

E. A. M.
46, RUE JACQUES-DULUP
NEUILLY-SUR-SEINE
(SEINE)
TEL. BARRIERS 27-27

SUNAir

HIGH FREQUENCY TRANSCEIVER

MODEL S-5-RTR
SERIAL No. XXXXXXXXXX

Specifications

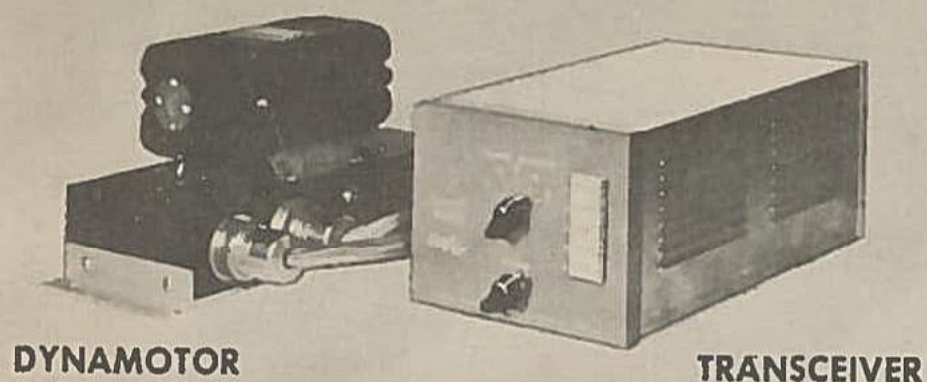
SUNAIR ELECTRONICS INC.

BROWARD INTERNATIONAL AIRPORT
FORT LAUDERDALE, FLORIDA, U. S. A.

E. A. M.
46, RUE JACQUES-DULUP
NEUILLY-SUR-SEINE
(SEINE)
TEL. BARRIERS 27-27

11

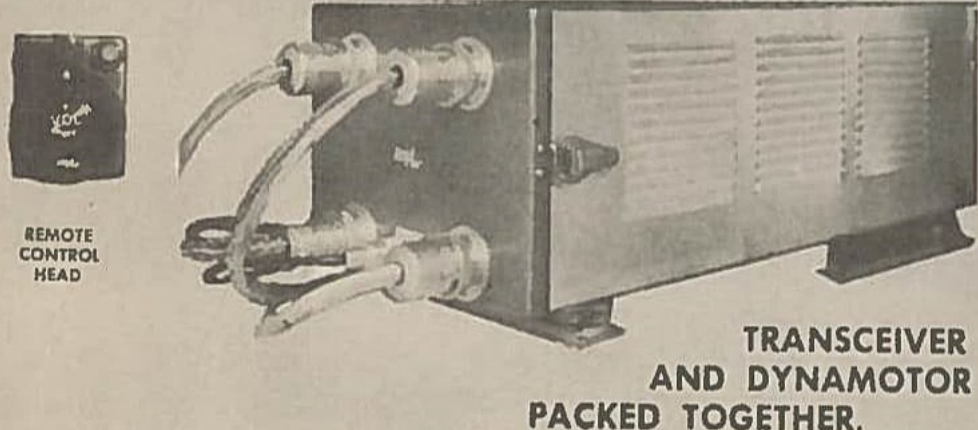
S5 - DTR



S5 - RTR



S22 - RTR



SPECIFICATIONS

Model S5-DTR direct, five channel, crystal controlled transceiver. Coverage: 2,000 to 10,000 kcs. Weight: Only 23 pounds installed.

Dimensions: Transceiver 6¼" wide, 5" high, 12¼" deep.

Dynamotor: 5¾" wide, 6¼" high, 12" long. Includes 5 transmitter and 5 receiver crystals. Ideal for aircraft with ample panel space.

Model S5-RTR remote, five channel, crystal controlled transceiver. Coverage: 2,000 to 10,000 kcs. Weight: Only 25 lbs. installed.

Dimensions: Transceiver 6¼" wide, 5" high, 14¼" long.

Dynamotor: 5¾" wide, 6¼" high, 12" long. Includes 5 transmitter and 5 receiver crystals, and remote control tuning head, 15 feet of cable or more if specified. Most suitable for aircraft requiring remote radio installation, with five channel coverage.

Model S22-RTR 22 channel remote, crystal controlled transceiver. Coverage: 2,000 to 10,000 kcs. Weight: Only 26½ lbs. installed.

Dimensions: 9" wide, 7" high, 21½" long. (Transceiver and dynamotor unit are packaged together for easy, remote location.) Cable supplied is 15 feet, or more if specified. The ultimate in multi-channel, remotely located HF equipment for large or small aircraft.

Manual reel antenna for above units:

COST: \$37.50 each

Weight: 3½ lbs.

Far greater operating range at much lighter weight than any comparable unit. Rugged construction combined with simple circuitry design assures trouble-free operation. Standard make, top-quality parts obtainable from leading supply houses used throughout.

Antenna power output — 35 watts — all models.

Current drain — Transmitter 10.5 amps (12 volt), 5.25 amps (24 volt); Receiver — 3.5 amps (12 volt), 1.75 amps (24 volt).

Flight plans may be filed from remote points while airborne or even aground. They may be closed out from distant localities, airborne or aground, due to itinerary changes caused by weather, business necessity, or by some promising hunting or fishing. Long range weather reports permit re-routing of flights or enroute changes to avoid marginal weather areas and very costly time delays are eliminated. Keeping in constant touch with the home office, family, and other business contacts by direct radio or via marine telephone operators is now routine.

TECHNICAL SPECIFICATIONS
SUNAIR 5-CHANNEL TRANSCEIVER
SUNAIR 22-CHANNEL TRANSCEIVER
(As Filed With Federal Communications Commission)

Manufacturer's Name and Address:	Sunny South Aircraft Service, Inc. Broward County International Airport Fort Lauderdale, Florida
Model Number:	S-5-DTR — S-5-RTR — S-22-RTR
Class and Maximum Percentage Modulation:	High Level Plate Modulation 90%
Radio Stage Modulated:	Final RF Amplifier
Oscillator Circuit:	Crystall Colpitts Oscillator Frequency equals Output Frequency
Guaranteed Tolerance of Operating Frequency:	.005 percent
Manufacturer's Rated Power Output:	Rated Power Output - 35 Watts Measured Power Output into 72 Ohm Line (at Manufacturer's rated Input Volts) - 46.08 Watts 2nd Harmonic Radiation Less Than —60DB of Carrier Output
Final Radio Stage:	1 Type 6146 or 1 Type 6159, depending on Supply Voltage Available (14 or 28 Volt Source)
Normal Operating Plate Current of Final RF Stage:	.175 Amps.
Normal Operating Plate Voltage of Final RF Stage:	450 Volts
Frequency Range:	2 to 10 Megacycles Depending on Frequencies Selected
Oscillator:	1 - 12AQ5
Modulator:	1 - 6146 or 6159
Final RF Stage:	1 - 6146 or 6159

IMPORTANT ANTENNA INFORMATION

(Applies to all SUNAIR Models)

Antenna impedance for all SUNAIR Transceivers is 80 ohms at 2 megacycles, decreasing to 16 ohms at 10 megacycles. RG-58-AU coaxial lead is employed for connecting the SUNAIR Transceivers to the reel type trailing wire antenna, or to the loading device, if a fixed antenna is used. The connecting wire between the loading coil and the antenna should be a well insulated, unshielded type of the shortest length possible. The voltage at this point can reach a very high value and standard Packard cable or similar wire will burn through.

FIXED ANTENNAS

Satisfactory operation of a SUNAIR Transceiver is not possible from a fixed antenna only, and the exclusive use of same cannot be recommended unless very limited operating range is considered to be adequate. No method of loading the SUNAIR Transceiver to a fixed antenna is incorporated in the unit itself and if a fixed antenna is desired, some external method for loading must be provided. The maximum length of the fixed antenna will be dictated by the highest frequency to be employed in the SUNAIR Transceiver and should be any length shorter than a quarter wavelength at this frequency, using the loading coil to resonate the fixed antenna to this frequency and the lower frequencies.

REEL TYPE TRAILING WIRE ANTENNAS

The reel type trailing wire antenna provides the maximum possible performance for the SUNAIR Transceiver and must be used if long range operation is to be expected. No loading device is necessary where the reel type trailing wire antenna is employed, as the length of the trailing wire can be adjusted by the operator to represent a quarter wavelength at the frequency of the channel in use. Adjustment of the antenna to this point is accomplished by reeling out the antenna from the in position to the first position that gives the greatest brilliance on the indicator bulb, this operation being performed with the microphone button depressed. After the operator becomes acquainted with the approximate number of turns off the reel for each frequency employed, it is possible to return to this position, then depress the microphone button and adjust for maximum brilliance on the indicator bulb. The first increase in brilliance as indicated by the indicator bulb is the position to be employed and reeling out additional wire will result in decreased range.

The coaxial lead employed between the SUNAIR Transceiver and the reel type trailing wire antenna can be any length necessary for the installation involved.

IMPORTANT: The outside shield on the coaxial lead must be grounded at the transceiver by the proper attachment in the coax fitting, and also must be grounded at or near where the lead attaches to the trail antenna reel. If the fixed antenna is used, the shield must be grounded near the loading device.

RECEIVER ALIGNMENT AND RECEIVER COIL INFORMATION

SUNAIR MODELS S-5-DTR S-5-RTR

The intermediate frequency amplifier section of the SUNAIR Transceiver is aligned to the standard I.F. frequency of 455 KC. Alignment of this section of the Transceiver should not be necessary unless there is good reason to believe that it has become misaligned. Replacement of some component part, such as an I.F. transformer, would be adequate reason for readjustment. In order to realign the intermediate frequency amplifier, a modulated signal generator of reliable calibration with controllable output should be used. In addition, it is desirable that an output meter be on hand. If no output meter is available, alignment can be accomplished by adjusting for maximum audio output by ear. In both cases it will be necessary to keep the signal generator output to a minimum in order to prevent actuating the AVC circuit. Alignment should be started at the last tuned circuit, the output section of the last I.F. transformer, then proceed toward the front end tuning for maximum in each case.

Adequate signal input can usually be obtained for I.F. alignment by connecting the signal generator directly to the antenna lead and removing the receive crystal from the channel at which the channel selector is set. The signal generator output will have to be set high enough to get an audible signal from the output of the receiver. As the I.F. transformers are aligned for maximum, the signal generator output should be decreased proportionately.

ALIGNMENT OF MIXER GRID AND ANTENNA COILS

Alignment of the mixer grid coils is accomplished in a similar manner to that prescribed for the I.F. amplifier section. Alignment is for maximum output. All receive crystals should be in their respective sockets. The signal generator should be adjusted to the frequency of the channel designated by the channel selector. A method of decoupling may be necessary between the output of the signal generator and the antenna lead from the transceiver, as very few signal generators can be adjusted to a minimum output sufficient for proper alignment of a sensitive receiver. If this is found to be true, disconnect the signal generator from the antenna lead and connect it to a short piece of insulated wire. Wrap the insulated wire around the unshielded portion of the antenna lead sufficient to give the desired coupling.

Adjust the signal generator to give the desired output, then adjust the mixer grid coil for maximum. As the mixer grid coil is adjusted, it will be noted that a very pronounced dip in the signal level will be observed as the coil is adjusted through the receive crystal frequency. If the receive crystal is ground to 455 KC below the desired frequency, then it is known that the coil must be adjusted to a position higher in frequency, and a pronounced rise in signal level will be observed as this position is located. In the event the receive crystal is cut to 455 KC higher than the receive frequency, then the above procedure would be reversed, as the null point would be above the desired frequency and the coil would have to be adjusted to the point of maximum signal lower in frequency than the crystal frequency.

In the event that no null point can be found, it is very likely that the coil-condenser combination in this particular position of the channel selector is not proper for the frequency at which it is being attempted to operate. In this case it will be necessary to change the capacitor across this particular coil. The mixer coil for channel one has a condenser connected directly across the terminals. The condensers for channel two, three, four and five are connected across two sections of the channel selector switch directly behind the 12BE6 mixer tube. These condensers can be identified as to their respective channel positions by the color of the wires connected to one end, which run to their respective coils. Coding is standard RMA and this coding is used throughout the transceiver for channel identification. BROWN is channel one, RED is channel two, ORANGE is channel three, YELLOW is channel four and GREEN is channel five. Should it be impossible to resonate the coil to the desired frequency without going to a condenser in excess of 150 mmf or less than 5 mmf, it will be necessary to change the coil to one of the desired range. Four different coils are available for the mixer grid and the antenna input circuits. Their ranges are as follows:

Coil Set. No. 1	Range 2mc to 3.8 mc	Color Code: GREEN
Coil Set. No. 2	Range 3.8mc to 5.8mc	Color Code: YELLOW
Coil Set No. 3	Range 5.8mc to 7mc	Color Code: RED
Coil Set. No. 4	Range 7mc to 10mc	Color Code: WHITE

NOTE:

Prior to June 1st, 1955, color coding was at random and cannot be relied upon. Model S-5-DTR after serial number 4105, S-5-RTR after serial number 6016 and S-22-RTR after serial number 8007 will conform to the color code for coils as stated above.

The receiver mixer grid coils are located just above the crystal sockets with channel one coil in the position closest to the front panel, with coil number two directly behind number one, etc. It will be noted from the drawing of the mixer circuit that all condensers and coils not in use in a particular position of the channel selector switch, are disconnected from each other and from the mixer grid circuit. This is to prevent possible absorption loss from the coil-condenser combination that is in use. This practice is also followed in the antenna input circuit for the same reason.

Tuning of the antenna input circuit is accomplished by tuning all coils for maximum, taking care to see that the signal generator is always adjusted to the lowest possible output level to give a sharp indication. The details as given for the mixer grid coils will apply to the antenna input coils as well. No null point will be in evidence, however, and the only indication of resonance will be a sharp rise in the output level when resonance is reached. Coil and condenser combinations will have to be changed to suit the frequency in use. This of course, will only be necessary in the condition whereby a frequency change has been made, as all SUNAIR Transceivers are tuned to the frequencies specified, when desired frequencies are stated at date of order. The receiver antenna input coils are mounted one above the other on a bracket just in back of the faceplate. The lower coil is the number 1 coil with number 2 coil mounted directly over number 1, etc., with number 5 coil being located at the top of the bracket.

TRANSMITTER ADJUSTMENTS

SUNAIR MODELS S-5-DTR S-5-RTR

The transmitter section of the SUNAIR Transceiver employs a 12AQ5 type tube in a modified Colpitts crystal controlled oscillator circuit. The transmit crystals are switched by the channel selector switch common to the receiver. This same switch also selects the transmitter oscillator plate coil and the proper tap on the final R. F. amplifier plate coil for each of the five positions of the selector switch. The transmitter oscillator plate coils are selected to resonate at the transmit frequency for the particular channel. Adjustable iron core coils are used and the range of each coil, and their respective color coding, is in conformity with that given for the receiver mixer grid coil and the antenna input coil, as follows:

Coil No. 1	Range 2mc to 3.8mc	Color Code: GREEN
Coil No. 2	Range 3.8mc to 5.8mc	Color Code: YELLOW
Coil No. 3	Range 5.8mc to 7mc	Color Code: RED
Coil No. 4	Range 7mc to 10mc	Color Code: WHITE

NOTES:

The transmitter oscillator plate coils are of a larger type than the receiver coils and are not interchangeable with receiver coils.

Coil set numbers for the receiver and for the transmitter are not related to the channel selector positions of one through five and any set of coils can be installed in any channel selector position to give the desired selection of frequencies.

Cross band or simplex operation can be used in any channel selector position, provided the proper transmit and receive coils and crystals are installed in their respective positions.

The first step in tuning the transmitter is the adjustment of the oscillator plate coils and before this is attempted it is recommended that the high voltage for the final R. F. amplifier be disconnected. This is accomplished in the Model S-5-DTR by disconnecting the quick disconnects in the ORANGE lead coming from the dynamotor-power supply. In the Model S-5-RTR it will be necessary to remove the bottom cover from the dynamotor-power supply and insert a thin piece of insulating material between the down contacts of the high voltage switching relay. Do not block the relay in such manner as to prevent it from operating, as this relay also inserts a 5,000 ohm 10 watt resistor in the medium voltage lead in the transmit position, and without it the full high voltage will be applied to the transmitter oscillator.

ADDITIONAL NOTE:

Block only the high voltage contact side of this relay.

Adjustment of the transmitter oscillator plate coils is accomplished by connecting a voltmeter, of the 20,000 ohm per volt type, between the grid terminal of the final R. F. amplifier and the chassis, with a 100K 1/2 watt resistor inserted between the grid terminal and the negative lead of the meter, and the positive lead of the meter connected to the chassis. The final R.F. amplifier is a 6146 type tube in the 12/24 volt model and a 6159 type tube in the 24/28 volt model.

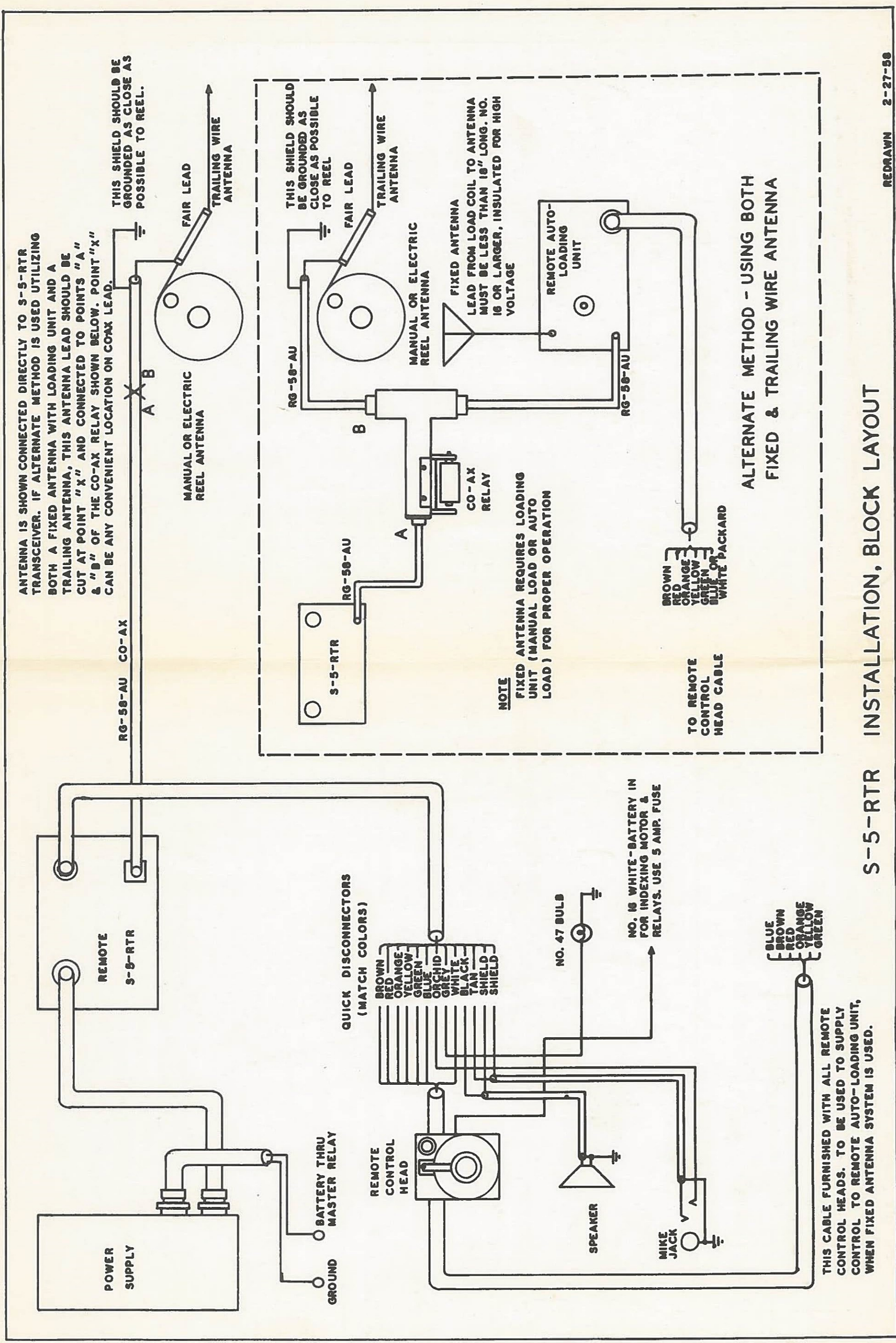
The final R. F. amplifier tube is located at the rear-right of the main chassis. The grid terminal for the R. F. amplifier is the number 5 pin.

The transmitter oscillator plate coils are located in the center of the main chassis, the coil part underneath the chassis with the screw tuning adjustment and lock above the chassis, near the bottom of the channel selector switch. The transmitter oscillator coils can be identified as to their respective channel by the color of the wire attaching to each coil. Channel one BROWN, Channel two RED, Channel three ORANGE, Channel four YELLOW, and Channel five GREEN.

To proceed with the transmitter tune-up, set channel selector to the channel to be tuned. Set voltmeter to 250 or 300 volt scale. Depress the microphone button and adjust the proper oscillator plate coil to give the maximum reading on the voltmeter. Grid excitation voltage for the final R. F. amplifier will vary between 75 volts and 125 volts depending on frequency and battery source voltage. After all of the oscillator plate coils are properly adjusted for maximum grid excitation to the final R. F. amplifier, it is permissible to proceed with the tuning of the final amplifier. Reconnect the ORANGE wire in the case of the S-5-DTR or remove the insulating material from the contacts of the high voltage relay in the case of the S-5-RTR. Remove the $\frac{1}{2}$ watt resistor from pin 5 of the final amplifier. Connect the positive lead of the voltmeter to either pin 1, 4, or 6 with the negative lead attached to the chassis. Set the voltmeter to 50 volt scale. IMPORTANT: See that the antenna lead from the transceiver is disconnected from the antenna or any other form of load. Loosen the tap on the final amplifier plate coil that corresponds with the setting of the channel selector (wire lead color coding is the same as previously stated). Depress the microphone button and move the tap across the final amplifier coil while watching the voltmeter. Attach the tap on the turn of the coil that gives the minimum reading on the voltmeter. Care should be taken to set the tap at the fundamental frequency as the final amplifier will double with good output.

NOTE:

During the final tune-up procedure, the final amplifier plate coil is sprayed with a fungicidal mix, insulating lacquer. In adjusting the taps on this coil, it will be necessary to remove this coating before a proper indication will be obtained.



ANTENNA IS SHOWN CONNECTED DIRECTLY TO S-5-RTR TRANSCIEVER. IF ALTERNATE METHOD IS USED UTILIZING BOTH A FIXED ANTENNA WITH LOADING UNIT AND A TRAILING ANTENNA, THIS ANTENNA LEAD SHOULD BE CUT AT POINT "X" AND CONNECTED TO POINTS "A" & "B" OF THE CO-AX RELAY SHOWN BELOW. POINT "X" CAN BE ANY CONVENIENT LOCATION ON COAX LEAD.

THIS SHIELD SHOULD BE GROUNDED AS CLOSE AS POSSIBLE TO REEL.

THIS SHIELD SHOULD BE GROUNDED AS CLOSE AS POSSIBLE TO REEL

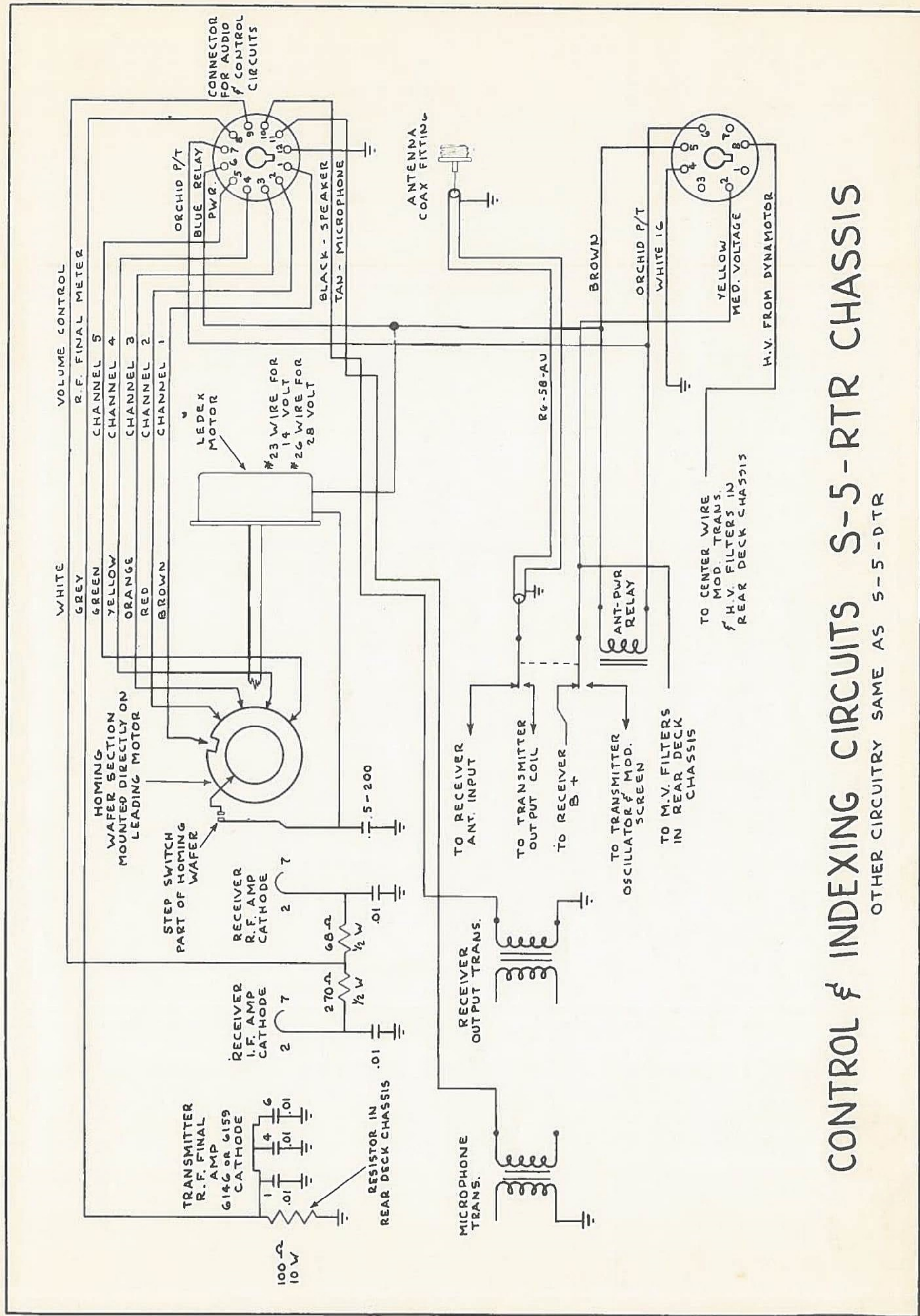
FIXED ANTENNA LEAD FROM LOAD COIL TO ANTENNA MUST BE LESS THAN 16" LONG. NO. 16 OR LARGER, INSULATED FOR HIGH VOLTAGE

NOTE
FIXED ANTENNA REQUIRES LOADING UNIT (MANUAL LOAD OR AUTO LOAD) FOR PROPER OPERATION

ALTERNATE METHOD - USING BOTH FIXED & TRAILING WIRE ANTENNA

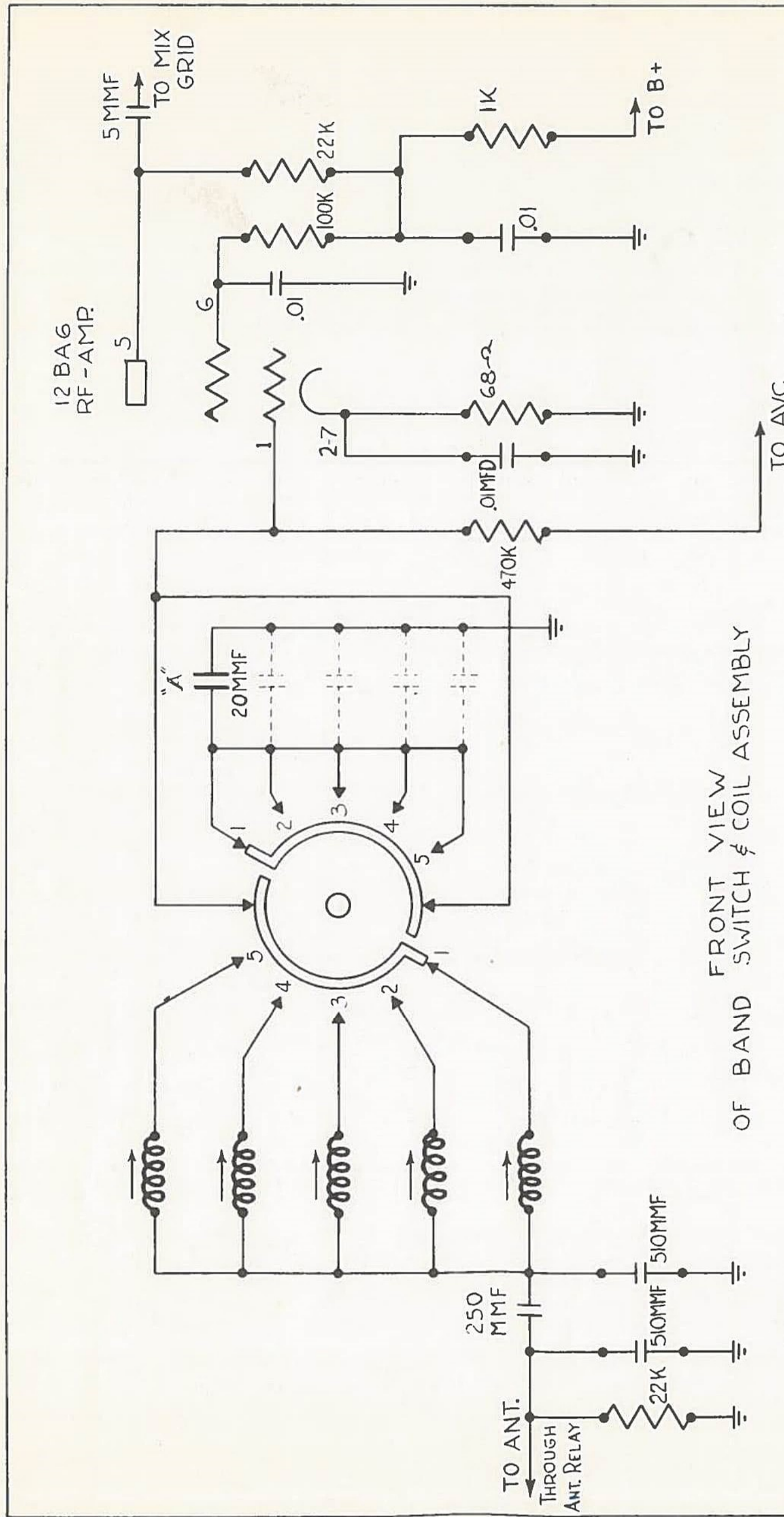
THIS CABLE FURNISHED WITH ALL REMOTE CONTROL HEADS. TO BE USED TO SUPPLY CONTROL TO REMOTE AUTO-LOADING UNIT, WHEN FIXED ANTENNA SYSTEM IS USED.

S-5-RTR INSTALLATION, BLOCK LAYOUT



CONTROL & INDEXING CIRCUITS S-5-RTR CHASSIS

OTHER CIRCUITRY SAME AS S-5-DTR

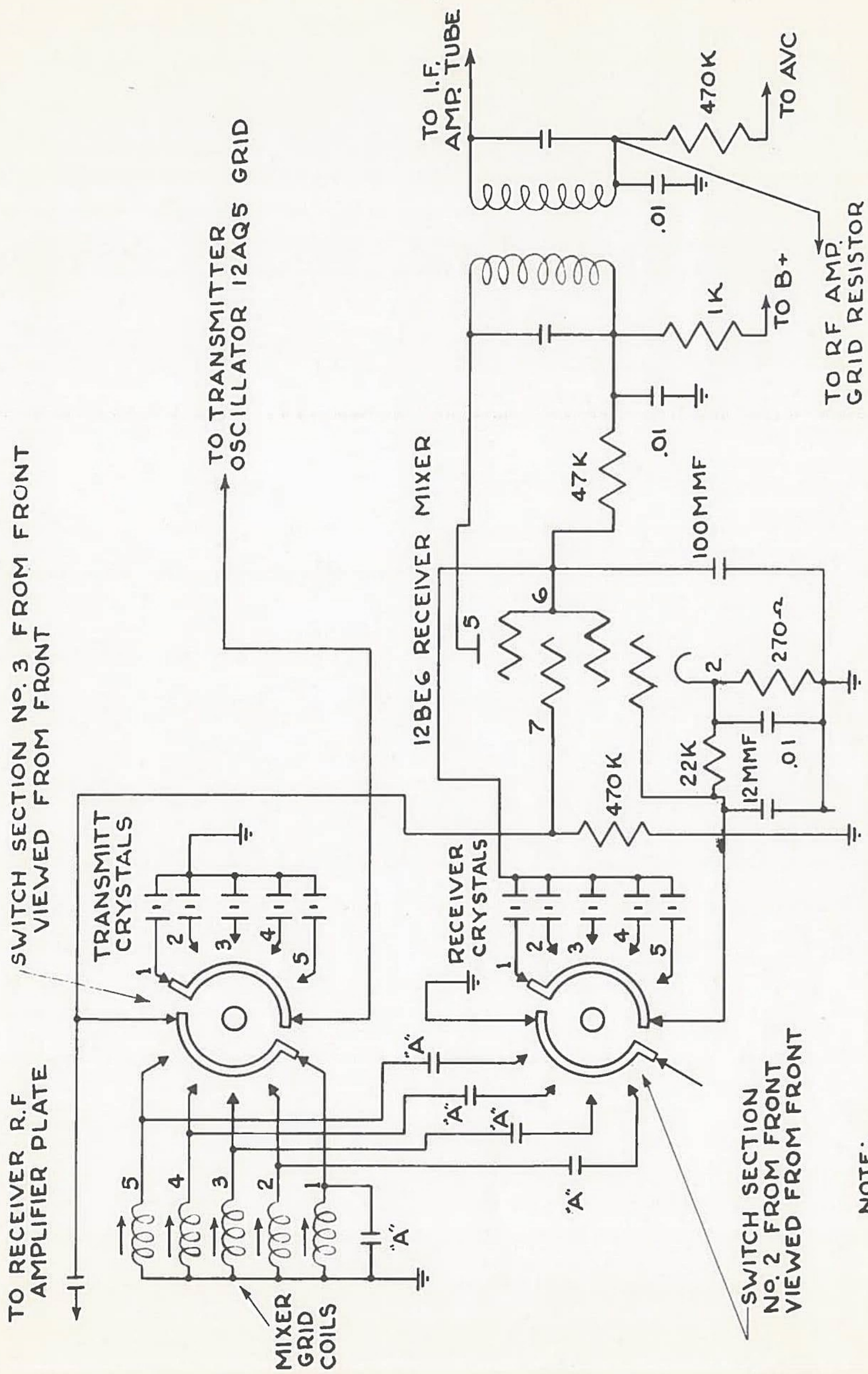


FRONT VIEW OF BAND SWITCH & COIL ASSEMBLY

NOTE: TERMINALS #1 THROUGH #5 ON RIGHT SIDE OF BAND SWITCH ARE TIED TOGETHER AND CAPACITOR "A" CONNECTS FROM BAND SWITCH TO GROUND. INDEPENDENT CAPACITORS OF VARIOUS VALUES MAY BE USED ON EACH CHANNEL IF TUNING RANGE OF COILS IS NOT ADEQUATE.

NOTE: ALL RES. 1/2 W

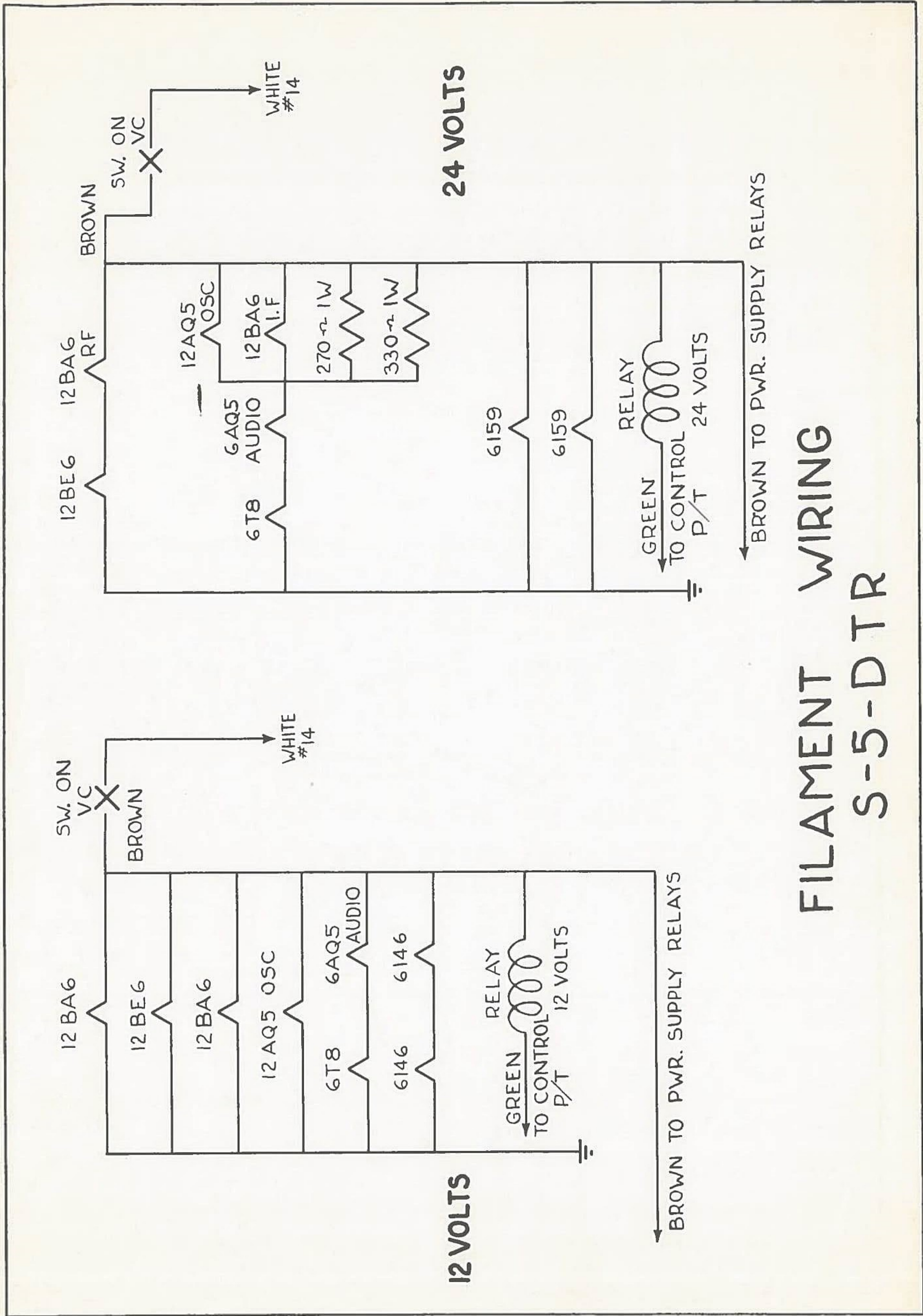
ANTENNA INPUT CIRCUIT S-5-DTR



NOTE:

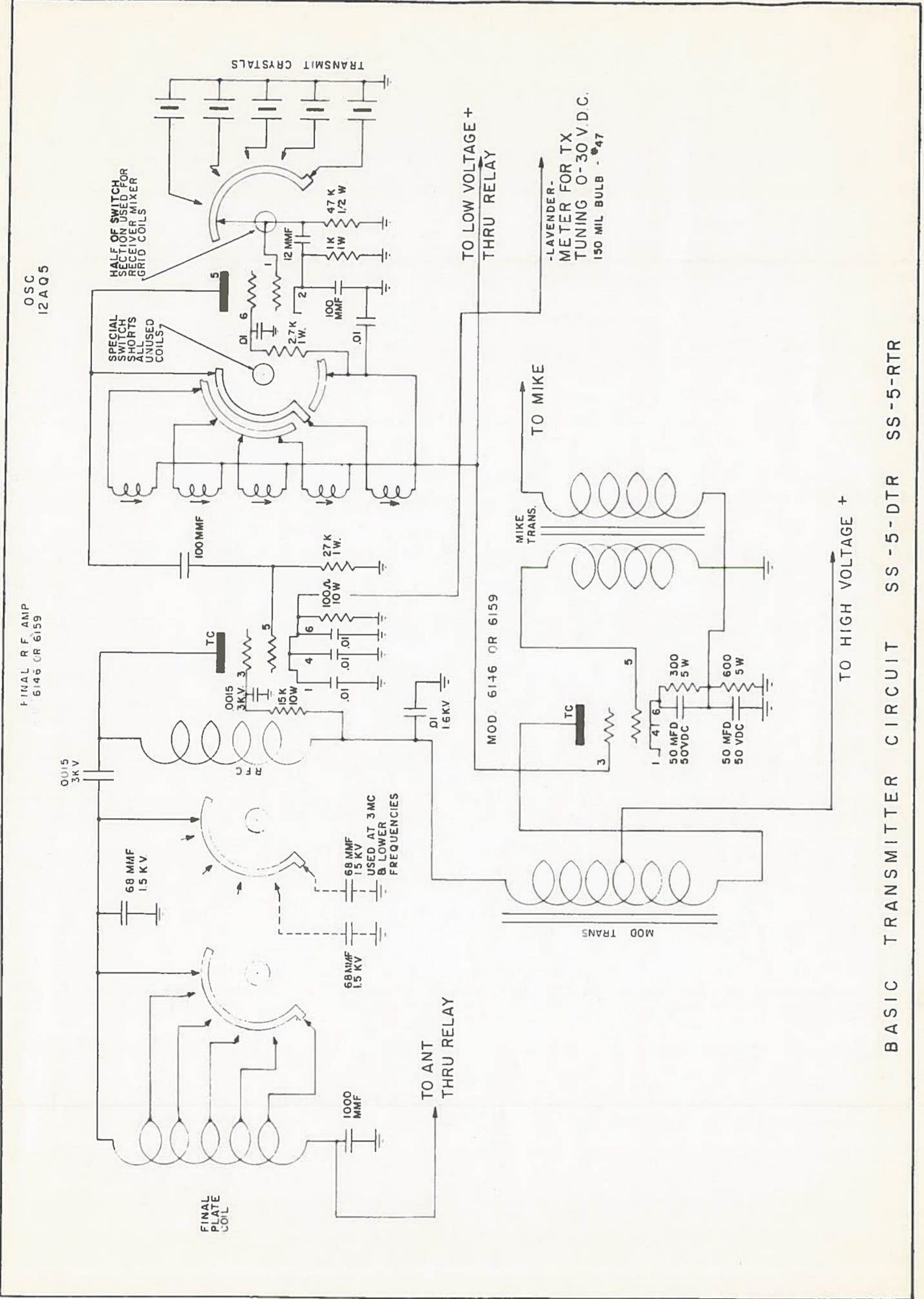
CAPACITORS MARKED 'A' & MIXER GRID COILS WILL VARY WITH FREQUENCIES USED

RECEIVER MIXER AND CRYSTAL SWITCHING CIRCUITS S-5-DTR



FILAMENT WIRING

S-5-D TR

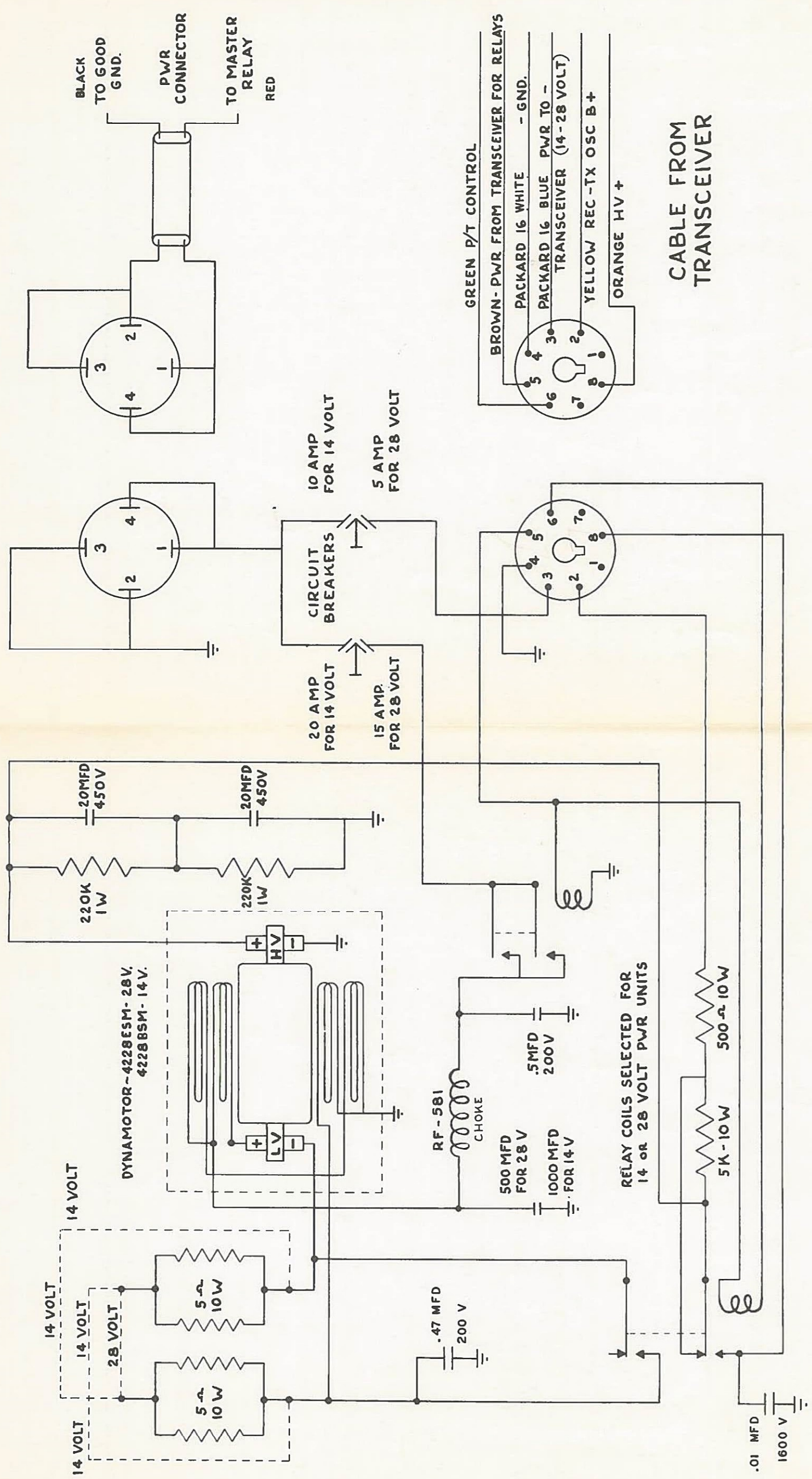


OSC
12AQ5

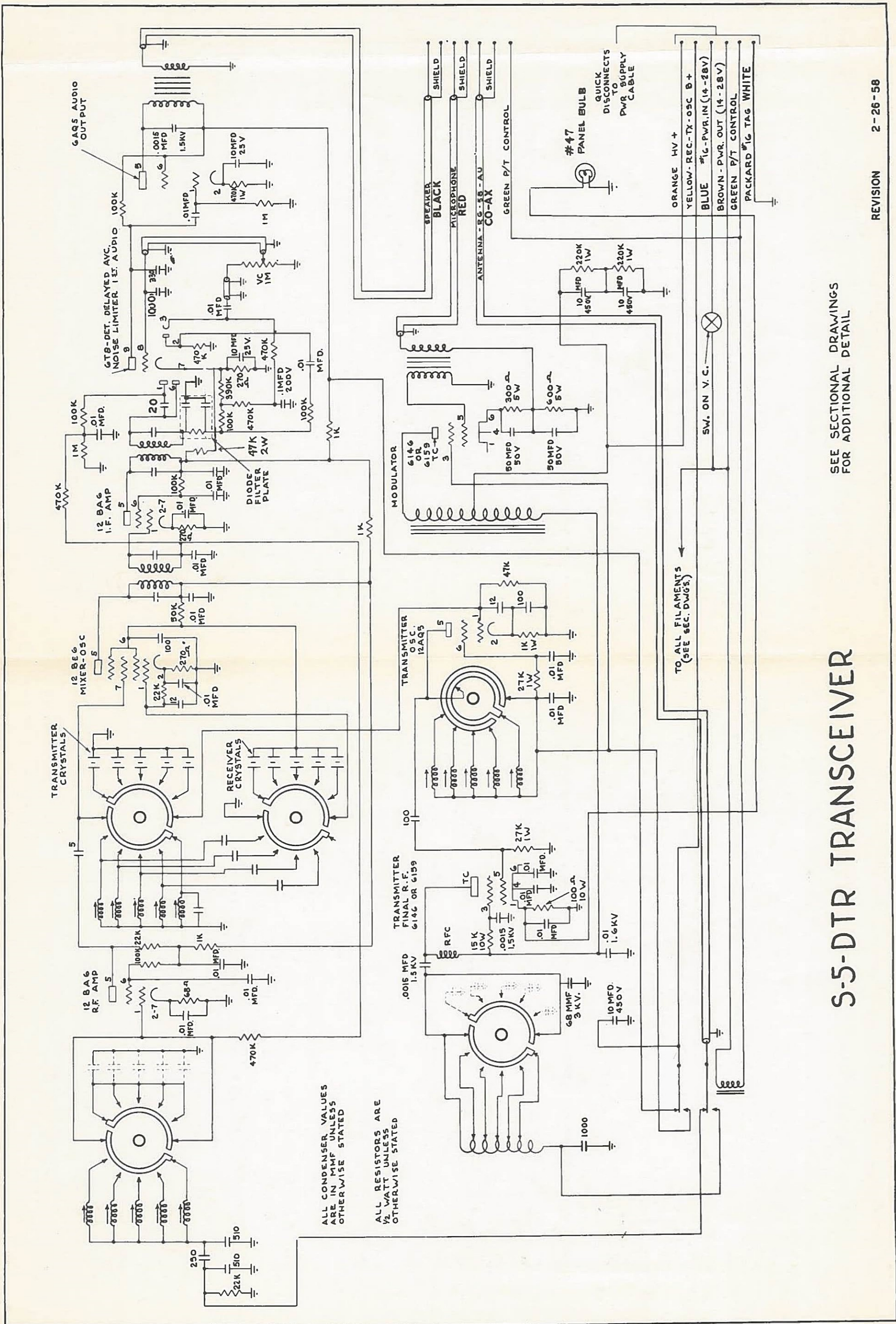
FINAL RF AMP
6146 OR 6159

-LAVENDER-
METER FOR TX
TUNING 0-30 V.D.C.
150 MIL BULB - 47

BASIC TRANSMITTER CIRCUIT SS-5-DTR SS-5-RTR



POWER SUPPLY S-5-DTR AND S-5-RTR



S-5-DTR TRANSCIEVER

SEE SECTIONAL DRAWINGS FOR ADDITIONAL DETAIL

SUNAIR PARTS LIST

MODELS S-5-DTR and S-5-RTR

DISC CERAMIC CONDENSERS

VALUE	CIRCUIT LOCATION	LIST PRICE
.01 mfd - 500 volt	Cathode by-pass, RF Amplifier	\$.25
"	Screen by-pass, RF Amplifier	"
"	Isolation by-pass, RF Amplifier	"
"	Cathode by-pass Mixer-osc	"
"	Plate isolation Mixer-osc	"
"	Grid isolation IF Amplifier	"
"	Plate isolation IF Amplifier	"
"	Cathode by-pass IF Amplifier	"
"	Screen by-pass IF Amplifier	"
"	AVC Filter	"
"	Audio to NL Diode	"
"	Audio from NL Diode	"
"	Audio to Grid of 2nd Audio amp	"
"	Cathode by-pass Final RF Amp Pin 1	"
"	Cathode by-pass Final RF Amp Pin 4	"
"	Cathode by-pass Final RF Amp Pin 6	"
"	Plate isolation Trans-osc	"
"	Screen by-pass Trans-osc	"
.0015 mfd - 3 KV	Plate by-pass 2nd Audio amp	.40
"	Screen by-pass Final RF amp	"
"	Plate coupling Final RF amp	"
.01 mfd - 1.6 KV	Plate by-pass Final RF amp	.35
68 mmf - 1.5 KV	Plate Tuning, Final RF amp	.30

TUBULAR CERAMIC CONDENSERS
 SUNAIR PARTS LIST
 TRANSCEIVER UNIT
 MODELS S-5-DTR and S-5-RTR

VALUE	CIRCUIT LOCATION	LIST PRICE
510 mmf - 500 volt	Ant input, receiver	\$.25
"	Ant input, receiver	
330 mmf - 500 volt	Plate by-pass, 1st audio	
"	Grid by-pass, 1st audio	
250 mmf - 500 volt	Ant input receiver	
100 mmf - 500 volt	Screen by-pass, Mixer-osc	
"	Cathode by-pass, Trans-osc	
"	Coupling to RF Final amp grid	
50 mmf - 500 volt	AVC Diode coupling	
12 mmf - 500 volt	Grid by-pass, Receiver osc	
"	Grid-Cathode Coupling, Trans osc	
5 mmf - 500 volt	Coupling to Receiver Mixer grid	
1000 mmf - 500 volt	Ant output, Transmitter	
	CARBON RESISTORS - 1/2 WATT	
1 M	Grid resistor, 2nd audio	\$.25
"	AVC Load resistor	
470 K	Grid resistor, RF amp	
"	AVC Filter	
"	NL Circuit	
"	NL Circuit	
"	NL Circuit	
390 K	NL Circuit Voltage Divider	
100 K	Screen resistor, RF amp	
"	AVC Diode resistor	
"	Screen resistor, IF amp	
"	Plate resistor, 1st Audio	
"	Audio filter, to NL Diode	
"	NL Circuit, Voltage Divder	
47 K	Screen resistor, Trnas-osc	
"	Grid resistor, Trans-osc	
22 K	Ant static discharge	
"	Plate resistor, RF Amp	
"	Grid resistor, Rec-osc	
1 K	Plate isolation, RF Amp	
"	Plate isolation, Mixer-osc	
"	Plate isolation, IF Amp	
270 OHM	Cathode Resistor, Mixer-osc	

CARBON RESISTORS - 1/2 WATT

VALUE	CIRCUIT LOCATION	LIST PRICE
270 OHM	Cathode resistor, IF Amp	\$1.25
"	Cathode resistor, 1st Audio	
68 OHM	Cathode resistor, RF Amp	
CARBON RESISTORS - 1 WATT		
220 K	HV Filter equalizer	\$.35
"	HV Filter equalizer	
27 K	Screen Resistor, Trans-osc	
"	Grid Resistor, RF Amp - TRANSMIT	
1 K	Cathode Resistor, Trans-Osc	
470 OHM	Cathode Resistor, 2nd Audic	
330 OHM	Filament equalizing (28 volt only)	
270 OHM	Filament equalizing (28 volt only)	
WIREWOUND RESISTORS - 10 WATT		
15 K	Screen Resistor, RF Amp	\$.85
100 OHM	Cathode Resistor, RF Amp	
WIREWOUND RESISTORS - 5 WATT		
600 OHM	Cathode Resistor, Modulator	\$.65
300 OHM	Cathode Resistor, Modulator	
ELECTROLYTIC CONDENSERS		
10 mfd - 450 volt	HV Filter	\$1.25
10 mfd - 450 volt	HV Filter	\$1.25
10 mfd - 450 volt	MV Filter	1.25
50 mfd - 50 volt	Cathode by-pass, Modulator	1.25
50 mfd - 50 volt	Cathode by-pass, Modulator	1.25
10 mfd - 25 volt	Cathode by-pass, 1st Audio	.85
10 mfd - 25 volt	Cathode by-pass, 2nd Audio	.85
AUDIO TRANSFORMERS		
306A3	Microphone Transformers	\$2.75
306A2	Receiver Output Transformer	2.25
306C1	Modulation Transformer	7.50
306A1	MATCHING TRANSFORMER 3.2 OHM to 500 OHM	3.50
I.F. AMPLIFIER TRANSFORMERS		
BC 35L3	Input I.F.	\$2.85
BC 35L4	Output I.F.	2.85
PLASTIC CONDENSERS		
VALUE	NL Circuit	.55
.1 mfd - 200 volt	109P10402	

ANTENNA INPUT AND MIXER GRID COILS

Code - GREEN	2 mc to 3.8 mc	LIST PRICE
" - YELLOW	3.8 mc to 5.6 mc	\$1.55
" - RED	5.6 mc to 7 mc	
" - WHITE	7 mc to 10 mc	

(SPECIFY FOR RECEIVER

TRANSMITTER OSCILLATOR PLATE COILS

Same Range Color Coding (SPECIFY FOR TRANS OSC)	\$1.55
2.5 MH 300 Mil RF Choke Plate choke RF Final Amp PART NUMBER R300S	\$2.55
Filter Plate Diode Filter PART NUMBER PC-51	\$.95
Relay, Antenna Changeover (Specify) (14V-C-5376) (28V-C-5375)	\$7.50
Volume Control (S-5-DTR only)	\$2.25

TUBES SOCKETS

NUMBER	POSITION	LIST PRICE
8AM	MODULATOR	\$.55
7EM	FINAL RF AMP	.55
7EM	RF AMP REC	.25
7EM	MIXER OSC REC	.25
7EM	IF AMP REC	.25
7EM	2ND AUDIO	.25
9EM	DET - 1ST AUDIO	.30
7EM	OSC-TRANS	.55

TUBES

TYPE	APPLICATION	LIST PRICE
6146 (12/14 volt)	MODULATOR	\$9.25
6146 (12/14 volt)	FINAL RF AMP	9.25
6159 (24/28 volt)	MODULATOR	9.25
6159 (24/28 volt)	FINAL RF AMP	9.25
12 BA6	RF AMP REC	2.35
12 BA6	IF AMP REC	2.35
12 BE6	MIXER-OSC REC	2.35
6T8	DET-1ST AUDIO	2.85
6AQ5	2ND AUDIO	2.05
12AQ5	OSC-TRANS	2.35

SUNAIR
ADDITIONAL PARTS LIST S-5-RTR ONLY

LEDEX CHANNEL SELECTOR MOTOR (Specify 14-28 volt)		\$ 39.00
79-PO-8M	8 pin chassis connector	1.81
79-PO-12M	12 pin chassis connector	1.86
83-IR	Coax connector, chassis mtg	1.20
83-ISP	Antenna lead connector, coaxial	1.30
83-185	Reducer, coaxial	.30
REMOTE CONTROL HEAD, INCLUDING VOLUME CONTROL, WIRING AND CONNECTOR PLUG		125.00
REMOTE CONTROL HEAD, only, WITH VOLUME CONTROL, NOT WIRED		100.00

SUNAIR PARTS LIST

MANUAL REEL ANTENNA KIT COMPLETE WITH REEL, ANTENNA WIRE, ANTENNA FEED THRU INSULATOR, FAIRLEAD, AND DRAGCUP	\$ 37.50
18" FAIRLEAD	8.50
DRAGCUP	12.50
MANUAL REEL ONLY (LESS DRAGCUP, FAIRLEAD, INSULATOR & WIRE)	27.50
ANTENNA WIRE (PER FOOT)	.10
ELECTRIC REEL ANTENNA (SPECIFY 14V or 28V) COMPLETE WITH BOBBIN, MOTOR, FAIRLEAD, DRAGCUP, ANTENNA WIRE, 20' SHAFTING, REEL CONTROL BOX, AND ALL NECESSARY INSTALLATION PARTS & Schematics	125.00
ANTENNA FEED THRU INSULATOR	6.00
MANUAL LOADING COIL, COMPLETE	60.00
ELECTRIC REMOTE LOADING COIL, COMPLETE	150.00
ELECTROVOICE MICROPHONE	47.50
ROAN WELL MICROPHONE	17.25
MURDOCK HEADSET	12.00
TELEX HEADSET	17.50
MISCELLANEOUS ITEMS	
FINAL PLATE COIL (S-5-DTR - S-5-RTR - S-22-RTR)	7.50
MINI-SPRING (561 & 562)	.25
TUBE SHIELD (FOR 6T8 TUBE ONLY)	.25
TUBE SHIELD BASE (FOR 6T8 TUBE ONLY)	.15
INDUCTOR CLIPS	.25
No. 463 BIRNBACH INSULATOR FOR FIXED ANTENNA	.50
58/AU ANTENNA COAXIAL CABLE (PER FOOT)	.10
CRYSTALS (1ea TRANSMIT & 1ea RECEIVE : PER SET)	20.00
12BH7 TUBE -OSC - TRANS (for S-22-RTR)	2.70

PLUG CONNECTORS

NUMBER	LOCATION	PRICE
92 F I	4 PIN HD POWER	2.89
79 0 8 F I	CABLE, PS TO TRANSCEIVER PS END	2.50
79 0 8 F I	CABLE, PS TO TRANSCEIVER TRANSCEIVER END (S-5-RTR ONLY)	2.50
79 0 12 F I	CONTROL & INDEXING CABLE, TRANSCEIVER END (S-5-RTR ONLY)	2.58
79 PO 8 M	PS CONNECTOR AT TRANSCEIVER (S-5-RTR ONLY)	1.81
79 PO 12 M	CONTROL & INDEXING CONNECTOR AT TRANSCEIVER (S-5-RTR ONLY)	1.86
79 0 12 F I	CONTROL AND INDEXING CABLE, CONTROL END (S-5-RTR)	2.58
79 0 12 M I	CABLE CONNECTOR ATTACHED TO CONTROL CABLE (S-5-RTR)	2.20
CHANNEL SELECTOR SWITCH ASSEMBLY, SPECIFY S-5-DTR, S-5-RTR	wired, less coils	35.00
CASE SPECIFY S-5-DTR S-5-RTR		12.50
FACEPLATE SPECIFY S-5-TDR S-5-RTR (ONLY)		7.50
FACEPLATE S-5-DTR COMPLETE		12.50
POINTER KNOBS (S-5-DTR ONLY)	EACH	.45

SUNAIR
PARTS LIST S-5-DTR S-5-RTR

DYNAMOTOR POWER SUPPLY

			List Price
DYNAMOTOR POWER SUPPLY, COMPLETE			\$ 195.00
4228BSM	CARTER DYNAMOTOR (14 volt)		95.00
4228ESM	CARTER DYNAMOTOR (28 volt)		95.00
35 D7	HASH CHOKE		2.50
20 MFD-450 VOLT	Electrolytic condenser	TVA-1709	
	HV Filter		2 required 2.50 ea.
500 MFD- 25 VOLT	HASH CONDENSER (28 volt)	TVA-1209	3.50
1000 MFD- 15 VOLT	HASH CONDENSER (14 volt)	TVA-1163	3.50
.5 MFD 200 VOLT	Plastic condenser LV Filter	109P47402	2 required .75 ea.
PSM 20N	Circuit breaker (14 volt)		6.80
PSM 10N	Circuit breaker (14 volt)		6.80
PSM 15N	Circuit breaker (28 volt)		6.80
PSM 5N	Circuit breaker (28 volt)		6.80
5 OHM 10 WATT	Wirewound resistors		4 required .80 ea.
5K OHM 10 WATT	Wirewound resistors		1 required .80 ea.
500 OHM 10 WATT	Wirewound resistors		1 required .80 ea.
220K OHM 1 WATT	Carbon resistors		2 required .30 ea.
DPDT RELAY C-5374	12 AMP contacts, 200 ohm coil (28 volt)		2 required 7.50 ea.
DPDT RELAY C-5373	12 AMP contacts, 50 ohm coil (14 volt)		2 required 7.50 ea.
92-C1	Power connector		2.25
79-PO-8M	8 pin chassis connector		1.81