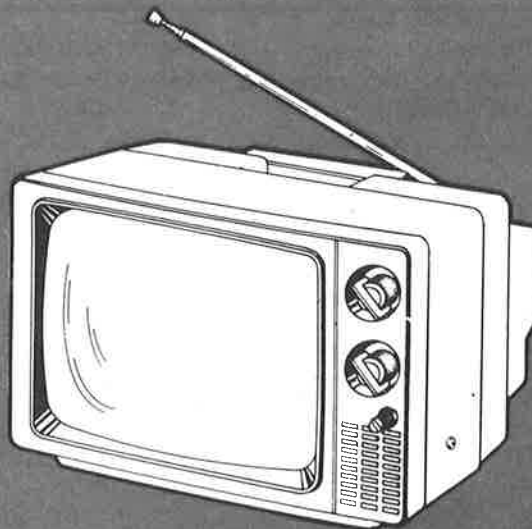


KTV**J6**

SOLID STATE B/W TV

KT 1210, KT 1230**SPECIFICATIONS**

INPUT POWER RATING	29watts, AC 120V, 60Hz 14watts, DC 12V (KT1230 only.)
ANTENNA INPUT IMPEDANCE	300 ohm balanced type for VHF/UHF
RECEIVING CHANNELS	Any of 12 VHF channels channels 2 to 13 Any of 70 UHF channels channels 14 to 83
INTERMEDIATE FREQUENCIES	Picture I-F carrier frequency45.75MHz Sound I-F carrier frequency41.25MHz
CHASSIS CONSTRUCTION	IC-Solid State, (2IC, 12Tr, 15Diodes)
PICTURE TUBE	Type No. 310HEB4(L) or 310GNB4A(Q) 12inch diag. 90° deflec.
CABINET	Plastic Portable
DIMENSION	Height 251.5mm Width 359mm Depth 296mm
ANTENNAS	VHF telescopic mono pole and UHF Loop Ant.
FEATURES	Quick operation

SAFETY PRECAUTION

WARNING: Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as: non-metallic control knobs, insulating covers, shields, etc.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by shading on the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" "PRODUCT SAFETY NOTICE" ON PAGE2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

IMPORTANT NOTICE FOR SERVICE PERSONNEL BEFORE SERVICING

READ THE FOLLOWING NOTES BEFORE ATTEMPTING TO TEST OR SERVICE THIS RECEIVER.
THIS IS A TRANSISTORIZED SET AND CARE MUST BE TAKEN TO PREVENT TRANSISTOR DAMAGE.

CAUTION: Transistors heat sinks are not at ground potential.

1. The DC voltage at Q801 emitter must be adjusted to 11.0 ± 0.2 volts with 120V AC supplied to the set.
2. The AC power line voltage must not exceed 132V.
3. Do not discharge, arc or meter the second anode lead of the picture tube and high voltage circuit. Disconnect the lead and discharge the CRT anode to the wire on the picture tube only.
4. While the receiver is in operation, do not attempt to connect or disconnect any wire.
5. Make sure the power cord and battery cables are disconnected before replacing any part in the receiver.
6. When the power is on, do not attempt to shorten any portion of the circuit. The shortening may cause damage to the transistors and IC in the set.

- as possible. Rotate the yoke until the top and bottom edges of the raster are straight. Tighten the clamp.
3. Center the raster and eliminate shaded corners by rotating the centering rings.

VERTICAL HEIGHT AND LINEARITY ADJUSTMENT
Adjust the Height control (R308) to obtain proper picture height.

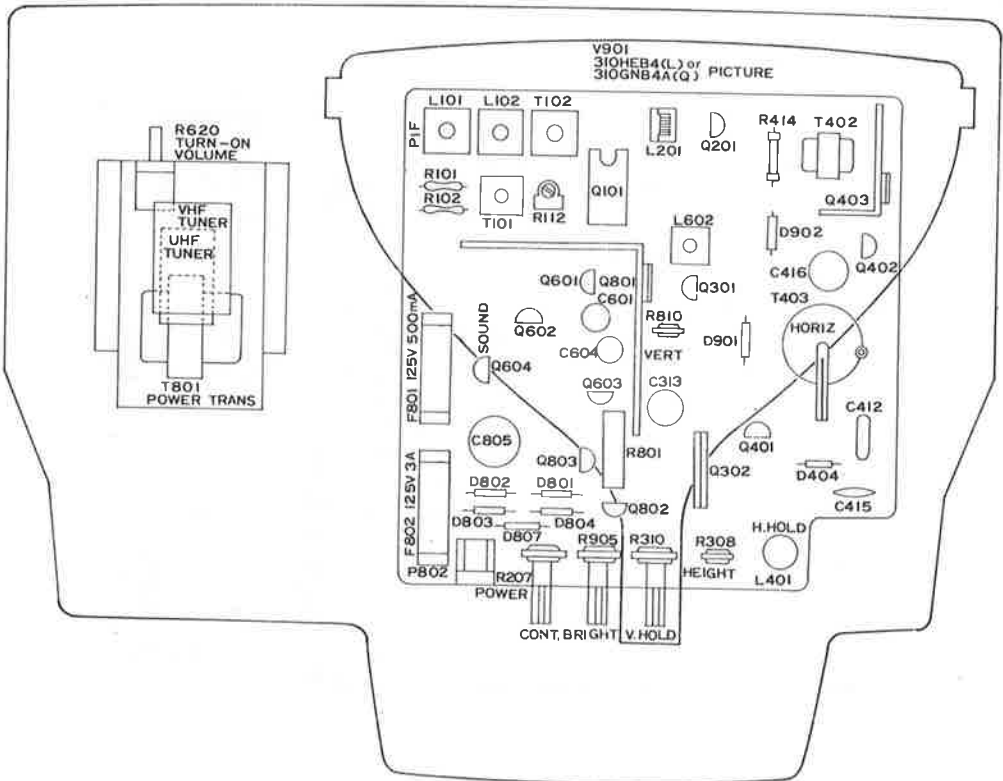
HORIZONTAL OSCILLATOR ADJUSTMENT
If there is an indication of unstable horizontal sync., adjust the Horizontal hold coli (L401) so that the setting is in the center of the pull-in range of the coil.

DEFLECTION YOKE AND CENTERING RINGS

1. Turn the receiver on and disconnect the antenna.
2. Loosen the Deflection Yoke clamp, and move the yoke carefully along the neck of the picture tube as far forward

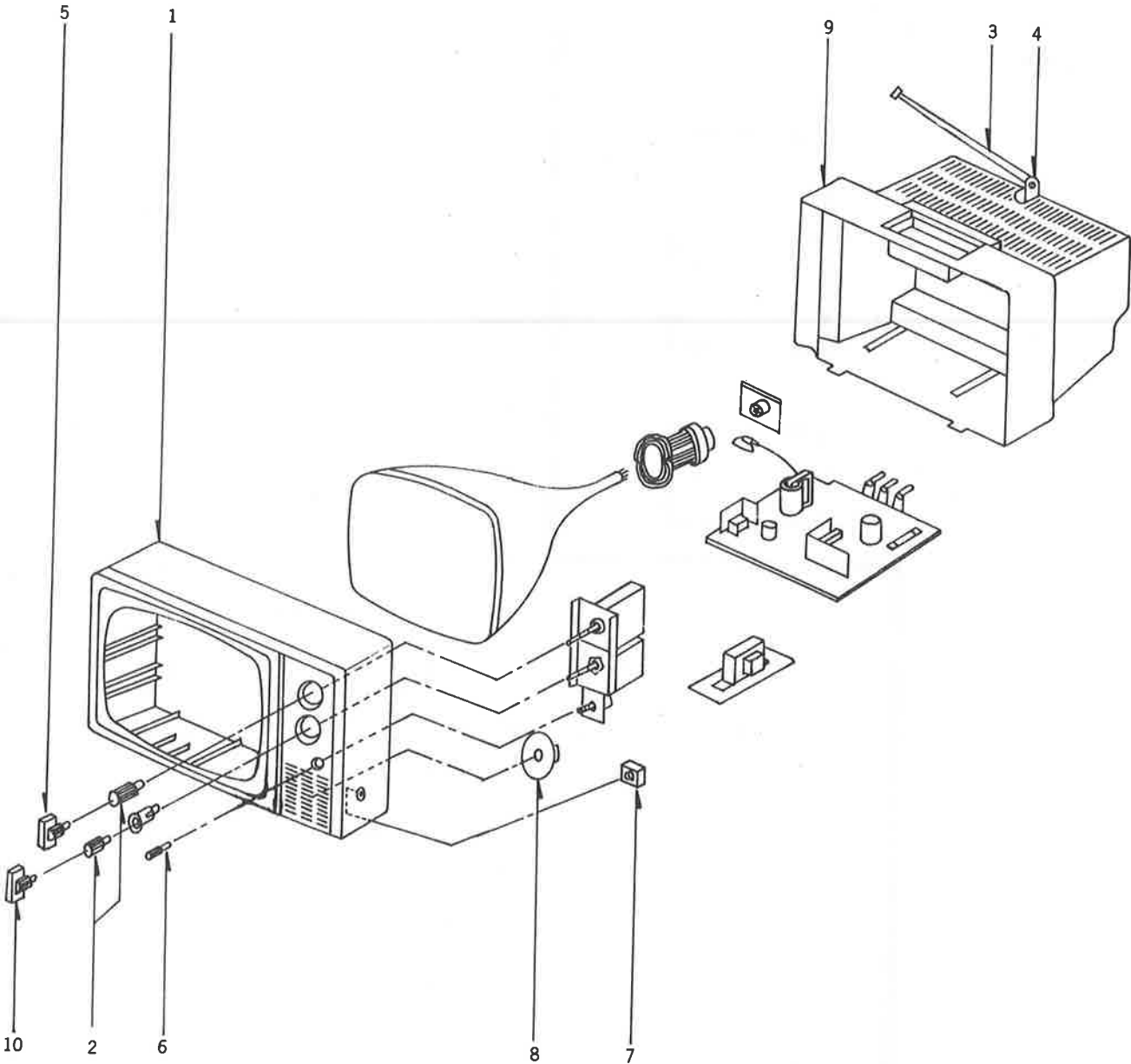
B+ADJUSTMENT
With 120V AC supplied to the television adjust R810 to obtain $+11.0 \pm 0.2$ volts at the emitter of Q801.

MAIN PARTS LOCATION



Chassis Top View

CABINET CONSTRUCTIONS AND PARTS LIST

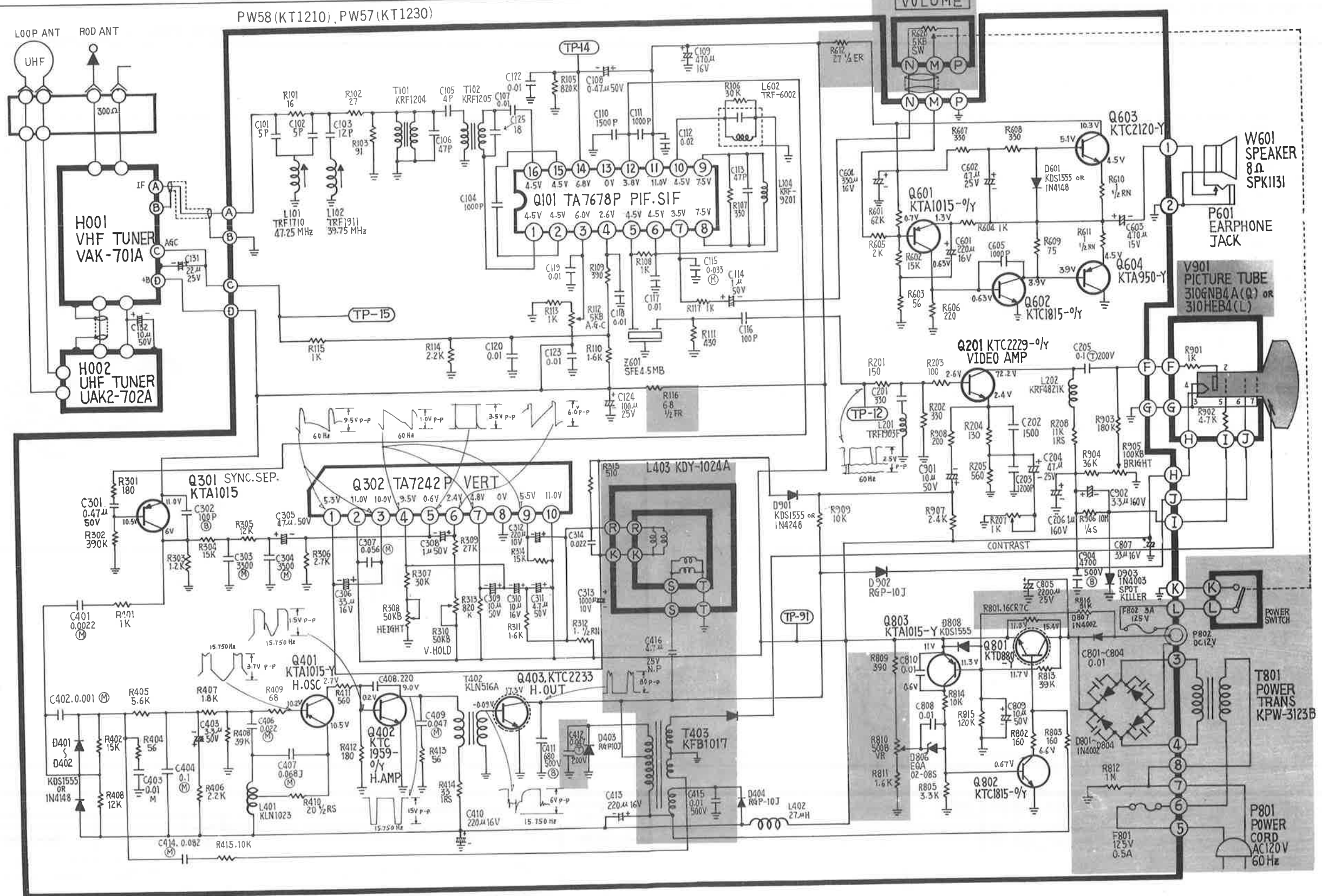


Key No.	Part No.	Description	Key No.	Part No.	Description
1	11823512	Front Cover (WHT)	6	11816190	Knob, Turn on Volume
2	11816087	Knob Tuning (VHF/UHF)	7	11163001	Earphone Jack
3	11124014	VHF Antenna Rod	8	11151071	Speaker 70×50mm SPK1131
4	11162024	Antenna Terminal	9	11822271	Back cover. BLK
5	11826040	Knob, VHF Channel selector	10	11816041	Knob UHF channel selector

SCHEMATIC DIAGRAM

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The shaded areas in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Do not degrade the safety of the receiver through improper servicing.

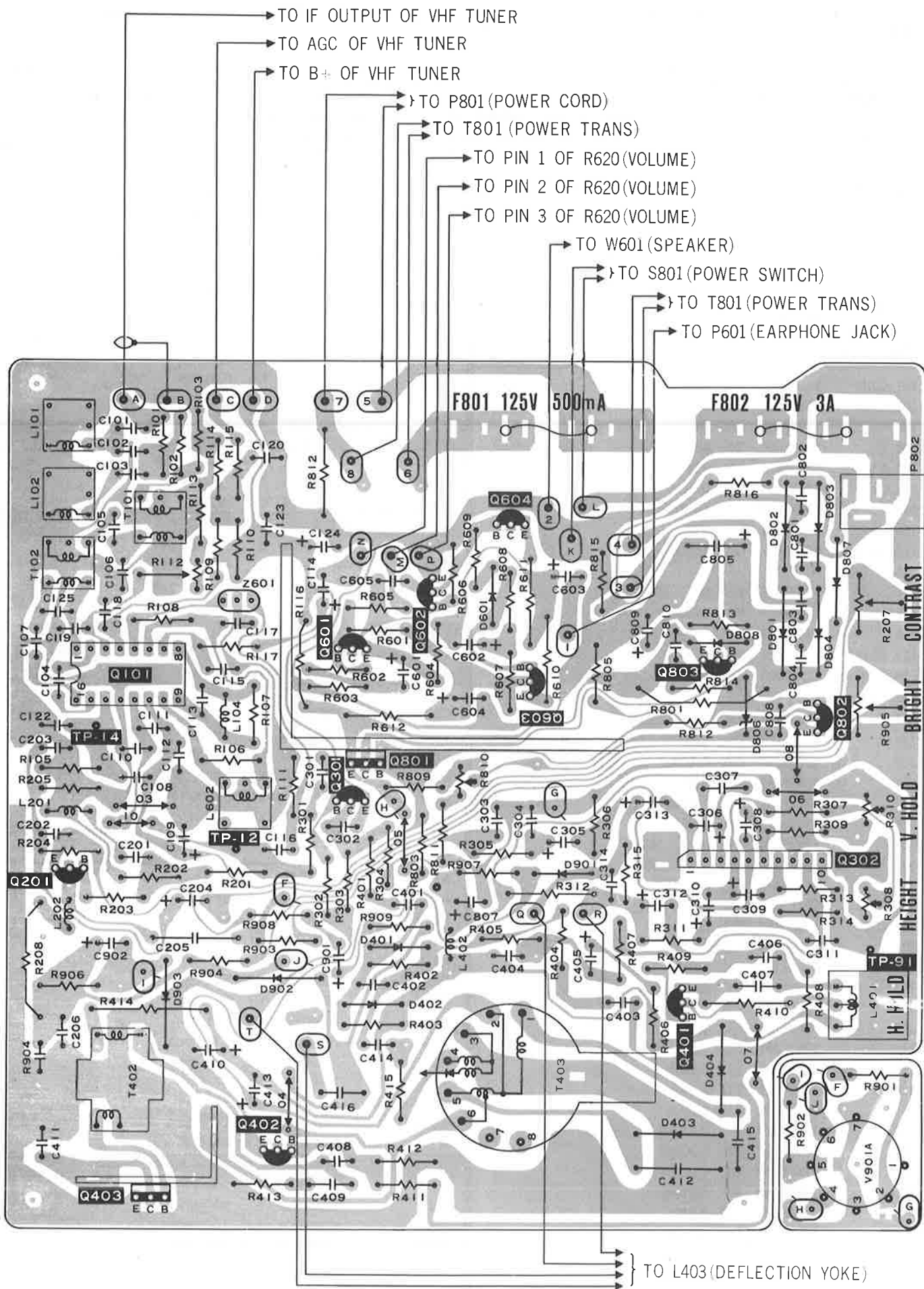


NOTES:

- Resistance is shown in ohm, K=1,000, M=1,000,000
- Unless otherwise noted, all capacitor values less than 1 are expressed in mfd and the values more than 1 in pf.
- Direction of the arrow accompanied with variable resistor in this schematic diagram indicates clockwise rotation.
- Voltage readings are taken with "VTVM" from point indicated to chassis ground, under the tuner selector on unused channel, contrast at maximum, other controls at normal, line voltage 120 volts. Voltage readings may vary $\pm 20\%$.
- All waveforms are measured with strong signal input, contrast set to give normal picture.

* P802
F802
D807
R816
KT1230 only

PRINTED CIRCUIT BOARD WIRING DIAGRAM



CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The shaded areas in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with identical to those in the original circuit or specified in the parts list. Do not degrade the safety of the receiver through improper servicing.

ABBREVIATIONS: CapacitorsCD: Ceramic Disk, PF: Plastic Film, EL: Electrolytic
 ResistorsCF: Carbon Film, CC: Carbon Composition, OMF: Oxide Metal Film
 VR: Variable Resistor
 (All CD and PF capacitors are $\pm 5\%$, 50V and all resistors, $\pm 5\%$, 1/8W unless otherwise noted)

Schematic Location	Part No.	Description	Schematic Location	Part No.	Description
CAPACITORS			C408	12212221	CD, 220pF
C101, C102	12436650	CD, 5pF	C409	12692473	CD, 0.047MF
C103, C605	12436120	CD, 12pF	C410	12633221	EL, 16V, 220MF
C104	12212102	CD, 1000pF	C411	12214681	CD, 680pF, 500V
C105	12436040	CD, 4pF	C412	12828473	PF, 0.047MF, 200V
C106, C113	12436470	CD, 47pF	C413	12633221	EL, 220MF, 16V
C107, C112	12232103	CD, 0.01MF	C414	12602823	PF, 0.082MF
C108	12636478	CD, 0.47MF	C415	12229103	CD, 0.01MF, 500V
C109	12633471	CD, 470MF	C416	12085001	EL, 4.7MF, 25V
C110, C111, } C605	12212102	CD, 1000pF	C601	12634221	EL, 220MF, 25V
C114	12436010	EL, 1MF, 50V	C602	12634470	EL, 47MF, 25V
C115	12692333	PF, 0.033MF	C603	12633471	EL, 470MF, 16V
C116	12436101	CD, 100pF	C604	12633331	EL, 330MF, 16V
C117, C118 } C119, C120 } C122, C123 }	12232103	CD, 0.01MF	C801, C802 } C803, C804 } C805	12232103	CD, 0.01MF, 16V
C124	12634101	EL, 100MF, 25V		12634222	EL, 2,200MF, 25V
C125	12436180	CD, 18pF	C807	12633330	EL, 33MF, 16V
C203	12212122	CD, 1,200pF	C808	12232103	CD, 0.01MF
C201	12436331	CD, 330pF	C809	12636100	EL, 10MF
C202	12212152	CD, 1,500pF	C810	12232103	CD, 0.01MF
C204	12634470	CD, 47MF, 25V	C901	12636100	EL, 10MF, 50V
C205	12838104	PF, 0.1M, 200V	C902	12642339	EL, 3.3MF, 150V
C206	12642010	EL, 1MF, 160V	C904	12229472	EL, 4,700pF, 500V
C301	12636478	EL, 0.47MF	RESISTORS		
C302	12212101	CD, 100pF	R101	12360160	CF, 16 ohm
C303, C304	12602332	CD, 3,300pF	R102	12360270	CF, 27 ohm
C305	12636479	EL, 4.7MF	R103	12360910	CF, 91 ohm
C306	12633330	EL, 33MF, 15V	R105	12360824	CF, 820K ohm
C307	12602563	PF, 0.056MF	R106	12360303	CF, 30K ohm
C308	12617998	EL, 1MF	R107	12360331	CF, 330 ohm
C309	12636100	EL, 10MF	R108	12360102	CF, 1K ohm
C310	12617001	EL, 10MF, 16V	R109	12360391	CF, 390 ohm
C311	12617995	EL, 4.7MF	R110	12360162	CF, 1.6K ohm
C312	12632221	EL, 220MF, 10V*	R111	12360431	CF, 430 ohm
C313	12632102	EL, 1,000MF, 10V	R112	12061048	VR, 5K ohm
C314	12602223	PF, 0.022MF	R113, R117	12360102	CF, 1K ohm
C401	12602222	PF, 2,200pF	R114	12360222	CF, 2.2K ohm
C402	12602102	PF, 1,000pF	R115	12360102	CF, 1K ohm
C403	12602103	PF, 0.01MF	R116	24556689	Fusible 6.8 ohm, 1/2W
C404	12602104	PF, 0.1MF	R201	12360151	CF, 150 ohm
C405	12636339	EL, 3.3MF	R202	12360331	CF, 330 ohm
C406	12867223	PF, 0.022MF	R203	12360101	CF, 100 ohm
C407	12867683	PF, 0.068MF	R204	12360131	CF, 130 ohm
			R205	12360561	CF, 560 ohm

Schematic Location	Part No.	Description	Schematic Location	Part No.	Description
R207	12061002	CF, 1K ohm	R907	12360242	CF, 2.4K ohm
R208	12963113	OMF, 11K ohm	R908	12360201	CF, 200 ohm
R301	12360181	CF, 180K ohm	R909	12360103	CF, 10K ohm
R302	12360394	CF, 390K ohm	R812	24946105	Solid 1M ohm
R303	12360122	CF, 1.2K ohm	COILS AND TRANSFORMERS		
R304	12360153	CF, 15K ohm	L101	11262944	Coil, PIF TRAP. TRF1710
R305	12360123	CF, 12K ohm	L102	11262923	Coil, PIF TRAP. TRF1911
R306	12360272	CF, 2.7K ohm	L104	11262026	Coil, PIF DET. KRF9201
R307	12360303	CF, 30K ohm	L201	11262251	Coil, VIDEO TRAP. TRF1903F
R308	12061040	CF, 50K ohm	L202	11284821	Peaking Coil, KRF4821K
R309	12360273	CF, 27K ohm	L401	11225002	Coil, Horiz-Osc KLN1023
R310	12061032	CF, 50K ohm, 1/5W	L402	11271001	Coil, Choke 27UH
R311	12360162	CF, 1.6K ohm	L602	11252001	Coil, SIF, KRF6002
R312	12982109	Metal Film 1 ohm, 1/2W	T101	11262024	Coil, PIF, KRF1204
R313	12360824	CF, 820K ohm	T102	11262025	Coil, PIF, KRF1205
R314	12360153	CF, 15K ohm	T402	11224008	Trans, Horiz Drive KLN516A
R315	12360511	CF, 510 ohm	T403	11226019	Trans, Horiz Output KFB1017K
R401	12360102	CF, 1K ohm	SEMICONDUCTORS		
R402	12360153	CF, 15K ohm	Q101	11119077	IC, TA7678P
R403	12360123	CF, 12K ohm	Q201	11114063	NPN, Tr KTC2229-0
R404	12360560	CF, 56 ohm	Q301	11114049	PNP, Tr KTA1015-Y
R405	12360562	CF, 5.6K ohm	Q302	11119078	IC, TA7242P
R406	12360222	CF, 2.2K ohm	Q401	11114049	PNP, Tr KTA1015-Y
R407	12360182	CF, 1.8K ohm	Q402	11114060	NPN, Tr KTC1959-Y
R408	12360393	CF, 39K ohm	Q403	11114027	NPN, Tr KTC2233
R409	12360680	CF, 68 ohm	Q401	11114048	PNP, Tr KTA1015-0
R410	12962200	OMF, 20 ohm, 1/2W	Q602	11114056	NPN, Tr KTC1815-Y
R411	12360561	CF, 560 ohm	Q603	11114062	NPN, Tr KTC2120-Y
R412	12360181	CF, 180 ohm	Q604	11114047	PNP, Tr KTA950-Y
R413	12360560	CF, 56 ohm	Q801	11114036	NPN, Tr KTD880-Y
R414	12963330	OMF, 33 ohm, 1W	Q802	11114055	NPN, Tr KTC1815-0
R415	12360103	CF, 10K ohm	Q803	11114049	PNP, Tr KTA1015-Y
R601	12360623	CF, 62K ohm	D401, D402	11115017	Diode, KDS1555
R602	12360153	CF, 15K ohm	D601, D808		
R603	12360560	CF, 56 ohm	D901		
R604	12360102	CF, 1K ohm	D403, D404	11115014	Diode, RGP10J
R605	12360202	CF, 2K ohm	D902		
R606	12360221	CF, 220 ohm	D801, D802	11115001	Diode, 1N4002
R607	12360331	CF, 330 ohm	D804, D803		
R608	12360331	CF, 330 ohm	D807	"	" " (KT1230)
R609	12360750	CF, 75 ohm	D806	11115019	Diode, EQA02-08S
R610	12982109	Metal Film 1 ohm, 1/2W	D903	11115002	Diode, 1N4003
R611	12982109	Metal Film 1 ohm, 1/2W	MISCELLANEOUS		
R612	24531270	Fusible 27 ohm, 1/2W	Z601	11107005	Ceramic Filter, 4.5MHZ SFE4.5MB
R801	12007021	Cement 16 ohm, 7W	V901A	11116001	Socket CRT 7P
R802	12360216	CF, 160 ohm	F801	11144049	Fuse, 0.5A, 125V
R803	12360161	CF, 160 ohm	F802	11144052	Fuse, 3A, 125V(KT1230)
R805	12360332	CF, 3.3K ohm	P802	11164017	DC Socket (KT1230)
R809	12360201	CF, 200 ohm	COMPONENTS NOT MOUNTED ON CIRCUIT BOARD		
R810	12061034	VR, 500 ohm, 1/10W	RESISTOR		
R811	12360162	CF, 1.6K ohm	R620	12056003	VR, 5K ohm, Turn SW
R813	12360393	CF, 39K ohm			
R814	12360103	CF, 10K ohm			
R815	12360124	CF, 120K ohm			
R816	12360513	CF, 51K ohm (KT1230)			
R901	12360102	CF, 1K ohm			
R902	12360472	CF, 4.7K ohm			
R903	12360184	CF, 180K ohm			
R904	12360363	CF, 36K ohm			
R905	12061004	VR, 100K ohm, 1/5W			
R906	24945106	Solid, 10M ohm, 1/4W			

Schematic Location	Part No.	Description	
COIL AND TRANSFORMER			
L403	112227011	Coil Deflection Yoke KDY1024A	
T801	11213103	Trans, KPW3123B	
MISCELLANEOUS			
P801	11176033	Power Cord 125V, 15A	
W601	11151071	Speaker, SPK1131, 70×50mm	
P601	11163003	Earphone Jack	
CIRCUIT BOARD ASSEMBLY			
U001	11141214	Circuit Board Assembly PW-57	
U001	11141237	Circuit Board Assembly PW-58	
PICTURE TUBE			
V901	11112068	Picture Tube, 310HEB4(L) or	
V901	11112026	Picture Tube, 310GNB4A(Q)	
TUNERS			
H001	11121063	VHF Tuner, VAK4-701A	
H002	11121064	UHF Tuner, UAK2-702A	