

Service Manual

ORDER NO.
HRT-189-0

PORTABLE STEREO FM/SW/MW/LW RADIO CASSETTE RECORDER

SK-707L

HT, HB

SK-757L

HT, HB

NOTE: This additional service manual is designed to be used together with Model SK-70Q, 750/KU, KC Service Manual (HRT-183). Refer to it for finding parts numbers and adjustment, etc. which are not shown in this manual.

SPECIFICATIONS

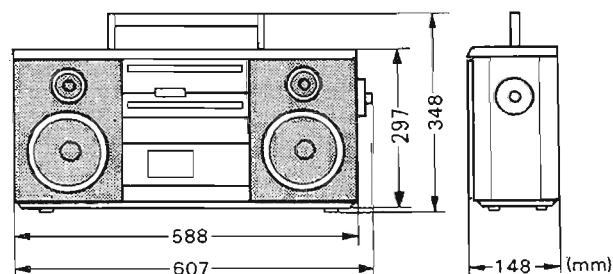
Max. music power.	.23W (total music power)
Max. rated output power . .	4.5W + 4.5W/3.2Ω, 10% THD.
Speakers	.16cm 2-way
Frequency response.	Normal tape: 30Hz — 14kHz CrO ₂ tape: 30Hz — 15kHz Metal tape: 30Hz — 16kHz
Frequency range	FM: 88—104MHz SW: 6 — 18MHz MW: 525 — 1,605kHz LW: 150 — 280kHz
Input jacks.	MIX MIC, PHONO/AUX, EXT MIC
Output jacks.	LINE OUT, EXT SP, PHONES
Power source	.220/240V AC 50/60Hz, 12V DC (eight 1.5V "D" batteries), EXT 12V DC
Dimensions (WxHxD) . . .	.588 x 297 x 143mm (23 ¹ / ₈ x 11 ⁵ / ₈ x 5 ⁷ / ₈ in.)
Weight	.7.6kg (16.7 lbs., without batteries)
(Subfunctions)	(SK-707L)

(Indicators) (SK-707L)

POWER (red LED), MIC REC (green LED), PHONO/AUX (green LED), TAPE PLAY (green LED), FM (green LED), AM (green LED), REC (red LED), REC PAUSE (red LED), MUSIC SEARCH (green LED x 2), level meter (5 points red LED), TUNING (green LED), STEREO (red LED)

(SK-757L)

POWER (red LED), Dolby NR (green LED), MIC REC (green LED), PHONO/AUX (green LED), TAPE PLAY (green LED), FM (green LED), AM (green LED), REC (red LED), REC PAUSE (red LED), ONE SIDE REPEAT (green LED), MUSIC REPEAT (green LED), MUSIC SEARCH (green LED x 2), METAL (green LED), CrO₂ (green LED), level meter (12 points red/green LED x 2), TUNING (green LED), STEREO (red LED).



Note: Specifications and design are subject to change without notice.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. 1925 E. Dominguez St., Long Beach, California 90810 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Luithagen-Haven 9, 2030 Antwerp, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

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Power Supply Unit (Page 58)

SK-700/KU, KC, SK-750/KU, KC			SK-707L/HT, HB, SK-757L/HT, HB	
Mark	Part No.	Symbol & Description	Part No.	Symbol & Description
	RD1/2PS335J	R256 (SK-700)		Deleted (SK-707L)
	RD1/2PS335J	R252 (SK-750)		Deleted (SK-757L)
	CKDYF103Z50	C189—C191	CKDYF473Z50	C189—C191
△ ★★	HEK-117	FU1 Fuse, 4A 125V	HEK-118	FU1 Fuse, 2A 250V

CR Unit (Page 58)

SK-700/KU, KC, SK-750/KU, KC			SK-707L/HT, HB, SK-757L/HT, HB	
Mark	Part No.	Symbol & Description	Part No.	Symbol & Description
	HCN-115	*R1 56Ω 1/4W	HCN-115	R1 56Ω 1/4W

*Change of resistor (R1).

Miscellaneous Parts List (Page 58)

SK-700/KU, KC, SK-750/KU, KC			SK-707L/HT, HB, SK-757L/HT, HB	
Mark	Part No.	Symbol & Description	Part No.	Symbol & Description
△ ★	HTT-168	T Power Transformer	HTT-176	T Power Transformer (220V/240V)
△ ★★			HSD-131	S2 Switch (Voltage Selector)
	HWX-412	*LED Meter Unit (SK-750)	HWX-412	LED Meter Unit (SK-757L)

*Change of LED Meter Unit (SK-750)

EXPLODED VIEW

NOTE

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
★★: GENERALLY MOVES FASTER THAN ★.
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts whose parts numbers are omitted are subject to being not supplied.

Cabinet (Page 59)

SK-700, 750/KU, KC				SK-707L, 757L/HT, HB	
Mark	No.	Part No.	Description	Part No.	Description
	1.	HNS-586	Cover (SK-700)	HNS-594	Cover (SK-707L)
		HNS-587	Cover (SK-750)	HNS-595	Cover (SK-757L)
	24.	HNV-476	Spacer	HNV-540	Spacer
★	25.	HAA-193	Knob (TUNING)	HAA-213	Knob (TUNING)
★				HAA-212	Knob (FINE TUNING)
★	26.	HXA-864	Front Case Assy (SK-700/KU)	HXA-896	Front Case Assy (SK-707L)
★		HXA-891	Front Case Assy (SK-750/KU)	HXA-897	Front Case Assy (SK-757L)
					Yoke Cap (Rch Tweeter)

TUNER SECTION

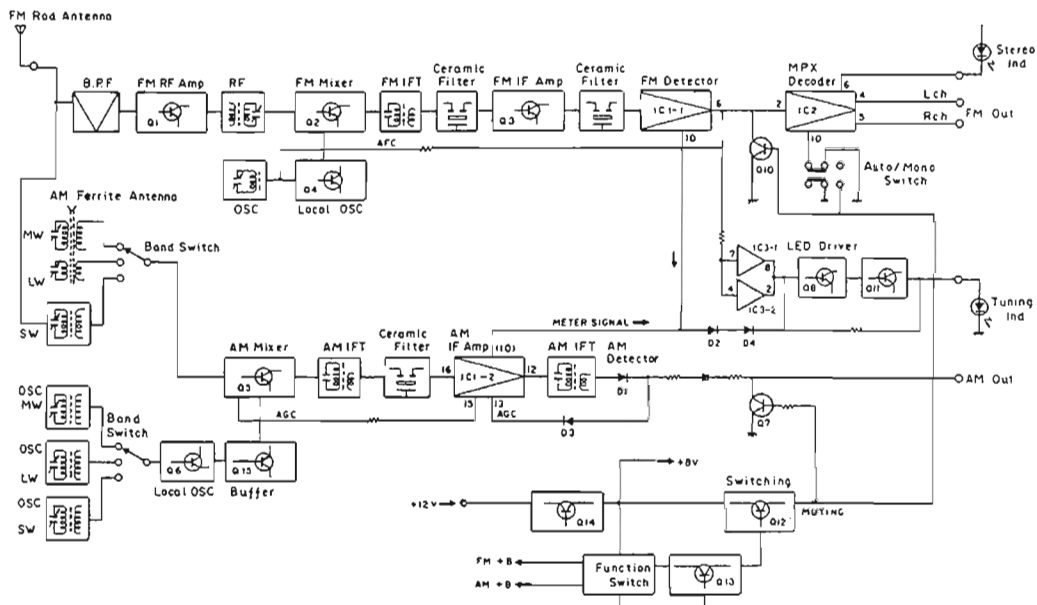


Fig. 1

ADJUSTMENT

AM IF ADJUSTMENT

• Connection Diagram

IF Generator Scope

Sweep center frequency 468kHz

Input gain 0.3V p-p/cm

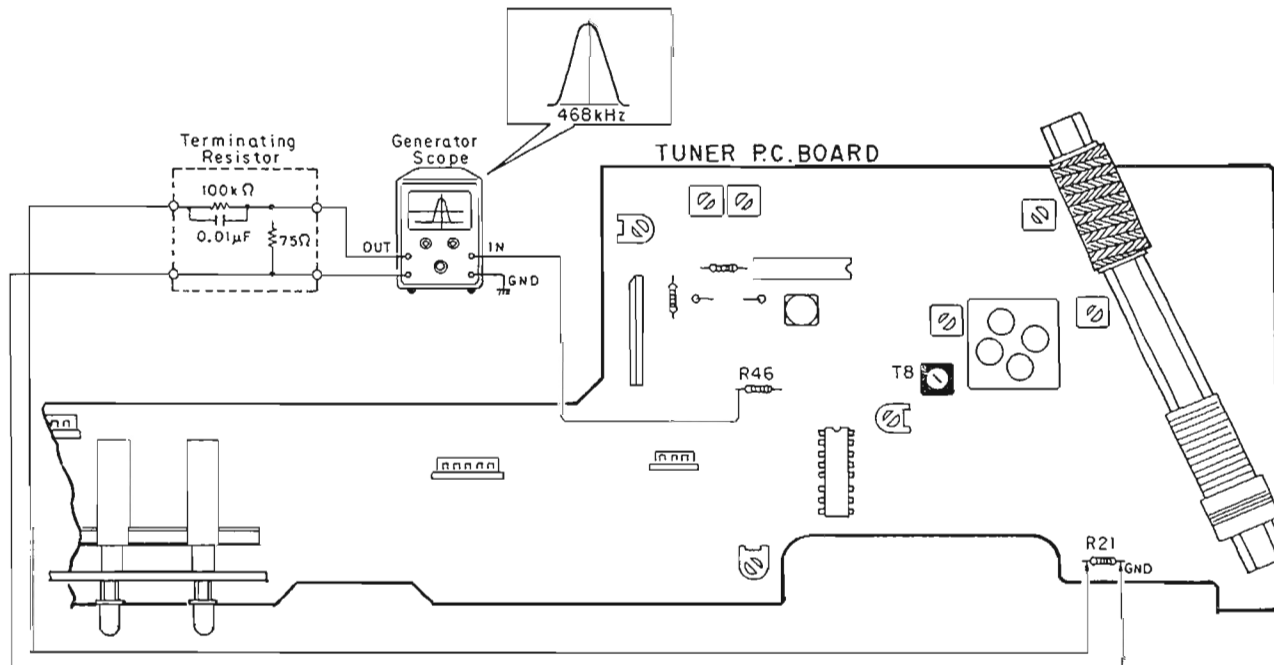


Fig. 2

- **To Adjust**

1. Apply minimum output signal required to check generator scope U curve and adjust T8 so that curve amplitude is at maximum point and there is optimum symmetry.

MW, LW TRACKING ADJUSTMENT

- **Connection Diagram**

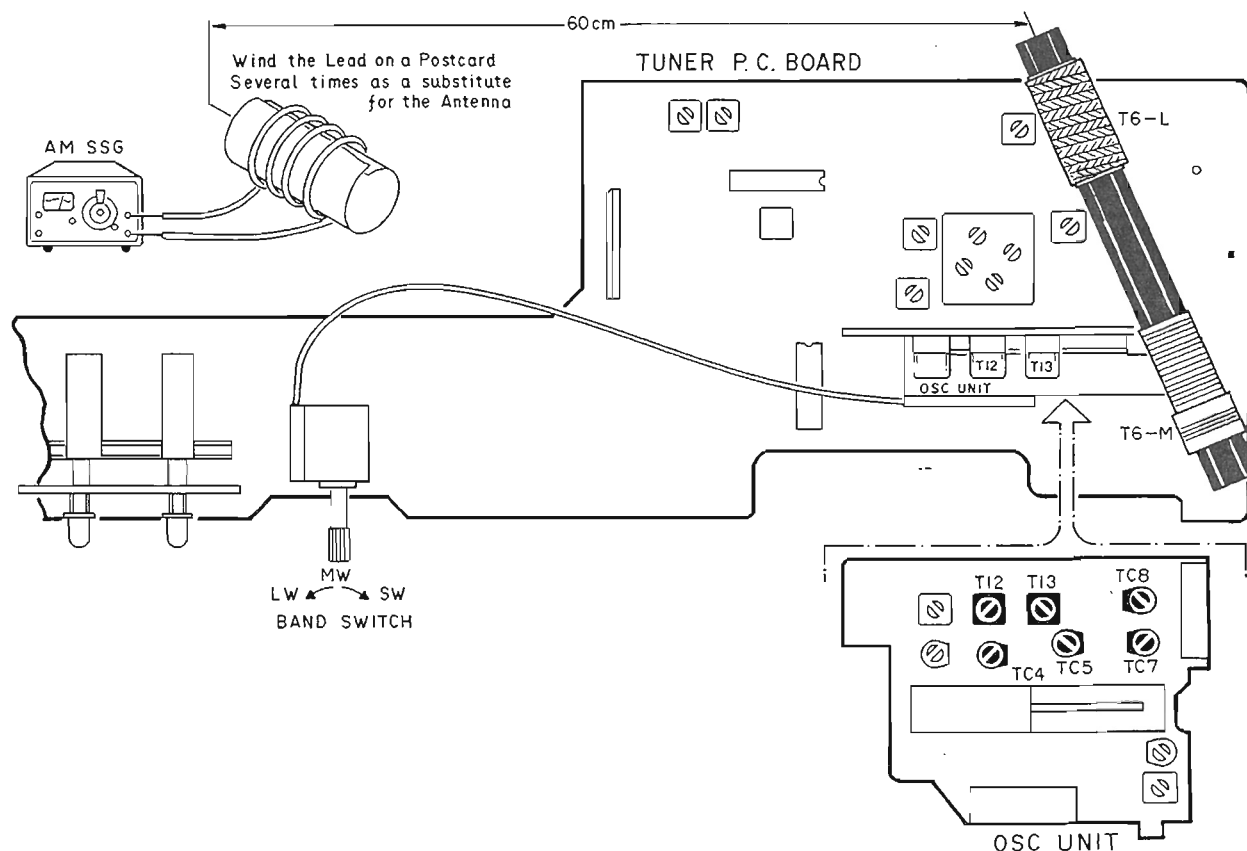


Fig. 3

- **Preparation**

Emit radio waves from an AM SSG using coil antenna as shown in illustration.

- **To Adjust (MW)**

Frequency of AM SSG	Variable Capacitor Position	Adjusting Point	Remarks
1. 515 kHz (400 Hz, 30% modulation) output level 60 dB/m.	Maximum (turn the tuning knob counterclockwise until low end.)	T12	515 kHz can be received.
2. 1,670 kHz (400 Hz, 30% modulation) output level 60 dB/m.	Minimum (turn the tuning knob clockwise until high end.)	TC4	1,670 kHz can be received.
3. Repeat (1) and (2) alternately and adjust so that 515 ~ 1,670 kHz are covered.			
4. 600 kHz (400 Hz, 30% modulation) output level 40 ~ 50 dB/m.	Tuned to 600 kHz.	T6 (MW coil of bar antenna)	Maximum output.
5. 1,400 kHz (400 Hz, 30% modulation) output level 40 ~ 50 dB/m.	Tuned to 1,400 kHz.	TC7	Maximum output.
6. Repeat (4) and (5) alternately and confirm that tuning pointer indication is correct.			

Note: After adjusting T6 (MW coil of bar antenna), melt electro wax with soldering iron and fix it in position.

• To Adjust (LW)

Frequency of AM SSG	Variable Capacitor Position	Adjusting Point	Remarks
1. 140 kHz (400 Hz, 30% modulation) output level 40 ~ 60 dB/m.	Maximum (turn the tuning knob counterclockwise until low end.)	T13	140 kHz can be received.
2. 300 kHz (400 Hz, 30% modulation) output level 40 ~ 60 dB/m.	Minimum (turn the tuning knob clockwise until high end.)	TC5	300 kHz can be received.
3. Repeat (1) and (2) alternately and adjust so that 140 ~ 300 kHz are received.			
4. 150 kHz (400 Hz, 30% modulation) output level 40 ~ 50 dB/m.	Tuned to 150 kHz.	T6 (LW coil of bar antenna)	Maximum output.
5. 280 kHz (400 Hz, 30% modulation) output level 40 ~ 50 dB/m.	Tuned 280 kHz.	TC8	Maximum output.
6. Repeat (4) and (5) alternately and confirm that they are as specified.			

Note: After adjusting T6 (LW coil of bar antenna), melt electro wax with soldering iron and fix it in position.

SW TRACKING ADJUSTMENT

• Connection Diagram

NOTICE:

Z: Output impedance of the SSG.

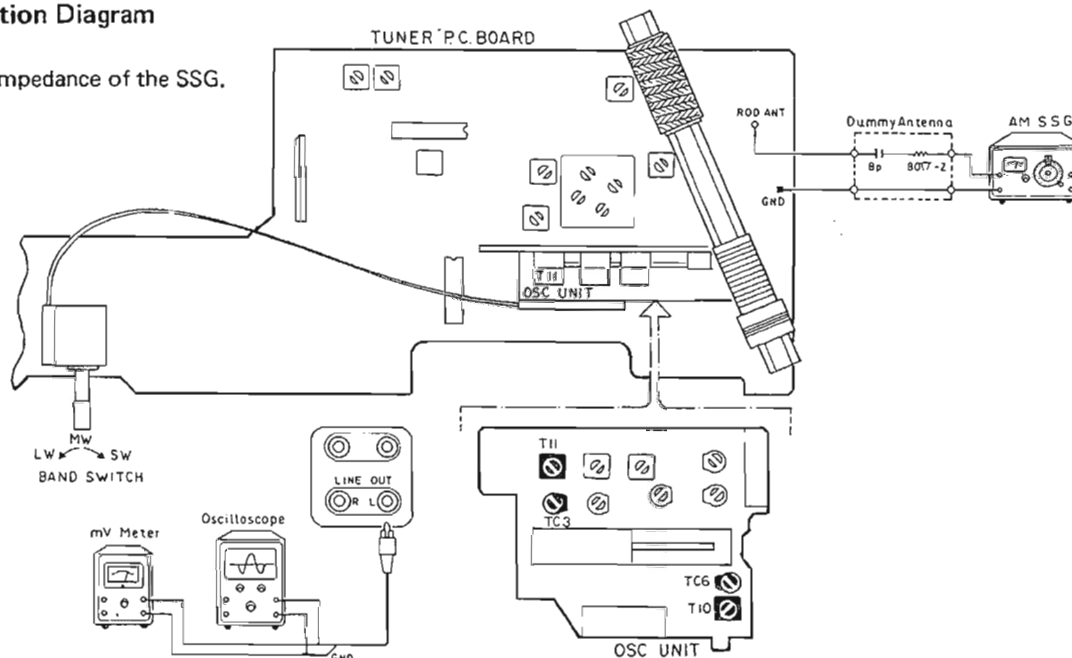


Fig. 4

• To Adjust

Frequency of AM SSG	Variable Capacitor Position	Adjusting Point	Remarks
1. 5.8 MHz (400 Hz, 30% modulation) output level 40 ~ 60 dB (μV).	Maximum (turn the tuning knob counterclockwise until low end.)	T11	5.8 MHz can be received.
2. 18.5 MHz (400 Hz, 30% modulation) output level 40 ~ 60 dB (μV).	Minimum (turn the tuning knob clockwise until high end.)	TC3	18.5 MHz can be received.
3. Repeat (1) and (2) alternately and adjust so that 5.8 ~ 18.5 MHz are received.			
4. 7 MHz (400 Hz, 30% modulation) output level 40 ~ 50 dB (μV).	Tuned to 7 MHz.	T10	Maximum output.
5. 17 MHz (400 Hz, 30% modulation) output level 40 ~ 50 dB (μV).	Tuned to 17 MHz.	TC6	Maximum output.
6. Repeat (4) and (5) alternately and confirm that they are as specified.			

FM IF ADJUSTMENT

• Connection Diagram

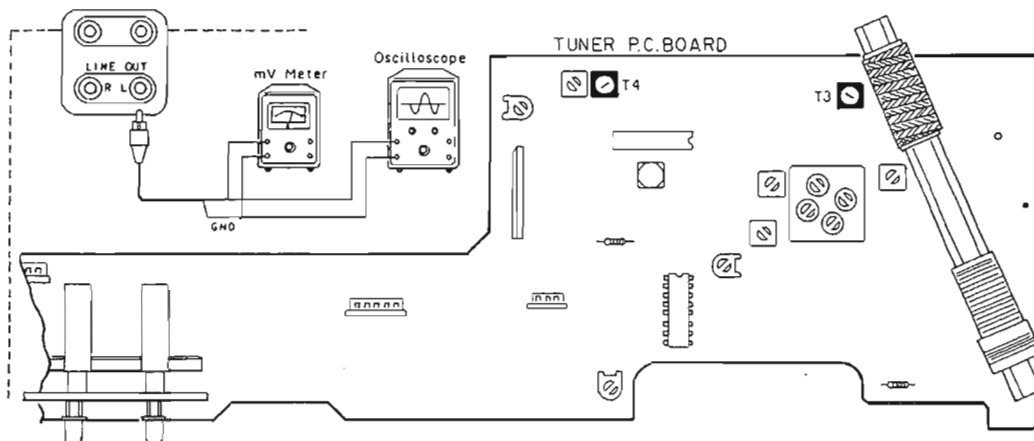


Fig. 5

• To Adjust

1. Adjust T3 and T4 so that noise level is highest at white noise.

FM TRACKING ADJUSTMENT

• Connection Diagram

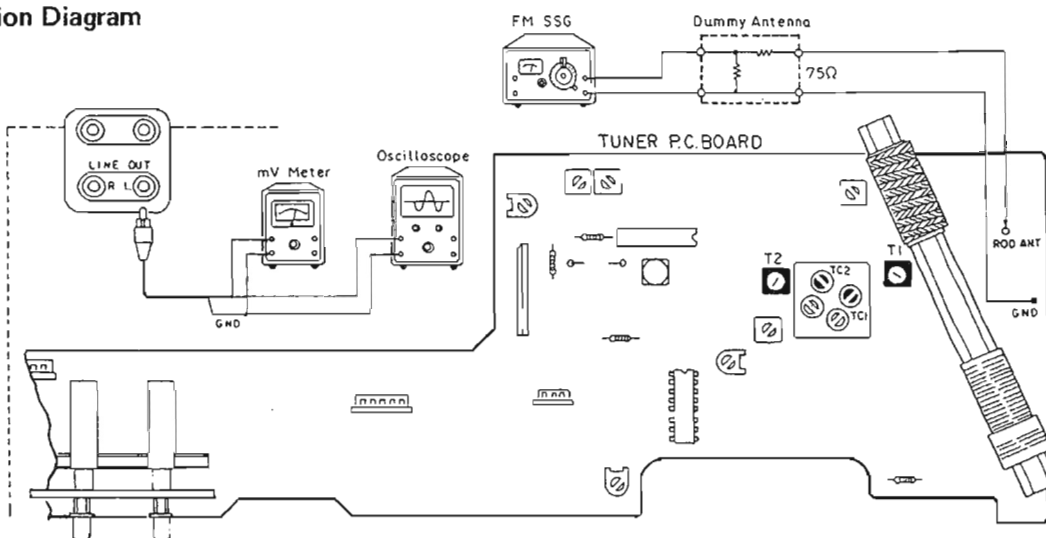


Fig. 6

• To Adjust

Frequency of FM SSG	Variable Capacitor Position	Adjusting Point	Remarks
1. 87.5 MHz (400 Hz, 75 kHz deviation) output level 30 dB (μV).	Maximum (turn the tuning knob counterclockwise until low end.)	T2	87.5 MHz can be received.
2. 106 MHz (400 Hz, 75 kHz deviation) output level 30 dB (μV).	Minimum (turn the tuning knob clockwise until high end.)	TC2	106 MHz can be received.
3. Repeat (1) and (2) alternately and adjust so that 87.5 ~ 106 MHz are received.			
4. 90 MHz (400 Hz, 75 kHz deviation) output level 5 ~ 20 dB (μV).	Tuned to 90 MHz.	T1	Maximum output.
5. 104 MHz (400 Hz, 75 kHz deviation) output level 5 ~ 20 dB (μV).	Tuned to 104 MHz.	TC1	Maximum output.
6. Repeat (4) and (5) alternately and adjust until tracking error disappears.			

FM IF FINAL ADJUSTMENT

• Connection Diagram

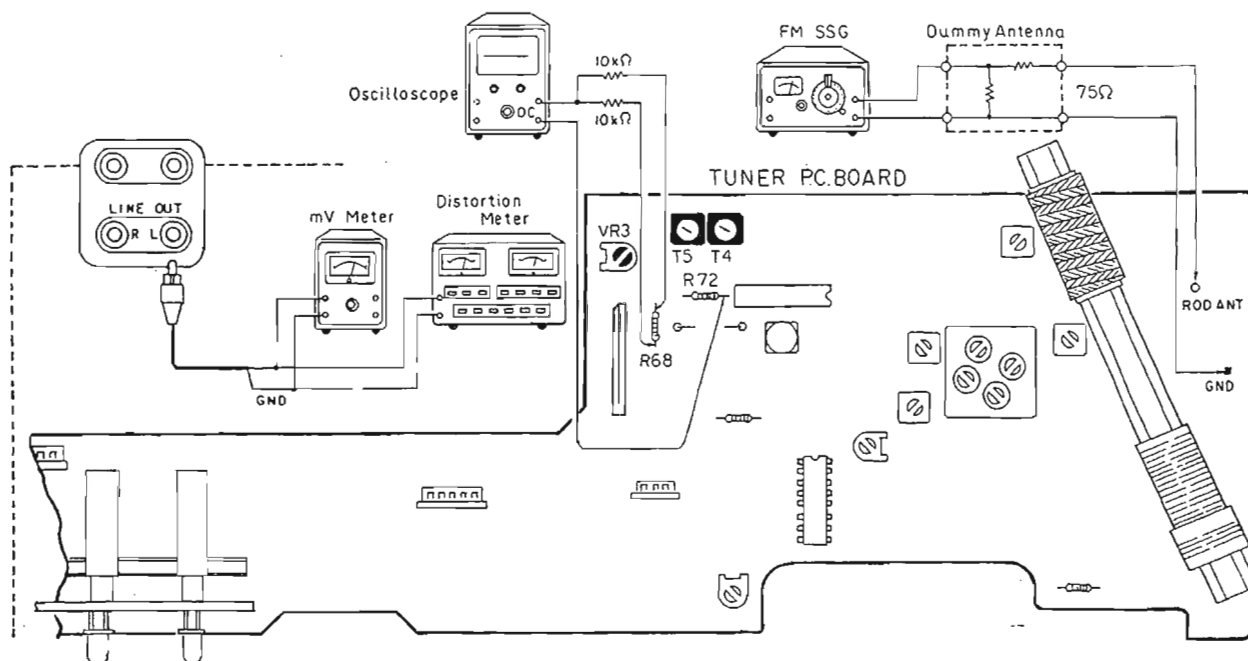


Fig. 7

• To Adjust

1. Using the FM SSG, apply a 98MHz, 66dB (μ V) signal to the antenna terminals and tune to 98MHz.
2. Adjust T4 until a maximum reading on the millivoltmeter is obtained.
3. Adjust T5 for minimum distortion. Note that adjusting T5 will change the maximum output point, so T4 and T5 will require 2 or 3 adjustments, alternating between the two.

MUTING, CENTER ADJUSTMENT

• Connection Diagram (Shown in Fig. 7)

• To Adjust

1. Using the FM SSG, apply a 98MHz, 10dB (μ V) (approx.) signal to the antenna terminals and tune to 98MHz.
2. Place the oscilloscope in the DC 0.1V/DIV range and adjust VR3 until a null is obtained.

FM MPX ADJUSTMENT

• Connection Diagram

Stereo Modulator

Modulation frequency 1kHz
 Modulation ratio 100%
 Pilot signal 7.5kHz deviation
 Main signal 67.5kHz deviation

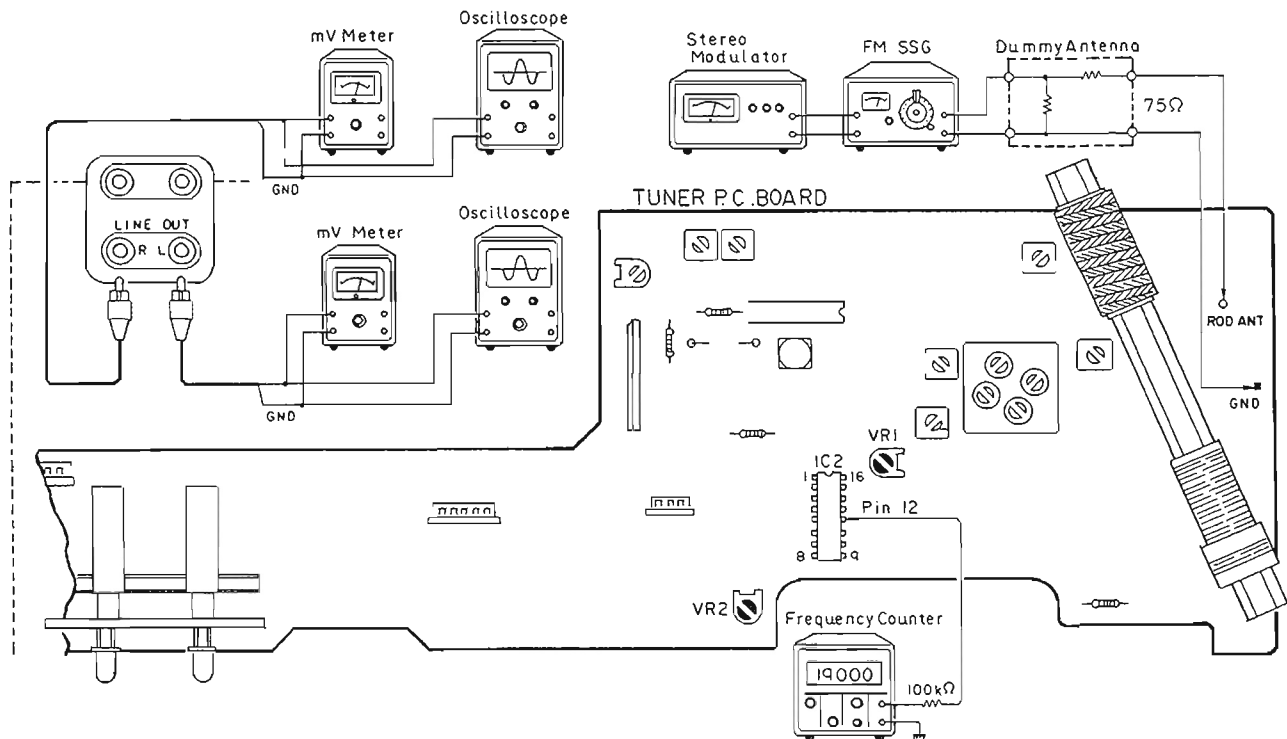


Fig. 8

• To Adjust

1. Using the FM SSG, apply a 98MHz, 10dB signal to the antenna terminals and tune to 98MHz.
2. Set output of the FM SSG to 60dB and turn modulation OFF.
3. Adjust VR1 until a reading of 19kHz $\pm$ 50Hz is obtained on the frequency counter.
4. Adjust VR2 for maximum separation.
5. Vary the output of FM SSG between 15 and 28dB and make sure that the tuning indicator (green) lights. If it doesn't light, short D2 or D4.

ELECTRICAL PARTS LIST

NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56 × 10¹ 561.....RD1/4PS 5 6 1 J

47kΩ 47 × 10³ 473.....RD1/4PS 4 7 3 J

0.5Ω 0R5RN2H 0 5 K

1Ω 010.....RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562 × 10¹RN1/4SR 5 6 2 1 F

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.
- The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Tuner P.C. Board

MISCELLANEOUS

Mark	Part No.	Symbol & Description	Mark	Part No.	Symbol & Description
★★	K84419C	IC1		HTE-131	T4 Coil
★★	KB4424B	IC2		HTF-132	T5 Coil
★★	AN6913 or NJM2903S	IC3		CTE-092	T8 IF Transformer
★★	2SC2840-E	Q1, Q2		HTE-138	T9 Coil
				CTF-040 or HTF-119	CF1, CF2 Ceramic Filter
★★	2SC2839-E	Q3, Q4			
★★	2SC380TM-Y	Q5, Q6		CTF-122	CF3 Filter
★★	2SD1012	Q7, Q10		HWW-106	BPF Filter
★★	2SC1815 or JC501	Q8, Q11		HCL-114	VC1-VC4, TC1-TC2 Variable Capacitor
	VACANT	Q9			
★★	2SB698 or 2SB621	Q12, Q13	★	HCP-130 or HCP-131	VR1 Semi-fixed, 6.8kΩ(B)
★★	2SD880-Y	Q14	★	CCP-053 or HCP-122	VR2 Semi-fixed, 5kΩ(B)
★★	2SA1015-Y	Q15	★	CCP-037 or HCP-123	VR3 Semi-fixed, 10kΩ(B)
★	1S188FM-1	D1	★★	HSG-148	S1 Switch (FUNCTION)
★	1S2473VH	D2-D4			
★	CZ060	D5			
★	ITT410	D6			
★	RD6R8EB2	D7			
★	MV-11	D16			
	CTF-010	L1 Inductor, 2.2μH		RD1/4PM □□□J	R1-R15, R19-R32, R36-R39, R41, R43-R50, R52, R55-R65, R67, R68, R70-R87, R91-R94, R96, R97
	HTF-115	L2 Inductor, 0.47μH		RD1/4VM □□□J	R16, R17, R40, R69
	CTC-061	T1 Coil		HCN-103	R42 10Ω 1/4W
	HTC-135	T2 Coil			
	CTC-040 or CTC-028	T3 IF Transformer			

RESISTORS

Mark	Part No.	Symbol & Description
	RD1/4PM □□□J	R1-R15, R19-R32, R36-R39, R41, R43-R50, R52, R55-R65, R67, R68, R70-R87, R91-R94, R96, R97
	RD1/4VM □□□J	R16, R17, R40, R69
	HCN-103	R42 10Ω 1/4W

Mark	Part No.	Symbol & Description
	RS2P □□□J	R51
	VACANT	R18, R33—R35, R53, R54, R66, R88—R90, R95

CAPACITORS

Mark	Part No.	Symbol & Description
	CCPSL270J50	C1
	CCPCH3R3K50	C2
	CCPCH6R8K50	C3
	CCPRH270J50	C4
	CCPSL101J50	C5, C20
	CKPYX103N25	C6, C8, C16, C17, C31, C40
	CCPSL010M50	C7
	CKDYF103Z25	C9
	CEA010M50L	C10, C37, C48, C49, C53—C55
	CCDCH010C50	C11
	CCPCH240J50	C12
	CCPRH8R2K50	C13
	CCPRH100J50	C14
	CCPRH180J50	C15
	CCDSL180J50	C18
	CCPRH3R9K50	C19
	CKPYY223N16	C21, C23, C25
	CKPYB561K50	C22
	CCDSL470K50	C24
	VACANT	C26, C27, C29
	CKDYF403Z25	C28, C41, C63
	CEA101M10L	C30
	CKPYX103N25	C32
	CKDYF403Z25	C33
	VACANT	C34, C35, C44, C45, C59—C62
	CEA100M16L	C36, C38, C42, C64
	CKPYX153N25	C39
	CQMA563K50	C43
	CEAR47M50L	C46, C47, C58
	CQMA183K50	C50, C51

Mark	Part No.	Symbol & Description
	CQSH471J50	C52
	CEA330M16L	C56
	CQMA473K50	C57
	CEA471M10L	C65

OSC Unit

Mark	Part No.	Symbol & Description
★	1S1555 or 1S2076 or DS442B	D18
	HTC-192	L3, L4 Coil
	HTX-145	T6 Antenna Unit
	HTC-139	T10 Coil
	HTC-177	T11 Coil
	HTC-164	T12 Coil
	HTC-189	T13 Coil
	CCG-069	TC3, TC4, TC6, TC7 Trimmer, 10pF
	HCG-108	TC5, TC8 Trimmer, 47pF
★★	HS-135	S2 Switch (Band)
	RD1/4VM □□□J	R98
	RD1/4PM □□□J	R99
	CCDSH120J50	C68
	CCDSH080D50	C69
	CCDSH470J50	C70
	CQMA182J50	C71
	CKDYD103M50	C72, C73
	CQPA562J100	C74
	CQSH361J50	C75
	CQSH271J50	C76
	CCDUJ150J50	C77
	CCDSH150J50	C78
	CCDPH181J50	C79
	CKDYF403Z25	C80
	CCDSL390J50	C81, C82

AF Amp Unit (SK-707L) (Page 54)

SK-700/KU, KC			SK-707L/HT, HB		
Mark	Part No.	Symbol & Description	Part No.	Symbol & Description	
	RD1/4VM820J	R113	HCN-116	R113	82Ω 1/4W
	HCN-104	R292 2.2Ω 1/4W	HCN-110	R292	4.7Ω 1/4W
	CKDYB101K50	*C197	CKDYB101K50	C197	

*Addition of capacitor (C197).

AF Amp Unit (SK-757L) (Page 55)

SK-750/KU, KC			SK-757L/HT, HB		
Mark	Part No.	Symbol & Description	Part No.	Symbol & Description	
	RD1/4VM820J	R55, R56, R114	HCN-116	R55, R56, R114	82Ω 1/4W
	HCN-104	R292 2.2Ω 1/4W	HCN-110	R292	4.7Ω 1/4W

Chassis (1) (Page 62)

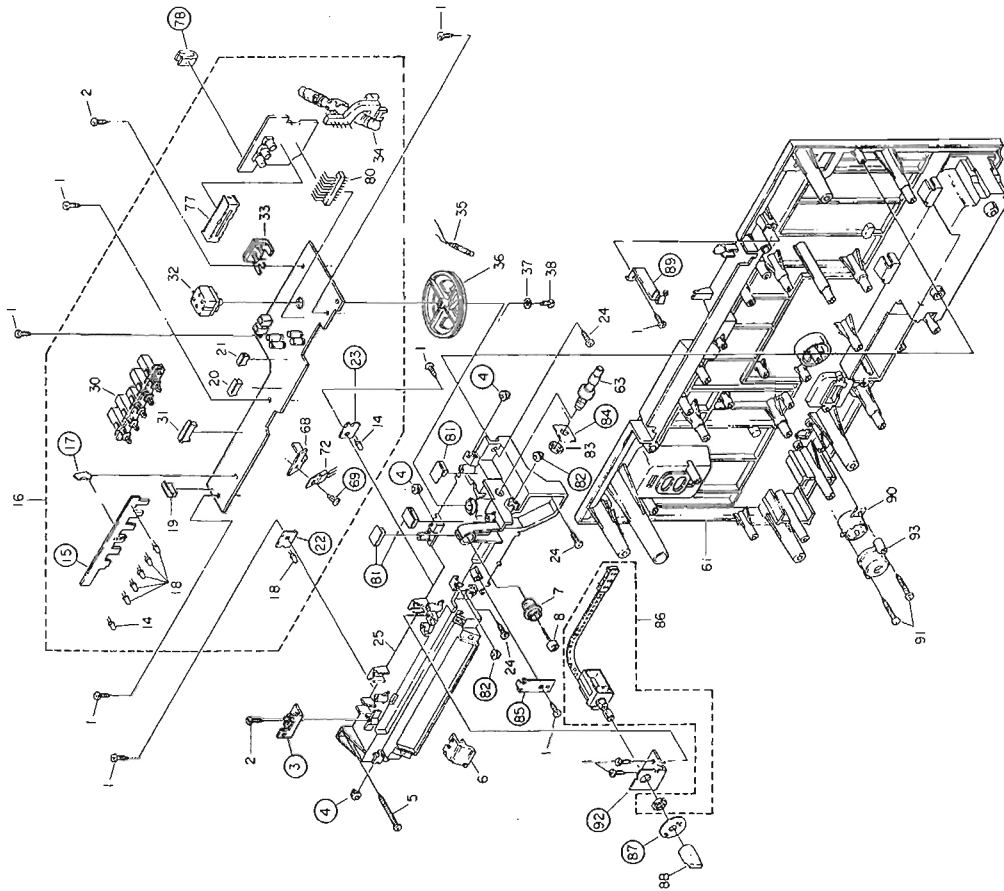


Fig. 9

SK-700, 750/KU, KC			SK-707L, 757L/HT, HB		
Mark	No.	Part No.	Description	Part No.	Description
	16.	HWE-167	Tuner Unit	HWE-173	Tuner Unit
	32.	HCL-110	Variable Capacitor	HCL-114	Variable Capacitor
	33.	HKA-112	Terminal		Deleted
	34.	HTX-138	Antenna Unit	HTX-145	Antenna Unit
Δ	44.	HTT-168	Power Transformer	HTT-176	Power Transformer (220V/240V)
★	61.	HNS-555	Case (SK-700, 750/KU)	HNS-591	Case
	63.	HNV-475	Shaft	HXA-909	Shaft Assy
★★	71.	2SD880-Y or 2SD1061-R	Spacer		Deleted
	72.		Transistor	2SD880-Y	Transistor
★★	77.			HSH-135	Switch (Band)
	78.				Cushion
	79.				VACANT
	80.			HKS-148	Plug
	81.				Cushion Unit
	82.			NK80FMC	Pulley
	83.				Nut
	84.				Holder
	85.				Bracket
★★	86.			HSH-134	Switch (Band)
	87.				Cover
★	88.			HAA-205	Knob (Band)
	89.				Bracket
Δ	90.			HSD-131	Switch (Voltage Selector)
	91.			HBA-145	Screw
Δ	92.				Bracket
	93.			HNV-536	Cover

Chassis (2) (SK-707L) (Page 65)

SK-700/KU, KC			SK-707L/HT, HB		
Mark	No.	Part No.	Description	Part No.	Description
	6.	HWK-215	AF Amp Assy	HWK-221	AF Amp Assy
Δ	46.	CKP-020	AC/DC Socket	HKP-112	AC/DC Socket
	53.	HNS-555	Case (SK-700/KU)	HNS-591	Case
Δ	57.	HEK-117	Fuse, 4A 125V	HEK-118	Fuse, 2A 250V
				HKR-102	Fuse Holder

Chassis (2) (SK-757L) (Page 68)

SK-750/KU, KC			SK-757L/HT, HB		
Mark	No.	Part No.	Description	Part No.	Description
	6.	HWK-217	AF Amp Assy	HWK-222	AF Amp Assy
	37.	HWX-386	LED Meter Unit	HWX-412	LED Meter Unit
★	53.	HNS-555	Case (SK-750/KU)	HNS-591	Case
Δ	57.	HEK-117	Fuse, 4A 125V	HEK-118	Fuse, 2A 250V
	58.		Film		Deleted
				HKR-102	Fuse Holder

SCHEMATIC CIRCUIT DIAGRAM (1) (TUNER, SK-707L, SK-757L)

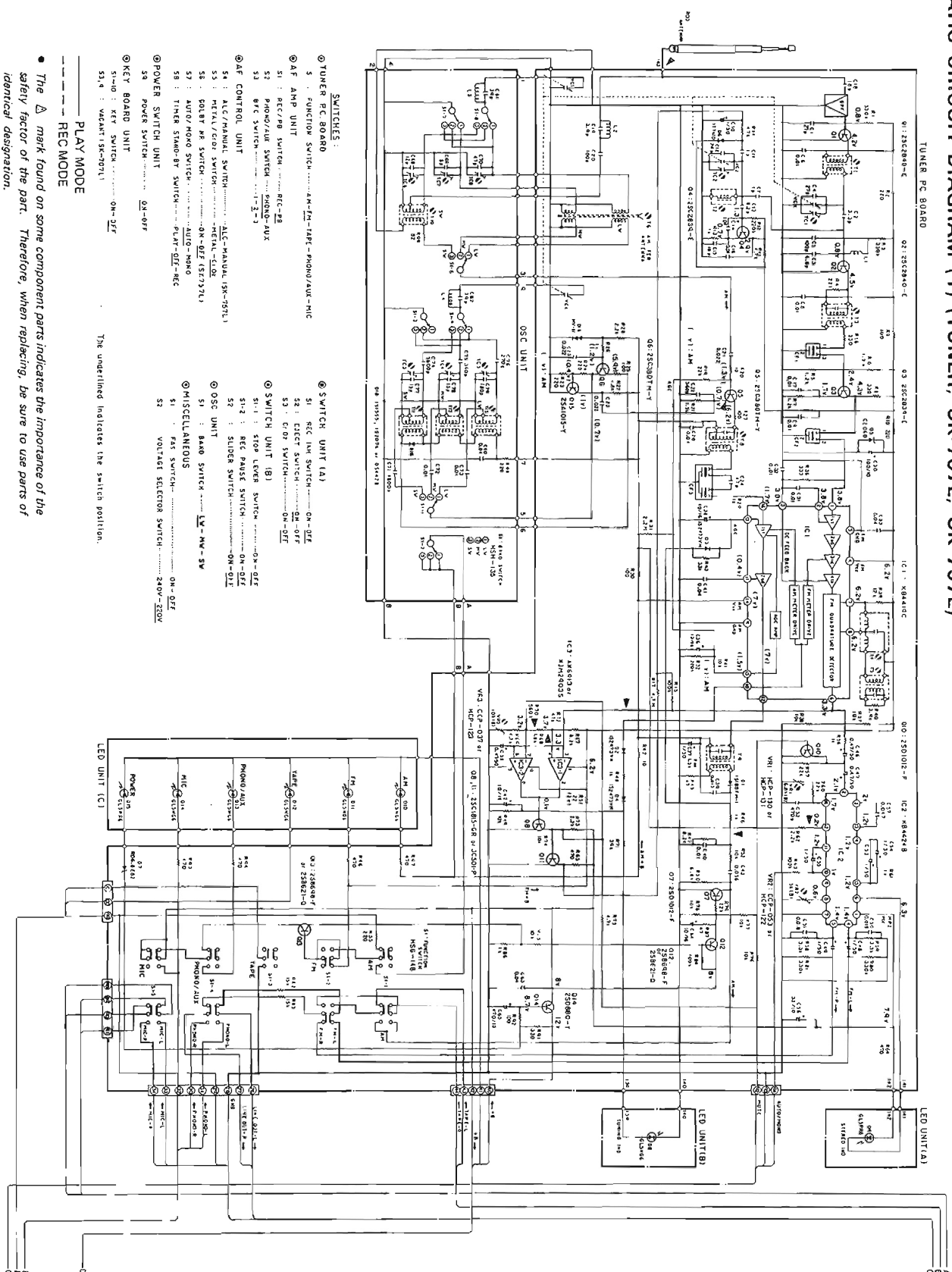
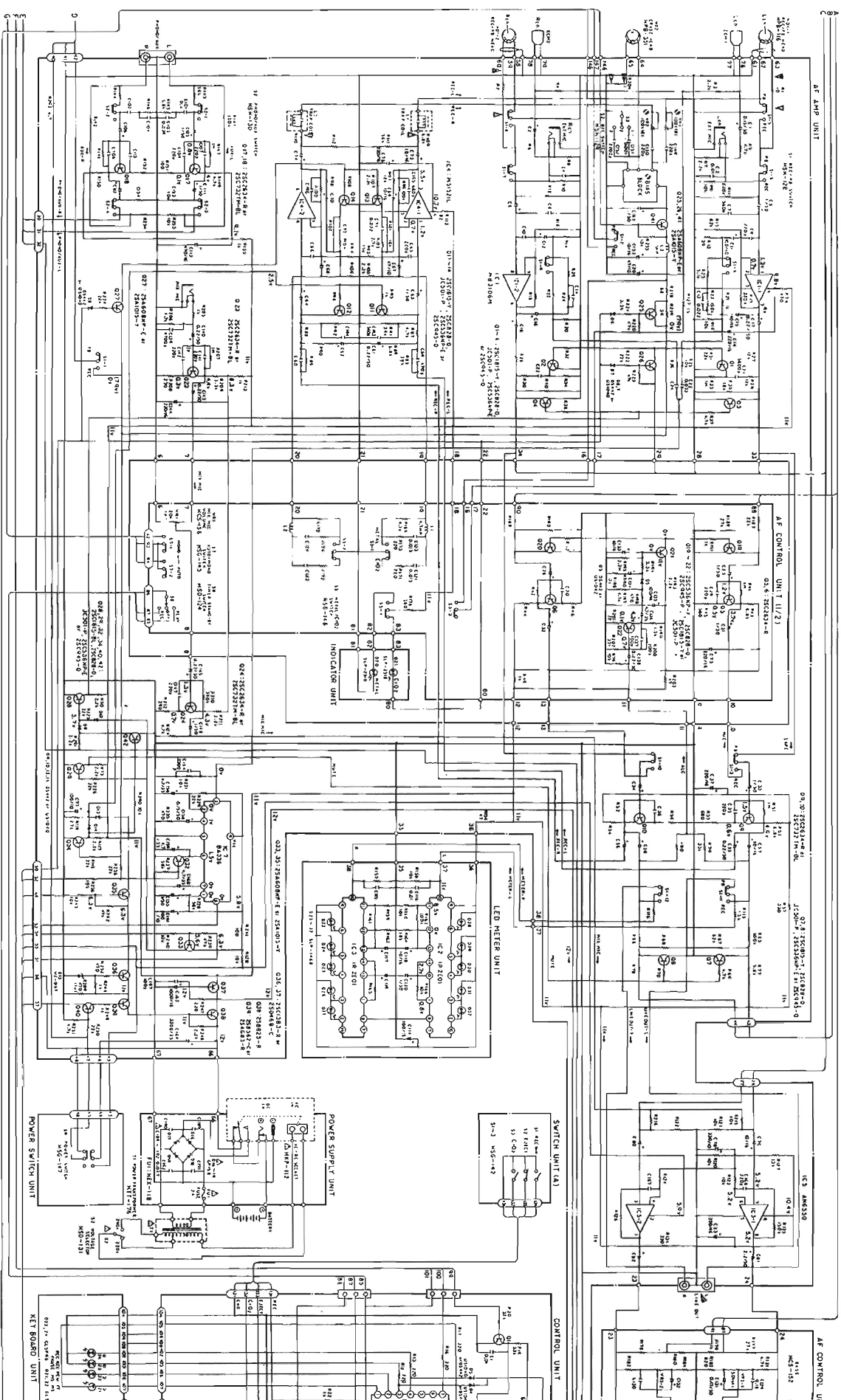


Fig. 10

SCHEMATIC CIRCUIT DIAGRAM (2) (SK-707L)



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SK707L/757L

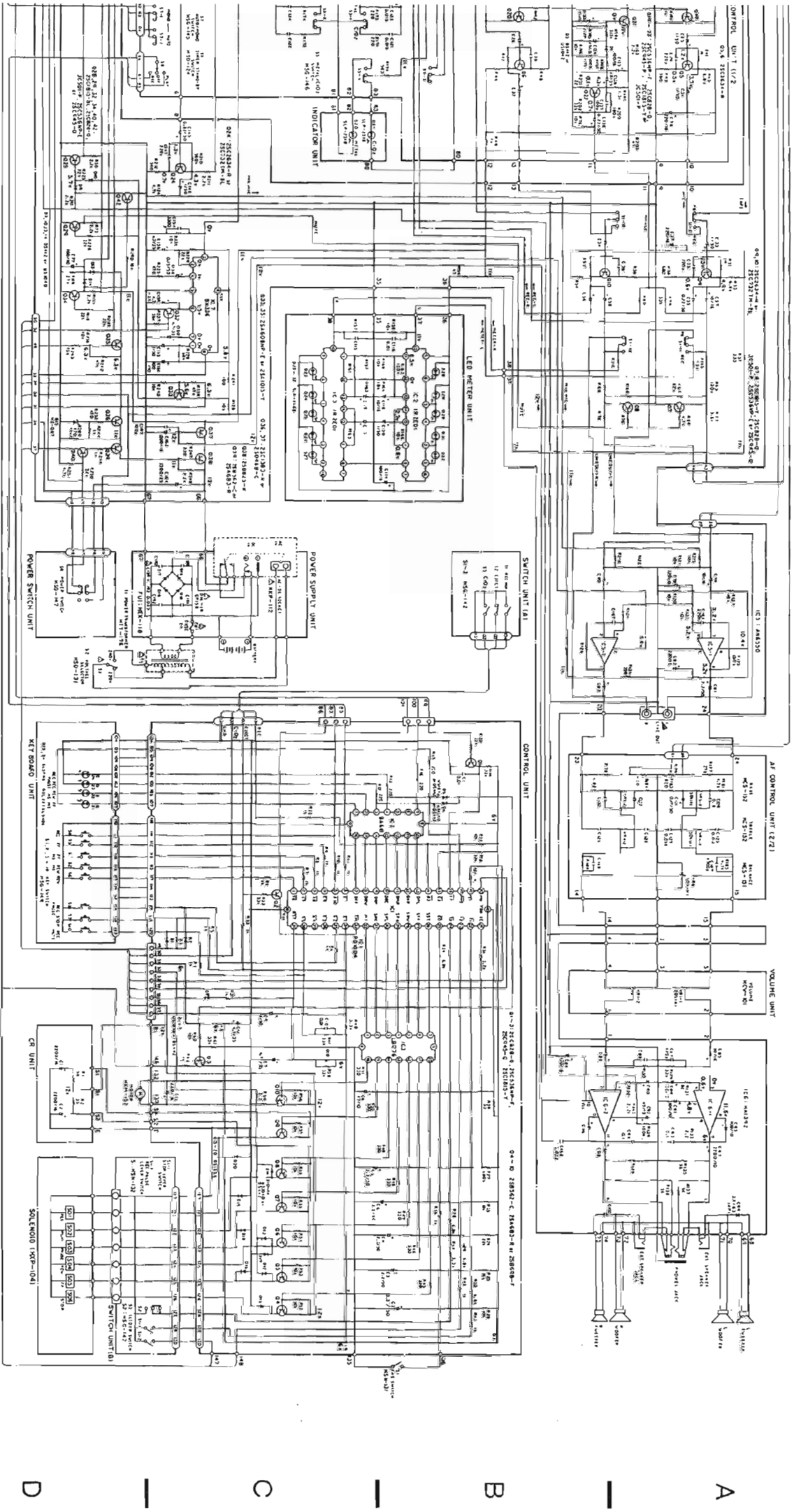


Fig. 11

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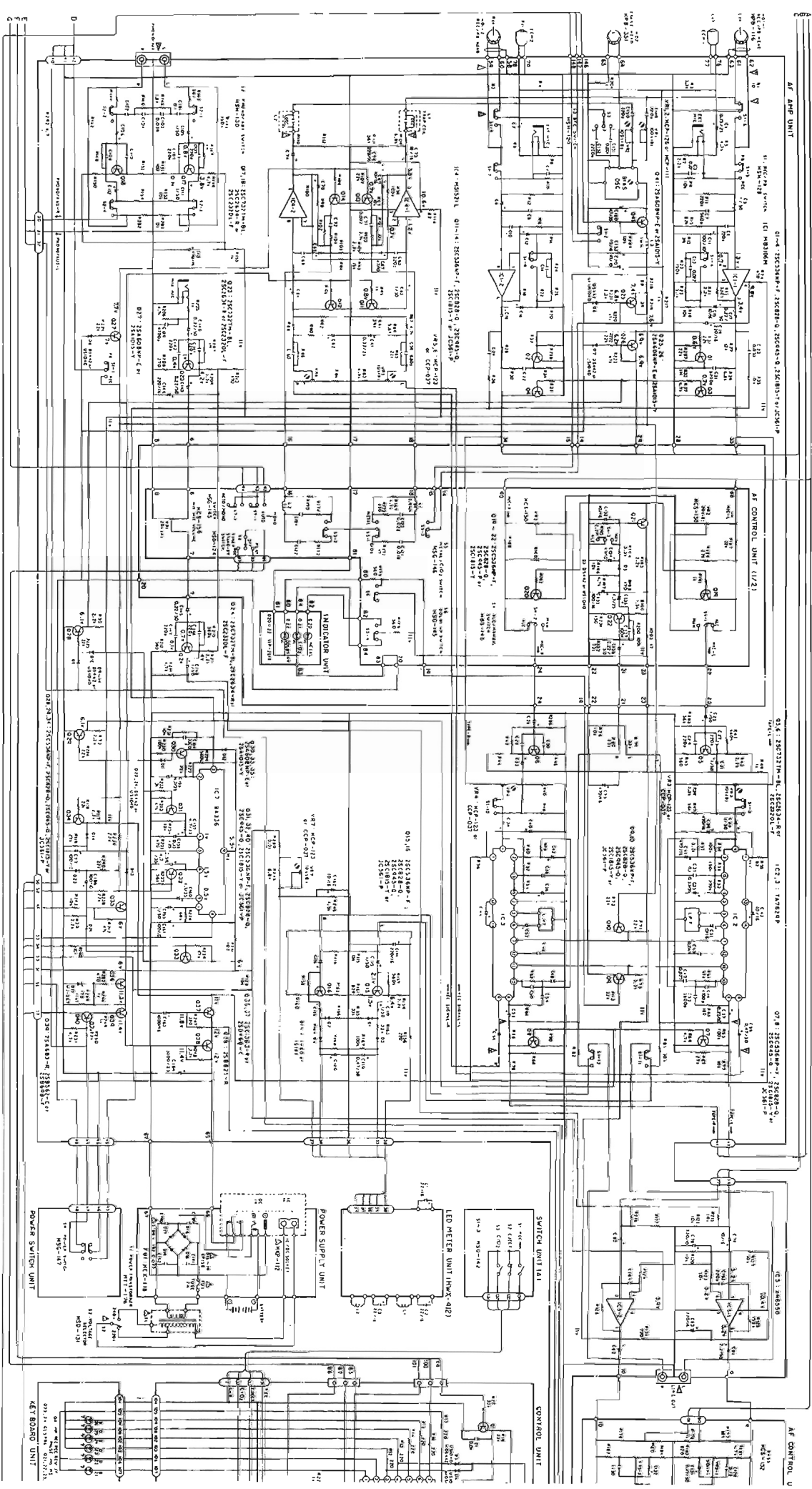
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SK707L/757L

SCHEMATIC CIRCUIT DIAGRAM (2) (SK-757L)



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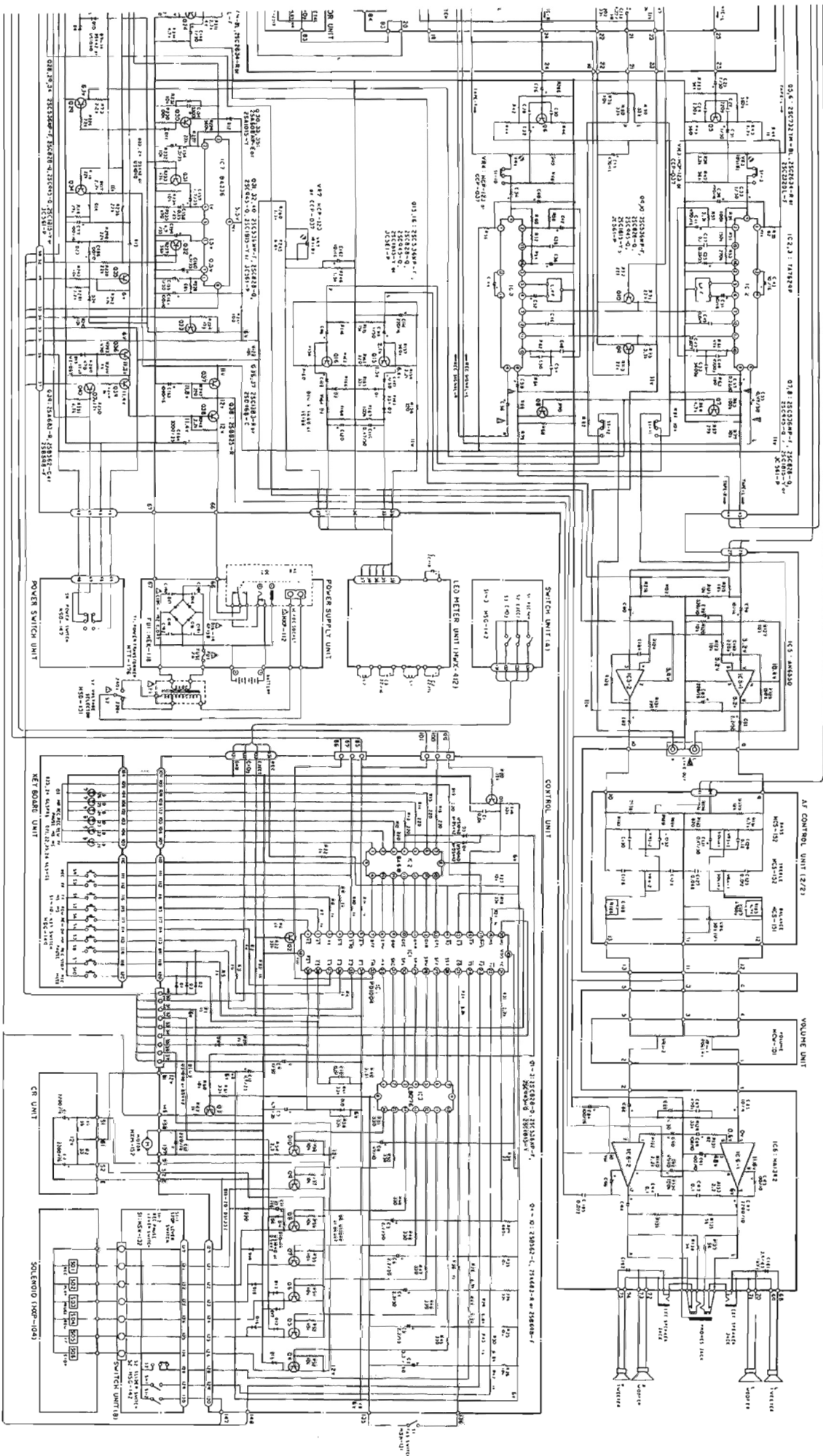


Fig. 12

