies to AC-3803 (641-7150-001) kits containing control interface cards (638-6910-001) with REV G and below.

Production cut-in is control interface card REV H.

Rfi filtering is improved by changing ground paths on the circuit card to increase the effectiveness of the bypass capacitors. More ground paths are provided to reduce inductance. This will help prevent transmitted rf from getting back into the radio causing transmit inhibit condition.

To ensure compatibility with the CU-380 coupler, the following changes are made:

- A. Rfi resistors are changed to inductors in the coupler interface lines to reduce the voltage drop.
- B. Two new functions, +14 V dc and ALC, are added. Inductors and capacitors are added to filter the new lines.

Estimated time required is 2.0 man-hours.

The modifications 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 AC-3803 Service Bulletin No 1 in all correspondence.

No special tools or equipment are required.

MODIFICATION PROCEDURE

NOTE: Figure 1 is the REV E configuration and figure 2 is the REV H configuration of the circuit card. Refer to figures 1 and 2 for location of components. Refer to figure 3 for a schematic diagram which includes the following changes. 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.

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- A. Remove and discard resistor R24 and capacitor C24.
- B. Remove 10-k Ω resistors R20, R21, R22, R23, and R25 and replace them with 560- μ H inductors L20, L21, L22, L23, and L25 (240-2723-050).
- C. Remove 10-k Ω resistors R11 through R17 and replace them with 560- μ H inductors L11 through L17 (240-2723-050).
- D. Remove and discard two screws and two flat washers that secure connector J3 to the circuit card. Save the hex posts and lockwashers for reassembly. Circuit cards with REV F and REV G will have two terminal lugs attached to the circuit card by the J3 mounting screws. A white wire will be connected to one terminal lug. The other end of the wire will connect to the ground lug at J6 (AUD OUT) on the rear panel of the HF-380 or KWM-380 when the circuit card is installed.

NOTE: All of the parts, components, and wires installed in the following steps are installed on the bottom of the circuit card. Route jumper wires as direct and as short as possible.

- E. Install terminal strip TB1 (306-0083-000) as shown in figure 2 using two screws (343-0134-000), two lockwashers (removed in step D), two terminal lugs (removed in step D), and two fiber washers (302-4800-000).
- F. Install 0.01- μ F capacitor C19 (913-5019-200) from TB1-1 to TB1-3 using sleeving (152-2483-000) on the leads.
- G. Install 0.01- μ F capacitor C18 (913-5019-200) from TB1-5 to TB1-6.
- H. Install 560- μ H inductor L19 (240-2723-050) from TB1-3 to TB1-4.
- I. Install 2- μ H inductor L18 (240-0979-010) from TB1-2 to TB1-5 using sleeving (152-3991-000) on the body of L18.

NOTE: Steps J through M and P are not required for circuit cards with REV F and REV G.

- J. Install a #26 insulated bus wire (428-4822-000) from TB1-1 to the top of capacitor C9.
- K. Install a #26 insulated bus wire (428-4822-000) from TB1-1 to E4.
- L. Install a #26 insulated bus wire (428-4822-000) from TB1-1 to E3.
- M. Install a #26 insulated bus wire (428-4822-000) from TB1-6 to E5.
- N. Install a #26 insulated bus wire (428-4822-000) from TB1-3 to J3-19.
- O. Install a #22 insulated bus wire (428-4824-000) from TB1-5 to J3-18.
- P. Prepare a 50-mm (2-in) length of white wire (439-4000-000) by stripping 4.8 mm (3/16 in) of insulation from each end. Connect one end to TB1-6. The other end will

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connect to the ground lug at J6 (AUD OUT) on the rear panel of the HF-380 or KWM-380.

- Q. Prepare a 438-mm (17.5-in) length of red wire (439-4032-000) by stripping 4.8 mm (3/16 in) of insulation from each end. Connect one end to TB1-2. The other end will run along the chassis toward the wire bundle coming from the A9A1 power supply control card. The wire will pass through the chassis with the wire bundle and connect to the +14-V lug on top of the chassis. This lug is located on top of a metal bracket and has two wires and several resistors connected to it.
- R. Prepare a 113-mm (4.5-in) length of yellow wire (422-0798-000) by stripping 4.8 mm (3/16 in) of insulation from each end. Connect one end to TB1-4. The other end will connect to the center pin at J3 (ALC) on the HF-380 or KWM-380 rear panel.
- S. Solder and check all new connections.
- T. Mark RWK REV H on the circuit card near the existing REV letter.

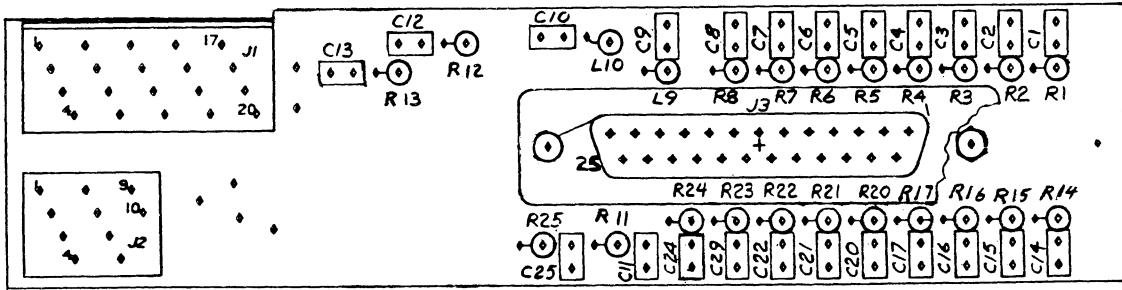
MATERIAL INFORMATION

The parts listed below are required to modify one AC-3803.

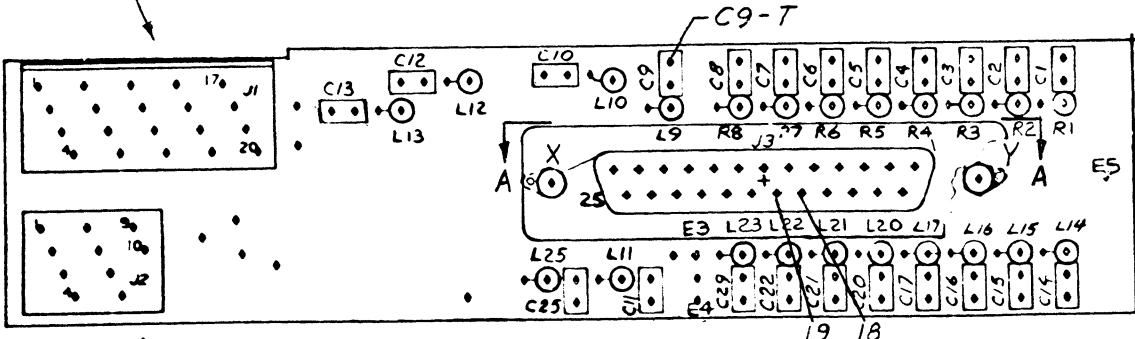
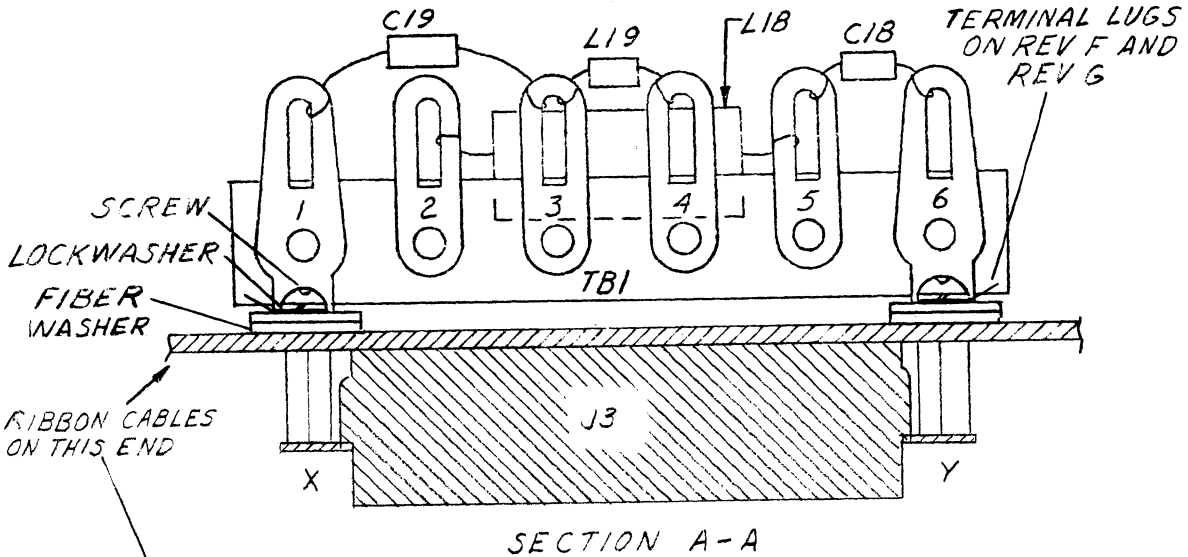
<u>COLLINS PART NUMBER</u>	<u>QTY</u>	<u>UNIT PRICE</u>	<u>DESCRIPTION</u>
240-2723-050	13		Inductor, 560 μ H, L20, L21, L22, L23, L25, L11 through L17, L19
306-0083-000	1		Terminal strip, TB1
343-0134-000	2		Screw, 0.112-40 x 0.312
302-4800-000	2		Washer, fiber, 0.112
913-5019-200	2		Capacitor, 0.01 μ F, C18, C19
152-2483-000	50 mm (2 in)		Sleeving, insulation
240-0979-010	1		Inductor, 2 μ H, L18
152-3991-000	50 mm (2 in)		Sleeving, insulation
428-4822-000	300 mm (1 ft)		Wire, #26 insulated bus
428-4824-000	50 mm (2 in)		Wire, #22 insulated bus
439-4000-000	50 mm (2 in)		Wire, A22TA00X9XXX (white)
439-4032-000	438 mm (17.5 in)		Wire, A22TA00X2XXX (red)
422-0798-000	113 mm (4.5 in)		Wire, D26TA00X4XXX (yellow)

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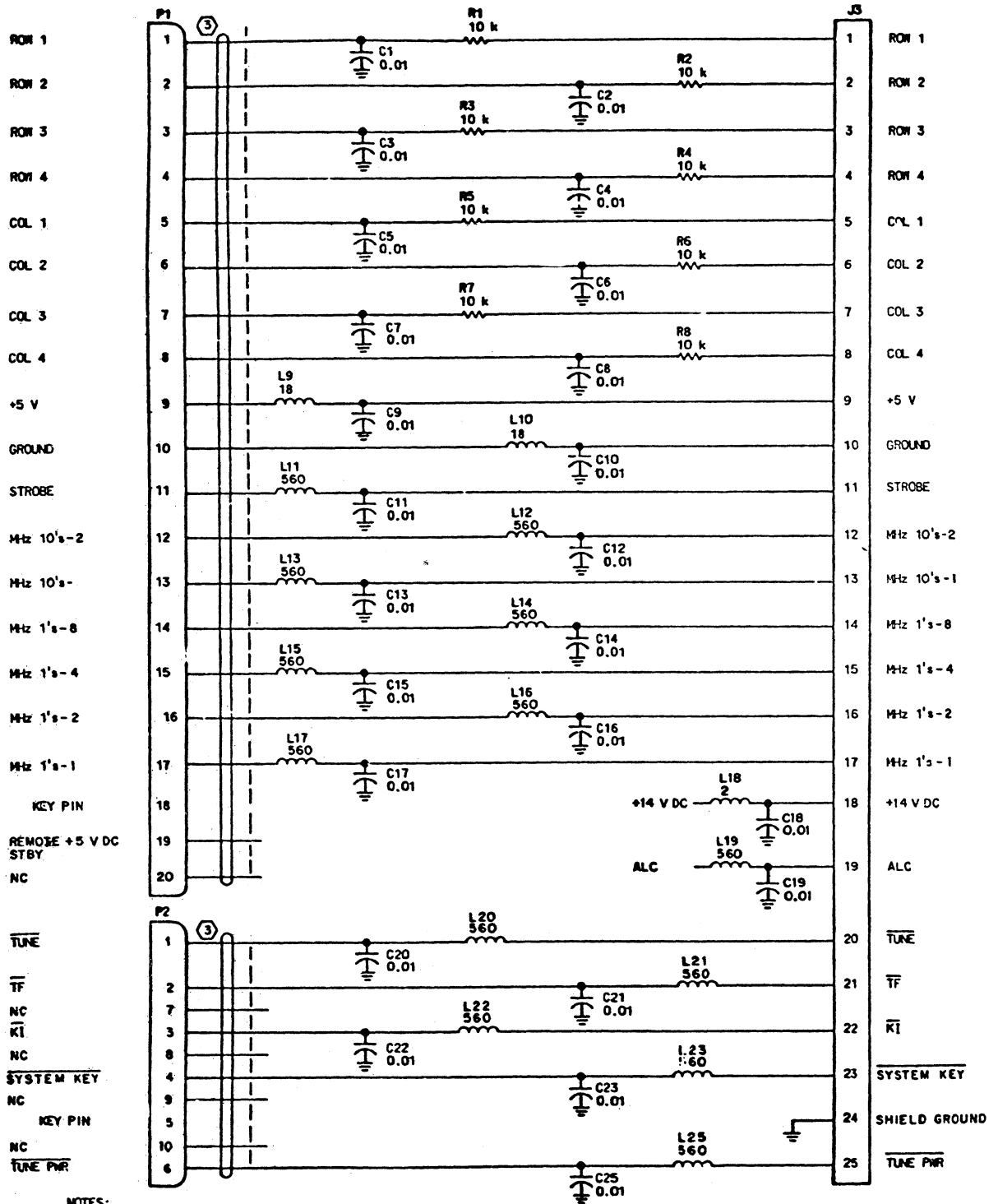


Control Interface Circuit Card Assembly, REV E
Figure 1



COMPONENT SIDE SHOWN

Control Interface Circuit Card Assembly, REV H
Figure 2



NOTES:

- ① UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS AND INDUCTANCE VALUES ARE IN MICROHENRYS.
- ② PARTIAL REFERENCE DESIGNATIONS ARE SHOWN, FOR COMPLETE DESIGNATION PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
- ③ PENDANT CABLE.

Control Interface Circuit Card Assembly,
Schematic Diagram
Figure 3