

June 15, 1973

REVISION 1  
TO  
51S-1 SERVICE BULLETIN NO 2

Attached is a revised issue of 51S-1 HF Receiver, Service Bulletin No 2 titled, "Replace Transformers T14 and T15 with Mechanical Filter" originally dated 22 June 1964.

The revision consists of:

1. Page 1, paragraph 7, the referenced 51S-1 Receiver Instruction Book, Collins part number 523-0097-000, has been added.
2. Page 1, the kit price has been reduced to \$66.31 from \$78.64.
3. Page 1, a note introducing two production configurations (A and B) has been added.
4. Page 2, modification procedure steps (2) and (3) cover both production configurations. These procedure steps change the value of the input and output resonating capacitors.
5. Page 2, paragraph following the modification procedures has been added to provide procedures for testing the modification results.
6. Page 3, a service bulletin identification procedure has been added.
7. Page 3, modification information chart (Collins part number 280-3779-010), has been added to the list of parts.
8. Page 4, figure 1, partial schematic diagrams showing production configuration A before and after the modification has been added.
9. Page 5, figure 2, partial schematic diagrams showing production configuration B before and after the modification has been added.

Black bars in the margin indicate the change locations.

Replace the original service bulletin with the revised issue.



# SERVICE BULLETIN

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FROM: AMATEUR COMMUNICATIONS PRODUCT MANAGEMENT, CEDAR RAPIDS,  
IOWA 52406

51S-1 COMMUNICATIONS RECEIVER (522-2245-030)  
51S-1A COMMUNICATIONS RECEIVER (522-2546-030)  
51S-1AF COMMUNICATIONS RECEIVER (522-3156-001)  
51S-1B COMMUNICATIONS RECEIVER (522-3857-001)  
51S-1F COMMUNICATIONS RECEIVER (522-2498-001)

## SERVICE BULLETIN NO 2

SUBJECT: Replacement of transformers T14 and T15 with mechanical filter

Applicable to all 51S-1( ) receivers as an option; the modification is not essential to good operation.

Production cut-in: the changes in this service bulletin will not be incorporated in production receivers.

Provides the 51S-1( ) receiver with improved skirt selectivity when in the AM operating mode.

This modification replaces IF transformers T14 and T15 with a Collins mechanical filter. Resonating capacitors are added depending upon the circuit configuration.

An estimated 4 manhours are required to perform this modification.

Modification kit, Collins part number 549-2835-000 (itemized in paragraph 3), is available for shipment within 30 days after receipt of order at a price of \$66.31. The price is subject to change without notice; minimum order charge is \$25.00. Order from Collins Radio Company, Service Parts Department, Cedar Rapids, Iowa 52406. When ordering, specify the kit part number and reference this 51S-1( ) Service Bulletin No 2.

When performing this modification, refer to 51S-1/1A/1F/1AF/1B Receiver Instruction Book, Collins part number 523-0097-000, ninth edition dated 1 July 1969.

## MODIFICATION PROCEDURES

**NOTE:** The modification procedures depend upon the circuit configuration of the receiver. Configuration A in figure 1 shows fixed resonating capacitors (C127 through C132) across the input and output of each filter. Configuration B in figure 2 is the same circuit except C127 through C132 are removed and resonating capacitors C127 and C130 are switched to the input and output of the selected filter.

- a. Disconnect all wiring from IF transformers T14 and T15; remove the transformers from the chassis.



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- b. Disconnect from S2B, the wire which was at T15. For configuration A, connect wire (421-2220-000) and parallel 51 pF (912-3858-000) and 62 pF (912-3864-000) capacitors to S2B as shown in figure 1.

For configuration B, connect wire (421-2220-000) and 51 pF (912-3858-000) capacitor to S2B as shown in figure 2.

- c. Disconnect from S2A, the wire which was at T14. For configuration A, connect wire (421-2220-000) and parallel 51 pF (912-3858-000) capacitors to S2A as shown in figure 1.

For configuration B, connect wire (421-2220-000) and 51 pF (912-3858-000) capacitors to S2A as shown in figure 2.

- d. Remove the bus wire from GRD1 that was connected to T14 and T15. Connect wire (422-2220-000) and loose end of capacitor in step b. to GRD 1. Insulate wire with sleeve (152-1558-000). Refer to figure 3.
- e. Connect bus wire (422-2220-000) and loose end of capacitor in step c. to GRD 2 (figure 3).
- f. Install plate covers (549-2836-002) on top of chassis; leave the screw hole to which the nylon filter clamp will be installed (step i.).
- g. Install wires from S2A and GRD 2 to mechanical filter (526-9378-000). Refer to figure 3.
- h. Install wires from S2B and GRD 2 to mechanical filter.
- i. Place nylon clamp over the mechanical filter and secure clamp to chassis hole (step f.).

If test equipment is available and a bandpass check is desired, refer to paragraph 4.4.3 in the referenced instruction book.

Enter SB2-R1 on the modification information chart on rear of the receiver. If no chart, one may be ordered separate from the kit. When attaching a new chart, enter both SB1 and SB2-R1 (provided SB1 modification has been installed). The length of the information chart may be changed to fit the selected location on the receiver.

### MATERIAL INFORMATION

All parts required to modify one 51S-1( ) Receiver are contained in modification kit, Collins part number 549-2835-000. The following is a list of parts in the kit.

| NEW COLLINS        |            |              |                                    | REPLACED           |                     |
|--------------------|------------|--------------|------------------------------------|--------------------|---------------------|
|                    |            |              |                                    | COLLINS            | INSTRUCTIONS        |
| <u>PART NUMBER</u> | <u>QTY</u> | <u>PRICE</u> | <u>DESCRIPTION</u>                 | <u>PART NUMBER</u> | <u>-DISPOSITION</u> |
| 150-1544-000       | 1          |              | Clamp, nylon<br>(HP-7N)            |                    |                     |
| 152-1558-000       | 1.1 ft     |              | Sleeving, Teflon<br>(SV-HC-2-22-0) |                    |                     |



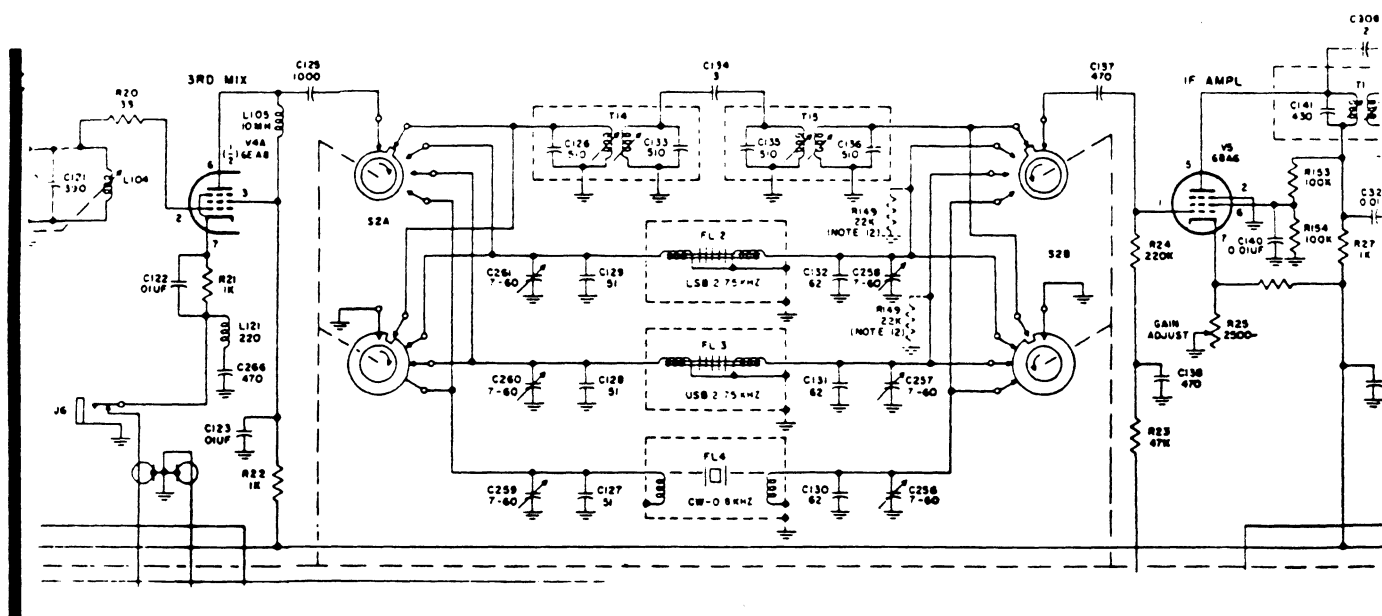
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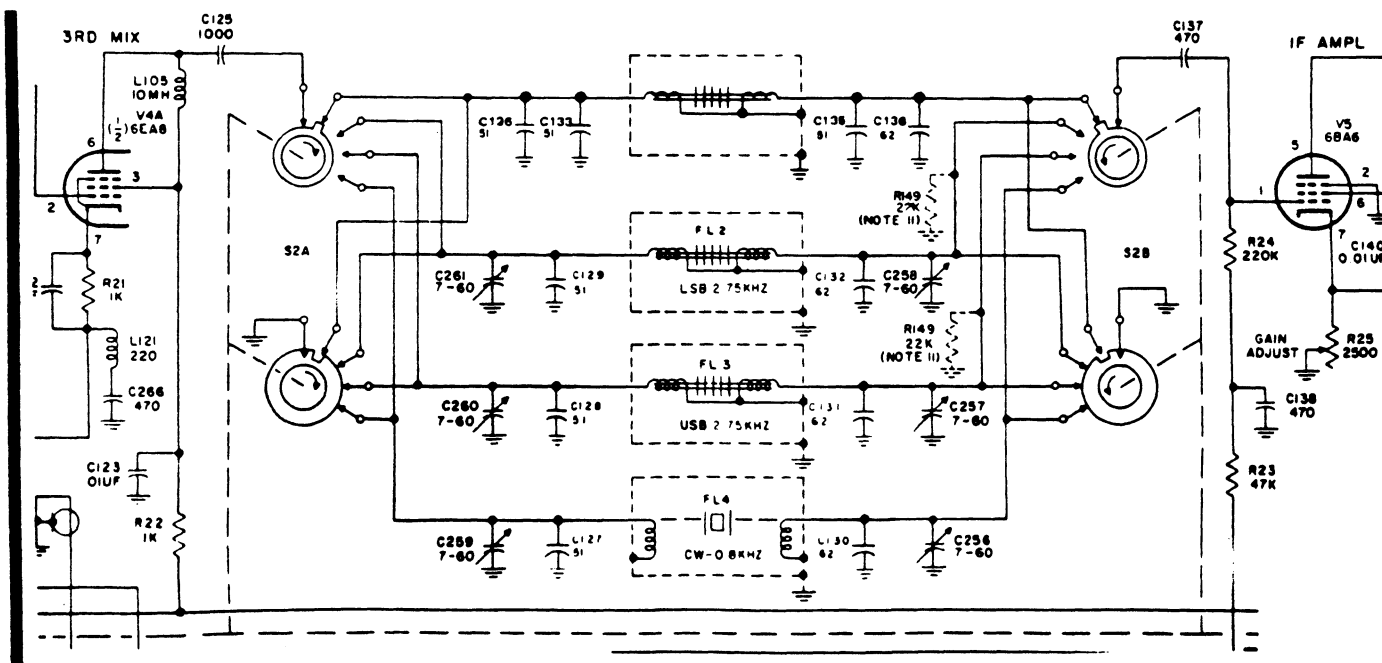
| NEW COLLINS        |            |              |                      | REPLACED                             | INSTRUCTIONS |
|--------------------|------------|--------------|----------------------|--------------------------------------|--------------|
| <u>PART NUMBER</u> | <u>QTY</u> | <u>PRICE</u> | <u>DESCRIPTION</u>   | <u>COLLINS</u><br><u>PART NUMBER</u> |              |
| *280-3779-010      | 1          |              | Mod. Info. Chart     |                                      |              |
| 310-0054-000       | 2          |              | Washer, flat         |                                      |              |
| 310-0076-000       | 4          |              | Washer, splttlock    |                                      |              |
| 313-0156-000       | 4          |              | Nut, 4-40            |                                      |              |
|                    |            |              | (P313-0156-000)      |                                      |              |
| 343-0285-000       | 3          |              | Screw, 4-40 x 1/2"   |                                      |              |
|                    |            |              | (P343-0285-000)      |                                      |              |
| 421-2220-000       | 1.1 ft     |              | Wire, No. 22 AWG bus |                                      |              |
|                    |            |              | (QQW243TYPE SAWG-    |                                      |              |
|                    |            |              | 22)                  |                                      |              |
| 526-9378-000       | 1          |              | Filter, mechanical   |                                      |              |
| 541-5974-002       | 1          |              | Spacer, tubular      |                                      |              |
| 549-2836-002       | 2          |              | Plate, cover         |                                      |              |
| 912-3858-000       | 3          |              | Capacitor, 51 pF     |                                      |              |
|                    |            |              | (CM04ED510J03)       |                                      |              |
| 912-3864-000       | 1          |              | Capacitor, 62 pF     |                                      |              |
|                    |            |              | (CM04ED620J03)       |                                      |              |

\*Info chart, not part of kit.

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### Configuration A Before Modification



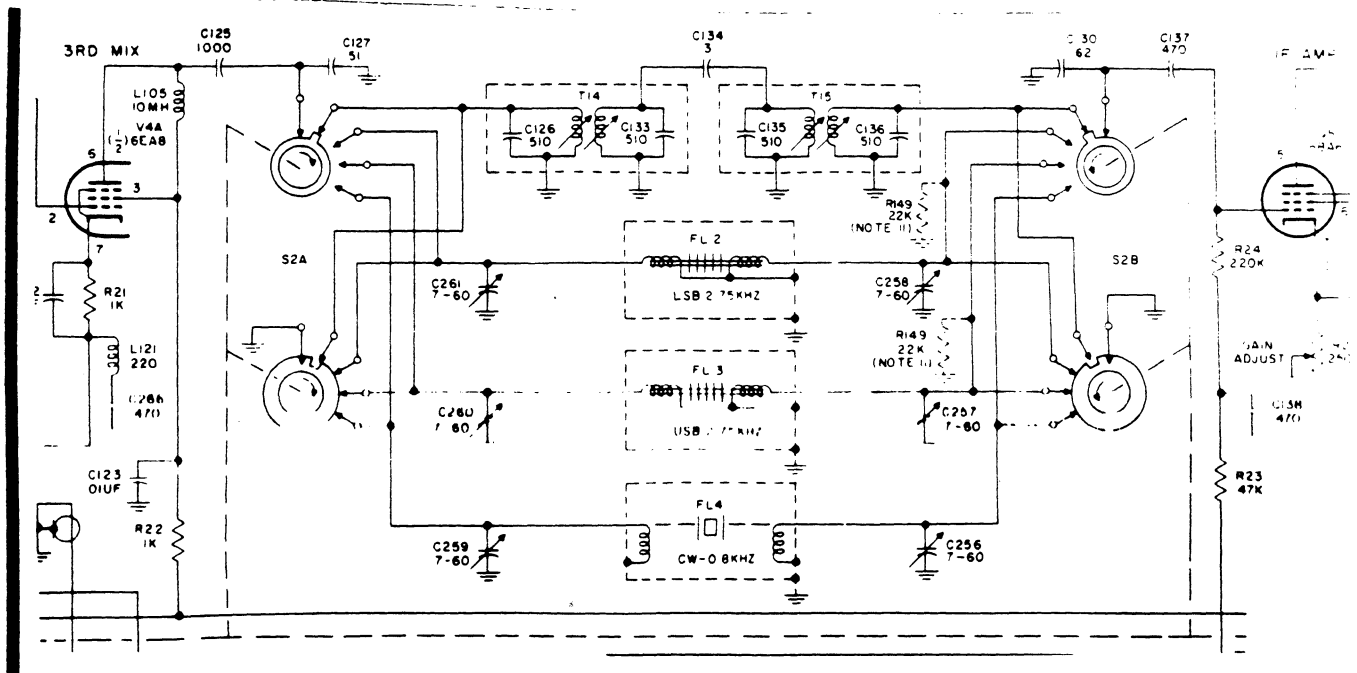
### Configuration A After Modification

51S-1 HF Receiver, Partial Schematic Diagram  
Figure 1

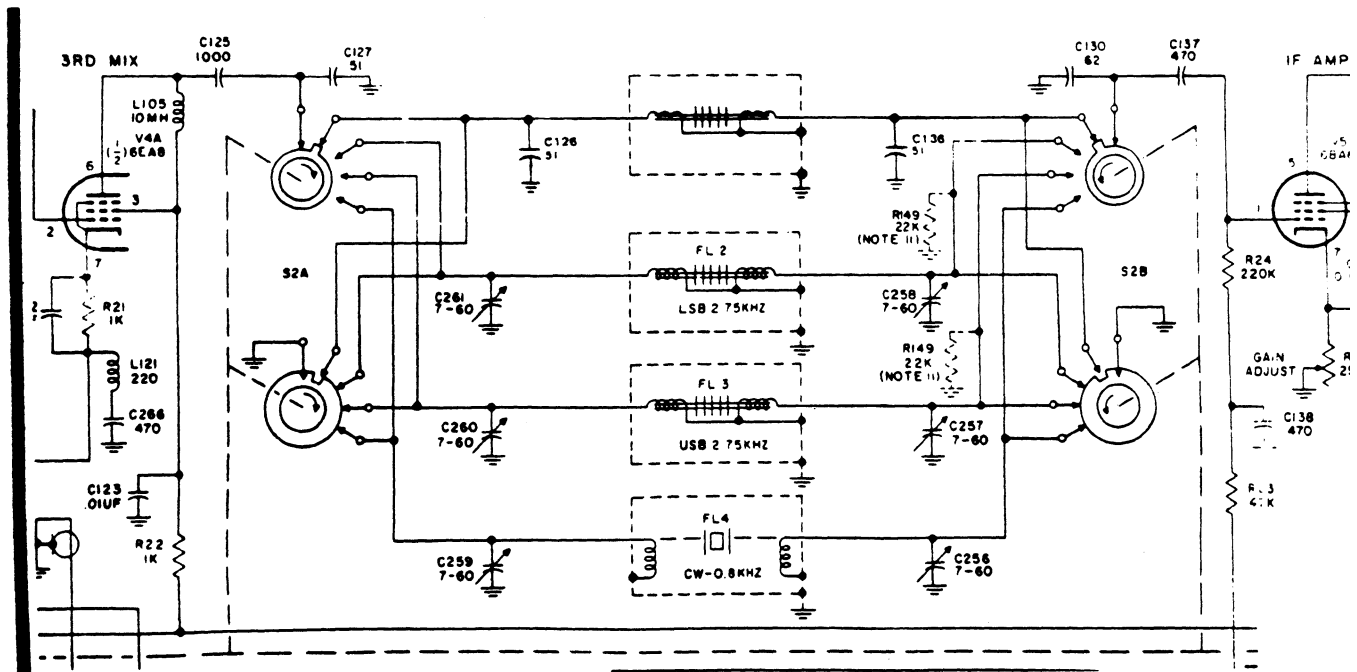


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Configuration B Before Modification



Configuration B After Modification

51S-1 HF Receiver, Partial Schematic Diagram

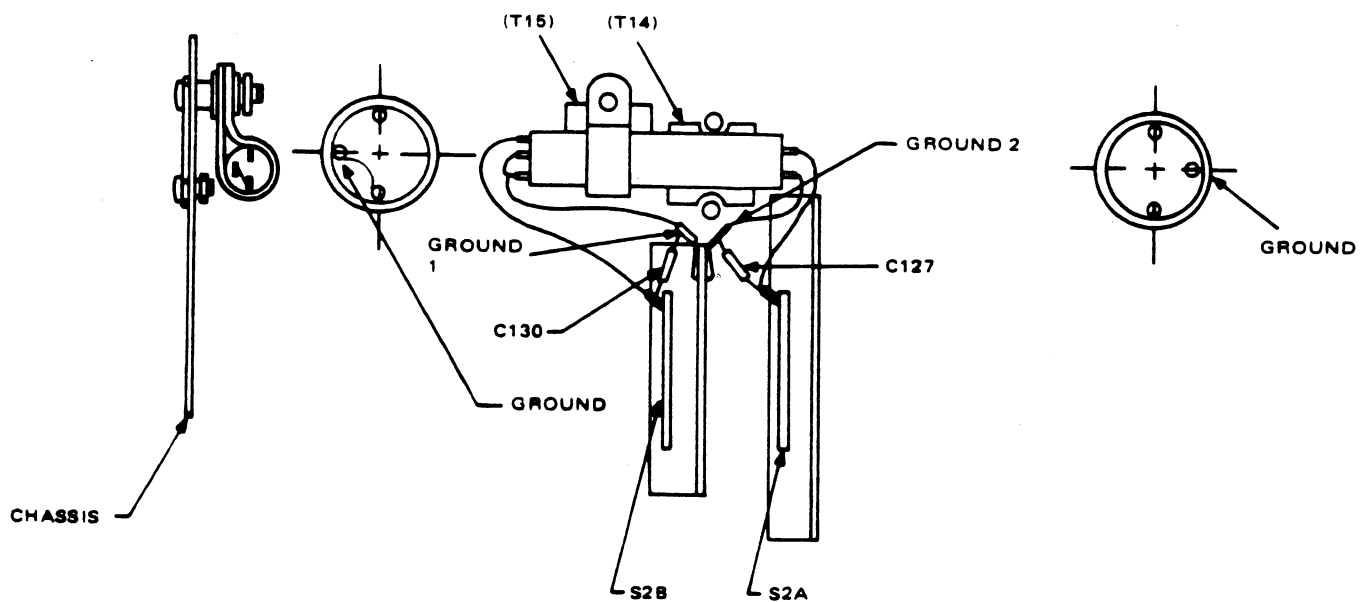
Figure 2

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51S-1 HF Receiver, Modification Components Locations  
Figure 3