

TECHNICAL MANUAL

Quality. Uncompromised

ROTEL®

RT-870

AM/FM STEREO TUNER

RT-870L

MW/LW/FM STEREO TUNER

TABLE OF CONTENTS

Chassis Layout	1
Adjustment	2
PC Board Ass'y Part List.....	4
Printed Circuit Boards.....	8
Schematic Diagram.....	10
Wiring Diagram.....	14

THE ROTEL CO., LTD.

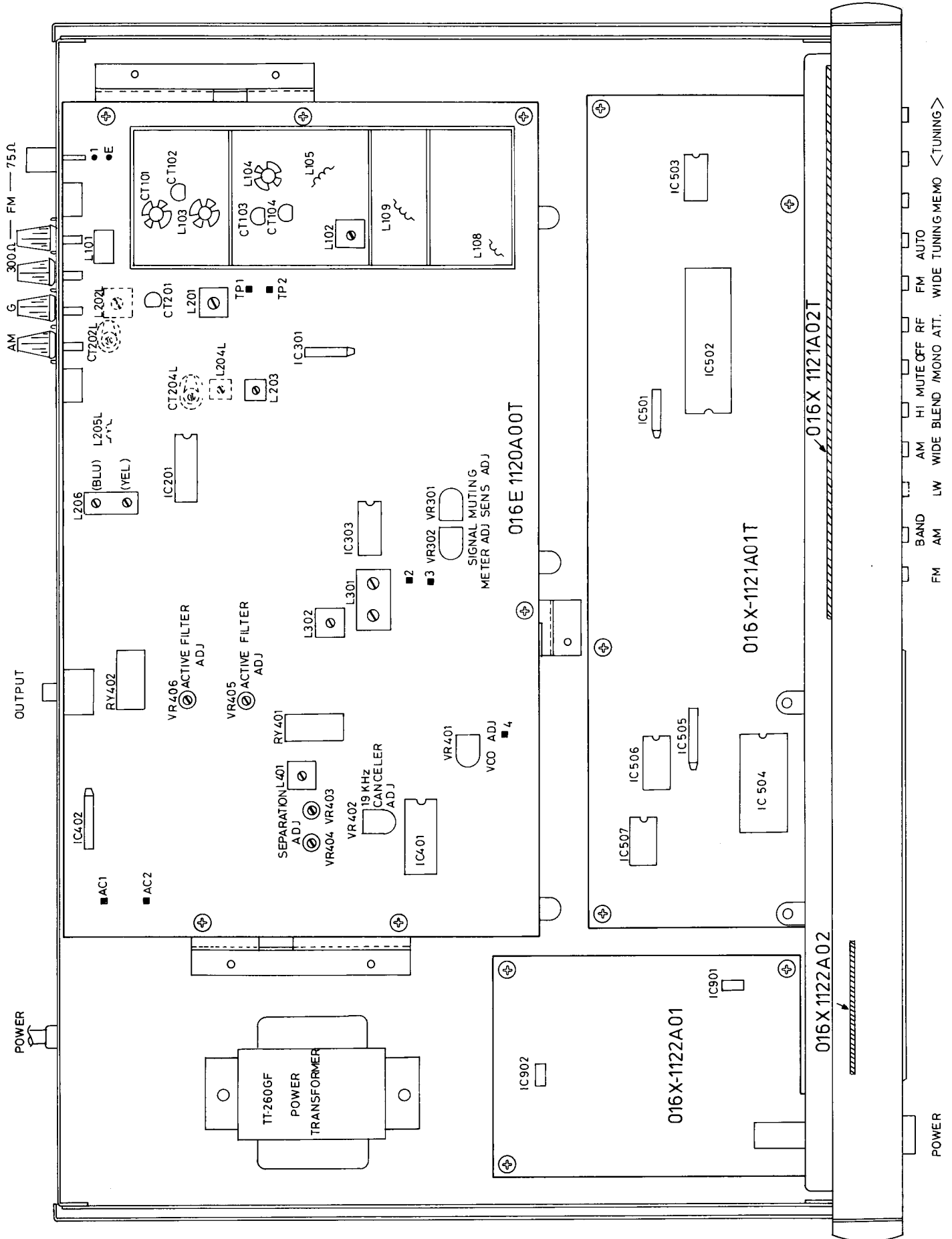
1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN

ROTEL ELECTRONICS CO., LTD.

ROTEL BLDG., 3F. NO. 35, FUSING N. ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

MN20001690

Chassis Layout



FM IF and RF Alignment

Instruments : FM Signal Generator, (400Hz, 100% Modulated) T.H.D. analyzer, Oscilloscope, AC VTVM, DC Voltmeter, Tuning Meter

Terminated : DC Voltmeter...Between TP1 and Earth On E-1120A00T P.C.B
Tuning Meter...Between TP2 and TP3 On E-1120A00T P.C.B

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use.		87.5 MHz	L108	3V reading on DC Voltmeter
2			108 MHz	CT106	22V reading on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Antenna terminal	90 MHz	90 MHz	L102 L103 L104 L105 L109	Maximum reading on AC VTVM.
6		105 MHz	105 MHz	CT101 - CT105	Maximum reading on AC VTVM.
7	Repeat steps 4 and 6 unit on further improvement is noticed (Muting OFF) (RFF ATT ON)				
8	Antenna terminal 1mV input	90 MHz	90 MHz	L301(A)	Adjust center on Tuning Meter
9				L301(B)	Minimum reading on T.H.D. Analyzer
10	Repeat steps 8 and 9 unit no further improvement is noticed (Muting OFF)				
11	Antenna terminal 15 μ V input 7 μ V input (Europe)	90 MHz	90 MHz	VR301	Muting Level (Muting ON)
12	Antenna terminal 1mV input	90 MHz	90 MHz	VR 302	Signal Indicator Level (Muting OFF)

FM MPX Alignment

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

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		98 MHz	VR401	VCO 75.9 kHz \pm 100Hz (Muting ON) TP4, Earth
2	Antenna terminal 1mV input	98 MHz Pilot.....10% 1 KHz.....90% Mod.	98 MHz	L107, L401 VR402, VR405, VR406	Minimum Dist.
3	Antenna terminal 1mV input	98 MHz Pilot.....10% 1 KHz.....90% Mod.	98 MHz	L115	Stereo indicator light up (Muting ON) L or R Max. reading on AC VTVM.
4				VR403, VR404	Best separation
5	Repeat steps 2 to 4 unit no further improvement is noticed. Check the stereo indicator can be operated normally when pilot signal is reduce from 10% to 5%				

MW IF and RF Alignment

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

Terminated : DC Voltmeter...Between TP1 and Earth On E-1120A00T P.C.B

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use.		530 KHz (531 KHz) Europe	L203	About 2.5V ± 0.1V on DC Volt meter
2			1600 KHz (1602 KHz) Europe	CT203	About 25V ± 0.2V on DC Volt meter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test Loop Radiate signal into loop antenna	450 KHz	530KHz	L206	Maximum reading on AC VTVM.
5		600 KHz	600KHz	L201, L206	
6		1400 KHz	1400 KHz	CT201	
7	Repeat steps 5 and 6 unit no further improvement is noticed.				

LW RF Alignment

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

Terminated : DC Voltmeter...Between TP2 and Earth On E-1120A00T P.C.B

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use.		153KHz	L204L	About .32 V ± 0.1V on DC Volt meter
2			281KHz	CT204L	About 20V ± 0.2V on DC Volt meter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test Loop Radiate signal into loop antenna	160KHz	160KHz	L202L	Maximum reading on AC VTVM.
5		250KHz	250KHz	CT202L	
6	Repeat steps 4 and 5 unit no further improvement is noticed.				

Parts List

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

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
	E-1120A-00T	PCB ASSEMBLY			
R101,102	RD54701820	R,CARBON 4.7K J 1/4W	R205	RD54709820	R,CARBON 47 J 1/4W
R104,105	RD52702821	R,CARBON 27K J 1/4W	R206	RD51003820	R,CARBON 100K J 1/4W
R106	RD51003820	R,CARBON 100K J 1/4W	R207L	RD51003820	R,CARBON 100K J 1/4W
R107	RD54702824	R,CARBON 47K J 1/4W	R208L	RD51004824	R,CARBON 1M J 1/4W
R108	RD52209820	R,CARBON 22 J 1/4W	R209L	RD53300829	R,CARBON 330 J 1/4W
R109	RD51003820	R,CARBON 100K J 1/4W	R210L	RD51000820	R,CARBON 100 J 1/4W
R110	RD51500827	R,CARBON 150 J 1/4W	R211L	RD54709820	R,CARBON 47 J 1/4W
R111,112	RD52702821	R,CARBON 27K J 1/4W	R212L	RD51002827	R,CARBON 10K J 1/4W
R113,114	RD51003820	R,CARBON 100K J 1/4W	R213L	RD52201820	R,CARBON 2.2K J 1/4W
R115	RD54709820	R,CARBON 47 J 1/4W	R214L	RD54709820	R,CARBON 47 J 1/4W
R116	RD51001823	R,CARBON 1K J 1/4W	R215L	RD58201829	R,CARBON 8.2K J 1/4W
R118	RD54709820	R,CARBON 47 J 1/4W	R216L,217L	RD52700824	R,CARBON 270 J 1/4W
R119	RD54700827	R,CARBON 470 J 1/4W	R218L	RD58201829	R,CARBON 8.2K J 1/4W
R120	RD52702821	R,CARBON 27K J 1/4W	R219L-224L	RD51003820	R,CARBON 100K J 1/4W
R121	RD51003820	R,CARBON 100K J 1/4W	R225L-227L	RD54702824	R,CARBON 47K J 1/4W
R122	RD51000820	R,CARBON 100 J 1/4W	R228L	RD51002827	R,CARBON 10K J 1/4W
R123,124	RD51002827	R,CARBON 10K J 1/4W	R229L	RD54702824	R,CARBON 47K J 1/4W
R125	RD52201820	R,CARBON 2.2K J 1/4W	R230L	RD51002827	R,CARBON 10K J 1/4W
R126	RD52702821	R,CARBON 27K J 1/4W	R231	RD51000820	R,CARBON 100 J 1/4W
R127	RD51003820	R,CARBON 100K J 1/4W	R232	RD51001823	R,CARBON 1K J 1/4W
R128	RD54700827	R,CARBON 470 J 1/4W	R233	RD51501820	R,CARBON 1.5K J 1/4W
R129	RD51002827	R,CARBON 10K J 1/4W	R235	RD51002827	R,CARBON 10K J 1/4W
R130	RD54702824	R,CARBON 47K J 1/4W	R236	RD52200827	R,CARBON 220 L 1/4W
C101	CC33312438	CAP,CERAMIC 33P 50V	R237	RD51000820	R,CARBON 100 J 1/4W
C102	CC15013410	CAP,CERAMIC 5P CH 50V	R238	RD51002827	R,CARBON 10K J 1/4W
C103	CC34712436	CAP,CERAMIC 47P 50V	R239	RD53301822	R,CARBON 3.3K J 1/4W
C104	CC31009465	CAP,CERAMIC 0.01uF 50V	R240	RD51000820	R,CARBON 100 J 1/4W
C105	CC13013417	CAP,CERAMIC 3P CH 50V	R241	RD52202824	R,CARBON 22K J 1/4W
C106	CC31011435	CAP,CERAMIC 100P 50V	R242	RD15602826	R,CARBON 56K J 1/4W
C107	CC31010431	CAP,CERAMIC 0.001uF 50V	R243	RD56801829	R,CARBON 6.8K J 1/4W
C108	CC31009465	CAP,CERAMIC 0.01uF 50V	R244	RD51502824	R,CARBON 15K J 1/4W
C110	CC31010431	CAP,CERAMIC 0.001uF 50V	R245	RD54700827	R,CARBON 470 J 1/4W
C111	CC13013417	CAP,CERAMIC 3P CH 50V	R246	RD51000820	R,CARBON 100 J 1/4W
C112	CC15013410	CAP,CERAMIC 5P CH 50V	R247	RD51201824	R,CARBON 1.2K J 1/4W
C113	CC13013417	CAP,CERAMIC 3P CH 50V	R248	RD52700824	R,CARBON 270 J 1/4W
C114	CC31011435	CAP,CERAMIC 100P 50V	R249	RD51002827	R,CARBON 1K J 1/4W
C115	CC31009465	CAP,CERAMIC 0.01uF 50V	R250	RD54702824	R,CARBON 47K J 1/4W
C116,117	CC15013410	CAP,CERAMIC 5P 50V	R251,252	RD51002827	R,CARBON 10K J 1/4W
C118	CC31009465	CAP,CERAMIC 0.01uF 50V	R254	RD54709820	R,CARBON 47 J 1/4W
C119	CC17013412	CAP,CERAMIC 7P CH 50V	C201,203	CC31009465	CAP,CERAMIC 0.01uF 50V
C120	CC31009465	CAP,CERAMIC 0.01uF 50V	C202	CC34712436	CAP,CERAMIC 47P 50V
C121	CC15013410	CAP,CERAMIC 5P CH 50V	C204	CC12012417	CAP,CERAMIC 20P 50V
C122	CC13013417	CAP,CERAMIC 3P CH 50V	C205	CS44711420	CAP,CERAMIC 470P 50V
C123	CC15013410	CAP,CERAMIC 5P CH 50V	C206L	CC31009465	CAP,CERAMIC 0.01uF 50V
C124	CC33312433	CAP,CERAMIC 33P 50V	C207L	CC16812416	CAP,CERAMIC 68P CH 50V
C125	CC01012437	CAP,CERAMIC 10P 50V	C208	CC32512432	CAP,CERAMIC 25P 50V
C126	CC15013410	CAP,CERAMIC 5P CH 50V	C209L	CC31009465	CAP,CERAMIC 0.01uF 50V
C127	CC31009465	CAP,CERAMIC 0.01uF 50V	C210L,211L	CC01811437	CAP,CERAMIC 180P 50V
C128	CC02205164	CAP,CERAMIC 220uF 16V	C212L	CC31009465	CAP,CERAMIC 0.01uF 50V
C129	CC31009465	CAP,CERAMIC 0.01uF 50V	C213L	CS41111430	CAP,STYROL 110P 50V
C130	CC05009457	CAP,CERAMIC 0.047uF 50V	C214L	CS41811426	CAP,STYROL 180P 50V
D101,103	DD10000317	DIODE 1SS110	C215L,216L	CC05009457	CAP,CERAMIC 0.047uF 50V
D102,104	DD50000055	DIODE SVC211	C218L	CC31009465	CAP,CERAMIC 0.01uF 50V
D106-109	DD50000055	DIODE SVC211	C219	CC31009465	CAP,CERAMIC 0.01uF 50V
Q101,102	TR50000140	TRANSISTOR 3SK107-F	C220	CC31010431	CAP,CERAMIC 0.001uF 50V
Q103,105	TR50000103	TRANSISTOR 2SK544	C221	CC05009457	CAP,CERAMIC 0.047uF 50V
Q104	TR30000133	TRANSISTOR 2SC1674	C222	CC31009465	CAP,CERAMIC 0.01uF 50V
Q106	TR10000140	TRANSISTOR 2SC1674	C223	CE03307254	CAP,ELEC. 3.3uF 25V
CT101-106	CF00000184	CAP,FILM TRIMMER VCT51A	C224	CE01005167	CAP,ELEC. 100uF 16V
L101	LC23220001	BALUN COIL TRL-322	C225,226	CC31009465	CAP,CERAMIC 0.01uF 50V
L102,103	LC23390009	FM ANT. COIL TRL-339	C227L	CM04709426	CAP,MYLAR 473 J 50V
L104	LC23380004	FM RF COIL TRL-338	C228L	CL03308252	CAP,LOW NOISE 0.33uF 25V
L105	LC23370000	FM RF COIL TRL-337	C229	CC05009457	CAP,CERAMIC 0.047uF 50V
L106	LM00000073	MICRO INDUCTOR TRL-239	C230L	CE01005350	CAP,ELEC. 100uF 35V
L107	LC02330000	FM IF COIL RL-233T	C231	CC31009465	CAP,CERAMIC 0.01uF 50V
L108,109	LC23360005	FM OSC COIL TRL-336	C232	CE04707252	CAP,ELEC. 4.7uF 25V
R201	RD51003820	R,CARBON 100K J 1/4W	C233	CE03307254	CAP,ELEC. 3.3uF 25V
R202	RD51004824	R,CARBON 1M J 1/4W	C234,236	CC31009465	CAP,CERAMIC 0.01uF 50V
R203	RD52700824	R,CARBON 270 J 1/4W	C237	CE01005167	CAP,ELEC. 100uF 16V
R204	RD54700827	R,CARBON 470 J 1/4W	C238	CE01338508	CAP,ELEC. 0.33uF 50V

Parts List

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
C239	CC31010431	CAP,CERAMIC 0.001uF 50V	Q305	TR30000327	TRANSISTOR 2SC536
C240	CC02009458	CAP,CERAMIC 0.02uF 50V	Q306	TR30000108	TRANSISTOR 2SC1571
C241	CM02209426	CAP,MYLAR 223 J 50V	Q307-309	TR30000327	TRANSISTOR 2SC536
C242	CM02210428	CAP,MYLAR 222 J 50V	IC301,302	IC00001656	IC uPC1163H
C243	CM01008435	CAP,MYLAR 104 K 50V			
C244	CM03309428	CAP,MYLAR 333 J 50V	IC303	IC00001103	IC LA-1235
C245	CE01005167	CAP,ELEC. 100uF 16V	X301	LF00000324	CERAMIC FILTER SFE10.7MXH-A
D201,202	DD50000092	DIODE SVC333	X302,303	LF00000166	CERAMIC FILTER SFE10.7MS2GA
D203L,204L	DD50000092	DIODE SVC333	L301	LC31090007	IF COIL RLV-109T
D205L-207L	DD80000021	DIODE 1N4148	L302	LC23060009	MPX FILTER TRL-306
D208-212	DD80000021	DIODE 1N4148	VR301	RV20000223	R,SEMI-FIXED 20KB
Q201	TR50000097	TRANSISTOR 2SK49	VR302	RV20000235	R,SEMI-FIXED 50KB
Q202L	TR50000097	TRANSISTOR 2SK49	R401	RD53302826	R,CARBON 33K J 1/4W
Q203L,204L	TR30000108	TRANSISTOR 2SC1571	R402	RD54702824	R,CARBON 47K J 1/4W
Q205L,206L	TR10000126	TRANSISTOR 2SA608K	R403	RD51001823	R,CARBON 1K J 1/4W
Q207,208	TR10000126	TRANSISTOR 2SA608K	R405	RD52002823	R,CARBON 20K J 1/4W
Q209L	TR50000127	TRANSISTOR 2SK246Y	R406,407	RM11002710	R,METAL MR2510K 0.4W
Q210L	TR30000108	TRANSISTOR 2SC1571	R408	RD56801829	R,CARBON 6.8K J 1/4W
IC201	IC00001322	IC LA1245	R409,410	RD54702824	R,CARBON 47K J 1/4W
CT201	CF00000159	CAP,FILM TRIMMER VCT51C	R411,412	RM13002717	R,METAL MR2530K 0.4W
CT202L	CF00000263	CAP,FILM TRIMMER AT1-53-9W	R413	RD55600823	R,CARBON 560 J 1/4W
CT203	CF00000159	CAP,FILM TRIMMER VCT51C	R414	RD52203828	R,CARBON 220K J 1/4W
CT204L	CF00000263	CAP,FILM TRIMMER AT1-53-9W	R415	RD51502824	R,CARBON 15K J 1/4W
L201	LC31290008	AM ANT. COIL RLV-129T	R416	RD58202822	R,CARBON 82K J 1/4W
L202L	LC31080002	LW ANT. COIL RLV-108A00	R417	RD54700827	R,CARBON 470 J 1/4W
L203	LC31270009	AM OSC COIL RLV-127A00T	R418	RD51003820	R,CARBON 100K J 1/4W
L204L	LC31280003	LW OSC COIL RLV-128A00T	R419	RD51002827	R,CARBON 10K J 1/4W
L205L	LM00000061	MICRO INDUCTOR 2mH	R420	RD51503828	R,CARBON 150K J 1/4W
L206	LC01980000	AM IFT COIL RL-198T	R421	RD51002827	R,CARBON 10K J 1/4W
R301	RD51003820	R,CARBON 100K J 1/4W	R422	RD53309821	R,CARBON 33 J 1/4W
R302	RD23300827	R,CARBON 330 J 1/4W	R423	RD54709820	R,CARBON 47 J 1/4W
R303	RD54709820	R,CARBON 47 J 1/4W	R426,427	RM15602716	R,METAL MR2556K 0.4W
R304-306	RD53300829	R,CARBON 330 J 1/4W	R428,429	RM13303717	R,METAL MR25330K 0.4W
R307	RD52200827	R,CARBON 220 J 1/4W	R430-433	RM16802713	R,METAL MR2568K 0.4W
R308	RD53300829	R,CARBON 330 J 1/4W	R434,435	RM16800716	R,METAL MR25680R 0.4W
R309,310	RD51002827	R,CARBON 1K J 1/4W	R436,437	RM15601712	R,METAL MR255K6 0.4W
R311	RD52201820	R,CARBON 2.2K J 1/4W	R438,439	RM13601716	R,METAL MR253K6 0.4W
R312	RD51000820	R,CARBON 100 J 1/4W	R440,441	RM12701718	R,METAL MR252K7 0.4W
R313	RD52201820	R,CARBON 2.2K J 1/4W	R442,443	RM11509712	R,METAL MR2515R 0.4W
R314	RD51000820	R,CARBON 100 J 1/4W	R444,445	RM19100717	R,METAL MR25910R 0.4W
R315	RD53301822	R,CARBON 3.3K J 1/4W	R446,447	RM11801710	R,METAL MR251K8 0.4W
R316,318	RD54702824	R,CARBON 47K J 1/4W	R448,449	RM14702715	R,METAL MR2547K 0.4W
R317	RD51003820	R,CARBON 100K J 1/4W	R450,451	RM14700718	R,METAL MR25470R 0.4W
R319	RD51002827	R,CARBON 10K J 1/4W	R452,454	RD54709820	R,CARBON 47 J 1/4W
R320,321	RD54709820	R,CARBON 47 J 1/4W	R456	RD54702824	R,CARBON 47K J 1/4W
R322,323	RD53300829	R,CARBON 330 J 1/4W	R457,459	RD51002827	R,CARBON 10K J 1/4W
R324	RD51002827	R,CARBON 10K J 1/4W	R460	RD52703825	R,CARBON 270K J 1/4W
R325,328	RD54702824	R,CARBON 47K J 1/4W	R461	RD51001823	R,CARBON 1K J 1/4W
R329	RD53302826	R,CARBON 33K J 1/4W	R462	RD51002827	R,CARBON 10K J 1/4W
R330	RD54709820	R,CARBON 47 J 1/4W	R463	RD51003820	R,CARBON 100K J 1/4W
R331	RD52201820	R,CARBON 2.2K J 1/4W	R464	RD54709820	R,CARBON 47 J 1/4W
R332	RD55600828	R,CARBON 560 J 1/4W	R466,467	RM14702715	R,METAL MR2547K 0.4W
R333	RD52202824	R,CARBON 22K J 1/4W	C401	CL31006258	CAP,LOW NOISE U25V10LN
R334	RD51000820	R,CARBON 100 J 1/4W	C402	CL31005163	CAP,LOW NOISE U16V100LN
R335	RD52201820	R,CARBON 2.2K J 1/4W	C403	CL32206164	CAP,LOW NOISE U16V22LN
R336	RD54701820	R,CARBON 4.7K J 1/4W	C404,405	CE04705164	CAP,ELEC. 470uF 16V
R337	RD52202824	R,CARBON 22K J 1/4W	C407,408	CS44710426	CAP,STYROL 4700P 50V
R338	RD58201829	R,CARBON 8.2K J 1/4W	C409	CM04709426	CAP,MYLAR 473 J 50V
R339	RD52401821	R,CARBON 2.4K J 1/4W	C410,411	CS31510302	CAP,POLYSTYRENE 1500P 160V
R340	RD51000820	R,CARBON 100 J 1/4W	C412,413	CS42710423	CAP,STYROL 820P 50V
R341,342	RD51002827	R,CARBON 10K J 1/4W	C414,415	CL32207454	CAP,LOW NOISE U50V2R2LN
R343	RD54701820	R,CARBON 4.7K J 1/4W	C416	CS48211428	CAP,STYROL 820P 50V
R344	RD52202824	R,CARBON 22K J 1/4W	C417,418	CS42710523	CAP,STYROL 2700P 50V
R345	RD51002827	R,CARBON 10K J 1/4W	C419	CE04708505	CAP,ELEC. 0.47uF 50V
R346,347	RD52202824	R,CARBON 22K J 1/4W	C420	CE04707252	CAP,ELEC. 4.7uF 25V
R348	RD51003820	R,CARBON 100K J 1/4W	C421,423	CE01006251	CAP,ELEC. 10uF 25V
R349	RD54709820	R,CARBON 47 J 1/4W	C422	CM01009427	CAP,MYLAR 103 J 50V
D301-307	DD80000021	DIODE 1N4148	C424,425	CS35612300	CAP,POLYSTYRENE 56P 160V
Q301	TR500000103	TRANSISTOR 2SK544	C426,427	CS31211300	CAP,POLYSTYRENE 120P 160V
Q302,303	TR10000126	TRANSISTOR 2SA608K	C428-433	CS33310304	CAP,POLYSTYRENE 3300P 160V
Q304	TR30000492	TRANSISTOR 2SC3399	C434,435	CL31006258	CAP,LOW NOISE U25V10LN
			C436,437	CE04705164	CAP,ELEC. 470uF 16V

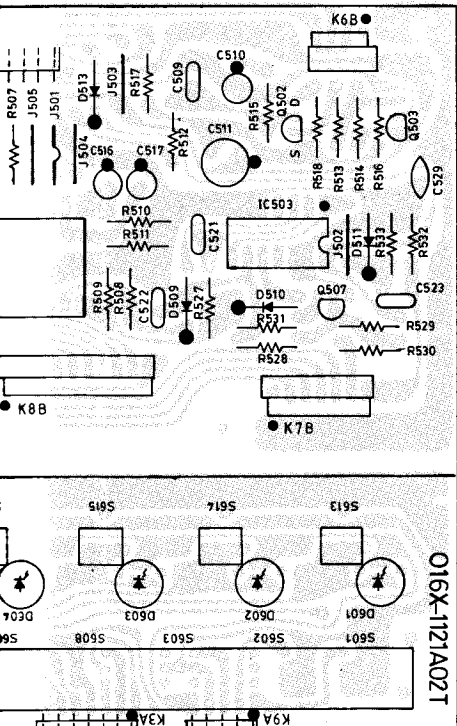
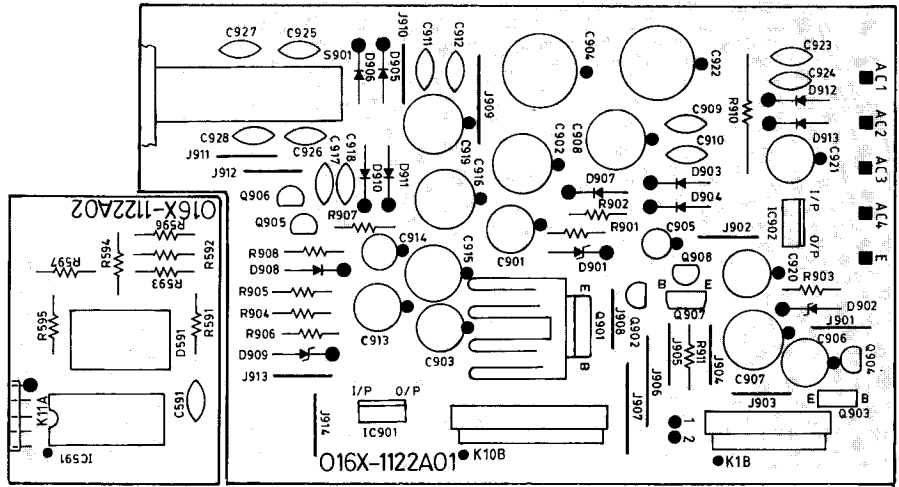
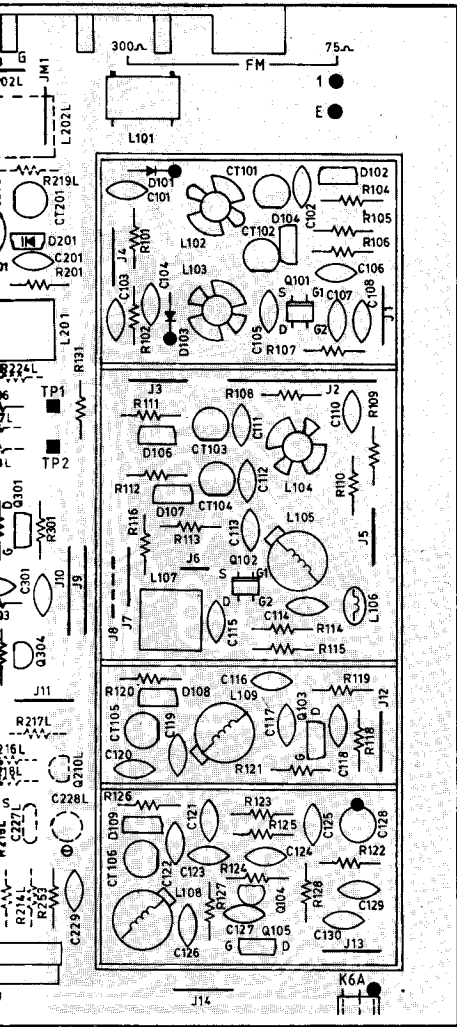
SYMBOL	PARTS NO.	DESCRIPTION
C438	CM01009427	CAP,MYLAR 103 J 50V
C439	CE04708505	CAP,ELEC. 0.47uF 50V
C440	CC05009457	CAP,CERAMIC 0.047uF 50V
C441	CE04708252	CAP,ELEC. 4.7uF 25V
C442	CE01005167	CAP,ELEC. 100uF 16V
D401-405	DD800030021	DIODE 1N4148
Q401	TR10000254	TRANSISTOR 2SA1345
Q403-407	TR30000108	TRANSISTOR 2SC1571
Q408,409	TR10000102	TRANSISTOR 2SA929
Q410,411	TR30000108	TRANSISTOR 2SC1571
Q412	TR10000126	TRANSISTOR 2SA608K
Q413	TR30000327	TRANSISTOR 2SC536
Q414,402	TR30000492	TRANSISTOR 2SC3399
IC401	IC000001905	IC uPC1223C
IC402	IC00000603	IC TA7324P
RY401,402	LY00000095	RELAY RY12W-0H Δ
L401	LM00000360	MICRO INDUCTOR TRL-312
VR401	RV20000193	R,SEMI-FIXED 08-301 10K
VR402	RV20000284	R,SEMI-FIXED 08-301 30K
VR403,404	RV40000071	R,SEMI-FIXED 100K
VR405,406	RV40000060	R,SEMI-FIXED 1K Δ
R001	RD02204928	R,CARBON 2.2M 1/2W Δ
C001	CK00000060	SPARK KILLER DE7100 FZ472P Δ
C001	CK00000035	SPARK KILLER DE7150F472M Δ
	X-1121A01T	PCB ASSEMBLY
R501	RD54701820	R,CARBON 4.7K J 1/4W
R502	RD58201829	R,CARBON 8.2K J 1/4W
R503	RD54702824	R,CARBON 47K J 1/4W
R504	RD53302826	R,CARBON 33K J 1/4W
R505-507	RD51002827	R,CARBON 10K J 1/4W
R508,509	RD51003820	R,CARBON 100K J 1/4W
R510	RD58202822	R,CARBON 82K J 1/4W
R511	RD56802822	R,CARBON 68K J 1/4W
R512	RD51002827	R,CARBON 10K J 1/4W
R513,514	RD52700824	R,CARBON 270 J 1/4W
R515,516	RD58201829	R,CARBON 8.2K J 1/4W
R517	RD51000820	R,CARBON 100 J 1/4W
R518	RD52201820	R,CARBON 2.2K J 1/4W
R520-523	RD52202824	R,CARBON 22K J 1/4W
R524	RD51002827	R,CARBON 10K J 1/4W
R525,526	RD52202824	R,CARBON 22K J 1/4W
R528	RD51004824	R,CARBON 1M J 1/4W
R529	RD51002827	R,CARBON 10K J 1/4W
R530	RD56800825	R,CARBON 680 J 1/4W
R531	RD55602825	R,CARBON 56K J 1/4W
R532	RD51003820	R,CARBON 100K J 1/4W
R533	RD55602825	R,CARBON 56K J 1/4W
R534	RD54702824	R,CARBON 47K J 1/4W
R535-537	RD51002827	R,CARBON 10K J 1/4W
R538	RD54702824	R,CARBON 47K J 1/4W
R539	RD54701820	R,CARBON 4.7K J 1/4W
R540	RD54702824	R,CARBON 47K J 1/4W
R541	RD51002827	R,CARBON 10K J 1/4W
R542	RD54001820	R,CARBON 4.7K J 1/4W
R543,544	RD51002827	R,CARBON 10K J 1/4W
R545,548	RD54702824	R,CARBON 47K J 1/4W
R546,547	RD51002827	R,CARBON 10K J 1/4W
R549	RD54702824	R,CARBON 47K J 1/4W
R550	RD51003820	R,CARBON 100K J 1/4W
R551	RD54701820	R,CARBON 4.7K J 1/4W
R552,554	RN31002087	THICK FILM RS NETWORK RA8-103-8K
R553	RN11002068	THICK FILM RS NETWORK RA8-103-6K
R555	RD51002827	R,CARBON 10K J 1/4W
R556	RD51000820	R,CARBON 100 J 1/4W
R557	RD51002827	R,CARBON 10K J 1/4W
R558	RD51502824	R,CARBON 15K J 1/4W
R559	RD51001823	R,CARBON 1K J 1/4W

SYMBOL	PARTS NO.	DESCRIPTION
R560	RN14701051	THICK FILM RD NETWORK RA8-472-5K
R561	RD52702821	R,CARBON 27K J 1/4W
C501,503	CC31010431	CAP,CERAMIC 0.001uF 50V
C502,504	CC31009465	CAP,CERAMIC 0.01uF 50V
C505	CC31009465	CAP,CERAMIC 0.01uF 50V
C506	CE04705103	CAP,ELEC. 470uF 10V
C507	CE02206259	CAP,ELEC. 22uF 25V
C508	CE01006160	CAP,ELEC. 10uF 16V
C509	CM04709426	CAP,MYLAR 473 J 50V
C510	CL03308252	CAP,LOW NOISE 0.33uF 25V
C511	CE01005350	CAP,ELEC. 100uF 35V
C512	CE02204068	CAP,ELEC. 2200uF 6.3V Δ
C513	CC31009465	CAP,CERAMIC 0.01uF 50V
C514,515	CC01512434	CAP,AERAMIC 15P 50V
C516,517	CE01007504	CAP,ELEC.1uF 50V
C518-520	CE04707252	CAP,ELEC. 4.7uF 25V
C521-523	CM02009425	CAP,MYLAR 203 J 50V
C524	CC05009457	CAP,CERAMIC 0.047uF 50V
C525	CE01005106	CAP,ELEC. 100uF 10V
C526	CC05009457	CAP,CERAMIC 0.047uF 50V
C527	CE01007504	CAP,ELEC. 1uF 50V
C528	CE03307254	CAP,ELEC. 3.3uF 25V
D501-521	DD80000021	DIODE 1N4148
Q501	TR10000126	TRANSISTOR 2SA608K
Q502	TR50000127	TRANSISTOR 2SK246Y
Q503	TR30000108	TRANSISTOR 2SC1571
Q504-507	TR30000327	TRANSISTOR 2SC536
Q508,509	TR30000492	TRANSISTOR 2SC3399
Q510	TR10000126	TRANSISTOR 2SA608K
Q511-515	TR30000327	TRANSISTOR 2SC536
Q516-518	TR10000126	TRANSISTOR 2SA608K
IC501	IC00000482	IC TD-6104P
IC502	IC00001346	IC TC-9157AP
IC503	IC00001188	IC LC4081B
IC504	IC00000573	IC 6301AP
IC505	IC00000883	IC LB1423
IC506	IC00002065	IC HD74HC148P
IC507	IC00001462	IC LC4011
X501	DD60000040	CRYSTAL OSCILLATOR HC18U7.2
FL501	DD40000976	FL TUBE FIP7F8S MHz
D522L	DD10000100	DIODE 1N4148
	X-1121A02T	PCB ASSEMBLY
D601-609	DD40000939	L.E.D LTL-4221N 3F RED/D
S601-612	SH11200022	12 KEY PUSH SW 4TR-2579
	SH11200010	12 KEY PUSH SW 4TR-2441
S613-621	SH60000240	KEY BOAD SW 4TR-2343
	X-1122A01T	PCB ASSEMBLY
R901	RD23301820	R,CARBON 3.3K J 1/4W
R902	RD21802829	R,CARBON 18K J 1/4W
R903	RD23301820	R,CARBON 3.3K J 1/4W
R904	RD21502822	R,CARBON 15K J 1/4W
R905	RD21802829	R,CARBON 18K J 1/4W
R906	RD23301820	R,CARBON 3.3K J 1/4W
R907	RD25601820	R,CARBON 5.6K J 1/4W
R908	RD21002825	R,CARBON 10K J 1/4W
R910	RM91500224	R,METAL 150 J 2W
R911	RD26800823	R,CARBON 680 J 1/4W
D901,902	DD20000193	DIODE RD-15E
D903-907	DD10000068	DIODE 1N4003
D908	DD10000100	DIODE 1N4148
D909	DD20000193	DIODE RD-15E
D910-913	DD10000068	DIODE 1N4003
Q901	TR30000029	TRANSISTOR 2SD313D
Q902	TR30000431	TRANSISTOR 2SC1570
Q903	TR10000047	TRANSISTOR 2SB631K
Q904	TR10000126	TRANSISTOR 2SA608K
Q905	TR30000431	TRANSISTOR 2SC1570

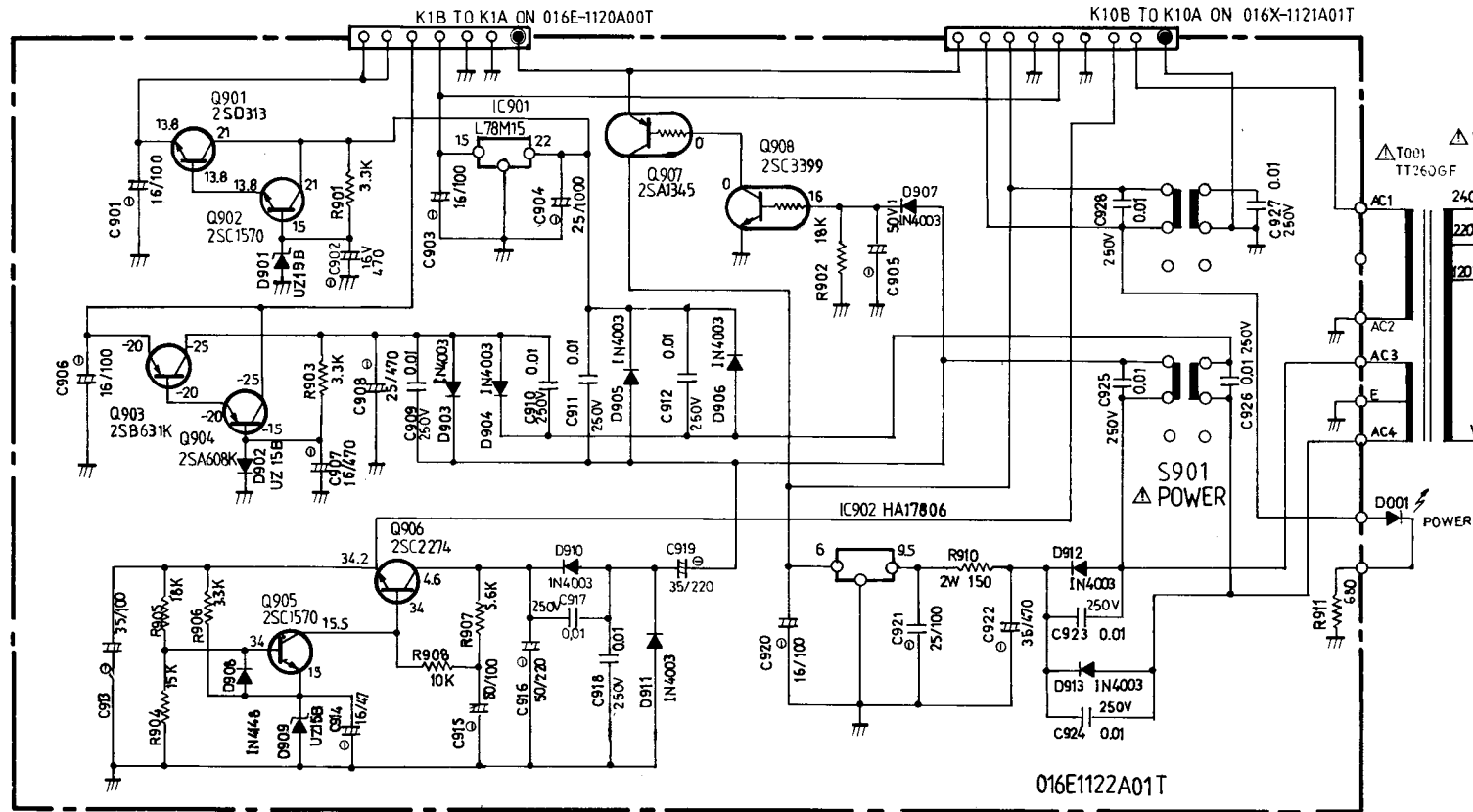
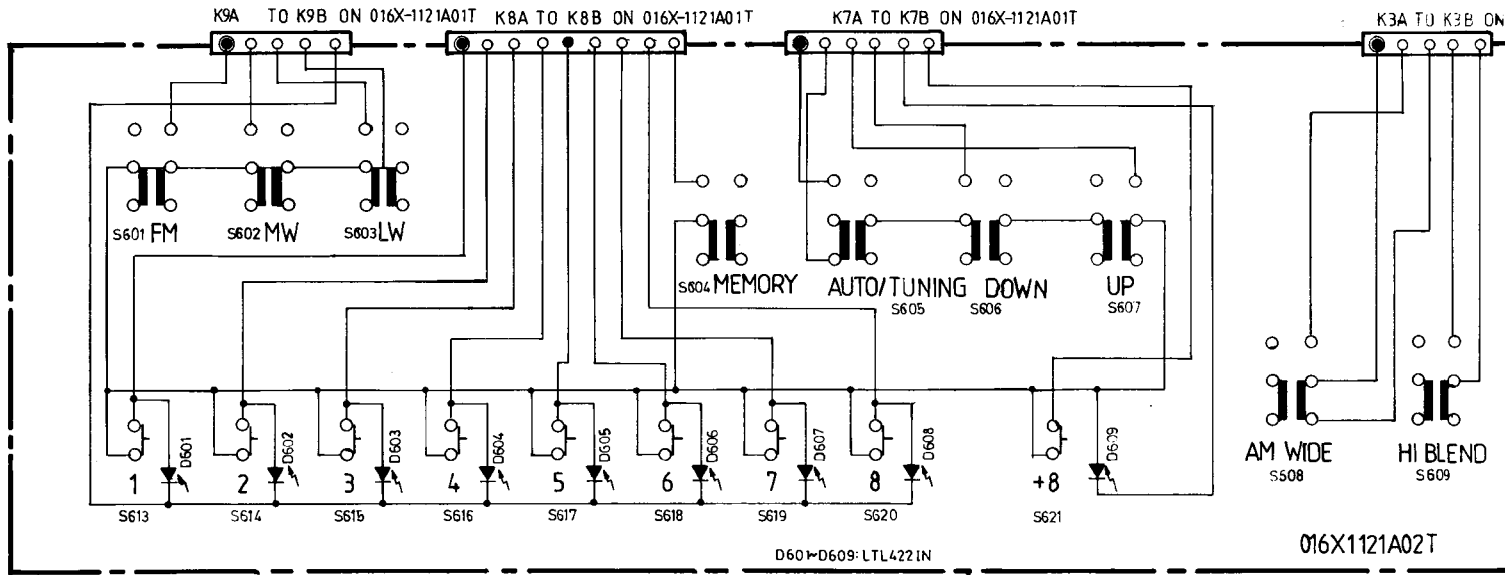
Parts List

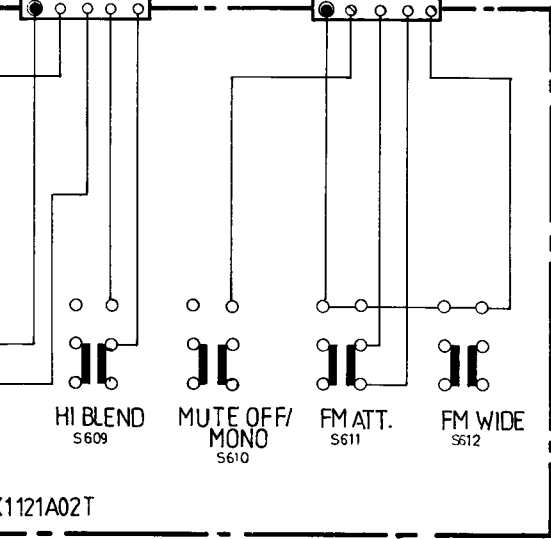
SYMBOL	PARTS NO.	DESCRIPTION
Q906	TR30000121	TRANSISTOR 2SC2274
Q907	TR10000254	TRANSISTOR 2SA1345
Q908	TR30000492	TRANSISTOR 2SC3399
IC901	IC00001267	IC L78M15
IC902	IC00002077	IC HA17806
S901	SH11000239	1 KEY PUSH SW 4TR-2328
C901,903	CE01005167	CAP,ELEC. 100uF 16V
C902,904	CE04705164	CAP,ELEC. 470uF 16V
C904	CE01004254	CAP,ELEC. 1000uF 25V
C905	CE01007504	CAP,ELEC. 1uF 50V
C906	CE01005167	CAP,ELEC 100uF 16V
C908	CE04705255	CAP,ELEC 470uF 25V
C909-912	CC01009256	CAP,CERAMIC 0.01 250V
C913	CE01005350	CAP,ELEC. 100uF 35V
C914	CE04706168	CAP,ELEC 47uF 16V
C915	CE01005507	CAP,ELEC 100uF 50V
C916	CE02205504	CAP,ELEC. 220uF 50V
C917,918	CC01009256	CAP,CERAMIC 0.01uF 250V
C919	CE02205358	CAP,ELEC. 220uF 35V
C920	CE01005167	CAP,ELEC. 100uF 16V
C921	CE01005258	CAP,ELEC. 100uF 25V
C922	CE04705358	CAP,ELEC. 470uF 35V
C923-928	CC01009256	CAP,CERAMIC 0.01uF 250V
D901,902	DD20000193	DIODE RD-15E
D903-907	DD10000068	DIODE 1N4003
D908	DD10000100	DIODE 1N4148
D909	DD20000193	DIODE RD-15E
D910-913	DD10000068	DIODE 1N4003
Q901	TR30000029	TRANSISTOR 2SD313D
Q902	TR30000431	TRANSISTOR 2SC1570
Q903	TR10000047	TRANSISTOR 2SB631K
Q904	TR10000126	TRANSISTOR 2SA608K
Q905	TR30000431	TRANSISTOR 2SC1570
Q906	TR30000121	TRANSISTOR 2SC2274
Q907	TR10000254	TRANSISTOR 2SA1345
Q908	TR30000492	TRANSISTOR 2SC3399
IC901	IC00001267	IC L78M15
IC902	IC00002077	IC HA17806
S901	SH11000239	1 KEY PUSH SW 4TR-2328
X-1122A02T		
R591	RD21501829	R,CARBON 1.5K J 1/4W
R592	RD21801825	R,CARBON 1.8K J 1/4W
R593,594	RD21501829	R,CARBON 1.5K J 1/4W
R595,596	RD21801825	R,CARBON 1.8K J 1/4W
R597	RD21501829	R,CARBON 1.5K J 1/4W
C591	CC31009465	CAP,CERAMIC 0.01uF 50V
D591	DD40000927	FL TUBE LTS-321AR
IC591	IC00002089	IC HD74LS47
E-1120A00T PCB ASSEMBLY		
R348	RD51003820	R,CARBON 100K J 1/4W
R349	RD54709820	R,CARBON 47 J 1/4W
C301-308	CC31009465	CAP,CERAMIC 0.01uF 50V
C309,312	CE01005167	CAP,ELEC. 100uF 16V
C310,311	CC31009465	CAP,CERAMIC 0.01uF 50V
CC313-317	CC31009465	CAP,CERAMIC 0.01uF 50V
C318-320	CC05009457	CAP,CERAMIC 0.047uF 50V
C321	CC31011435	CAP,CERAMIC 100P 50V
C322	CE02206259	CAP,ELEC. 22uF 25V
C323,326	CE01007504	CAP,ELEC. 1uF 50V
C324	CL31006258	CAP,LOW,NOISE U25V10LN
C325,331	CE01005167	CAP,ELEC. 100uF 16V
C327-330	CC05009457	CAP,CERAMIC 0.047uF 50V
C333,334	CE01005167	CAP,ELEC. 100uF 16V
D301-307	DD80000021	DIODE 1N4148

PARTS NO.	DESCRIPTION
OTHERS	
AB00000262	BOTTOM BOARD 3TTI-6
AF00000139	FRONT CHASSIS 2TTR-2
AM00001501	CHASSIS BODY 2TTI-4B
AR30000155	PRINTED REAR CHASSIS TRP-464
OM10000670	FL ORNAMENTAL PLATE 4TTR-3
PT26007102	POWER TRANSFORMER TT-260-GF
FT00000138	RUBBER FOOT 4TR-2274 40Fx8
CD00000218	AC CORD SPT-2 AWG#18 4TR-670#4-U,C
CD00000097	AC CORD SPT-2 AWG#18 4TR-670#2-H1,2,3,4
CD00000048	AC POWER CORD 4TR-1037-H5,6,7,E,K2
CD00000085	AC POWER CORD C-2504A-K1
CD00000115	AC POWER CORD C-3763-T-G
CD00000267	AC CORD SPT-2 AWG#16 C-2743-A
SC00000131	AC CORD STOPPER SR-5N-4-A,K1
SC00000027	AC CORD STOPPER SR-4N-N
VC00000048	VOLTAGE SELECTOR C-4304A01-U,H1,2,4,5,6
AW00000241	PANEL WINDOW 4TR-1620#1
KB20002292	PUSH BUTTON 19x19 4TTI-12#2 (1)
KB20002309	PUSH BUTTON 19x19 4TTI-12#3 (2)
KB20002310	PUSH BUTTON 19x19 4TTI-12#4 (3)
KB20002322	PUSH BUTTON 19x19 4TTI-12#5 (4)
KB20002334	PUSH BUTTON 19x19 4TTI-12#6 (5)
KB20002346	PUSH BUTTON 19x19 4TTI-12#7 (6)
KB20002358	PUSH BUTTON 19x19 4TTI-12#8 (7)
KB20002360	PUSH BUTTON 19x19 4TTI-12#9 (8)
KB20002371	PUSH BUTTON 19x19 4TTI-12#10 (+8)
OM10000073	ORNAMENTAL SIDE PLATE 3TTE-7
AA30000357	FRONT PANEL (RT-870) 2TTR-1#1
AA30000369	FRONT PANEL (RT-870L) 2TTR-1#2
AU00000804	UPPER COVER 3TTE-6#2
KB20001561	PUSH BUTTON 4TR-2176 14x14
LB01130005	LOOP ANT. RLA113A00
PL00000794	STYROL SIDE MOULDING 2TTI-7 TZ-167
KB20002280	PUSH BUTTON 4TTR-6 5x5x17.5 (RT-870)
TN10002983	INSIDE CARTON 4TR-2430#3 (RT-870)
KB20002280	PUSH BUTTON 4TTR-6 5x5x17.5 (RT-870L)
TN10002995	INSIDE CARTON 4TR-2430#4 (RT-870L)
AZ00001690	REAR AHASSIS 2TTI-3



SCHMATIC DIAGRAM RT-870/RT-870L (2/2)

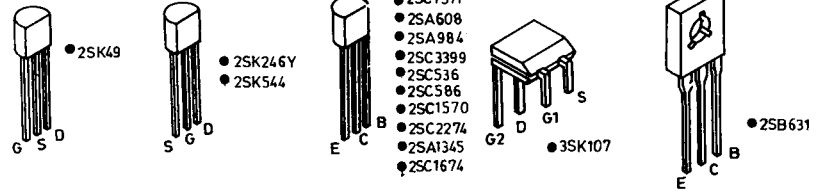




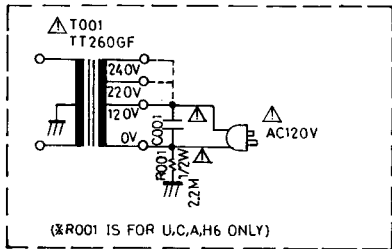
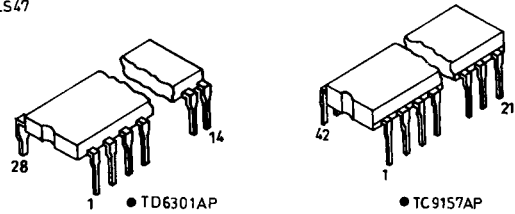
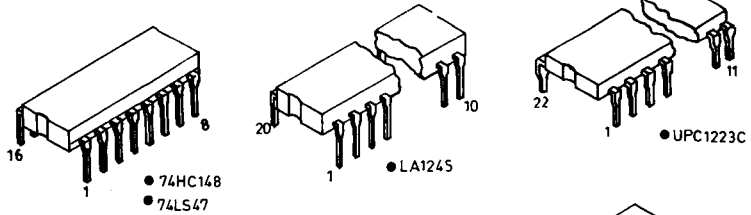
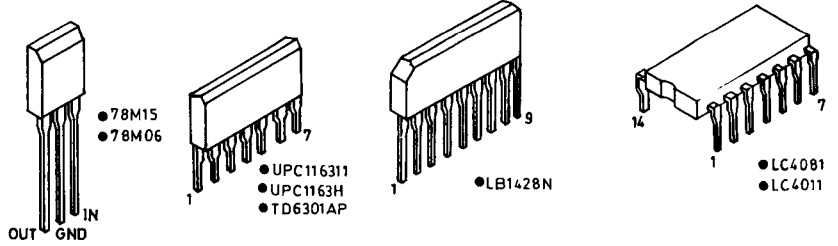
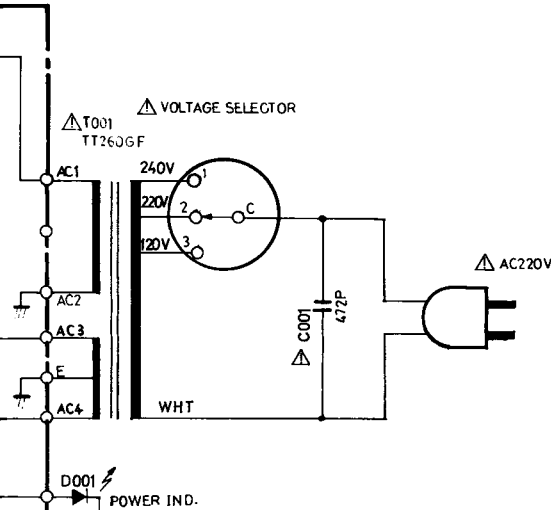
INSTRUCTIONS FOR SERVICE PERSONNEL

- 1) TO USE ONLY REPLACEMENT PARTS THAT HAVE THE CRITICAL CHARACTERISTICS RECOMMENDED BY MANUFACTURER.
- 2) TO MAKE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

1121A02T



1A01T



Wiring Diagram

