

ROTEL*hi-fi*

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)

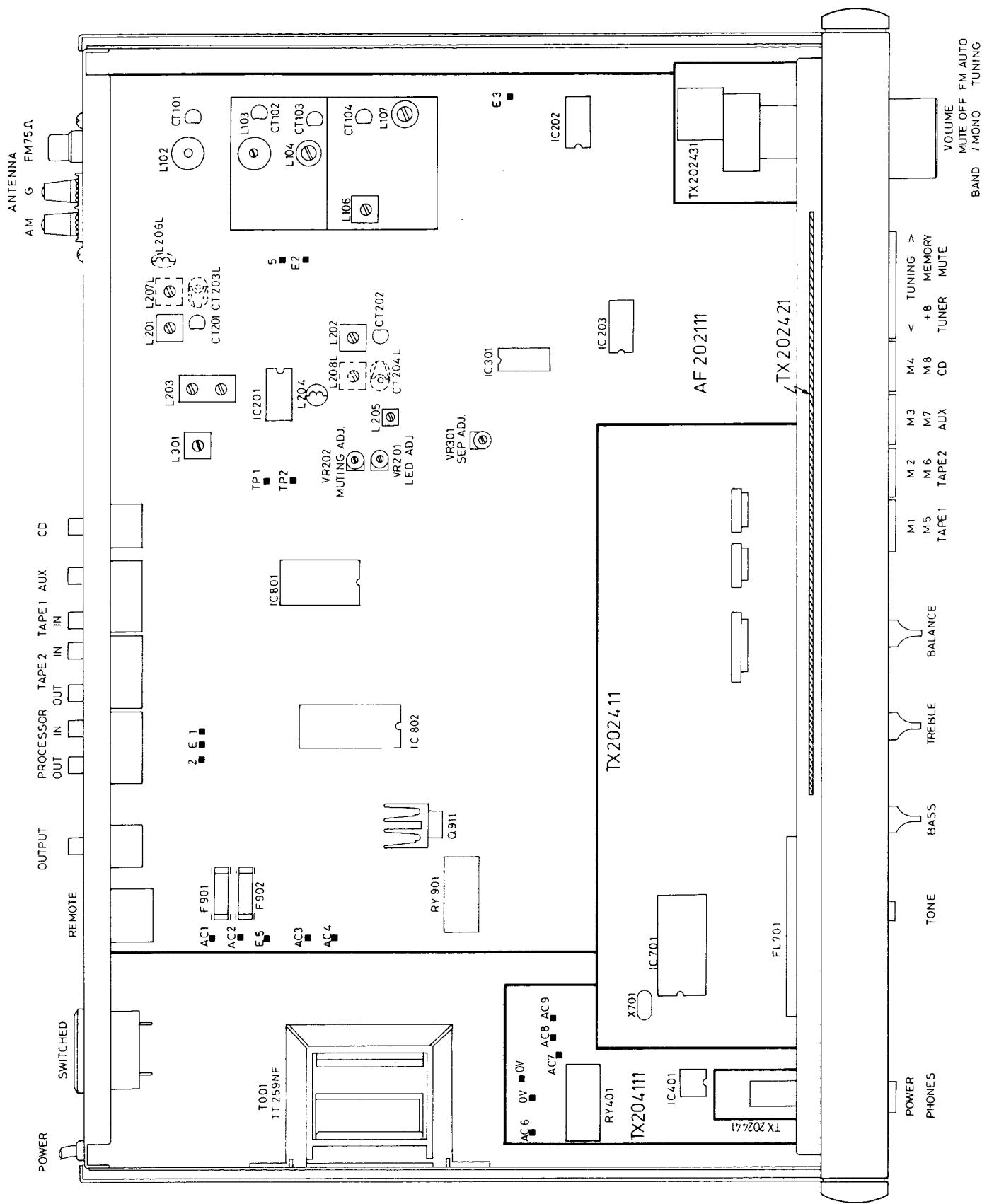
Power Consumption 20 watts

Dimensions (overall) 440 (W) \times 92 (H) \times 297 (D) mm
17-3/8" \times 3-5/8" \times 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

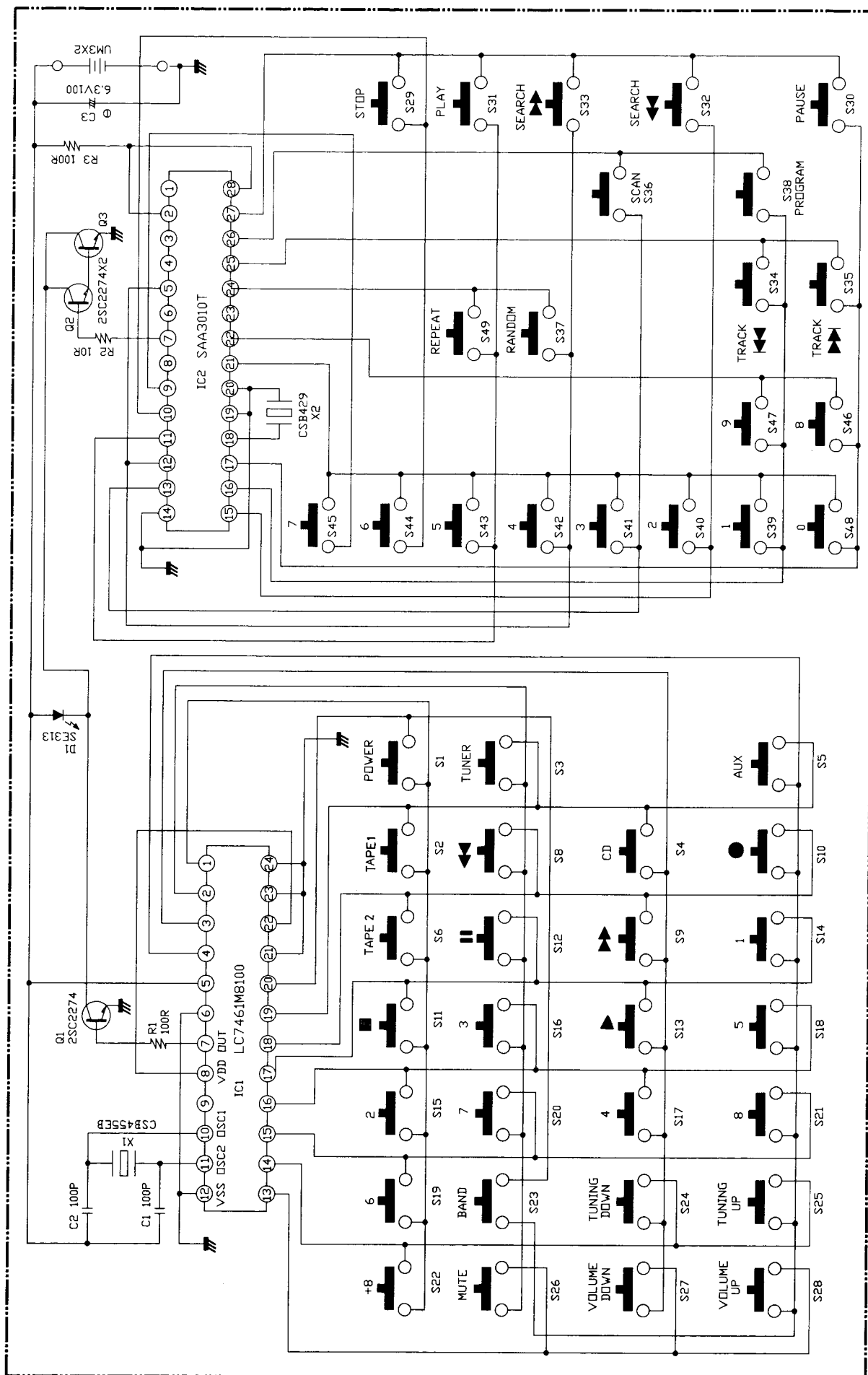
Instruments: AM Signal Generator (400Hz,30% Modulated), AC VTVM,
Oscilloscope, DC Voltmeter.

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

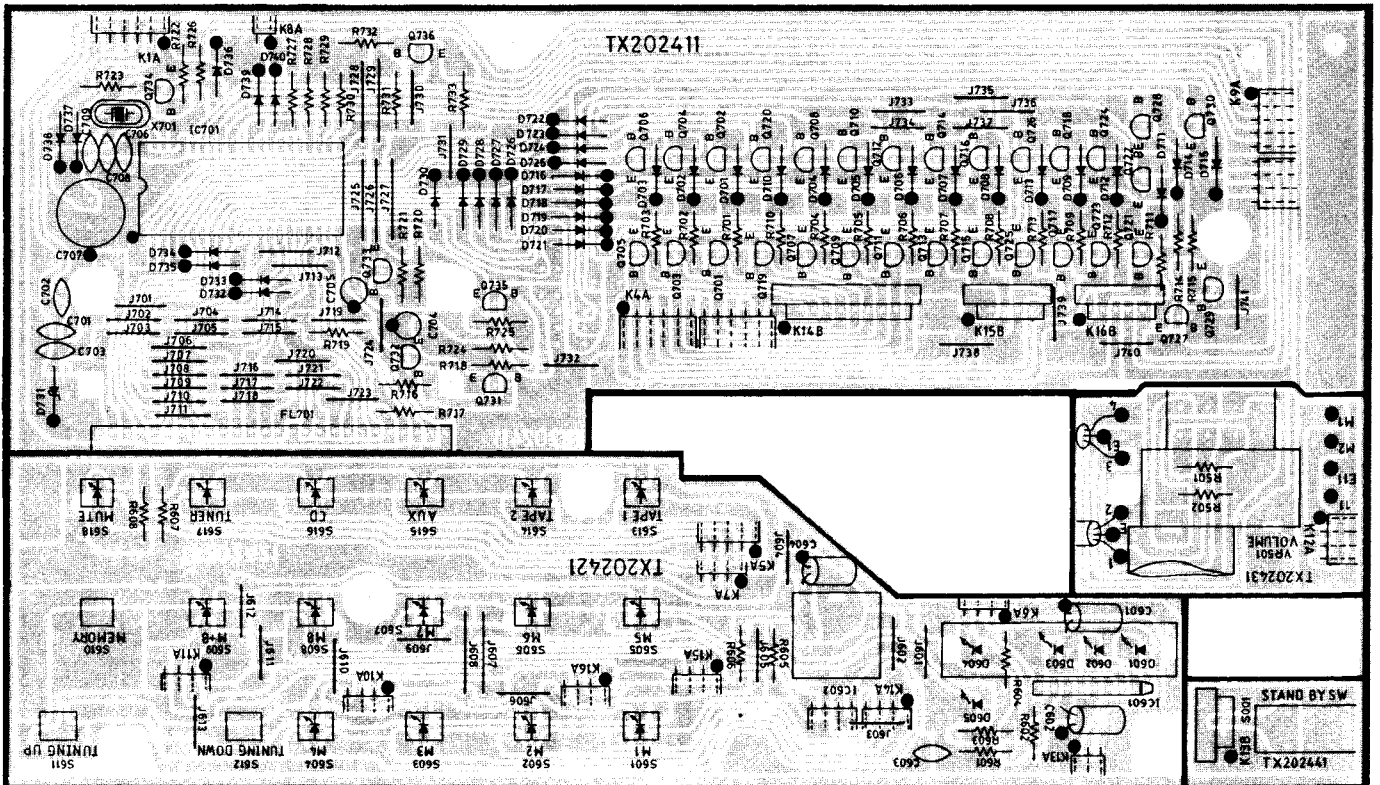
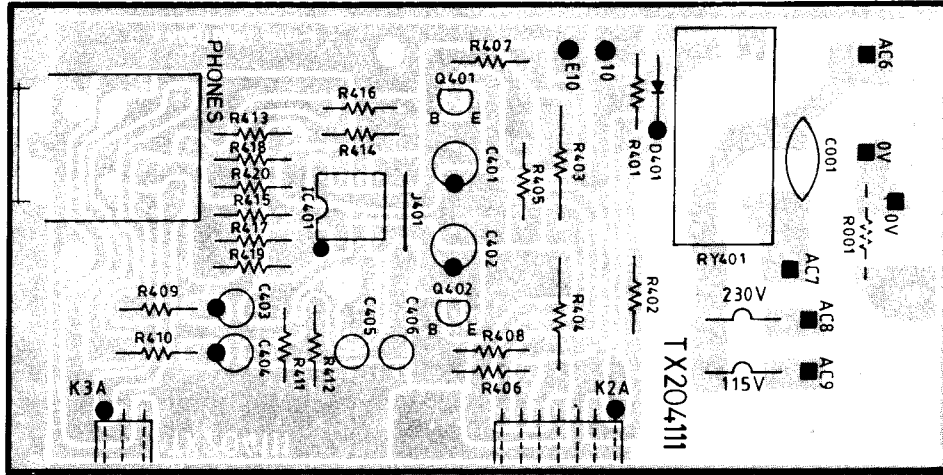
Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	NO use		153 kHz	L208L	About 2.5V+/-0.1V on DC Voltmeter
2			281 kHz	CT204L	About 7.5V+/-0.1V on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test loop radiate signal into loop antenna	160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

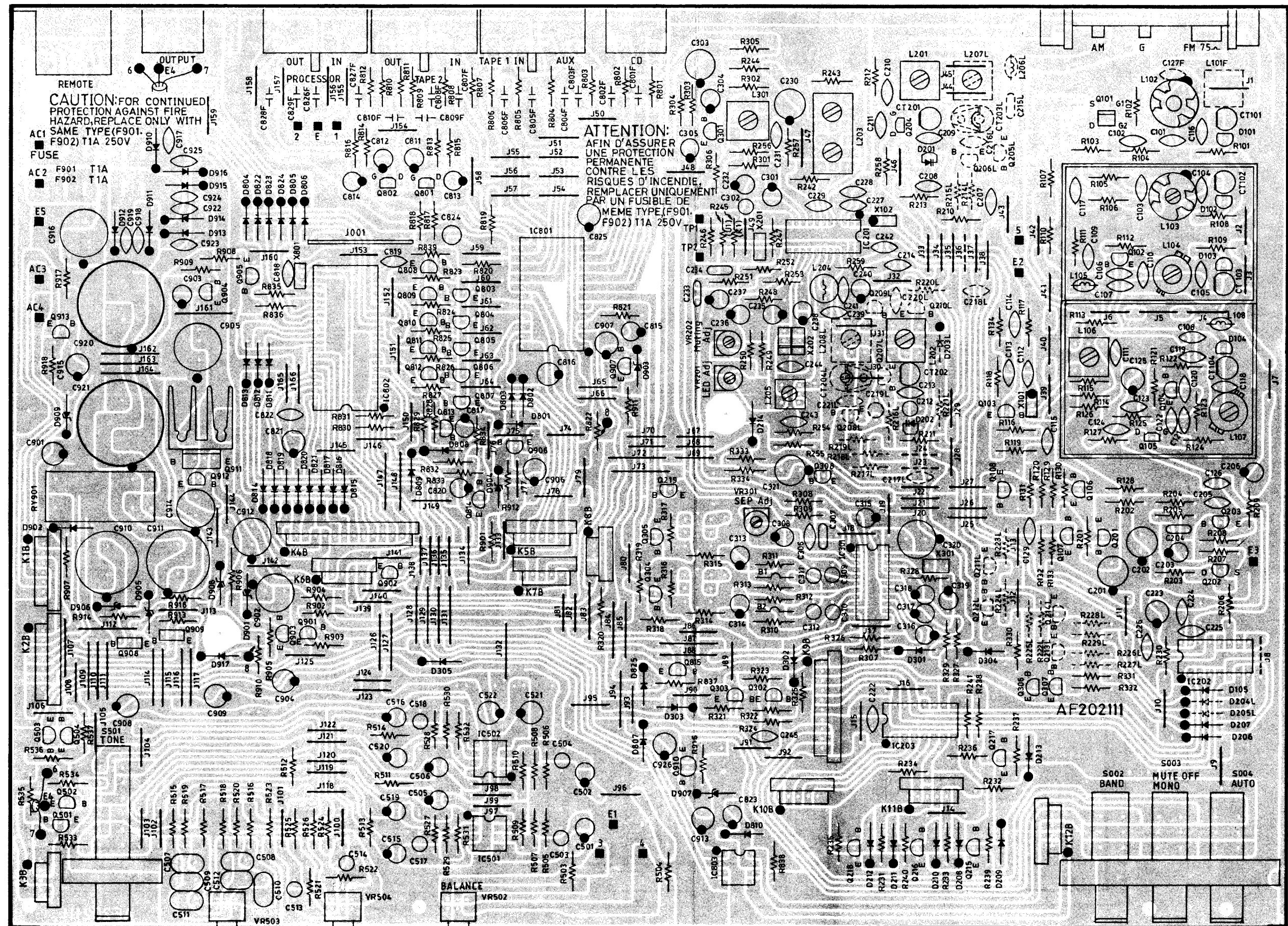
Schematic Diagram

REMOTE CONTROL HANDSET RR- 906

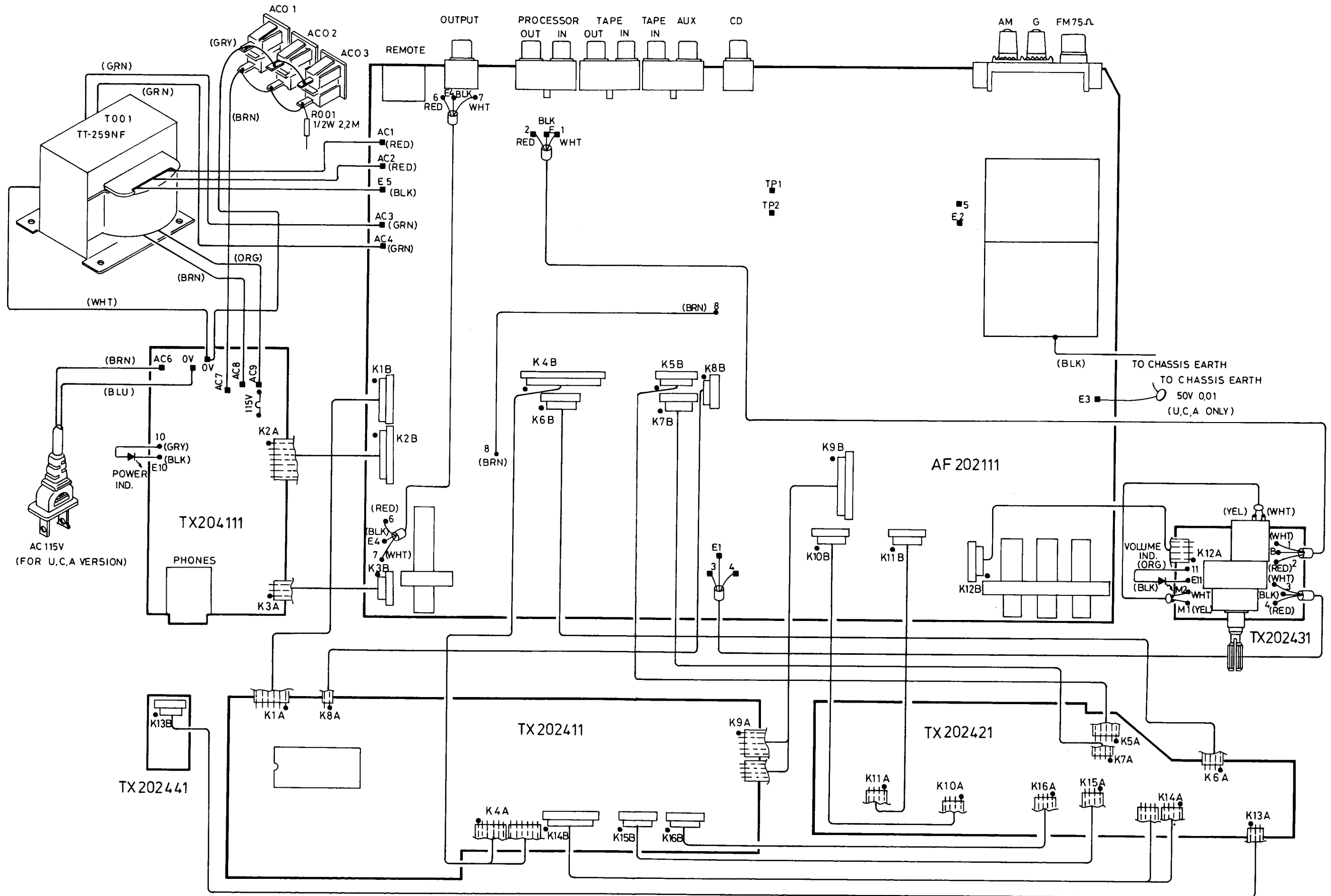


Printed Circuit Boards

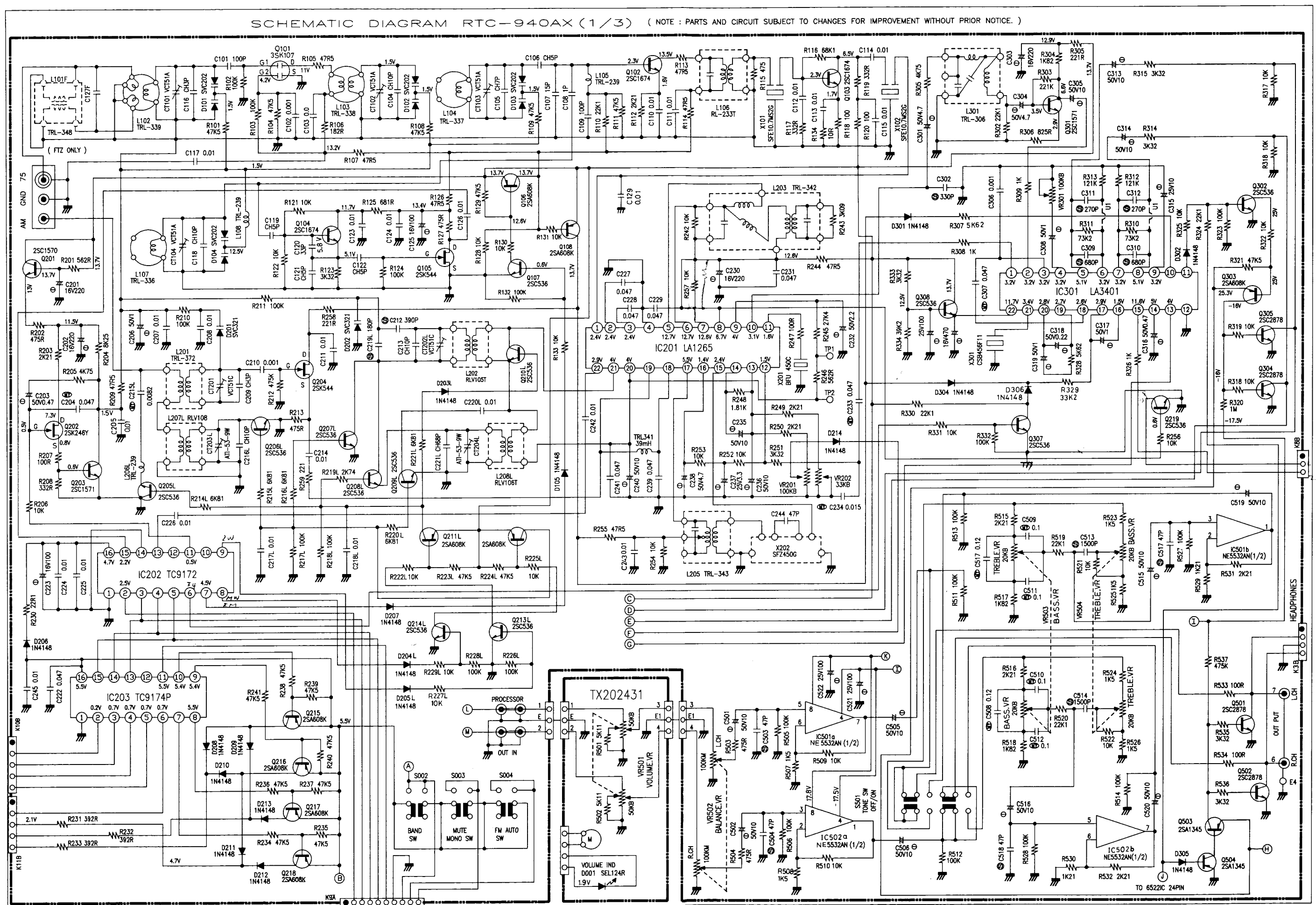




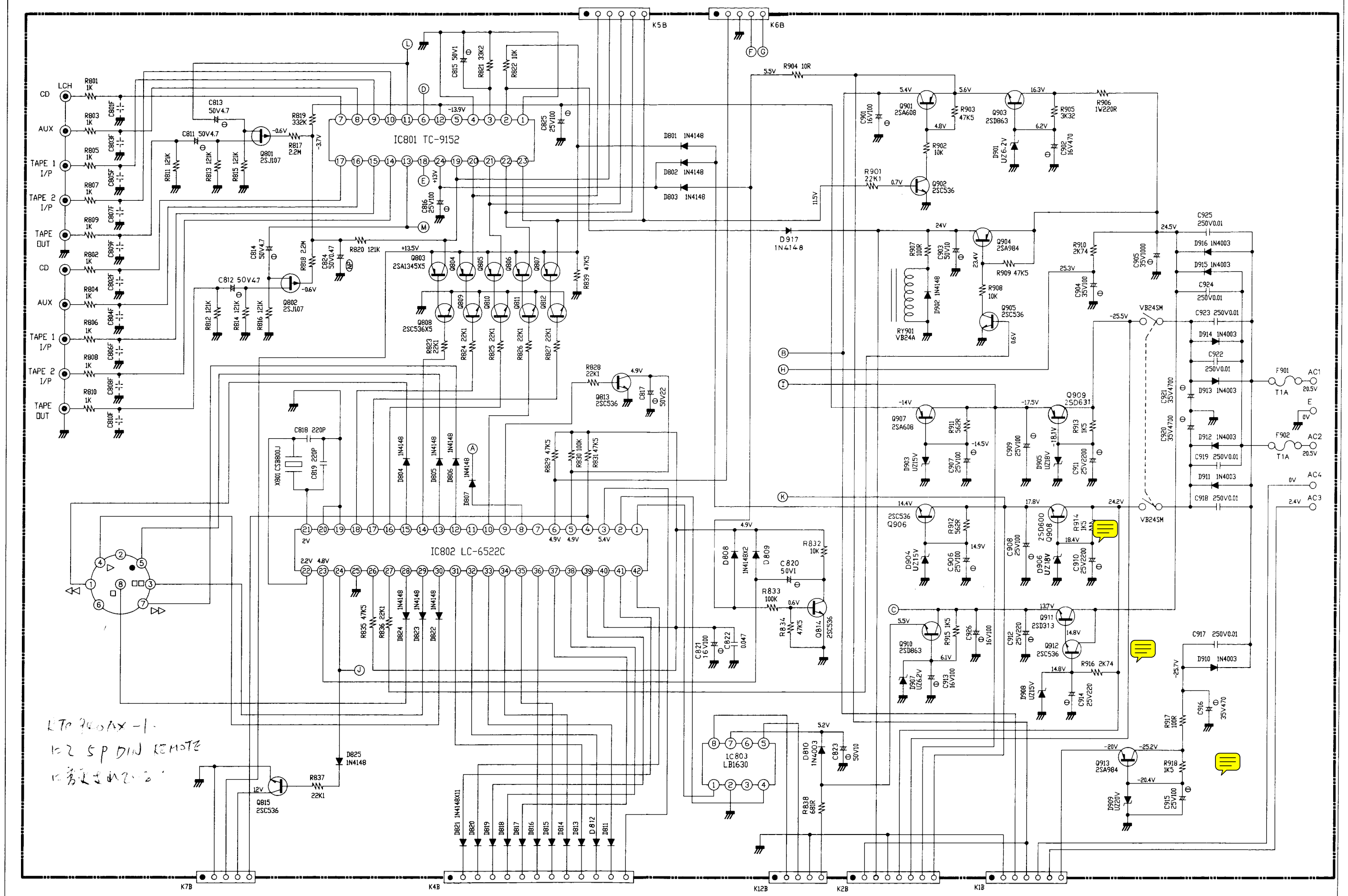
Wiring Diagram



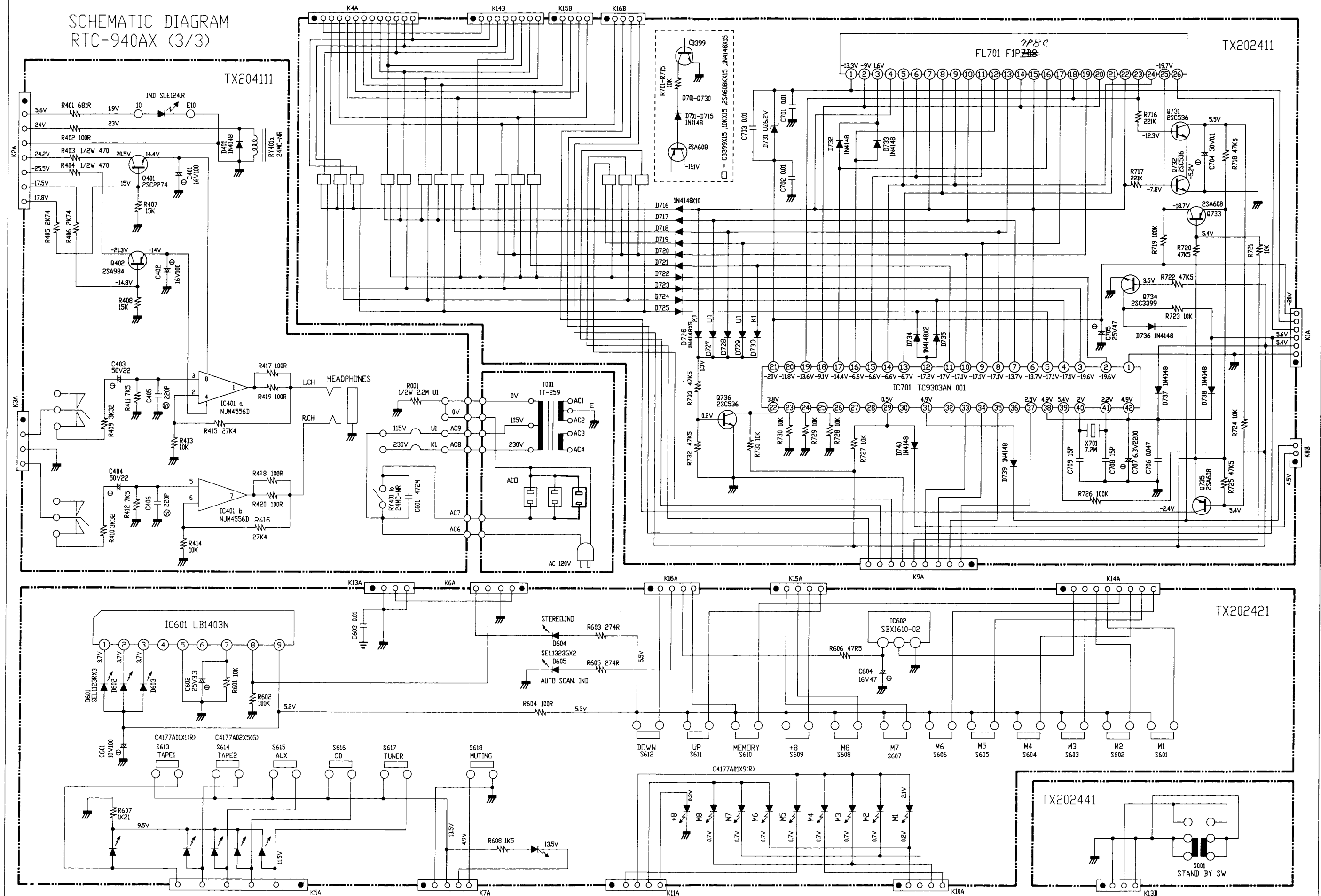
Schematic Diagram



SCHEMATIC DIAGRAM RTC-940AX (2/3)



SCHEMATIC DIAGRAM
RTC-940AX (3/3)



Parts List

NOTE:THE COMPONENTS INDENTIFIED BY △ MARK ARE FOR SAFFTY.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									
R101	RM54752810	R,METAL 47.5K 1/4W F	R201	RM55620810	R,METAL 562 1/4W F	C235, 236	CE41006500	CAP,ELEC. 10uF 50V	C306	CC41010439	CAP,CERAMIC 0.001uF 50V
R102, 103	RM51003813	R,METAL 100K 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
R104	RM54752810	R,METAL 47.5K 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
R105	RM54759815	R,METAL 47.5K 1/4W F				C239	CC45009456	CAP,CERAMIC 0.047uF 50V	C309, 310	CS46811428	CAP,STYROL 680P 50V
R106	RM21820810	R,METAL 182 1/4W F	R204	RM58251814	R,METAL 8.25K 1/4W F				C311, 312	CS42711427	CAP,STYROL 270P 50V
			R205	RM54751816	R,METAL 4.75K 1/4W F	C240	CE41006500	CAP,ELEC. 10uF 50V			
R107	RM54759815	R,METAL 47.5 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
R108, 109	RM54752810	R,METAL 47.5K 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
R110	RM52212811	R,METAL 22.1K 1/4W F	R208	RM53320810	R,METAL 332 1/4W F	C244	CC44712433	CAP,CERAMIC 47P 50V	C317	CE01007504	CAP,ELEC. 1uF 50V
R111	RM54751816	R,METAL 4.75K 1/4W F				C245	CC41009462	CAP,CERAMIC 0.01uF 50V	C318	CE02208505	CAP,ELEC. 0.22uF 50V
R112	RM52211818	R,METAL 2.21K 1/4W F	R209	RM54759815	R,METAL 47.5 1/4W F				C319	CE41007503	CAP,ELEC. 1uF 50V
			R210, 211	RM51003813	R,METAL 100K 1/4W F	Q201	TR30000108	TRANSISTOR 2SC1570E			
R113, 114	RM54759815	R,METAL 47.5 1/4W F	R212	RM54753813	R,METAL 475K 1/4W F	Q202	TR50000127	TRANSISTOR 2SK246-Y	C320	CE04705164	CAP,ELEC. 470uF 16V
R115	RM54750812	R,METAL 475 1/4W F	R213	RM54750812	R,METAL 475 1/4W F	Q203	TR30000108	TRANSISTOR 2SC1570E	C321	CE41005257	CAP,ELEC. 100uF 25V
R116	RM56812810	R,METAL 68.1K 1/4W F	R214L-216L	RM56811816	R,METAL 6.81K 1/4W F	Q204	TR50000103	TRANSISTOR 2SK544F	IC301	IC00002636	IC LA3401
R117	RM53320810	R,METAL 332 1/4W F				Q205L-210L	TR30000327	TRANSISTOR 2SC536G	D301-306	DD80000021	DIODE IN4148-86
R118	RM51000812	R,METAL 100 1/4W F	R217L, 218L	RM51003813	R,METAL 100K 1/4W F				Q301	TR30000108	TRANSISTOR 2SC1570E
			R219L	RM52742812	R,METAL 27.4K 1/4W F	Q211L, 212L	TR10000126	TRANSISTOR 2SA608KF			
R119	RM53320810	R,METAL 332 1/4W F	R220L, 221L	RM56811816	R,METAL 6.81K 1/4W F	Q213L, 214L	TR30000327	TRANSISTOR 2SC536G	Q302	TR30000327	TRANSISTOR 2SC536G
R120	RM51000812	R,METAL 100 1/4W F	R222L	RM51002810	R,METAL 10K 1/4W F	Q215-218	TR10000126	TRANSISTOR 2SA608KF	Q303	TR10000126	TRANSISTOR 2SA608KF
R121, 122	RM51002810	R,METAL 10K 1/4W F	R223L	RM54752810	R,METAL 47.5K 1/4W F	Q219	TR30000327	TRANSISTOR 2SC536G	Q304, 305	TR30000583	TRANSISTOR 2SC2878(A,B)
R123	RM53321814	R,METAL 3.32K 1/4W F				D201, 202	DD50000031	DIODE SVC321SPA-B-2	Q307, 308	TR30000327	TRANSISTOR 2SC536G
R124	RM51003813	R,METAL 100K 1/4W F	R224L	RM54752810	R,METAL 47.5K 1/4W F				L301	LC23060009	MPX FILTER TRL-306
			R225L	RM51002810	R,METAL 10K 1/4W F	D203L-205L	DD80000021	DIODE IN4148-86			
R125	RM56810812	R,METAL 681 1/4W F	R226L	RM51003813	R,METAL 100K 1/4W F	D206-214	DD80000021	DIODE IN4148-86	X301	LF00000300	CERAMIC FILTER CSB456F11
R126	RM54759815	R,METAL 47.5 1/4W F	R227L	RM51002810	R,METAL 10K 1/4W F	IC201	IC000001796	IC LA1265	VR301	RV20000480	R,SEMI-FIXED RH0615C10400
R127	RM54750812	R,METAL 475 1/4W F	R228L	RM51003813	R,METAL 100K 1/4W F	IC202	IC00001826	IC TC9172P	R503, 504	RM54753813	R,METAL 475 1/4W F
R128	RM51002810	R,METAL 10K 1/4W F				IC203	IC00001838	IC TC9174P	R505, 506	RM51003813	R,METAL 100K 1/4W F
R129	RM54752810	R,METAL 47.5K 1/4W F	R229L	RM51002810	R,METAL 10K 1/4W F				R507, 508	RM51501813	R,METAL 1.5K 1/4W F
			E230	RM52219817	R,METAL 22.1 1/4W F	CT201, 202	CF00000159	CAP,FILM TRIMMER VCT51C			
R130, 131	RM51002810	R,METAL 10K 1/4W F	R231-233	RM53920813	R,METAL 392 1/4W F	CT203L, 204L	CF00000263	CAP,FILM TRIMMER AT1-53W-9W	R509, 510	RM51002810	R,METAL 10K 1/4W F
R132	RM51003813	R,METAL 100K 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
R133	RM51002810	R,METAL 10K 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
R134	RM51009815	R,METAL 10 1/4W F				L201	LC23720009	AM ANT.COIL TRL-372	R515, 516	RM52211818	R,METAL 2.21K 1/4W F
C101	CC41011432	CAP,CERAMIC 100P 50V	R243	RM23091818	R,METAL 3.09K 1/4W F				R517, 518	RM51821819	R,METAL 1.82K 1/4W F
			R244	RM54759815	R,METAL 47.5 1/4W F	L202	LC31050009	AM OSC COIL RLV105T			
C102	CC41010439	CAP,CERAMIC 0.001uF 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
C103	CC41009462	CAP,CERAMIC 0.01uF 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
C104	CC51012410	CAP,CERAMIC 10P 50V CH				L205	LC23430007	AM IF COIL TRL-343	R523-526	RM51502813	R,METAL 1.5K 1/4W F
C105	CC57013411	CAP,CERAMIC 7P 50V CH	R247	RM51000812	R,METAL 100 1/4W F	L206L	LC00000073	MICRO INDUCTOR RL-239	R527, 528	RM51003813	R,METAL 100K 1/4W F
C106	CC55013419	CAP,CERAMIC 5P 50V CH	R248	RM56811816	R,METAL 6.81K 1/4W F				R529, 530	RM51211811	R,METAL 1.21K 1/4W F
			R249, 250	RM52211818	R,METAL 2.21K 1/4W F	L207L	LC31080002	LW ANT. COIL RLV108A00			
C107	CC41512432	CAP,CERAMIC 15P 50V	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
C108	CC41013489	CAP,CERAMIC 1P 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
C109	CC41011432	CAP,CERAMIC 100P 50V				VR202	RV20000466	R,SEMI-FIXED RH0615C33300	T535, 536	RM53321814	R,METAL 3.32K 1/4W F
C110-115	CC41009462	CAP,CERAMIC 0.01uF 50V	R255	RM54752810	R,METAL 47.5K 1/4W F	R301	RM54751816	R,METAL 4.75K 1/4W F	C501, 502	CE41006500	CAP,ELEC. 10uF 50V
C116	CC53013416	CAP,CERAMIC 3P 50V CH	R256, 257	RM51002810	R,METAL 10K 1/4W F				C503, 504	CS44712423	CAP,STYROL 47P 50V
			R258, 259	RM52210814	R,METAL 221 1/4W F	R302	RM52212811	R,METAL 22.1K 1/4W F			
C117	CC41009462	CAP,CERAMIC 0.01uF 50V	C201, 202	CE02205164	CAP,ELEC. 220uF 16V	R303	RM22213818	R,METAL 221K 1/4W F	C505, 506	CE41006500	CAP,ELEC. 10uF 50V
C118	CC51012410	CAP,CERAMIC 10P 50V CH	C203	CE44708504	CAP,ELEC. 0.47uF 50V	R304	RM51821819	R,METAL 1.82K 1/4W F	C507, 508	CM01208424	CAP,MYLAR 124 J 50V
C119	CC55013419	CAP,CERAMIC 5P 50V CH				R305	RM52210814	R,METAL 221 1/4W F	C509-512	CM11008422	CAP,MYLAR 104 J 50V
C120	CC43312435	CAP,CERAMIC 33P 50V	C204	CM14709423	CAP,MYLAR 473 J 50V	R306	RM28250819	R,METAL 825 1/4W F	C513, 514	CS41510426	CAP,STYROL 1500P 50V
C121	CC55013419	CAP,CERAMIC 5P 50V CH	C205	CC41009462	CAP,CERAMIC 0.01uF 50V				C515, 516	CE41006500	CAP,ELEC. 10uF 50V
			C206	CE41007503	CAP,ELEC. 1uF 50V	E307	RM55622817	R,METAL 56.2K 1/4W F			
C122	CC55013419	CAP,CERAMIC 5P 50V CH	C207, 208	CC41009462	CAP,CERAMIC 0.01uF 50V	R308, 309	RM51001816	R,METAL 1K 1/4W F	C517, 518	CS44712423	CAP,STYROL 47P 50V
C123, 124	CC41009462	CAP,CERAMIC 0.01uF 50V	C209	CC53013416	CAP,CERAMIC 3P 50V CH	R310, 311	RM57322813	R,METAL 73.2K 1/4W F	C519, 520	CE41006500	CAP,ELEC. 10uF 50V
C125	CE41005166	CAP,ELEC. 100uF 16V				R312, 313	RM51213819	R,METAL 121K 1/4W F	C521, 522	CE41005257	CAP,ELEC. 100uF 25V
C126	CC41009462	CAP,CERAMIC 0.01uF 50V	C210	CC41010439	CAP,CERAMIC 0.001uF 50V	R314, 315	RM53321814	R,METAL 3.32K 1/4W F	IC501, 502	IC00001693	IC NE5532AN
C129	CC41009462	CAP,CERAMIC 0.01uF 50V	C211	CC41009462	CAP,CERAMIC 0.01uF 50V				Q501, 502	TR30000583	TRANSISTOR 2SC2878(A,B)
			C212	CS43911424	CAP,STYROL 390P 50V	R316-319	RM51002810	R,METAL 10K 1/4W F			
Q101	TR50000140	TRANSISTOR 3SK107F	C213	CC51012410	CAP,CERAMIC 10P 50V CH	R320	RM51004817	R,METAL 1M 1/4W F	Q503	TR10000254	TRANSISTOR 2SA1345
Q102-104	TR30000133	TRANSISTOR 2SC1674	C214	CC41009462	CAP,CERAMIC 0.01uF 50V	R321	RM54752810	R,METAL 47.5K 1/4W F	Q504	TR30000492	TRANSISTOR 2SC3399
Q105	TR50000103	TRANSISTOR 2SK544F				R322	RM51002810	R,METAL 10K 1/4W F	S501	SH11000446	1 KEY PUSH SW 4TR-2907
Q106	TR10000126	TRANSISTOR 2SA608KF	C215L	CM18210423	CAP,MYLAR 822 J 50V	R323	RM51003813	R,METAL 100K 1/4W F	VR502	RV10001644	R,VARIABLE 4TR-2856 100KMN
Q107	TR30000327	TRANSISTOR 2SC536G	C216L	CC51012410	CAP,CERAMIC 10P 50V CH				VR503, 504	RV10001632	R,VARIABLE 4TR-2855 20KBx2
			C217	CC41009462	CAP,CERAMIC 0.01uF 50V	R324	RM52212811	R,METAL 22.1K 1/4W F			
Q108	TR10000126	TRANSISTOR 2SA608KF	C218L	CC41009462	CAP,CERAMIC 0.01uF 50V	R325	RM51002810	R,METAL 10K 1/4W F	R801-812	RM51001816	R,METAL 1K 1/4W F
D101-104	DD50000020	DIODE SVC202AF	C219L	CS41811426	CAP,STYROL 180P 50V	R326	RM51001816	R,METAL 1K 1/4W F	R813-816	RM51213819	R,METAL 121K 1/4W F
D105	DD80000021	DIODE IN4148-86				R328	RM25621811	R,METAL 5.62K 1/4W F	R817, 818	RD52204821	R,CARBON 2.2M 1/4W J
CT101-104	CF00000184	CAP,FILM TRIMMER VCT51A				R329	RM53322818	R,METAL 33.2K 1/4W F	R819	RM23323810	R,METAL 332K 1/4W F
X101, 102	LF00000166	CERAMIC FILTER SFE10.7MS2GY-A							R820	RM51213819	R,METAL 121K 1/4W F
			C220L	CC41009462	CAP,CERAMIC 0.01uF 50V	R330	RM54752810	R,METAL 47.5K 1/4W F			
L102	LC23390009	FM ANT.COIL TRL-339	C221L	CC16812416	CAP,CERAMIC 68P 50V CH	R331	RM51002810	R,METAL 10K 1/4W F	R821	RM53322818	R,METAL 33.2K 1/4W F
L103	LC23380004	FM RF COIL TRL-338	C222	CC45009456	CAP,CERAMIC 0.047uF 50V	R332	RM51003813	R,METAL 100K 1/4W F	R822	RM51002810	R,METAL 10K 1/4W F
L104	LC23370000	FM RF COIL TRL-337	C223	CE41005166	CAP,ELEC. 100uF 16V	R333	RM53321814	R,METAL 3.32K 1/4W F	R823-828	RM52212811	R,METAL 22.1K 1/4W F
L105	LM00000073	MICRO INDUCTOR TRL-239	C224-226	CC41009462	CAP,CERAMIC 0.01uF 50V	R334	RM53922810	R,METAL 39.2K 1/4W F	R829	RM54752810	R,METAL 47.5K 1/4W F
L106	LC02330000	FM IF COIL RL-233T							R830	RM51003813	R,METAL 100K 1/4W F
			C227-229	CC45009456	CAP,CERAMIC 0.047uF 50V						
L107	LC23360005	FM OSC COIL TRL-336	C230	CE02205164	CAP,ELEC. 220uF 16V	C301	CE44707500	CAP,ELEC. 4.7uF 50V	R831	RM54752810	R,METAL 47.5K 1/4W F
L108	LM00000073	MICRO INDUCTOR TRL-239	C231	CC45009456	CAP,CERAMIC 0.047uF 50V	C302	CS43311421	CAP,STYROL 330P 50V	R832	RM51002810	R,METAL 10K 1/4W F

SYMBOL	PARTS NO.	DESCRIPTION
D701-725	DD80000021	DIODE IN4148-86
D726	DD80000021	DIODE IN4148-86(E)
D727	DD80000021	DIODE IN4148-86(U)
D728	DD80000021	DIODE IN4148-86
D729	DD80000021	DIODE IN4148-86(U)
D730	DD80000021	DIODE IN4148-86(LW)
D731	DD20000181	DIODE RD6.2E
D732-740	DD80000021	DIODE IN4148-86
FL701	FL40000915	FL TUBE FIP7P8C
TX-202421 P.C.B. ASSEMBLY		
R601	RM51002810	R,METAL 10K 1/4W F
R602	RM21003819	R,METAL 100K 1/4W F
R603	RM52740815	R,METAL 274 1/4W F
R604	RM51000812	R,METAL 100 1/4W F
R605	RM52740815	R,METAL 274 1/4W F
R606	RM54759815	R,METAL 47.5 1/4W F
R607	RM51211811	R,METAL 1.21K 1/4W F
R608	RM51501813	R,METAL 1.5K 1/4W F
C601	CE01005106	CAP,ELEC. 100uF 10V
C602	CE03307254	CAP,ELEC. 3.3uF 25V
C603	CC31009465	CAP,CERAMIC 0.01uF 50V
C604	CE04706168	CAP,ELEC. 47uF 16V
IC601	IC00000925	IC LB1403N
IC602	IC000002030	REMOTE RECEIVER SBX1610-02
D601-603	DD40001221	LED SEL1123R
S601-609	SH60000185	KEY BOARD SW WITH LED C4177A01 RED
S610-612	SH60000203	KEY BOARD SW WITH LED
S613-617	SH60000197	KEY BOARD SW WITH LED C4177A01 GREEN
S618	SH60000185	KEY BOARD SW WITH LED C4177A01 RED
TX-202431 P.C.B. ASSEMBLY		
VR501	RV10001693	R,VARIABLE C4170B15T 50KBx2
R501,502	RM55111811	R,METAL 5.11K 1/4W F
TX-202441 P.C.B. ASSEMBLY		
S001	SH11000227	1 KEY PUSH SW 4TR-2306 Δ
TX204111 P.C.B. ASSEMBLY		
R401	RM26810810	R,METAL 681 1/4W F
R402	RM21000818	R,METAL 100 1/4W F
R403,404	RM94700923	R,METAL 1/2W 470
R405,406	RM22741811	R,METAL 2.74K 1/4W F
R407,408	RM21502812	R,METAL 15K 1/4W F
R409,410	RM23321812	R,METAL 3.32K 1/4W F
R411,412	RM27501810	R,METAL 7.5K 1/4W F
R413,414	RM21002815	R,METAL 10K 1/4W F
R415,416	RM22742815	R,METAL 27.4K 1/4W F
R417-420	RM21000818	R,METAL 100 1/4W F
C401,402	CE01005167	CAP,ELEC. 100uF 16V
C403,404	CE02206508	CAP,ELEC. 22uF 50V
C405,406	CS42211420	CAP,STYROL 220P 50V
IC401	IC00001474	IC NJM4556D
RY401	LY00000265	RELAY VS-24MC-NR Δ
C001	CK00000035	SPARK KILLER DE7150F472M Δ
R001	RD02204928	R,CARBON 1/2W 2.2M Δ
Q401	TR30000121	TRANSISTOR 2SC2274E
Q402	TR10000140	TRANSISTOR 2SA984KE
OTHERS		
AB00000640		BOTTOM BAORD 4TQN-12B#2
AF30000176		FRONT CHASSIS 2TQX-2

SYMBOL	PARTS NO.	DESCRIPTION
	AR30000192	PRINTED REAR CHASSIS TRP-619
	AS01000350	SIDE CHASSIS 3TQG-1B#2
	LB03650004	AM LOOP ANT. TRL-365
	PT25910104	POWER TRANSFORMER TT-259-NF Δ
	BC00000179	CYLINDER BUSH 4TWW-18#1
	BC00000209	CYLINDER BUSH 4TVL-7#2
	BC00000532	CYLINDER BUSH 4TR-2187#8 6Fx7H
	BC00000556	CYLINDER BUSH 4TVL-8#8 6Fx4.5F
	FT00000229	PLASTIC FOOT 4TSH-19#3 50Fx14H
	PN00000108	JUMPER PIN 4TR-2185#2 P-14
	CD00000218	AC CORD SPT-2 AWG#18 4TR-670#4 (U,C,A,J) Δ
	CD00000292	AC POWER CORD 4TR-2631#1 (D) Δ
	CD00000048	AC POWER CORD 4TR-1037 (H,E,K2) Δ
	CD00000085	AC POWER CORD C-2504A (K1) Δ
	CD00000115	AC POWER CORD C-3763-T (G) Δ
	SC00000131	AC CORD STOPPER SR-5N-4 (K1) Δ
	SC00000039	AC CORD STOPPER SR-6W-1 (D) Δ
	SC00000027	AC CORD STOPPER SR-4N-4 Δ
	SA00001450	AC OUTLET SOCKET S-I6519 (U,C,A,J,H) Δ
	SA00001796	AC OUTLET SOCKET S-I6536#1 (E,D,K2) Δ
	SA00001980	AC OUTLET SOCKET S2-741T- 110/120 (K1,G) Δ
	SP30000598	ACO MASK 3TTV-7A#4 TRP-608 (U,C,A,J,H)
	SP30000604	ACO MASK 3TTV-7A#5 TRP-609
	AA30000412	FRONT PANEL 2TQX-1 TFP-674
	AW00000617	PANEL WINDOW 4TQS-7#A
	BU00001145	POWER RING W/LED 4TQF-13 14x14
	BU00001157	PUSH BUTTON RING 4TQF-14 5x10
	BU00001169	KNOB RING 4TQF-17 39F
	KB20002681	POWER BUTTON 4TQF-15 14x14
	KB20002693	PUSH BUTTON 4TQF-16 5x10
	KB20002851	TACT BUTTON 2TQU-4 17KEY
	OM10001272	ORNAMENTAL SIDE BOARD 4TR-2797#2 H=80MM
	OM70000065	PUSH BUTTON CONNECTOR 4TTL-15
	OM70000260	ACRYLIC LEVER 4TQT-5
	SN00000179	BUTTON SPRING 4TR-1988A#2 10F
	AG00000305	REMOTE CONTROL HANDSET RR-906
	AU00001328	TOP COVER 3TTF-5#10
	KB10001722	KNOB 4TQF-18 13F
	KB10001795	KNOB 33F 3TQU-5
	OM10001533	FL DIAL BOARD 4TQX-6 TFP-675
	DD40000095	LED SEL1124R
	OM70000259	FILTER BOARD 4TSJ-9#4
	SR00000882	UPPER COVER SPACER 4TR-2418
	PL00001105	STYROL SIDE MOULDING 4TTH-13B#2 TZ-166-1

SYMBOL	PARTS NO.	DESCRIPTION
R836	RM52212811	R,METAL 22.1K 1/4W F
R837	RM52212811	R,METAL 22.1K 1/4W F
R838	RM56810812	R,METAL 681 1/4W F
R839	RM54752810	R,METAL 47.5K 1/4W F
C811-814	CE44707500	CAP,ELEC. 4.7uF 50V
C815	CE41007503	CAP,ELEC. 1uF 50V
C816	CE41005257	CAP,ELEC. 100uF 25V
C817	CE42208504	CAP,ELEC. 0.22uF 50V
C818,819	CC32211432	CAP,CERAMIC 220P 50V
C820	CE41007503	CAP,ELEC. 1uF 50V
C821	CE41005166	CAP,ELEC. 100uF 16V
C822	CC45009456	CAP,CERAMIC 0.047uF 50V
C823	CE41006500	CAP,ELEC. 10uF 50V
C824	CE44708504	CAP,ELEC. 0.47uF 50V
C825	CE41005257	CAP,ELEC. 100uF 25V
IC801	IC00001486	IC TC9152P
IC802	IC00001759	IC LC6522C-3433
IC803	IC00001760	IC LB1630
Q801,802	TR50000164	TRANSISTOR 2SJ107GR
Q803-807	TR10000254	TRANSISTOR 2SA1345
Q808-815	TR30000327	TRANSISTOR 2SC536G
D801-825	DD80000021	DIODE IN4148-86
X801	LF00000294	CERAMIC FILTER CSB800J
R901	RM52212811	R,METAL 22.1K 1/4W F
R902	RM51002810	R,METAL 10K 1/4W F
R903	RM54752810	R,METAL 47.5K 1/4W F
R904	RM51009815	R,METAL 10 1/4W F
R905	RM53321814	R,METAL 3.32K 1/4W F
R906	RM92200121	R,METAL 1W 220 J
R907	RM51000812	R,METAL 100 1/4W F
R908	RM51002810	R,METAL 10K 1/4W F
R909	RM54752810	R,METAL 47.5K 1/4W F
R910	RM62741819	R,METAL 2.74K 1/4W F
R911,912	RM55620810	R,METAL 562 1/4W F
R913,914	RM51501813	R,METAL 1.5K 1/4W F
R915	RM51501813	R,METAL 1.5K 1/4W F
R916	RM52741819	R,METAL 2.74K 1/4W F
R917	RM51000812	R,METAL 100 1/4W F
R918	RM51501813	R,METAL 1.5K 1/4W F
C901	CE41005166	CAP,ELEC. 100uF 16V
C902	CE04705164	CAP,ELEC. 470uF 16V
C903	CE41006500	CAP,ELEC. 10uF 50V
C904	CE01005350	CAP,ELEC. 100uF 35V
C905	CE01004357	CAP,ELEC. 1000uF 35V
C906,907	CE41005257	CAP,ELEC. 100uF 25V
C908,909	CE41005257	CAP,ELEC. 100uF 25V
C910,911	CE02204251	CAP,ELEC. 2200uF 25V
C912	CE02205255	CAP,ELEC. 220uF 25V
C913	CE41005166	CAP,ELEC. 100uF 16V
C914	CE02205255	CAP,ELEC. 220uF 25V
C915	CE41005257	CAP,ELEC. 100uF 25V
C916	CE04705358	CAP,ELEC. 470uF 35V
C917-919	CC01009256	CAP,CERAMIC 0.01uF 250V Δ
C920,921	CE14704351	CAP,ELEC. 4700uF 35V Δ
C922-925	CC01009256	CAP,CERAMIC 0.01uF 250V Δ
C926	CE41005166	CAP,ELEC. 100uF 16V
Q901	TR10000126	TRANSISTOR 2SA608KF
Q902	TR30000327	TRANSISTOR 2SC536G
Q903	TR30000801	TRANSISTOR 2SD863E/F
Q904	TR10000140	TRANSISTOR 2SA984KE
Q905,906	TR30000327	TRANSISTOR 2SC536G
Q906	TR10000126	TRANSISTOR 2SA608KF
Q908	TR40000069	TRANSISTOR 2SD600K
Q909	TR10000047	TRANSISTOR 2SB631KE
Q910	TR30000080	TRANSISTOR 2SD863E
Q911	TR30000029	TRANSISTOR 2SD313D
Q912	TR30000327	TRANSISTOR 2SC536G
Q913	TR10000140	TRANSISTOR 2SA984KE
D901	DD20000181	DIODE RD6.2E

SYMBOL	PARTS NO.	DESCRIPTION
D902	DD80000021	DIODE IN4148-86
D903,904	DD20000090	DIODE RD15E
D905,906	DD20000041	DIODE RD18E
D907	DD20000181	DIODE RD6.2E
D908	DD20000090	DIODE RD15E
D909	DD20000028	DIODE RD20E
D910-916	DD80000010	DIODE IN4003
D917	DD80000021	DIODE IN4148-86
RY901	LY00000289	RELAY VB-24SMCU-E Δ
F901,902	FU25000077	FUSE 250V T1A UL/CSA Δ
	FU23000207	FUSE 250V T1A S Δ
S002-S004	SH13000450	3 KEY PUSH SW 4TR-2916
TX-202411 P.C.B. ASSEMBLY		
R701-715	RM51002810	R,METAL 10K 1/4W F
R716,717	RM52213815	R,METAL 221K 1/4W F
R718	RM54752810	R,METAL 47.5K 1/4W F
R719	RM51003813	R,METAL 100K 1/4W F
R720	RM54752810	R,METAL 47.5K 1/4W F
R721	RM51002810	R,METAL 10K 1/4W F
R722	RM54752810	R,METAL 47.5K 1/4W F
R723	RM51002810	R,METAL 10K 1/4W F
R724	RM51002810	R,METAL 10K 1/4W F
R725	RM54752810	R,METAL 47.5K 1/4W F
R726	RM51003813	R,METAL 100K 1/4W F
R727-731	RM51002810	R,METAL 10K 1/4W F
R732,733	RM54752810	R,METAL 47.5K 1/4W F
C701,702	CC31009465	CAP,CERAMIC 0.01uF 50V
C704	CE01008508	CAP,ELEC. 0.1uF 50V
C705	CE04706259	CAP,ELEC. 47uF 25V
C706	CC05009457	CAP,CERAMIC 0.047uF 50V
C707	CE02204068	CAP,ELEC. 2200uF 6.3V Δ
C708,709	CC01512434	CAP,CERAMIC 15P 50V
IC701	IC00001814	IC TC9303AN-001
Q701	TR30000492	TRANSISTOR 2SC3399
Q702	TR10000126	TRANSISTOR 2SA608KF
Q703	TR30000492	TRANSISTOR 2SC3399
Q704	TR10000126	TRANSISTOR 2SA608KF
Q705	TR30000492	TRANSISTOR 2SC3399
Q706	TR10000126	TRANSISTOR 2SA608KF
Q707	TR30000492	TRANSISTOR 2SC3399
Q708	TR10000126	TRANSISTOR 2SA608KF
Q709	TR30000492	TRANSISTOR 2SC3399
Q710	TR10000126	TRANSISTOR 2SA608KF
Q711	TR30000492	TRANSISTOR 2SC3399
Q712	TR10000126	TRANSISTOR 2SA608KF
Q713	TR30000492	TRANSISTOR 2SC3399
Q714	TR10000126	TRANSISTOR 2SA608KF
Q715	TR30000492	TRANSISTOR 2SC3399
Q716	TR10000126	TRANSISTOR 2SA608KF
Q717	TR30000492	TRANSISTOR 2SC3399
Q718	TR10000126	TRANSISTOR 2SA608KF
Q719	TR30000492	TRANSISTOR 2SC3399
Q720	TR10000126	TRANSISTOR 2SA608KF
Q721	TR30000492	TRANSISTOR 2SC3399
Q722	TR10000126	TRANSISTOR 2SA608KF
Q723	TR30000492	TRANSISTOR 2SC3399
Q724	TR10000126	TRANSISTOR 2SA608KF
Q725	TR30000492	TRANSISTOR 2SC3399
Q726	TR10000126	TRANSISTOR 2SA608KF
Q727	TR30000492	TRANSISTOR 2SC3399
Q728	TR10000126	TRANSISTOR 2SA608KF
Q729	TR30000492	TRANSISTOR 2SC3399
Q730	TR10000126	TRANSISTOR 2SA608KF
Q731,732	TR30000327	TRANSISTOR 2SC536G
Q733	TR10000126	TRANSISTOR 2SA608KF
Q734	TR30000492	TRANSISTOR 2SC3399
Q735	TR10000126	TRANSISTOR 2SA608KF
Q736	TR30000327	TRANSISTOR 2SC536G