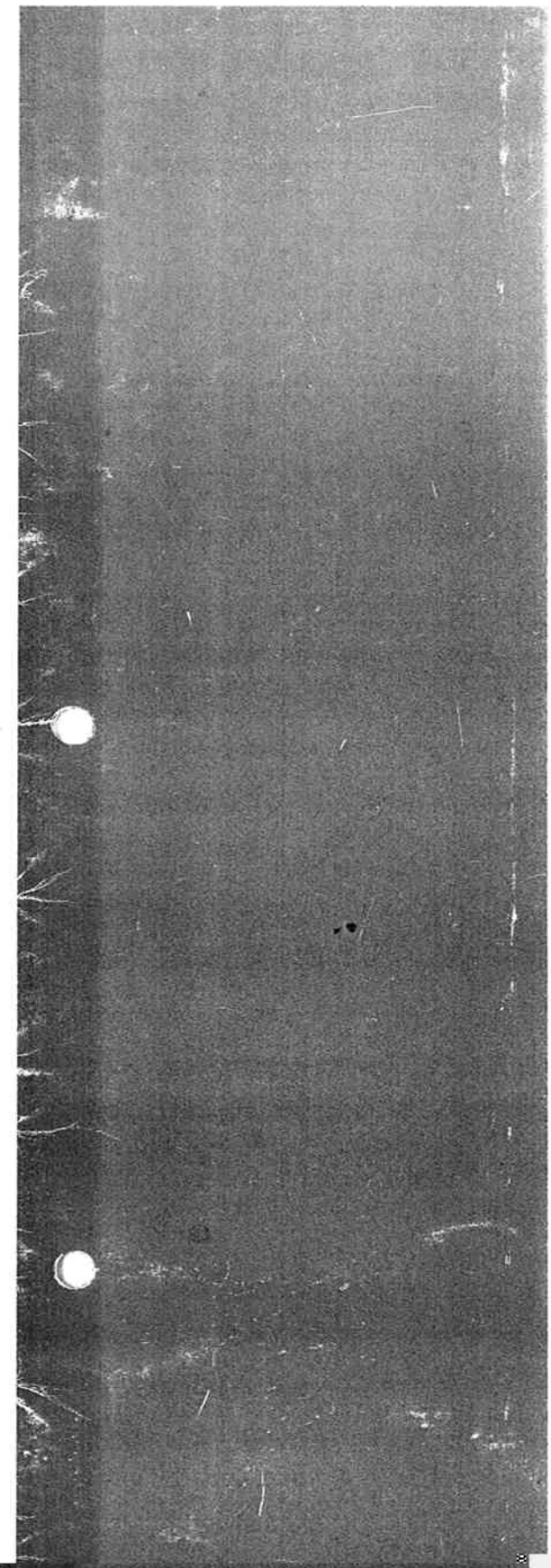


INSTRUCTION MANUAL

FT DX 505

SOMMERKAMP ELECTRONICS GMBH

SPECIFICATIONS

Emission Type . . . . . SSB (USB and LSB selectable) CW

Input Power . . . . . 560 watts PEP maximum, 500 watts CW

Frequency Range . . . . . 3.5-4.0, 7.0-7.5, 14.0-14.5, 21.0-21.5, 28.0-30.0 MHz
10.0 — 10.5 (RX only) (2 extra bands can be added)

Frequency Stability . . . . . After warmup 100 Hz for any 30 min.

Antenna Impedance . . . . . 50 to 120 ohms unbalanced

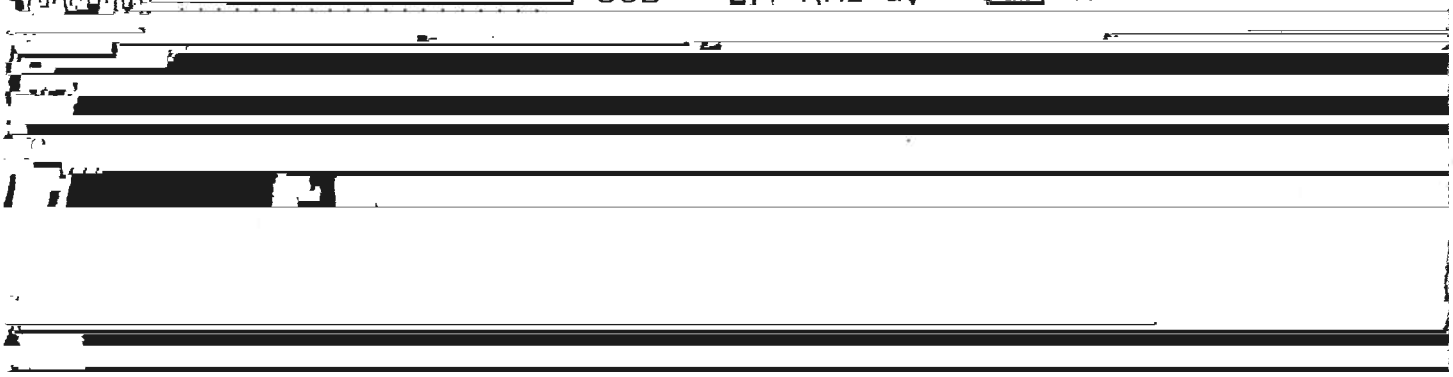
Carrier Suppression . . . . . Better than −40 db

Sideband Suppression . . . . . Better than −50 db at 1000 Hz

Distortion products . . . . . Better than −25 db

Receiver sensitivity . . . . . 0.5$_u$V S/N 20db at 14 MHz SSB

Selectivity . . . . . SSB ····2.4 KHz at −6db, 4.2 KHz at −60 db



CONGRATULATIONS! You have just purchased one of the finest, high performance transceivers available to the amateur today. To fully appreciate the features, flexibility, and efficient operating procedures available with your new transceiver, we recommend that the instruction manual be studied thoroughly prior to operation.

GENERAL:

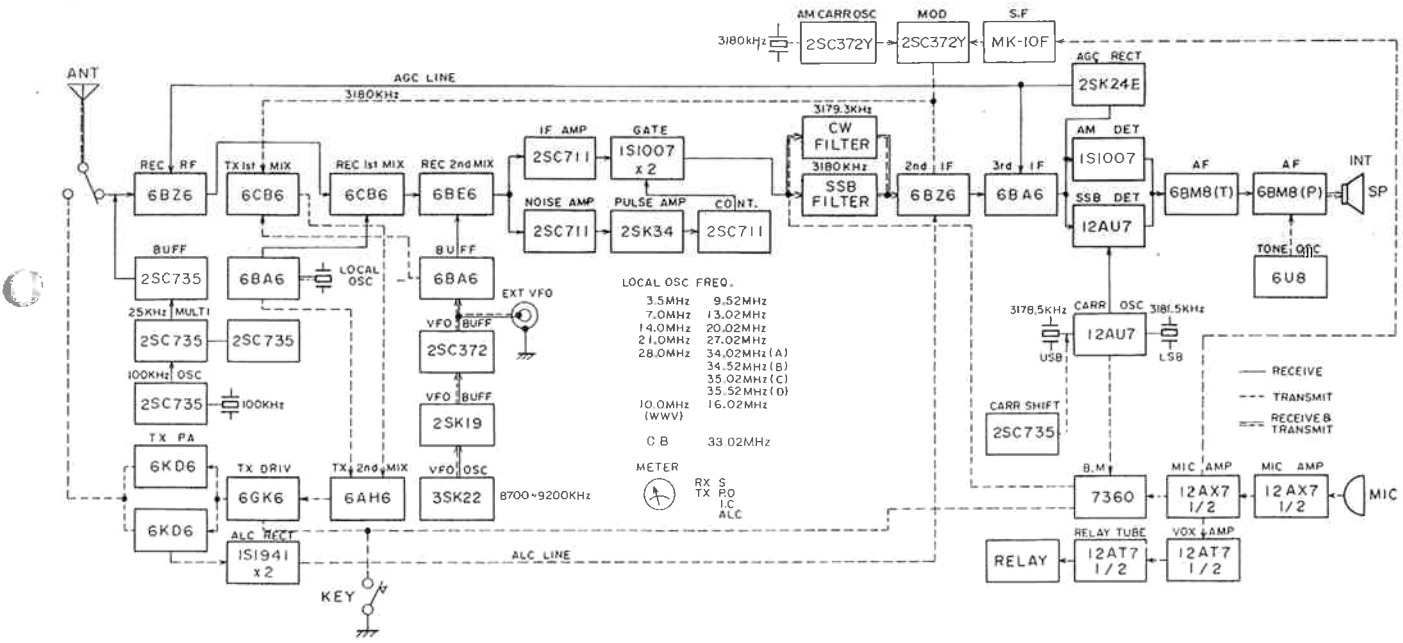
The FTdx505 Single Sideband Transceiver is a precision built transceiver providing SSB (USB and LSB), and CW modes of operation. This transceiver operates at a maximum input of (560) watts PEP for SSB, and (500) watts CW on all bands, 80 through 10 meters.

In addition to the high output power of the transceiver, many features that have previously been considered extra cost options are included as standard equipment on the FTdx505 Standard equipment includes built-in solid state power supply, CW filter, noise blanker, cooling fan, fully adjustable VOX, break-in CW operation, adjustable CW side tone, clarifier control provides ± 5 KHz off-set receiver operation, dual calibration markers at 100 and 25 KHz. 10 MHz WWV Band provision for two additional transceive bands outside the amateur bands between 3.5 and 30 MHz, and front panel external VFO switching.

FV401 External VFO

The companion FV401 External VFO allows cross-band DX operation and has the effect of providing the operator with split frequency, separate receiver-transmitter operation, controlled by VFO or X-tal.

The FTdx505 has been designed to anticipate the amateur's future operating requirements and will provide many hours of trouble free service.



5520-6020

PRINCIPLES OF OPERATION

The block diagram and the circuit description provides you with a better understanding of this transceiver. The transceiver consists of a double-conversion receiver and a double-conversion exciter-transmitter. Receiver and transmitter circuits use common oscillators, common crystal filter, and common IF stages. The low frequency IF is 3,180 KHz. The high frequency IF is pass band tuned to cover 5,520 to 6,020 KHz.

RECEIVER CIRCUIT:

A signal from the antenna passes through the antenna relay and trap coil, (tuned to 5,770 KHz), then to the

TRANSMITTER CIRCUIT:

The microphone input is connected to the grid of the first microphone amplifier V208A, 12AX7, and then coupled to the grid of the second amplifier, V208B, the other half of the tube. Output from V208B is coupled to the beam deflection electrode of V207, 7360, through the MIC GAIN control, VR-6.

In the CW/TUNE position of the MODE switch, output from the tone oscillator, V212, 6U8, is fed to the grid of the receiver power amplifier tube, V210. The carrier signal generated in V206, 12AU7, is fed to the control grid of V207. Output from the balanced modulator V207

modulation without increased distortion.

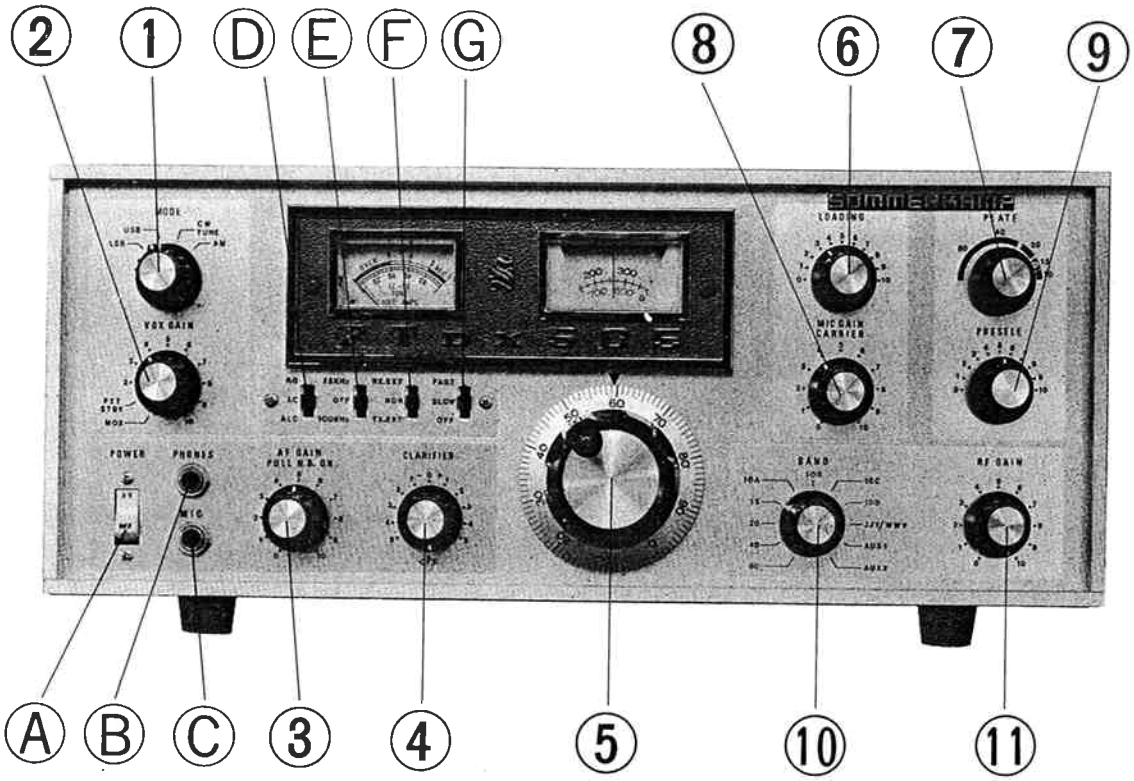
The output voltage from the second microphone amplifier, V208, is coupled through the VOX GAIN control to the grid of V209A, 12AT7, and fed to the VOX rectifier. The positive DC output voltage of the VOX rectifier is applied to the grid of VOX relay amplifier tube, V209B, 12AT7, causing it to conduct current and actuate the VOX relay RL1. The relay tube is so biased that the relay is actuated by the VOX GAIN switch in the MOX position. Contacts on the relay switch, —70 volts DC

High Frequency Oscillator

The band determining oscillator, V2, 6BA6, is crystal controlled by one of the 9 crystals selected by the BAND switch. Output from the oscillator is fed to the cathode of the receiver first mixer V202, 6CB6, and the grid of the transmitter second mixer, V3, 6AH6. The output frequency of this oscillator is always 6,020 KHz higher than the lower edge of the selected band. The output signal from this oscillator is the crystal fundamental frequency for 80 and 40 meters, but for higher bands, the crystal frequency is doudled in the plate circuit of the oscillator.

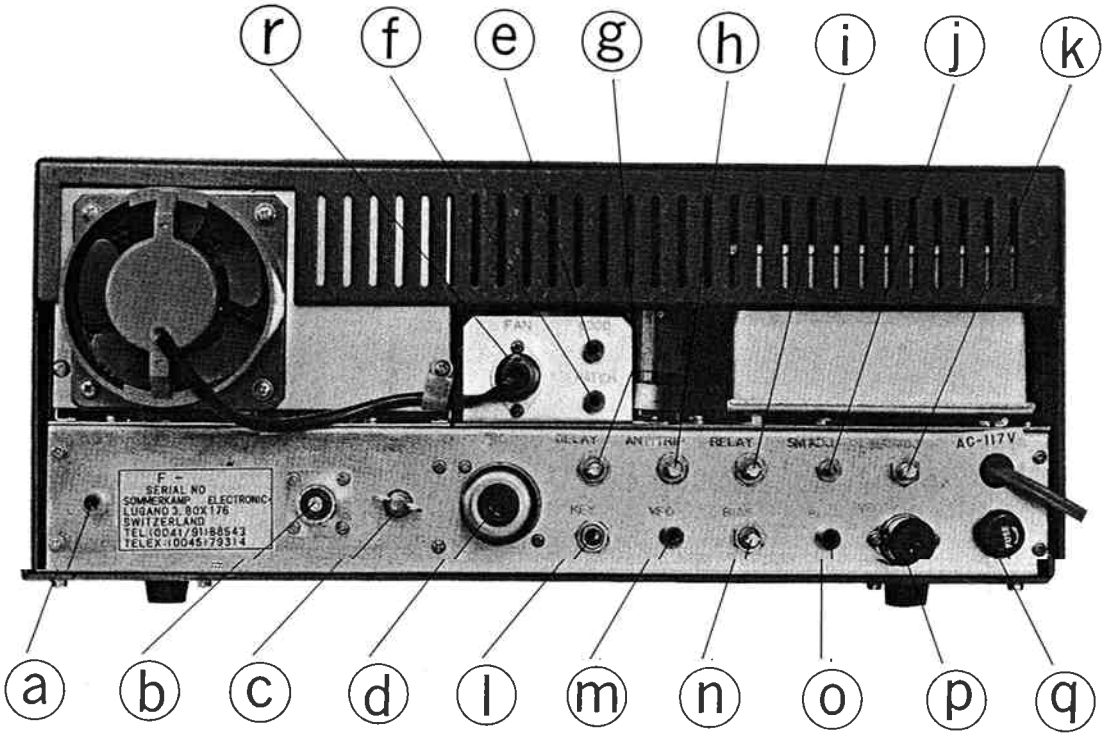
Variable frequency oscillator

The VFO uses a FET transistor, TR401, 3SK22G, as



1. MODE — USB/LSB: Side Band selection. CW/TUNE: Use transmitter tune-up and code operation.
2. VOX GAIN — Controls the VOX gain and functions for push to talk, stand-by or manual operation.
3. AF GAIN — Varies the gain of receiver audio amplifier, and noise blanker is connected at pull position.
4. CLARIFIER — Varies the VFO frequency slightly for receiver incremental tuning.
5. MAIN TUNING — Controls operating frequency.
6. LOADING — Tunes the output circuit of PI network.
7. PLATE — Tunes the plate circuit of PA tubes.
8. MIC GAIN CARRIER — Controls microphone gain for transmitting, and carrier input for CW and tune-up.
9. PRESELE — Pretunes signal circuits for both transmit and receive condition.
10. BAND — Selects operating band.
11. HF GAIN — Controls the gain of RF and IF stages.

A. POWER — Main switch
B. HEADPHONE JACK
C. MICROPHONE JACK
D. METER — Selects the meter to read PA cathode current, relative power output, or cathode current of ALC controlled stage.
E. CALIBRATOR — 100 KHz: 100 KHz calibration on. 25 KHz: 25 KHz multivibration on.
F. SELECT — NOR: Operating frequency is controlled by main tuning dial. RX-EXT: Receiving frequency is controlled by external VFO. TX-EXT: Transmitting frequency is controlled by external VFO.
G. AGC — Changes receiver AGC release time.



ⓐ	RF OUT	Output from driver stage may be obtained for the use of optional equipments, such as our FTV-650 transverter.
ⓑ	ANT	Coaxial connector for antenna.
ⓒ	GND	Ground connection.
ⓓ	ACC	Accessory socket. Pins 1 and 2 shorted by ACC. plug (11pin male plug) when operating without transverter.
ⓔ	600Ω	Receiver output at 600 ohm impedance to be used for phone ratch.
ⓕ	PATCH	Speech input terminal for phone patch connection. Impedance is 50 kilo-ohms.
ⓖ	DELAY	Adjusts "hold-in" time of VOX.
ⓗ	ANTITRIP	Adjusts VOX anti-trip level.
ⓘ	RELAY	Adjusts operating level of VOX relay
ⓙ	S-ADJ	Adjusts S-meter zero setting.
ⓚ	ALC	Adjusts ALC limiting action.
ⓛ	KEY	Key jack for code operation.
ⓜ	VFO	Input jack for external V. F. O.
ⓝ	BIAS	Adjusts bias on PA tubes.
ⓞ	8Ω	Receiver output at 8ohm impedance for loud speaker.
ⓟ	VFO POWER	Source for external V. F. O. SHORT plug (7 pin male plug) should be inserted when operating without external V. F. O., shorting Pins 3 and 4.
ⓠ	FUSE	Fuse holder. 10amps. for 117volts, 6amps. for 220volts operation.
ⓡ	FAN	Power outlet for built-in cooling fan.

INSTALLATION

It is recommended that an excessively warm location be avoided. The transceiver should be placed in a location that has adequate space to permit free air circulation through the cabinet openings.

The transceiver should be connected to a good ground by a heavy lead to the terminal marked GND on rear apron of the chassis. It is not recommended that a gas pipe or electrical conduit pipes be used. The ground lead should be as short as possible.

Impedance of the antenna is designed to match a 50 to 120 ohm load. Most commercial antenna and feeders are designed between 50 and 75 ohms. If the impedance is far from this value, an antenna matching device should be placed between the antenna terminal and the feeder.

OPERATION

INITIAL CHECK

Prior to connecting the transceiver to power outlet, carefully examine for any visable damage, check that all tubes and crystals are properly seated in their sockets, and check tuning controls and switches for complete freedom. Connect the speaker to jack marked 8 ohms on rear apron of the chassis, and an antenna cable to the coaxial cable connector. Make sure that supply voltage is the same as the voltage marked on the rear apron of the chassis before connecting to power outlet. Insert ACC plug (11 pin male plug shorting pins 1 and 2) into ACC socket on the rear apron of the chassis, and check that SHORT plug (7 pin male plug shorting pins 3 and 4) is inserted into VFO POWER socket on the rear apron of the chassis.

RECEIVER TUNING

Set the controls as follows:

POWER	OFF
VOX GAIN	STBY
MODE	Desired operation mode
BAND	Desired Band
MIC GAIN	Fully counterclockwise
RF GAIN	Fully clockwise
SELECT	NOR
CLARIFIER	OFF
AGC	FAST

Press the power switch to ON position, then adjust the AF GAIN control until some receiver noise is heard in speaker. Peak the PRESELECTOR for maximum S-meter reading, and tune slowly for desired signal.

INITIAL ADJUSTMENTS

Dial Calibration:

Set CALIBRATION switch to 100 KHz position. Ro-

audio tone to decrease in frequency, until tone is just inaudible. (Zero Beat) Hold tuning knob firmly at this point and rotate skirt vernier dial to zero position. The skirt vernier dial surrounds the tuning knob and is held in position by a friction locking device. This dial is easily movable by hand but will retain its position after adjustment. The transceiver must be recalibrated when changing mode of operation to LSB, USB, or CW.

METER ADJUSTMENTS:

The transceiver features four separate meter functions; S-meter, ALC (Automatic Limiter Control Indication), IC (Cathode Current of Final Amplifier Tubes), and PO (Relative Power Output Indication).

These functions are controlled from the METER switch on the front panel and are adjusted for zero settings by means of two variable potentiometers on the rear apron of the chassis.

S-Meter Adjustments

Set VOX GAIN switch to STBY position, and R. GAIN control to fully clockwise, disconnect antenna, then adjust S-meter control on chassis rear apron until meter reads zero. Reconnect antenna.

ALC Adjustment

When METER switch on the front panel is set to ALC position the meter will indicate limiting action. To adjust meter to zero, set controls as follows:

MODE	USB
MIC GAIN	Fully counterclockwise
VOX GAIN	MOX

If meter reads other than zero, adjust ALC control on rear apron of chassis for zero indication. Return VOX GAIN to STBY position.

BIAS ADJUSTMENT

After warmup, set MODE switch to USB, METER to IC, and the VOX GAIN switch to MOX for transmit condition. The meter will indicate PA plate current. The needle of the meter should rise to IDLE position which is approximately 50 ma. If plate current is other than 50 ma, adjust BIAS potentiometer on rear apron.

VOX ADJUSTMENT

VOX controls have been preset for normal operation settings at the factory, however, in the event of V209 tube replacement it may be necessary to readjust controls.

Set ANTITRIP and DELAY control on rear apron of chassis to end of counter-clockwise travel. Remove microphone from mic jack. Set VOX GAIN control to fully clockwise position.

Set MODE switch to USB or LSB. Advance

TRANSMITTER TUNING

Set controls as follows:

SELECT	NOR
VOX GAIN	STBY
MODE	CW/TUNE
MIC GAIN	Fully counter clockwise
AF GAIN	Normal listening level
METER	IC position
CLARIFIER	OFF
BAND	Desired band
PLATE	Desired band
LOADING	To position shown in table

LOADING POSITIONS

BAND	LOADING
80	4
40	2.5
20	5
15	3
10A	3
10B	3
10C	3
10D	3

PRE-TUNING

1. Adjust PRESEL for maximum receiver noise level.
2. Turn VOX GAIN switch to MOX position with meter in IC position.
3. Rotate MIC GAIN control until meter rises just above normal idling current. (50 ma)
4. Rotate PRESEL control for maximum meter reading. (Caution: if meter reading exceeds 0.2 reduce MIC GAIN control).
5. Rotate PLATE control for minimum meter reading. (Dip plate).
6. Return VOX GAIN switch to STBY.

The transmitter is now pre-tuned to the desired frequency. Final peak tuning is accomplished by carefully following the final tuning procedure.

FINAL TUNING

CAUTION: EXCEEDING THE TIME LIMITS NOTED DURING FINAL TUNING MAY RESULT IN DESTRUCTION OF THE FINAL OUTPUT TUBES.

1. Set meter to P.O. position, VOX-GAIN to STBY, MODE to CW/TUNE, MIC GAIN to 10.
2. Momentarily set VOX-GAIN to MOX (ten seconds maximum), adjust PRESEL for *maximum* meter reading. Return VOX-GAIN to STBY.
3. Momentarily set VOX-GAIN to MOX (ten seconds maximum), increase or decrease LOADING slightly for *maximum* meter reading. Return VOX-GAIN to STBY.
4. Momentarily set VOX-GAIN to MOX (ten seconds maximum), adjust PLATE for maximum meter reading

[redacted]

CW OPERATION

Using the two contact jack supplied with the accessory pack, connect key as shown in the illustration. Most relay type automatic keyers can be connected into the transceiver for break-in operation without modification but when using reed relay or transistorized automatic keyers place 390 ohm resistor in series with key line.

TUNING PROCEDURE - CW

Set up transceiver as described in transmitter tuning with adjusting CARRIER control to desired power output up to maximum.

After completion of final tuning, install key jack in rear apron of transceiver. Set MODE switch to CW and VOX-GAIN switch to MOX. The transceiver is now set up for manual CW operation. After completing a transmission the VOX-GAIN switch must be returned to STBY position for receive operation. For break-in operation, simply advance VOX-GAIN control.

SIDETONE ADJUSTMENT

CW sidetone level may be adjusted by rotating the tone level potentiometer (VR 203) located on the main circuit board under the top cover. NOTE: Do not disturb setting of adjacent paint marked controls.

SERVICE INSTRUCTIONS

WARNING

Dangerous voltages are present, therefore extreme care is essential. Be sure that all power is disconnected before working on the chassis. Check the high voltages in the capacitors by shorting the high voltage line to

VOLTAGE AND RESISTANCE MEASUREMENTS

The table lists voltages and resistance at all tube sockets. These values are measured with a VTVM with all tubes installed in their respective sockets.

All measurements should be made from socket pins to ground.

Adjust transistor voltage regulator to exactly 9 volts with VR-202 on the printed board. Measure voltage at junction of R294 and R295.

TRANSMITTER ALIGNMENT

1. Disconnect the high voltage (600 volts) by unsoldering the lead at rectifier, and also the screen voltage by unsoldering the connection at pin 3 of the two tube sockets. (V5, V6)
2. Connect VTVM RF probe to pin 5 of V5.
3. Set the MODE switch to USB or LSB, and the VOX GAIN switch to MOX position. Adjust carrier balance potentiometer VR 201 on the main print board for minimum VTVM indication.
4. Advance MIC GAIN control two positions, and turn the MODE switch to CW/TUNE.
5. Adjust PRESEL control for maximum VTVM read-

10. Disconnect the VTVM from pin 5 of V5, and connect it to pin 2 of V202. Set the BAND switch to 10D and adjust slug L3 for peak VTVM reading. Set the BAND switch to 10C and adjust the TC1101 for peak VTVM reading. Adjust TC1102 for 10B, TC 1103 for 10A, TC1104 for 15 and TC1105 for the 20. Set the band switch to 40 and adjust L4 for peak VTVM reading. For 80 meter band, adjust TC1106 for peak VTVM reading. Disconnect VTVM.
11. It is not recommended to align BPF5 passband network unless proper measuring instrument is available.
12. Turn the FUNCTION switch to OFF. Restore unsoldered PA screen grid and high voltage wire.
13. Connect the transceiver output to a 50 or 75 ohms dummy load. Set the main tuning dial at center, and tuneup the transceiver on 80 meter band as described. Adjust MIC GAIN control setting to keep PA current less than 100 ma. Readjust L1001 for peak meter reading. Readjust L1001 to L1005 for appropriate BAND settings.
14. Tune the transceiver to maximum output at 14,350 Kc. To measure spurious radiation, use the S-meter of another receiver and tune it to 14,520 Kc where a spurious signal can be heard. Adjust TC-205 for minimum S-meter reading without decreasing power output of the transceiver.
    Adjust L17 and L19 for minimum S-meter reading.

TRANSMITTER SIGNAL LEVEL

The following table shows voltage measuring points and normal signal levels. Before making measurements, set MODE switch to CW and unsolder the lead from pin 3 of V5, and V6 sockets. Set the VOX-GAIN switch to MOX. Plug-in key to key-Jack and close key to measure the signal level.

TEST POINT	FREQUENCY	RF VOLTAGE
V207 — pin 3	3,178.5 KHz	1 volt
V201 — pin 1	Variable	1.2 volts (Function STBY sw.)
V3 — pin 1	X-tal frequency selected	0.5-1 volts
V207 — pin 7	3,178.5 KHz	5.5 volts
V204 — pin 1	3,178.5 KHz	0.02 volts
V204 — pin 5	3,178.5 KHz	3.0 volts
V201 — pin 5	Variable IF	9.0 volts
V3 — pin 5	Transmit frequency	10.0 volts
V5 — pin 5	Transmit frequency	33.0 volts

Voltages given in the table are nominal and may vary ± 20%

FINAL AMPLIFIER NEUTRALIZATION

When replacing the final amplifier tubes it may be necessary to reset the bias to 50 ma and check neutralization. Using the procedure outlined below will guarantee maximum output and long tube life.

CAUTION:

HIGH VOLTAGES ARE PRESENT ON UNDERSIDE OF CHASSIS.
USE GREAT CARE WHILE MAKING ADJUSTMENTS WITH WIRING EXPOSED.

1. Locate TC-1 the neutralization variable capacitor shaft on the underside of chassis near the last bandswitch wafer, in the final amplifier section.
2. Connect antenna to dummy load, set meter to I.C.
3. Check final amplifier bias in upper or lower Side Band position. If meter indicates other than 50 ma, reset bias.
4. Tune up the transceiver in the center of the 15 meter band.
5. After tune up place meter in I.C. position, Mode switch in Tune position, and advance Mic Gain until meter reads 150 ma.
6. Rotate Plate tuning control and observe dip as indicated on meter. (NOTE: If dip is not prominent, reduce loading control slightly for better indication). As the Plate control is rotated the meter should rise equally and smoothly on either side of maximum dip indication.
7. Determine which side of the dip rises abruptly. Set Plate control slightly to this side of dip keeping the meter reading below 200 ma.
8. Using a non-metallic tuning wand, rotate neutralization capacitor shaft *very slightly* in the direction which reduces the current shown on the meter.
9. Repeat steps 7 and 8 until the meter indicates a smooth, equal rise on either side of the maximum dip point.

RECEIVER CIRCUIT ALIGNMENT

When the transmitter circuits are aligned, the only alignment remaining for the receiver circuits are the last IF stage transformer T205, T351 through T353 IF transformers in the noise blanker unit, antenna input transformer L801 to L805, trap coils L806, L906, L23 and S-meter zero set.

1. Connect signal generator output to the antenna terminal. Set the BAND switch to 80 meters, and receive 3,750 Kc signal from signal generator. Adjust PRESEL control for peak S-meter reading. Adjust L801 for peak S-meter reading. Adjust coils L802 to L805 at 7,250, 14,250, 21,250, 29,000 KHz respectively for peak S-meter reading.

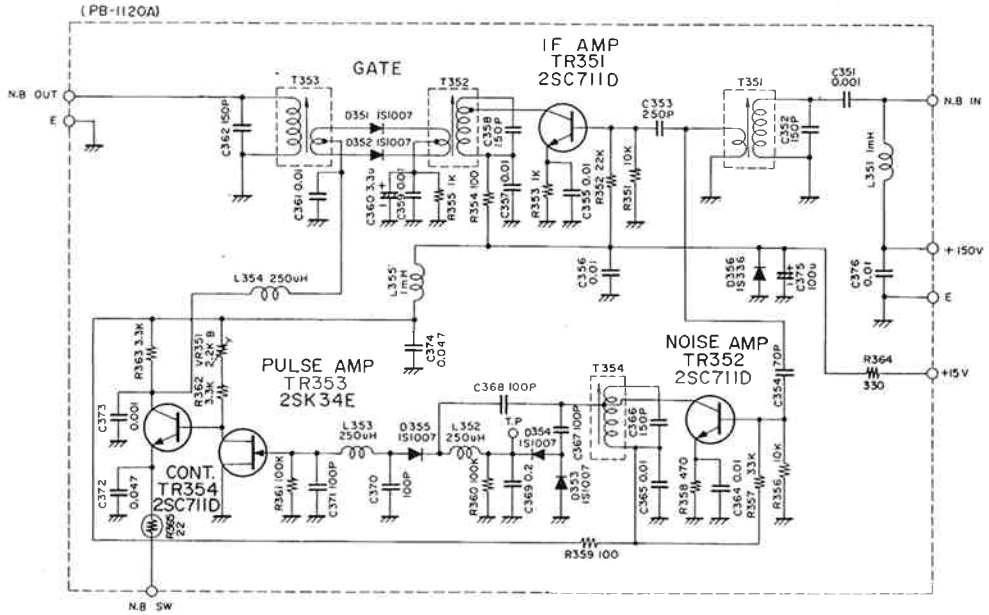
NOISE BLANKER CIRCUIT ALIGNMENT

The blanking level of the noise blanker is determined by the THRESHOLD control VR351 and the noise amplifier stage transformer T354.

1. Connect a signal generator output to the antenna terminal, and tune the receiver to the signal generator frequency with AGC switch OFF position. Connect VTVM DC probe between the test point (TP) on the noise blanker circuit board and ground, then adjust T354 for peak VTVM reading.
2. With the noise blanker OFF position (i.e. AF GAIN control at push position), tune the transceiver to incoming signal provides 8 to 9 S-meter reading on any

TROUBLE SHOOTING GUIDE

DEFECT	POSSIBLE CAUSE
PA idling current unstable:	1. Defective V5 and V6. 2. Defective Bias supply including bias potentiometer.
Insufficient load:	1. PRESEL improperly tuned. 2. BAND switch improperly set. 3. Antenna not resonant at frequency. 4. Defective antenna or transmission line. 5. V3, V4, V5, V6 defective. 6. Defective rectifier.
Insufficient carrier suppression:	1. Defective V207. 2. Carrier balance control improperly set. 3. Defective crystal X201 or X202. 4. Carrier frequency improperly set.
Distorted transmitted signal:	1. Excessive MIC GAIN adjust. 2. V7 defective. 3. D2, D3 defective. 4. Incorrect neutralization.
Insufficient drive or no drive:	1. Defective rectifier. 2. Defective V204, V201, V3, V4, V5. 3. Defective crystal.
Low receiver sensitivity:	1. Antenna relay back contacts defective. 2. Defective V1, V201, V203, V204, V205.
VOX unstable:	1. Defective V209. 2. Improper setting of VOX GAIN and ANTITRIP controls.

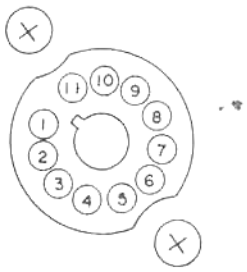


NOISE BLANKER CIRCUIT DIAGRAM

RESISTANCE CHART

(Ω) USB

	PIN / TUBE	1	2	3	4	5	6	7	8	9	10	11	12
V 1	6 B Z 6	∞	100	0	0	7K	10K	0					
V 2	6 B A 6	50K	0	0	0	10K	10K	0					
V 3	6 A H 6	∞	0	0	0	10K	7K	1K					
V 4	6 G K 6	200	60K	0	0	0	0	10K	10K	0			
V 5	6 K D 6	0	0	7K	0	30K	0	0	0	30K	0	7K	0
V 6	6 K D 6	0	0	7K	0	30K	0	0	0	30K	0	7K	0
V 7	VR105MT	10K	0	∞	0	10K	∞	0					
V201	6 C B 6	∞	100	0	0	8K	8K	0					
V202	6 C B 6	∞	1K	0	0	8K	100K	0					
V203	6 B E 6	20K	100	0	0	8K	20K	100K					
V204	6 B Z 6	∞	100	0	0	8K	8K	100					
V205	6 B A 6	∞	60	0	0	8K	10K	60					
V206	1 2 A U 7	20K	50K	∞	0	0	20K	50K	1K	0			
V207	7 3 6 0	∞	0	∞	0	0	30K	30K	30K	30K			
V208	1 2 A X 7	∞	50K	3K	0	0	∞	∞	2K	0			
V209	1 2 A T 7	∞	∞	2K	0	0	20K	∞	2K	0			
V210	6 B M 8	∞	200	∞	0	0	10K	8K	2K	∞			
V211	6 B A 6	50K	0	0	0	10K	10K	200					
V212	6 U 8	∞	∞	∞	0	0	80K	∞	∞	∞			
V213	1 2 A U 7	50K	∞	1K	0	0	100K	100K	1K	0			
V212	CW 6 U 8 TUNE	∞	∞	∞	0	0	80K	2K	10K	∞			



ACCESSORY SOCKET CONNECTION

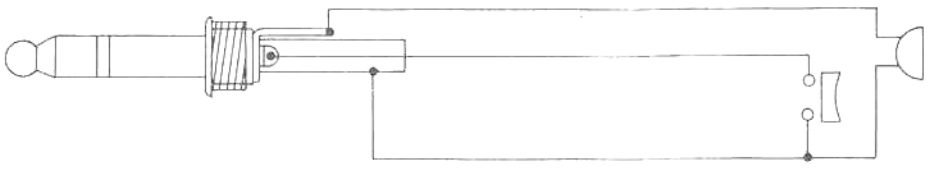
Pin 1. 6KD6 Heater
2. 6.3 Volt AC
3. +150 Volt DC
4. +300 Volt DC
5. +600 Volt DC
6. −100 Volt DC
7. ALC
8. Ground
9. Relay contact open for receive and close to ground for tsansmit.
10. Relay contact open for transmit and close to ground for receive.
11. 6.3V AC

NOTE : ACCESSORY SOCKET IS WIRED TO USE TRANSVERTOR. WHEN TRANSVERTOR IS NOT USED, ACCESSORY PLUG MUST BE IN THE SOCKET, OTHERWISE, 6KD6 HEATERS ARE NOT CONNECTED TO POWER SUPPLY.

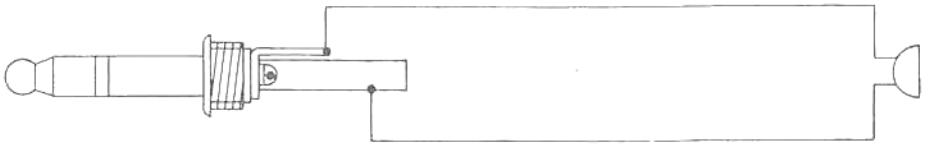
KEY AND MICROPHONE CONNECTIONS

CONNECTION

CONNECTION FOR PTT OPERATION



CONNECTION FOR MOX OPERATION



VOLTAGE CHART

RECEIVE (USB) — DC (V)

TUBE \ PIN	1	2	3	4	5	6	7	8	9	10	11	12
V 1	6 B Z 6	0	1.5			70	105	0					
V 2	6 B A 6	—	0		0	95	105	0					
V 3	6 A H 6	−90		AC 6.3	0	370	170	—					
V 4	6 G K 6	0	−90			AC 6.3	—	370	330	0			
V 5	6 K D 6	AC 6.3	—	175		−95	0	0	0	−95	0	175	0
V 6	6 K D 6	AC 6.3V	—	175		−95	0	0	0	−95	0	175	0
V 7	VR105MT	105		—		105	0	0					
V201	6 C B 6	−90	—		AC 6.3	55	165	0					
V202	6 C B 6	—	2.5	AC 6.3	0	165	100	0					
V203	6 B E 6	0	0.8	AC 6.3		165	75	—					
V204	6 B Z 6	AC 6.3	1.7	0		55	120	1.7					
V205	6 B A 6	AC 6.3	1.3			155	105	1.1					
V206	1 2 A U 7	80	—	13		0	80	—	3.0	AC 6.3			
V207	7 3 6 0	0	60	−90		AC 3	105	105	11	11			
V208	1 2 A X 7	AC 6.3	—	2.7		AC 3	65	—	2.9	0			
V209	1 2 A T 7	AC 6.3	—	1.2		AC 3	300	—	6.0	0			
V210	6 B M 8	AC 6.3	9.5	—		AC 6.3	160	170	1.3	75			
V211	6 B A 6	0				0	105	2.4					
V212	6 U 8	AC 6.3	—	165		0	120	14	14	−90			
V213	1 2 A U 7	0	—	4.5			70	—	4.5	AC 6.3			
V212	CW 6 U 8 TUNE	AC 6.3	—			0	78	2.2	—	−55			

TRANSMIT (USB) — DC (V)

TUBE \ PIN	1	2	3	4	5	6	7	8	9	10	11	12
V 1	6 B Z 6	—	35	AC 6.3	0	165	105	0					
V 2	6 B A 6	—	0	AC 6.3	0	105	105	0					
V 3	6 A H 6	—	0	AC 6.3	0	350	165	4.4					
V 4	6 G K 6	10	—	0	0	AC 6.3		350	300	0			
V 5	6 K D 6	AC 6.3	0	170	0	−50	0	0	0	−50	0	170	0
V 6	6 K D 6	AC 6.3	0	170	0	−50	0	0	0	−50	0	170	0
V 7	VR105MT	105	0	0	0	105	0	0					
V201	6 C B 6	—	2.7	0	AC 6.3	150	150	0					
V202	6 C B 6	−90	—	AC 6.3	0	150	150	0					
V203	6 B E 6	—	—	AC 6.3	0	150	70	−90					
V204	6 B Z 6	—	1.7	0	AC 6.3	150	115	1.7					
V205	6 B A 6	—	35	0	AC 6.3	150	105	35					
V206	1 2 A U 7	80	—	13	0	0	80	—	3.0	AC 6.3			
V207	7 3 6 0	1.5	60	—	0	AC 6.3	90	90	11.5	11.5			
V208	1 2 A X 7	55	—	2.7	AC 6.3	AC 6.3	65	—	2.9	0			
V209	1 2 A T 7	80	—	1.2	AC 6.3	AC 6.3	150	0	0.3	0			
V210	6 B M 8	—	9.5	—	AC 6.3	AC 6.3	160	160	1.3	75			
V211	6 B A 6	—	—	AC 6.3	0	155	105	2.4					
V212	6 U 8	0	—	150	AC 6.3	0	120	14	14	—			
V213	1 2 A U 7	115	—	4.5	0	0	70	—	4.5	AC 6.3			
V212	CW 6 U 8 TUNE	180	—	40	AC 6.3	0	70	1.9	8.0	—			

C-CAPACITOR	
240, 2125	DIPPED MICA 500WV 1PF±0.5PF
282, 363	DIPPED MICA 500WV 2PF±0.5PF
12	DIPPED MICA 500WV 3PF±0.5PF
81, 93, 1004, 2109	DIPPED MICA 500WV 5PF±0.5PF
11, 74, 89, 98, 101, 110, 234, 246, 281, 1107	DIPPED MICA 500WV 10PF±10%
212, 277, 902, 1105, 2116	DIPPED MICA 500WV 15PF±10%
75, 82, 243, 1002	DIPPED MICA 500WV 20PF±10%
33, 279, 907, 1003, 1102	DIPPED MICA 500WV 30PF±10%
34, 278	DIPPED MICA 500WV 40PF±10%
13, 88, 96, 304, 305, 308, 311, 313, 802, 805, 904, 2108	DIPPED MICA 500WV 50PF±10%
807, 903	DIPPED MICA 500WV 60PF±10%
223, 226, 230, 232, 241, 354, 804, 901	DIPPED MICA 500WV 70PF±10%
302, 803, 1103	DIPPED MICA 500WV 80PF±10%
3, 6, 217, 219, 273, 367, 368, 370, 371, 408, 1005, 1104, 2122	DIPPED MICA 500WV 100PF±10%
2, 10, 215, 216, 352, 358, 362, 366, 801, 2100, 2101, 2102,	DIPPED MICA 500WV 150PF±10%
30, 84, 87, 258, 410, 411	DIPPED MICA 500WV 200PF±10%
35, 79, 236, 301, 310, 353	DIPPED MICA 500WV 250PF±10%
29, 94	DIPPED MICA 500WV 300PF±10%
14, 806	DIPPED MICA 500WV 470PF±10%
401, 402	DIPPED MICA 500WV 650PF±10%
4, 71, 205, 209, 227, 251, 306, 307, 2155	DIPPED MICA 500WV 1000PF±10%
303, 405	DIPPED MICA 500WV 2000PF±10%
109	MICA(CML1) 1KWV 10PF±10%
32	MICA(CML1) 1KWV 50PF±10%
25	MICA(CML1) 1KWV 100PF±10%
47, 48	MICA(CM35) 1.5KWV 200PF±10%
86	MICA(CM35)
	1.5KWV 1000PF±10%
46	MICA(CMB5) 3KWV 1000PF±10%
45	MICA(CMB5) 3KWV 5000PF±10%
373,	CERAMIC DISC 50WV 1000PF +80% −20%
2113,	CERAMIC DISC 50WV 2200PF +80% −20%
003, 005, 309, 312, 355, 356, 357, 359, 361, 364, 365, 406, 407, 409, 412, 413, 421, 1301～1304	CERAMIC DISC 50WV 0.01μF +80% −20%
39, 42, 372, 374, 2129	CERAMIC DISC 50WV 0.047μF +80% −20%
351	CERAMIC DISC 500WV 10000PF +100% −0%
85, 269, 283	CERAMIC DISC 500WV 4700PF +100% −0%
7, 8, 15, 23, 24, 26, 27, 28, 31, 37, 38, 40, 41, 43, 44, 49, 50, 52, 55～60, 69, 70, 72, 77, 83, 102, 108, 202, 203, 206, 208, 213, 214, 221, 222, 225, 228, 229, 231, 235, 238, 242, 244, 248, 249, 252, 253, 256, 259, 261, 262, 264, 274, 275, 276, 284, 286～297, 376, 403, 414, 513, 1305～1308, 2103, 2104, 2105, 2121, 2126, 2119, 2128,	CERAMIC DISC 500WV 0.01μF +100% −0%
63, 64, 501～504, 509～512	CERAMIC DISC(AL) 1.4KTVDC 4700PF +100% −0%
107	CERAMIC DISC(AL) 1.4KTVDC 0.01μF +100% −0%
111, 112	FEED THROUGH BYPASS 500WV 1000PF +100% −0%
415	CERAMIC(TC) NPO 500WV 8PF±0.5PF
404	CERAMIC(TC) NPO 500WV 10PF±10%
416	CERAMIC(TC) NPO 500WV 20PF±10%
419	CERAMIC(TC) NPO 500WV 82PF±10%
420	CERAMIC(TC) N750 500WV 4PF±0.5PF
418	CERAMIC(TC) N750 500WV 10PF±10%
417	CERAMIC(TC) N750 500WV 20PF±10%
100	CERAMIC RDA30 3KTVAC 80PF±10%
99	CERAMIC RDA40 3KTVAC 280PF±10%
2107	ELECTROLYTIC 16WV 1μF
360	ELECTROLYTIC 16WV 3.3μF
004, 255, 257, 260, 268	ELECTROLYTIC 16WV 10μF
375	ELECTROLYTIC 16WV 100μF
299	ELECTROLYTIC 16WV 470μF
514	ELECTROLYTIC 16WV 1000μF
006	ELECTROLYTIC 25WV 10μF
97	ELECTROLYTIC 25WV 220μF
298	ELECTROLYTIC 25WV 470μF
270	ELECTROLYTIC
	50WV 10μF
2110, 2111	ELECTROLYTIC 160WV 10μF
65, 66, 272	ELECTROLYTIC 160WV 22μF
2127	ELECTROLYTIC 250WV 10μF
73	ELECTROLYTIC 350WV 22μF
92, 95	ELECTROLYTIC 350WV 47μF
603	ELECTROLYTIC 400WV 47μF×3
601, 602	ELECTROLYTIC 500WV 100μF

103	METALIZED PAPER 160WV	0.1μF ±20%
2112	METALIZED PAPER 160WV	0.47μF ±20%
113	MELALIZED PAPER 220WV AC	1μF ±20%
36	PAPER 600WV	0.047μF ±20%
61, 250	MYLAR FILM 50WV	0.047μF ±20%
263, 280	MYLAR FILM 50WV	0.1μF ±20%
369	MYLAR FILM 50WV	0.22μF ±20%
237	MYLAR FILM 500WV	0.47μF ±20%

TC-TRIMMER CAPACITOR

203, 204, 205, 1101～1109	CERAMIC ECV1ZW20P32(20PF)	
206～209	CERAMIC ECV1ZW40P32(40PF)	
301	CERAMIC DT－120－50PF	
401	AIR TSN－150C－30PF	
1	AIR TSN－170C－10PF	
402	AIR(SPLIT STATOR) TSN－170C－10PF×2	

VC-VARIABLE AIR CAPACITOR

1 (PRESELECT)	B565A118	
2 (PLATE)	YA－270P	
3 (LOADING)	ECV2HA43A44	
401 (VFO)	C521A112	

R-RESISTOR

351, 356	1/4W	10KΩ ±10%
352	1/4W	22KΩ ±10%
353, 355	1/4W	1KΩ ±10%
354, 359	1/4W	100Ω ±10%
357	1/4W	33KΩ ±10%
358	1/4W	470Ω ±10%
360, 361	1/4W	100KΩ ±10%
362, 363	1/4W	3.3KΩ ±10%
56	1/2W	5.6Ω ±10%
57, 59	1/2W	10Ω ±10%
282	1/2W	22Ω ±10%
21, 24, 36, 39, 42, 44, 221	1/2W	56Ω ±10%
3, 40, 41, 58, 212, 216, 303, 310	1/2W	100Ω ±10%
203	1/2W	120Ω ±10%
15, 277, 279, 411, 2125	1/2W	220Ω ±10%
410	1/2W	270Ω ±10%
364, 403, 406	1/2W	330Ω ±10%
7, 288, 294	1/2W	470Ω ±10%
293	1/2W	560Ω ±10%
2114	1/2W	680Ω ±10%
4, 6, 8, 11, 13, 20, 201, 204, 207, 209, 219, 229, 230, 235, 237, 244, 280, 289, 295, 440, 407, 412, 2121, 006, 60	1/2W	1KΩ ±10%
003	1/2W	1.5KΩ ±10%
19, 253, 262, 272, 297, 298, 2102	1/2W	2.2KΩ ±10%
258, 296, 004	1/2W	3.3KΩ ±10%
247, 260, 305, 307, 2113	1/2W	4.7KΩ ±10%
37, 007, 008	1/2W	5.1KΩ ±10%
286	1/2W	5.6KΩ ±10%
408	1/2W	8.2KΩ ±10%
22, 47, 276, 283, 301, 308, 401, 514, 1301, 1303, 2105, 2107, 2112	1/2W	10KΩ ±10%
213, 286	1/2W	15KΩ ±10%
211, 217, 242, 409, 2122, 2123	1/2W	22KΩ ±10%
306, 1302, 1304, 1305, 1306	1/2W	27KΩ ±10%
55, 304, 2120	1/2W	33KΩ ±10%
5, 14, 45, 236, 238, 240, 241, 243, 245, 246, 248, 249, 250, 259, 268, 278, 291, 292, 2104	1/2W	47KΩ ±10%
010	1/2W	68KΩ ±10%
12, 202, 205, 208, 210, 215, 220, 228, 252, 256, 261, 266, 290, 302, 309, 402, 405, 515, 2106, 009	1/2W	100KΩ ±10%
287	1/2W	150KΩ ±10%
257, 264, 273	1/2W	220KΩ ±10%
2, 226, 254, 263, 265, 274, 299, 501～508, 601, 602, 2100, 2101, 2103, 2109, 2126	1/2W	470KΩ ±10%
1, 29, 267, 285	1/2W	1MΩ ±10%
225	1/2W	2.2MΩ ±10%
2110	1/2W	3.3MΩ ±10%
224	1/2W	5.6MΩ ±10%
23, 26	1W	56Ω ±10%
275	1W	220Ω ±10%
513	1W	4.7KΩ ±10%
218	1W	5.6KΩ ±10%
516	1W	22KΩ ±10%
005	1W	33KΩ ±10%
011	1W	100KΩ ±10%
18	2W	5.1KΩ ±10%
35, 50	2W	33KΩ ±10%
16, 284	3W	47KΩ ±10%
517	4W	5.6Ω ±10%
17	5W	4.7KΩ ±10%
34	5W	27KΩ ±10%
002	5W	33KΩ ±10%
48	20W	1.5KΩ ±10%
49	20W	4KΩ ±10%
25	METER SHUNT	
365	PTH62BM220M (22Ω)	

VR-VARIABLE RESTISTOR

1	EVHBOAS15B53	50KΩB
2	EVCBOAS20C14	10KΩC
3	EVCBOGS20B13	1KΩB with SWITCH
4	EVLS3AA00B53	5KΩB(TRIMMER)
5, 6	EVFKIASB54A55	50KΩB／500KΩA (GANG)
7	EVCBOGS20A55	500KΩA with SWITCH
8	EVHBOAS15A55	500KΩA
9	EVF93QF11653	500KΩA with PUSH SWITCH
10	EVWJOAS15B51	50ΩB
11	EVCBOAS15B24	20KΩB
12	EVCBOAS15B36	3MΩB
13	EVCBOAS15B33	3KΩB
14, 201	EVLS3AA00B53	5KΩB(TRIMMER)
202	EVLS3AA00B13	1KΩB(TRIMMER)
203	EVLS3AA00B55	500KΩB(TRIMMER)
301	EVLS3AA00B14	10KΩB(TRIMMER)
351	SR19R001	2.2KΩB (TRIMMER)

L-INDUCTOR

1, 2, 7, 212, 352, 353, 354, 403	MICRO INDUCTOR 250μH
402	CHOKE COIL 250μH
6	CHOKE COIL 200μH
24	CHOKE COIL 300μH
14	CHOKE COIL 500μH
351, 355	CHOKE COIL 1mH
215, 001	CHOKE COIL 2mH
301, 302	CHOKE COIL 4mH

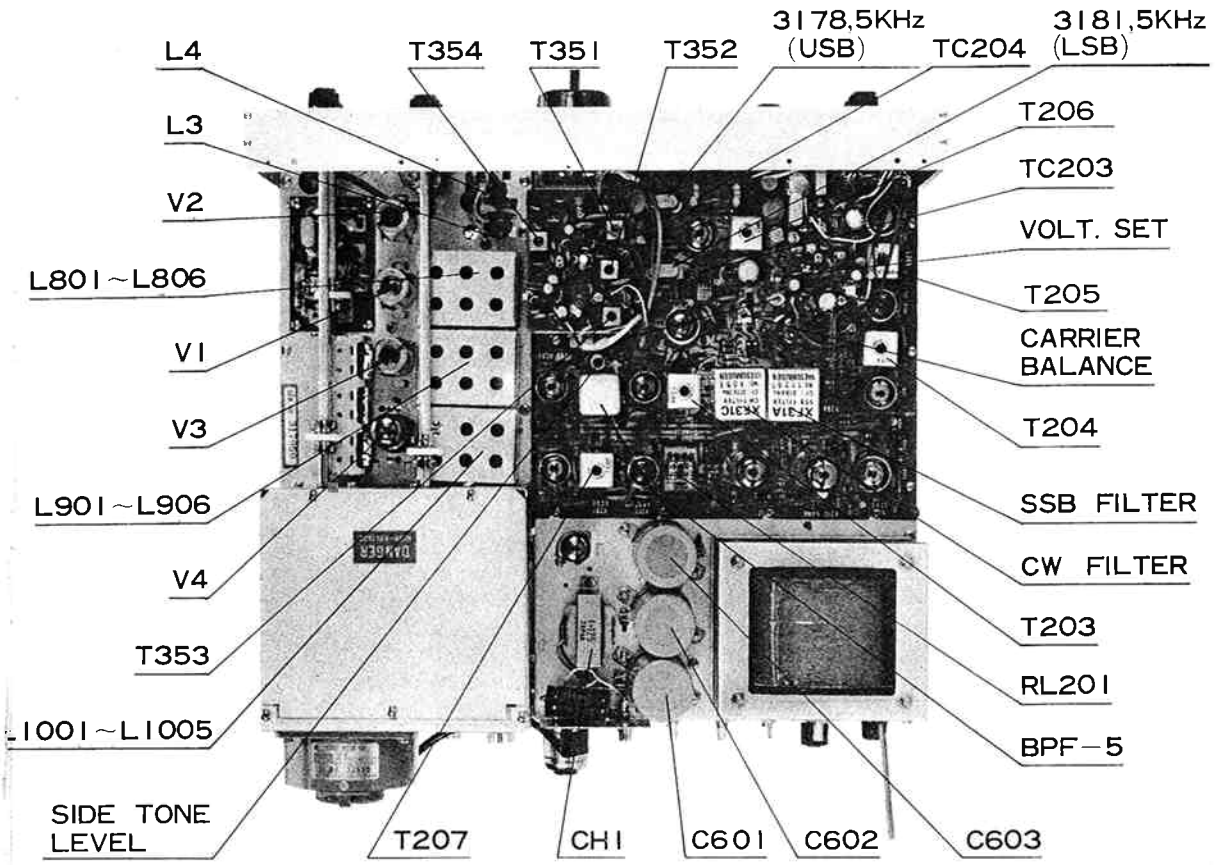
T-TRANSFORMER

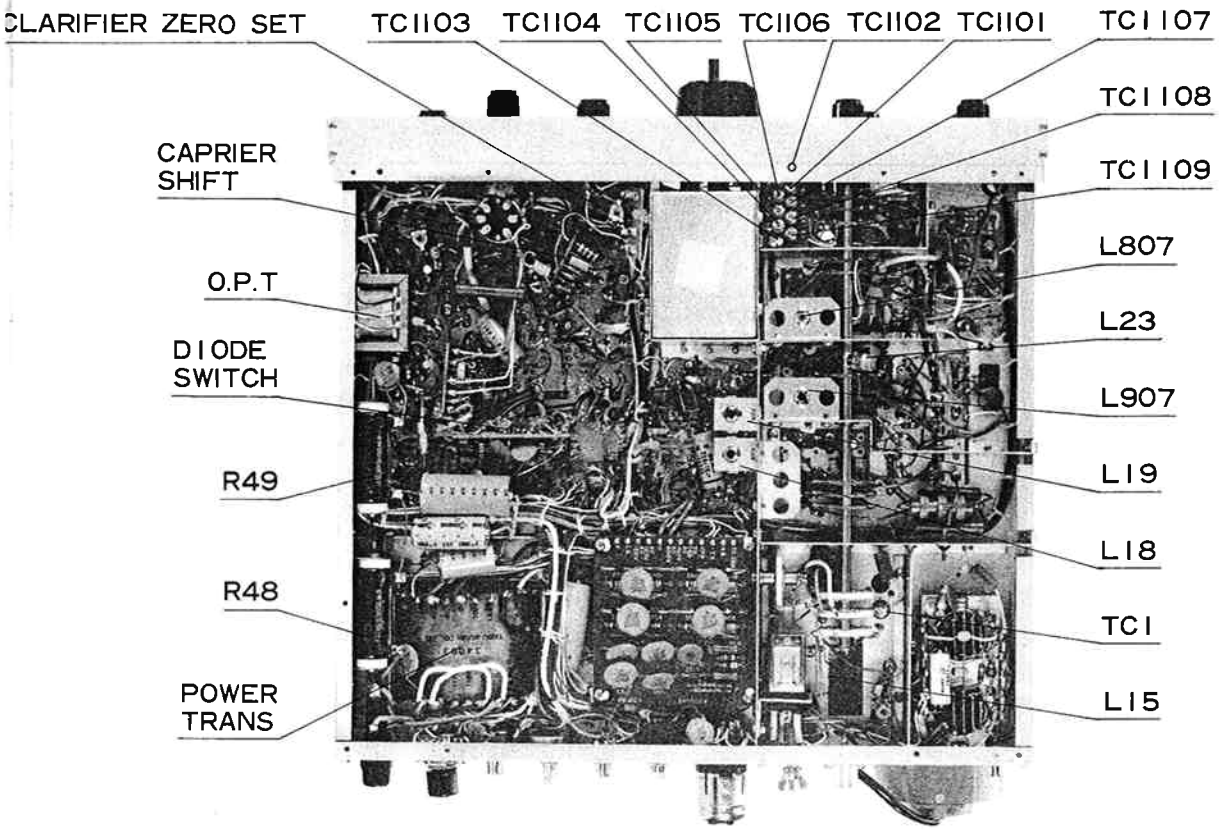
2	POWER

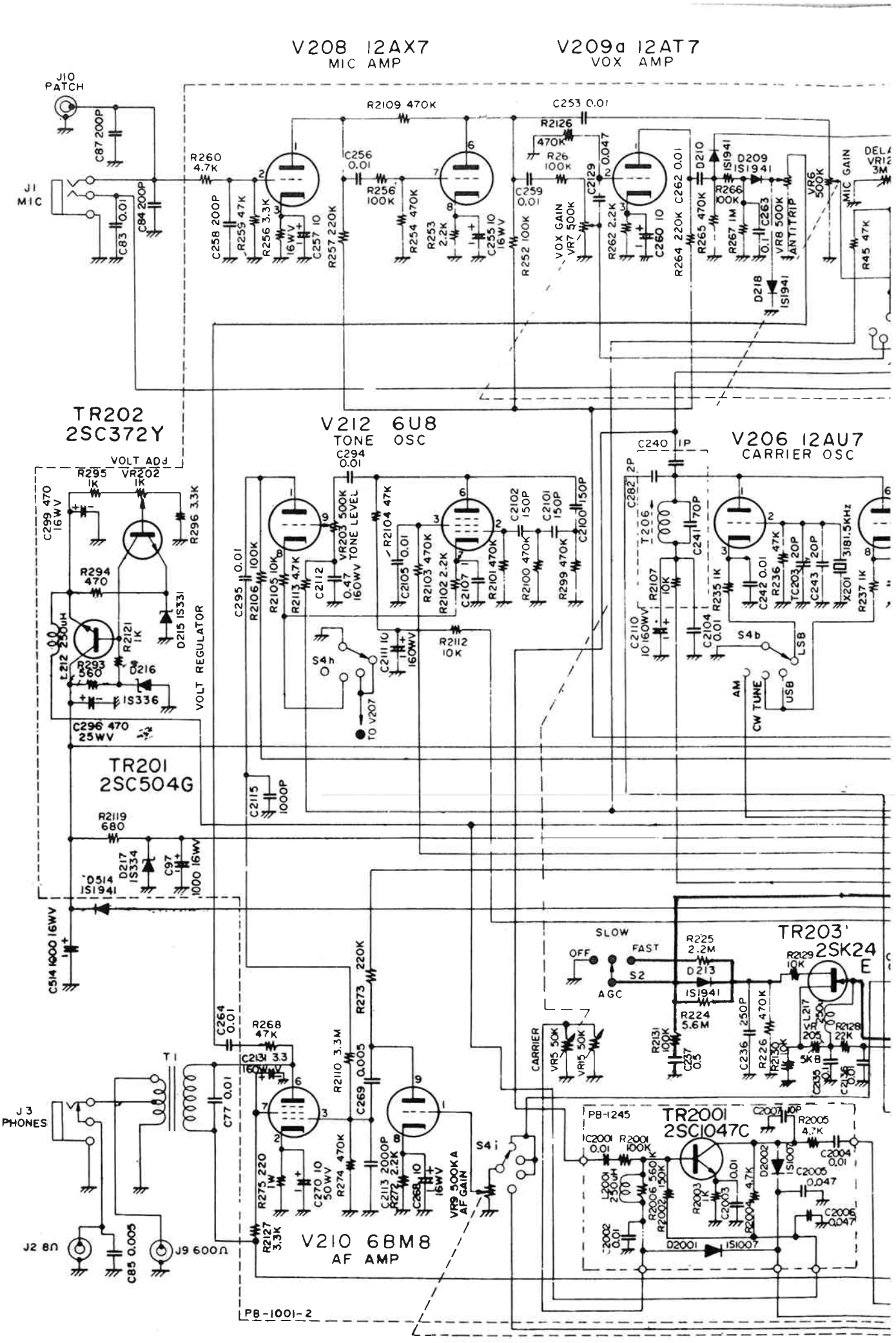
CH-A.F. CHOKE COIL	
1	1H 125mA
V-VACUUM TUBE	
3	6AH6
2, 205, 211	6BA6
203	6BE6
210	6BM8
1, 204	6BZ6
201, 202	6CB6
4	6GK6
5, 6	6KD6
212	6U8
209	12AT7
206, 213	12AU7
208	12AX7
207	7360
7	VR105MT
VS-VACUUM TUBE SOCKET	
5, 6	S−B0703−2
201～205, 211	S−B0933−2
209, 210, 212	S−B1307−2
206～208, 213	S−B1330−2
1, 2, 3	TS102C01
7	TS102C04
4	TS103C01
TR-TRANSISTOR	
202, 403	2SC372Y
D-DIODE	
	1
	1
216, 356	1
5, 509～512, 001	1S1944
501～508	10D10
X-CRYSTAL OSCILLATOR	
301～304, 001	2SC735Y
402	2SK19G(FET)
401	3SK22G(FET)
351, 352, 354	2SC711D
353	2SK34E(FET)
401	1S145 (VARACTOR)
215	S331 (ZENER)
217	S334 (ZENER)
	S336 (ZENER)
1, 204, 212, 1301～1304, 002, 351～355	1S1007
2, 3, 202, 203, 209, 210, 213, 218, 514	1S1941

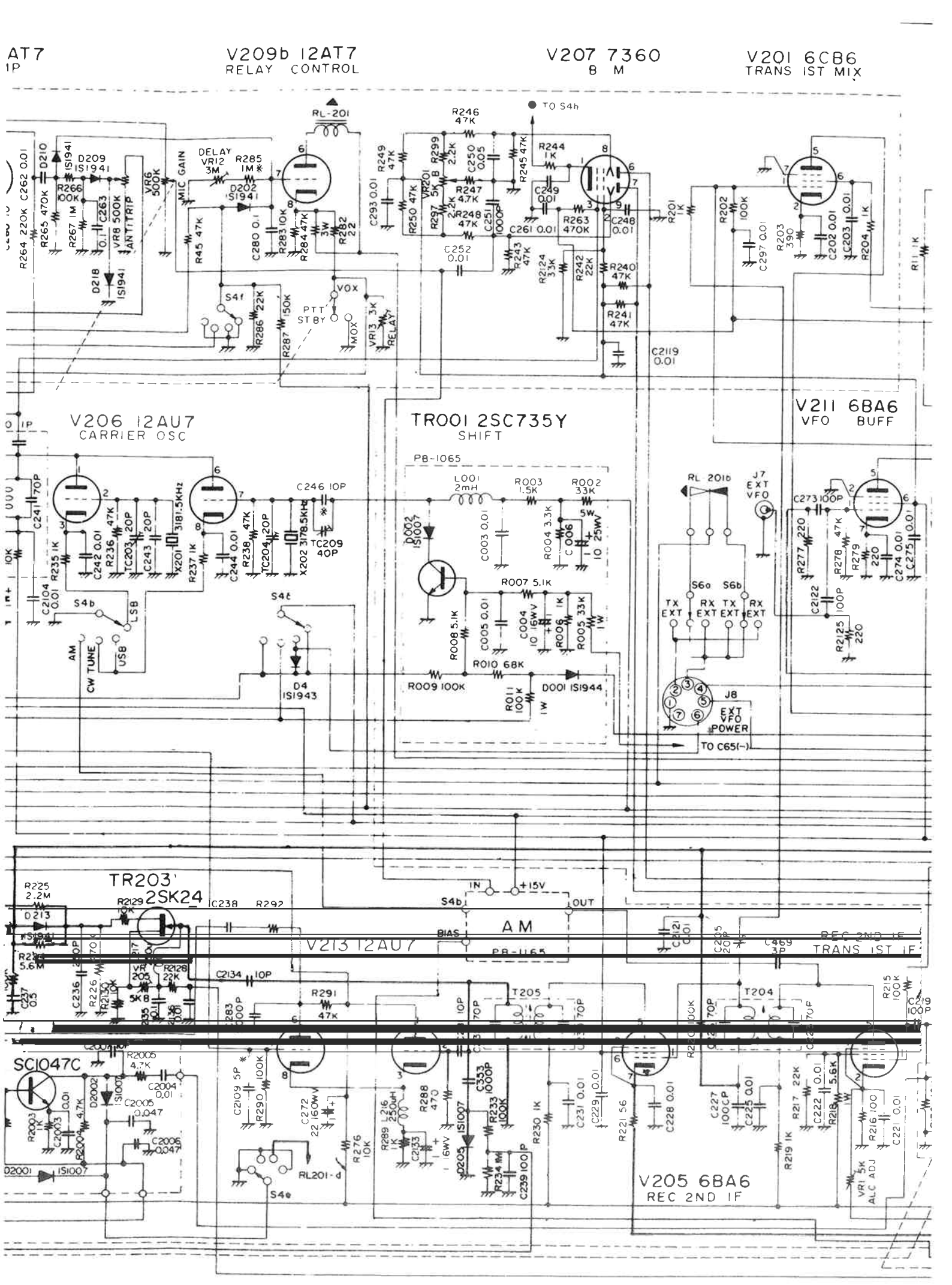
1	HC−18/U	9 52MHz
3	〃	13.02 〃
3	〃	20.02 〃
4	〃	27.02 〃
5	〃	34.02 〃
6	〃	34.52 〃
7	〃	35 02
8	〃	35,52 〃
9	〃	16,02 〃
201	HC−6/U	3181.5KHz
202	〃	3178.5 〃
301	HC−13/U	100 〃
XF-CRYSTAL FILTER		
201	XF−3A	2.4KHz
202	XF−3C	600Hz
RL-RELAY		
2, 201	RAB−100D−11	
PB-PRINTED CIRCUIT BOARD		
PB1001−2	GENERATOR	
PB1002	CALIBRATOR	
PB1004−2	POWER SUPPLY	
PB1007 ×3	COIL ASS'Y	
PB1022A	TRIM. CAP. ASS'Y	
PB1056	V. F. O.	
PB1058	B. P. F	
PB1059	B. P. F	
PB1065	CARR. SHIFT	
PB1072	DIODE SWITCH	
PB1120A	NOISE BLANKER	
S-SWITCH		
1 (BAND SELECT)	RS−13−13−11	
2, 5, 6, 7	SS−H−23−08	
4 (MODE)	ESR−E283R20Z	
J-RECEPTACLE AND JACK		
1	SG7701	
10, 11	CN7017	
8	SB0821	
13	SI6303	
P-PLUG		
1	SH3601	
3, 6	SH3001	
4	JPL259	
PL-PILOT LAMP		
1,	8V 0.15AMP	
PLH-PILOT LAMP HOLDER		
1, 2	NO. 3512	
F-FUSE		
2, 7, 9,		
4	1AMP.	
5	ISO239	
FH-FUSE HOLDER		
1	SA602B	
	S−N1001	
M-METER		
2, 7, 9, 10, 11	CN7017	
5	PA602B	
8	SI7302	

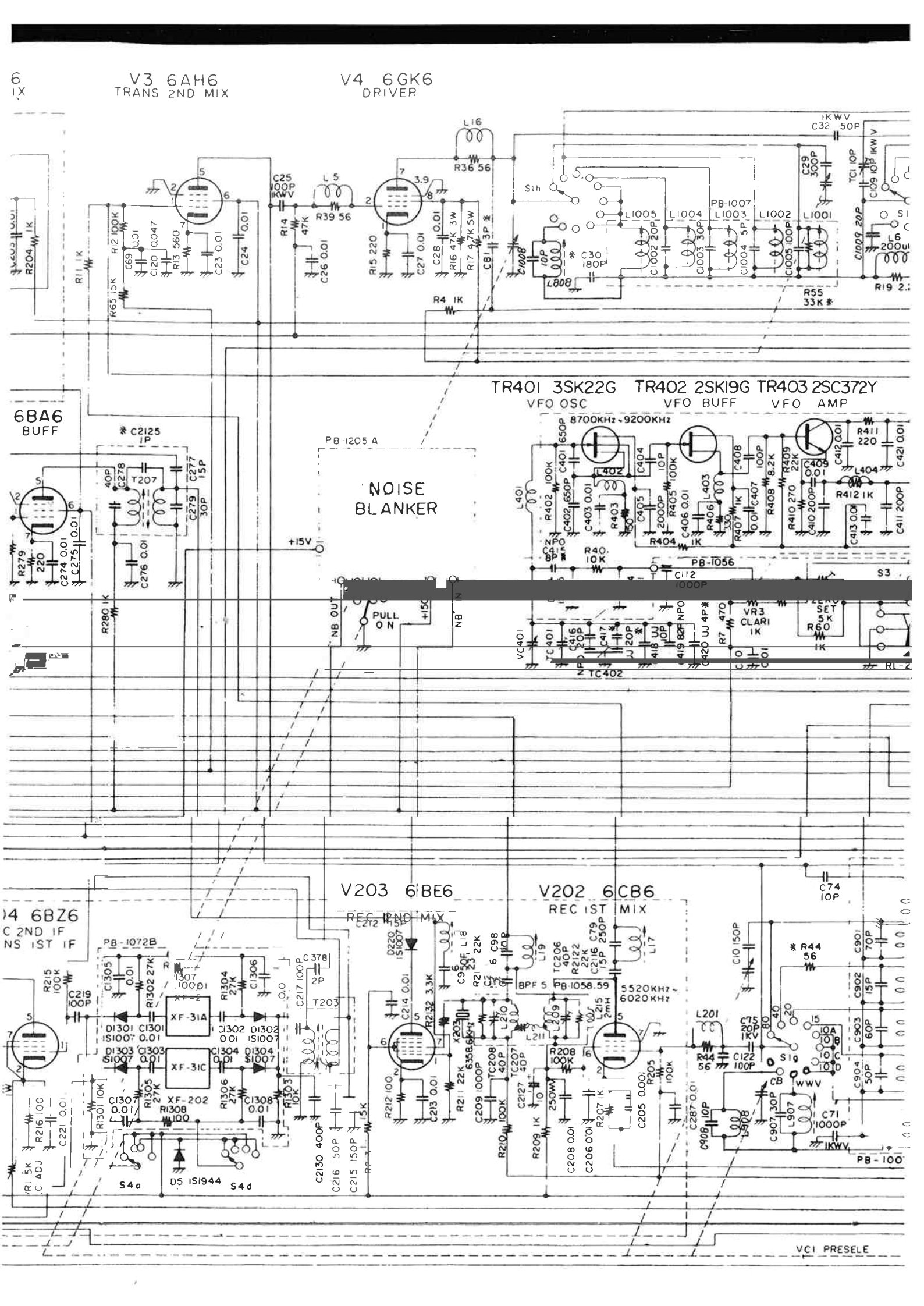
1	MK−45A	1mA

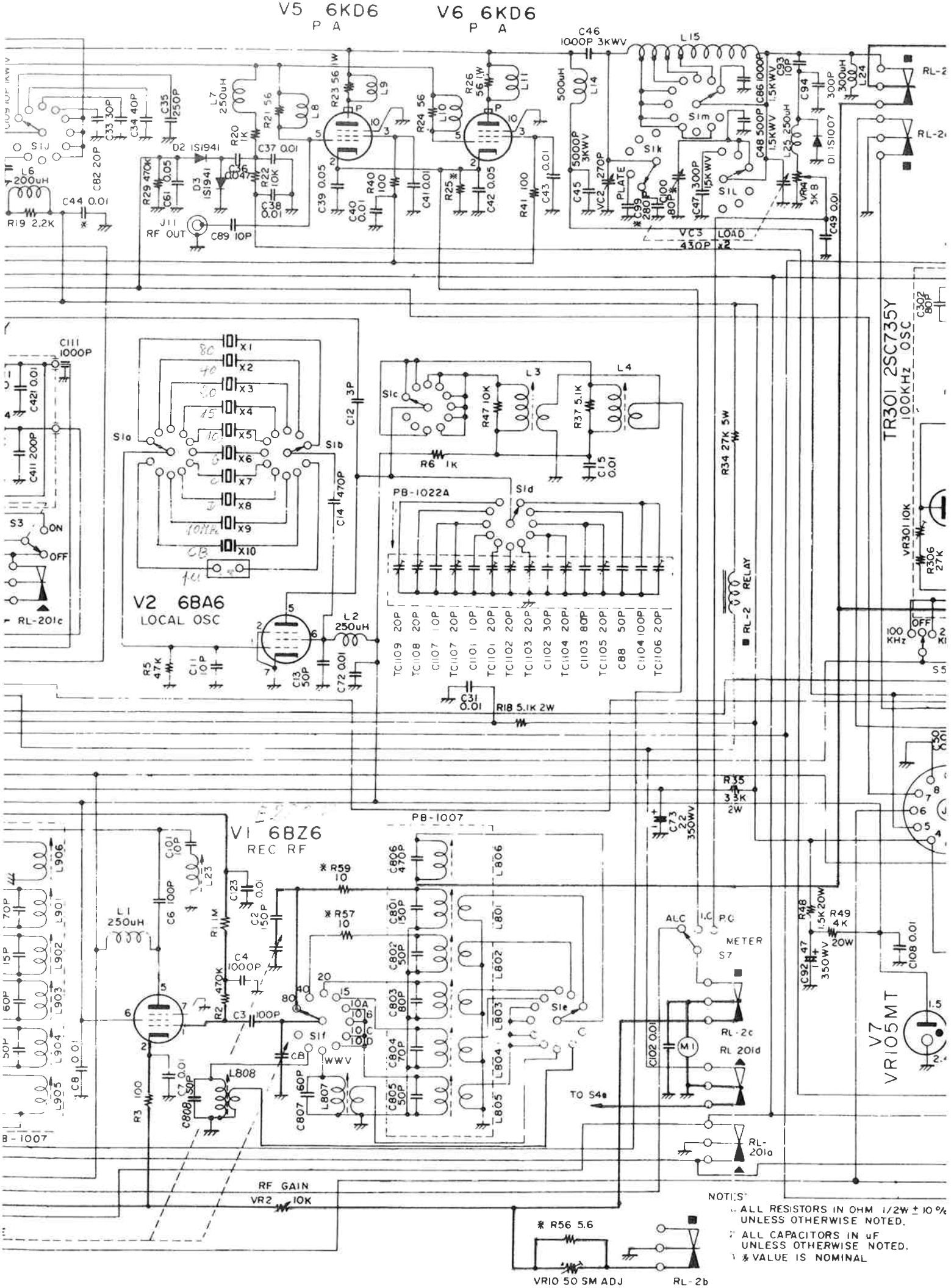

L4
T354
T351
T352
3178,5KHz (USB)
TC204
3181,5KHz (LSB)
L3
T206
V2
TC203
VOLT. SET
L801~L806
T205
V1
CARRIER BALANCE
V3
T204
L901~L906
SSB FILTER
V4
CW FILTER
T353
T203
RL201
L1001~L1005
BPF-5
SIDE TONE LEVEL
T207
CH1
C601
C602
C603

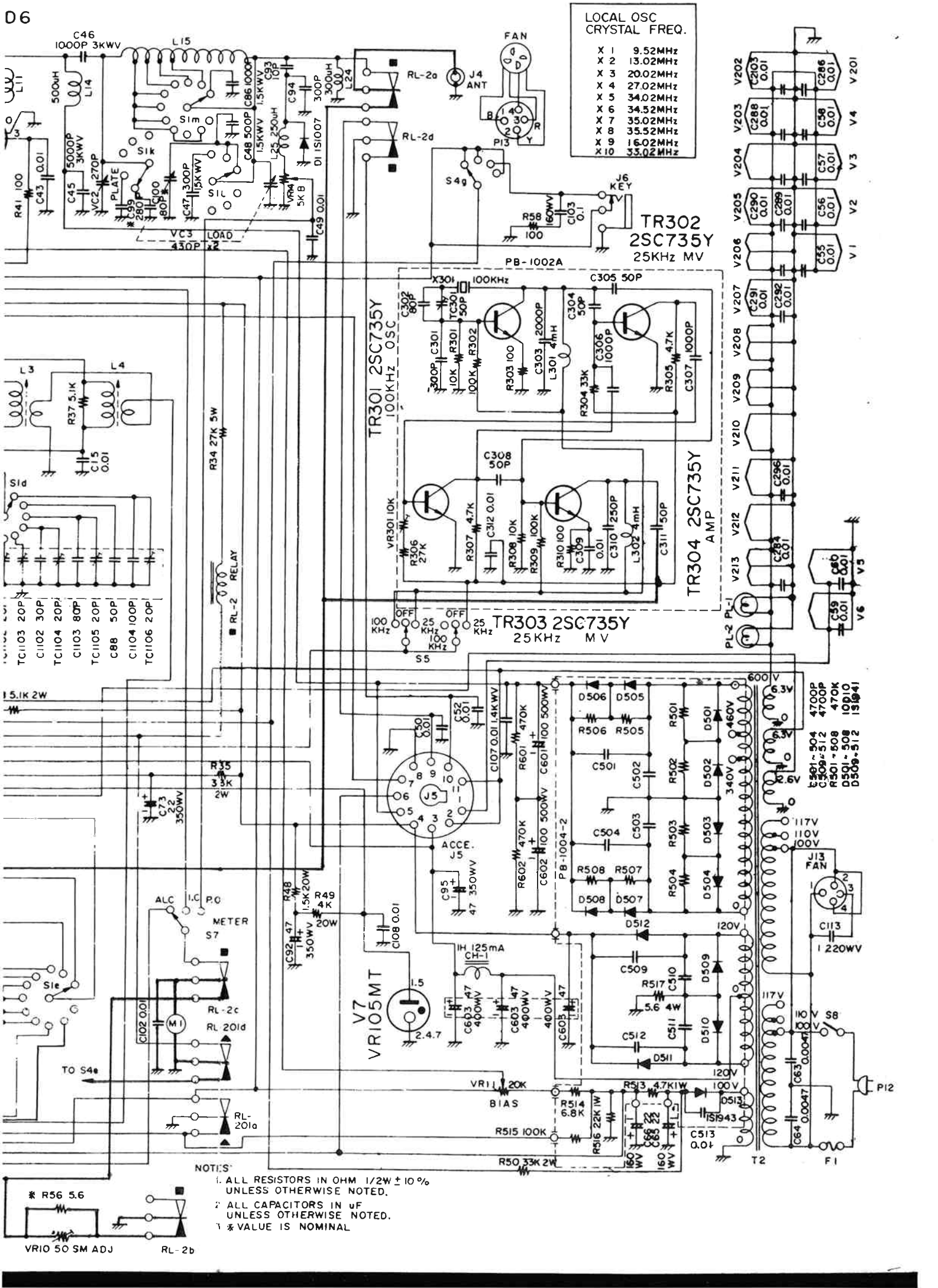

CLARIFIER ZERO SET
TC1103
TC1104
TC1105
TC1106
TC1102
TC1101
TC1107
TC1108
CAPRIER SHIFT
TC1109
L807
O.P.T
L23
DIODE SWITCH
L907
R49
L19
L18
R48
TC1
POWER TRANS
L15


V208 12AX7
MIC AMP
V209a 12AT7
VOX AMP
V212 6U8
TONE OSC
V206 12AU7
CARRIER OSC
TR202
2SC372Y
TR201
2SC504G
TR203
2SK24
TR2001
2SC1047C
V210 6BM8
AF AMP
VOLT REGULATOR
VOLT ADJ
J10 PATCH
J1 MIC
J3 PHONES
J2 8Ω
J9 600Ω
T1
T206
X201 3181.5KHz
TO V207
S4a
S4b
S4i
S2
LSB
USB
AM
CW TUNE
SLOW
FAST
OFF
AGC
CARRIER
MIC GAIN
ANTITRIP
VOX GAIN
AF GAIN
TONE LEVEL
PB-1001-2
PB-1245


V209b 12AT7
RELAY CONTROL
V207 7360
B M
V201 6CB6
TRANS IST MIX
RL-201
TO S4h
V206 12AU7
CARRIER OSC
TR001 2SC735Y
SHIFT
V211 6BA6
VFO BUFF
PB-1065
TR203
2SK24
V213 12AU7
AM
PB-1165
REC 2ND IF
TRANS IST IF
SC1047C
V205 6BA6
REC 2ND IF
RL 201b
J7
EXT VFO
J8
EXT VFO POWER
TO C65(-)
S4a
S4b
S4c
S4d
S4e
S4f
S4g
DELAY
MIC GAIN
ANTITRIP
VOX
PTT
ST BY
MOX
RELAY
CW TUNE
LSB
USB
AM
TX EXT
RX EXT
BIAS
IN
OUT
+15V


V3 6AH6
TRANS 2ND MIX
V4 6GK6
DRIVER
TR401 3SK22G TR402 2SK19G TR403 2SC372Y
VFO OSC
VFO BUFF
VFO AMP
6BA6
BUFF
NOISE
BLANKER
PB-1205 A
PB-1056
PULL
ON
+15V
NB OUT
NB IN
V203 6BE6
REC 2ND MIX
V202 6CB6
REC 1ST MIX
PB-1072B
PB-1058.59
5520KHz~
6020KHz
8700KHz~9200KHz
XF-31A
XF-31C
XF-202
D5 1S1944
S4a
S4d
VC1 PRESELE


V5 6KD6
P A
V6 6KD6
P A
C46
1000P 3KWV
L15
S1J
S1k
S1m
S1L
L6
200uH
C44 0.01
R19 2.2K
J11
RF OUT
C89 10P
VC3
430P x2
LOAD
PLATE
TR301 2SC735Y
100KHz OSC
S1a
S1b
S1c
S1d
PB-1022A
V2 6BA6
LOCAL OSC
L2
250uH
R6 1K
R34 27K 5W
RL-2 RELAY
RL-201c
S3
ON
OFF
VR301 10K
R306 27K
100 KHz
V1 6BZ6
REC RF
PB-1007
L1
250uH
R59 10
R57 10
C4
1000P
R2
470K
C3 100P
S1f
WWV
L808
R3 100
RF GAIN
VR2 10K
ALC
I.C
P.O
METER
S7
RL-2c
RL 201d
RL-201a
TO S4a
R35
3.3K
2W
R48
1.5K 20W
R49
4K
20W
C108 0.01
V7
VR105MT
R56 5.6
VRIO 50 SM ADJ
RL-2b
NOTES:
1. ALL RESISTORS IN OHM 1/2W ± 10%
UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS IN uF
UNLESS OTHERWISE NOTED.
3. * VALUE IS NOMINAL


LOCAL OSC CRYSTAL FREQ.
X 1 9.52MHz
X 2 13.02MHz
X 3 20.02MHz
X 4 27.02MHz
X 5 34.02MHz
X 6 34.52MHz
X 7 35.02MHz
X 8 35.52MHz
X 9 16.02MHz
X10 33.02MHz
TR302 2SC735Y 25KHz MV
PB-1002A
TR301 2SC735Y 100KHz OSC
TR304 2SC735Y AMP
TR303 2SC735Y 25KHz MV
V7 VR105MT
PB-1004-2
C46 1000P 3KWV
L15
L11
L14
500uH
FAN
J4 ANT
RL-2a
RL-2d
P13
S4g
J6 KEY
R58 100
C103 0.1 160WV
VC3 LOAD 430P x2
S1m
S1k
S1l
S1d
S1e
L3
L4
R37 5.1K
C15 0.01
R34 27K 5W
RL-2 RELAY
R35 33K 2W
C73 22 350WV
5.1K 2W
C52 0.01
C50 0.01
C107 0.01 1.4KWV
R601 470K
C601 100 500WV
R602 470K
C602 100 500WV
J5
ACCE. J5
C95 47 350WV
R48 1.5K 20W
R49 4K 20W
C92 47 350WV
C108 0.01
ALC
I.C
P.O
METER
S7
RL-2c
RL 201d
TO S4e
RL-201a
C102 0.01
M1
1.5
2.4.7
C603 47 400WV
IH 125mA
CH-1
VR11 20K
BIAS
R513 4.7K 1W
R514 6.8K
R516 22K 1W
R515 100K
R50 33K 2W
C513 0.01
C66 22 160WV
C65 22 160WV
D513 1S1943
T2
F1
S8
P12
J13 FAN
C113 1 220WV
D501 D502 D503 D504 D505 D506 D507 D508 D509 D510 D511 D512
R501 R502 R503 R504 R505 R506 R507 R508 R510
C501 C502 C503 C504 C509 C510 C511 C512
R517 5.6 4W
460V
340V
600V
6.3V
2.6V
117V
110V
100V
120V
C2103 0.01
C2286 0.01
C2288 0.01
C58 0.01
C2290 0.01
C2289 0.01
C56 0.01
C2291 0.01
C2292 0.01
C55 0.01
C2296 0.01
C2294 0.01
C60 0.01
C59 0.01
V201 V4 V3 V2 V1 V5 V6
PL-1
PL-2
S5
100 KHz
25 KHz
OFF
R306 27K
VR301 10K
R307 4.7K
C312 0.01
R308 10K
R309 100K
R310 100
C309 0.01
C310 250P
L302 4mH
C311 50P
C308 50P
R303 100
C303 2000P
L301 47mH
C304 50P
C305 50P
C306 1000P
R304 33K
R305 4.7K
C307 1000P
X301 100KHz
TC301 50P
C302 80P
C301 300P
R301 10K
R302 100K
TC1103 20P
TC1102 30P
TC1104 20P
C1103 80P
TC1105 20P
C88 50P
C1104 100P
TC1106 20P
R56 5.6
VR10 50 SM ADJ
RL-2b
NOTES:
1. ALL RESISTORS IN OHM 1/2W ± 10% UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS IN uF UNLESS OTHERWISE NOTED.
3. * VALUE IS NOMINAL