TABLE OF CONTENTS

SECTION I

SECTION II

SECTION III

SECTION IV

SECTION V

SECTION I

GENERAL INFORMATION

PURPOSE: The SunAir T-22-R is Designed for Airborne HF Communications.

SPECIFICATIONS:

Tube Complement

Receiver

12BA6	RF Amplifier
12BE6	Mixer Oscillator
12BA6	IF Amplifier
6T8	2nd Det. - Audio
6AQ5	Audio Amplifier

Transmitter

12BH7	Oscillator-amp.
6883	Power Amplifier
6883	Modulator

Frequency Range

2 - 15mc, 22 Channels, Crystal Controlled

Transmitter Output

35 Watts

Power Requirements

28 VDC @	2.5 amp	Receive
	7.5 amp	Transmit
14 VDC @	4.5 amp	Receive
	14.5 amp	Transmit

Sensitivity

5 microvolt input for .3 watt output

Audio Output

500ohm Headphone, 3.2ohm Speaker

Dimensions

1/2 ATR, 4-7/8" x 19-1/2" x 7-5/8"

Weight

15 Lbs.

SECTION I

EQUIPMENT SUPPLIED

The following items are supplied with the SunAir T-22-R:

Quantity	Description	Part Number
1	T-22-R Transceiver, Complete and Ready for Installation, Including Crystals, 14V Operation	5001-14
1	T-22-R Transceiver, Complete and Ready for Installation, Including Crystals, 28V Operation	5001-28

Quantity	Description	Part Number
1	Remote Control Head (Drum Type)	5002
1	RF Inverter Assembly	I-4
1	RF Tuning Meter	4003
1	Technical Manual	TM-R-22

OPTIONAL EQUIPMENT

Quantity	Description	Part Number
1	Antenna Reel Kit, 14 Volt	ER-14
1	Antenna Reel Kit, 28 Volt	ER-28
1	Remote Load Unit, 14 Volt	EL-14-R
1	Remote Load Unit, 28 Volt	EL-28-R
1	Digital Control Head	5002-D

SECTION I

DESCRIPTION

The SunAir T-22-R is designed to operate on any frequency between 2mc and 15mc, inclusive.

The intermediate amplifier section is aligned to the standard IF frequency of 455kc.

The receiver antenna input coils are located on the etched chassis board. Channel Number 1 (LA1-2) through Channel Number 12 (LA11-12) are located between the chassis side panel and relay RY-4. Channel Number 13 (LA13-14) through Channel Number 22 (LA21-22) are located on the opposite side of relay RY-4, toward center of chassis board. See coil location drawing S-206.

The receiver mixer coils are located in the same manner. Channel Number 1 (LB1-2) through Channel Number 10 (LB9-10) are mounted near chassis side panel, and Channel Number 11 (LB11-12) through Channel Number 22 (LB21-22) are located near center of chassis. See coil location drawing S-206.

Capacitors C4 through C14, receiver antenna input capacitors, are located directly on switch sections, connected from ground plate to switch wafers near front panel.

Capacitors C31 through C41, oscillator-mixer capacitors, are located immediately after the antenna capacitors, connected from ground plate to adjacent wafer.

SECTION I

DESCRIPTION

All capacitors can be identified as to their respective channels by color-coded wires connected to them, and by referring to Pictorial.

Tuning of the antenna input circuit is accomplished by tuning all coils for maximum, insuring the signal generator is always adjusted to a relatively low output level to provide a sharp indication.

In the event of a frequency change in the field, it will be necessary to change coil and capacitor combinations of the affected channel or channels.

All crystals and coil-capacitor combinations are switched by the channel selector switch common to the receiver and transmitter.

The transmitter contains a crystal controlled Pierce oscillator.

One section of a 12BH7 (V6) functions as the oscillator. The other section functions as an amplifier-driver. The amplifier-driver is tuned in the plate circuit for each channel by coils LC1-2 through LC21-22, respectively.

The amplifier-driver output is capacitively coupled to the grid of the final power amplifier 6883 (V7). Cathode bias is employed in the P.A. for tube protection, should loss of excitation occur. The plate of the P.A. is tuned to resonance by coils LD1-2 through LD21-22, respectively, in a Pi network, coupling the output to the antenna. Capacitors C110 through C120 are selected for an impedance of 52ohms for the frequency in use.

SECTION I

DESCRIPTION

Harmonic radiation is suppressed by tuning coils LE1-2 through LE21-22, respectively.

One harmonic trap coil is employed for each P.A. coil to insure harmonic radiation will be within tolerances prescribed by F.C.C.

A Heissing Modulator, tube 6883 (V8) is employed to plate modulate the final amplifier. The microphone is transformer coupled to the grid of the modulator and microphone voltage is obtained from the modulator cathode bias resistor.

The power supply employed in the T-22-R is of the Solid State design, using transistors for switching, and operate with an efficiency of approximately 85%.

Adequate filtering is employed to eliminate undesirable interference of the switching frequency.

CAUTION:

Reversing polarity of input voltage will result in transistor damage, and will possibly cause a direct short in the power supply.

SECTION II

INSTALLATION

The transmitter output is tuned to a 52ohm impedance. This impedance is maintained, when using a trailing wire type of antenna, by varying the length to match the frequency. If a fixed antenna is used it will be necessary to install a loading coil to maintain a 52ohm impedance.

The fixed antenna may be a straight wire type or the conventional V pattern, depending upon the installation. The antenna length must not be more than one-quarter wave length of the highest frequency in use. Taps on the loading coil can be adjusted to tune the lower frequencies.

All SunAir load units manufactured after June 1, 1960 incorporate an extra wafer for installation of series capacity for electrically shortening a fixed antenna for frequencies above 8mc.

The loading coil taps should be adjusted for maximum indication on the RF output meter. Relative field strength should then be measured, and the load coil re-adjusted if necessary.

RG-58-AU coaxial cable is employed for connecting the SunAir T-22-R to the trailing antenna, or to the load unit if a fixed antenna is used. The connecting wire between the load coil and the antenna should be a well insulated, unshielded type of the shortest length possible. The voltage on this line can reach a very high value, and breakdown will occur if coaxial cable is used.

SECTION II

INSTALLATION

Long range communications should not be expected when using a fixed antenna, and use of same cannot be recommended unless limited range is considered adequate.

IMPORTANT:

The outer shield of the coaxial cable must be grounded at the transceiver plug, and must also be grounded at or near the trailing wire antenna reel. If a fixed antenna is used, ground the shield near the loading unit.

SECTION II

OPERATION

Use of the reel type antenna is recommended where long range communications are desired, as the operator can adjust the antenna to represent a quarter wave length of the frequency in use.

Adjustment of the trailing antenna is accomplished by reeling the antenna out to the first position that produces maximum indication on the RF meter. This adjustment must be performed with the microphone button depressed and the transmitter operating.

When the operator is familiar with the number of turns off the reel, it will be possible to return to this position, then key the transmitter and readjust the antenna for maximum RF meter indication.

SECTION III

ALIGNMENT

RECEIVER:

IF Alignment

Connect audio meter to speaker output, pin 32 of plug PLR-1.

Connect signal generator to grid, pin 7 of mixer-oscillator, V2. Adjust signal generator to 455kc and adjust IF transformers T1 and T2 for maximum output on audio meter. Signal generator output level should be as low as possible to allow a sharp indication on the meter and to avoid overloading.

RF and Mixer Alignment

Connect signal generator to antenna input, pin 42 of plug PLR-1.

Set Transceiver channel selector to Channel Number 2 (even channel) and adjust LA1-2 and LB1-2 for maximum indication on audio meter. (Signal generator should be adjusted for low level output to prevent activating the AVC.)

Set channel selector to Channel Number 1 (odd channel), readjust signal generator to desired frequency and adjust trimmer capacitors CA-2 and CB-2 for maximum meter indication. Note meter reading and switch to Channel Number 2, and re-adjust signal generator. Approximately the same indication should be observed on Channel Number 1 and Number 2. If equal outputs are not observed, it may be necessary to readjust the mixer coil LB1-2 in channel Number 1 position until equal outputs are obtained.

SECTION III

ALIGNMENT

The above procedure should be followed for all remaining coils, LA3-4 through LA21-22, LB3-4 through LB21-22, and trimmer capacitors CA-4 through CA-22, and CB-4 through CB-22.

NOTE:

In some instances receiver frequencies are so close trimmer capacitors are not necessary. In this event, they are disconnected from the circuit.

TRANSMITTER:

Oscillator Adjustment

Connect VTVM to pin 38 of plug PLR-1. Adjust meter to read approximately 100 VDC, negative. Use non-metallic alignment tool for adjustment.

Set channel selector to Channel Number 2. Energize transmitter and adjust LC1-2 for maximum negative voltage indication on VTVM, and note reading. Set Channel selector to Channel Number 1 and readjust LC1-2 until approximately the same voltage readings are observed on Channel Number 1 and Channel Number 2.

The same procedures should be followed for the remaining oscillator coils LC3-4 through LC21-22. If a frequency change involving replacement of coil-capacitor combinations or complete transmitter failure has occurred, disconnect the screen grid, pin 3, of the transmitter P.A. and adjust oscillator coils for maximum negative voltage. Upon reconnecting the screen grid, oscillator coils may require readjustment.

SECTION III

ALIGNMENT

Power Amplifier Adjustment

Connect antenna output, pin 42 of plug PLR-1, to 52ohm RF wattmeter. Set channel selector to Channel Number 2. Energize transmitter and adjust LD1-2 for maximum indication on wattmeter.

CAUTION:

Do not switch channels with transmitter operating. This prevents arcing across switch contacts.

Set channel selector to Channel Number 1 and readjust LD1-2 until approximately equal output is observed on both channels.

Follow the same procedures to adjust the remaining P.A. coils LD3-4 through LD21-22.

Harmonic Traps

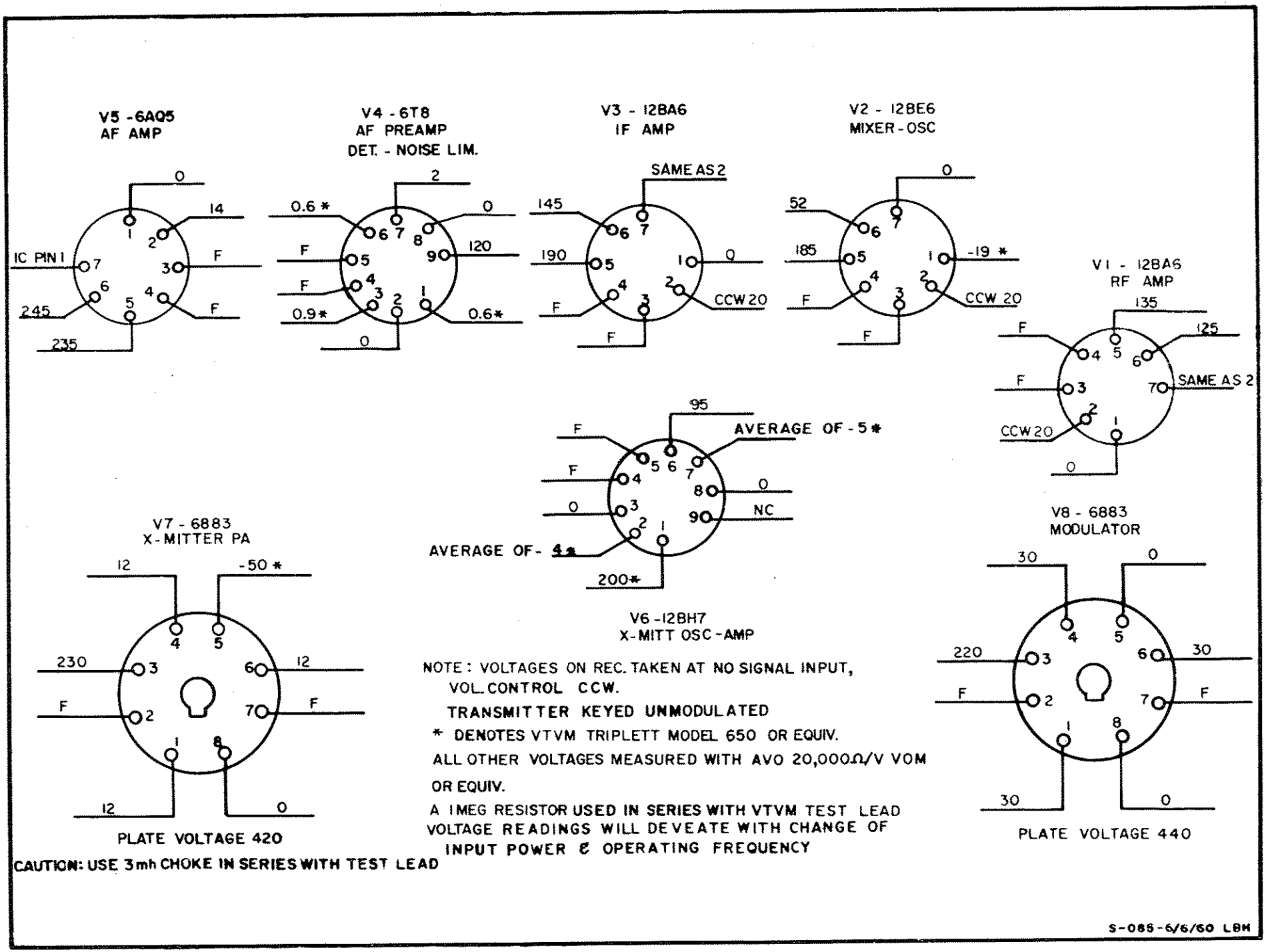
Connect VTVM to AVC line of a suitable receiver, tuned to receive the second harmonic of the frequency in use. Antenna pick-up from the receiver should be close to the 52ohm load to allow good antenna pick-up.

Set channel selector to Number 2 position and energize transmitter. Tune second harmonic on receiver and adjust coil LE1-2 and note minimum (dip) voltage on VTVM. Switch channel selector to Channel Number 1. Tune second harmonic of Channel 1, and readjust LE1-2 until approximately equal readings are obtained

on Channel Number 1 and Channel Number 2.

Follow the same procedures for adjusting the remaining harmonic trap coils LE3-4 through LE21-22.

Refer to drawing number S206 for all coil locations.



NOTE: VOLTAGES ON REC. TAKEN AT NO SIGNAL INPUT, VOL. CONTROL CCW.

TRANSMITTER KEYED UNMODULATED

* DENOTES VTVM TRIPLETT MODEL 650 OR EQUIV.

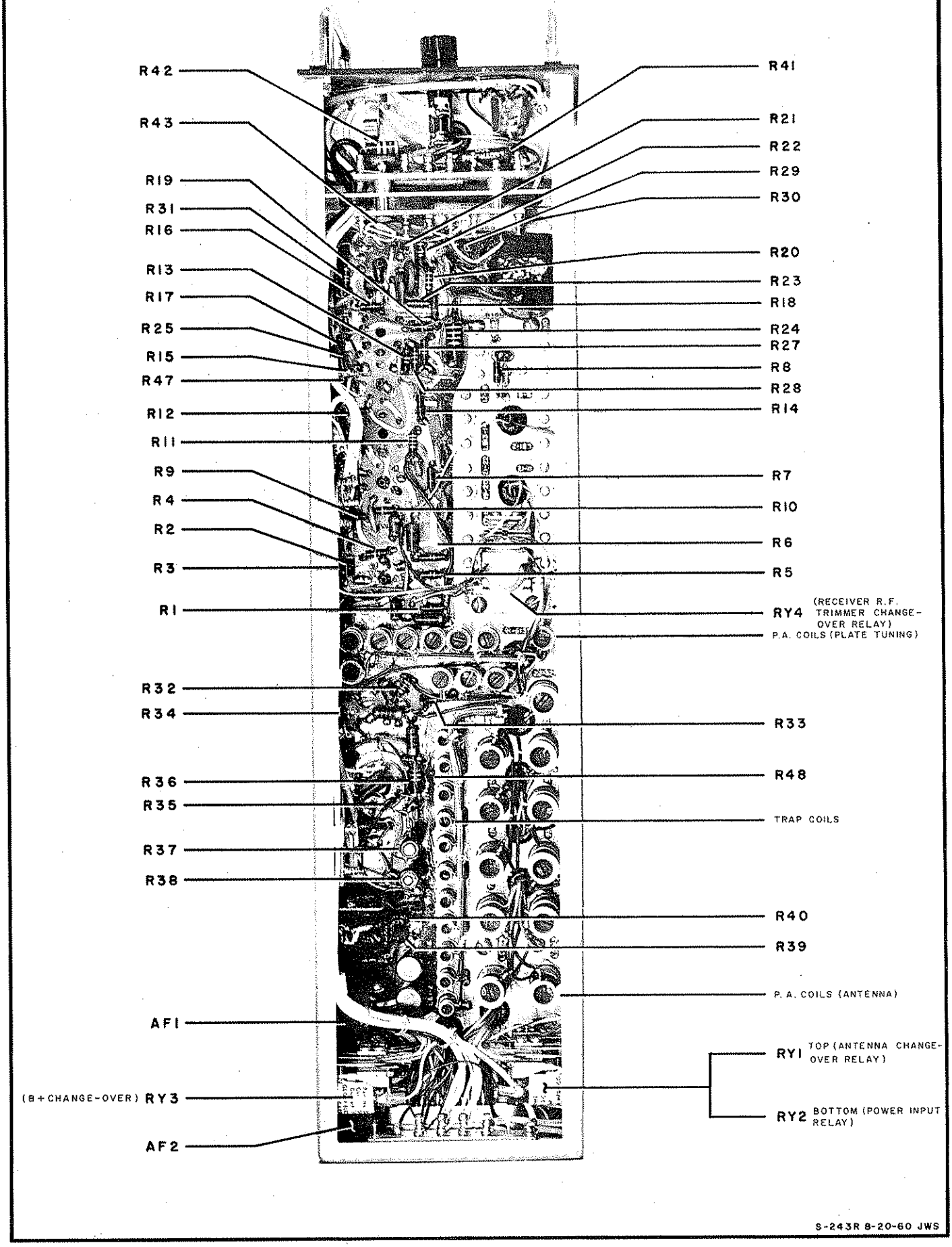
ALL OTHER VOLTAGES MEASURED WITH AVO 20,000Ω/V VOM OR EQUIV.

A 1MEG RESISTOR USED IN SERIES WITH VTVM TEST LEAD

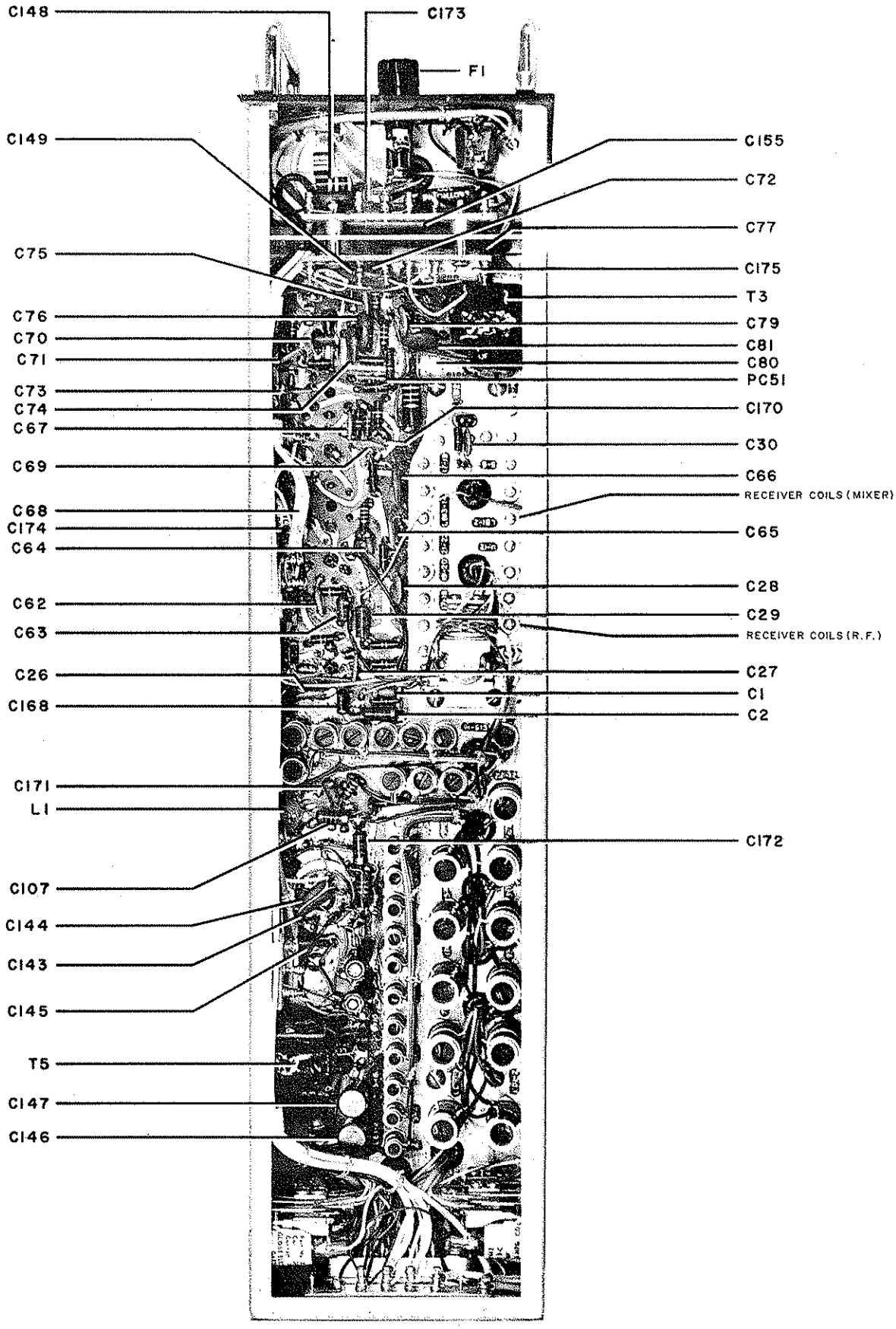
VOLTAGE READINGS WILL DEVEATE WITH CHANGE OF INPUT POWER & OPERATING FREQUENCY

CAUTION: USE 3mh CHOKE IN SERIES WITH TEST LEAD

S-085-6/6/60 LBH



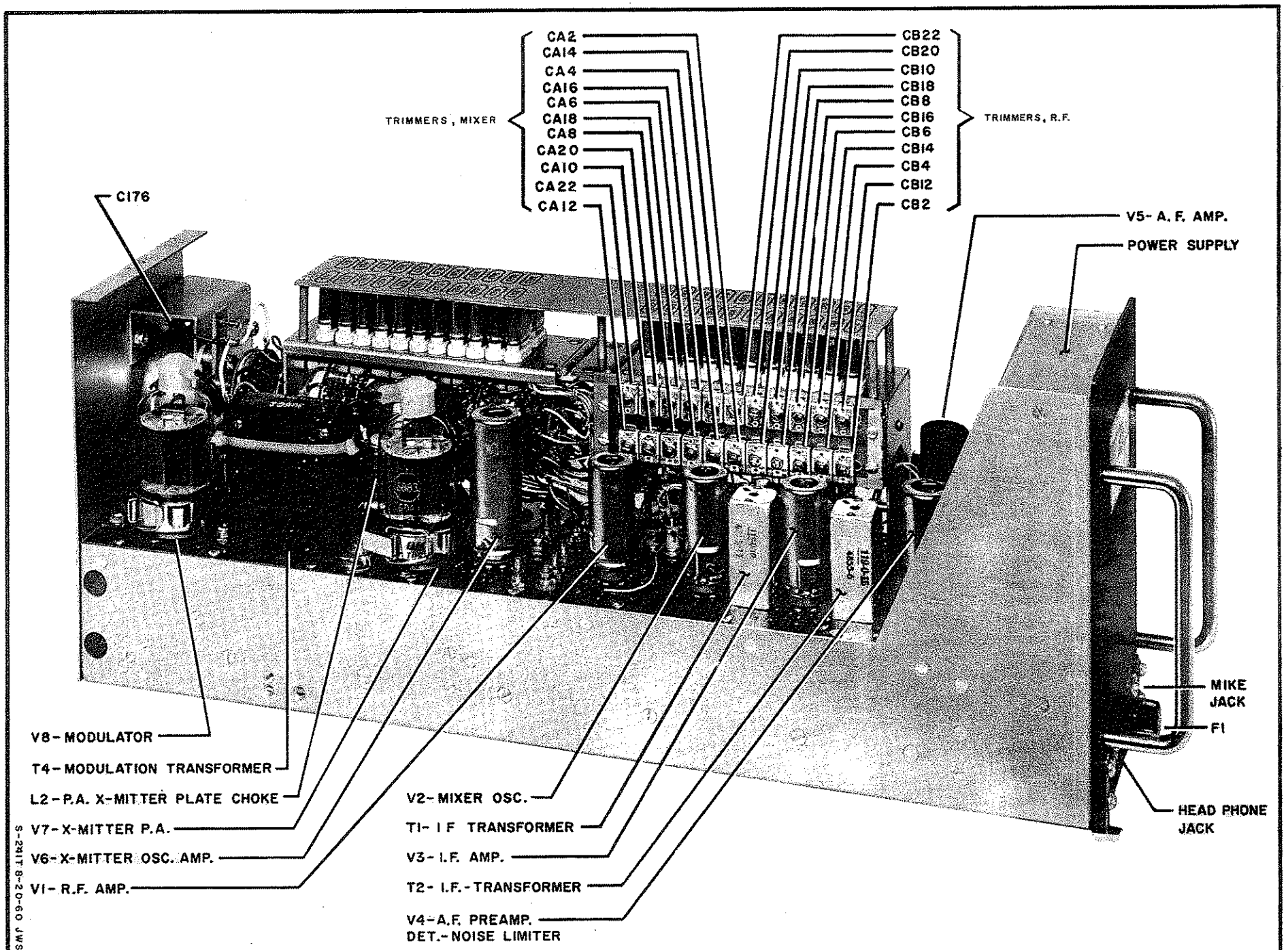
T-22-R TRANSCEIVER (Bottom View)



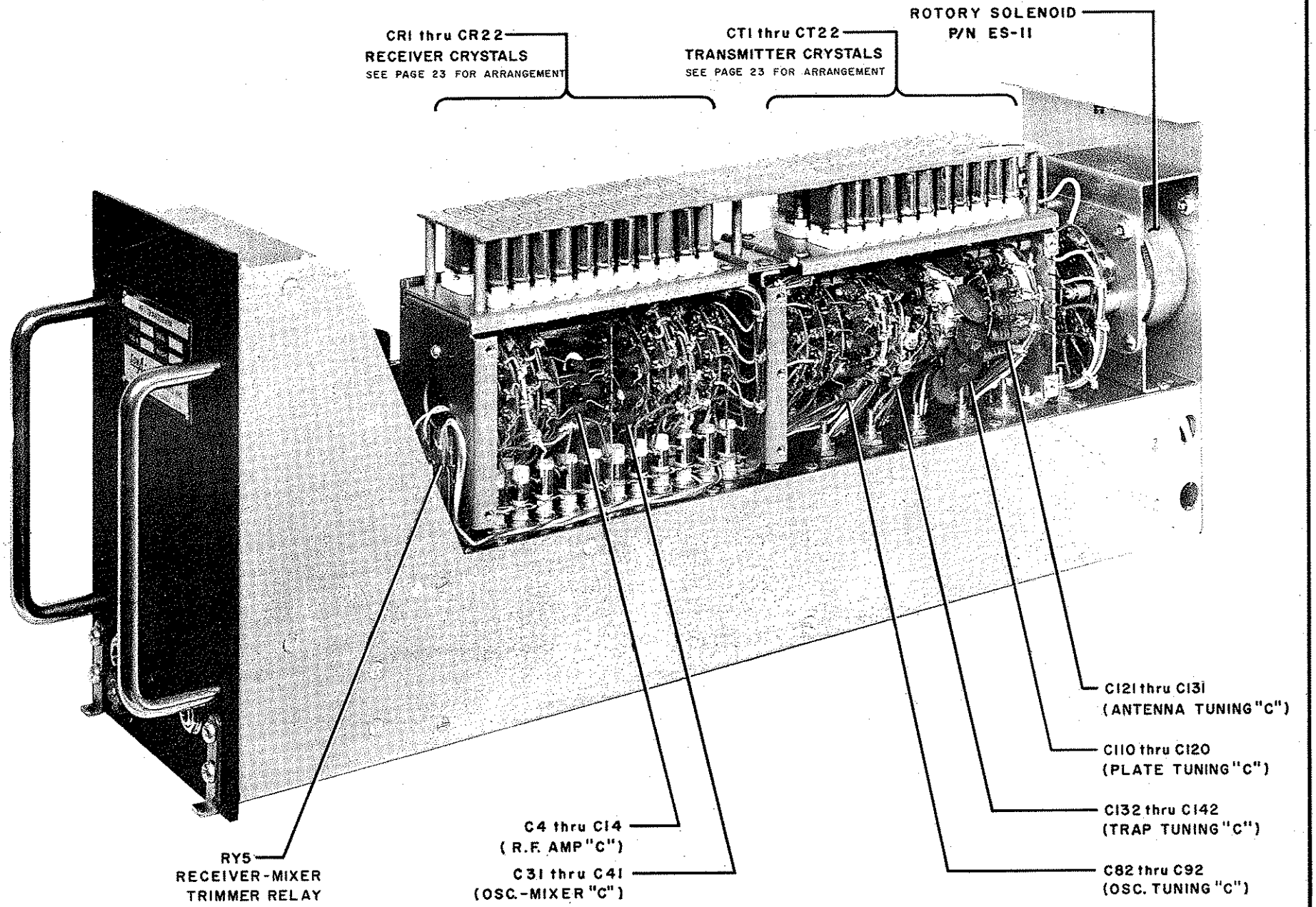
NOTE:
SEE PAGE 24 FOR COIL LOCATIONS.

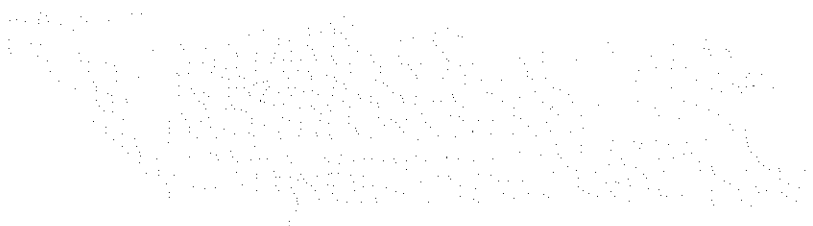
S-244C 8-20-60 JWS

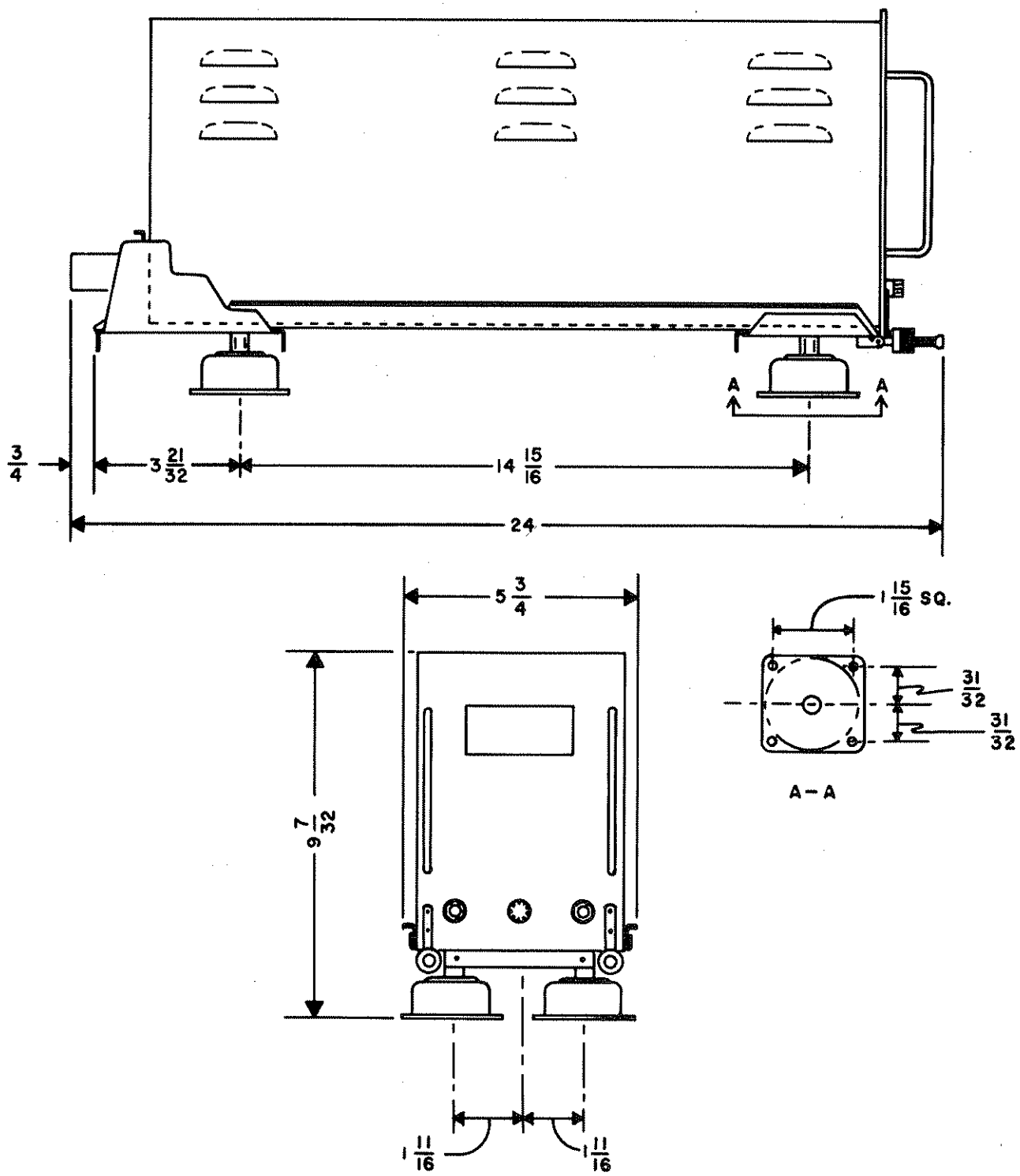
T-22-R TRANSCEIVER (Bottom View)



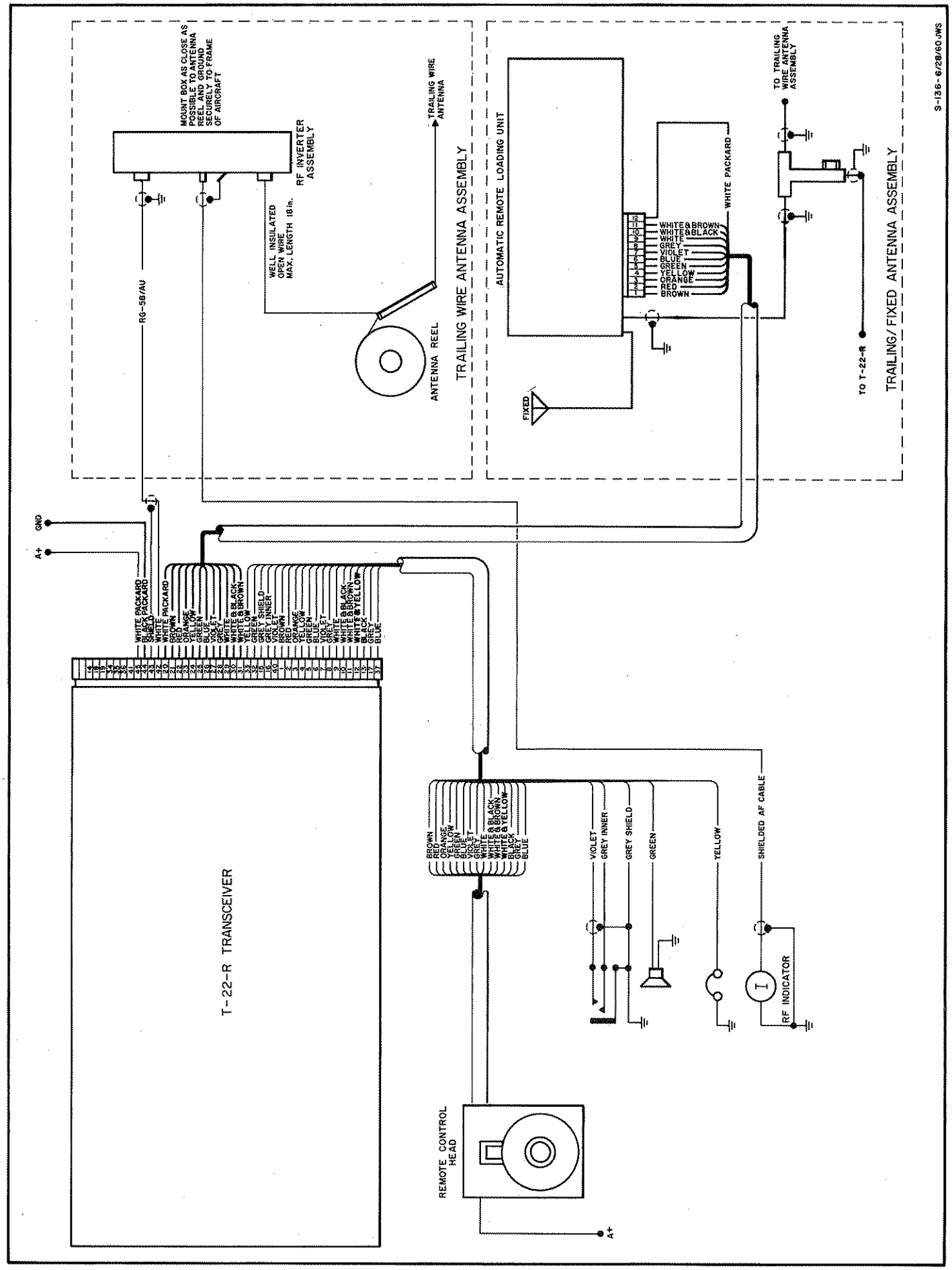
T-22-R TRANSCEIVER (Side View)


CR1 thru CR22
RECEIVER CRYSTALS
SEE PAGE 23 FOR ARRANGEMENT
CT1 thru CT22
TRANSMITTER CRYSTALS
SEE PAGE 23 FOR ARRANGEMENT
ROTORY SOLENOID
P/N ES-11
C121 thru C131
(ANTENNA TUNING "C")
C110 thru C120
(PLATE TUNING "C")
C132 thru C142
(TRAP TUNING "C")
C82 thru C92
(OSC. TUNING "C")
C4 thru C14
(R.F. AMP "C")
C31 thru C41
(OSC.-MIXER "C")
RY5
RECEIVER-MIXER
TRIMMER RELAY
S-242S 8-20-60 JWS

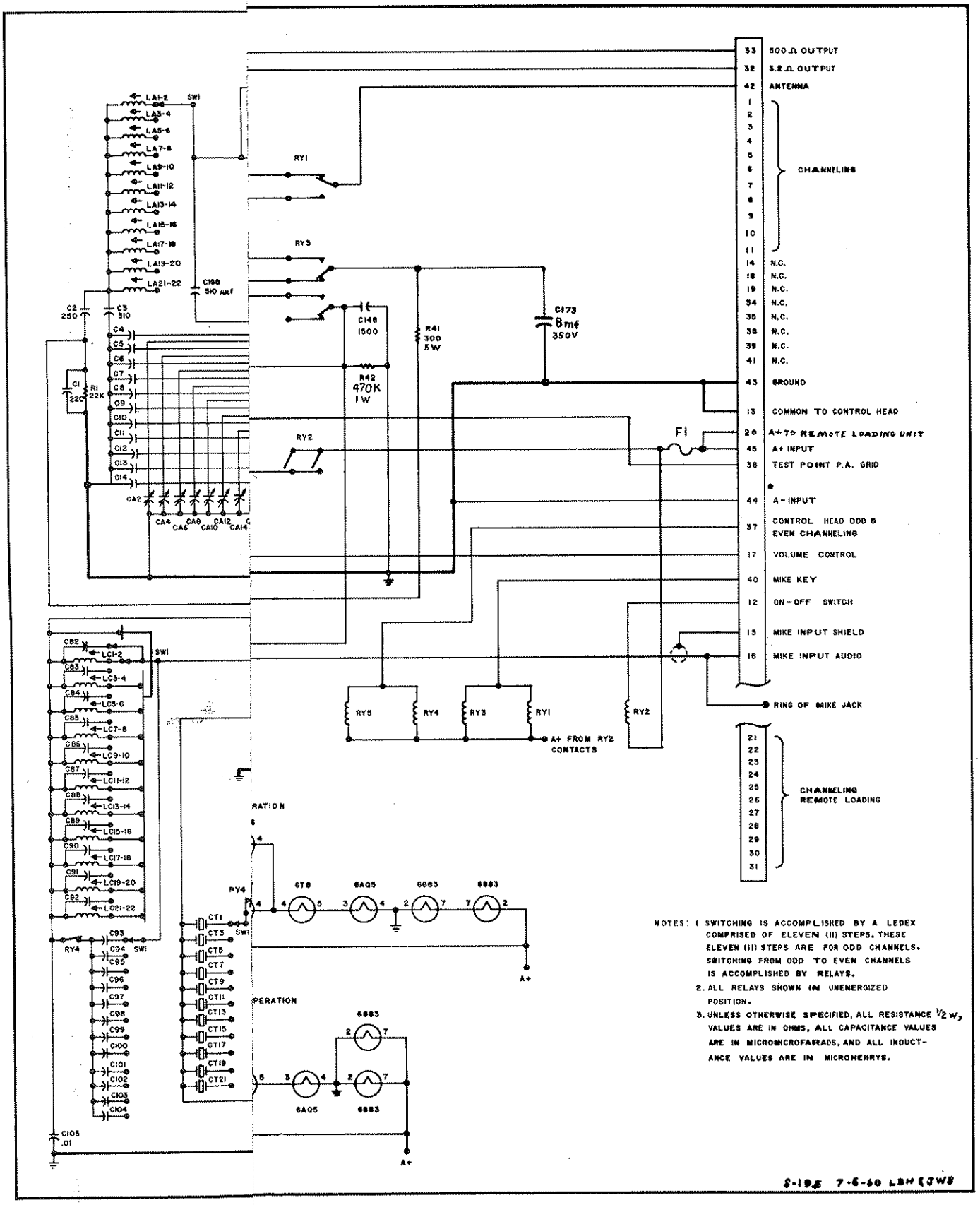




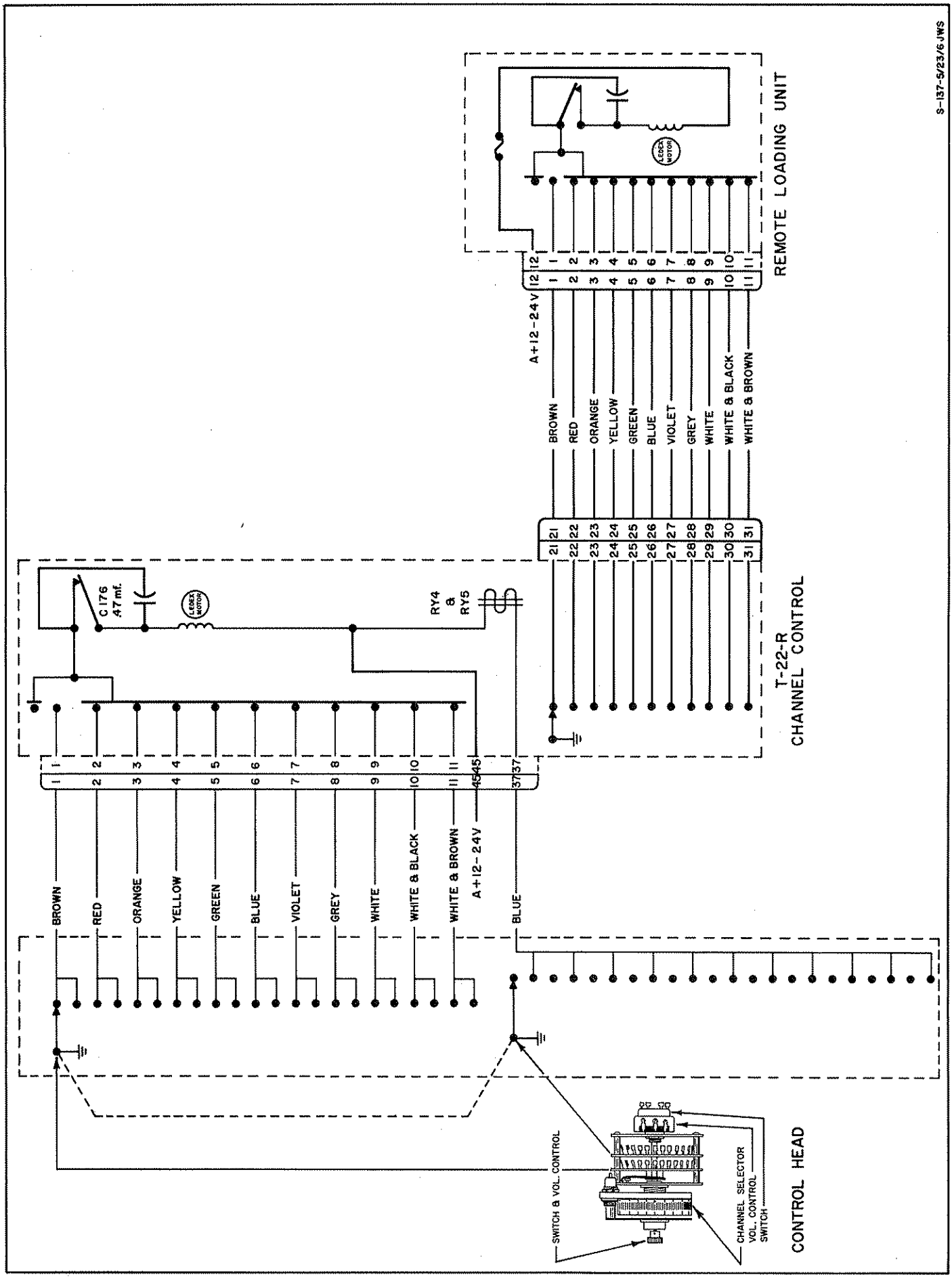
T-22-R TRANSCEIVER & SHOCK MOUNT (OVERALL DIMENSIONS)



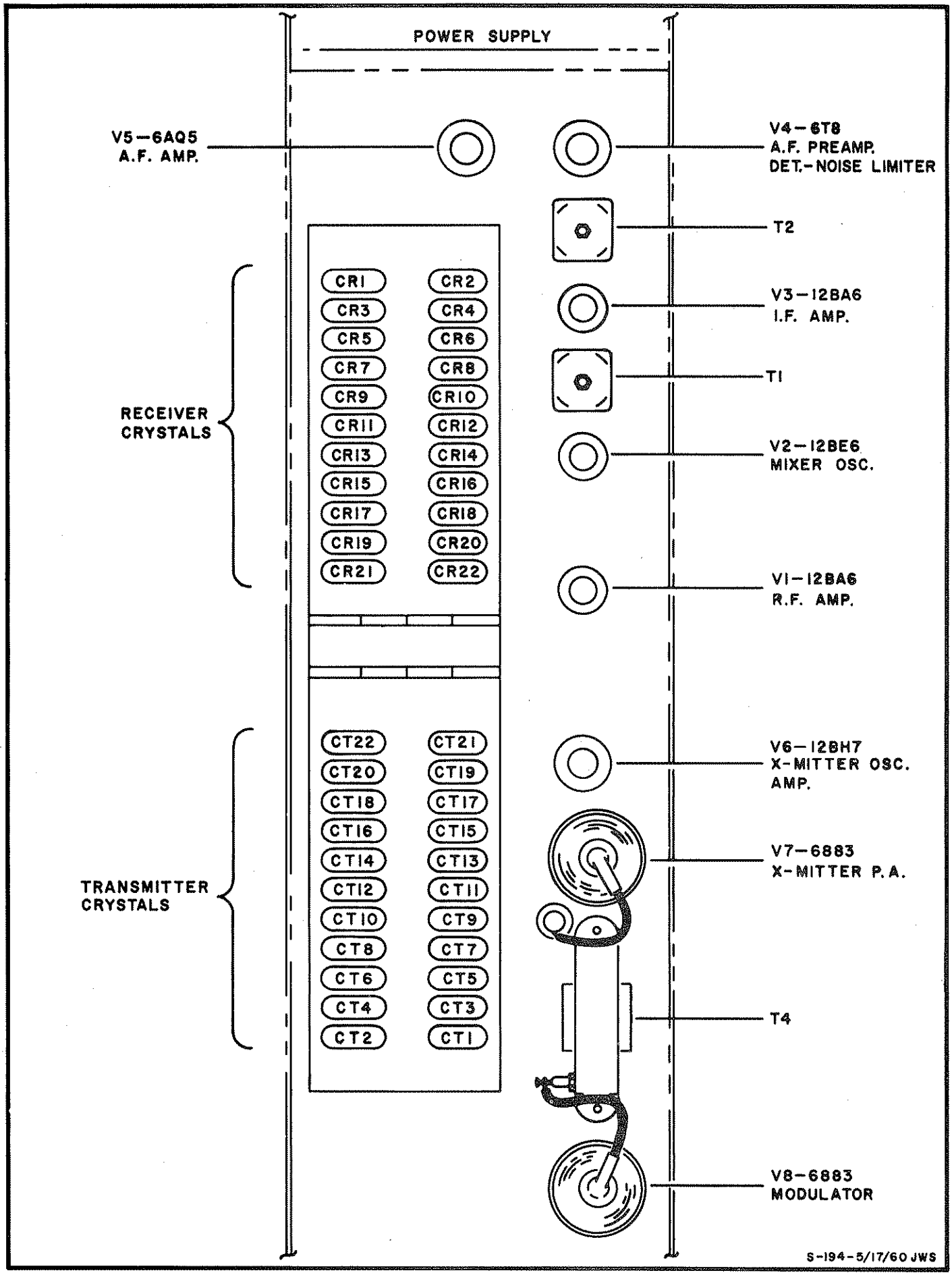
T-22-R TRANSCEIVER BLOCK LAYOUT



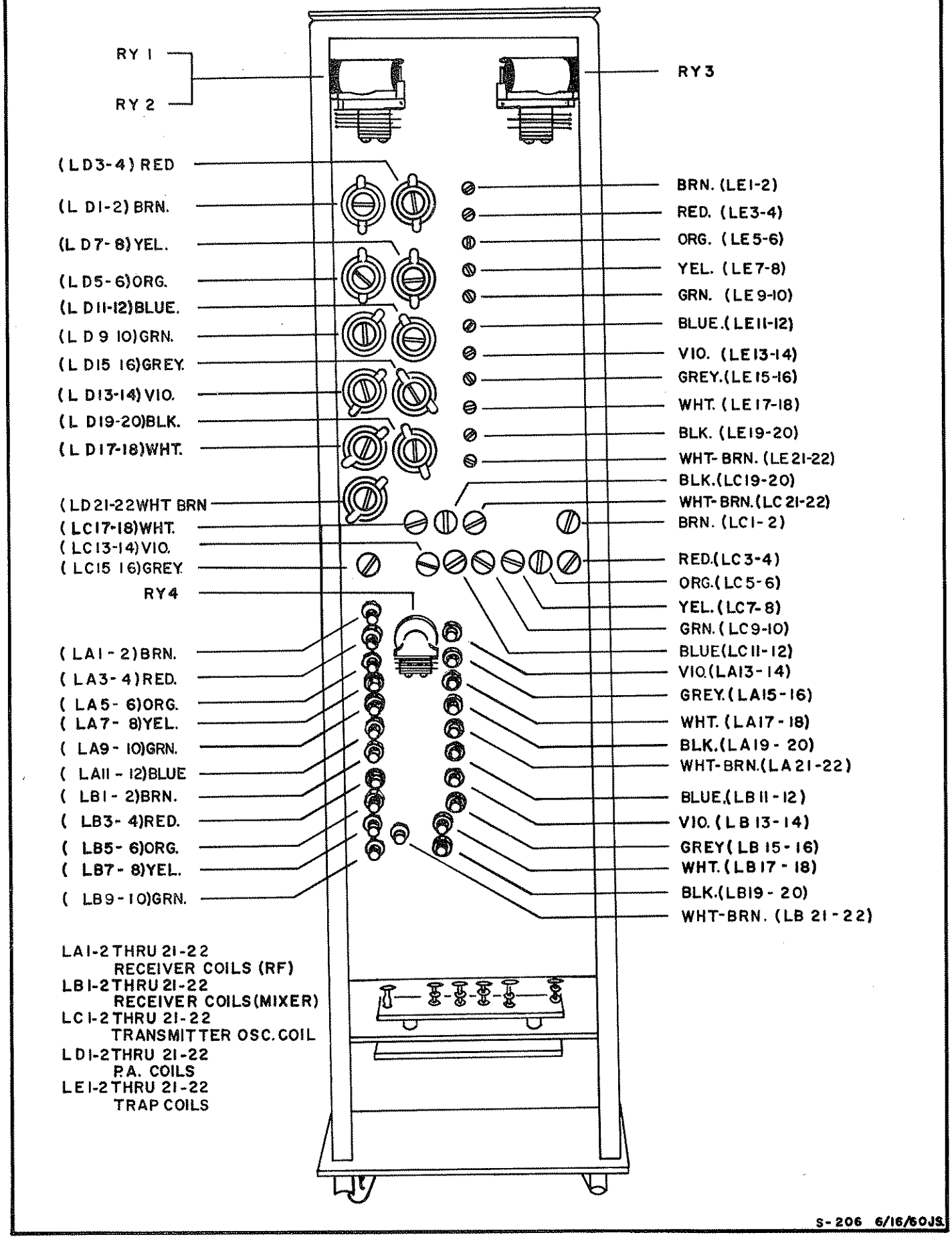
T-22-R TRANSCEIVER SCHEMATIC



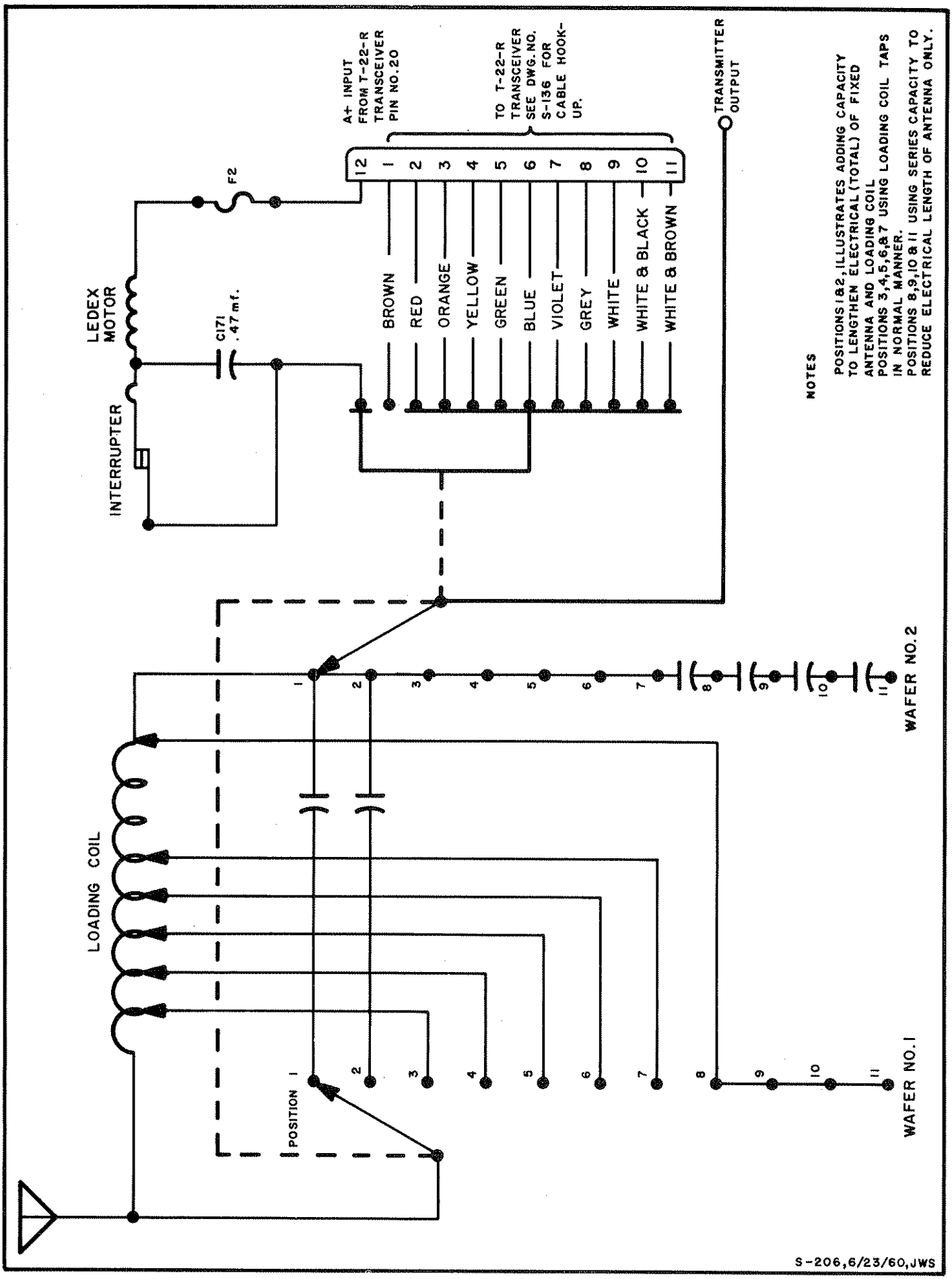
TRANSCEIVER CHANNELING SCHEMATIC



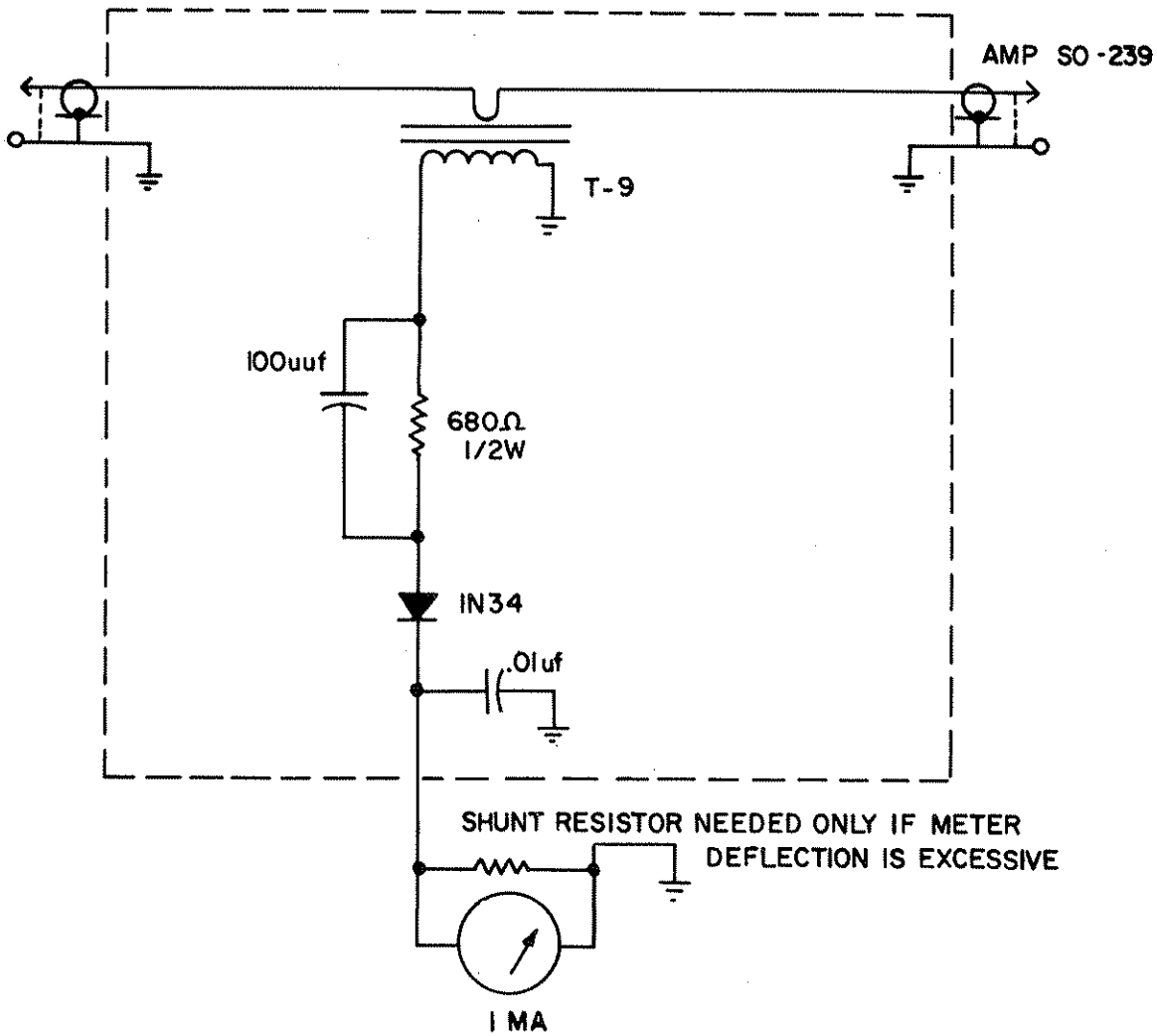
T-22-R TUBE & CRYSTAL ARRANGEMENT



T 22 R TRANSCEIVER COIL LOCATIONS & COLOR CODE

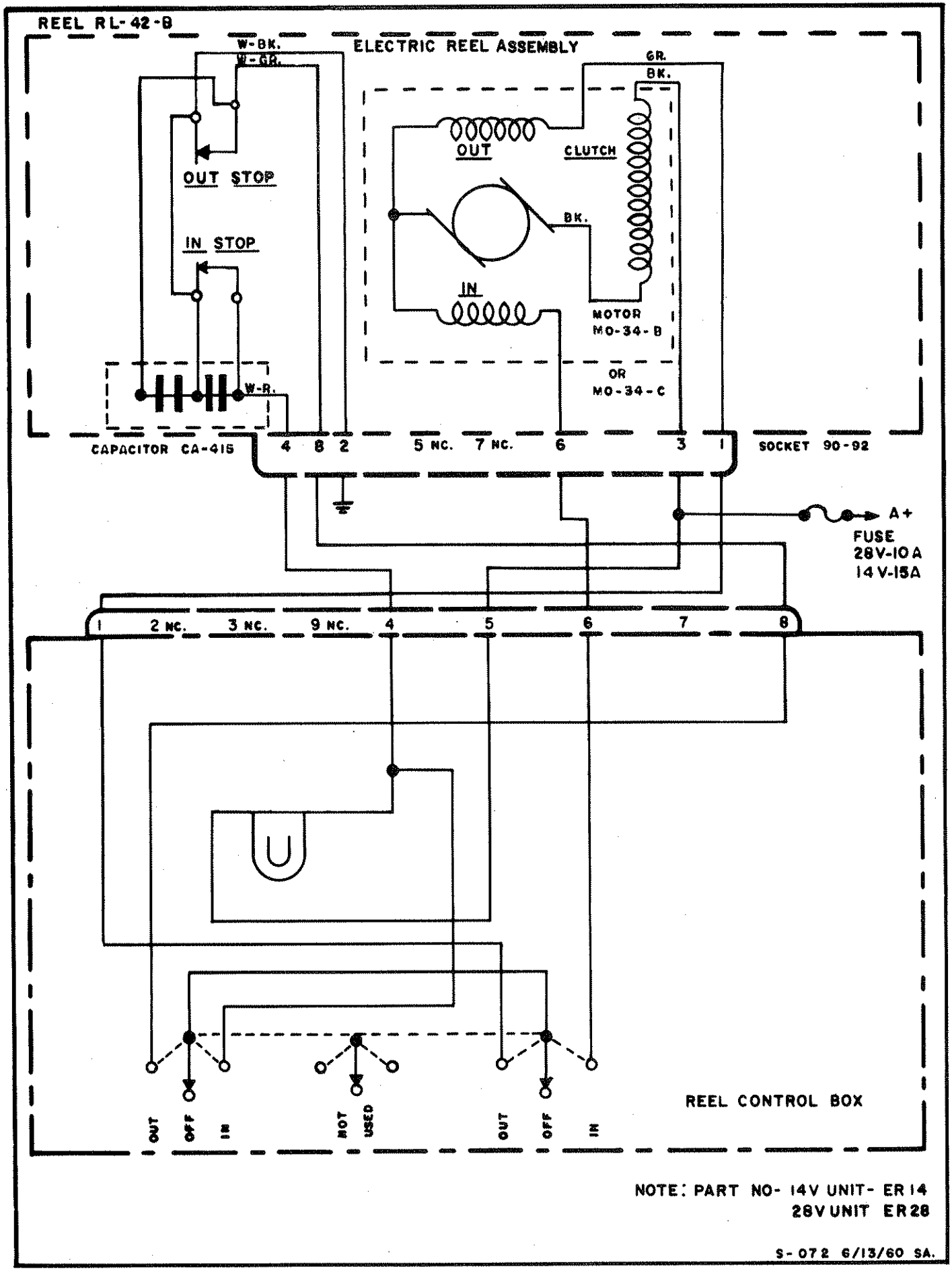


REMOTE LOADING UNIT (11 POSITION)

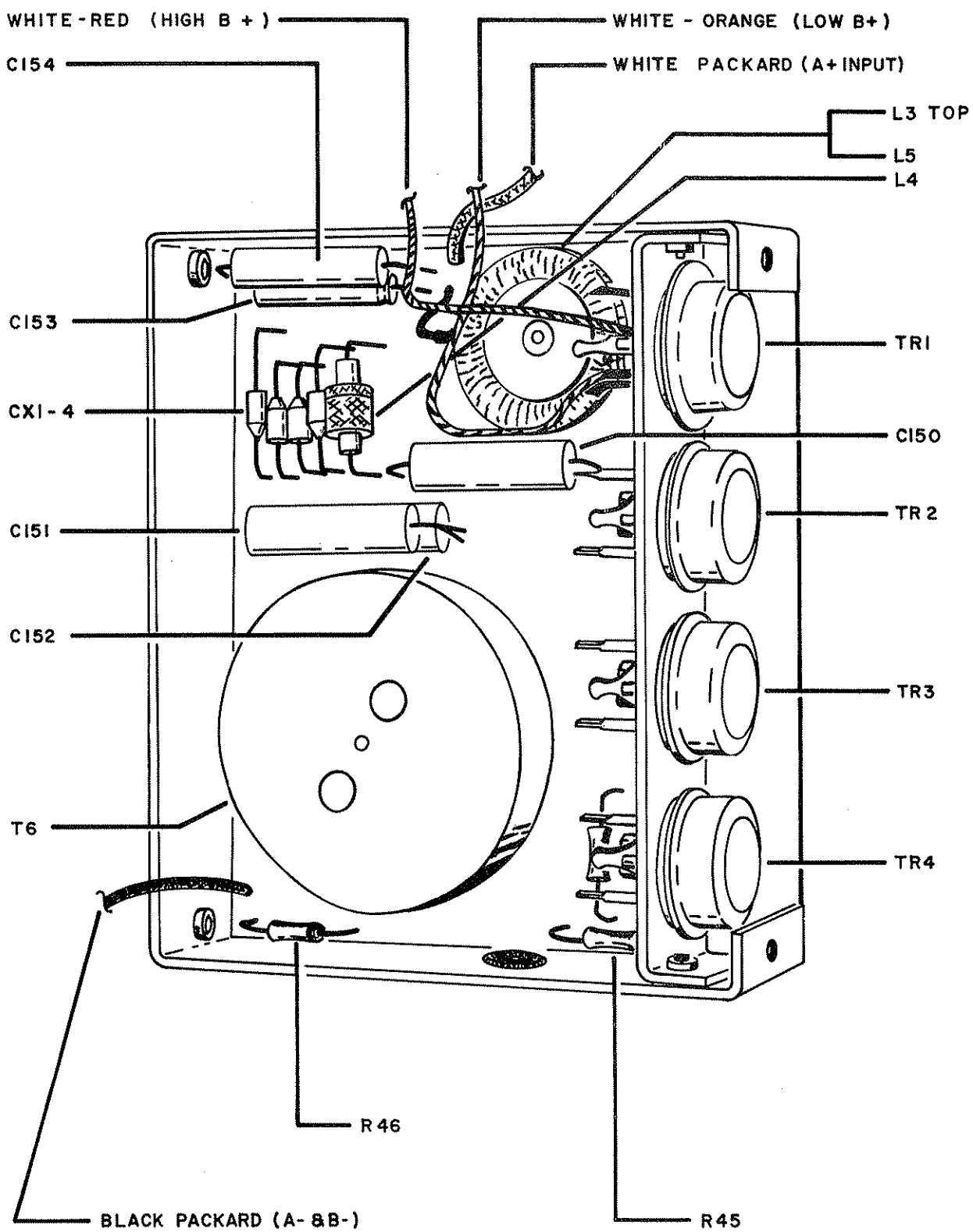


S-069 6/1/60 LBH

RF INVERTER ASSEMBLY



WIRING DIAGRAM FOR ELECTRIC REEL & CONTROL BOX



T-22-R POWER SUPPLY (PICTORIAL)

PARTS LIST T-22-R

RESISTORS

REF. SYMBOL	DESCRIPTION
R1	Resistor, Carbon, 22K, OHM, 1/2 Watt
R2	Resistor, Carbon, 470K, OHM, 1/2 Watt
R3	Resistor, Carbon, 68, OHM, 1/2 Watt
R4	Resistor, Carbon, 100K, OHM, 1/2 Watt
R5	Resistor, Carbon, 100K, OHM, 1/2 Watt
R6	Resistor, Carbon, 22K, OHM, 1/2 Watt
R7	Resistor, Carbon, 1K, OHM, 1/2 Watt
R8	Resistor, Carbon, 1MEG, OHM, 1/2 Watt
R9	Resistor, Carbon, 270, OHM, 1/2 Watt
R10	Resistor, Carbon, 22K, OHM, 1/2 Watt
R11	Resistor, Carbon, 47K, OHM, 1/2 Watt
R12	Resistor, Carbon, 270, OHM, 1/2 Watt
R13	Resistor, Carbon, 100K, OHM, 1/2 Watt
R14	Resistor, Carbon, 1K, OHM, 1/2 Watt
R15	Resistor, Carbon, 470K, OHM, 1/2 Watt
R16	Resistor, Carbon, 100K, OHM, 1/2 Watt
R17	Resistor, Carbon, 1MEG, OHM, 1/2 Watt
R18	Resistor, Carbon, 100K, OHM, 1/2 Watt
R19	Resistor, Carbon, 100K, OHM, 1/2 Watt
R20	Resistor, Carbon, 390K, OHM, 1/2 Watt
R21	Resistor, Carbon, 270, OHM, 1/2 Watt

PARTS LIST T-22-R - CONTINUED

REF. SYMBOL	DESCRIPTION
R22	Resistor, Carbon, 470K, OHM, 1/2 Watt
R23	Resistor, Carbon, 470K, OHM, 1/2 Watt
R24	Resistor, Carbon, 47K, OHM, 2 Watt
R25	Resistor, Wirewound, 4.7K, OHM, 3 Watt
R26	Resistor, Carbon, 1MEG, OHM, 1/2 Watt
R27	Resistor, Carbon, 100K, OHM, 1/2 Watt
R28	Resistor, Carbon, 27K, OHM, 1/2 Watt
R29	Resistor, Carbon, 1MEG, OHM, 1/2 Watt
R30	Resistor, Carbon, 470, OHM, 1 Watt
R31	Resistor, Carbon, 470K, OHM, 1/2 Watt
R32	Resistor, Carbon, 47K, OHM, 1/2 Watt
R33	Resistor, Carbon, 47K, OHM, 1/2 Watt
R34	Resistor, Carbon, 27K, OHM, 1/2 Watt
R35	Resistor, Carbon, 1MEG, OHM, 1/2 Watt
R36	Resistor, Carbon, 27K, OHM, 1/2 Watt
R37	Resistor, Wirewound, 100, OHM, 10 Watt
R38	Resistor, Wirewound, 15K, OHM, 10 Watt
R39	Resistor, Wirewound, 300, OHM, 5 Watt
R40	Resistor, Wirewound, 75, OHM, 5 Watt
R41	Resistor, Wirewound, 300, OHM, 5 Watt
R42	Resistor, Carbon, 470K, OHM, 1 Watt
R43	Resistor, Carbon, 1K, OHM, 1/2 Watt
R44	Resistor, Wirewound, 10, OHM, 3 Watt (14V units only)

PARTS LIST T-22-R - CONTINUED

REF. SYMBOL	DESCRIPTION
R45	Resistor, Wirewound, 40, OHM, 3 Watt
R46	Resistor, Wirewound, 1000, OHM, 3 Watt
R47	Resistor, Carbon, 22K, OHM, 1/2 Watt
	CAPACITORS
C1	Capacitor, Disc, 220 MMF @ 500VDC
C2	Capacitor, Tubular, 250 MMF @ 500VDC
C3	Capacitor, Tubular, 510 MMF @ 500 VDC
C4 through C14	Capacitor, Tubular, Capacity Determined by Crystal Frequenc
C26	Capacitor, Disc, .01 MMF @ 500VDC
C27	Capacitor, Disc, .01 MMF @ 500 VDC
C28	Capacitor, Disc, .01 MMF @ 500VDC
C29	Capacitor, Tubular, 5 MMF @ 500VDC
C30	Capacitor, Disc, .01 MMF @ 500VDC
C31 through C41	Capacitor, Tubular, Capacity determined by Crystal Frequency
C62	Capacitor, Disc, .01 MMF @ 500VDC
C63	Capacitor, Tubular, 12 MMF @ 500VDC
C64	Capacitor, Disc, 220 MMF @ 500VDC
C65	Capacitor, Disc, .01 MMF @ 500VDC
C66	Capacitor, Disc, .1 MMF @ 75VDC
C67	Capacitor, Disc, .01 MF @ 500VDC
C68	Capacitor, Disc, .01 MF@ 500VDC
C69	Capacitor, Disc, .01 MF @ 500VDC
C70	Capacitor, Tubular, 20 MMF @ 500VDC

PARTS LIST T-22-R - CONTINUED

REF. SYMBOL	DESCRIPTION
C71	Capacitor, Disc, .01 MF @ 500VDC
C72	Capacitor, Electrolytic, 10 MF @ 25VDC
C73	Capacitor, Disc, .01 MF @ 500VDC
C74	Capacitor, Disc, .1 MF @ 75VDC
C75	Capacitor, Disc, .01 MF @ 500VDC
C76	Capacitor, Disc, 1500 MMF @ 3KVDC
C78	Capacitor, Disc, .01 MF @ 500VDC
C79	Capacitor, Electrolytic, 10 MF @ 25VDC
C80	Capacitor, Electrolytic, 8 MF @ 350 VDC
C81	Capacitor, Disc, 1500 MMF @ 3KVDC
C82 through C92	Capacitor, Tubular, Capacity determined by Crystal Frequency
C93 through C104	Capacitor, Tubular, Capacity determined by Crystal Frequency
C105	Capacitor, Disc, .01 MF @ 500VDC
C107	Capacitor, Tubular, 100 MMF @ 500VDC
C108	Capacitor, Disc, 68 MMF @ 1.5KVDC
C109	Capacitor, Disc, 1500 MMF @ 3KVDC
C110 through C120	Capacitor, Disc, Capacity determined by Crystal Frequency
C121 through C131	Capacitor, Tubular, Capacity determined by Crystal Frequency
C132 through C142	Capacitor, Disc, Capacity determined by Crystal Frequency
C143	Capacitor, Disc, .01 MF @ 500VDC
C144	Capacitor, Disc, 1500 MMF @ 3KVDC
C145	Capacitor, Disc, .01 MF @ 500VDC
C146	Capacitor, Electrolytic, 50 MF @ 50VDC

REF. SYMBOL	DESCRIPTION
C147	Capacitor, Electrolytic, 50 MF @ 50VDC
C148	Capacitor, Disc, 1500 MMF @ 3KVDC
C149	Capacitor, Disc, .01 MF @ 500VDC
C150	Capacitor, Electrolytic, 8 MF @ 350VDC
C151	Capacitor, Electrolytic, 8 MF @ 350VDC
C152	Capacitor, Electrolytic, 8 MF @ 350VDC
C153	Capacitor, Tantalum, 100 MF @ 30VDC (28V Units Only)
C153	Capacitor, Tantalum, 400 MF @ 15VDC (14V Units Only)
C154	Capacitor, Tubular, .1 MF @ 400VDC
C155	Capacitor, Tantalum, 100 MF @ 30VDC (28V Units Only)
C155	Capacitor, Tantalum, 400 MF @ 15VDC (14V Units Only)
C168	Capacitor, Tubular, 510 MMF @ 500VDC
C169	Capacitor, Tubular, 100 MMF @ 500VDC
C170	Capacitor, Disc, .01 MF @ 500VDC
C171	Capacitor, Tubular, 12 MMF @ 500VDC
C172	Capacitor, Tubular, 100 MMF @ 500VDC
C173	Capacitor, Electrolytic, 8 MF @ 350VDC
C174	Capacitor, Electrolytic, 8 MF @ 350VDC
C175	Capacitor, Electrolytic, 8 MF @ 350VDC
C176	Capacitor, Tubular, .47 MF @ 400VDC
CA2 through CA22	Capacitor, Variable, 1.5 MMF to 20 MMF
CB2 through CB22	Capacitor, Variable, 1.5 MMF to 20 MMF
	COILS AND CHOKES
LA1-2 through LA21-22	Coil, RF Receiver, Permeability Tuned

PARTS LIST T-22-R - CONTINUED

REF. SYMBOL	DESCRIPTION
LB1-2 through LB21-22	Coil, Mixer Receiver, Permeability Tuned
LC1-2 through LC21-22	Coil, Oscillator, Transmitter, Permeability Tuned
LD1-2 through LD21-22	Coil, P.A., Transmitter, Permeability Tuned
LE1-2 through LE21-22	Coil, Harmonic Trap, Transmitter, Permeability Tuned
L1	Choke, RF, Transmitter Oscillator, 10MH
L2	Choke, RF, Transmitter, P.A., 4MH
L3	Choke, Input, Power Supply, .4MH
L4	Choke, Filter, Transmitter B+, Power Supply, 10MH
L5	Choke, Filter, Receiver B+, Power Supply, 400MH
	TRANSFORMERS
T1	Transformer, IF Input, 455KC
T2	Transformer, IF Output, 455KC
T3	Transformer, Audio Output
T4	Transformer, Modulation
T5	Transformer, Microphone Input
T6	Transformer, Toroid, Power Supply
	FILTERS
AF1	Filter, Modulation Input
AF2	Filter, Modulation Band Pass
PC51	Filter, Diode
	TRANSISTORS-CRYSTALS
TR1 through TR4	Transistor, 2N174, Delco (28V Units Only)

PARTS LIST T-22-R - CONTINUED

REF. SYMBOL	DESCRIPTION
TR1 through TR4	Transistor, 2N277, Delco (14V Units only)
CR1 through CR22	Crystal, Receiver
CT1 through CT22	Crystal, Transmitter
CX1 through CX4	Diodes, Power Rectifiers
RY1	Relay, Antenna Changeover
RY2	Relay, Power Input
RY3	Relay, B + Changeover
RY4	Relay, Crystal Changeover
RY4	Relay, Receiver RF Trimmer Changeover
RY5	Relay, Receiver Mixer Trimmer Changeover
V1	Tube, RF Amplifier, 12BA6
V2	Tube, Mixer Oscillator, 12BE6
V3	Tube, IF Amplifier, 12BA6
V4	Tube, AF Preamp, Detector, Noise Limiter, 6T8
V5	Tube, AF Amplifier, 6AQ5
V6	Tube, Oscillator-amplifier, Transmitter, 12BH7
V7	Tube, Transmitter, P.A., 6883
V8	Tube, Transmitter, Modulator, 6883
F1	Fuse, 10 amp. (28V Units)
F1	Fuse, 20 amp. (14V Units)

SERVICE LETTER NO. 3

ALL SUNAIR TRANSCEIVERS

LOADING COILS FOR FIXED ANTENNA INSTALLATIONS:

The Transmitter outputs are in all cases tuned for a 52 ohm impedance. Since this quarter wavelength impedance is obtained by varying the length of the trailing wire antenna to match the frequency, the loading coils are necessary with fixed antennas in order to maintain the effective antenna impedance of 52 ohms.

The fixed antenna may be a straight wire or the conventional V pattern depending upon the installation. The fixed antenna length must not be more than one quarter wave length of the highest frequency. In this way, the loading coil taps can be arranged to tune the lower frequencies as required. For best performance, the highest frequency used with a fixed antenna should not be more than 8 mc. This will require a fixed antenna length of approximately 25 feet.

Starting June 1, 1960 all loading units will be supplied with an extra wafer to facilitate installation of the series condensers in the event the fixed antenna has to be electrically shortened for frequencies above 8 mc. The loading coil (whether remote or manual) will then tune all frequencies between 2.5 mc and 12 mc. The loading coil taps should be positioned for maximum indication on the R. F. output meter. Relative field strength should then be measured and final setting of the loading taps refined if necessary. A schematic illustrating the method for using capacitators is attached.

IMPORTANT NOTICE

If you ever have occasion to return equipment to SUNAIR, please be certain of proper packaging. There have been recent cases of shipping damage due to insufficient attention to carton size and packing material. A few extra minutes spent in making sure of your package will save both time and money for both of us.

SUNAIR ELECTRONICS,INC.

REMEMBER - - - - -

Your SUNAIR Transceiver has been carefully aligned and each channel has been properly tuned prior to shipment. No further checking should be necessary under normal circumstances. If you have any doubt on the performance of your SUNAIR, refer to the technical manual before adjustment.

SUNAIR ELECTRONICS,INC.