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 ground with an insulated screw driver. The transceiver has been aligned and calibrated at the factory with proper test instruments and should not require realignment. Service or replacement of a major component may require subsequent realignment, but do not attempt to make an alignment unless the operation of the transceiver is fully understood.

TEST EQUIPMENT REQUIRED

A signal generator, a vacuum tube volt ohm meter with RF probe, a general coverage communication receiver, and a 300 watt dummy load.

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 reading.
6. Adjust the MIC GAIN control during transmitter alignment to keep VTVM reading at 15 volts to avoid saturation of the circuits.
7. Start with upper slug of T203 nearly out and peak for peak VTVM reading.
8. Start with both slugs of T204 nearly out and adjust both slugs for peak VTVM reading.
9. Set the BAND switch to the 80 meter band, the main tuning dial to the center (250 KHz), and the PRESEL control at center. Adjust the slugs of L901 & L1001 for peak VTVM reading. Adjust the slugs on all appropriate bands from 40 to 15 meters using the same procedure. Set the BAND switch to 10B and the main tuning dial at upper edge, and adjust L905 and L1005 for peak VTVM readings.

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.
2. Tune the receiver circuit to 7,100 KHz incoming signal, and leave controls as is. Apply 5,920 KHz signal generator output to antenna terminal. Adjust L806, L906, for minimum S-meter reading.
   Then tune the receiver to 7,500 KHz and adjust L23 same as above at 5,520 KHz signal generator output.
3. Tune the receiver to incoming signal on any band, and adjust slugs of Lower slug of T203 and slugs of T205 ,T351, T352 and T353 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.

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 cathode of the Diode D352 and ground, then abjust T354 for peak VTVM reading.

RECEIVER SIGNAL LEVEL

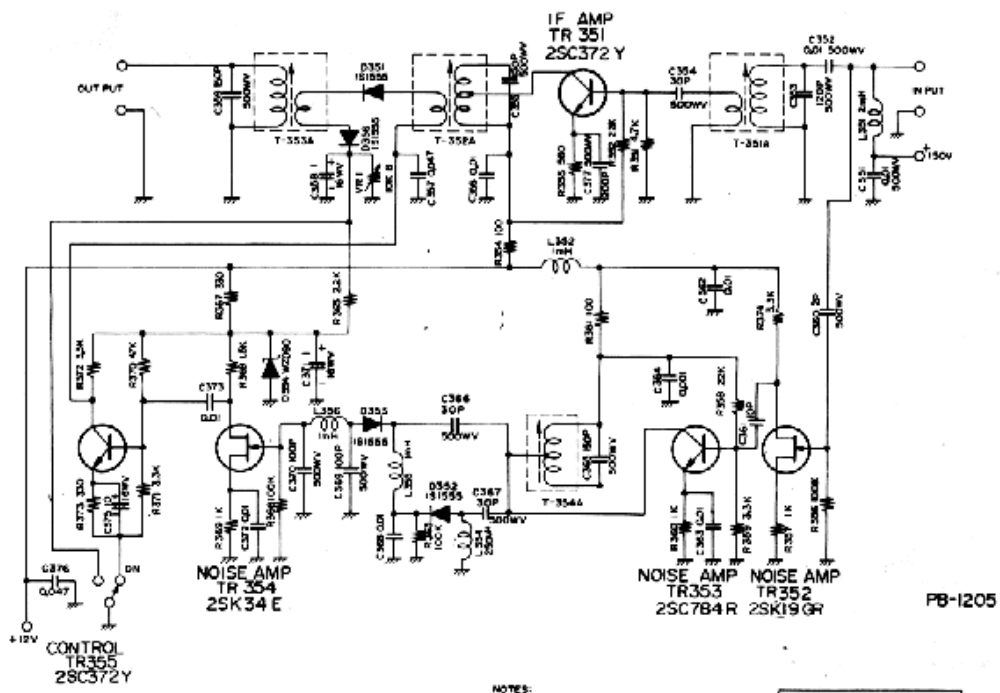
The following table shows test points and nominal signal level to produce S-9 reading on S-meter.

SIGNAL GENERATOR CONNECTION POINT	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR OUTPUT LEVEL
V205 — pin 1	3,180 KHz	100 db
V204 — pin 1	3,180 KHz	75 db
V203 — pin 7	5,770 KHz	77 db
V201 — pin 1	5,770 KHz	50 db
V1 — pin 1	14,255 KHz	47 db
Antenna Terminal	14,255 KHz	34 db
Oscillator injection voltages		
V213 — pin 7	3,178.5 KHz	4 volts
V203 — pin 1	Variable	3 volts
V202 — pin 1	Crystal Selected	1-2 volts

The receiver was tuned to 14,255 KHz for these measurements and the test signal injected at indicated test points. Signal generator output levels are taken from signal generator attenuator. All values are nominal and may vary ± 20% without degrading performance.

TROUBLE SHOOTING GUIDE

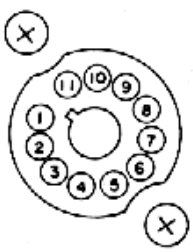
DEFECT	POSSIBLE CAUSE
PA idling current unstable:	1. Defective V5 and V6. 2. Defective Bias supply including bias potentiometer.
Insufficient load:	1. PRESEL improperly tuned. 2. BAND switch improperly set. 3. Antenna not resonant at frequency. 4. Defective antenna or transmission line. 5. V3, V4, V5, 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.



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	470	1K	0	0	100K	100K	1K	0			
V212	CW 6 U 8 TUNE	∞	∞	∞	0	0	80K	2K	10K	∞			



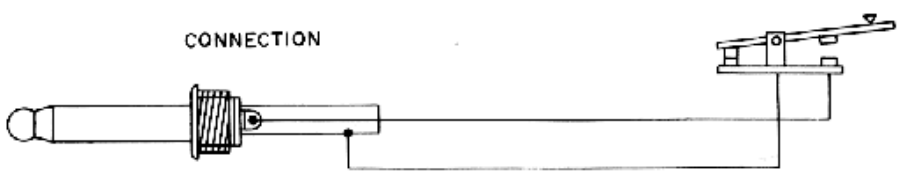
ACCESSORY SOCKET CONNECTION

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

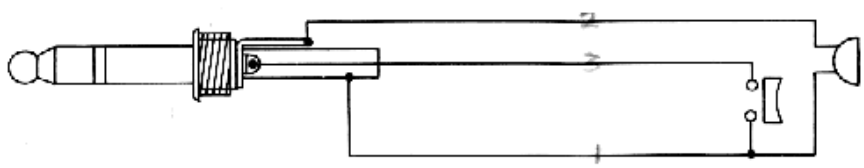
NOTE : ACCESSORY SOCKET IS WIRED TO USE TRANSVERTOR. WHEN TRANSVERTOR IS NOT USED, ACCESSORY PLUG MUST BE IN THE SOCKET, OTHERWISE, 6KD6 HEATERS ARE NOT CONNECTED TO POWER SUPPLY.

KEY AND MICROPHONE CONNECTIONS

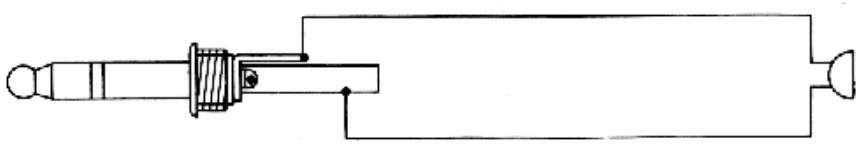
CONNECTION



CONNECTION FOR PTT OPERATION



CONNECTION FOR MOX OPERATION



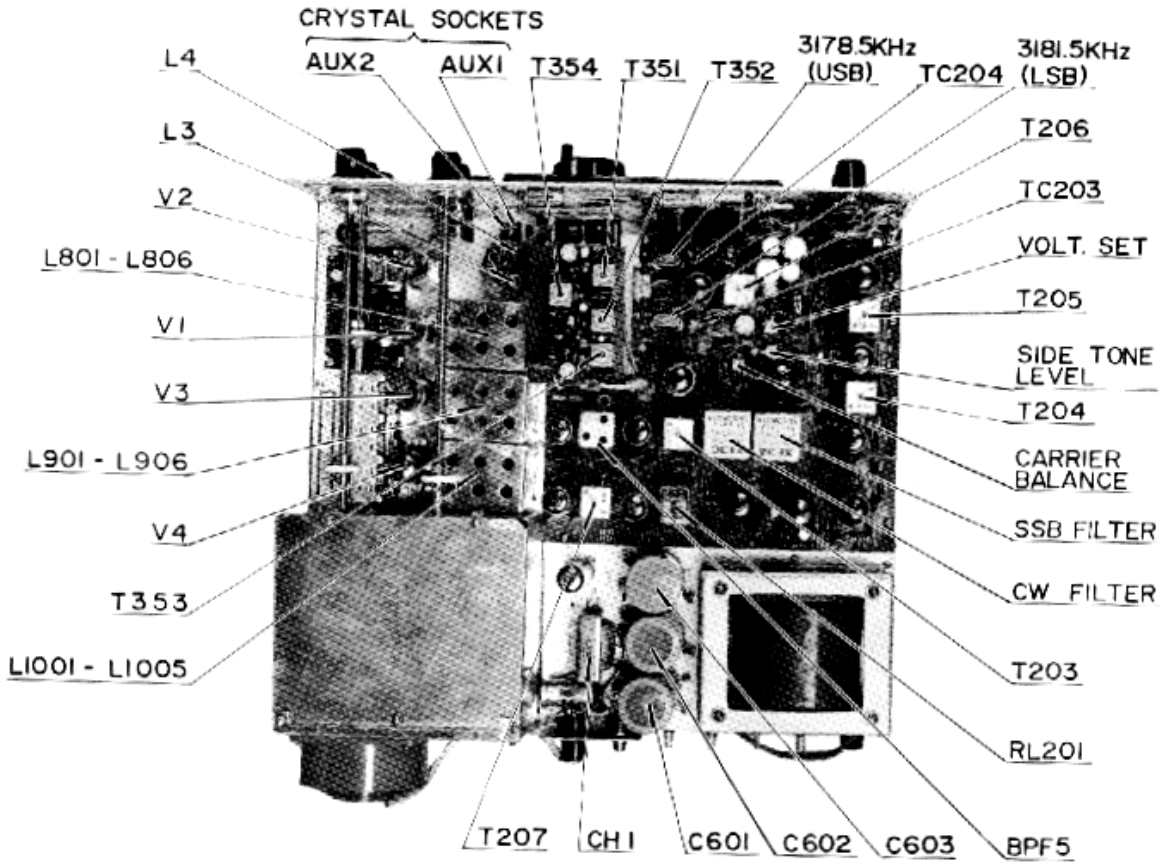
VOLTAGE CHART

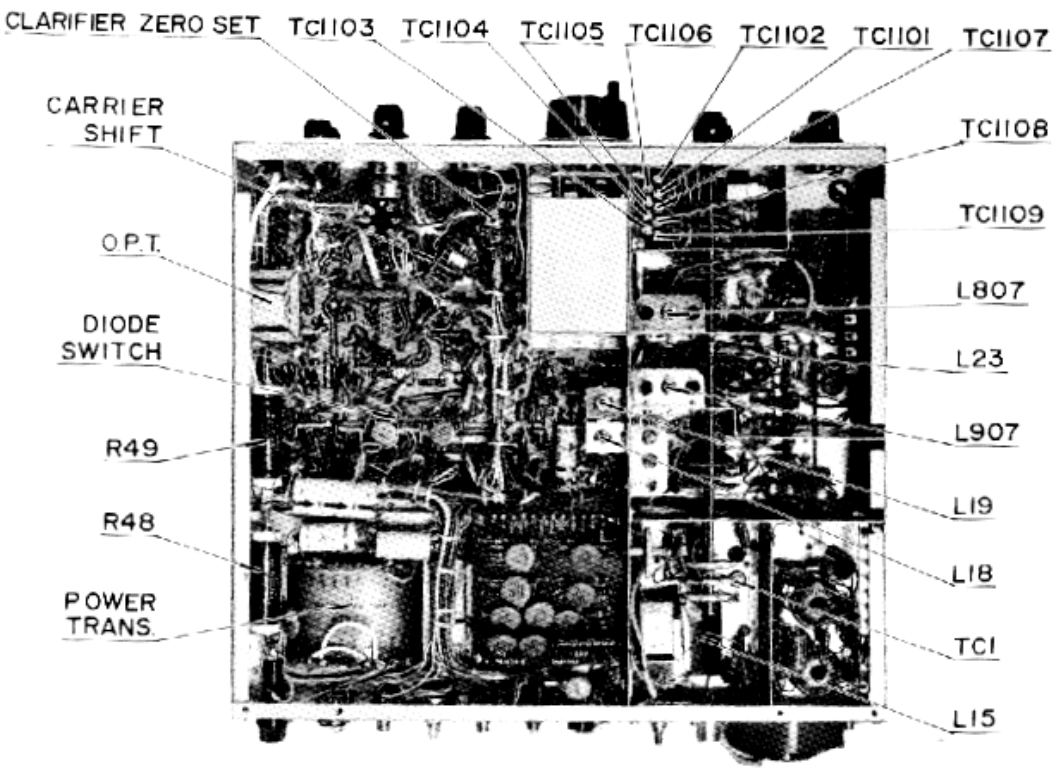
RECEIVE (USB) DC (V)

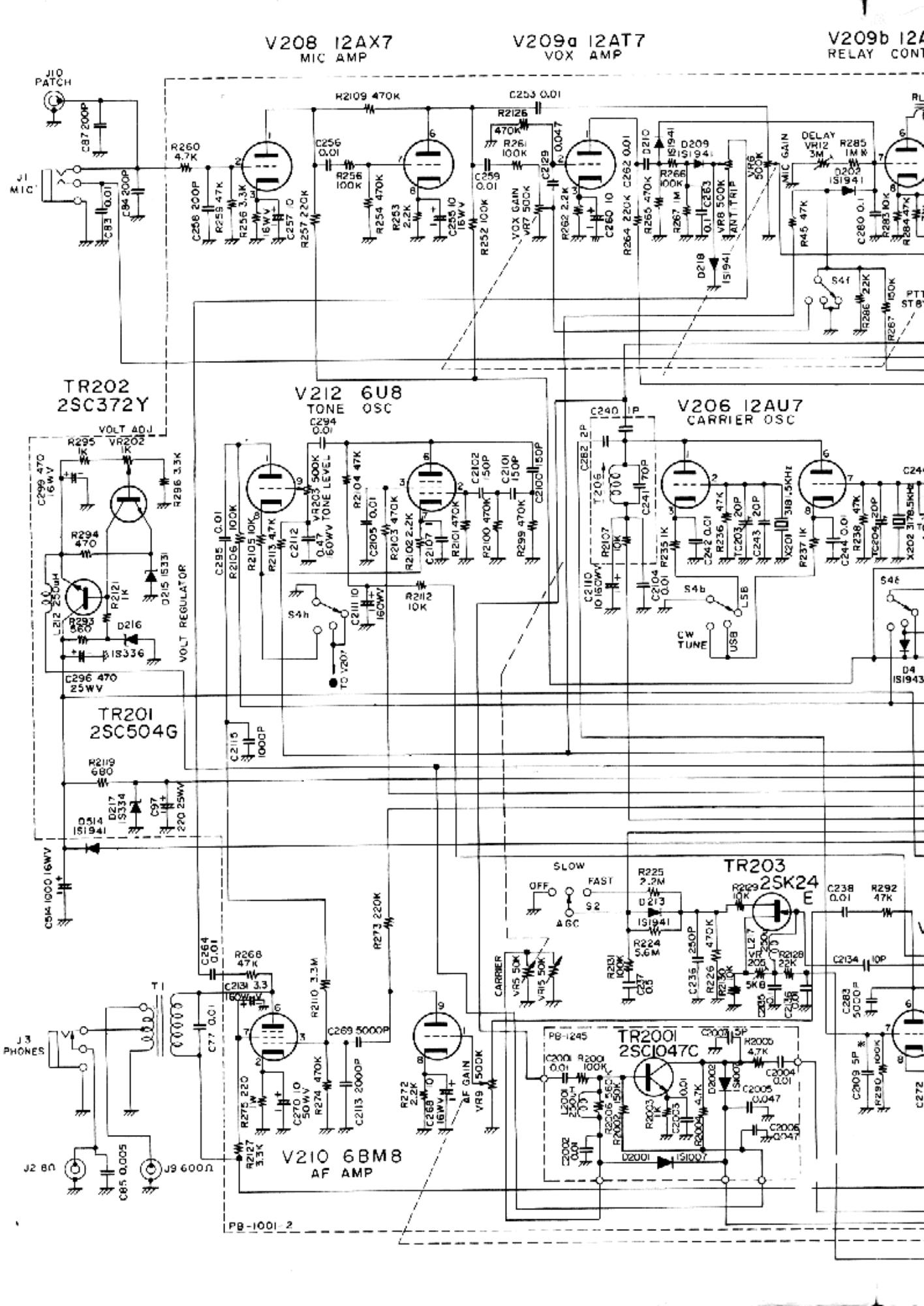
	PIN / TUBE	1	2	3	4	5	6	7	8	9	10	11	12
V 1	6 B Z 6	–	1.5	AC 6.3	0	170	105	0					
V 2	6 B A 6	–	0	AC 6.3	0	105	105	0					
V 3	6 A H 6	–90	0	AC 6.3	0	370	170	–					
V 4	6 G K 6	0	–90	0	0	AC 6.3	–	370	330	0			
V 5	6 K D 6	AC 6.3	–	175	0	95	0	0	0	–95	0	175	0
V 6	6 K D 6	AC 6.3V	–	175	0	95	0	0	0	–95	0	175	0
V 7	VR105MT	105	0	–	0	105	0	0					
V201	6 C B 6	–90	–	0	AC 6.3	165	165	0					
V202	6 C B 6	–	2.5	AC 6.3	0	165	100	0					
V203	6 B E 6	–	0.8	AC 6.3	0	165	75	–					
V204	6 B Z 6	–	1.7	0	AC 6.3	155	120	1.7					
V205	6 B A 6	–	1.3	0	AC 6.3	155	105	1.1					
V206	1 2 A U 7	80	–	13	0	0	80	–	3.0	AC 6.3			
V207	7 3 6 0	–	60	–90	0	AC 6.3	105	105	11	11			
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	60	–	1.2	AC 6.3	AC 6.3	300	–	6.0	0			
V210	6 B M 8	–	9.5	–	AC 6.3	AC 6.3	160	170	1.3	75			
V211	6 B A 6	–	0	AC 6.3	0	160	105	2.4					
V212	6 U 8	0	–	165	AC 6.3	0	120	14	14	–90			
V213	1 2 A U 7	115	–	4.5	0	0	70	–	4.5	AC 6.3			
V212	CW 6 U 8 TUNE	310	–	45	AC 6.3	0	78	2.2	–	–55			

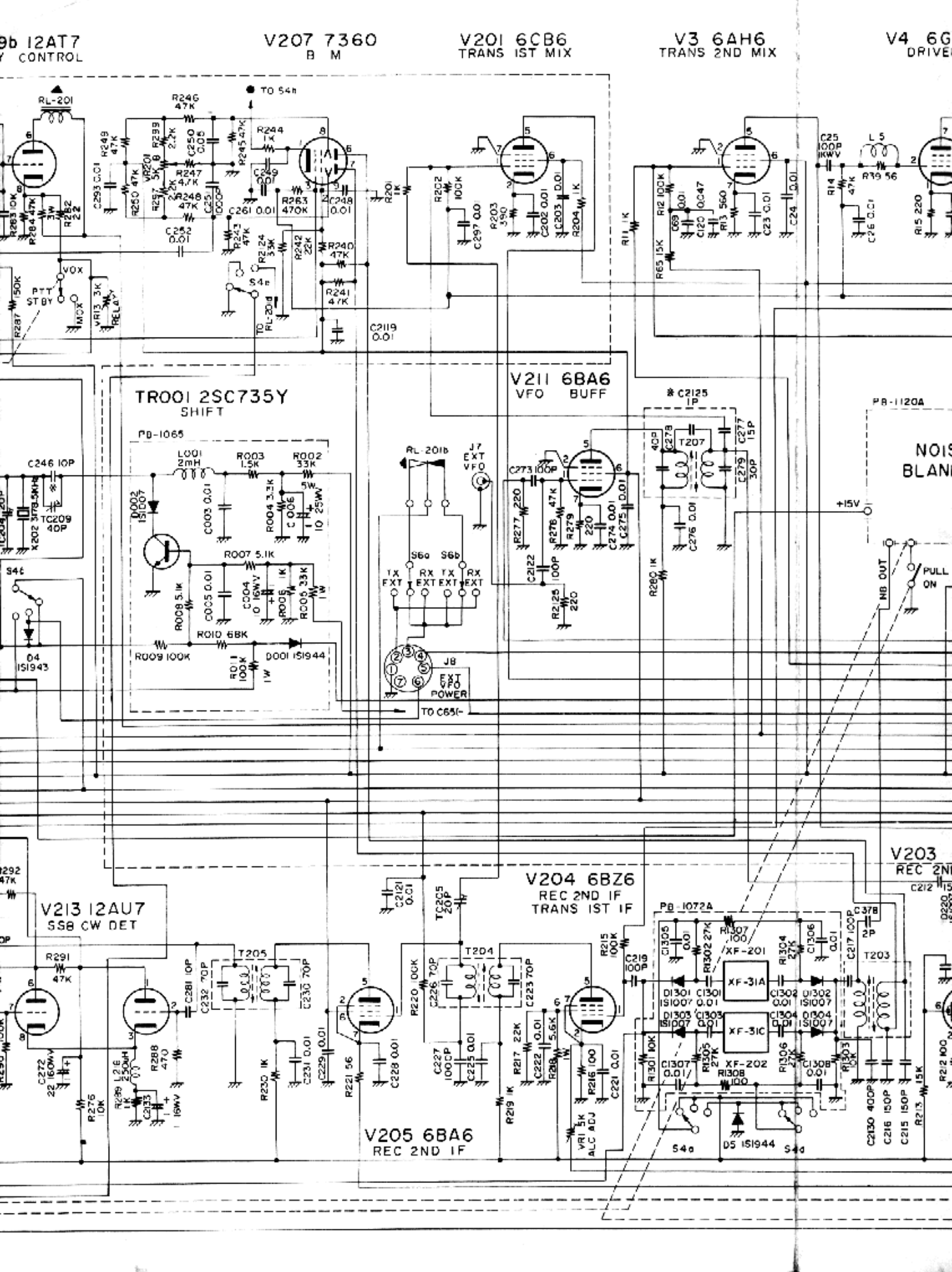
TRANSMIT (USB) DC (V)

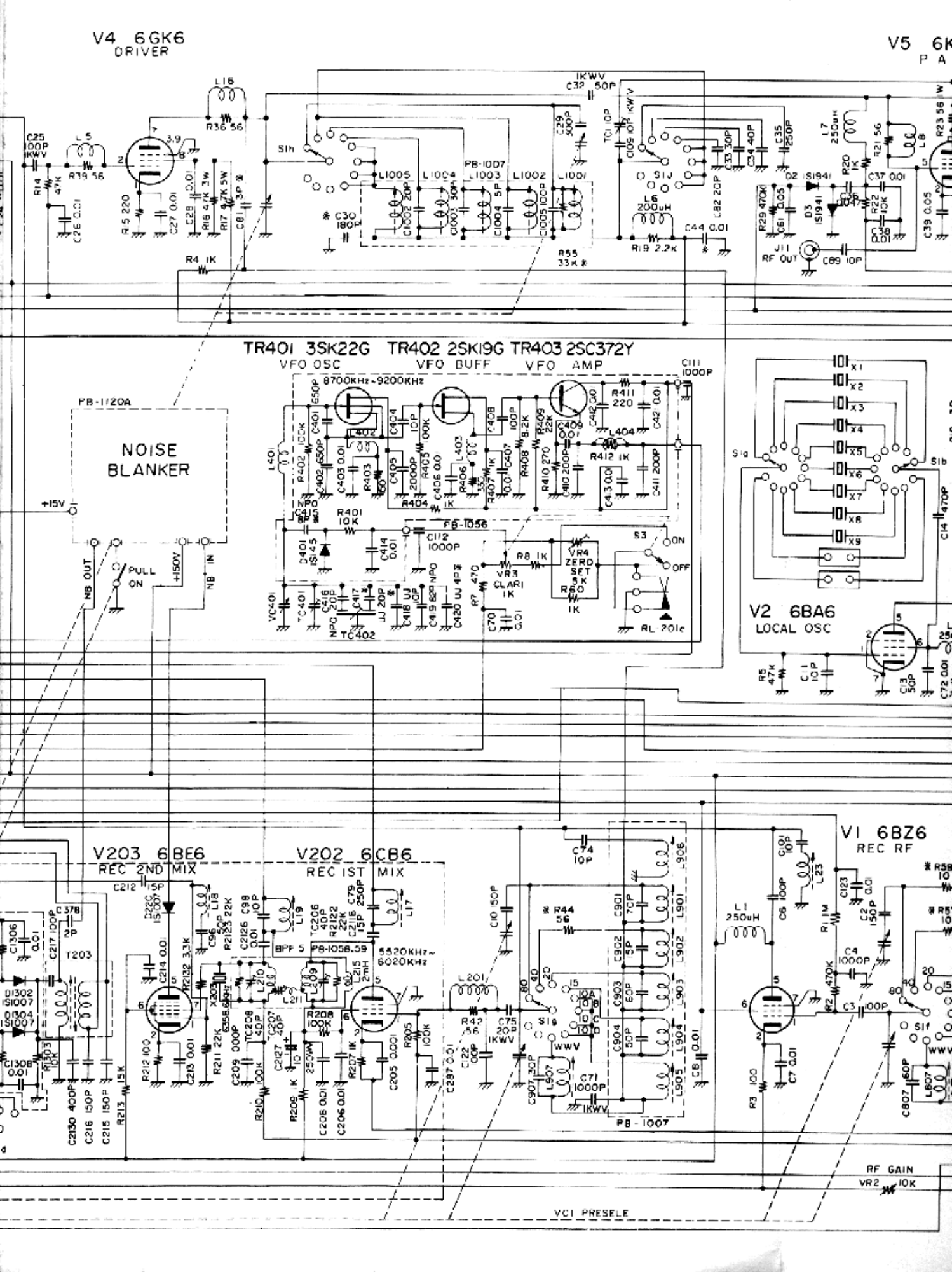
	PIN / TUBE	1	2	3	4	5	6	7	8	9	10	11	12
V 1	6 B Z 6	–	35	AC 6.3	0	165	105	0					
V 2	6 B A 6	–	0	AC 6.3	0	105	105	0					
V 3	6 A H 6	–	0	AC 6.3	0	350	165	4.4					
V 4	6 G K 6	10	–	0	0	AC 6.3		350	300	0			
V 5	6 K D 6	AC 6.3	0	170	0	–50	0	0	0	–50	0	170	0
V 6	6 K D 6	AC 6.3	0	170	0	–50	0	0	0	–50	0	170	0
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	–			

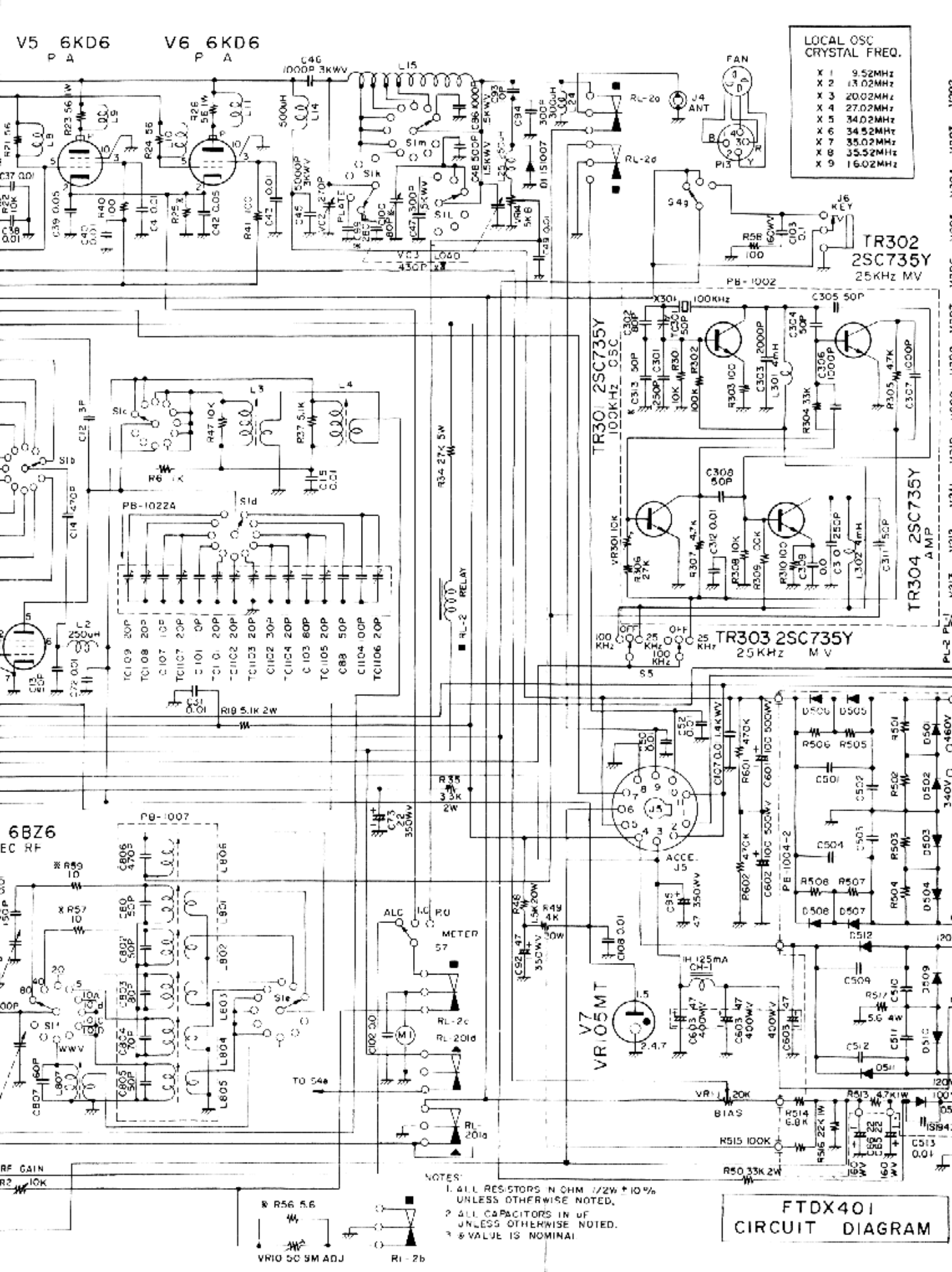

CRYSTAL SOCKETS
AUX2
AUX1
L4
L3
V2
L801 - L806
V1
V3
L901 - L906
V4
T353
L1001 - L1005
T354
T351
T352
3178.5KHz (USB)
TC204
3181.5KHz (LSB)
T206
TC203
VOLT. SET
T205
SIDE TONE LEVEL
T204
CARRIER BALANCE
SSB FILTER
CW FILTER
T203
RL201
BPF5
C603
C602
C601
CH1
T207

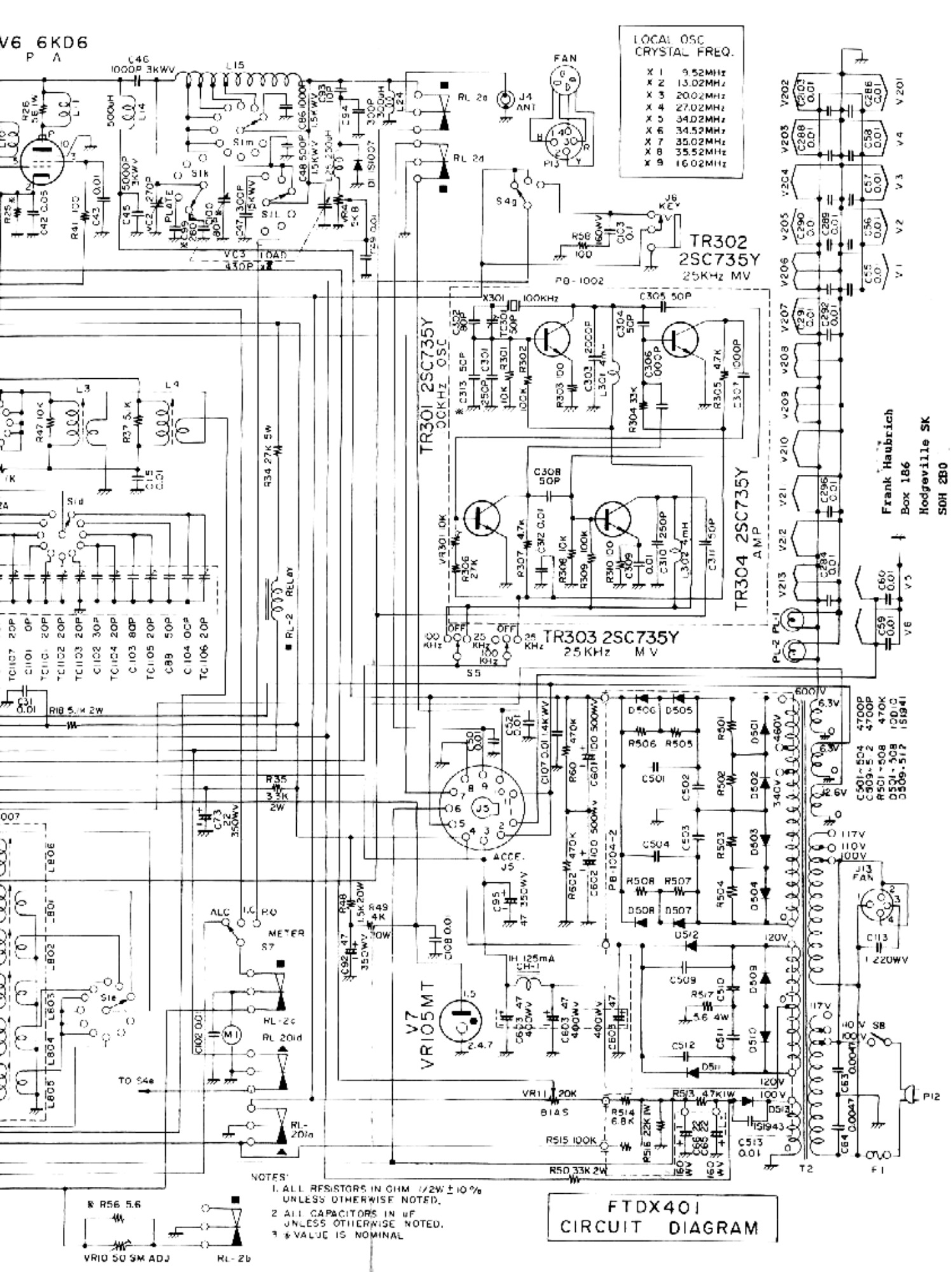

CLARIFIER ZERO SET
TC1103
TC1104
TC1105
TC1106
TC1102
TC1101
TC1107
CARRIER SHIFT
TC1108
TC1109
O.P.T.
L807
DIODE SWITCH
L23
R49
L907
L19
R48
L18
POWER TRANS.
TC1
L15


V208 12AX7
MIC AMP
V209a 12AT7
VOX AMP
V209b 12A
RELAY CONT
J10 PATCH
J1 MIC
R260 4.7K
C87 200P
C84 200P
C83 0.01
C256 0.01
R256 100K
R254 470K
R253 2.2K
C255 10 16WV
R257 220K
R2109 470K
C253 0.01
R2126 470K
R261 100K
C259 0.01
R252 100K
VOX GAIN VR7 500K
C229 0.047
R262 2.2K
C260 10
C262 0.01
R264 220K
R265 470K
D210 IS1941
D209 IS1941
R266 100K
R267 1M
C263 0.1
VR6 500K ANTI TRIP
D218 IS1941
DELAY VR12 3M
R285 1M
MIC GAIN
D203 IS1941
R45 47K
C280 0.1
R283 10K
R284 47K
S41
R286 22K
R287 150K
PTT
TR202
2SC372Y
VOLT ADJ
R295 1K
VR202 1K
R296 3.3K
C299 470 16WV
R294 470
L212 250uH
R293 560
R2121 1K
D215 1S331
D216 1S1336
VOLT REGULATOR
C296 470 25WV
V212 6U8
TONE OSC
C294 0.01
R2104 47K
VR203 500K TONE LEVEL
0.47 60WV
C2112
C2105 0.01
R2103 470K
R2102 2.2K
C2107 1
R2101 470K
R2100 470K
R299 470K
C2102 50P
C2101 150P
C2100 150P
C295 0.01
R2106 100K
R2105 10K
R2113 4.7K
S4h
C2111 10 16WV
R2112 10K
TO V207
V206 12AU7
CARRIER OSC
C240 1P
C282 2P
T205
C241 470P
R2107 10K
C2110 10 16WV
C2104 0.01
R235 1K
S4b
LSB
USB
CW TUNE
R236 47K
C242 0.01
C203 20P
C243 20P
318.5KHz
X201
R237 1K
C244 0.0
R238 47K
T204
C204 20P
X202 318.5KHz
S4a
D4 IS1943
C2115 1000P
R2119 680
D217 1S334
C97 220 25WV
D214 IS1941
C54 1000 16WV
SLOW
FAST
OFF
S2
AGC
R225 2.2M
D213 IS1941
R224 5.6M
TR203
2SK24 E
R229 10K
C238 0.01
R292 47K
C235 250P
R226 470K
R2130 10K
R2128 2.2K
5K6
C2134 10P
C236 0.01
C283 5000P
R231 100K
C227 0.5
CARRIER VR5 50K
VR15 50K
R273 220K
C264 0.01
R268 47K
C2131 3.3 160WV
R2110 3.3M
C269 5000P
T1
J3 PHONES
V1
C77 0.01
R275 220 1W
C270 10 50WV
R274 470K
C2113 2000P
R272 2.2K
C268 16WV
AF GAIN VR9 500K
R2127 3.3K
J2 8Ω
C85 0.005
J9 600Ω
V210 6BM8
AF AMP
PB-1245
TR2001
2SC1047C
C2001 0.01
R2001 100K
L2001 250uH
R2006 560
R2002 150K
C2002 0.01
R2003 1K
C2003
R2004 4.7K
D2002 1S1007
C2005 0.047
C2006 0.047
D2001 1S1007
R2005 4.7K
C2004 0.01
C2009 5P
R290 100K
PB-1001_2


9b 12AT7
Y CONTROL
V207 7360
B M
V201 6CB6
TRANS IST MIX
V3 6AH6
TRANS 2ND MIX
V4 6G
DRIVE
RL-201
TO 54h
R246 47K
R244
R249 47K
R250 47K
R247 4.7K
R248 47K
R263 470K
R240 47K
R241 47K
R242 22K
R243 47K
R224 3.3K
C261 0.01
C252 0.01
C248 0.01
C2119 0.01
R201 1K
R202 100K
R203 390
C202 0.01
C203 0.01
R204 1K
C297 0.0
R11 1K
R12 100K
R13 560
C23 0.01
C24 0.01
C25 100P 1KWV
L5
R39 56
R14 47K
R15 220
C26 0.01
R65 15K
VOX
PTT
ST BY
MOX
VR13 3K
RELAY
S4e
TO RL-20d
TR001 2SC735Y
SHIFT
PB-1065
L001 2mH
R003 1.5K
R002 33K 5W
R004 3.3K 10 25WV
C006
D002 1S1007
C003 0.01
R007 5.1K
C004 0 16WV
R005 1K
R006 33K 1W
R008 5.1K
C005 0.01
R009 100K
R010 68K
R011 100K 1W
D001 1S1944
D4 1S1943
S4f
C246 10P
X202 3778.5KHz
TC209 40P
V211 6BA6
VFO BUFF
* C2125 1P
PB-1120A
NOIS
BLANI
RL-201b
J7 EXT VFO
C273 100P
R227 220
R278 47K
R279 220
C274 0.01
C275 0.01
C276 0.01
C277 15P
C278 40P
T207
C279 30P
+15V
R280 1K
C2122 100P
R2125 220
S6a S6b
TX EXT RX EXT TX EXT RX EXT
J8 EXT 12V POWER
TO C65(-
NB OUT
PULL ON
V213 12AU7
SSB CW DET
R291 47K
C272 22 160WV
R288 470
R289 1.2K 250mH
R276 10K
C2133 1 16WV
T205
C232 70P
C230 70P
C231 0.01
C229 0.01
R230 1K
C228 0.01
R221 56
C2121 0.01
TC205 20P
V204 6BZ6
REC 2ND IF
TRANS IST IF
T204
R220 100K
C226 70P
C223 70P
C227 100P
C225 0.01
R217 22K
C222 0.01
R218 5.6K 1W
R219 1K
R216 100
C221 0.01
VR1 5K ALC ADJ
V205 6BA6
REC 2ND IF
PB-1072A
R215 100K
C219 100P
C1305 0.01
R1302 27K
R1307 100
XF-201
R1304 27K
C1306 0.01
C217 100P
C378 2P
T203
XF-31A
XF-31C
XF-202
D1301 1S1007
C1301 0.01
C1302 0.01
D1302 1S1007
D1303 1S1007
C1303 0.01
C1304 0.01
D1304 1S1007
R1301 10K
C1307 0.01
R1305 27K
R1308 100
R1306 27K
C1308 0.01
R1303 3K
S4a
D5 1S1944
S4d
C2130 400P
C216 150P
C215 150P
R213 15K
R212 100
V203
REC 2N
C212
0220


V4 6GK6
DRIVER
V5 6K
P A
TR401 3SK22G TR402 2SK19G TR403 2SC372Y
VFO OSC
VFO BUFF
VFO AMP
8700KHz-9200KHz
PB-1120A
NOISE
BLANKER
+15V
NB OUT
PULL
ON
+150V
NB IN
PB-1056
V2 6BA6
LOCAL OSC
V203 6BE6
REC 2ND MIX
V202 6CB6
REC IST MIX
BPF 5 PB-1058.59
5520KHz~
6020KHz
PB-1007
V1 6BZ6
REC RF
RF GAIN
VR2 10K
VC1 PRESELE


V5 6KD6 P A
V6 6KD6 P A
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
TR302 2SC735Y 25KHz MV
TR30 2SC735Y 100KHz OSC
TR304 2SC735Y AMP
TR303 2SC735Y 25KHz MV
PB-10224
PB-1007
PB-1004-2
6BZ6
V7 VR105MT
RL-2 RELAY
METER
ACCE. J5
BIAS
NOTES:
1. ALL RESISTORS IN OHM 1/2W ±10% UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS IN uF UNLESS OTHERWISE NOTED.
3. ※ VALUE IS NOMINAL
FTDX401 CIRCUIT DIAGRAM


6KD6
P A
L46
1000P 3KWV
L15
FAN
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
RL 2a
J4 ANT
RL 2d
S4g
J6 KEY
TR302
2SC735Y
25KHz MV
PB-1002
TR301 2SC735Y
OSC
TR304 2SC735Y
AMP
TR303 2SC735Y
25KHz MV
RELAY
RL-2
S5
S7
METER
ALC
P.O
ACCE.
J5
V7
VR105MT
BIAS
VR10 50 SM ADJ
RL-2b
TO S4a
T2
F1
SB
PI2
Frank Haubrich
Box 186
Hodgeville SK
S0H 2B0
NOTES:
1. ALL RESISTORS IN OHM 1/2W ± 10 % UNLESS OTHERWISE NOTED.
2 ALL CAPACITORS IN uF UNLESS OTHERWISE NOTED.
3 * VALUE IS NOMINAL
FTDX401
CIRCUIT DIAGRAM