TECHNICAL MANUAL

ROTEL®

RX-875

AM/FM STEREO RECEIVER

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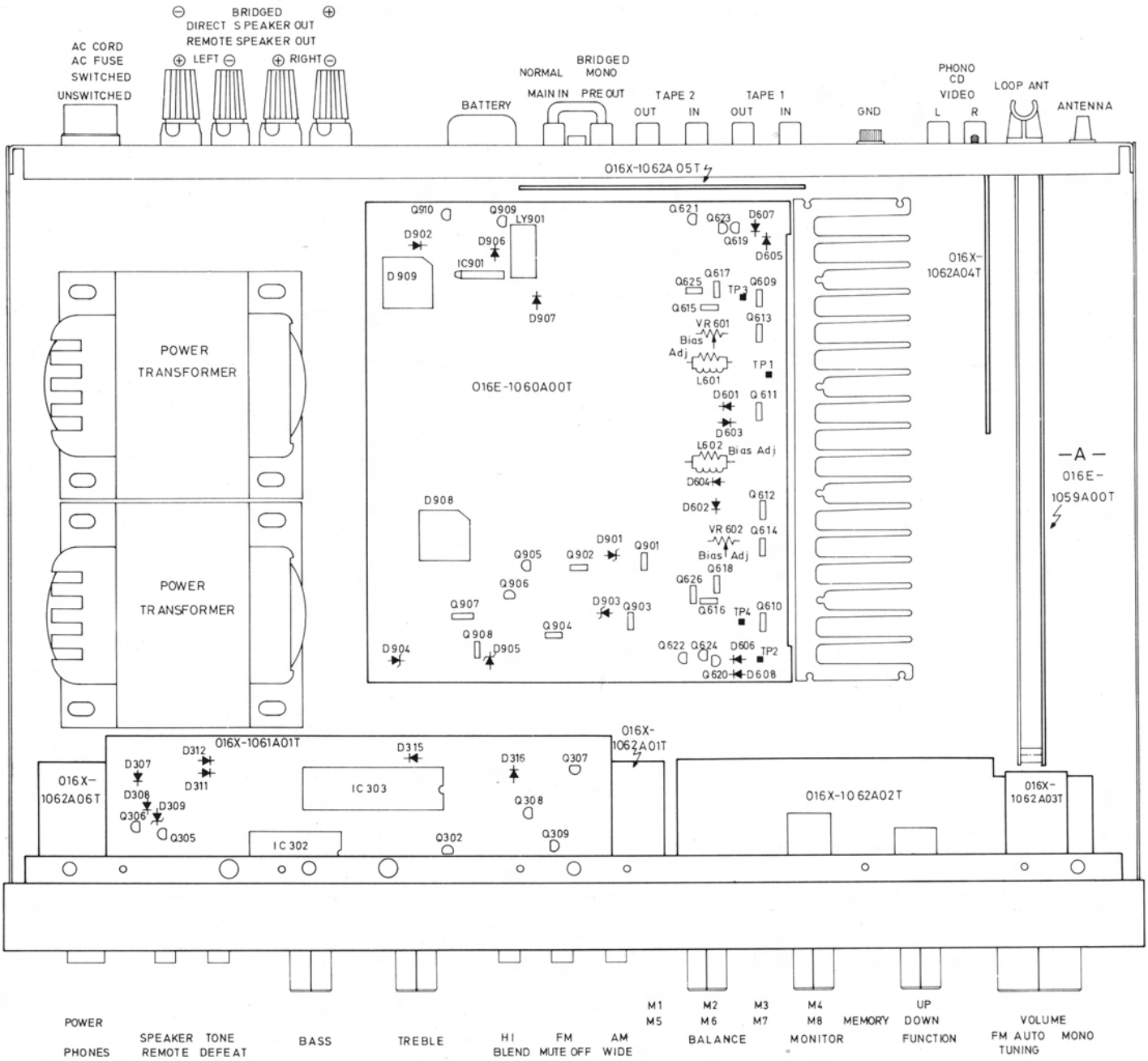
THE ROTEL CO., LTD.
1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN

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

MN20001329

Chassis Layout



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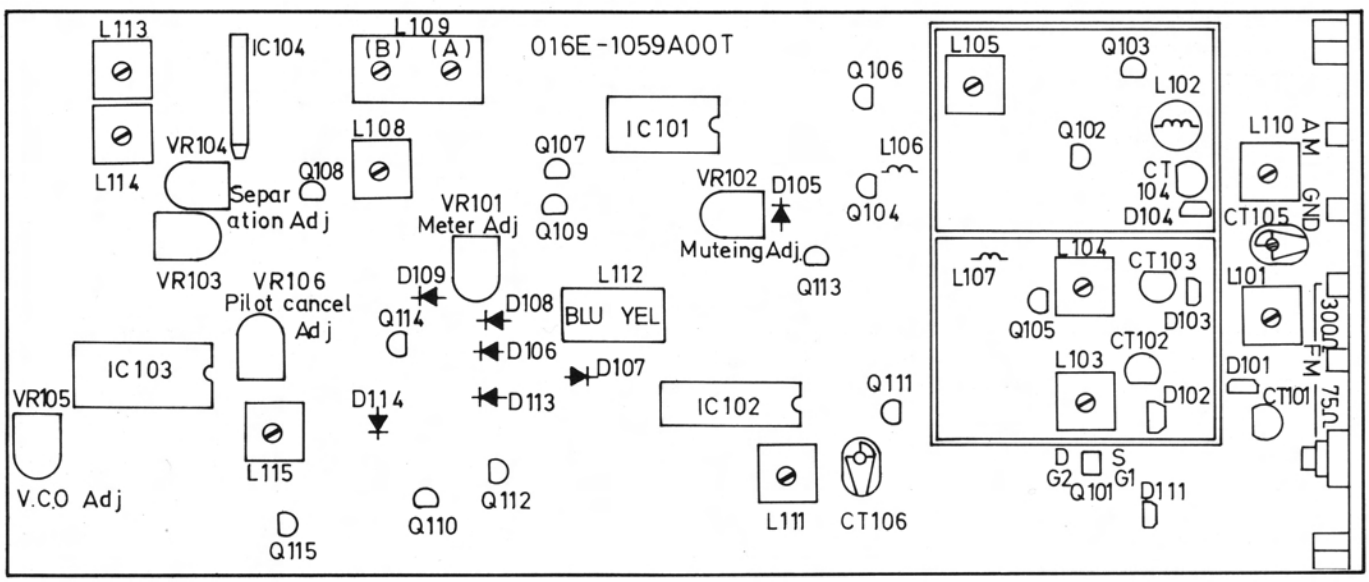


FM IF and RF Alignment

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

Terminated : DC Voltmeter...Between 4 and E2 On E-1059A00T P.C.B.
Tuning Meter...Between TP1 and TP2 On E-1059A00T P.C.B.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use.		87.5 MHz	L102	3V reading on DC Voltmeter
2			108 MHz	CT104	22V reading on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Antenna terminal	90 MHz	90 MHz	L101,L104 L103	Maximum reading on AC VTVM.
5				L105	Adjusting balance of wave form
6		105 MHz	105 MHz	CT101, CT102 CT103	Maximum reading on AC VTVM.
7	Repeat steps 4.5 and 6 unit on further improvement is noticed (Muting OFF)				
8	Antenna terminal 1mV input	90 MHz	90 MHz	L109(A)	Adjust center on Tuning Meter
9				L109(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 15μV input	90 MHz	90 MHz	VR102	Muting Level (Muting ON)
12	Antenna terminal 5μV input	90 MHz	90 MHz	VR101	Signal Indicator Level (Muting OFF)

FM MPX Alignment

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

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		98 MHz	VR105	VCO 75.9 kHz ± 100Hz (Muting ON) TP3 Thru 68 kohms resistor
2	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.
3				VR103, VR104	Best separation
4	Antenna terminal 1mV input	98 MHz Pilot.....10% 1 KHz.....90% Mod.	98 MHz	VR106 L105	Pilot Cancel 19 KHz Minimum Dist.
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 Pin 4 and E2 on E-1059A00T P.C.B.

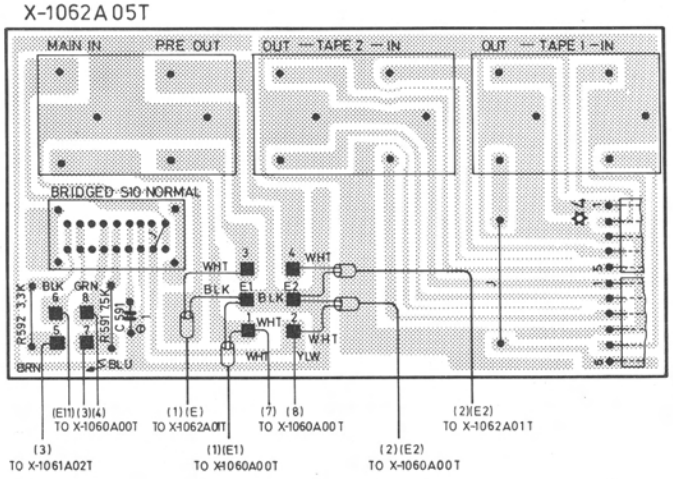
Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use.		530 KHz (531 KHz) Europe	L111	About 1.2V ± 0.1V on DC Volt meter
2			1600 KHz (1602 KHz) Europe	CT106	About 9V ± 0.2V on DC Volt meter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Test Loop Radiate signal into loop antenna	450 KHz	530KHz	L112	Maximum reading on AC VTVM.
5		600 KHz	600KHz	L110	
6		1400 KHz	1400 KHz	CT105	
7	Repeat steps 5 and 6 unit no further improvement is noticed.				

Power Amplifier Bias Adjustment

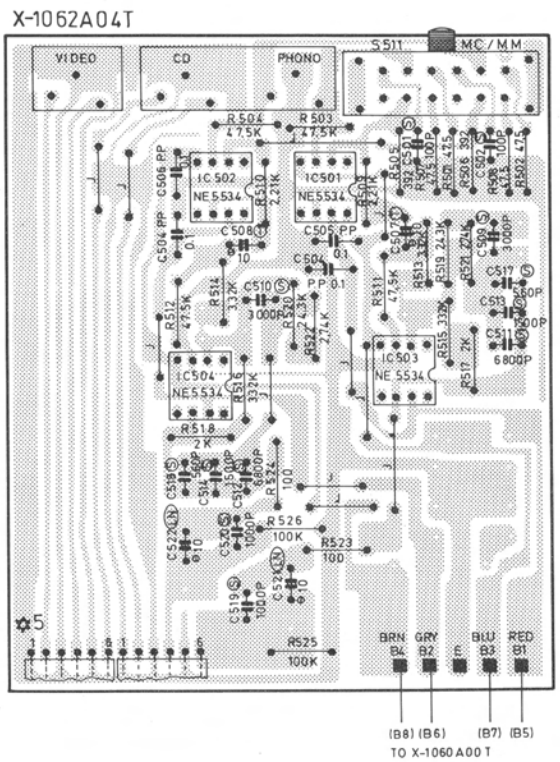
Instruments: DC milli-voltmeter
Notes: Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohm) and warm up Power Transistor and Heat Sink.
Set Volume Control to Minimum.

Step	Coupling		Adjust	Adjust for
	Plus Lead	Minus Lead		
1	TP1	TP3	VR601	DC milli-voltmeter reads 4 mV
2	TP4	TP2	VR602	

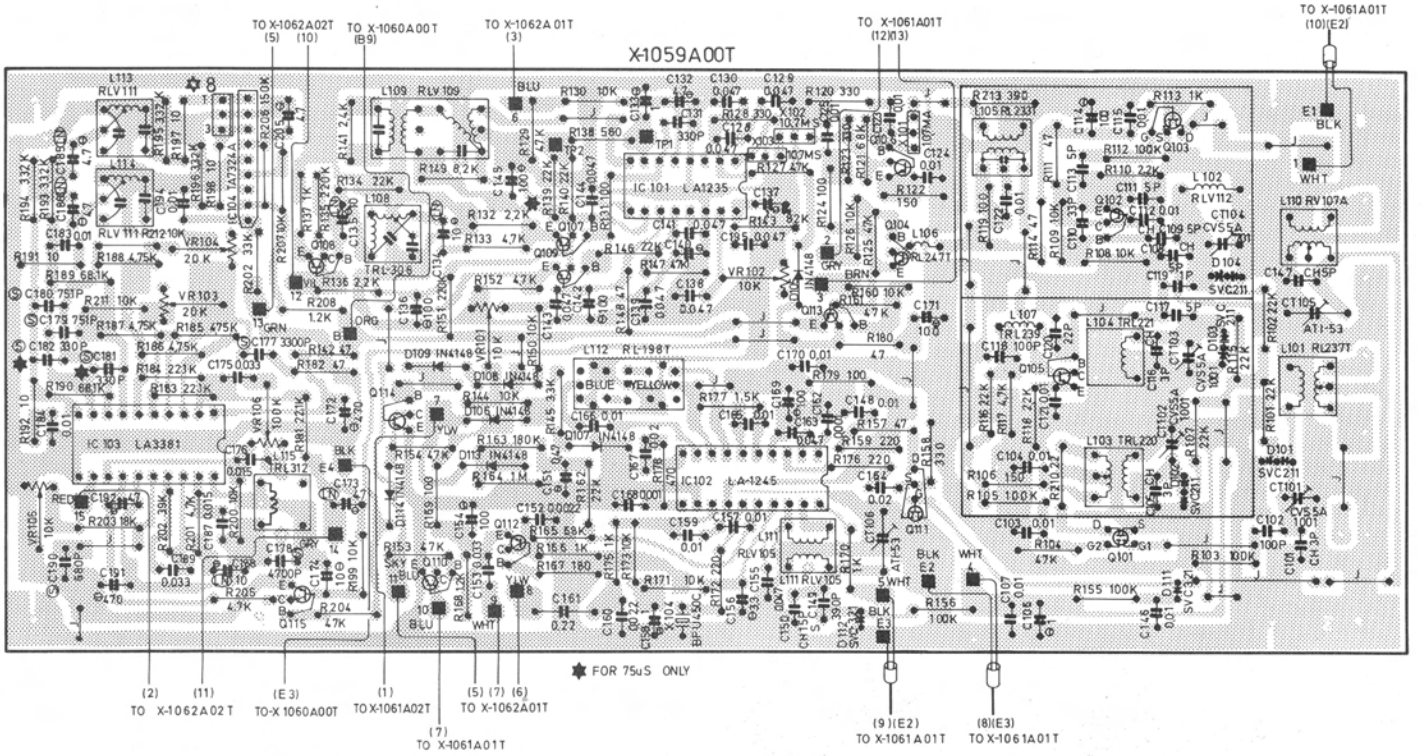
X-1062A05T

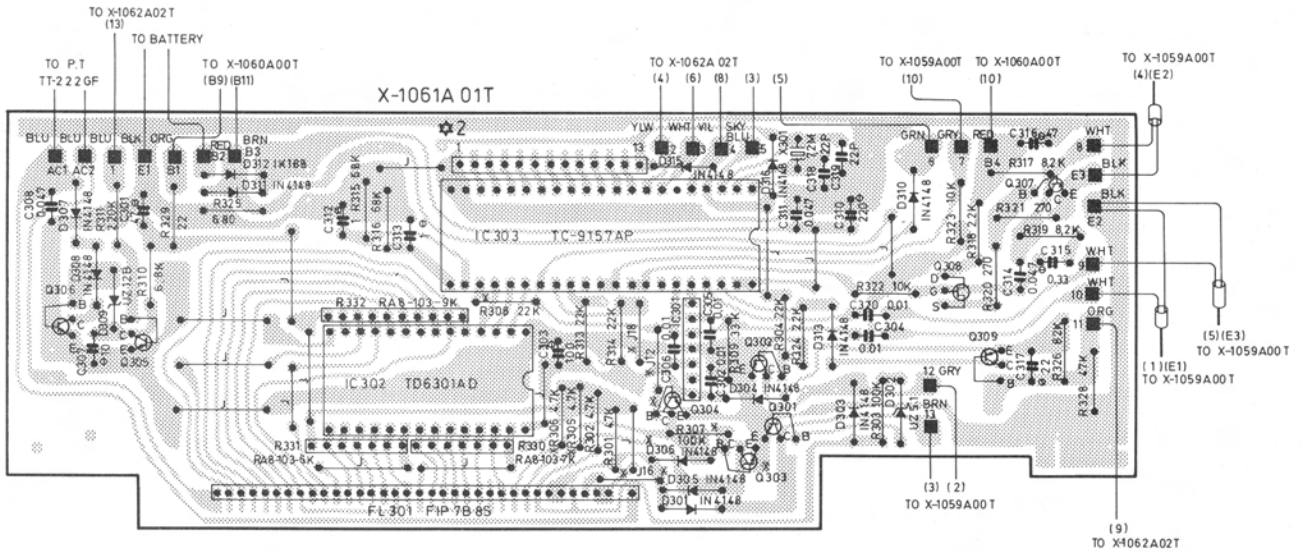


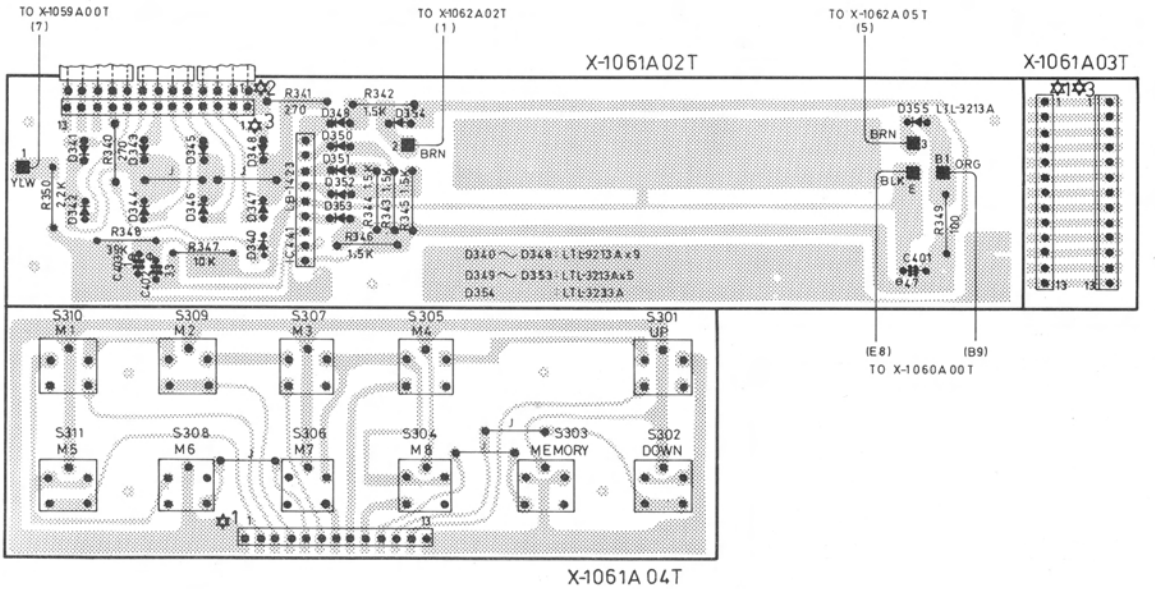
X-1062A04T

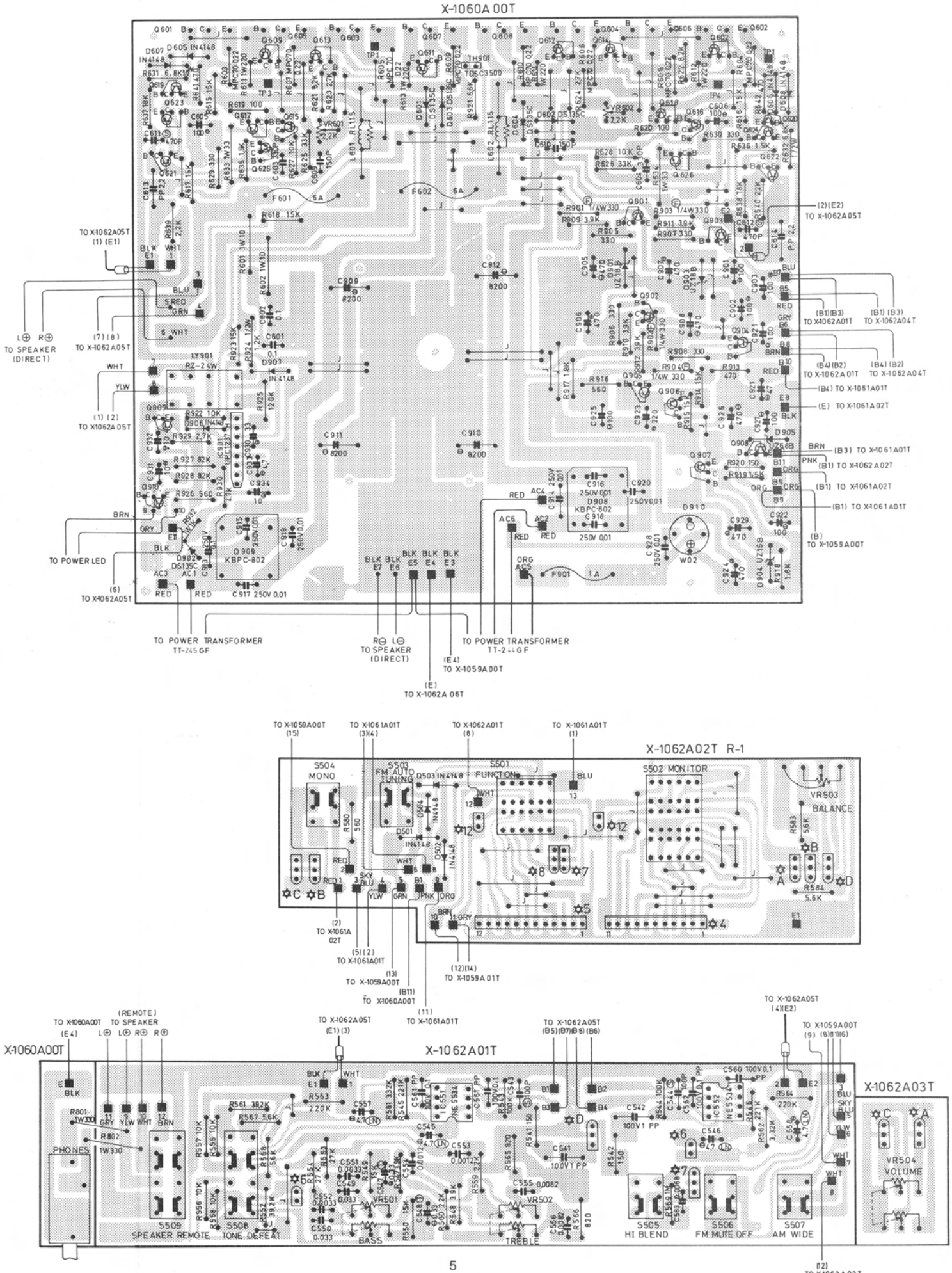


Wiring Diagram

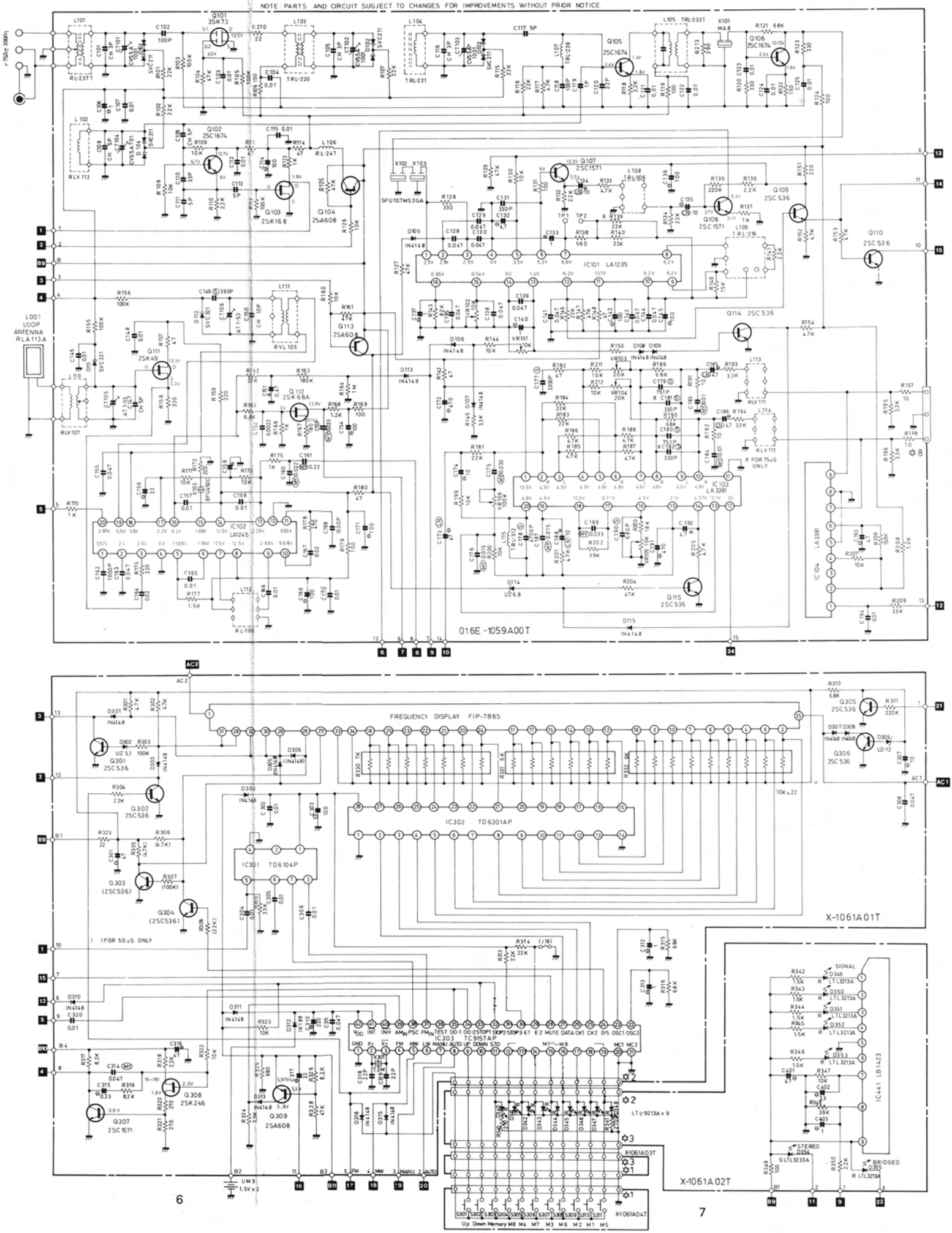


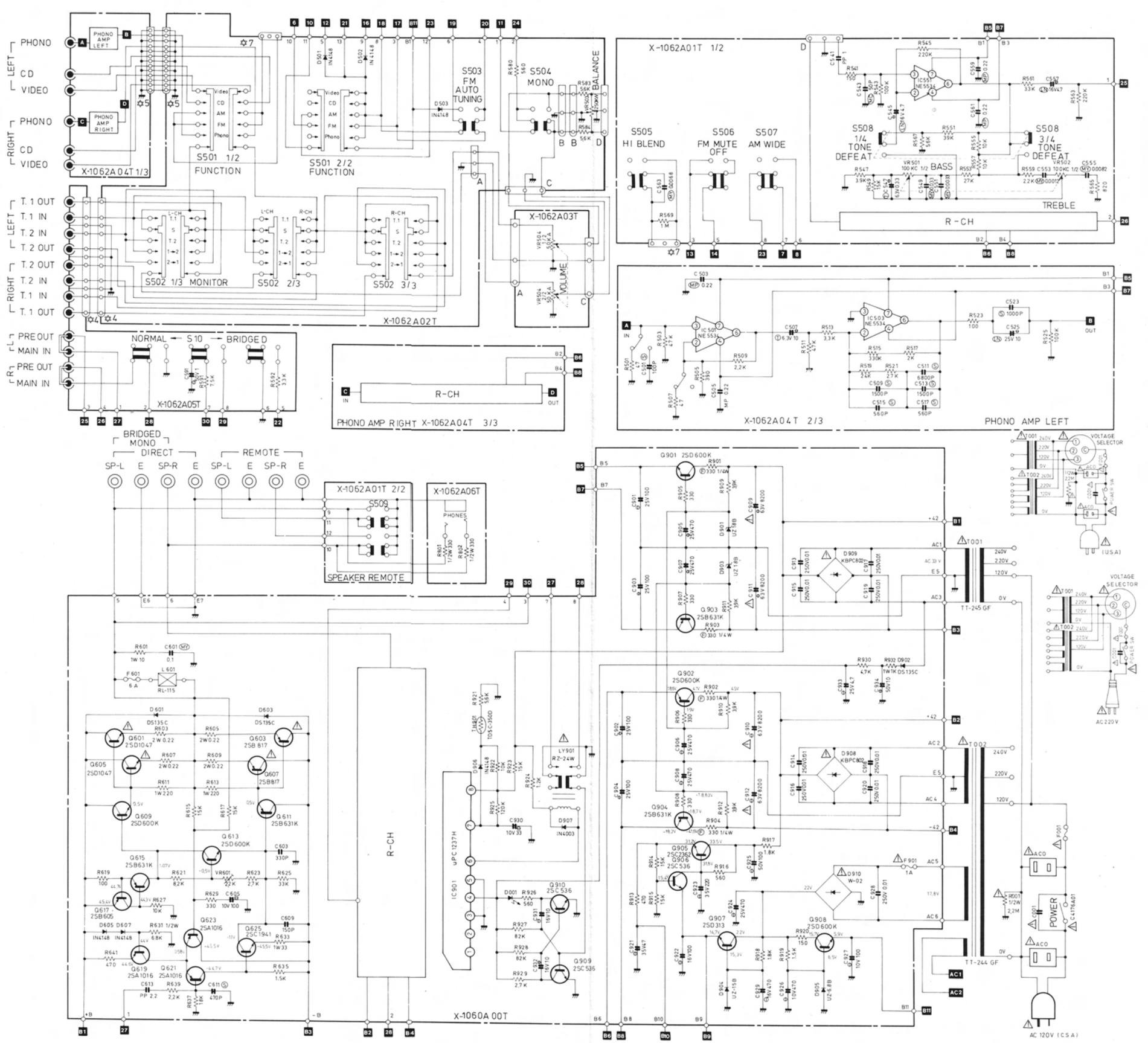





X-1060A 00T
X-1062A02T R-1
X-1062A01T
X-1060A00T
X-1062A03T
S504 MONO
S503 FM AUTO TUNING
S501 FUNCTION
S502 MONITOR
VR503 BALANCE
VR504 VOLUME
S509 SPEAKER REMOTE
S508 TONE DEFEAT
S505 HI BLEND
S506 FM MUTE OFF
S507 AM WIDE
VR501 BASS
VR502 TREBLE
PHONES
TO POWER TRANSFORMER TT-245 GF
TO SPEAKER (DIRECT)
TO POWER LED
TO X-1062A05T
TO X-1059A00T
TO X-1061A01T
TO X-1062A01T
TO X-1062A02T
TO X-1062A06T
TO X-1060A00T
(REMOTE) TO SPEAKER

Schematic Diagram





2SC1571
2SC1674
2SC2362

2SA1016
2SC536
2SA608

8

2SK49
2SK168

2SK246-Y

3SK73

2SB631K
2SD600K

2SB817
2SD1047

2SB605

2SD313

LB1423N

NE5534

LA1235

LA1245

TC9157AR

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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.

Repair Parts List

Schematic Location	Computer No.	Description
TRANSISTORS, DIODES AND IC'S		
Q101	TR50000140	3SK107-F, FM RF Amp.
Q102	TR30000133	2SC1674, FM O.S.C.
Q103	TR50000139	2SK168-F, Buffer Amp.
Q104	TR10000126	2SA608K (F, G), For Switching
Q105	TR30000133	2SC1674, FM Mix.
Q106	TR30000133	2SC1674, FM IF Amp.
Q107	TR30000108	2SC1571 (E, F), Buffer Amp.
Q108	TR30000108	2SC1571 (E, F), Buffer Amp.
Q109	TR30000327	2SC536G, For Switching
Q110	TR30000327	2SC536G, For Switching
Q111	TR50000097	2SK49 (F, H), AM RF Amp.
Q112	TR50000061	2SK68-KLM, Buffer Amp.
Q113	TR10000126	2SA608 (F, G), For Switching
Q114	TR30000327	2SC536G, For Switching
Q115	TR30000327	2SC536G, For Switching
Q301 ~ Q306	TR30000327	2SC536G, For Switching
Q307	TR30000108	2SC1571 (E, F) For Switching
Q308	TR50000127	2SK246-Y, Low Pass Filter
Q309	TR10000126	2SA608 (F, G) For Switching
Q601, 602	TR40000045	2SD1047 (D, E), Power Transistor
603, 604	TR20000040	2SB817 (D, E), Power Transistor
Q605, 606	TR40000045	2SD1047 (D, E), Power Transistor
Q607, 608	TR20000040	2SB817 (D, E), Power Transistor
Q609, 610	TR40000069	2SD600K (E, F) Driver
Q611, 612	TR10000047	2SB631K (E, F) Driver
Q613, 614	TR40000069	2SD600K (E, F) Main Amp. Bias Compensator
Q615, 616	TR10000047	2SB631K (E, F) Main Amp. Bias Compensator
Q617, 618	TR20000038	2SB605 (K, L) Main Amp. Bias Compensator.
Q619, 620	TR10000023	2SA1016 (G, H) Constant Current
Q621, 622	TR10000023	2SA1016 (G, H) Differential Amp.
Q623, 624	TR10000023	2SA1016 (G, H) Constant Current
Q625, 626	TR30000169	2SC1941 (K, L) Pre-Driver
Q901, 902	TR40000069	2SD6j00K (E, F) Stabilizer
Q903, 904	TR10000047	2SB631K (E, F) Stabilizer
Q905	TR30000212	2SC2362 (G, H) Stabilizer
Q906	TR30000327	2SC536G, Stabilizer
Q907	TR30000029	2SD313, Stabilizer
Q908	TR40000069	2SD600K (E, F), Stabilizer
Q909	TR30000327	2SC536G, For Switching
Q910	TR30000327	2SC536G, For Switching
D101 ~ 104	DD50000055	SVC211, Vari-Cap. FM Tuning
D105 ~ 109	DD10000100	IN4148, Diode
D111, 112	DD50000031	SVC321B, Vari-Cap, AM Tuming
D113	DD10000100	IN4148, Diode
D114	DD20000065	UZ6, 8B (M, H), Zener Requlator
D301	DD10000100	IN4148, Diode
D302	DD20000200	UZ5.1 (B), Zener Requlator
D303	DD10000100	IN4148, Diode
D304	DD10000100	IN4148, Diode
D305	DD10000100	IN4148, Diode
D306	DD10000100	IN4148, Diode
D307, 308	DD10000100	IN4148, Diode
D309	DD20000016	UZ-12B(M, H), Zener Requlator
D310	DD10000100	IN4148, Diode
D311	DD10000100	IN4148, Diode
D312	DD10000111	1K188, Diode
D340 ~ 348	DD40000563	LTL-9213 A RED, L.E.D.
D349 ~ 353	DD40000782	LTL-3213A RED, L.E.D.
D354	DD40000794	LTL-3233A GRN, L.E.D.
D355	DD40000782	LTL-3213A RED, L.E.D.
D501 ~ 503	DD10000100	IN4148, Diode
D601 ~ 604	DD10000068	DS135C, Diode.
D605 ~ 608	DD10000100	IN4148, Diode
D901	DD20000041	UZ18B (M, H), Zener Requlator.
D902	DD10000068	DS135C, Rectifier.
D903	DD20000041	UZ18B (M, H), Zener Requlator
D904	DD20000193	UZ15B (M, H), Zener Requlator
D905	DD20000065	UZ6. 8B (M, H) Zener Requlator
D906	DD10000100	IN4148, Diode
D907	DD10000068	IN4003, Diode
D908, 909	DD10000147	KBPC802, Rectifier
D910	DD10000123	W02, Rectifier
D001	DD40000095	SEL1124R/LN224R, Power Ind.
IC101	IC00001103	LA1235 FM IF Amp.
IC102	IC00001322	LA1245, AM IF Amp.
IC103	IC00001334	LA3381, FM MPX. Decorde
IC104	IC00000603	TA7324P, Mute
IC301	IC00000482	TD6104P, Prescaller
IC302	IC00000573	TD6301AP, Driver For Frequency Display
IC303	IC00001346	TC-9157AP, PLL Synthesizer
IC441	IC00000883	LB1423, L.E.D. Driver
IC501 ~ IC504	IC00000731	NE5534, Phono Amp.
IC551, 552	IC00000731	NE5534, Flat Tone Amp.
IC901	IC00000860	UPC1237H Overload Protector
COILS AND VARIABLE RESISTORS		
L101	LC02370009	RL-237T, ANT Coil
L102	LC31120000	RLV-112T, FM OSC Coil
L103	LC22200006	TRL-220, FM RF Coil
L104	LC22210000	TRL-221, FM RF Coil
L105	LC02330000	TRL-233T, FM IF Coil
L106	LM00000346	RL-247T, Micro Inductor
L107	LM00000073	TRL-239, Micro Inductor
L108	LC23060009	TRL-306, MPX Filter
L109	LC31090007	RLV-109T, I F Coil
L110	LC31070008	RLV107A00, AM ANT Coil
L111	LC31050009	RLV105T, AM OSC Coil
L112	LC01980000	RL198T, AM IFT Coil
L113, 114	LC31110006	RLV111A00, MPX Coil
L115	LM00000360	TRL-312, Micro Inductor
L601, 602	LC01150002	RL115, ANTI-PARASITIC Coil
CT101 ~ 103	CF00000238	CVSSA1001 10PF, Film Trimmer Capacitor
CT104	CF00000240	CVSSA0701 7PF, Film Trimmer Capacitor
CT105 ~ 106	CF00000070	ATI-53 8P, Film Trimmer Capacitor
X101	LF00000014	SFE10.7MA8-A RED, Ceramic Filter
X102, 103	LF00000166	SFE10.7 MS2GA RED, Ceramic Filter
X104	LF00000221	BFU450C, Ceramic Filter
LY901	LY00000174	RZ-24W, Relay
VR101	RV20000193	08-301 10KB, FM Meter Adj
VR102	RV20000193	08-301 10KB, FM Muteing Adj
VR103, 104	RV20000223	08-301 20KB, Separation Adj
VR105	RV20000193	08-301 10KB, VCO Adj
VR106	RV20000181	08-301 100KB, Pilot Cancel Adj
VR501, 502	RV10001048	4TR-2261 100KC × 2, BASS Control, Tone Defeat
VR503	RV10000410	4TR-1387 250KW, Balance Control
VR504	RV1001050	C-4170A09 50KA × 2, Volume Control
VR601, 602	RV40000010	H1021A 2.2KB, Bias Adj

Schematic Location	Computer No.	Description
	SWITCHES AND OTHERS	
S501	SH30000304	C4174A03, Function Switch
S502	SH30000298	C4174A02, Monitor Switch
S503, 504	SH12000302	4TR-2262, FM Auto Tuning, Mono
S505~507	SH13000267	4TR-2264, HI BLEND, FM Mute Off, AM Wide
S508, 509	SH12000314	4TR-2263, Speaker Remote, Tone Defeat
S510	SH20000290	4TR-2265 SSA062, Normal, Bridged
S511	SH20000289	4TR-2266, MM/MC
F601, 602	FU120000136	Fuse, 125V Long 6A UL
F901	FU12000070	Fuse, 250V 1A UL
	FU21000022	Fuse, Mini 1A
	FU23000025	Fuse, 250V 1A S
T001	PT24507107	Power Transformer TT-245-GF
T002	PT24407101	Power Transformer TT-244-GF
T001	PT13870994	Power Transformer TT-223-GF
T002	PT13870090	Power Transformer TT-222-GF

	RX-875(A)NEW	RX-875
T001	TT-245GF	TT-223GF
T002	TT-244GF	TT-222GF
R631, 632	1/2W 6.8K	6.8K
R909~912	3.9K	2.7K
R920	150Ω	180Ω