

## SERVICE BULLETIN

AMATEUR RADIO

PAGE 1 OF 3

**SUBJECT**

TS-940S VCO CARRIER TO NOISE RATIO IMPROVEMENT

**DATE**

3-2-87

The Carrier to Noise ratio of the TS-940S may be improved by the following changes. This bulletin supersedes bulletin number 911 dated September 15, 1986.

**Parts required:**
**PLL UNIT (X50-2020-00)**

R120,129	3.3K ohm 1/6 watt carbon resistor	RD14CB2C332J
R121,124	680 ohm 1/6 watt carbon resistor	RD14CB2C681J
C180,181	.01 uF disc ceramic capacitor	C91-0117-05
C184,185	.33 uF 35v Tantalum capacitor	CS15E1VR33M

**RF UNIT (X44-1660-00)**

R154,155	3.9K ohm 1/6 watt carbon resistor	RD14BB2C392J
C193,194	1 uF 25v Tantalum capacitor	CS15E1E010M

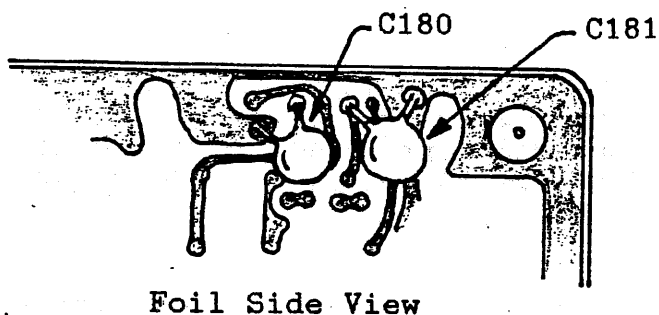
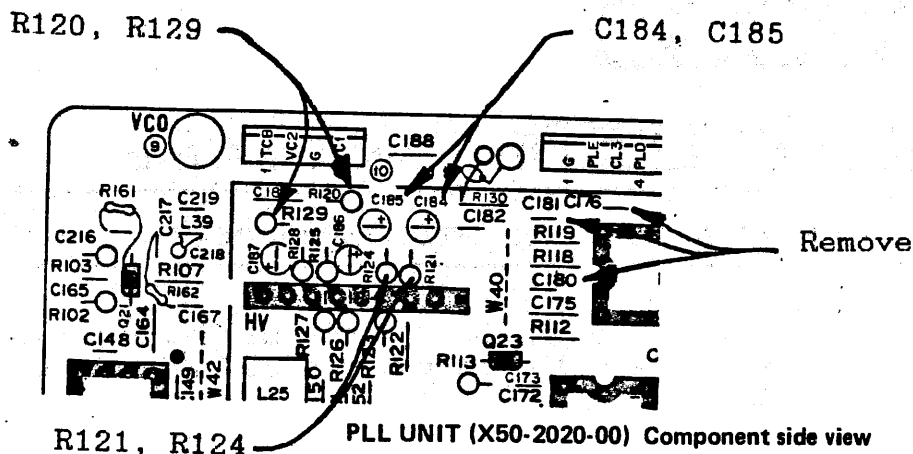
**Procedure:**

On the PLL UNIT (X50-2020-00) remove capacitors C176, C180, and C181. Change resistors R120 and R129 from 470 ohms to 3.3 K ohms. Change resistors R121 and R124 from 1 K ohm to 680 ohms. Change capacitors C184 and C185 from .22 uF to .33 uF 35V tantalum capacitors. Install C180 and C181 in the positions shown in the accompanying diagrams. The use of new capacitors is recommended to improve reliability, don't try to reuse the old capacitors! Capacitors C181 and C180 should be attached to the foil side of the PLL unit.

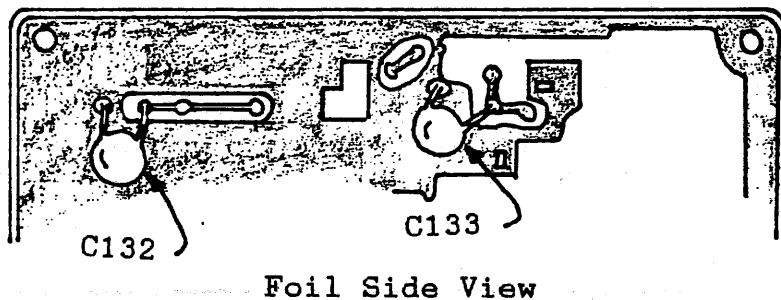
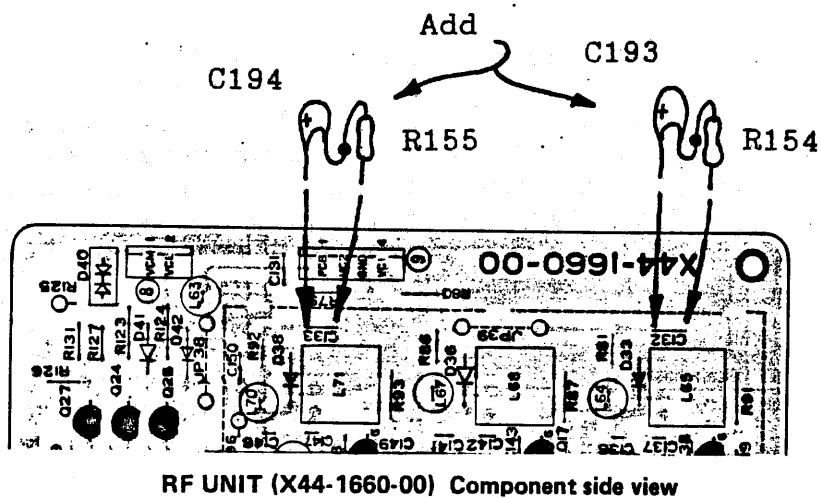
On the RF Unit (X44-1660-00) install the series RC circuits composed of R154 and C193, and R155 and C194, as shown in the accompanying diagrams. As the diagrams illustrate it is easiest to move C132 and C133 to the foil side of the board and install the series RC circuits on the component side.

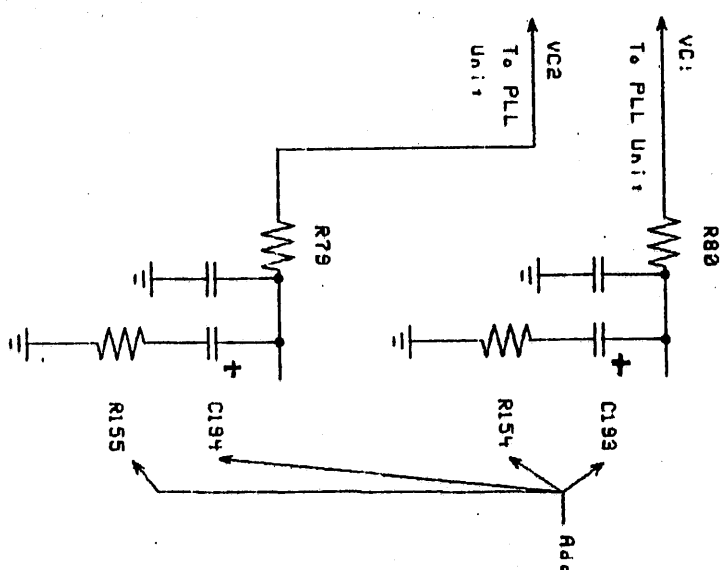
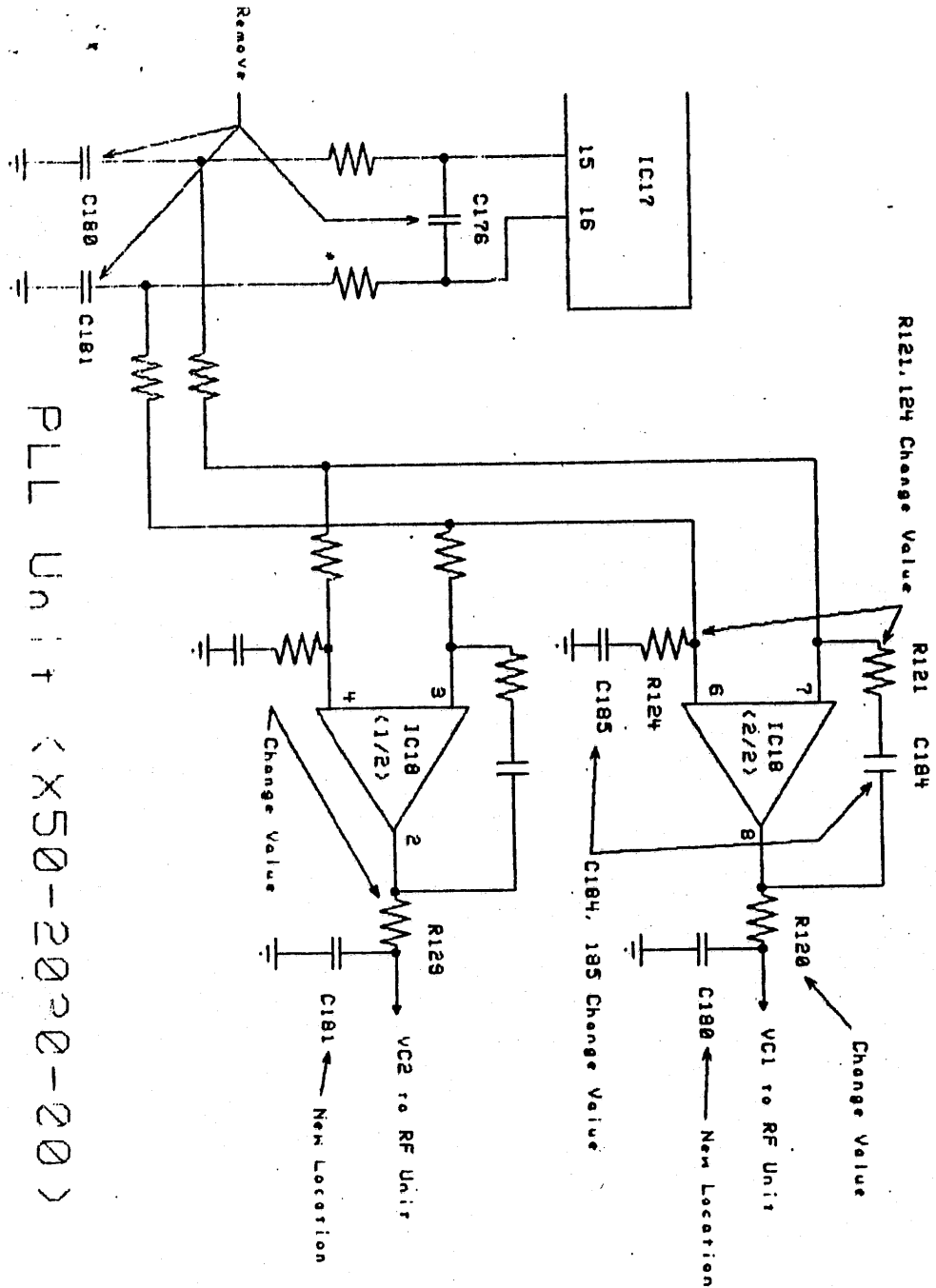
This is an optional change and may not be performed under warranty. Time required for this modification is 1.5 hour or less. (C)21887TKCCLM

# PLL UNIT



# RF UNIT





PLL Unit (X50-2020-20)

(00) 66-1-1787-X