

# section 7

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## illustrations

### Note

The period covered by this instruction book is April 1963 to the date on the book title page.

Each equipment circuit change made during the period of time covered by this instruction book has the changes identified on the schematic diagram and in the parts list. Circuit changes are flagged on the schematic with a change identifier



pointed at the component, group of components,

or a circuit enclosed by a broken line. The identifier indicates that the component or circuit has been changed, and the number in the identifier indexes the specific change. If several components are affected by the same equipment change, there may be more than one identifier with the same index number.

The indexed changes are listed on schematic changes and equipment differences sheets inserted in front of the schematic sheet to which they are indexed.

The identifier-description describes the differences and reasons for changes and includes a recommendation as to what action should be followed during repair or maintenance.

The reason for identifying changes in this manner is that the manufacturer has "scrambled" serial numbers on his amateur products during the period covered by this instruction book. Therefore, changes cannot be identified by conventional methods.

### Caution

None of the changes have been made because the equipment has failed to meet the equipment specifications and are not recommended changes for all units. Equipment changes have been made to improve performance or reliability of radios that are built using different fabrication processes. These changes will not necessarily improve the operation of your equipment and in some instances, if changes are made, will degrade the performance or possibly damage the radio.

The change identifier number is also used in the parts list section of this instruction book. However, in the parts list the identifier is enclosed in slashes (for example, /6/) instead of

the  symbol.

Below are listed service bulletins that have been written against the 30S-1 RF Linear Amplifier. These service bulletins were factory installed in units about the time the bulletins were issued and have been installed in all units since that date.

<u>SERVICE BULLETIN NUMBER</u>	<u>DESCRIPTION</u>	<u>DATE ISSUED</u>
1	Increase the operating life of the pa tube.	6-21-61
2	Prevent intermittent drop-out of plate overload relay.	11-1-69
3	Reduce excessive ALC control.	11-1-69



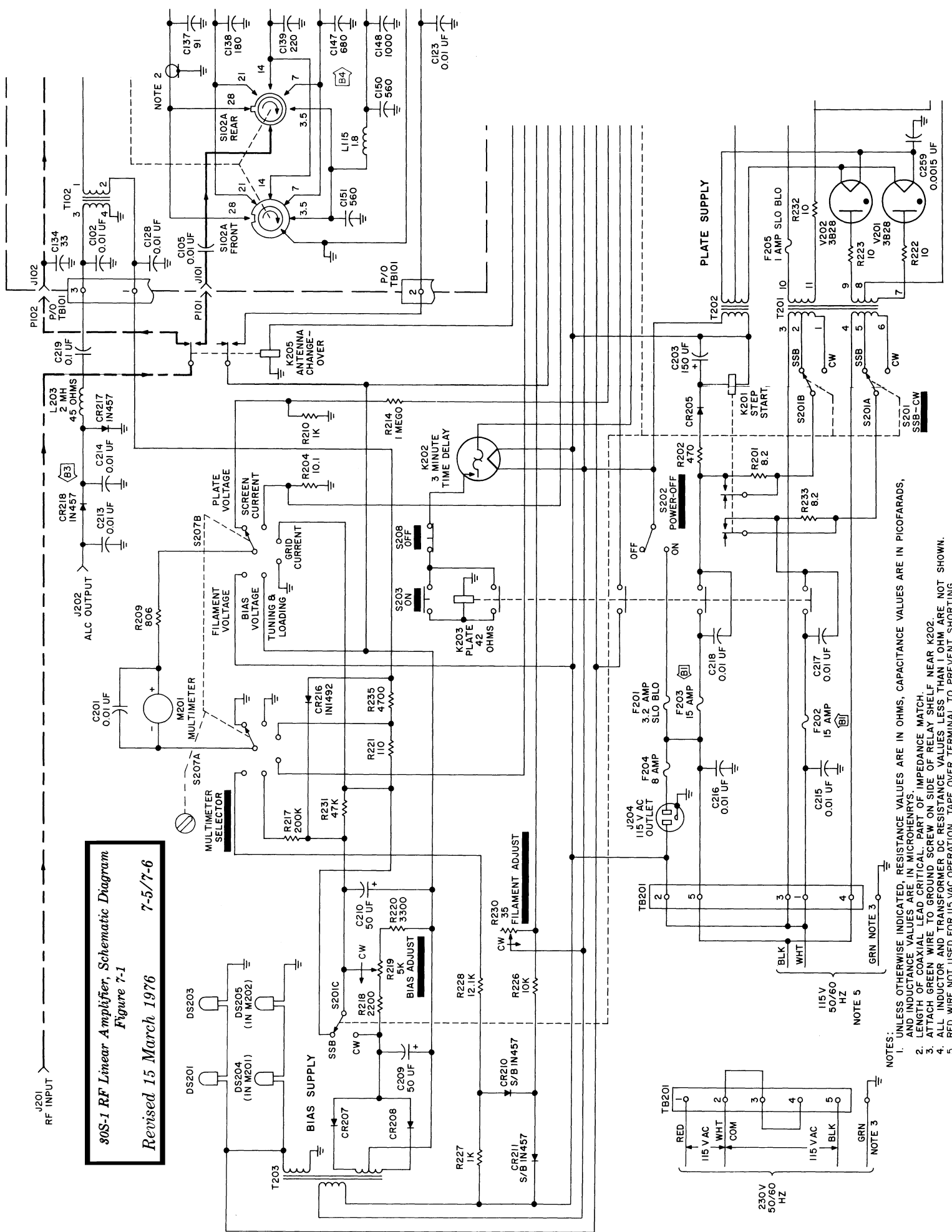
**SCHEMATIC CHANGES AND EQUIPMENT DIFFERENCES**

IDENTIFIER	DESCRIPTION
B1	Fuses F202 and F203 were changed from 12 to 15 A. If either fuse needs replacing, it is recommended that both be replaced with the 15-A value.
B2	Capacitor C152 is a factor test select component, from 15 to 47 pF, used in many units. It is selected to provide minimum swr with a 28-MHz input. If this component is in the unit and needs replacing, replace it with the existing value. If it is not in the unit, it should not be added.
B3	Tube V203 (12AL5) was replaced with diodes CR217 and CR218 (1N457). V203 was located between capacitors C213 and C214 with pin 7 connected to connector J202, pins 1 and 2 connected to capacitor C114-choke L203, and pin 5 grounded. If this circuit needs repair, maintain the existing configuration.
B4	<p>Diodes CR201 through CR204 and CR212 through CR215 were changed from 1N1492 to 1N4005. If any of these diodes need replacing, it is recommended that the 1N4005 be used.</p> <p>Diodes CR206 and CR209 were changed from 1N1084 to 1N4005. If one, or both, of these diodes needs replacing, it is recommended that the 1N4005 be used. If the unit originally used 1N1084 diodes, it will contain diode holders for these diodes. The 1N4005 diode leads can be soldered in place without removing the diode holders. When the factory changed to the 1N4005 diodes, terminal board TB211 was elongated to provide space to mount CR206 and CR209. With this change, the Collins part number of TB211 was changed from 545-6150-002 to 609-0691-001.</p>
B5	C147 was changed from 650 to 680 pF.

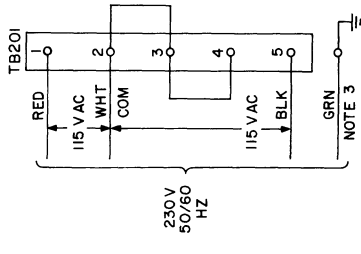
*30S-1 RF Linear Amplifier, Schematic Diagram  
 Figure 7-1 (Sheet A)*

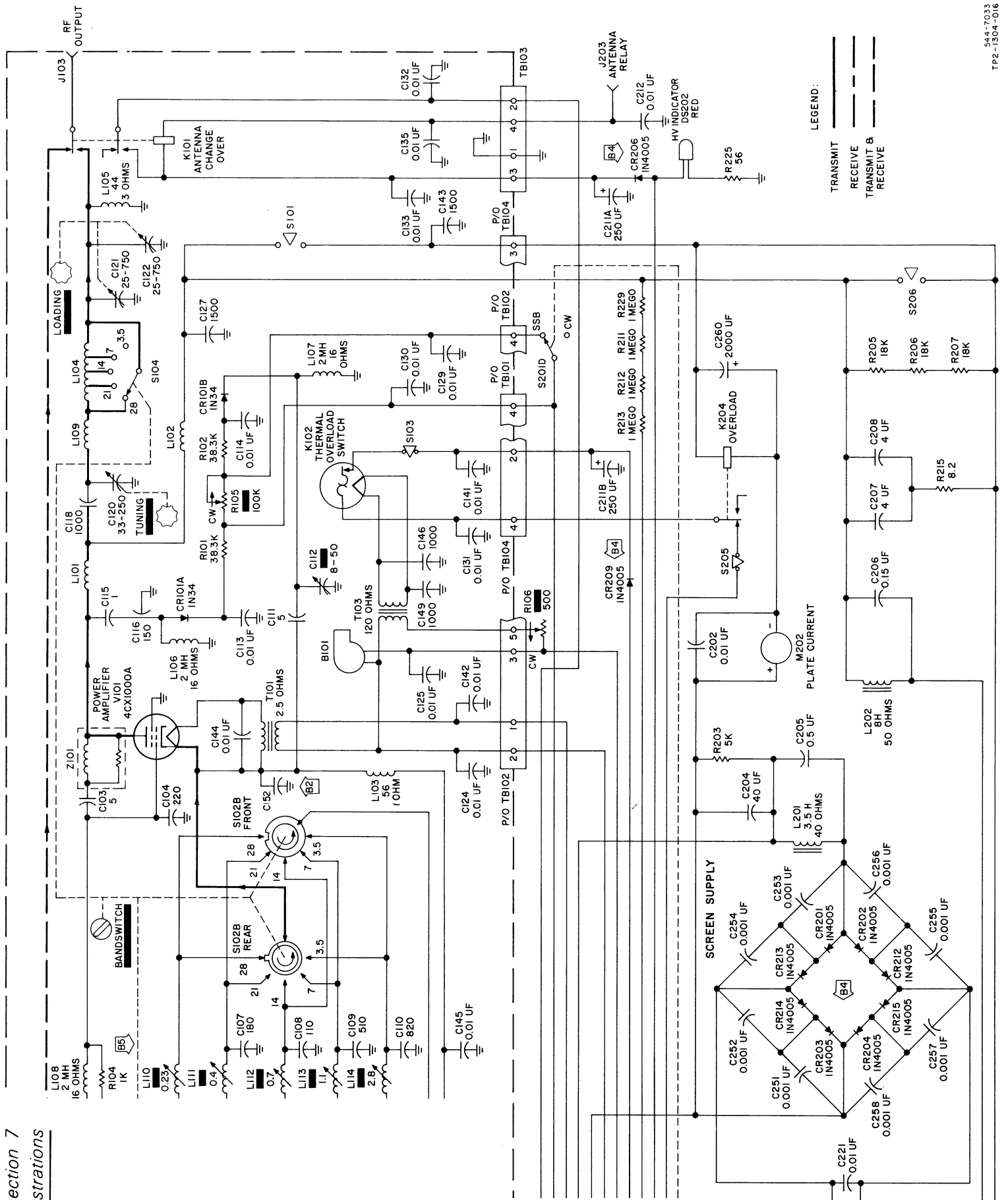


**30S-1 RF Linear Amplifier, Schematic Diagram**  
 Figure 7-1  
 Revised 15 March 1976  
 7-5-7-6



- NOTES:
1. UNLESS OTHERWISE INDICATED, RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN PICOFARADS, AND INDUCTANCE VALUES ARE IN MICROHENRYS.
  2. LENGTH OF COAXIAL LEAD CRITICAL. PART OF IMPEDANCE MATCH.
  3. ATTACH GREEN WIRE TO GROUND SCREW ON SIDE OF RELAY SHELF NEAR K202.
  4. ALL INDUCTOR AND TRANSFORMER DC RESISTANCE VALUES LESS THAN 1 OHM ARE NOT SHOWN.
  5. RED WIRE NOT USED FOR 115 VAC OPERATION. TAPE OVER TERMINAL TO PREVENT SHORTING.









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