

ROTEL *hifi*

AM / FM STEREO TUNER PREAMPLIFIER

RTC-940AX

TECHNICAL MANUAL

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THE ROTEL CO., LTD.

1-36-8, OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN

ROTEL ELECTRONICS CO., LTD.

3F-2, NO.35, FU HSING NORTH ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

MN20002048

Specifications

RTC-940AX

PREAMPLIFIER SECTION

Total Harmonic Distortion.. No more than 0.004%
(20 to 20,000Hz from (Rated output)
CD/AUX)

Intermodulation Distortion.. No more than 0.004%
(60 Hz : 7 kHz = 4 : 1) (Rated output)

Output Sensitivity/
Impedance 1.0 V/100 ohms

Input Sensitivity/Impedance:
CD, AUX, TAPE 1, 2 150 mV/20 kohms

Overload Level (THD 0.5%, 1 kHz):
CD, AUX, TAPE 1, 2 5 V

Frequency Response:

CD, AUX, TAPE 1, 2 4 to 100,000 Hz, +0 dB, -3.0 dB

Tone Control:

BASS ± 6.0 dB (100 Hz)
TREBLE ± 6.0 dB (10 kHz)

Signal-to-Noise Ratio (IHF, A network):

CD, AUX, TAPE 1, 2 100 dB

FM TUNER SECTION

Usable Sensitivity 10.8 dBf/0.95 μ V (75 ohms)

50 dB Quieting Sensitivity:

Mono 14.8 dBf/1.5 μ V (75 ohms)
Stereo 37.2 dBf/20 μ V (75 ohms)

Signal-to-Noise Ratio (at 65 dBf):

Mono 80 dB
Stereo 75 dB

Harmonic Distortion (at 65 dBf):

1 kHz 0.07% (mono), 0.25% (stereo)

Frequency Response 30 to 15,000 Hz, ± 1.0 dB

Capture Ratio 1.0 dB

Alternate Channel Selectivity:

(± 400 kHz) 70 dB

Spurious Response Ratio 95 dB

Image Response Ratio 75 dB

IF Response Ratio 95 dB

AM Suppression Ratio 58 dB

Stereo Separation:

100 Hz/1 kHz/10 kHz 42 dB/48 dB/35 dB

Subcarrier Product Ratio 60 dB

Antenna Input 75 ohms unbalanced

AM TUNER SECTION

	MW	LW
Sensitivity	350 μ V/m	750 μ V/m
Selectivity	30 dB	30 dB
Signal-to-Noise Ratio	55 dB	55 dB
Image Response Ratio	40 dB	40 dB
IF Response Ratio	50 dB	50 dB
Antenna	Loop Antenna	

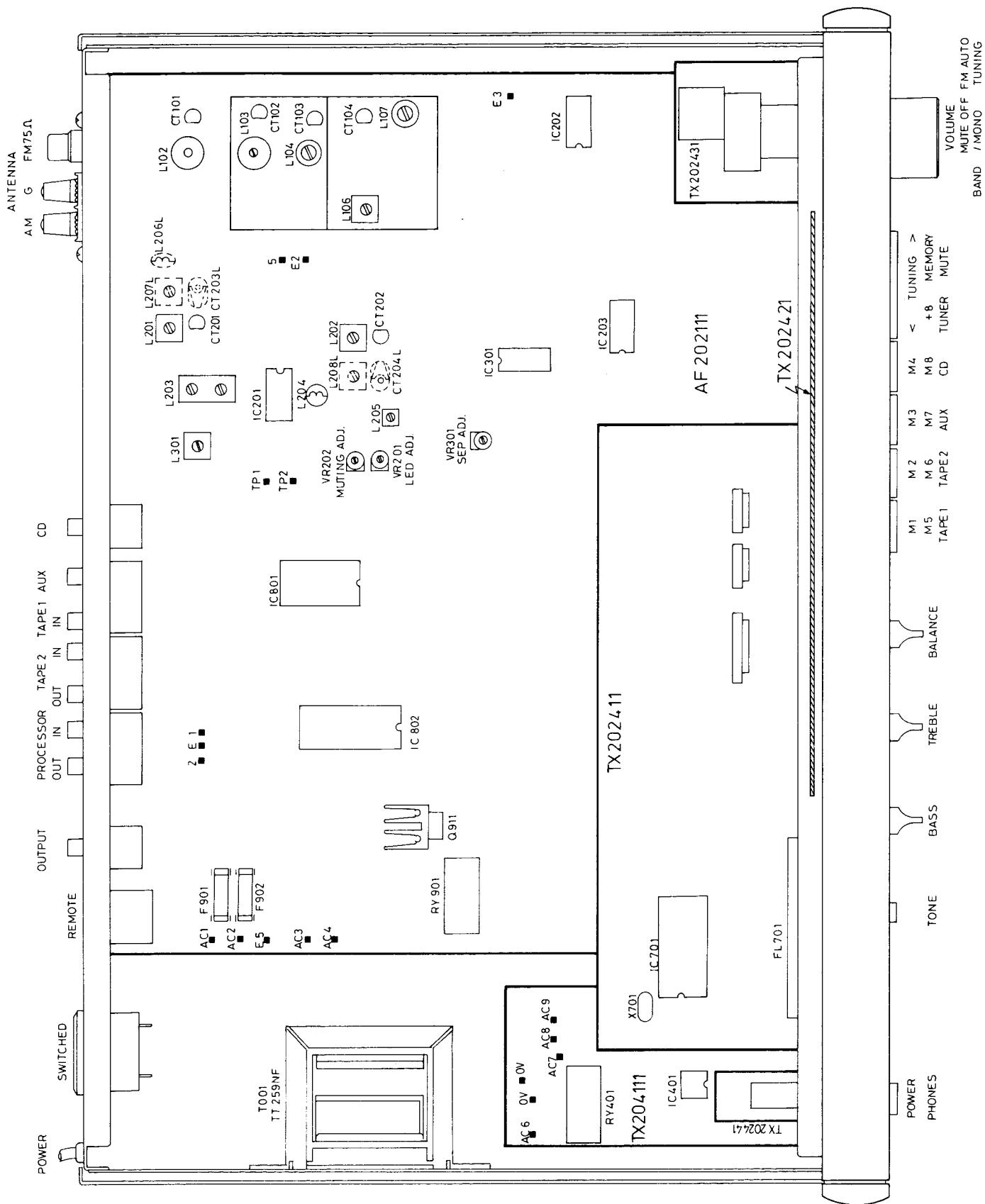
MISCELLANEOUS

Power Requirement 115 V/60 Hz, 230 V/50 Hz
(depending on destinations)

Power Consumption 20 watts
Dimensions (overall) 440 (W) × 92 (H) × 297 (D) mm
17-3/8" × 3-5/8" × 11-11/16"
Weight (net) 5.0 kg / 11.0 lbs

- Specifications and design subject to possible modification without notice.

Chassis Layout



FM IF and RF Alignment

Instruments: FM Signal Generator (400Hz, 100% Modulated), THD Analyzer, Oscilloscope, AC VTVM, DC Voltmeter, Tuning Meter.

Terminated : DC Voltmeter---Between PIN 5 and E2 on AF-202111 P.C.B.
Tuning Meter---Between TP1 and TP2 on AF-202111 P.C.B.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		87.5 MHz	L107	1.2V reading on DC Voltmeter
2			108 MHz	CT104	9V reading on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Antenna terminal	90 MHz	90 MHz	L102, 103 L104	Maximum reading on AC VTVM.
5		105 MHz	105MHz	CT101 CT102 CT103	Maximum reading on AC VTVM.
6	Repeat steps 4,5 and 6 unit no further improvement is noticed. (Muting OFF)				
7	Antenna terminal 1mV input	90 MHz	90 MHz	L203(A)	Adjust center on Tuning Meter
8				L203(B)	Minimum reading on THD Analyzer
9	Repeat steps 7 and 8 unit no further improvement is noticed (Muting OFF)				
10	Antenna terminal 10uV input Europe:7V	90 MHZ	90 MHz	VR201	Muting Level (Muting ON)
11	Antenna terminal 1mV input	90 MHz	90 MHz	VR201	Signal Indicator Level 3th LED light On

MW IF and RF Alignment

Instruments: AM Signal Generator (400Hz, 30% Modulated), AC VTVM, Oscilloscope, DC Voltmeter.

Terminated : DC Voltmeter---Between PIN 5 and E2 on AF-202111 P.C.B.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		530 kHz (531 kHz) Europe	L202	About 1.2V+/-0.1V on DC Voltmeter
2			1600 kHz (1602 kHz) Europe	CT202	About 9V+/-0.2V on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test loop radiate signal into loop antenna	450 kHz	530 kHz	L205	Maximum reading on AC VTVM.
5		600 kHz	600 kHz	L201	
6		1400 kHz	1400 kHz	CT201	
7	Repeat steps 4 to 6 unit no further improvement is noticed.				

FM MPX Alignment

Instruments: FM Stereo Generator, AC VTVM, Oscilloscope, Frequency Counter, and THD Analyzer.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	Antenna terminal 1mV input	98 MHZ Pilot--10% 1 kHz--90% Mod.	98 MHz	VR301	Best separation
2	Repeat steps 1 unit no further improvement is noticed. Check the stereo indicator can be operated normally when pilot signal is reduce from 10% to 5%.				

LW RF Alignment

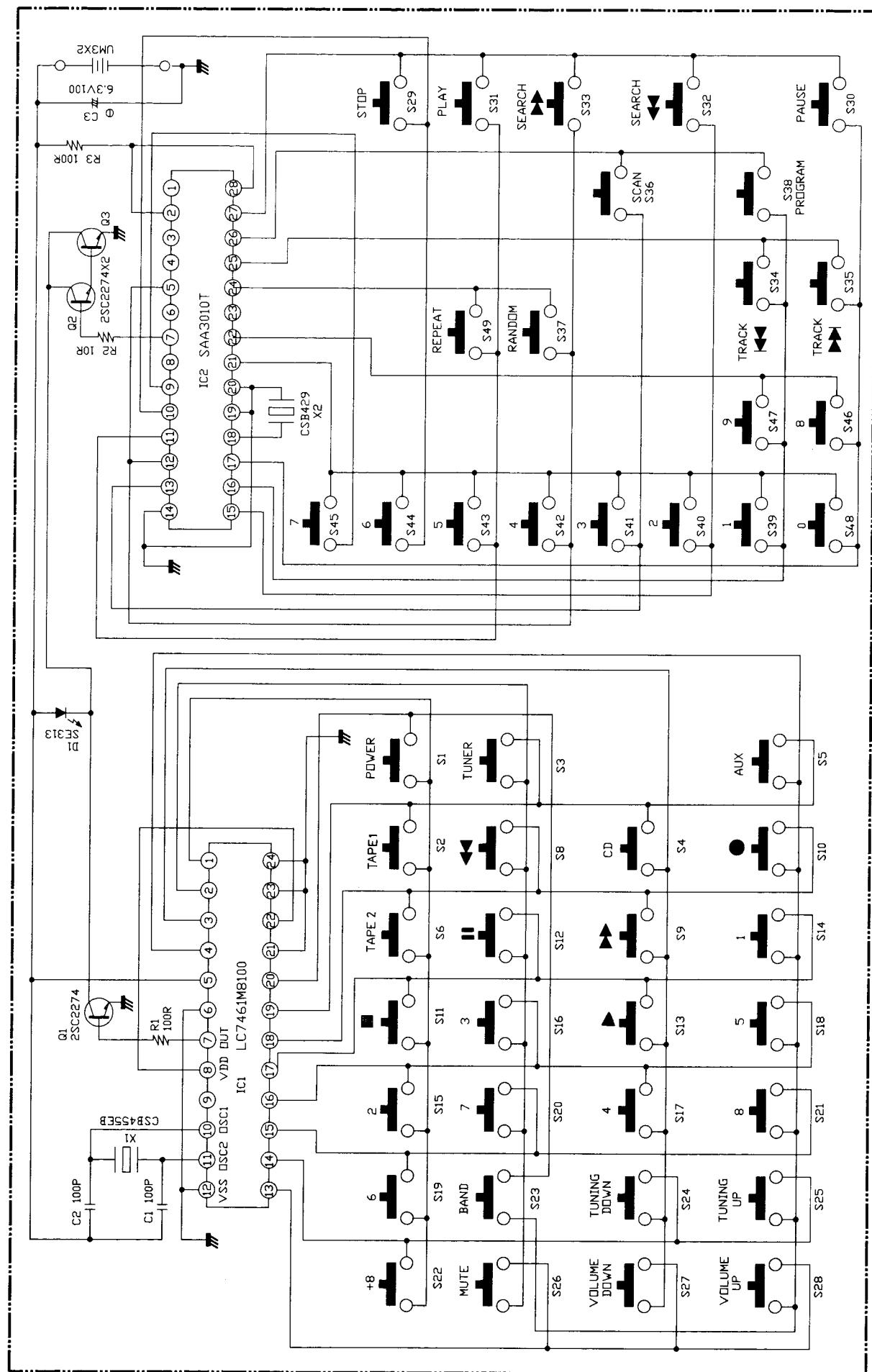
Instruments: AM Signal Generator (400Hz, 30% Modulated), AC VTVM, Oscilloscope, DC Voltmeter.

Terminated : DC Voltmeter---Between PIN 5 and E2 on IF-202111 P.C.B.

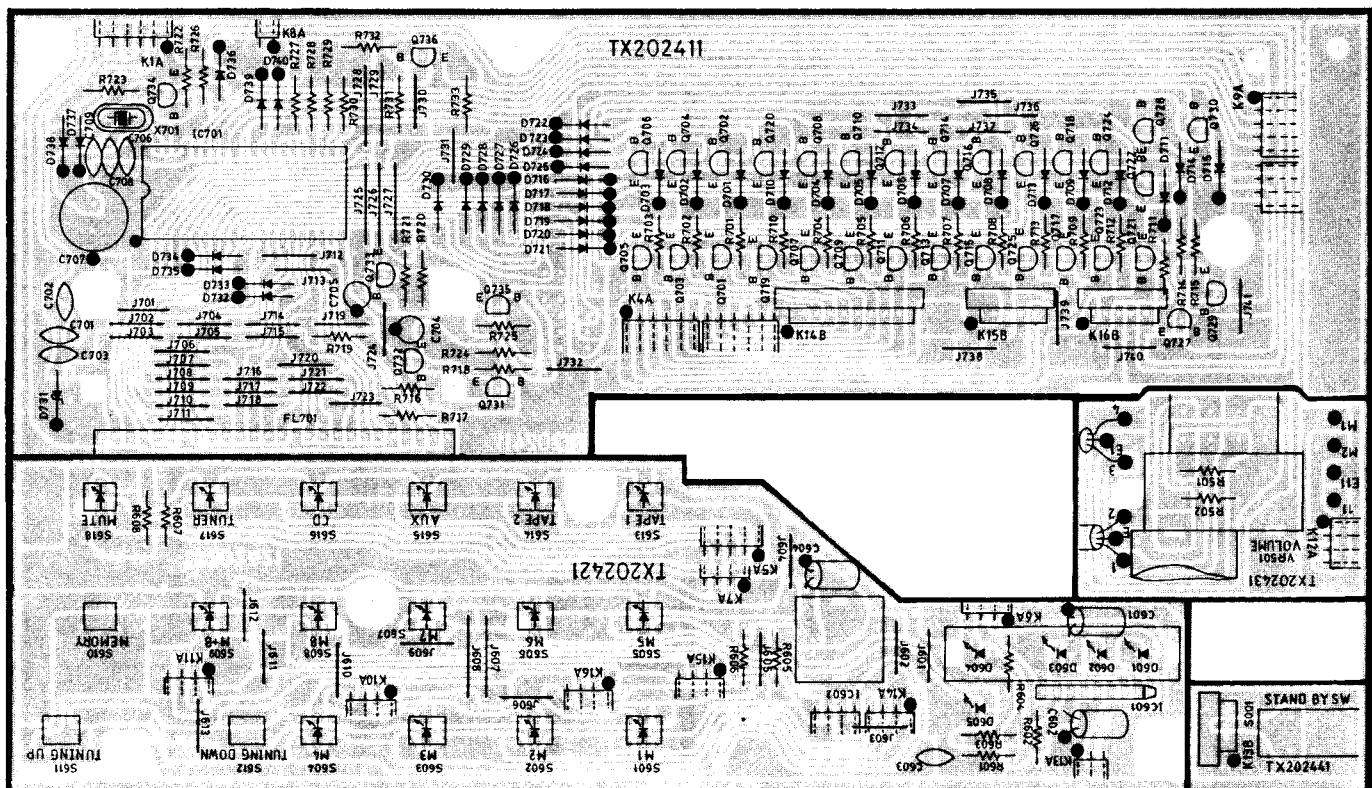
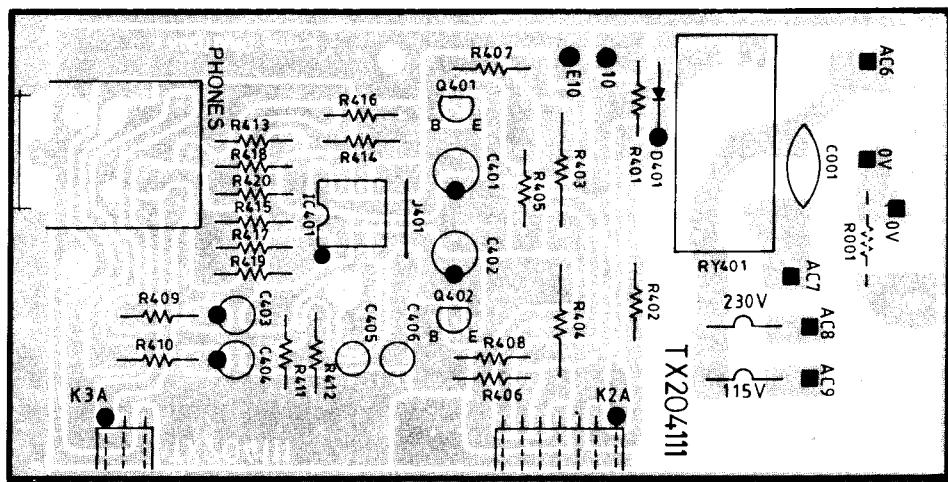
Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	NO use		153 kHz	L208L	About 2.5V+/-0.1V on DC Voltmeter
2			281 kHz	CT204L	About 7.5V+/-0.1V on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test loop radiate signal into loop antenna	160 kHz	160 kHz	L207L	Maximum reading on AC VTVM.
5		250 kHz	250 kHz	CT203L	
6	Repeat steps 4 to 5 unit no further improvement is noticed.				

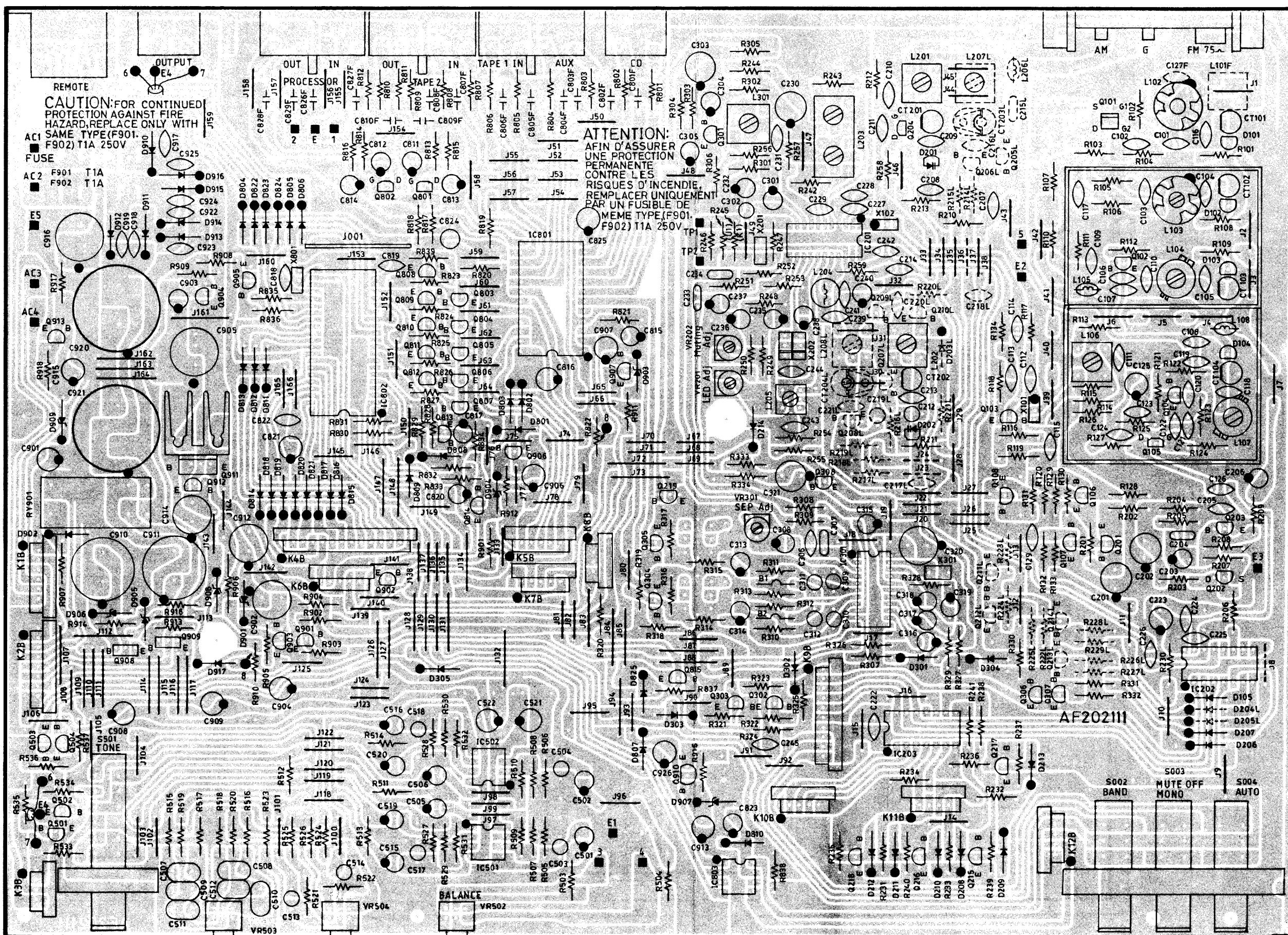
Schematic Diagram

REMOTE CONTROL HANDSET
RR-906

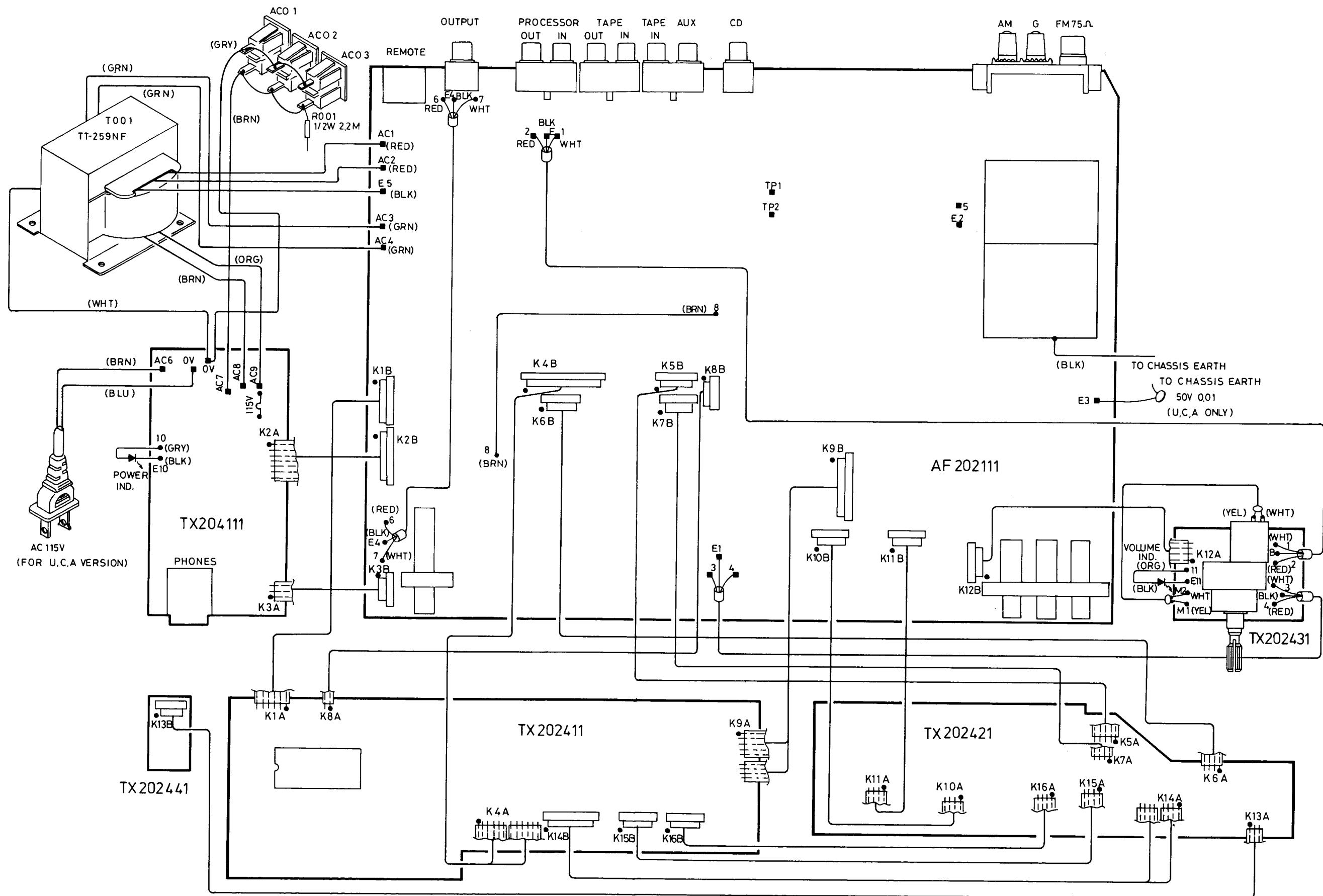


Printed Circuit Boards



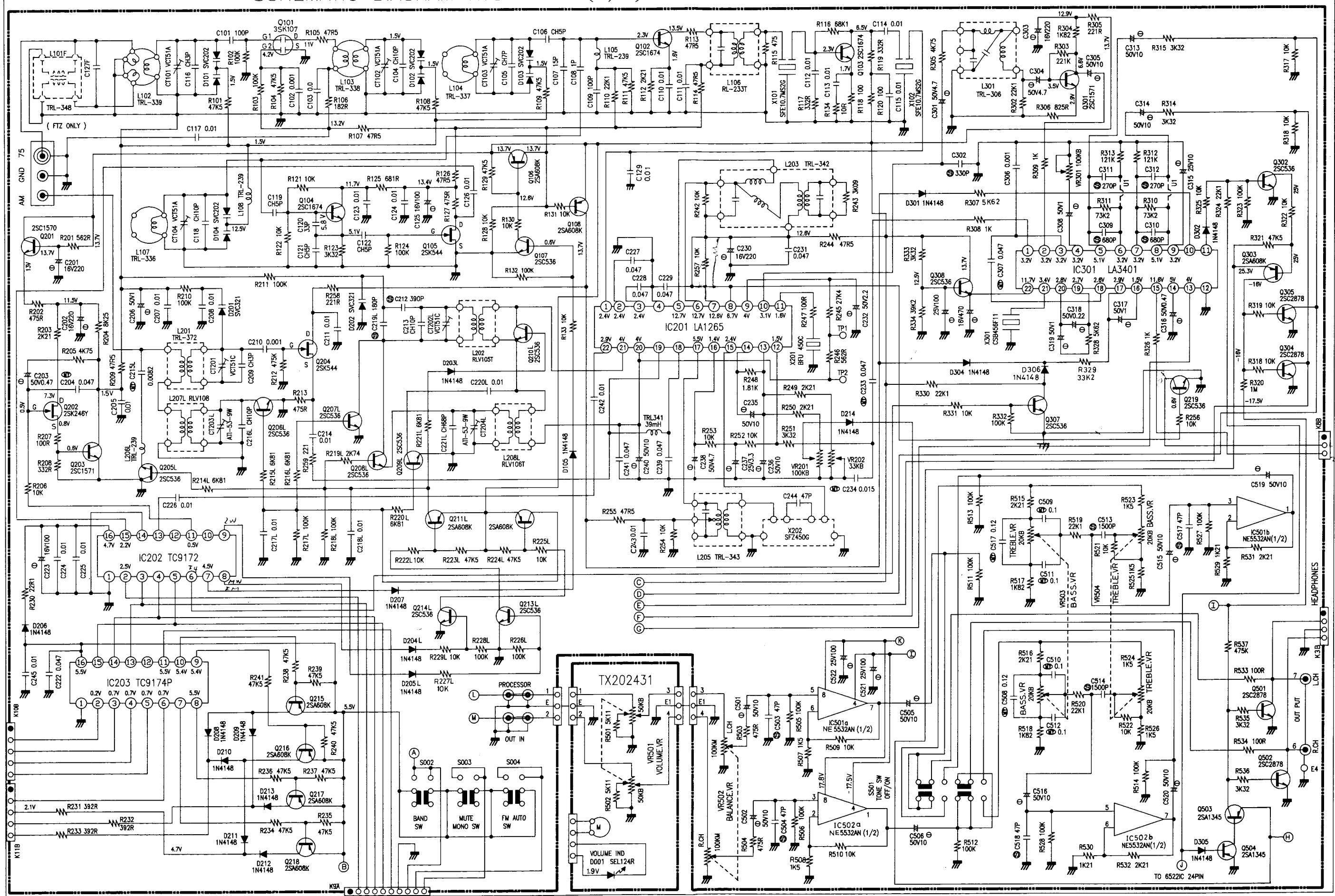


Wiring Diagram

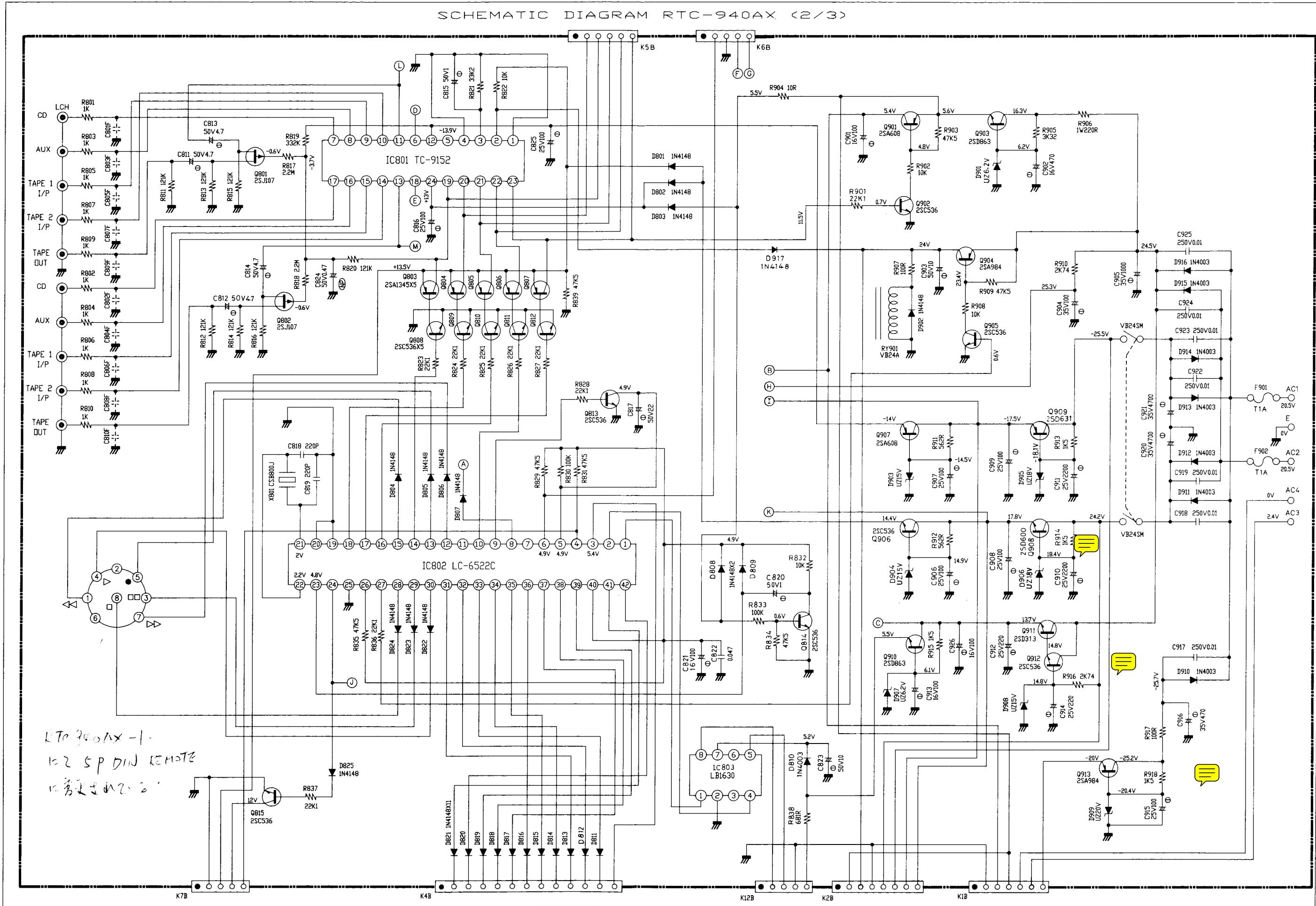


Schematic Diagram

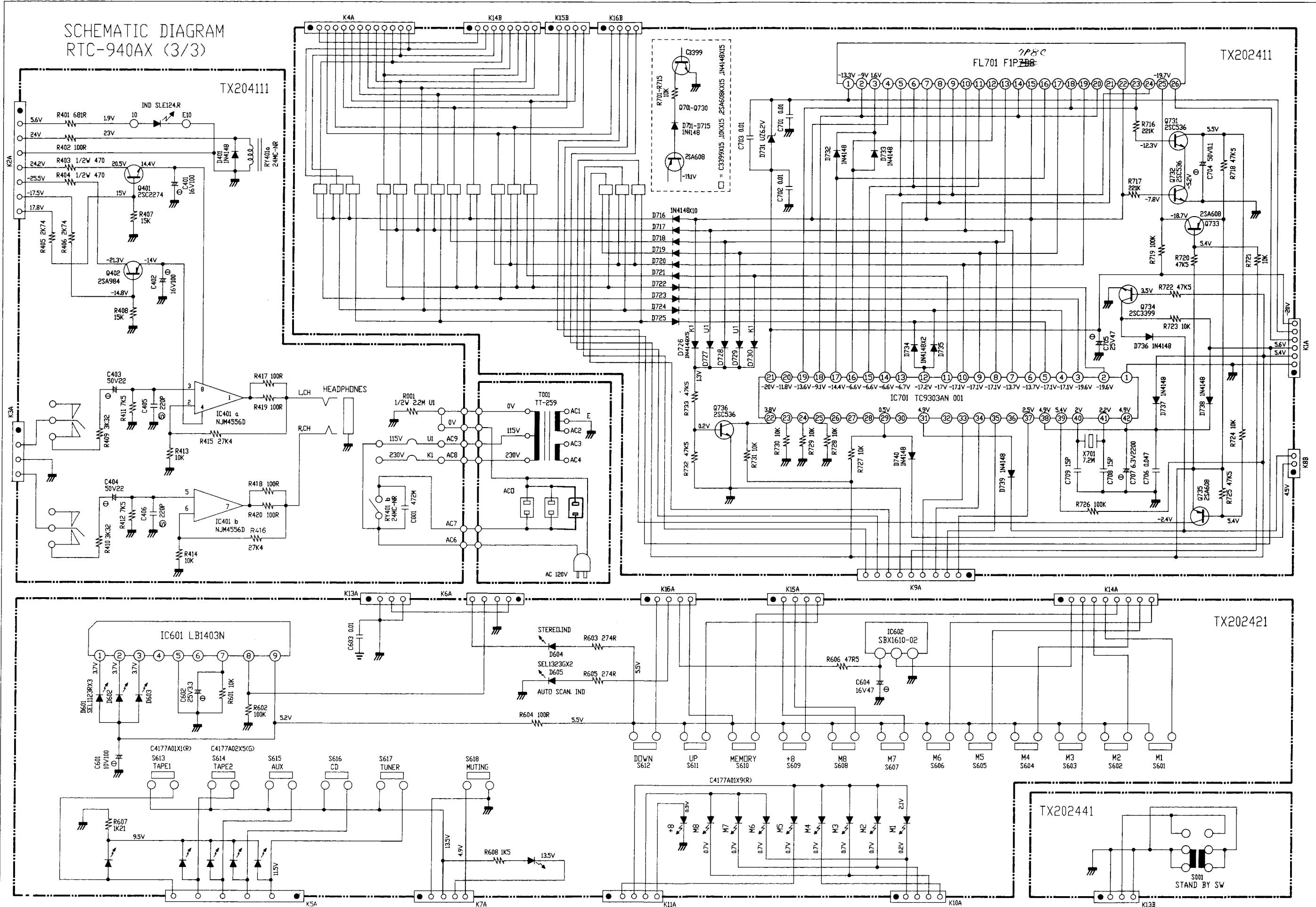
SCHEMATIC DIAGRAM RTC-940A(X (1/3)) (NOTE : PARTS AND CIRCUIT SUBJECT TO CHANGES FOR IMPROVEMENT WITHOUT PRIOR NOTICE.)



SCHEMATIC DIAGRAM RTC-940AX <2/3>



SCHEMATIC DIAGRAM
RTC-940AX (3/3)



Parts List

NOTE: THE COMPONENTS IDENTIFIED BY  MARK ARE FOR SAFETY. REPLACE ONLY WITH ORIGINAL PARTS. DO NOT SUBSTITUTE.

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
	AF202111	P.C.B. ASSEMBLY	R201	RM55620810	R, METAL 562 1/4W F	C235, 236	CE41006500	CAP, ELEC. 10uF 50V	C306	CC41010439	CAP, CERAMIC 0.001uF 50V
R101	RM54752810	R, METAL 47.5K 1/4W F	R202	RM54750812	R, METAL 475 1/4W F	C237	CE43307253	CAP, ELEC. 3.3uF 25V	C307	CM14709423	CAP, MYLAR 473 J 50V
R102, 103	RM51003813	R, METAL 100K 1/4W F	R203	RM52211818	R, METAL 2.21K 1/4W F	C238	CE44707500	CAP, ELEC. 4.7uF 50V	C308	CE41007503	CAP, ELEC. 1uF 50V
R104	RM54752810	R, METAL 47.5K 1/4W F	R204	RM58251814	R, METAL 8.25K 1/4W F	C239	CC45009456	CAP, CERAMIC 0.047uF 50V	C309, 310	CS46811428	CAP, STYROL 680P 50V
R105	RM54759815	R, METAL 47.5K 1/4W F	R205	RM54751816	R, METAL 4.75K 1/4W F	C240	CE41006500	CAP, ELEC. 10uF 50V	C311, 312	CS42711427	CAP, STYROL 270P 50V
R106	RM21820810	R, METAL 182 1/4W F	R206	RM51002810	R, METAL 10K 1/4W F	C241	CC45009456	CAP, CERAMIC 0.047uF 50V	C313-315	CE41006500	CAP, ELEC. 10uF 50V
R107	RM54759815	R, METAL 47.5 1/4W F	R207	RM51000812	R, METAL 100 1/4W F	C242, 243	CC41009462	CAP, CERAMIC 0.01uF 50V	C316	CE44708504	CAP, ELEC. 0.47uF 50V
R108, 109	RM54752810	R, METAL 47.5K 1/4W F	R208	RM53320810	R, METAL 332 1/4W F	C244	CC44712433	CAP, CERAMIC 47P 50V	C317	CE01007504	CAP, ELEC. 1uF 50V
R110	RM52212811	R, METAL 22.1K 1/4W F	R209	RM54759815	R, METAL 47.5 1/4W F	C245	CC41009462	CAP, CERAMIC 0.01uF 50V	C318	CE02208505	CAP, ELEC. 0.22uF 50V
R111	RM54751816	R, METAL 4.75K 1/4W F	R210, 211	RM51003813	R, METAL 100K 1/4W F	Q201	TR30000108	TRANSISTOR 2SC1570E	C319	CE41007503	CAP, ELEC. 1uF 50V
R112	RM52211818	R, METAL 2.21K 1/4W F	R212	RM54753813	R, METAL 475K 1/4W F	Q202	TR50000127	TRANSISTOR 2SK246-Y	C320	CE04705164	CAP, ELEC. 470uF 16V
R113, 114	RM54759815	R, METAL 47.5 1/4W F	R213	RM54750812	R, METAL 475 1/4W F	Q203	TR30000108	TRANSISTOR 2SC1570E	C321	CE41005257	CAP, ELEC. 100uF 25V
R115	RM54750812	R, METAL 475 1/4W F	R214L-216L	RM56811816	R, METAL 6.81K 1/4W F	Q204	TR50000103	TRANSISTOR 2SK544F	IC301	IC00002636	IC LA3401
R116	RM56812810	R, METAL 68.1K 1/4W F	R217L, 218L	RM51003813	R, METAL 100K 1/4W F	Q205L-210L	TR30000327	TRANSISTOR 2SC536G	D301-306	DD80000021	DIODE IN4148-86
R117	RM53320810	R, METAL 332 1/4W F	R219L	RM52742812	R, METAL 27.4K 1/4W F	Q211L, 212L	TR10000126	TRANSISTOR 2SA608KF	Q301	TR30000108	TRANSISTOR 2SC1570E
R118	RM51000812	R, METAL 100 1/4W F	R220L, 221L	RM56811816	R, METAL 6.81K 1/4W F	Q213L, 214L	TR30000327	TRANSISTOR 2SC536G	Q302	TR30000327	TRANSISTOR 2SC536G
R119	RM53320810	R, METAL 332 1/4W F	R222L	RM51002810	R, METAL 10K 1/4W F	Q215-218	TR10000126	TRANSISTOR 2SA608KF	Q303	TR10000126	TRANSISTOR 2SA608KF
R120	RM51000812	R, METAL 100 1/4W F	R223L	RM54752810	R, METAL 47.5K 1/4W F	Q219	TR30000327	TRANSISTOR 2SC536G	Q304, 305	TR30000583	TRANSISTOR 2SC2878(A, B)
R121, 122	RM51002810	R, METAL 10K 1/4W F	R224L	RM54752810	R, METAL 47.5K 1/4W F	D201, 202	DD50000031	DIODE SVC321SPA-B-2	Q307, 308	TR30000327	TRANSISTOR 2SC536G
R123	RM53321814	R, METAL 3.32K 1/4W F	R225L	RM51002810	R, METAL 10K 1/4W F	D203L-205L	DD80000021	DIODE IN4148-86	L301	LC23060009	MPX FILTER TRL-306
R124	RM51003813	R, METAL 100K 1/4W F	R226L	RM51003813	R, METAL 100K 1/4W F	D206-214	DD80000021	DIODE IN4148-86	X301	LF00000300	CERAMIC FILTER CSB456F11
R125	RM56810812	R, METAL 681 1/4W F	R227L	RM51002810	R, METAL 10K 1/4W F	IC201	IC00001796	IC LA1265	VR301	RV20000480	R, SEMI-FIXED RH0615C10400
R126	RM54759815	R, METAL 47.5 1/4W F	R228L	RM51003813	R, METAL 100K 1/4W F	IC202	IC00001826	IC TC9172P	R503, 504	RM54753813	R, METAL 475 1/4W F
R127	RM54750812	R, METAL 475 1/4W F	R229L	RM51002810	R, METAL 10K 1/4W F	IC203	IC00001838	IC TC9174P	R505, 506	RM51003813	R, METAL 100K 1/4W F
R128	RM51002810	R, METAL 10K 1/4W F	E230	RM52219817	R, METAL 22.1 1/4W F	CT201, 202	CF00000159	CAP, FILM TRIMMER VCT51C	R507, 508	RM51501813	R, METAL 1.5K 1/4W F
R129	RM54752810	R, METAL 47.5K 1/4W F	R231-233	RM53920813	R, METAL 392 1/4W F	CT203L, 204LCF0000263	CAP, FILM TRIMMER AT1-53W-9W	X301	RM51002810	R, METAL 10K 1/4W F	
R130, 131	RM51002810	R, METAL 10K 1/4W F	R234-241	RM54742810	R, METAL 47.5K 1/4W F	X201	LF00000221	CERAMIC FILTER BFU450C	R511, 512	RM51003813	R, METAL 100K 1/4W F
R132	RM51003813	R, METAL 100K 1/4W F	R242	RM51002810	R, METAL 10K 1/4W F	X202	LF00000373	CERAMIC FILTER SFZ450G	R513, 514	RM51003813	R, METAL 100K 1/4W F
R133	RM51002810	R, METAL 10K 1/4W F	R243	RM23091818	R, METAL 3.09K 1/4W F	L201	LC23720009	AM ANT.COIL TRL-372	R515, 516	RM52211818	R, METAL 2.21K 1/4W F
R134	RM51009815	R, METAL 10 1/4W F	R244	RM54759815	R, METAL 47.5 1/4W F	L202	LC31050009	AM OSC COIL RLV105T	R517, 518	RM51821819	R, METAL 1.82K 1/4W F
C101	CC41011432	CAP, CERAMIC 100P 50V	R245	RM51822812	R, METAL 18.2K 1/4W F (U)	L203	LC23420002	FM DET COIL TRL-342	R519, 520	RM52212811	R, METAL 22.1K 1/4W F
C102	CC41010439	CAP, CERAMIC 0.001uF 50V	R246	RM52742812	R, METAL 27.4K 1/4W F (E)	L204	LM00000425	MICRO INDUCTOR TRL-341	R521, 522	RM51002810	R, METAL 10K 1/4W F
C103	CC41009462	CAP, CERAMIC 0.01uF 50V	R247	RM51000812	R, METAL 100 1/4W F	L205	LC23430007	AM IF COIL TRL-343	R523-526	RM5102813	R, METAL 1.5K 1/4W F
C104	CC51012410	CAP, CERAMIC 10P 50V CH	R248	RM56811816	R, METAL 6.81K 1/4W F	L206L	LC00000073	MICRO INDUCTOR RL-239	R527, 528	RM51003813	R, METAL 100K 1/4W F
C105	CC57013411	CAP, CERAMIC 7P 50V CH	R249, 250	RM52211818	R, METAL 2.21K 1/4W F	L207L	LC31080002	LW ANT. COIL RLV108A00	R529, 530	RM51211811	R, METAL 1.21K 1/4W F
C106	CC55013419	CAP, CERAMIC 5P 50V CH	R251	RM53321814	R, METAL 3.32K 1/4W F	L208L	LC31060003	LW OSC COIL RLV106T	R531, 532	RM52211818	R, METAL 2.21K 1/4W F
C107	CC41512432	CAP, CERAMIC 15P 50V	R252-254	RM51002810	R, METAL 10K 1/4W F	VR201	RV20000480	R, SEMI-FIXED RH0615C10400	R533, 534	RM51000812	R, METAL 100 1/4W F
C108	CC41013489	CAP, CERAMIC 1P 50V	R255	RM54752810	R, METAL 47.5K 1/4W F	VR202	RV20000466	R, SEMI-FIXED RH0615C33300	T535, 536	RM53321814	R, METAL 3.32K 1/4W F
C109	CC41011432	CAP, CERAMIC 100P 50V	R256, 257	RM51002810	R, METAL 10K 1/4W F	R301	RM54751816	R, METAL 4.75K 1/4W F	C501, 502	CE41006500	CAP, ELEC. 10uF 50V
C110-115	CC41009462	CAP, CERAMIC 0.01uF 50V	R258, 259	RM52210814	R, METAL 221 1/4W F	R302	RM52212811	R, METAL 22.1K 1/4W F	C503, 504	CS44712423	CAP, STYROL 47P 50V
C116	CC53013416	CAP, CERAMIC 3P 50V CH	C201, 202	CE02205164	CAP, ELEC. 220uF 16V	R303	RM22213818	R, METAL 221K 1/4W F	C505, 506	CE41006500	CAP, ELEC. 10uF 50V
C117	CC41009462	CAP, CERAMIC 0.01uF 50V	C203	CE44708504	CAP, ELEC. 0.47uF 50V	R304	RM51821819	R, METAL 1.82K 1/4W F	C507, 508	CM01208424	CAP, MYLAR 124 J 50V
C118	CC510										

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
D701-725	DD80000021	DIODE IN4148-86		AR30000192	PRINTED REAR CHASSIS TRP-619	R836	RM52212811	R, METAL 22.1K 1/4W F	D902	DD80000021	DIODE IN4148-86
D726	DD80000021	DIODE IN4148-86(E)		AS01000350	SIDE CHASSIS 3TQG-1B#2	R837	RM52212811	R, METAL 22.1K 1/4W F	D903, 904	DD20000090	DIODE RD15E
D727	DD80000021	DIODE IN4148-86(U)		LB03650004	AM LOOP ANT. TRL-365	R838	RM56810812	R, METAL 681 1/4W F	D905, 906	DD20000041	DIODE RD18E
D728	DD80000021	DIODE IN4148-86		PT25910104	POWER TRANSFORMER TT-259-NF Δ	R839	RM54752810	R, METAL 47.5K 1/4W F	D907	DD20000181	DIODE RD6.2E
D729	DD80000021	DIODE IN4148-86(U)				C811-814	CE44707500	CAP, ELEC. 4.7uF 50V	D908	DD20000090	DIODE RD15E
D730	DD80000021	DIODE IN4148-86(LW)				C815	CE41007503	CAP, ELEC. 1uF 50V	D909	DD20000028	DIODE RD20E
D731	DD20000181	DIODE RD6.2E				C816	CE41005257	CAP, ELEC. 100uF 25V	D910-916	DD80000010	DIODE IN4003
D732-740	DD80000021	DIODE IN4148-86		BC00000179	CYLINDER BUSH 4TWW-18#1	C817	CE42208504	CAP, ELEC. 0.22uF 50V	D917	DD80000021	DIODE IN4148-86
FL701	FL40000915	FL TUBE FIP7P8C		BC00000209	CYLINDER BUSH 4TBL-7#2	C818, 819	CC32211432	CAP, CERAMIC 220P 50V	RY901	LY00000289	RELAY VB-24SMCU-E Δ
		TX-202421 P.C.B. ASSEMBLY		BC00000532	CYLINDER BUSH 4TR-2187#8 6Fx7H	C820	CE41007503	CAP, ELEC. 1uF 50V	F901, 902	FU25000077	FUSE 250V T1A UL/CSA Δ
				BC00000556	CYLINDER BUSH 4TBL-8#8 6Fx4.5F	C821	CE41005166	CAP, ELEC. 100uF 16V	S002-S004	FU23000207	FUSE 250V T1A S Δ
				FT00000229	PLASTIC FOOT 4TSH-19#3 50Fx14H	C822	CC45009456	CAP, CERAMIC 0.047uF 50V		SH13000450	3 KEY PUSH SW 4TR-2916
R601	RM51002810	R, METAL 10K 1/4W F		PN00000108	JUMPER PIN 4TR-2185#2 P-14	C823	CE41006500	CAP, ELEC. 10uF 50V			TX-202411 P.C.B. ASSEMBLY
R602	RM21003819	R, METAL 100K 1/4W F		CD00000218	AC CORD SPT-2 AWG#18 4TR-670#4 (U,C,A,J) Δ	C824	CE44708504	CAP, ELEC. 0.47uF 50V			
R603	RM52740815	R, METAL 274 1/4W F		CD00000292	AC POWER CORD 4TR-2631#1 (D) Δ	C825	CE41005257	CAP, ELEC. 100uF 25V			
R604	RM51000812	R, METAL 100 1/4W F		CD00000048	AC POWER CORD 4TR-1037 (H, E, K2) Δ	IC801	IC00001486	IC TC9152P			
R605	RM52740815	R, METAL 274 1/4W F		CD00000085	AC POWER CORD C-2504A (K1) Δ	IC802	IC00001759	IC LC6522C-3433			
R606	RM54759815	R, MRTAL 47.5 1/4W F		CD00000115	AC POWER CORD C-3763-T (G) Δ	IC803	IC00001760	IC LB1630			
R607	RM51211811	R, METAL 1.21K 1/4W F		SC00000131	AC CORD STOPPER SR-5N-4 (K1) Δ	Q801, 802	TR50000164	TRANSISTOR 2SJ107GR			
R608	RM51501813	R, METAL 1.5K 1/4W F		SC00000039	AC CORD STOPPER SR-6W-1 (D) Δ	Q803-807	TR10000254	TRANSISTOR 2SA1345			
C601	CE01005106	CAP, ELEC. 100uF 10V		SC00000027	AC CORD STOPPER SR-4N-4 Δ	Q808-815	TR30000327	TRANSISTOR 2SC536G			
C602	CE03307254	CAP, ELEC. 3.3uF 25V		SA00001450	AC OUTLET SOCKET S-I6519 (U, C, A, J, H) Δ	D801-825	DD80000021	DIODE IN4148-86			
C603	CC31009465	CAP, CERAMIC 0.01uF 50V		SA00001796	AC OUTLET SOCKET S-I6536#1 (E, D, K2) Δ	X801	LF00000294	CERAMIC FILTER CSB800J			
C604	CE04706168	CAP, ELEC. 47uF 16V		SA00001980	AC OUTLET SOCKET S2-741T-110/120 (K1, G) Δ	R901	RM52212811	R, METAL 22.1K 1/4W F			
IC601	IC00000925	IC LB1403N		SP30000598	ACO MASK 3TTV-7A#4 TRP-608 (U, C, A, J, H)	R902	RM51002810	R, METAL 10K 1/4W F			
IC602	IC00002030	REMOTE RECEIVER SBX1610-02		SP30000604	ACO MASK 3TTV-7A#5 TRP-609	R903	RM54752810	R, METAL 47.5K 1/4W F			
D601-603	DD40001221	LED SEL1123R		AA30000412	FRONT PANEL 2TQX-1 TFP-674	R904	RM51009815	R, METAL 10 1/4W F			
S601-609	SH60000185	KEY BOARD SW WITH LED C4177A01 RED		AW00000617	PANEL WINDOW 4TQS-7#A	R905	RM53321814	R, METAL 3.32K 1/4W F			
S610-612	SH60000203	KEY BOARD SW WITH LED C4177A01 GREEN		BU000001145	POWER RING W/LED 4TQF-13 14x14	R906	RM92200121	R, METAL 1W 220 J			
S613-617	SH60000197	KEY BOARD SW WITH LED C4177A01 GREEN		BU00000157	PUSH BUTTON RING 4TQF-14 5x10	R907	RM51000812	R, METAL 100 1/4W F			
S618	SH60000185	KEY BOARD SW WITH LED C4177A01 RED		SA00001980	AC OUTLET SOCKET S2-741T-110/120 (K1, G) Δ	R908	RM51002810	R, METAL 10K 1/4W F			
		TX-202431 P.C.B. ASSEMBLY		SP30000598	ACO MASK 3TTV-7A#4 TRP-608 (U, C, A, J, H)	R916	RM52741819	R, METAL 2.74K 1/4W F			
VR501	RV10001693	R, VARIABLE C4170B15T 50KBx2		SP30000604	ACO MASK 3TTV-7A#5 TRP-609	R917	RM51000812	R, METAL 100 1/4W F			
R501, 502	RM55111811	R, METAL 5.11K 1/4W F		AA30000412	FRONT PANEL 2TQX-1 TFP-674	R918	RM51001813	R, METAL 1.5K 1/4W F			
		TX-202441 P.C.B. ASSEMBLY		AW00000617	PANEL WINDOW 4TQS-7#A	C901	CE41005166	CAP, ELEC. 100uF 16V			
S001	SH11000227	1 KEY PUSH SW 4TR-2306 Δ		BU000001145	POWER RING W/LED 4TQF-13 14x14	C902	CE04705164	CAP, ELEC. 470uF 16V			
		TX204111 P.C.B. ASSEMBLY		BU000001157	PUSH BUTTON RING 4TQF-14 5x10	C903	CE41006500	CAP, ELEC. 10uF 50V			
R401	RM26810810	R, METAL 681 1/4W F		BU000001169	KNOB RING 4TQF-17 39F	C904	CE01005350	CAP, ELEC. 100uF 35V			
R402	RM21000818	R, METAL 100 1/4W F		KB20002681	POWER BUTTON 4TQF-15 14x14	C905	CE01004357	CAP, ELEC. 1000uF 35V			
R403, 404	RM94700923	R, METAL 1/2W 470		KB20002693	PUSH BUTTON 4TQF-16 5x10	C906, 907	CE41005257	CAP, ELEC. 100uF 25V			
R405, 406	RM22741811	R, METAL 2.74K 1/4W F		KB20002851	TACT BUTTON 2TQU-4 17KEY	C908, 909	CE41005257	CAP, ELEC. 100uF 25V			
R407, 408	RM21502812	R, METAL 15K 1/4W F		OM10001272	ORNAMENTAL SIDE BOARD 4TR-2797#2 H-80MM	C910, 911	CE02204251	CAP, ELEC. 2200uF 25V			
R409, 410	RM23321812	R, METAL 3.32K 1/4W F		OM70000065	PUSH BUTTON CONNECTOR 4TTL-15	C912	CE02205255	CAP, ELEC. 220uF 25V			
R411, 412	RM27501810	R, METAL 7.5K 1/4W F		OM70000260	ACRYLIC LEVER 4TQT-5	C913	CE41005166	CAP, ELEC. 100uF 16V			
R413, 414	RM21002815	R, METAL 10K 1/4W F		SN00000179	BUTTON SPRING 4TR-1988A#2 10F	C914	CE02205255	CAP, ELEC. 220uF 25V			
R415, 416	RM22742815	R, METAL 27.4K 1/4W F		AG00000305	REMOTE CONTROL HANDSET	C915	CE41005257	CAP, ELEC. 100uF 25V			
R417-420	RM21000818	R, METAL 100 1/4W F		AU000001328	TOP COVER 3TTF-5#10	C916	CE04705358	CAP, ELEC. 470uF 35V			
C401, 402	CE01005167	CAP, ELEC. 100uF 16V		KB10001722	KNOB 4TQF-18 13F	C917-919	CC01009256	CAP, CERAMIC 0.01uF 250V Δ			
C403, 404	CE02206508	CAP, ELEC. 22uF 50V				C920, 921	CE14704351	CAP, ELEC. 4700uF 35V Δ			
C405, 406	CS42211420	CAP, STYROL 220P 50V				C922-925	CC01009256	CAP, CERAMIC 0.01uF 250V Δ			
IC401	IC NJM4556D	IC NJM4556D				C926	CE41005166	CAP, ELEC. 100uF 16V			
RY401	LY00000265	RELAY VS-24MC-NR Δ				Q901	TR10000126	TRANSISTOR 2SA608KF			
C001	CK00000035	SPARK KILLER DE7150F472M Δ				Q902	TR30000327	TRANSISTOR 2SC3399			
R001	RD02204928	R, CARBON 1/2W 2.2M Δ				Q903	TR30000801	TRANSISTOR 2SD863E/F			
Q401	TR30000121	TRANSISTOR 2SC2274E				Q904	TR10000140	TRANSISTOR 2SA984KE			
Q402	TR10000140	TRANSISTOR 2SA984KE				Q905, 906	TR30000327	TRANSISTOR 2SC536G			
		OTHERS				Q906	TR10000126	TRANSISTOR 2SA608KF			
		AB00000640	BOTTOM BAORD 4TQN-12B#2			Q908	TR40000069	TRANSISTOR 2SD600K			
		AF30000176	FRONT CHASSIS 2TQX-2			Q909	TR10000047	TRANSISTOR 2SB631KE			
						Q910	TR30000080	TRANSISTOR 2SD863E			
						Q911	TR30000029				