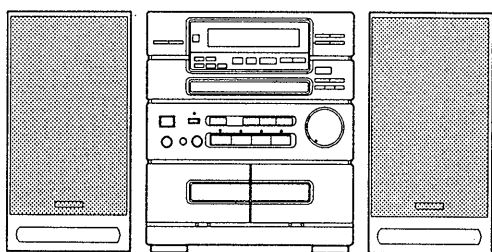


aiwa

XG-320 NSX-320 CX-N3100



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : 2ZM - 3 PR3
- BASIC CD MECHANISM : KSL - 2101ABM
- TYPE. D(XG-320), U(CX-3100)
- TYPE. HE, LH, E, K, Z, U(NSX-320)

製品コード : 83NX2 - 0110


SYSTEM	CD - CASSEIVER	REMOTE CONTROLLER	SPEAKER
XG - 320	CX - N320	RC - TN320	SX - N320
NSX - 320	CX - N320	RC - TN320	SX - N320

MANUAL
SERVICE

TABLE OF CONTENTS

· SPECIFICATIONS	3, 4
· PROTECTION OFF EYES FROM LASER BEAM DURING SERVICING	5
· ELECTRICAL MAIN PARTS LIST	6
· CHIP RESISTOR PART CODE	10
· TRANSISTOR ILLUSTRATION	11
· FL DIAGRAM	12
· BLOCK DIAGRAM—1 ~6	13
· SCHEMATIC DIAGRAM—1 (D Model)	25
· WIRING—1 (D Model)	27
· SCHEMATIC DIAGRAM—2 (LH, HE, U Models)	29
· WIRING—2 (HE, LH, U Models)	31
· SCHEMATIC DIAGRAM—3 (E, K Models)	33
· WIRING—3 (E, K Models)	35
· SCHEMATIC DIAGRAM—4 (Z Model)	37
· WIRING—4 (Z Model)	39
· SCHEMATIC DIAGRAM—5	41
· WIRING—5	43
· SCHEMATIC DIAGRAM—6	45
· WIRING—6	47
· WIRING—7	49
· ADJUSTMENT 1~3	50
· MECHANICAL EXPLODED VIEW—1~2 / MECHANICAL PARTS LIST—1~2	62
· DECK MECHANISM EXPLODED VIEW—1~2 / DECK MECHANISM PARTS LIST—1~2	66
· CD MECHANISM EXPLODED VIEW—1~2 / CD MECHANISM PARTS LIST—1~2	70
· SPRING APPLICATION POSITION	73
· SPEAKER EXPLODED VIEW / SPEAKER PARTS LIST	74
· ACCESSORIES / PACKAGE LIST	75
· REFERENCE NAME LIST	76

SPECIFICATION

<FM section>		Wow/flutter	Unmeasurable
Frequency range	87.5 MHz to 108 MHz	Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Usable sensitivity (IHF)	1.3 μ V (75 ohms) 13.2 dBf	Harmonic distortion	0.05% (1 kHz, 0 dB)
Alternate channel selectivity	50 dB (\pm 400 kHz)	<Speaker SX-N320>	
Signal-to-noise ratio	70 dB (STEREO), 76 dB (MONO)	Cabinet type	3-way, bass reflex (Magnetism sealed type)
Harmonic distortion	0.3 % (MONO), 1 kHz 0.5 % (STEREO, L-R), 1 kHz	Speaker	130 mm (5 ¹ / ₈ in.) cone type woofer 50 mm (2 in.) cone type tweeter 20 mm (1 ³ / ₁₆ in.) ceramic type super tweeter
Frequency response	30 Hz to 15 kHz (+0.5 dB, - 3 dB)	Impedance	6 ohms
Stereo separation	33 dB at 1 kHz	Music power	40 W
Antenna	75 ohms (unbalanced)	Output sound pressure level	87 dB/W/m
<AM (MW) section>		Dimensions (W \times H \times D)	180 \times 302.5 \times 200 mm (7 ¹ / ₈ \times 12 \times 7 ⁷ / ₈ in.)
Frequency range	NSX-320HE, E, K, Z: 9/(10) kHz steps AM 531 (530) kHz to 1,602 (1,710) kHz NSX-320LH, NSX-3100U: 10/(9) kHz steps AM 530 (531) kHz to 1,710 (1,602) kHz	Weight	2.6 kg (5.7 lb.)
Usable sensitivity	350 μ V/m	<General>	
Selectivity	22 dB (9 kHz)	Power requirements	NSX-320LH, HE: AC 120 V/220-240 V, switchable 50/60 Hz NSX-320E, Z: AC 230 V, 50 Hz NSX-320K: AC 240 V, 50 Hz NSX-3100 U: AC 120 V, 60 Hz NSX-320HE, LH: 55 W NSX-320E, K, Z: 125 W NSX-3100U: 60 W
Signal-to-noise ratio	53 dB (100 dB input)	Power consumption	Main unit: 260 \times 302.5 \times 329.5 mm (10 ¹ / ₄ \times 12 \times 13 in.) System: 620 \times 302.5 \times 329.5 mm (24 ¹ / ₂ \times 12 \times 13 in.) Center unit: 6.2 kg (13.64 lb.) System: 11.4 kg (25.08 lb.)
Antenna	Loop antenna	Dimensions (W \times H \times D)	
<LW section> (NSX-320E, K, Z)		Weight	
Frequency range	144 kHz to 290 kHz	Design and specifications are subject to change without notice.	
Sensitivity	1,400 μ V/m	Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.	
Antenna	Loop antenna	The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.	
<Timer section>		Under license from BBE Sound, Inc.	
Program timer	On-timer, capable of free setting		
Sleep timer	Capable of setting in 10-minute increments, 240 minutes max.		
<Amplifier section>			
Power output	NSX-320LH, HE: 20W + 20W (6 ohms, T.H.D. 10 % 1 kHz) EIAJ NSX-320E, K, Z: 20W + 20W (6 ohms, T.H.D. 1 % 1 kHz) DIN FTC RULE (NSX-3100 U) 20 watts per channel, Min. RMS at 6 ohms, from 65 Hz to 15 kHz, with no more than 1% Total Harmonic Distortion 0.055% (10 W, 1 kHz, 6 ohms) VIDEO/AUX: 400 mV		
Harmonic distortion			
Input sensitivity			
<Cassette deck section>			
Track format	4 tracks, 2 channels		
Frequency response	CrO ₂ tape: 50 - 16,000 Hz Normal tape: 50 - 15,000 Hz		
Signal-to-noise ratio	60 dB (DOLBY NR ON, CrO ₂ tape peak level)		
Tape speed	4.8 cm/sec. (1 ⁷ / ₈ ips)		
Recording system	AC bias		
Erasure system	AC erase		
Motor	DC servomotor \times 1		
Heads	Playback head \times 1 (deck 1) Recording/playback/erasure head \times 1 (deck 2)		
<CD player section>			
Disc	Compact disc		
Scanning method	Non-contact optical scanner (semiconductor laser application)		
Laser	Semiconductor laser (λ = 780 nm)		
Rotation speed	Approx. 500 rpm - 200 rpm (CLV)		
Error correction	Cross Interleave, Reed Solomon code		
No. of channels	2		
D-A conversion	16-bit linear		

SPECIFICATIONS

チューナー部

<F M 部>

受信周波数: 76 MHz~108 MHz
実用感度: 1.8 μ V (75 Ω) 16.2 dBf (IHF)
実効選択度: 50 dB (\pm 400 kHz)
S N 比: 70 dB (STEREO) 78 dB (MONO)
高調波歪率: MONO 0.3% (1 kHz)
STEREO 0.8% (1 kHz)
周波数特性: 20 Hz~15,000 Hz (+0.5 dB、-3 dB)
ステレオセパレーション: 35 dB (1 kHz)
アンテナ: 75 Ω (不平衡)

<A M 部>

受信周波数: 531 kHz~1602 kHz
実用感度: ループアンテナ300 μ V/m
選択度: 18 dB
S N 比: 53 dB (100 dB入力) (MONO)
ステレオセパレーション: 20 dB (1 kHz)
アンテナ: ループアンテナ

<タイマー部>

プログラムタイマー: オン・タイマー、任意に設定可
オフ・タイマー、10分単位で設定可、
最大240分
スリープタイマー: 10分単位で設定可、最大240分

アンプ部

定格出力: 20W + 20 W (1 kHz、10%) EIAJ
高調波歪率: 0.055% (10 W、1 kHz、6 Ω)
入力感度: VIDEO/AUX: 400 mV

カセットデッキ部

トラック方式: 4トラック2チャンネル

周波数特性:

テープの種類	周波数特性
CrO ₂ テープ	50~16,000 Hz
ノーマルテープ	50~15,000 Hz

S N 比: 60 dB (DOLBY B NR ON、CrO₂ テープ
ピークレベル)

テープ速度: 4.8 cm/sec

モーター: DCサーボモーター×1 (キャプスタン用)

ヘッド: 再生ヘッド×1 (デッキ1)

録再・消去コンビネーションヘッド×1
(デッキ2)

CDプレーヤー部

ディスク: コンパクトディスク

読み取り方式: 非接触光学式読み取り
(半導体レーザー使用)

レーザー: 半導体レーザー λ =780 nm

回転数: 約 500 rpm ~ 200 rpm (CLV)

エラー訂正方式: クロスインターリーブ リード ソロモンコ
ード

チャンネル数: 2チャンネル

復号化: 16 bit 直線

S N 比: 90 dB (1kHz)

高調波歪率: 0.05% (1kHz)

ワウフラッター: 測定限界以下

スピーカー

型式: 3ウェイバスレフタイプ
(磁気シールドタイプ: EIAJ)

インピーダンス: 6 Ω

最大入力: 40 W (ミュージックパワー)

出力音圧レベル: 87 dB/W/m

使用スピーカー: ウーハー13 cm コーン型

ツイーター5 cm コーン型

スーパーツイーター2 cm

寸法: 180 (W) × 302.5 (H) × 220 (D) mm

重量: 2.6 kg

共通部

電源: AC 100 V、50 / 60 Hz


消費電力: 55 W

本体寸法: 260 (W) × 302.5 (H) × 329.5 (D) mm

本体重量: 6.2 kg

システム寸法: 620 (W) × 302.5 (H) × 329.5 (D) mm

システム重量: 11.4 kg

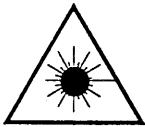
- 外観及び仕様は予告なく変更する場合があります。
- ドルビーノイズリダクションはドルビーラボラトリーズライセンス
リングコーポレーションからの実施権に基づき製造されてい
ます。
ドルビー、DOLBY及びダブルD記号  はドルビーラボラト
リーズライセンスリングコーポレーションの商標です。
- BBEおよびBBEシンボルマークはBBE・サウンド・イン
コーポレイテッドの商標です。
- BBE・サウンド・インコーポレイテッドにより実施権を許諾
された商品です。

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion.
Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstråling, som överskrider gränsen för laserklass 1.

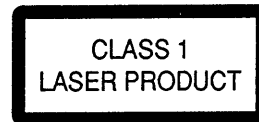
CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block 光学ブロック (KSS - 210A) 交換時の注意

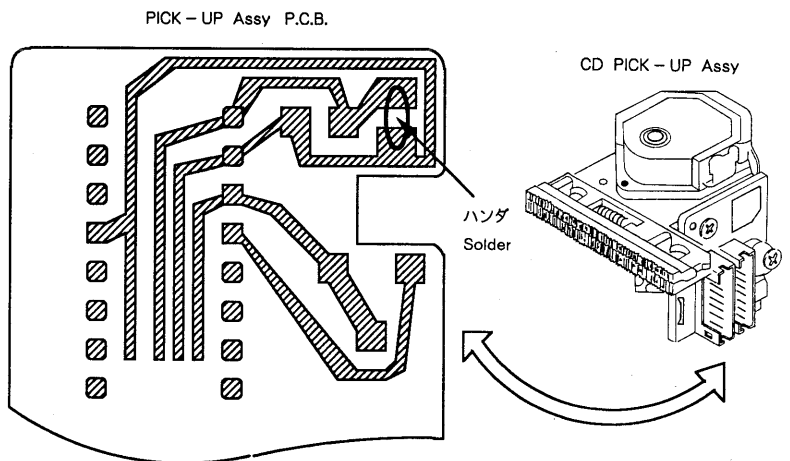
(KSS - 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in figure below.

光学系ブロック内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。人体アース、作業台のアースをとり、衣服が触れぬよう注意して下さい。

- 1) コネクターを接続後、右図に示すハンダ付けを取り除いて下さい。



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カリ NO.	DESCRIPTION	REF. NO	PART NO.	カリ NO.	DESCRIPTION
IC							
	87-001-196-080	1A	IC, ICP-N10 T104		81-653-648-010		ANT TERM EARTH PAL (Z, K, E)
	82-NE8-605-110	2P	IC, UPD78043GF-024		81-653-638-110	OE	ANT TERMINAL EARTH (D, LH, HE, U)
	82-NE6-617-010	1E	IC, GP1U581X		81-689-212-010	OE	PLATE, EARTH
	87-020-899-010	2M	IC, STK4122-MK2	BPF731	82-794-697-010		FILTER ANTI BIRDIE (Z)
	87-020-758-010	1A	IC, NJM 2068 SD	BPF831	87-030-105-010		FLTR, BPMBGA (Z)
	87-002-727-010	1A	IC, NJM4558L	C101	87-010-398-090	OE	CAP, E 2200-35V
	87-017-375-080	1B	IC, TC4094BF	C102	87-010-390-090	OE	CAP E 3300-25 SME
	87-001-874-010	1B	IC, HA12134A	C104	87-010-980-080	OE	CAP, E 330-16 FS
	87-027-827-010	OE	IC, TC4069UBP	C105	87-010-101-080	OE	CAP, E 220-16 SME
	87-002-218-010		IC, XRC5451AP (EXCEPT D)	C106	87-010-408-080	OE	CAP, E 47-50 SME
	87-017-374-010	1B	IC, TC4094BP	C107	87-010-408-080	OE	CAP, E 47-50 SME
	87-027-666-010	1B	IC, TC4052BP	C108	87-010-408-080	OE	CAP, E 47-50 SME
	87-001-607-080	1A	IC, NJM4558M	C109	87-010-263-080	OE	CAP, E 100-10
	87-002-607-010	1D	IC, LM7001	C110	87-010-263-080	OE	CAP, E 100-10
	87-020-446-010	1B	IC, TA7343AP	C112	87-010-260-080	OE	CAP, E 47-25 SME
	87-001-942-010	1D	IC, LA1265 (S)	C113	87-010-403-080	OE	CAP, E 3.3-50 SME
	87-002-641-010	1E	IC, TA8124P (D)	C115	87-018-208-080	OE	CAP, TC-U 0.047-50 F (D)
	87-002-272-080	1B	IC, TC4052 BF	C115	87-018-214-080		CAP, TC-U 0.1-50 F (Z)
				C116	87-018-127-080	OE	CAP, TC-U 470P-50 B
				C118	87-018-208-080	OE	CAP, TC-U 0.047-50 F (D)
TRANSISTOR							
	89-213-702-010	1A	TR, 2SB1370E	C118	87-018-214-080		CAP, TC-U 0.1-50 F (Z)
	89-332-665-080	OE	TR, 2SC3266GR	C213	87-010-404-080	OE	CAP, E 4.7-50 SME
	89-318-155-080	OE	TR, 2SC1815GR	C214	87-010-404-080	OE	CAP, E 4.7-50 SME
	87-026-462-080	OE	TR, 2SC1740S (RS)	C215	87-018-131-080	OE	CAP, TC-U 1000P-50 B
	89-110-155-080	OE	TR, 2SA1015GR	C216	87-018-131-080	OE	CAP, TC-U 1000P-50 B
	89-113-187-880	OE	TR, 2SA1318 TU	C217	87-010-401-080	OE	CAP, E 1-50 SME
	89-406-555-080	OE	TR, 2SD655E	C218	87-010-401-080	OE	CAP, E 1-50 SME
	87-026-292-080	OE	TRANSISTOR, DTA 144WS	C221	87-010-402-080	OE	CAP, E 2.2-50 SME
	87-026-226-080	OE	C-TR, DTA143EK	C222	87-010-402-080	OE	CAP, E 2.2-50 SME
	87-026-218-080	OE	TR, DTC144ES	C223	87-010-260-080	OE	CAP, E 47-25 SME
	89-502-466-080	1A	TR FET 2SK246-BL (TPE2)	C224	87-010-260-080	OE	CAP, E 47-25 SME
	87-026-463-080	OE	TR, 2SA933S (RS)	C225	87-010-260-080	OE	CAP, E 47-25 SME
	87-026-238-080	OE	C-TR, DTC144WK	C226	87-010-260-080	OE	CAP, E 47-25 SME
	89-333-317-080	OE	TR, 2SC3331T	C227	87-018-214-080	OE	CAP, TC U 0.1-50 F
	89-109-705-080	OE	TR, 2SA970GR (D, Z, K, E)	C228	87-018-214-080	OE	CAP, TC U 0.1-50 F
	87-026-289-080	OE	TR, DTC 143 XS (TP)	C236	87-010-408-080	OE	CAP, E 47-50 SME
	89-109-521-080	OE	TR, 2SA952K	C241	87-018-134-080		CAP, TC-U 0.01-16 Y (Z)
	87-026-211-080	OE	C-TR, DTA144EK T147	C242	87-018-134-080		CAP, TC-U 0.01-16 Y (Z)
	87-026-213-080	OE	C-TR, DTC114YK T147	C243	87-018-104-080	OE	CAP, TC-U 10P-50 SL
	89-502-464-080	OE	FET, 2SK246Y	C244	87-018-104-080	OE	CAP, TC-U 10P-50 SL
	89-318-154-080	OE	TR, 2SC1815Y	C303	87-018-124-080	OE	CAP, TC-U 270P-50 B
	87-026-214-080	OE	TR, DTA114YS	C304	87-018-124-080	OE	CAP, TC-U 270P-50 B
	87-026-219-080	OE	TR, DTA144ES (D)	C309	87-018-134-080	OE	CAP, TC-U 0.01-16 Y
	87-026-215-080	OE	TR, DTC114YS (D)	C310	87-018-134-080	OE	CAP, TC-U 0.01-16 Y
	89-319-233-080	OE	TR, 2SC1923 (O)	C313	87-018-205-080	OE	CAP, TC-U 0.022-25 F
	89-502-415-080	1A	FET, 2SK241GR	C314	87-010-260-080	OE	CAP, E 47-25 SME
	89-501-615-080	OE	TR 2SK161-GR (TPE4)	C351	87-018-121-080	OE	CAP, TC-U 150P-50 B
	87-026-318-080	OE	C-TR, DTC363EK	C352	87-018-121-080	OE	CAP, TC-U 150P-50 B
	89-320-011-080		TR, 2SC2001K (Z, K, E)	C353	87-018-124-080	OE	CAP, TC-U 270P-50 B
				C354	87-018-124-080	OE	CAP, TC-U 270P-50 B
				C355	87-010-260-080	OE	CAP, E 47-25 SME
				C361	87-018-134-080	OE	CAP, TC-U 0.01-16 Y
				C362	87-018-134-080	OE	CAP, TC-U 0.01-16 Y
				C365	87-018-205-080	OE	CAP, TC-U 0.022-25 F
				C367	87-018-214-080	OE	CAP, TC-U 0.1-50 F
DIODE							
	87-002-225-010	1B	DIODE DBF 40C-K10	C401	87-010-402-080	OE	CAP, E 2.2-50 SME
	87-001-574-080	OE	DIODE 1SR139-200	C402	87-010-402-080	OE	CAP, E 2.2-50 SME
	87-020-691-080	OE	C-DIODE, 1SS132	C407	87-010-401-080	OE	CAP, E 1-50 SME
	87-001-916-080	OE	ZENER UTZJ10B	C408	87-010-401-080	OE	CAP, E 1-50 SME
	87-002-743-080	OE	ZENER, MTZJ 33B	C415	87-018-121-080	OE	CAP, TC-U 150P-50 B
	87-001-914-080	OE	ZENER UTZJ 6.2B	C416	87-018-121-080	OE	CAP, TC-U 150P-50 B
	87-001-911-080	OE	ZENER, UTZJ4.7A (TAPG)	C451	87-018-123-080	OE	CAP, TC-U 220P-50 B
	87-020-027-080	OE	C-DIODE, 1SS184	C452	87-018-123-080	OE	CAP, TC-U 220P-50 B
	87-020-465-080	OE	DIODE, 1SS133	C453	87-018-131-080	OE	CAP, TC-U 1000P-50 B
	87-020-125-080	OE	C-DIODE, 1SS181	C455	87-018-131-080	OE	CAP, TC-U 1000P-50 B (D, Z, K, E)
	87-001-559-080	OE	DIODE ISS 131 (T-72)	C456	87-010-260-080	OE	CAP, E 47-25 SME
	87-001-913-080	OE	ZENER UTZJ5.6B	C459	87-018-198-080	OE	CAP, TC-U 2700P-16 X
	87-002-843-080	OE	DIODE, 1SS108	C501	87-010-405-080	OE	CAP, E 10-50 SME
				C502	87-010-405-080	OE	CAP, E 10-50 SME
				C503	87-018-195-080	OE	CAP, TC-U 1200P-16 X
MAIN C.B							

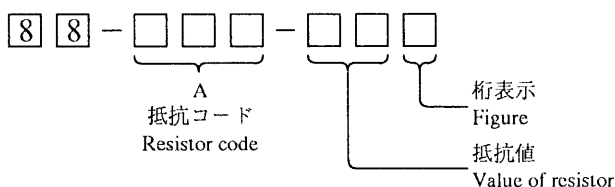
REF. NO	PART NO.	カソリ NO.	DESCRIPTION	REF. NO	PART NO.	カソリ NO.	DESCRIPTION
C504	87-018-195-080	0E	CAP, TC-U 1200P-16 X	C728	87-010-402-080		CAP, E 2.2-50 SME(Z)
C505	87-010-401-080	0E	CAP, E 1-50 SME	C729	87-010-402-080		CAP, E 2.2-50 SME(Z)
C506	87-010-401-080	0E	CAP, E 1-50 SME	C731	87-018-134-080		CAP, TC-U 0.01-16 Y(EXCEPT D)
C507	87-018-131-080	0E	CAP, TC-U 1000P-50 B	C732	87-018-134-080		CAP, TC-U 0.01-16 Y(Z, K, E)
C508	87-018-131-080	0E	CAP, TC-U 1000P-50 B	C733	87-018-205-080		CAP, TC-U 0.022-25 F(Z, K, E)
C509	87-010-371-080	0E	CAP, E 470-6.3	C741	87-010-402-080	0E	CAP, E 2.2-50 SME
C515	87-010-545-080	0E	CAP, E 0.22-50 SME	C742	87-018-125-080	0E	CAP, TC-U 330P-50 B
C516	87-010-545-080	0E	CAP, E 0.22-50 SME	C743	87-010-382-080	0E	CAP, E 22-25 SME
C517	87-010-400-080	0E	CAP, E 0.47-50 SME	C744	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C518	87-010-400-080	0E	CAP, E 0.47-50 SME	C745	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C520	87-018-133-080	0E	CAP, TC-U 4700P-16 X	C746	87-010-401-080	0E	CAP, E 1-50 SME
C521	87-018-100-080	0E	CAP, TC-U 4.7P-50 SL	C748	87-010-404-080	0E	CAP, E 4.7-50 SME
C522	87-018-100-080	0E	CAP, TC-U 4.7P-50 SL	C749	87-010-405-080	0E	CAP, E 10-50 SME
C523	87-018-131-080	0E	CAP, TC-U 1000P-50 B	C750	87-010-544-080	0E	CAP, E 0.1-50
C524	87-018-131-080	0E	CAP, TC-U 1000P-50 B	C751	87-010-403-080	0E	CAP, E 3.3-50 SME
C525	87-018-121-080	0E	CAP, TC-U 150P-50 B	C752	87-018-134-080		CAP, TC-U 0.01-16 Y(EXCEPT D)
C526	87-010-260-080	0E	CAP, E 47-25 SME	C754	87-010-260-080		CAP, E 47-25 SME(EXCEPT D)
C527	87-010-401-080	0E	CAP, E 1-50 SME	C755	87-010-401-080	0E	CAP, E 1-50 SME
C528	87-018-100-080	0E	CAP, TC-U 4.7P-50 SL	C756	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C581	87-010-405-080		CAP, E 10-50 SME(EXCEPT D)	C760	87-018-134-080	0E	CAP, TC-U 0.01-16 Y(EXCEPT Z)
C582	87-010-405-080		CAP, E 10-50 SME(EXCEPT D)	C770	87-010-402-080	0E	CAP, E 2.2-50 SME(D)
C601	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C773	87-010-263-080	0E	CAP, E 100-10(D)
C602	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C774	87-010-545-080	0E	CAP, E 0.22-50 SME(D)
C605	87-018-121-080		CAP, TC-U 150P-50 B(EXCEPT D)	C775	87-018-205-080	0E	CAP, TC-U 0.022-25 F(D)
C606	87-018-121-080		CAP, TC-U 150P-50 B(EXCEPT D)	C776	87-010-404-080	0E	CAP, E 4.7-50 SME(D)
C607	87-018-134-080		CAP, TC-U 0.01-16 Y(EXCEPT D)	C777	87-010-757-080	0E	C-CAP, U 0.047-25F(D)
C608	87-018-134-080		CAP, TC-U 0.01-16 Y(EXCEPT D)	C778	87-010-757-080	0E	C-CAP, U 0.047-25F(D)
C609	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C779	87-010-263-080	0E	CAP, E 100-10(D)
C610	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C780	87-018-134-080	0E	CAP, TC-U 0.01-16 Y(D)
C611	87-010-404-080		CAP, E 4.7-50 SME(EXCEPT D)	C781	87-018-107-080	0E	CAP, TC-U 18P-50 SL(D)
C612	87-010-404-080		CAP, E 4.7-50 SME(EXCEPT D)	C783	87-010-544-080	0E	CAP, E 0.1-50(D)
C615	87-018-198-080		CAP, TC-U 2700P-16 X(EXCEPT D)	C784	87-010-544-080	0E	CAP, E 0.1-50(D)
C616	87-018-198-080		CAP, TC-U 2700P-16 X(EXCEPT D)	C785	87-010-544-080	0E	CAP, E 0.1-50(D)
C617	87-018-122-080		CAP, TC-U 180P-50 B(EXCEPT D)	C786	87-010-544-080	0E	CAP, E 0.1-50(D)
C618	87-018-122-080		CAP, TC-U 180P-50 B(EXCEPT D)	C787	87-010-544-080	0E	CAP, E 0.1-50(D)
C621	87-010-400-080		CAP, E 0.47-50 SME(EXCEPT D)	C788	87-010-544-080	0E	CAP, E 0.1-50(D)
C622	87-010-400-080		CAP, E 0.47-50 SME(EXCEPT D)	C802	87-018-105-080	0E	CAP, TC-U 12P-50 SL(Z)
C623	87-010-404-080		CAP, E 4.7-50 SME(EXCEPT D)	C802	87-018-097-080	0E	CAP, TC-U 2.2P-50 SL(D)
C624	87-010-404-080		CAP, E 4.7-50 SME(EXCEPT D)	C802	87-018-102-080		CAP, TC-U 6.8P-50 SL(EXCEPT D, Z)
C628	87-010-404-080	0E	CAP, E 4.7-50 SME	C804	87-018-102-080	0E	CAP, TC-U 6.8P-50 SL(EXCEPT Z)
C630	87-010-405-080		CAP, E 10-50 SME(EXCEPT D)	C805	87-018-097-080		CAP, TC-U 2.2P-50 SL(Z)
C631	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C805	87-018-098-080	0E	CAP, TC-U 3.3P-50 SL(EXCEPT Z)
C632	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C806	87-018-096-080	0E	CAP, TC-U 1P-50 SL
C633	87-010-101-080		CAP, E 220-16 SME(EXCEPT D)	C807	87-018-106-080		CAP, TC-U 15P-50 SL(Z)
C635	87-010-405-080		CAP, E 10-50 SME(EXCEPT D)	C807	87-018-100-080	0E	CAP, TC-U 4.7P-50 SL(EXCEPT Z)
C636	87-010-404-080	0E	CAP, E 4.7-50 SME	C808	87-018-119-080	0E	CAP, TC-U 100P-50 B
C681	87-010-405-080	0E	CAP, E 10-50 SME	C809	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C700	87-010-221-080	0E	CAP, E 470-10	C810	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C701	87-010-384-080	0E	CAP, E 100-25 SME	C811	87-018-106-080	0E	CAP, TC-U 15P-50 SL(D)
C702	87-010-404-080	0E	CAP, E 4.7-50 SME	C811	87-018-116-080		CAP, TC-U 56P-50 SL(EXCEPT D)
C703	87-018-134-080	0E	CAP, TC-U 0.01-16 Y	C812	87-018-107-080		CAP, TC-U 18P-50 SL(EXCEPT D)
C705	87-010-248-080	0E	CAP, E 220-10 SME	C812	87-018-102-080	0E	CAP, TC-U 6.8P-50 SL(D)
C706	87-018-134-080	0E	CAP, TC-U 0.01-16 Y	C813	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C707	87-018-134-080	0E	CAP, TC-U 0.01-16 Y	C814	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C708	87-018-134-080	0E	CAP, TC-U 0.01-16 Y	C815	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C710	87-018-149-080	0E	CAP, TC-U 15P-50 CH	C816	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C713	87-018-199-080	0E	CAP, TC-U 3300P-16 X	C817	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C714	87-018-199-080	0E	CAP, TC-U 3300P-16 X	C818	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C715	87-018-195-080	0E	CAP, TC-U 1200P-16 X	C819	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C716	87-018-195-080	0E	CAP, TC-U 1200P-16 X	C820	87-010-260-080	0E	CAP, E 47-25 SME
C720	87-018-121-080	0E	CAP, TC-U 150P-50 B	C821	87-018-134-080	0E	CAP, TC-U 0.01-16 Y
C721	87-010-400-080	0E	CAP, E 0.47-50 SME(D)	C822	87-018-103-080	0E	CAP, TC-U 8.2P-50 SL
C721	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C823	87-018-107-080	0E	CAP, TC-U 18P-50 SL
C722	87-010-400-080	0E	CAP, E 0.47-50 SME(D)	C826	87-018-134-080		CAP, TC-U 0.01-16 Y(Z, K, E)
C722	87-010-401-080		CAP, E 1-50 SME(EXCEPT D)	C830	87-018-134-080		CAP, TC-U 0.01-16 Y(Z)
C723	87-010-405-080	0E	CAP, E 10-50 SME	C830	87-018-214-080		CAP, TC-U 0.1-50 F(K, E)
C724	87-014-057-080	0E	CAP, PP 1000P-100 J	C831	87-018-105-080		CAP, TC-U 12P-50 SL(Z)
C725	87-010-401-080	0E	CAP, E 1-50 SME	C831	87-018-097-080	0E	CAP, TC-U 2.2P-50 SL(D)
C726	87-010-403-080	0E	CAP, E 3.3-50 SME	C831	87-018-102-080		CAP, TC-U 6.8P-50 SL(EXCEPT D, Z)
C727	87-010-248-080	0E	CAP, E 220-10 SME	C832	87-018-108-080		CAP, TC-U 20P-50 SL(Z)

REF. NO	PART NO.	カリ NO.	DESCRIPTION	REF. NO	PART NO.	カリ NO.	DESCRIPTION
S307	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C38	87-010-186-080	OE C-CAP, S	4700P-50 B
S307	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C39	87-010-401-080	OE CAP, E	1-50 SME
S308	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C40	87-015-819-080	OE C-CAP, S	0.01-50 B K
S308	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C41	87-010-318-080	OE C-CAP, S	47P-50 CH
S309	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C42	87-010-318-080	OE C-CAP, S	47P-50 CH
S309	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C43	87-010-318-080	OE C-CAP, S	47P-50 CH
S310	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C44	87-010-314-080	OE C-CAP, S	22P-50 CH
S310	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C45	87-010-315-080	OE C-CAP, S	27P-50 CH
S311	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C51	87-010-197-080	OE C-CAP, S	0.01-25 B
S311	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C52	87-010-263-080	OE CAP, E	100-10
S312	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C53	87-010-318-080	OE C-CAP, S	47P-50 CH
S312	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C54	87-010-318-080	OE C-CAP, S	47P-50 CH
S313	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C55	87-010-318-080	OE C-CAP, S	47P-50 CH
S313	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C56	87-010-196-080	OE C-CAP, S	0.1-25 F
S314	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C57	87-010-197-080	OE C-CAP, S	0.01-25 B
S314	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C61	87-010-197-080	OE C-CAP, S	0.01-25 B
S315	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C62	87-010-371-080	OE CAP, E	470-6.3
S315	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C65	87-010-402-080	OE CAP, E	2.2-50 SME
S316	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C66	87-010-402-080	OE CAP, E	2.2-50 SME
S316	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C69	87-010-178-080	OE C-CAP, S	1000P-50 B
S317	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C70	87-010-178-080	OE C-CAP, S	1000P-50 B
S317	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C80	87-010-196-080	OE C-CAP, S	0.1-25 F
S318	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C81	87-010-221-080	OE CAP, E	470-10
S318	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C82	87-010-197-080	OE C-CAP, S	0.01-25 B
S319	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C82	87-010-197-080	OE C-CAP, S	0.01-25 B
S319	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C83	87-010-196-080	OE C-CAP, S	0.1-25 F
S320	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C84	87-010-196-080	OE C-CAP, S	0.1-25 F
S320	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C85	87-010-196-080	OE C-CAP, S	0.1-25 F
S321	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C86	87-010-248-080	OE CAP, E	220-10 SME
S321	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C87	87-010-197-080	OE C-CAP, S	0.01-25 B
S322	87-036-215-080	OE SW, TACT	EVQ21404M(EXCEPT Z, E)	C88	87-010-221-080	OE CAP, E	470-10
S322	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C89	87-010-197-080	OE C-CAP, S	0.01-25 B
S323	87-036-215-080	SW, TACT	EVQ21404M(LH, HE, K, U)	C90	87-010-404-080	OE CAP, E	4.7-50 SME
S323	87-036-259-080	SW, TACT	SKHVBB (Z, E)	C91	87-010-137-010	OE CAP, E	22-16 BP
VR701	81-MX4-637-010	1B VR	10KA RK11K1130	C100	87-010-260-080	OE CAP, E	47-25 SME
X201	87-008-394-080	1A CF	CST 4.19 MGW	C101	87-010-196-080	OE C-CAP, S	0.1-25 F
C2	87-010-146-080	OE C-CAP, S	2P-50 CH	C102	87-010-221-080	OE CAP, E	470-10
C3	87-010-154-080	OE C-CAP, S	10P-50 CH	C103	87-010-197-080	OE C-CAP, S	0.01-25 B
C4	87-010-263-080	OE CAP, E	100-10	C104	87-010-197-080	OE C-CAP, S	0.01-25 B
C5	87-010-178-080	OE C-CAP, S	1000P-50 B	C105	87-010-196-080	OE C-CAP, S	0.1-25 F
C6	87-010-382-080	OE CAP, E	22-25 SME	C106	87-010-197-080	OE C-CAP, S	0.01-25 B
C7	87-010-197-080	OE C-CAP, S	0.01-25 B	C107	87-010-263-080	OE CAP, E	100-10
C8	87-010-248-080	OE CAP, E	220-10 SME	C108	87-010-197-080	OE C-CAP, S	0.01-25 B
C9	87-010-193-080	OE C-CAP, S	0.033-25 F	C109	87-010-197-080	OE C-CAP, S	0.01-25 B
C10	87-010-188-080	OE C-CAP, S	6800P-50 B	C110	87-010-197-080	OE C-CAP, S	0.01-25 B
C11	87-010-192-080	OE C-CAP, S	0.022-50 F	C111	87-010-197-080	OE C-CAP, S	0.01-25 B
C12	87-010-193-080	OE C-CAP, S	0.033-25 F	C112	87-010-384-080	OE CAP, E	100-25 SME
C13	87-010-193-080	OE C-CAP, S	0.033-25 F	C113	87-010-322-080	OE C-CAP, S	100P-50 CH
C14	87-010-197-080	OE C-CAP, S	0.01-25 B	C114	87-010-322-080	OE C-CAP, S	100P-50 CH
C15	87-010-263-080	OE CAP, E	100-10	C115	87-010-318-080	OE C-CAP, S	47P-50 CH
C16	87-010-197-080	OE C-CAP, S	0.01-25 B	C116	87-012-156-080	OE C-CAP, S	220P-50 CH
C17	87-010-248-080	OE CAP, E	220-10 SME	EM1	87-008-474-080	OE F-BEAD, EM1	BL02RN1
C18	87-010-400-080	OE CAP, E	0.47-50 SME	L1	87-003-295-080	OE COIL, 10UH	
C19	87-010-197-080	OE C-CAP, S	0.01-25 B	L2	87-003-295-080	OE COIL, 10UH	
C20	87-010-197-080	OE C-CAP, S	0.01-25 B	R28	87-022-214-080	OE C-RES, S	100K-1/10WF
C21	87-010-182-080	OE C-CAP, S	2200P-50 B	R29	87-022-214-080	OE C-RES, S	100K-1/10WF
C22	87-010-197-080	OE C-CAP, S	0.01-25 B	SFR1	87-024-354-080	OE SFR, 22K	DIA6 H
C25	87-010-405-080	OE CAP, E	10-50 SME	SFR2	87-024-354-080	OE SFR, 22K	DIA6 H
C27	87-010-382-080	OE CAP, E	22-25 SME	SFR3	87-024-354-080	OE SFR, 22K	DIA6 H
C28	87-010-382-080	OE CAP, E	22-25 SME	SFR4	87-024-349-080	OE SFR, 1K	DIA6 H
C29	87-010-403-080	OE CAP, E	3.3-50 SME	X1	87-030-270-080	1B VIB, XTAL	16.9344MHZ
C32	87-010-197-080	OE C-CAP, S	0.01-25 B	MOTOR-1 C. B			
C33	87-010-400-080	OE CAP, E	0.47-50 SME	M1	9X-262-513-210	2M SLED MOTOR (SLED)	
C35	87-010-178-080	OE C-CAP, S	1000P-50 B	M2	+ + +	2M SLED MOTOR (SPINDLE)	
C36	87-010-260-080	OE CAP, E	47-25 SME	S1	91-572-085-110	1B LEAF SW (INSIDE LIMIT)	
C37	87-010-401-080	OE CAP, E	1-50 SME	MOTOR-2 C. B			

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C91	87-010-137-010	0E	CAP, E 22-16 BP	C807	87-010-149-080	0E	C-CAP, S 5P-50 CH
M3	9X-262-511-710	2M	MOTOR ASSY (LOADING)	C808	87-010-149-080	0E	C-CAP, S 5P-50 CH
S2	91-572-086-110	1B	LEAF SW (OPEN/CLOSE)	C809	87-010-183-080	0E	C-CAP, S 2700P-50 B
S3	91-572-086-110	1B	LEAF SW (CLOSE)	C810	87-010-183-080	0E	C-CAP, S 2700P-50 B
				C813	87-010-182-080	0E	C-CAP, S 2200P-50 B
AC C. B				C814	87-010-182-080	0E	C-CAP, S 2200P-50 B
AC VOLTAGE C. B				C815	87-010-316-080	0E	C-CAP, S 33P-50 CH
△SW101	87-036-235-010	SW, SL	ESD 269(LH, HE)	C816	87-010-316-080	0E	C-CAP, S 33P-50 CH
△F101	87-035-413-010	1A	FUSE T1. 6A 250VUL(EXCEPT U)	C817	87-010-194-080	0E	C-CAP, S 0. 047-25 F
△F101	87-035-411-010	1A	FUSE T1. 0A 250VUL(U)	C818	87-010-194-080	0E	C-CAP, S 0. 047-25 F
DECK-1 C. B				C819	87-010-182-080	0E	C-CAP, S 2200P-50 B
CON351	82-NE8-633-010	0E	CONN, 7P PH H	C820	87-010-182-080	0E	C-CAP, S 2200P-50 B
SOL1	82-ZM1-618-010	1B	SOL ASSY, 27	C823	87-010-176-080	0E	C-CAP, S 680P-50 SL
SW4	87-036-110-010	0E	SW, PUSH SPPB 62	C824	87-010-176-080	0E	C-CAP, S 680P-50 SL
SW5	87-036-110-010	0E	SW, PUSH SPPB 62	C827	87-010-401-040	0E	CAP, E 1-50 SME
SW6	87-036-110-010	0E	SW, PUSH SPPB 62	C828	87-010-401-040	0E	CAP, E 1-50 SME
DECK-2 C. B				C841	87-010-197-080	0E	C-CAP, S 0. 01-25 B
CON352	82-NE8-634-010	0E	CONN, 10P PH H WHT	C842	87-010-197-080	0E	C-CAP, S 0. 01-25 B
M2	87-045-348-010	1H	MOT, SHW 2L 70	MVR801	83-NE2-605-010	2M	VR, 50KBX2 RK16812 MG
SFR1	87-024-170-080	0E	SFR, 3. 3K DIA 6V	MISCELLANEOUS			
SOL2	82-ZM1-618-010	1B	SOL ASSY, 27	△	87-050-032-010		AC CORD ASSY K 3P S(K)
SW2	87-036-110-010	0E	SW, PUSH SPPB 62	△	87-050-016-010		AC CORD ASSY, E(Z, E)
SW3	87-036-110-010	0E	SW, PUSH SPPB 62	△	87-050-034-010		AC CORD ASSY, E(HE)
SW4	87-036-110-010	0E	SW, PUSH SPPB 62	△	87-050-023-010		AC CORD ASSY, U-2(U)
SW5	87-036-110-010	0E	SW, PUSH SPPB 62	△	87-050-026-010	1D	AC CORD, D 1800MM(D)
SW6	87-036-110-010	0E	SW, PUSH SPPB 62	△	87-034-749-010		AC CORD, H W/PLUG(LH)
RELAY-1 C. B				△	87-085-184-010	0E	BUSHING, AC CORD D(D, LH)
RELAY-2 C. B				△	87-085-185-010		BUSHING, AC CORD E(HE, Z, K, E)
VOLUME C. B				△	87-085-189-010		BUSHING, CORD U(U)
C801	87-010-384-040	0E	CAP, E 100-25 SME		98-848-127-11Z	2G	OPTICAL PICK UP KSS-210A
C802	87-010-248-040	0E	CAP, E 220-10 SME	PH	87-046-398-010	1F	HEAD, PH YK50P-BS409(D1)
C804	87-010-192-080	0E	C-CAP, S 0. 022-50 F	△PT101	83-NE2-612-010	2B	PT, 3NE2 D(D)
C805	87-012-156-080	0E	C-CAP, S 220P CH	△PT101	83-NE2-611-010		PT, 3NE2 EKZ(Z, K, E)
C806	87-012-156-080	0E	C-CAP, S 220P CH	△PT101	83-NE2-610-010		PT, 3NE2 HU(LH, HE, U)
				RPH	87-046-399-010	2A	HEAD, RPH YK56R-BS409(D2)

○チップ抵抗部品コード/CHIP RESISTOR PART CODE

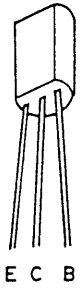
チップ抵抗部品コードの成り立ち
Chip resistor part coding



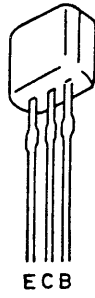
チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions/寸法 (mm)			Resistor code : A 抵抗コード : A	
				Form/外形	L	W		t
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.5 ~0.7	128

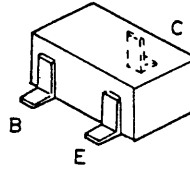
TRANSISTOR ILLUSTRATION



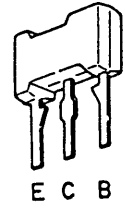
2SA952
 2SA970
 2SA1015
 2SA1318
 2SC1815
 2SC1923
 2SC2001
 2SC3266
 2SC3331
 2SD655



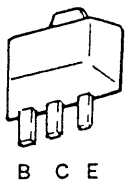
2SA933
 2SC1740
 DTA114YS
 DTA144ES
 DTA144WS
 DTC114YS
 DTC143XS
 DTC144ES



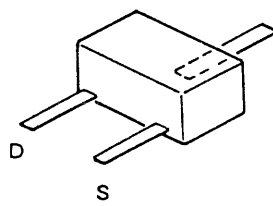
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 DTA114TK
 DTA143EK
 DTA144EK
 DTC114YK
 DTC124XK
 DTC144WK
 DTC363EK



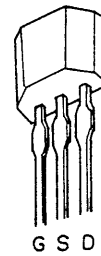
2SB1329



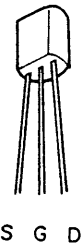
2SB1370



2SK161



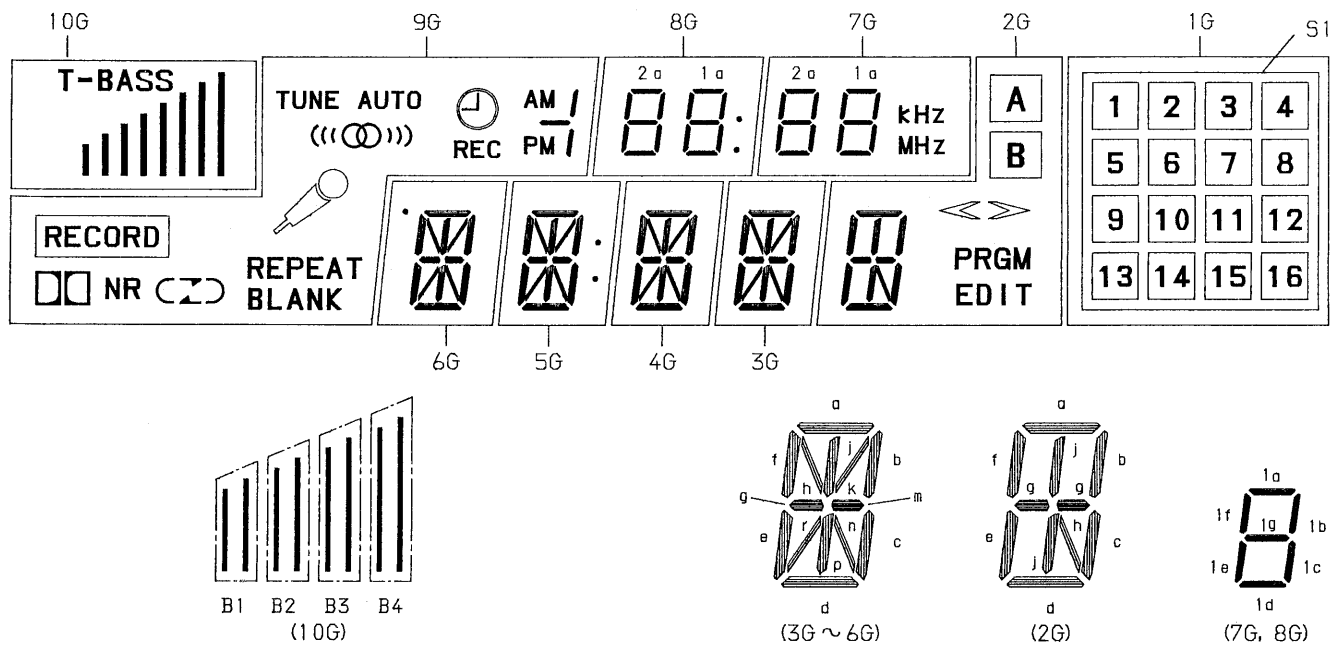
2SK241



2SK246

FL DIAGRAM

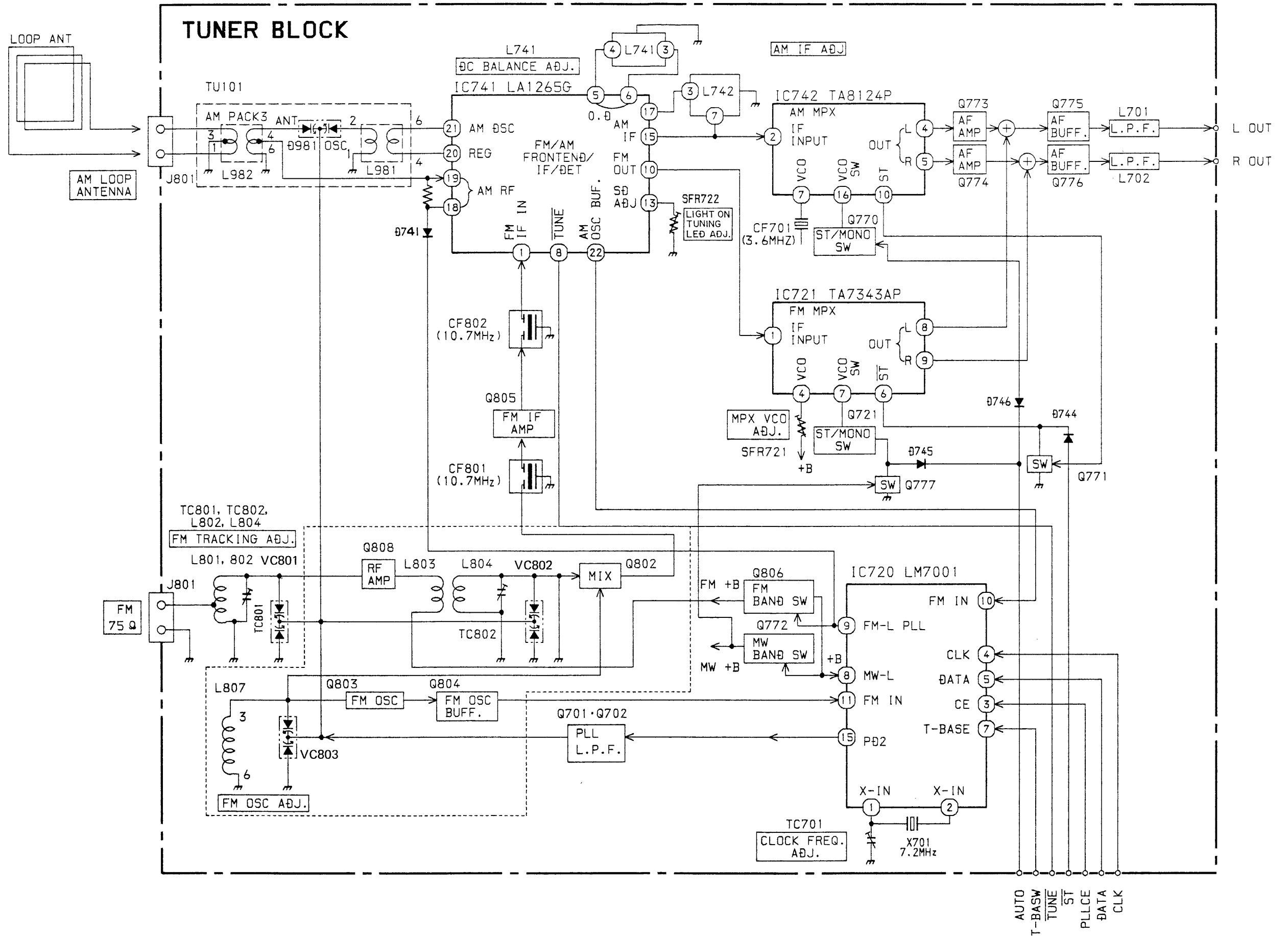
GRID ASSIGNMENT



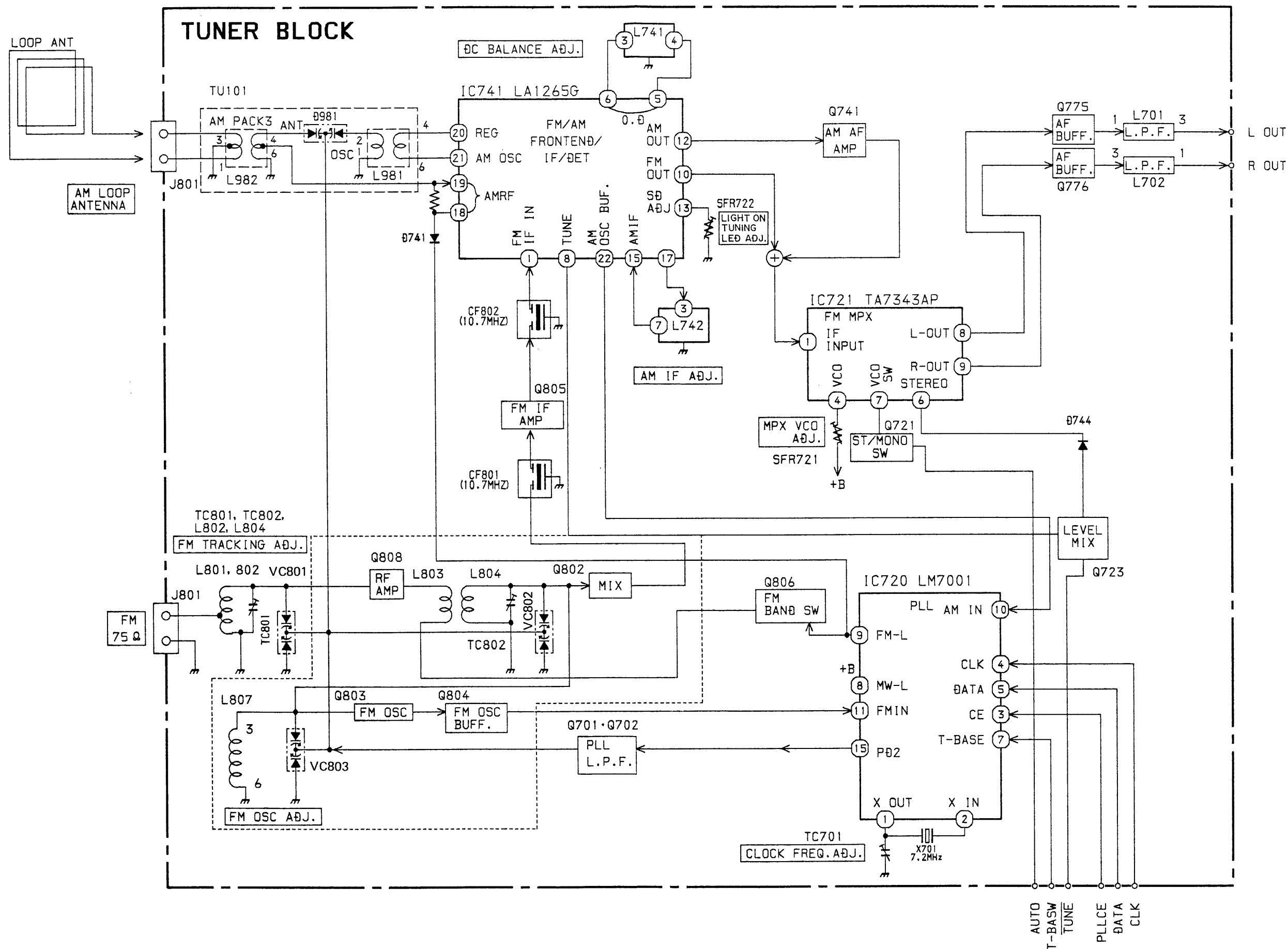
ANODE CONNECTION

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	-	RECORD	2a	2a	a	a	a	a	a	1
P2	-	NR	2b	2b	b	b	b	b	b	2
P3	-	C	2c	2c	c	c	c	c	c	3
P4	-)	2d	2d	d	d	d	d	d	4
P5	-	RANDOM	2e	2e	e	e	e	e	e	5
P6	-	REPEAT	2f	2f	f	f	f	f	f	6
P7	-	REPEAT BLANK	2g	2g	g	g	g	g	g	7
P8	-	TUNE	○ [上]	KHz	h	h	h	h	h	8
P9	B1	AUTO	1a	1a	j	j	j	j	j	9
P10	B2	((((∞)))	1b	1b	k	k	k	k	➤	10
P11	B3	⌚	1c	1c	m	m	m	m	➤	11
P12	B4	REC	1d	1d	n	n	n	n	-	12
P13	-	AM	1e	1e	p	p	p	p	PRGM	13
P14	-	PM	1f	1f	r	r	r	r	EDIT	14
P15	-		1g	1g	○	○ [上]	-	-	A	15
P16	-	-	○ [下]	MHz	-	○ [下]	-	-	B	16
P17	T-BASS	Z	-	-	-	-	-	-	-	S3

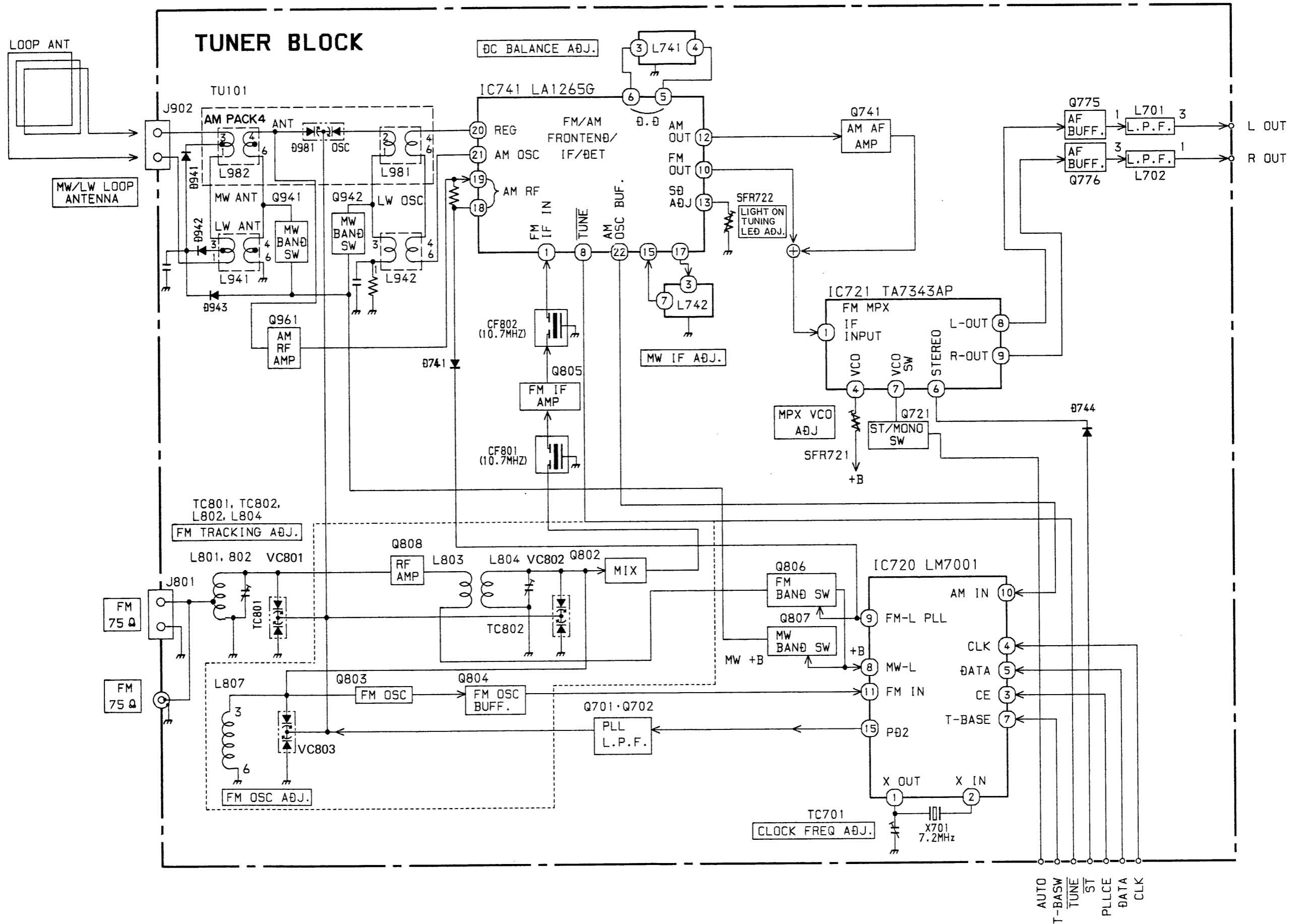
BLOCK DIAGRAM—2 (D MODEL)



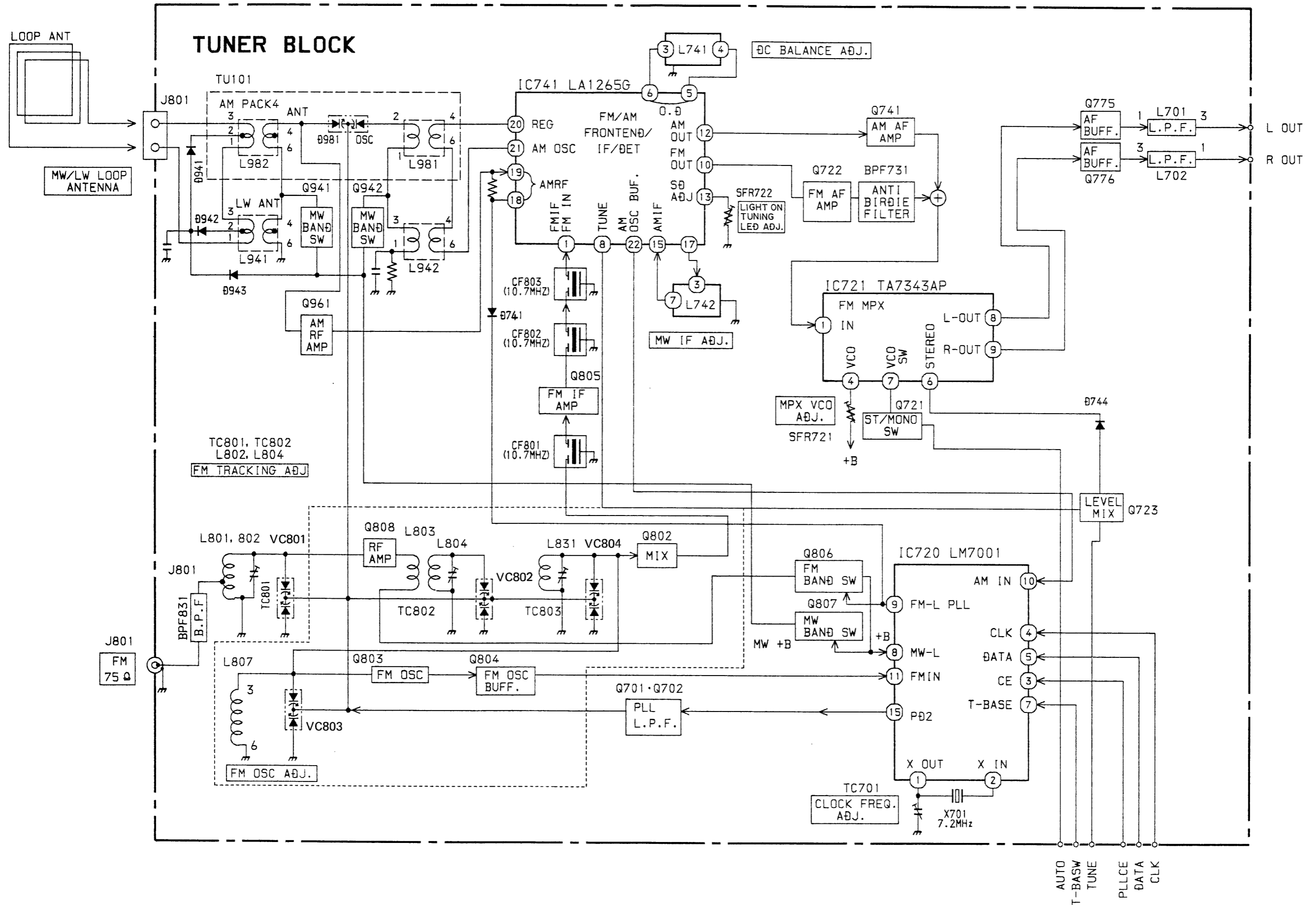
BLOCK DIAGRAM—3 (LH, HE, U MODELS)



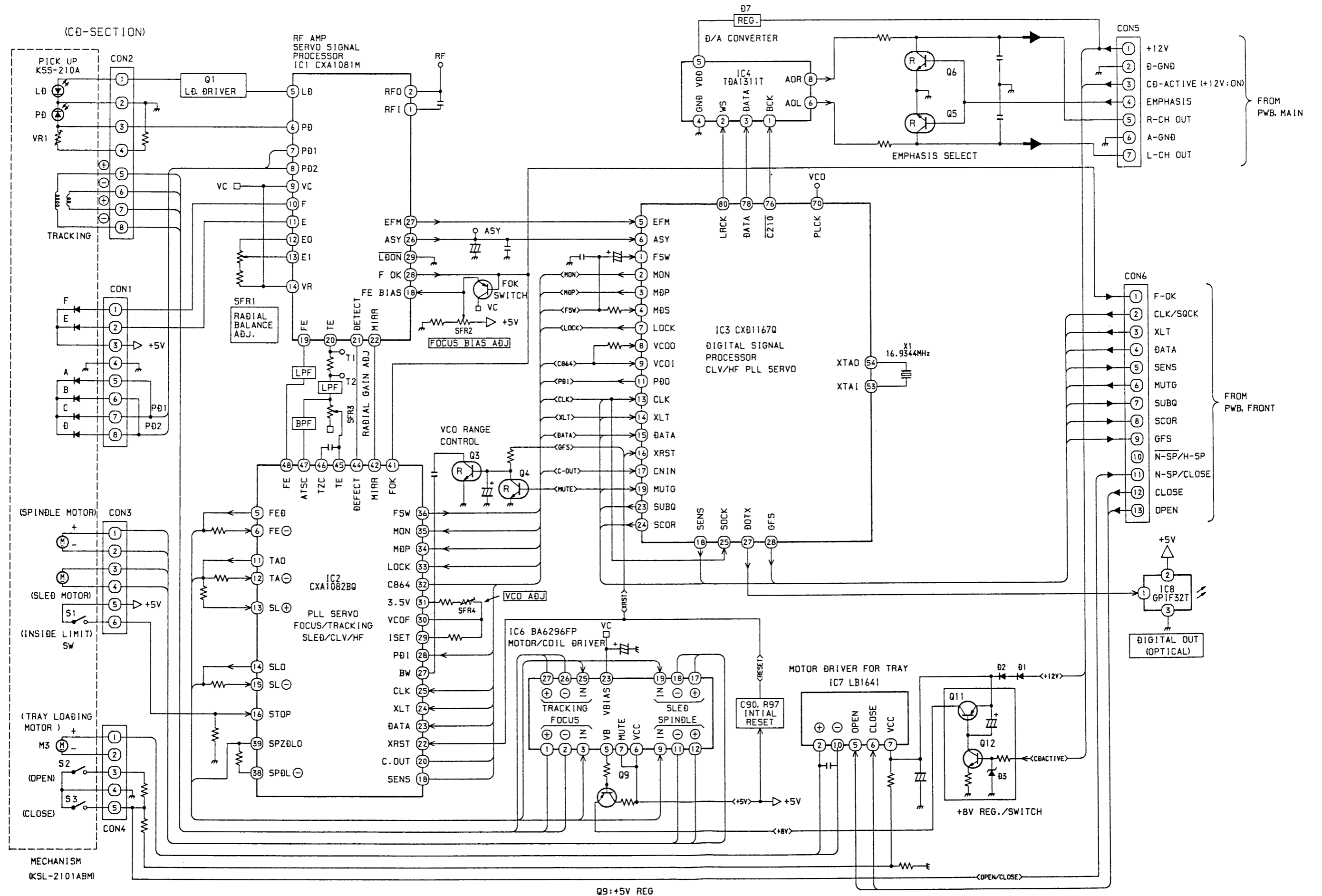
BLOCK DIAGRAM—4 (E, K MODELS)



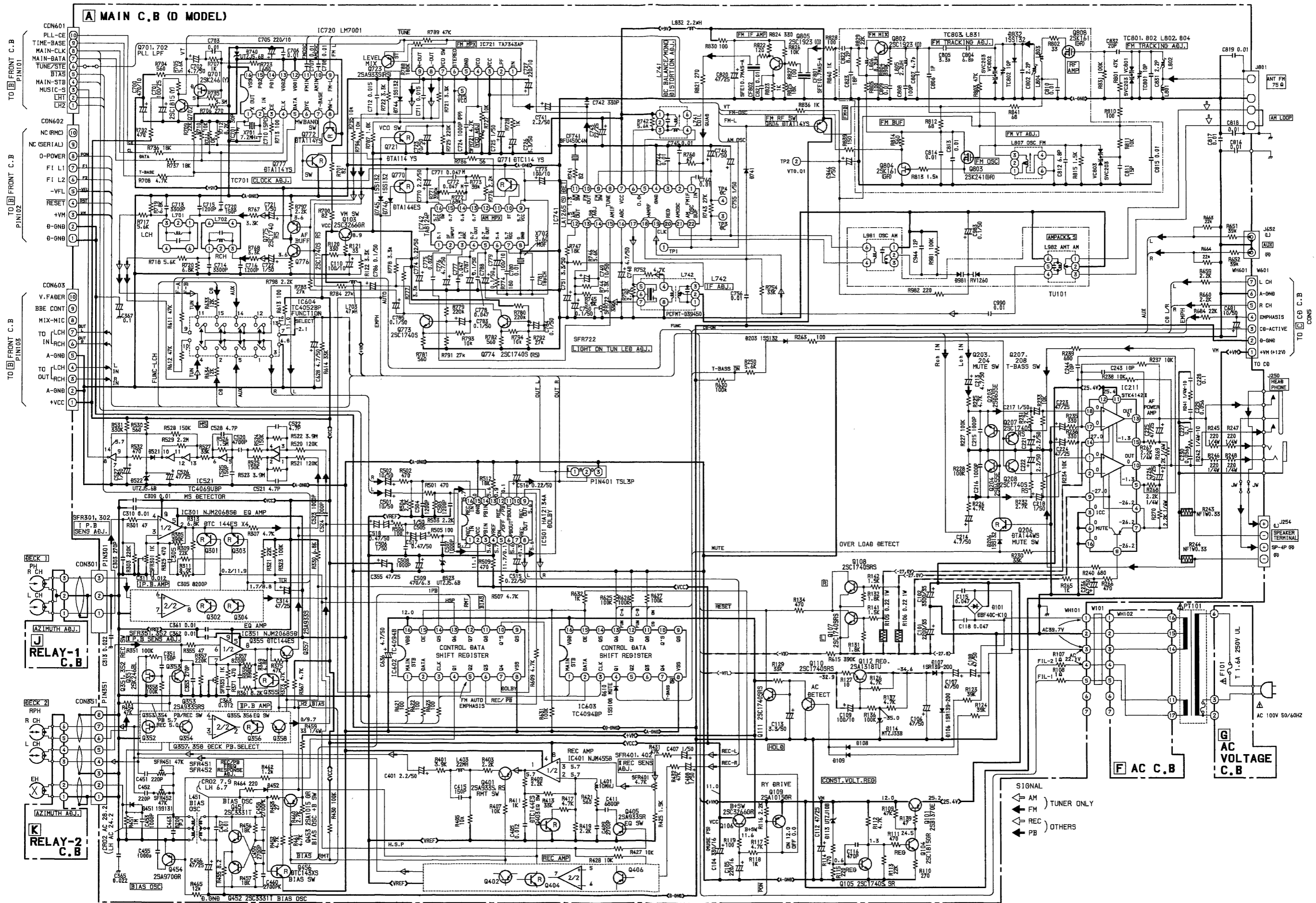
BLOCK DIAGRAM—5 (Z MODEL)



BLOCK DIAGRAM-6

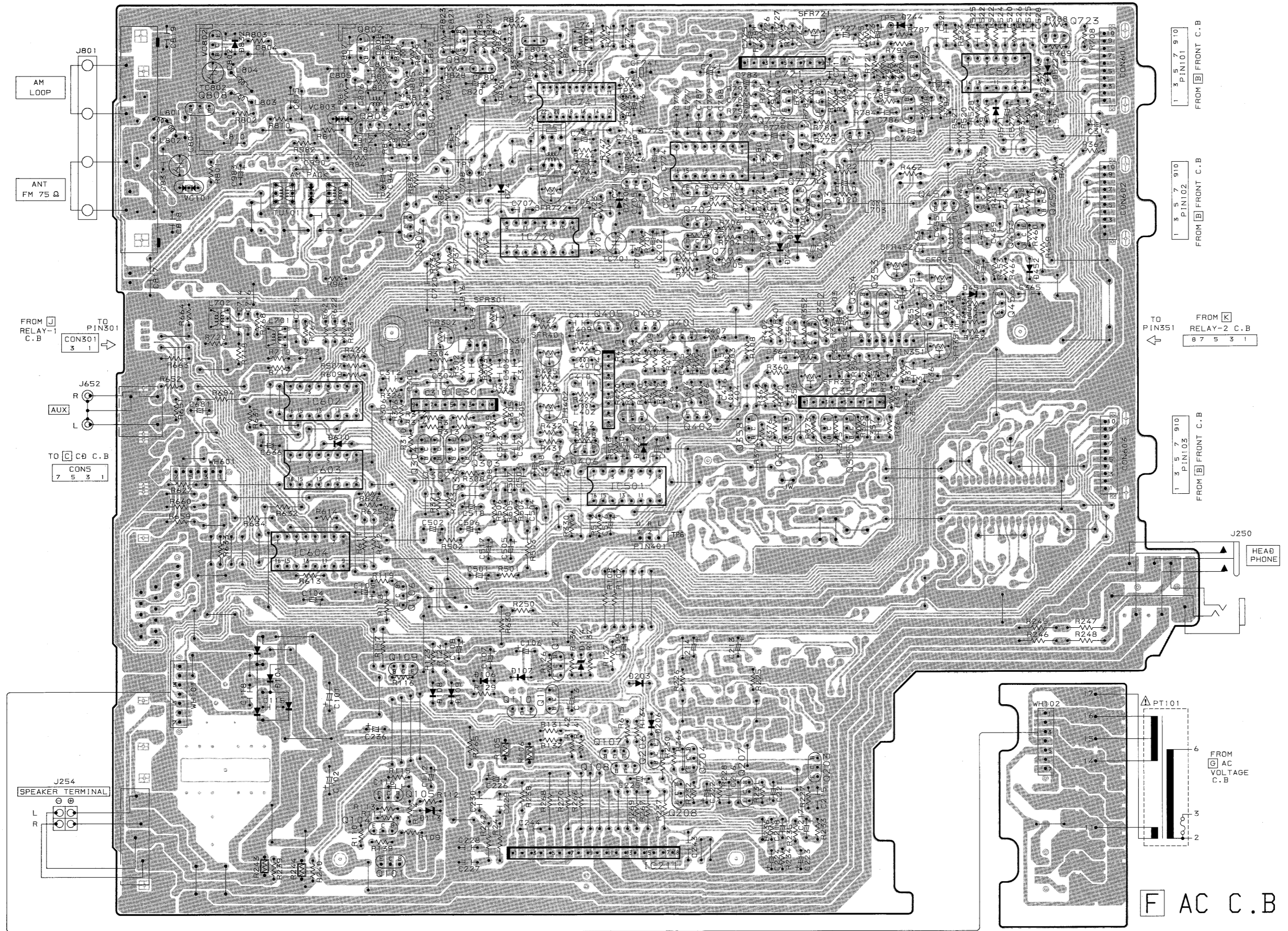


SCHEMATIC DIAGRAM-1 (D MODEL)

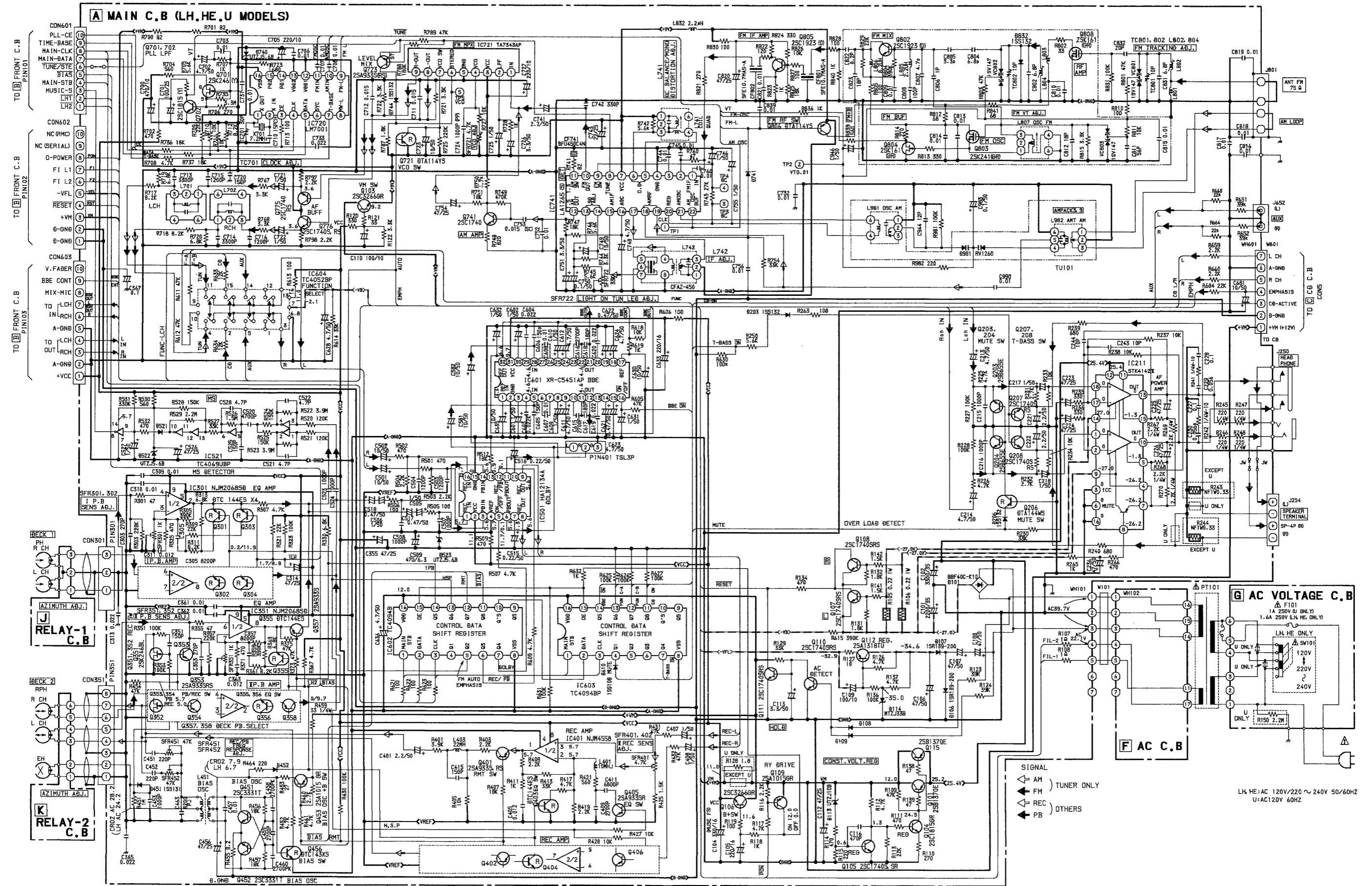


A MAIN C.B (D MODEL)

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のゲミコンの極性表示は⊖表示です。)



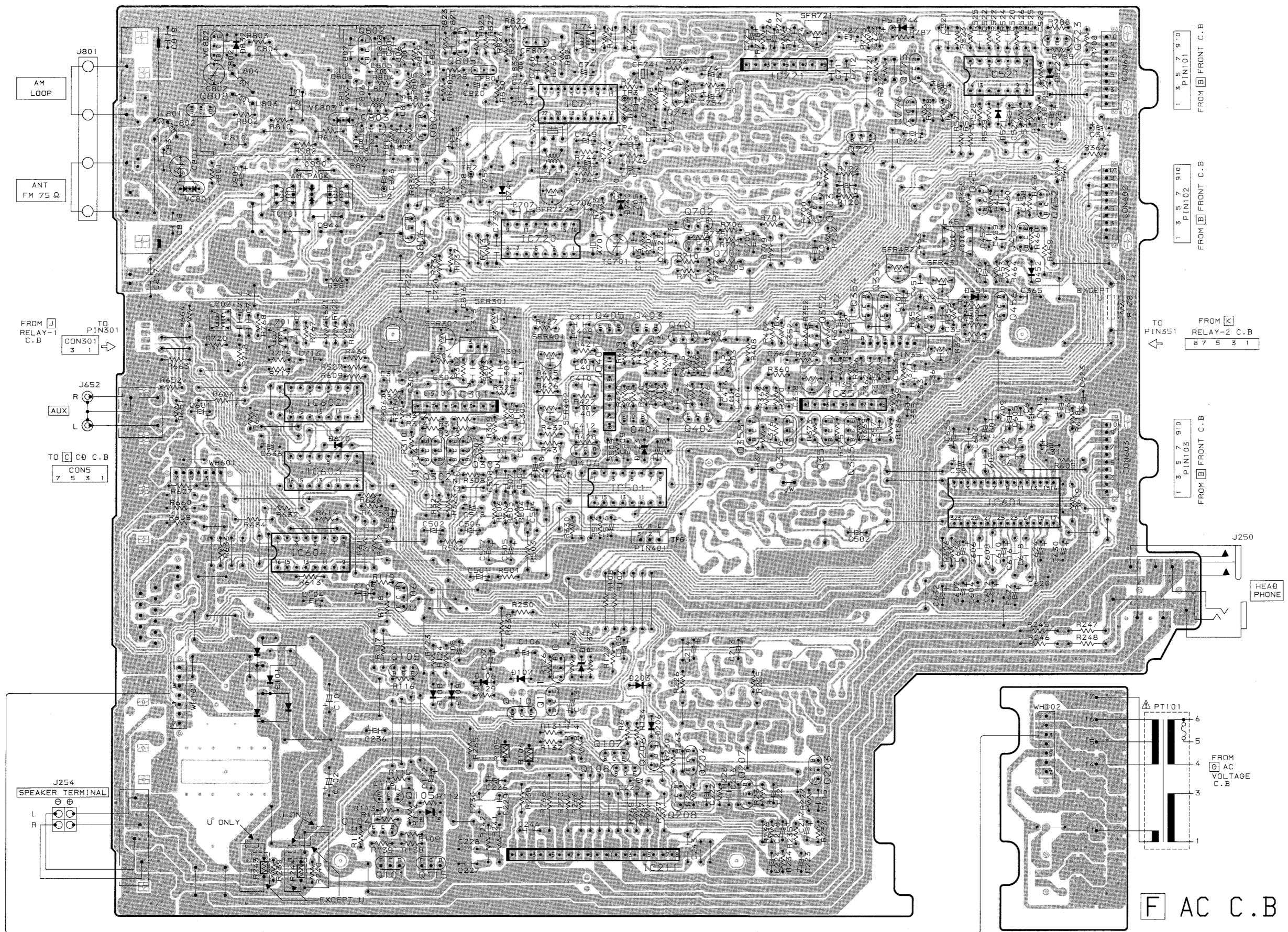
SCHEMATIC DIAGRAM—2 (HE, LH, U MODELS)



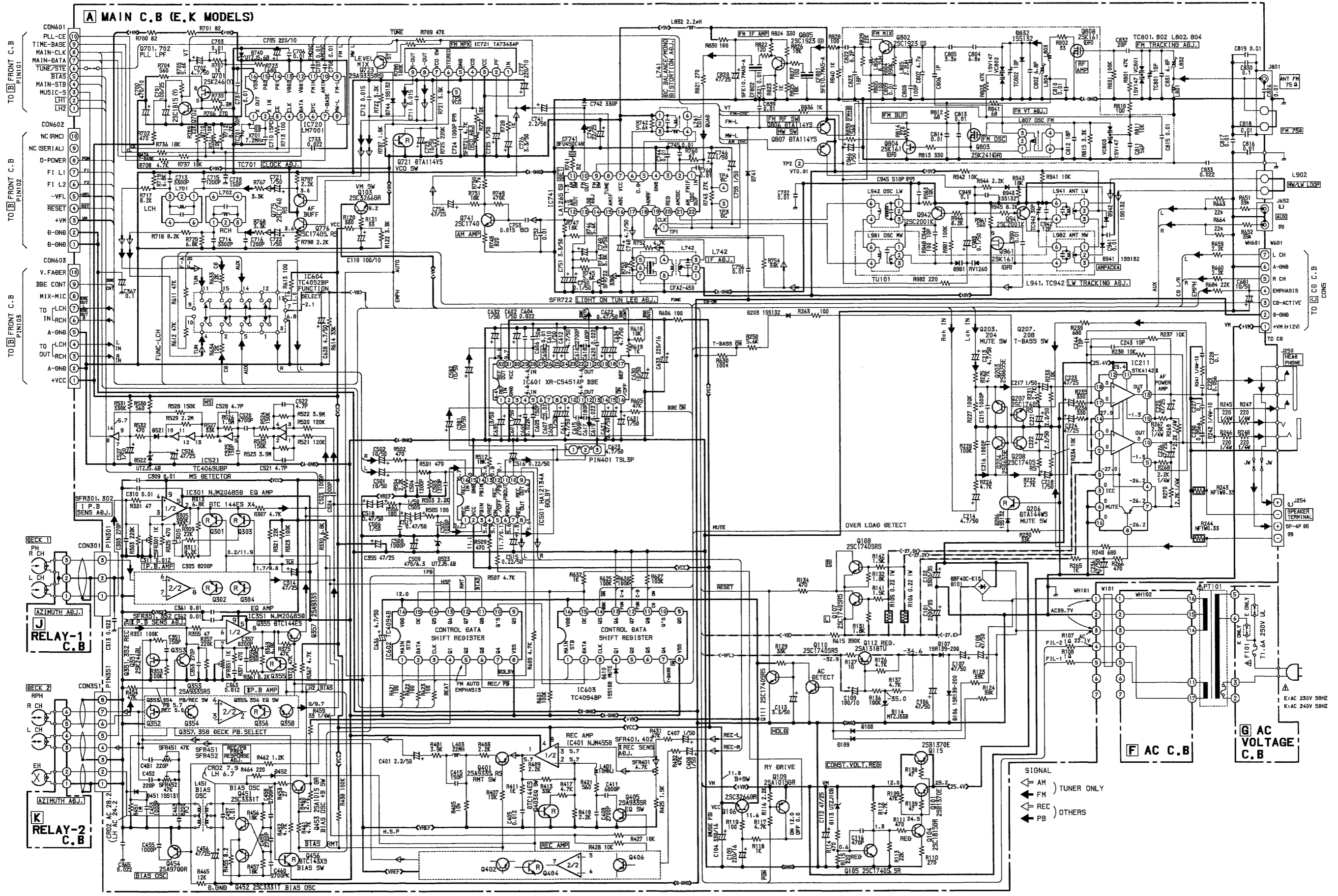
A
B
C
D
E
F
G
H
I
J

A MAIN C.B (LH, HE, U, MODELS)

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

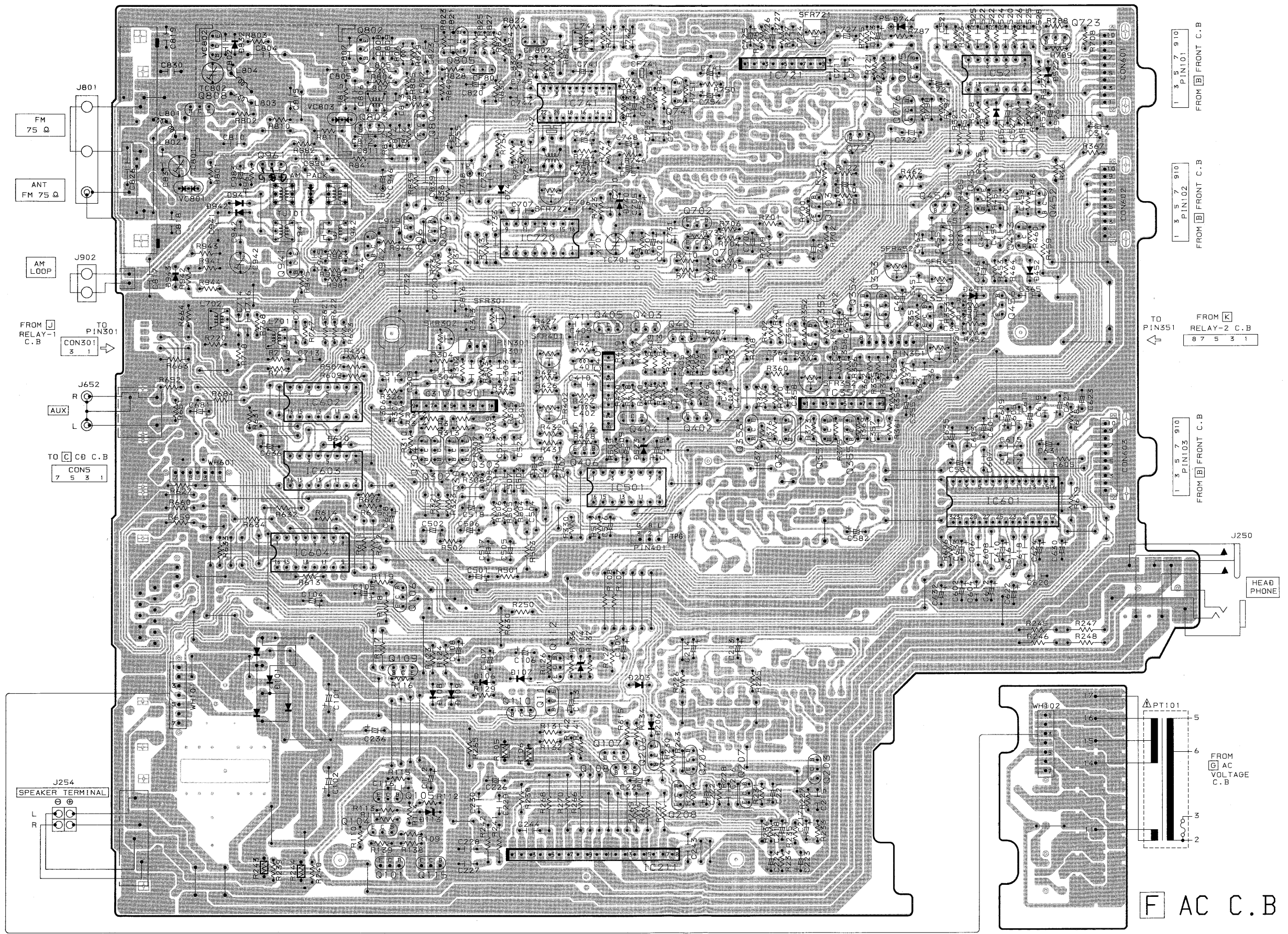


SCHEMATIC DIAGRAM—3 (E, K MODELS)



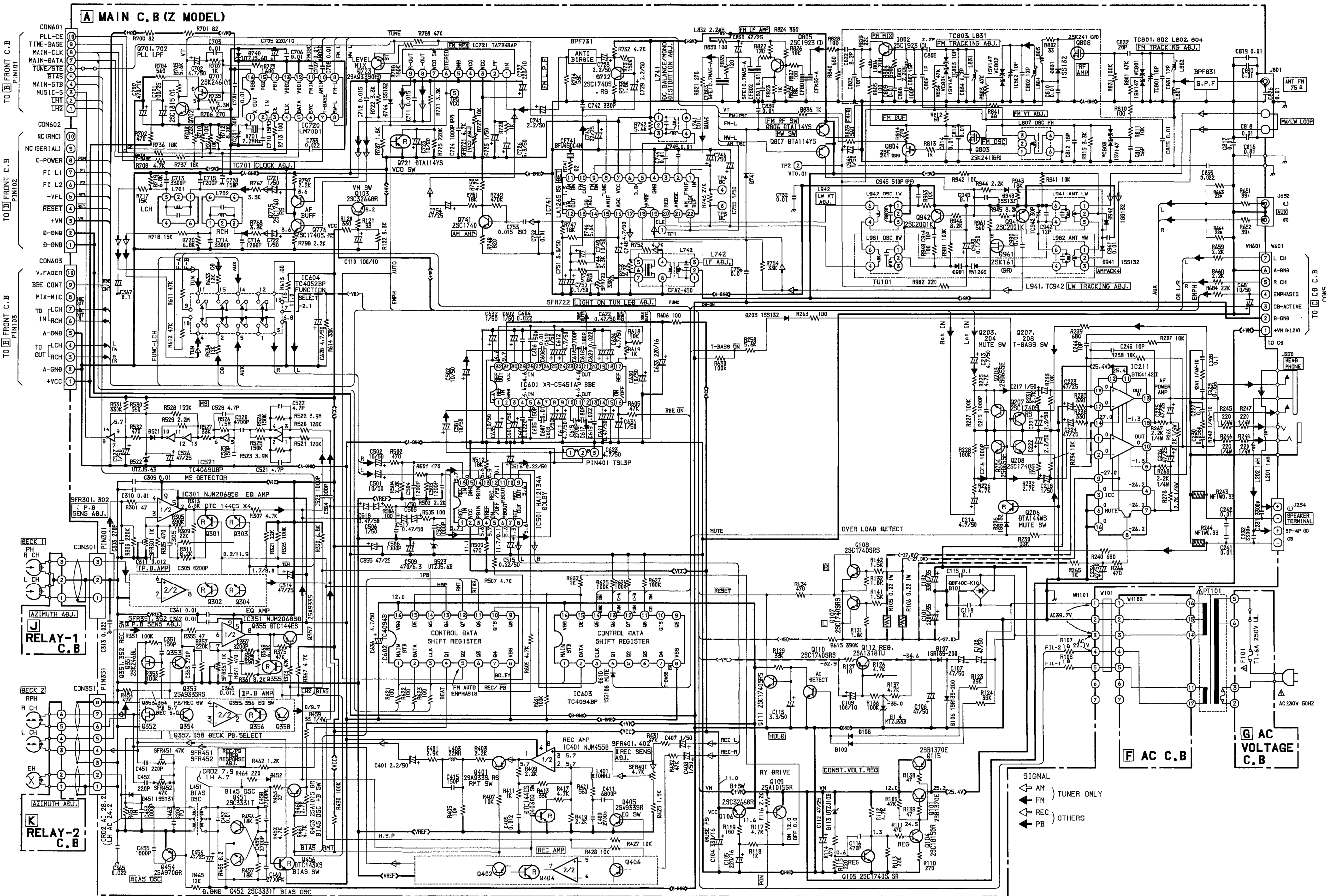
A MAIN C.B (E, K MODELS)

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)



F AC C.B

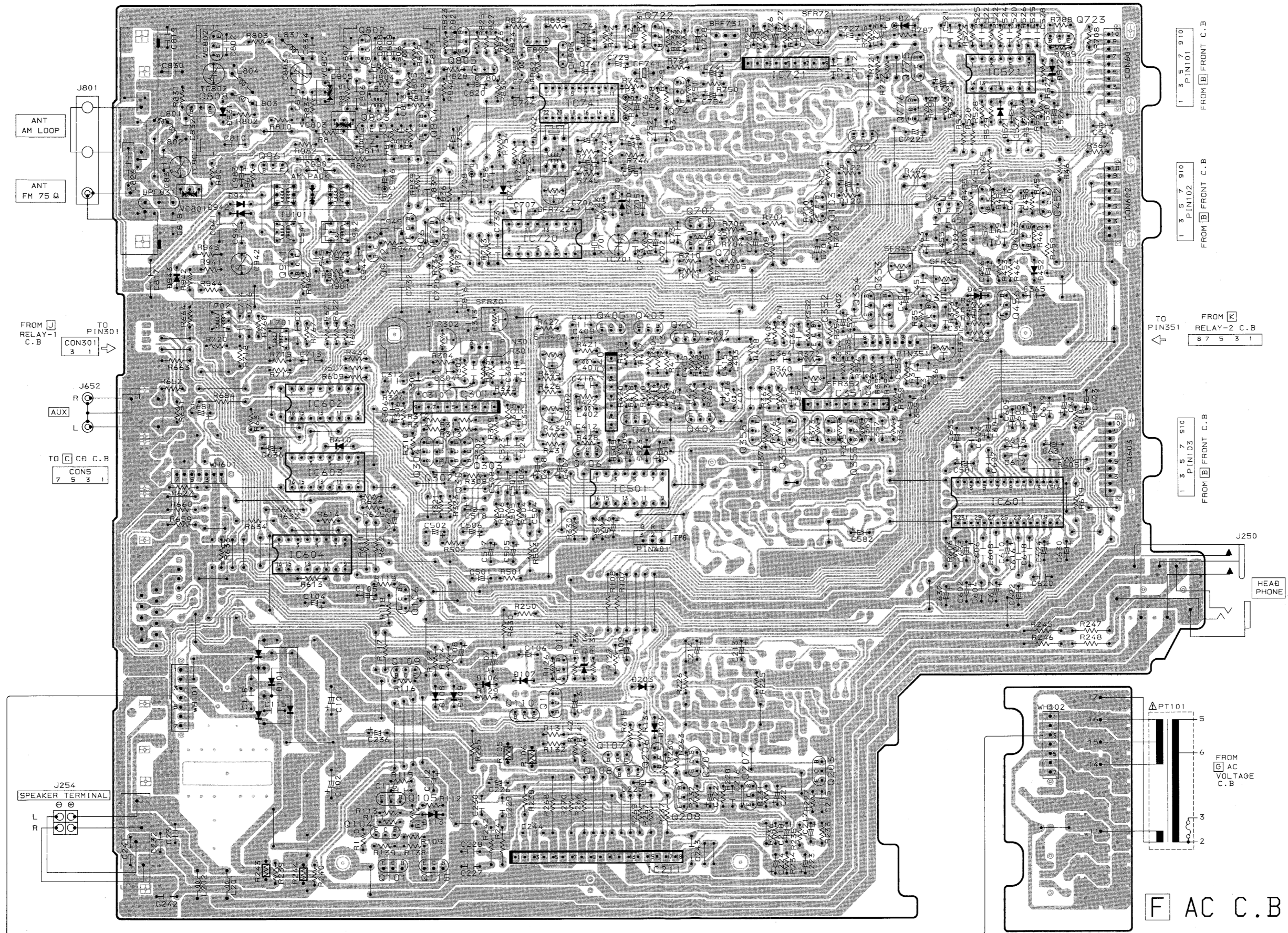
SCHEMATIC DIAGRAM-4 (Z MODEL)



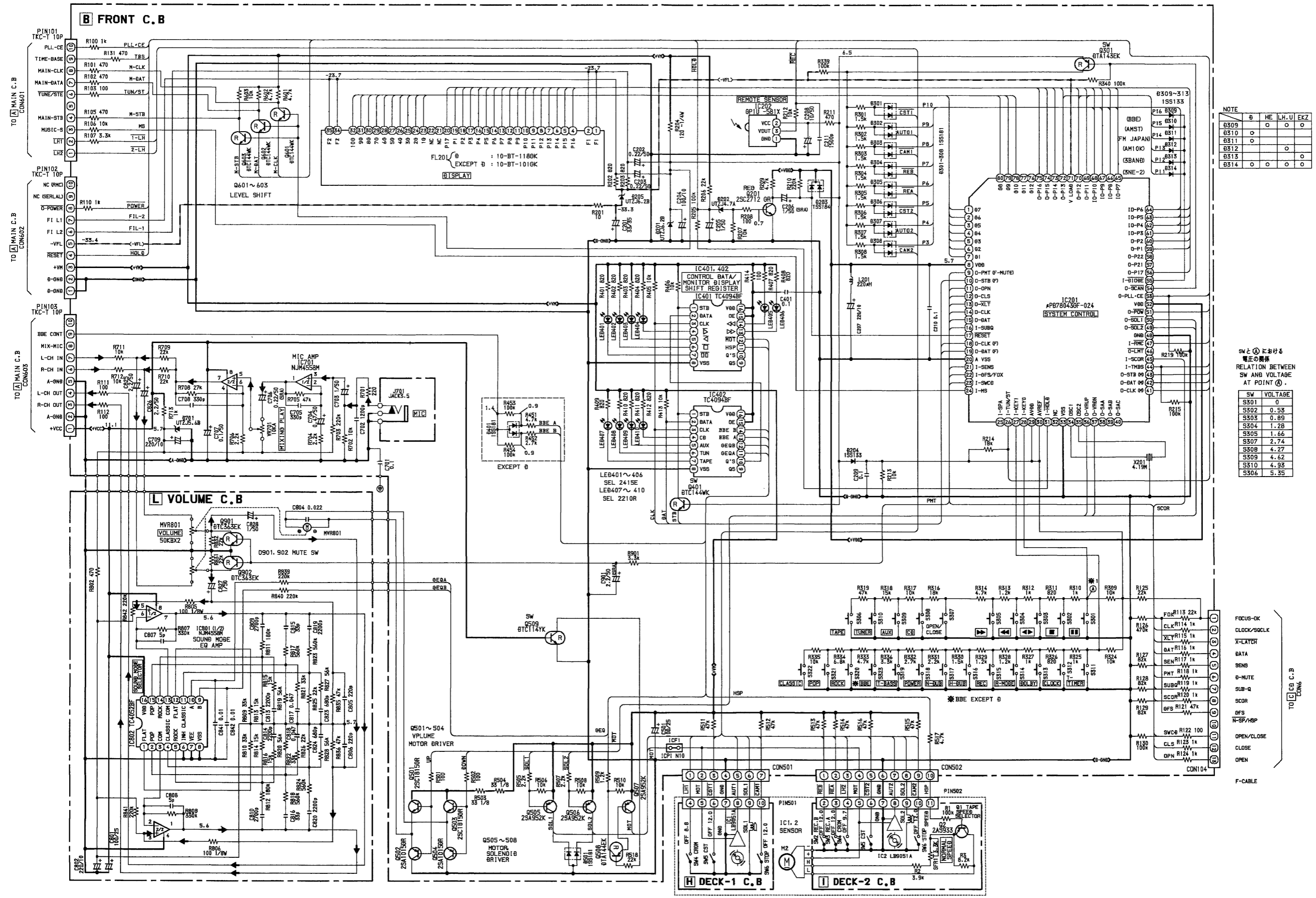
A
B
C
D
E
F
G
H
I
J

A MAIN C.B (Z MODEL)

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

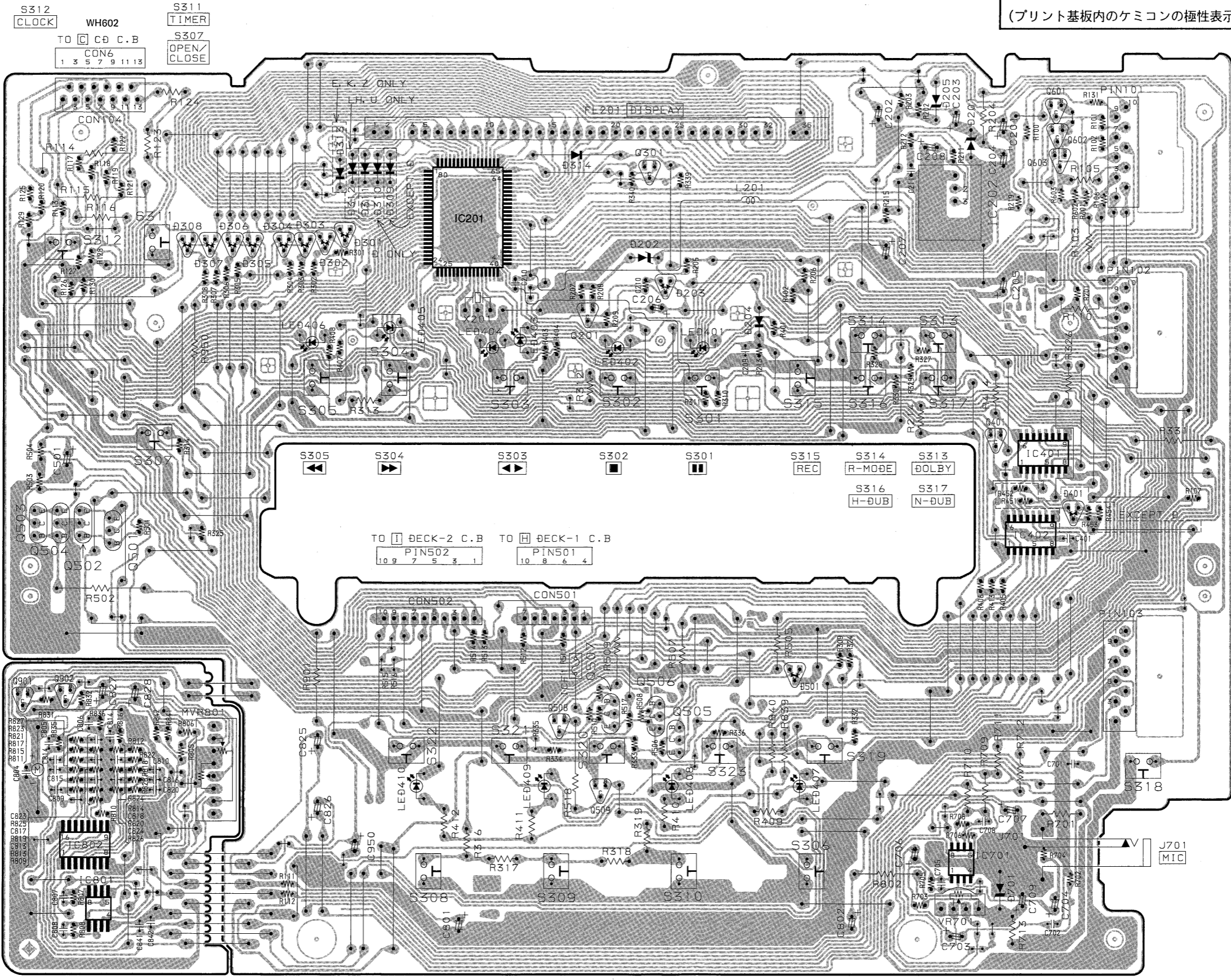


SCHEMATIC DIAGRAM—5



B FRONT C.B

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
 (プリント基板内のケミコンの極性表示は⊖表示です。)



FROM [A] MAIN C.B.
CON601

FROM [A] MAIN C.B.
CON602

FROM [A] MAIN C.B.
CON602

TO [C] CD C.B. CON6 1 3 5 7 9 11 13

TO [I] DECK-2 C.B. PIN502 10 9 7 5 3 1

TO [H] DECK-1 C.B. PIN501 10 8 6 4

S312 CLOCK WH602 S311 TIMER S307 OPEN/CLOSE

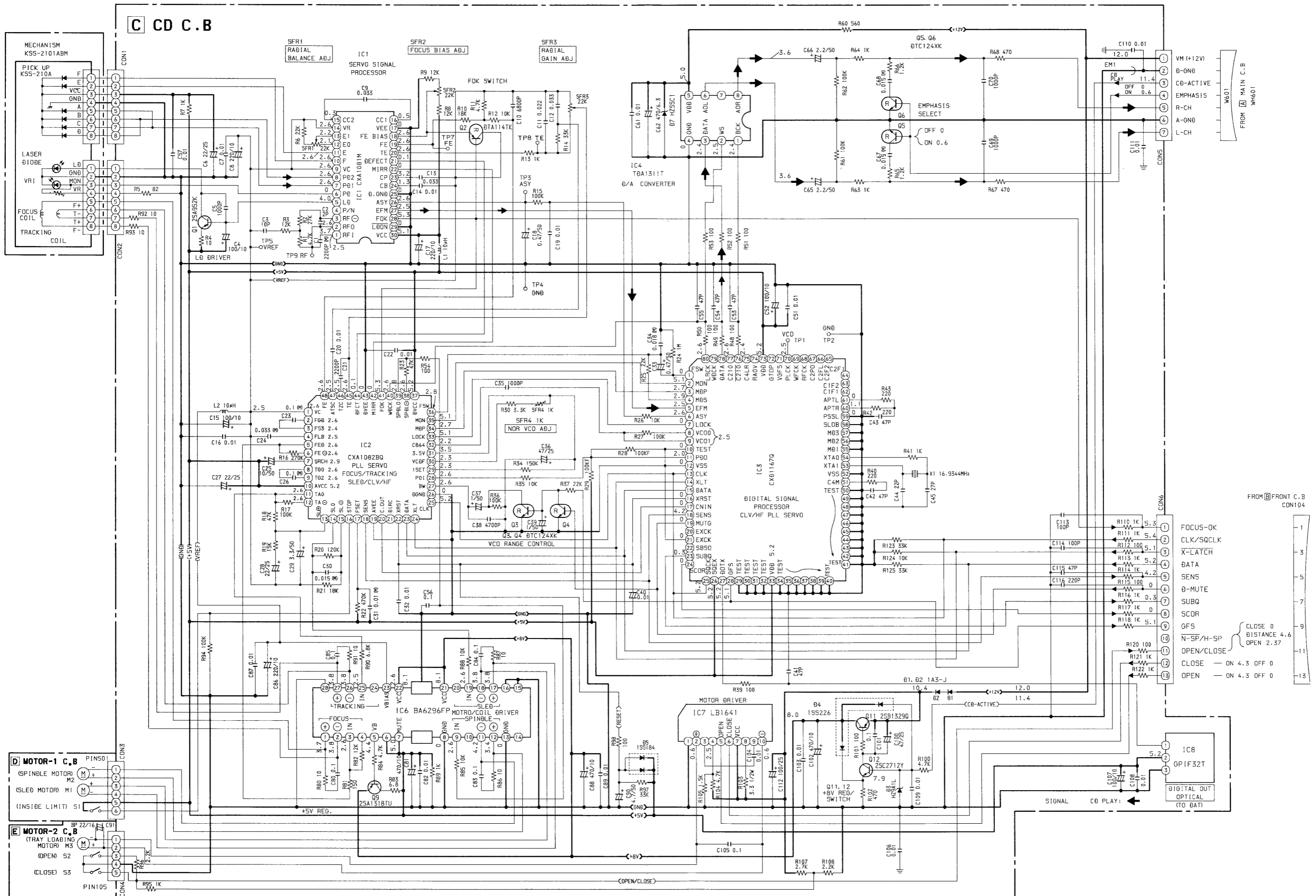
S305 S304 S303 S302 S301 S315 REC S314 R-MODE S313 DOLBY

S316 H-DUB S317 N-DUB

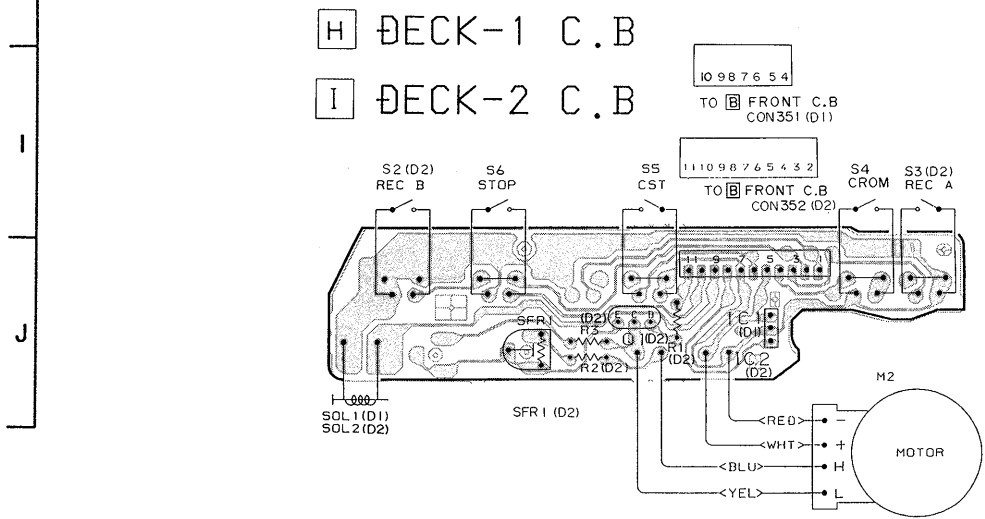
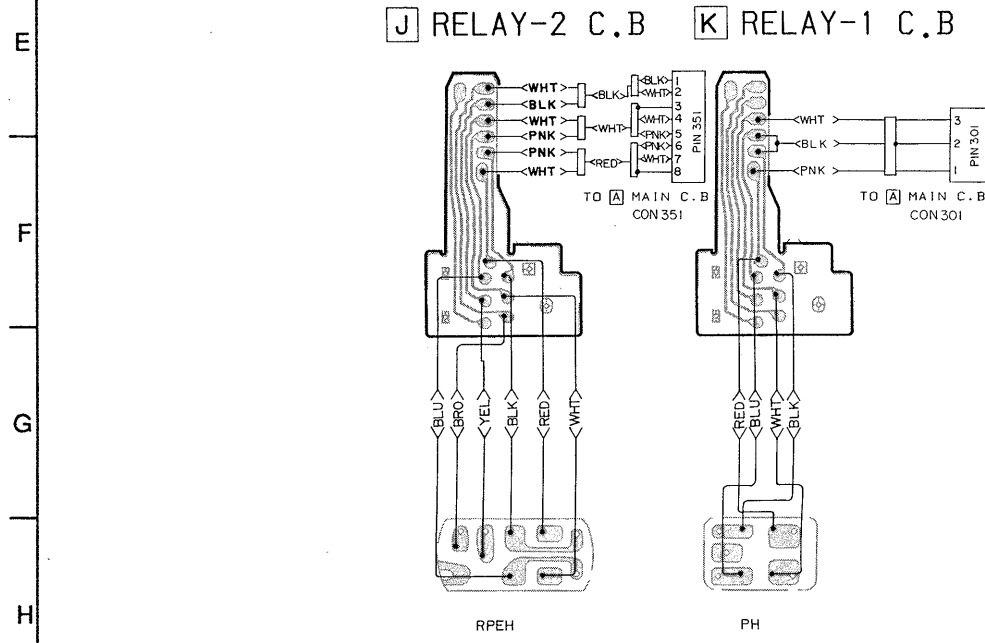
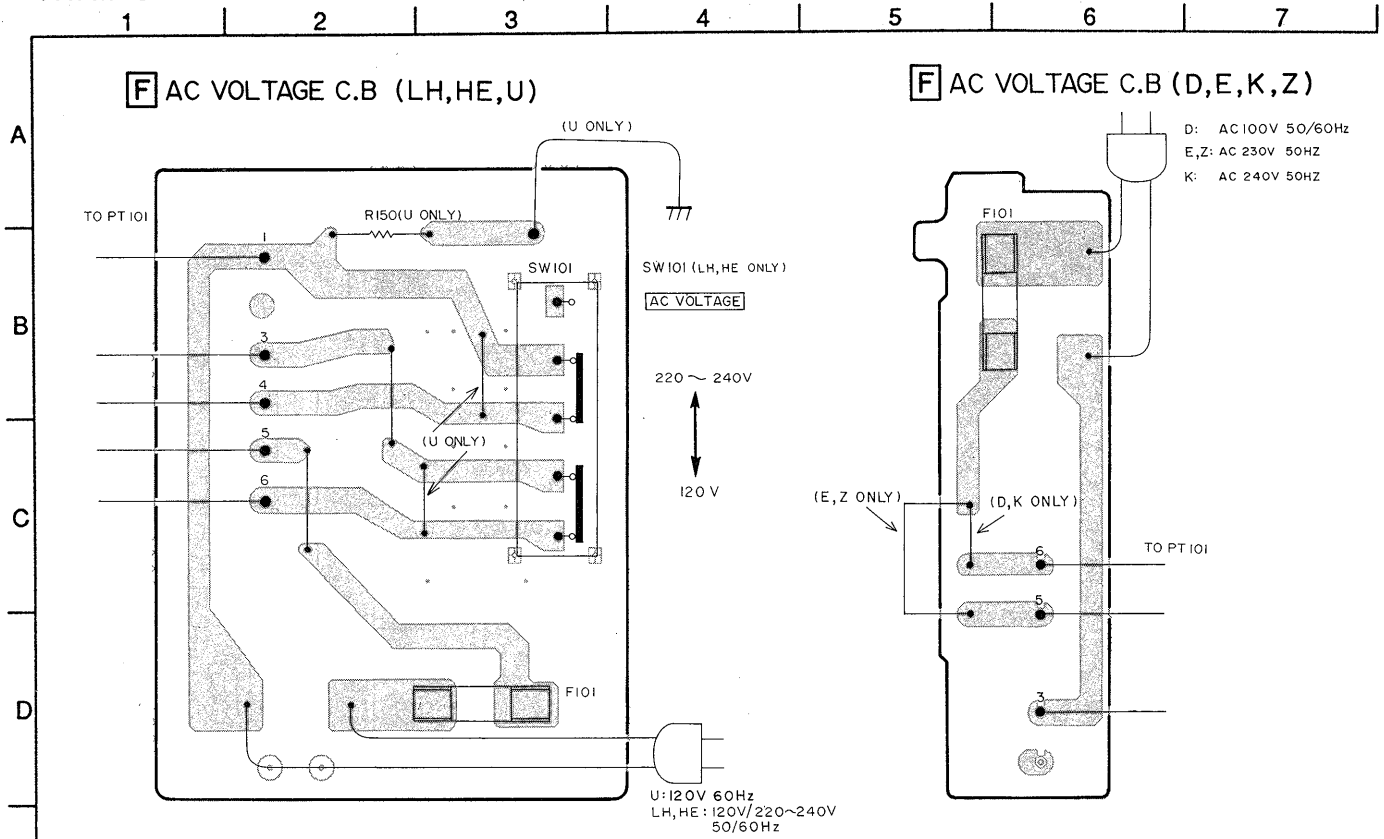
S308 [CD] S309 [AUX] S310 [TAPE] S306 [TAPE] S323 [EXCEPT B] S319 [T-BASS] VR701 [MIXING PLAY] S318 [POWER]

MVR801 [VOLUME] MIN ↔ MAX

[L] VOLUME C.B



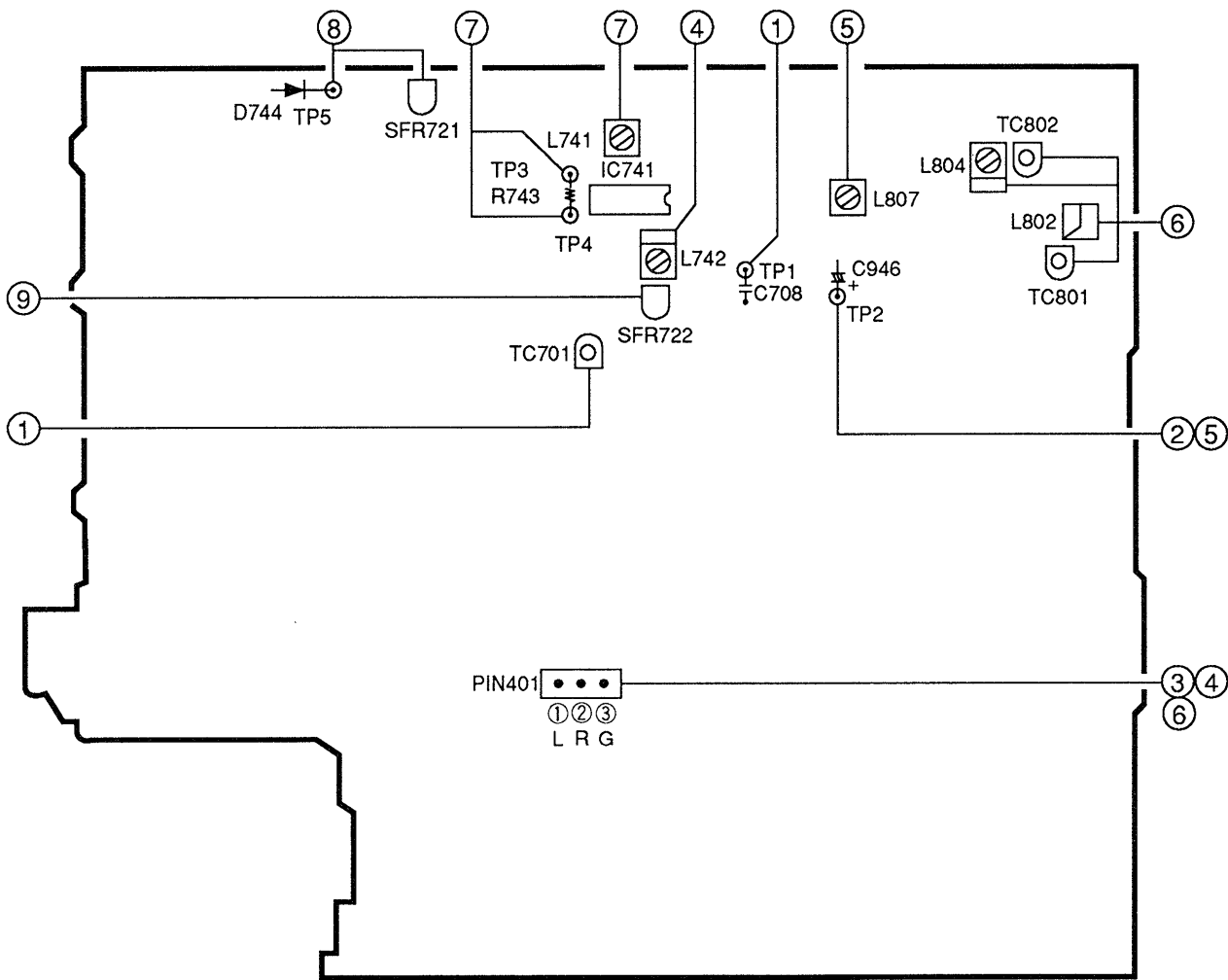
WIRING-7



ADJUSTMENT—1<TUNER>

(D Model)

A MAIN C.B



1. クロック周波数調整

条件：・テストポイント：TP1
・調整箇所：TC701

方法：AM 1602kHzに設定し、テストポイントTP1の周波数が2052±0.01kHzになる様に調整する。

2. AM VT 確認

条件：・テストポイント：TP2

方法：AM 1602kHzに設定し、テストポイントTP2の電圧が6.0±1.0Vになることを確認する。

3. AMトラッキング確認

条件：・テストポイント：PIN401

方法：AM 999kHzに設定し、感度が53±6dB、S/N比が20dBになることを確認する。

4. AM IF 調整

条件：・テストポイント：PIN401

L742 450kHz

5. FM VT 調整

条件：・テストポイント：TP2
・調整箇所：L807

方法：FM 76.0MHzに設定し、テストポイントTP2の電圧が1.0V±0.05Vになる様に調整する。

6. FM トラッキング調整

条件：・テストポイント：PIN401

(L802及びL804) 76.0MHz
(TC801及びTC802) 108.0MHz

7. DCバランス/モノラルディストーション調整

条件：・テストポイント：TP3及びTP4 (DCバランス)

TP6 (モノラルディストーション)

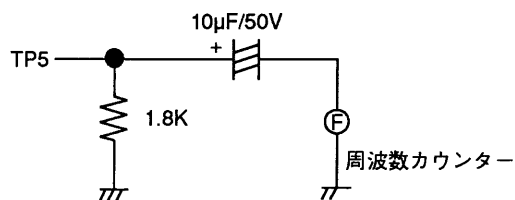
・調整箇所：L741

方法：FM 83.0MHzに設定し、テストポイントTP3、TP4間の電圧が0±0.02Vになる様にL741を調整する。調整後、TP6での歪率が0.9%以下であることを確認する。

8. MPX VCO 調整

条件：・テストポイント：TP5
・調整箇所：SFR721
・入力レベル：54dB

方法：コンデンサーと抵抗を下図の様に接続する。非変調のFM 83.0MHzに設定し、テストポイントTP5の周波数が $38 \pm 0.05\text{kHz}$ になる様にSFR721を調整する。



9. チューニングLED 点灯調整

条件：・入力レベル：16dB
・調整箇所：SFR722

方法：FM 83.0MHzに設定し、チューニングLEDが点灯する様にSFR722を調整する。その後、入力レベルが2dB下がるとLEDは消灯する。

PRACTICAL SERVICE FIGURE

<FM部>

IHF 感度： $4 \pm 6\text{dB}$ (76/83/90/108MHz時)
(THD 3%)
50dB雑音制限感度： $32 \pm 5\text{dB}$ (76/83/108MHz時)
S/N比： STEREO 64dB以上 (83MHz時)
歪率： MONO 0.9%以下 (83MHz時)
STEREO 1.2%以下 (83MHz時)
セパレーション： 25dB以上 (83MHz時)
中間周波数： 10.7MHz

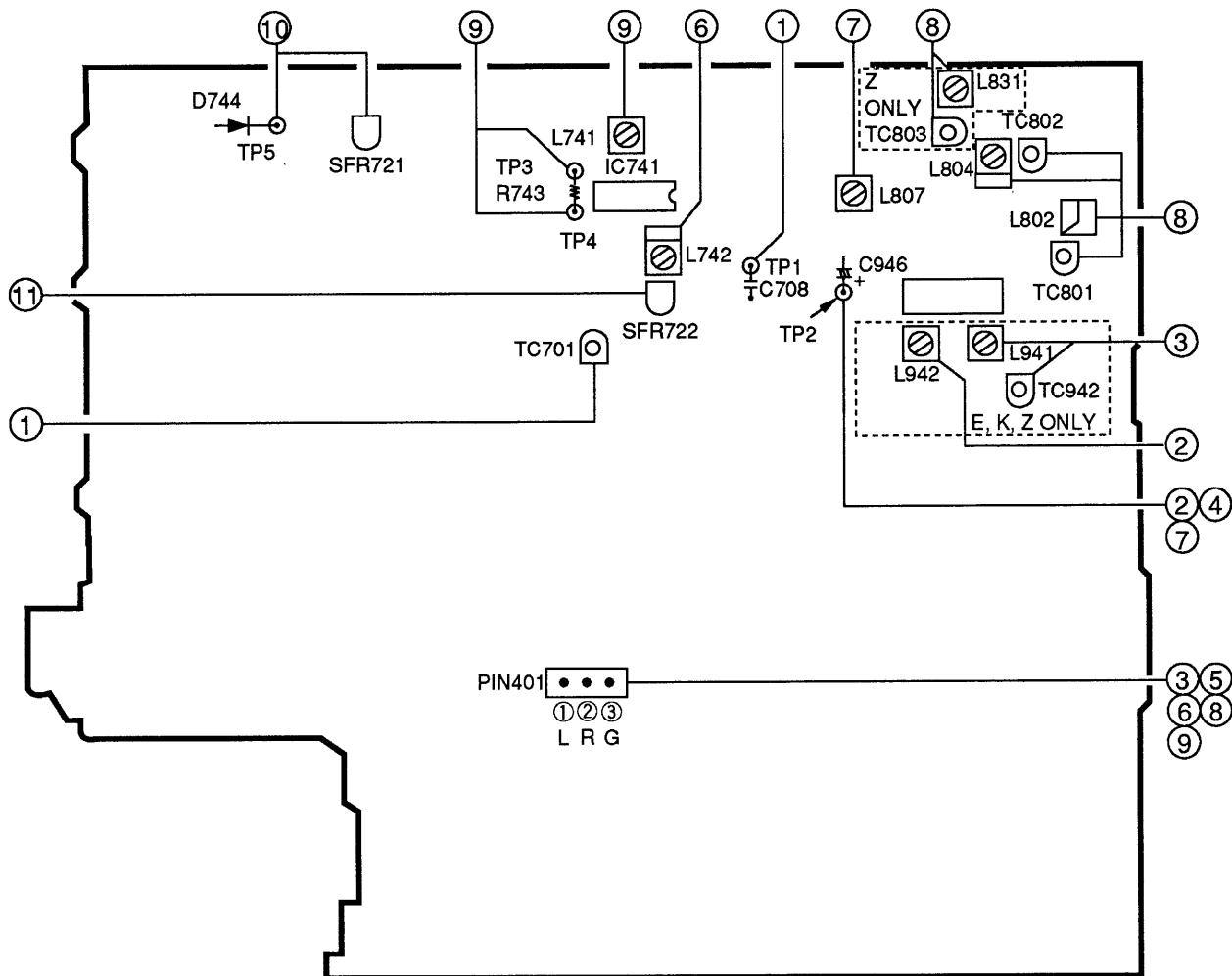
<AM部>

実用感度： $54 \pm 6\text{dB}$ (603kHz時)
(S/N 20dB) $53 \pm 6\text{dB}$ (999kHz時)
 $53 \pm 6\text{dB}$ (1404kHz時)
歪率： 1.5%以下 (999kHz時)
セパレーション： 20dB (999kHz時)
中間周波数： 450kHz

ADJUSTMENT—1 <TUNER>

(HE, LH, U, E, K, Z Models)

A MAIN C.B



(TUNER SECTION)

1. Clock Frequency Adjustment

Settings: · Test point : TP1 (CLK)
 · Adjustment location : TC701

Method: Set to AM 1602kHz (HE, E, K, Z), 1710kHz (LH, U) and adjust so that the test point becomes 2052kHz ± 0.01kHz (HE, E, K, Z), 2160kHz ± 0.01kHz (LH, U).

2. LW VT Adjustment (E, K, Z)

Settings: · Test point : TP2 (VT)
 · Adjustment location : L942

Method: Set to LW 144kHz and adjust so that the test point becomes 1.5V ± 0.05V.

3. LW Tracking Adjustment (E, K, Z)

Setting: · Test point : PIN401
 L941 144kHz
 TC942 290kHz

4. AM (MW) VT Check

Settings: · Test point : TP2 (VT)
 Method: Set to AM 1602kHz (HE, E, K, Z), 1710kHz (LH, U) and check that the test point becomes 6.0V ± 1.0V (HE, E, K, Z), 7.0V ± 1.0V (LH, U).

5. AM (MW) Tracking Check

Settings: · Test point : PIN401
 Method: Set to AM 999kHz (HE, E, K, Z), 1000kHz (LH, U) and check that the test point becomes 53 ± 6dB and S/N ratio becomes 20dB.

6. AM IF Adjustment

Settings: · Test point : PIN401
 L742 450kHz

7. FM VT Adjustment

Settings: · Test point : TP2 (VT)
 · Adjustment location : L807
 Method: Set to FM 87.5MHz and adjust L807 so that the test point becomes 2.9V ± 0.05V.

8. FM Tracking Adjustment

Settings: · Test point : TP6

L802, L804	87.5MHz (Except Z)
L802, L804, L831	87.5MHz (Z)
TC801, TC802	108MHz (Except Z)
TC801, TC802, TC803	108MHz (Z)

9. DC Balance/MONO Distortion Adjustment

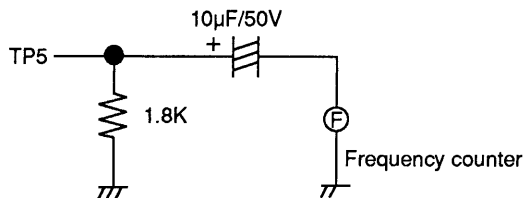
Settings: · Test point : TP3, TP4 (DC balance)
TP6 (Distortion)

- Adjustment location : L741
- Input level : 54dB

Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes $0V \pm 0.02V$.

Next, check that the distortion becomes minimum (less than 0.9%).

10. MPX VCO Adjustment



Settings: · Test point : TP5

- MODE SW : STEREO
- Adjustment location : SFR721
- Input level : 54dB

Method: Connect a capacitor and a resistor as below. Set to FM 98.0MHz and adjust so that the frequency at test point becomes $38kHz \pm 0.05kHz$.

11. Light on tuning LED Adjustment

Settings: · Adjustment location : SFR722
· Input level : 16dB

Method: Set to FM 98.0MHz and adjust TUNING LED to light on by SFR722. After that, LED goes out by 2dB down.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity: $2 \pm 6dB$ (Except Z)
(THD 3%) (at 87.5, 98.0, 108.0MHz)
 $7 \pm 6dB$ (Z)
(at 87.5, 98.0, 108.0MHz)

S/N 50dB Quieting Sensitivity:
(Except Z) $32 \pm 5dB$
(at 87.5, 98.0, 108.0MHz)

S/N 46dB Quieting Sensitivity:
(Z) $37 \pm 6dB$
(at 87.5, 98.0, 108.0MHz)

Signal to Noise Ratio: More than 64dB (Except Z)
(at 98.0MHz)
More than 60dB (Z)
(at 98.0MHz)

Distortion: Less than 1.2%
(at 98.0MHz)

Stereo Separation: More than 25dB (at 98.0MHz)
Intermediate Frequency: 10.7MHz

<AM (MW) SECTION>

Sensitivity: $54 \pm 8dB$
[at 603kHz (HE, HR, E, K, Z)]
[at 600kHz (LH, U)]
 $53 \pm 6dB$
[at 999/1404kHz (HE, HR, E, K, Z)]
[at 1000/1400kHz (LH, U)]

Distortion: Less than 1.5%
[at 999kHz (HE, HR, E, K, Z)]
[at 1000kHz (LH, U)]

Intermediate Frequency: 450kHz

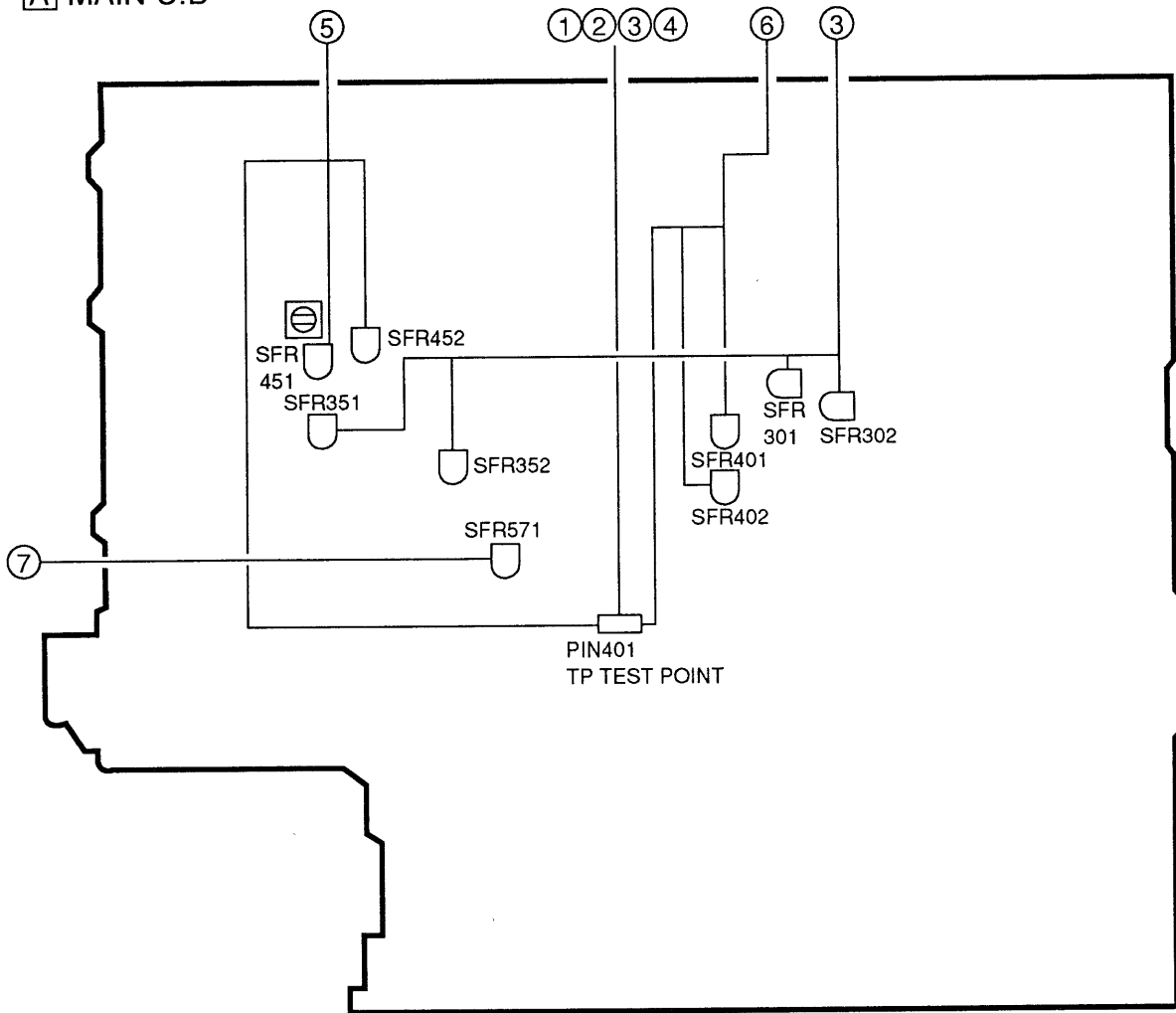
<LW SECTION> (E, K, Z)

Sensitivity: $66 \pm 5dB$ (at 144kHz)
(S/N 20dB) $63 \pm 5dB$ (at 198kHz)
 $62 \pm 5dB$ (at 290kHz)

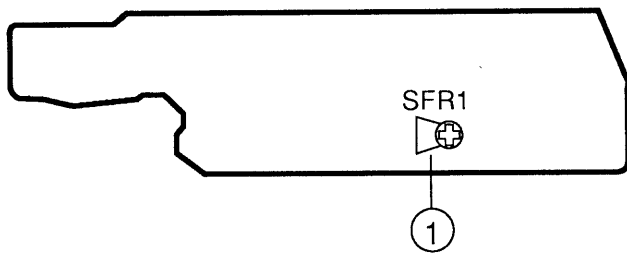
Signal to Noise Ratio: More than 32dB (at 198kHz)
Distortion: Less than 1.5% (at 198kHz)
Intermediate Frequency: 450kHz

ADJUSTMENT-2<DECK>

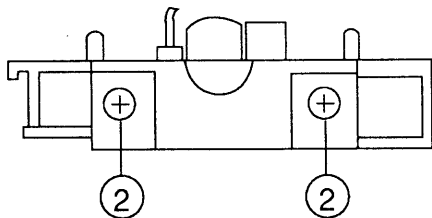
A MAIN C.B



I DECK-2 C.B



DECK 1 P, DECK 2 R/P/E HEAD



1. ノーマルスピード調整 (DECK2)

- 条件：・テストテープ：TTA-100
・テストポイント：PIN401
・調整箇所：SFR1 (DECK2)

方法：テストテープを再生し、再生周波数が $3000 \pm 5\text{Hz}$ になる様にSFR1 (DECK2)を調整する。
REV時はFWDに対して $\pm 45\text{Hz}$ になる様に調整する。

2. アジマス調整 (DECK1及びDECK2)

- 条件：・テストテープ：TTA-320
・テストポイント：PIN401
・調整箇所：アジマス調整ネジ

方法：テストテープの10kHzを再生し、出力が最大ポイントより-0.5dBになる様に調整する。PLAY及びREV PLAYの各モードにて調整する。

3. 再生レベル調整 (DECK1及びDECK2)

- 条件：・テストテープ：TTA-200
・テストポイント：PIN401
・調整箇所：SFR301 (DECK1 Lch)
SFR302 (DECK1 Rch)
SFR351 (DECK2 Lch)
SFR352 (DECK2 Rch)

方法：テストテープを再生し、出力が300mVになる様に調整する。

4. 再生周波数特性確認 (DECK1及びDECK2)

- 条件：・テストテープ：TTA-320
・テストポイント：PIN401

方法：テストテープの315Hzと10kHzを再生し、10kHzの出力が315Hzの出力に対して $0 \pm 2.0\text{dB}$ である事を確認する。

5. 録再周波数特性調整 (DECK2)

- 条件：・テストテープ：TTA-601
・テストポイント：PIN401
・調整箇所：SFR451 (Lch)
SFR452 (Rch)

方法：テストポイントにて21.0mVになる様に、ATTを調整する。テストテープの1kHzと10kHzを録再し、10kHzの出力が1kHzの出力に対して $0\text{dB} \pm 0.5\text{dB}$ になる様に調整する。

6. 録再感度調整 (DECK2)

- 条件：・テストテープ：TTA-601
・テストポイント：PIN401
・調整箇所：SFR401 (Lch)
SFR402 (Rch)

方法：テストポイントにて21.0mVになる様に、ATTを調整する。テストテープの1kHzを録再し、出力が $21.0\text{mV} \pm 0.5\text{dB}$ になる様に調整する。

PRACTICAL SERVICE FIGURE

<DECK>

再生出力：	300mV \pm 1dB (LINE OUT)
録再出力：	210mV \pm 2dB (LINE OUT)
録再歪率：	2.0%以下 (NORM/CrO ₂)
消去率：	60dB以上
クロストーク：	60dB以上
チャンネルセパレーション：	47dB以上
録再ノイズ：	3.3mV/2.3mV以下 (DOLBY OFF/ON NORM) 2.3mV/1.7mV以下 (DOLBY OFF/ON CrO ₂)
再生ノイズ：	3.2mV/2.2mV以下 (DOLBY OFF/ON NORM) 2.2mV/1.5mV以下 (DOLBY OFF/ON CrO ₂)
録音バイアス周波数：	85kHz
テープスピード：	3kHz \pm 45Hz
ワウ・フラッター：	0.4%以下 (RMS) (DECK1/2)
巻き取りトルク：	35~60g-cm (DECK1/2)
早送りトルク：	75~160g-cm (DECK1/2)
巻き戻しトルク：	75~160g-cm (DECK1/2)
バックテンション：	2~6g-cm (DECK1/2)
テストテープ：	NORMAL TTA-601 CrO ₂ TTA-610

1. Normal Speed Adjustment (DECK-2)

Settings: · Test tape : TTA-100
 · Test point : TP-OUT (PIN401)
 · Adjustment location : SFR1 (DECK-2)

Method: Play back the test tape, on FWD PLAY SFR1 (DECK-2) adjust for 3000Hz \pm 5Hz.
 And to \pm 45Hz of the FWD value during the REV mode.

2. Head Azimuth Adjustment (DECK-1, DECK-2)

Settings: · Test tape : TTA-320
 · Test point : TP-OUT (PIN401)
 · Adjustment location : Head azimuth adjustment screw

Method: Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

3. PB Sensitivity Adjustment (DECK-1, DECK-2)

Settings: · Test tape : TTA-200 (TCC-130, TTA-161)
 · Test point : TP-OUT (PIN401)
 · Adjustment location :
 SFR301 (DECK-1, Lch)
 SFR302 (DECK-1, Rch)
 SFR351 (DECK-2, Lch)
 SFR352 (DECK-2, Rch)

Method: Play back the test tape and adjust so that the output becomes 300mV.

4. PB Frequency Response Check (DECK-1, DECK-2)

Settings: · Test tape : TTA-320
 · Test point : TP-OUT (PIN401)

Method: Play back the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signal is 0dB \pm 2dB with respect to that of the 315Hz signal.

5. REC /PB Frequency Response Adjustment (DECK-2)

Settings: · Test tape : TTA-601
 · Test point : TP-OUT (PIN401)
 · Adjustment location : SFR451 (Lch)
 SFR452 (R ch)

Method: Apply a 1kHz signal and adjust attenuator so that the level at the TP-OUT is 21.0mV.
 Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is 0dB \pm 0.5dB for 1kHz signal.

6. REC /PB Sensitivity Adjustment (DECK-2)

Settings: · Test tape : TTA-601
 · Test point : TP-OUT (PIN401)
 · Adjustment location :
 SFR401 (Lch)
 SFR402 (R ch)

Method: Apply a 1kHz signal and adjust attenuator so that the level at the TP-OUT is 21.0mV.
 Record and play back the 1kHz signal and 10kHz signals and adjust so that the output level is 21.0mV \pm 0.5dB.

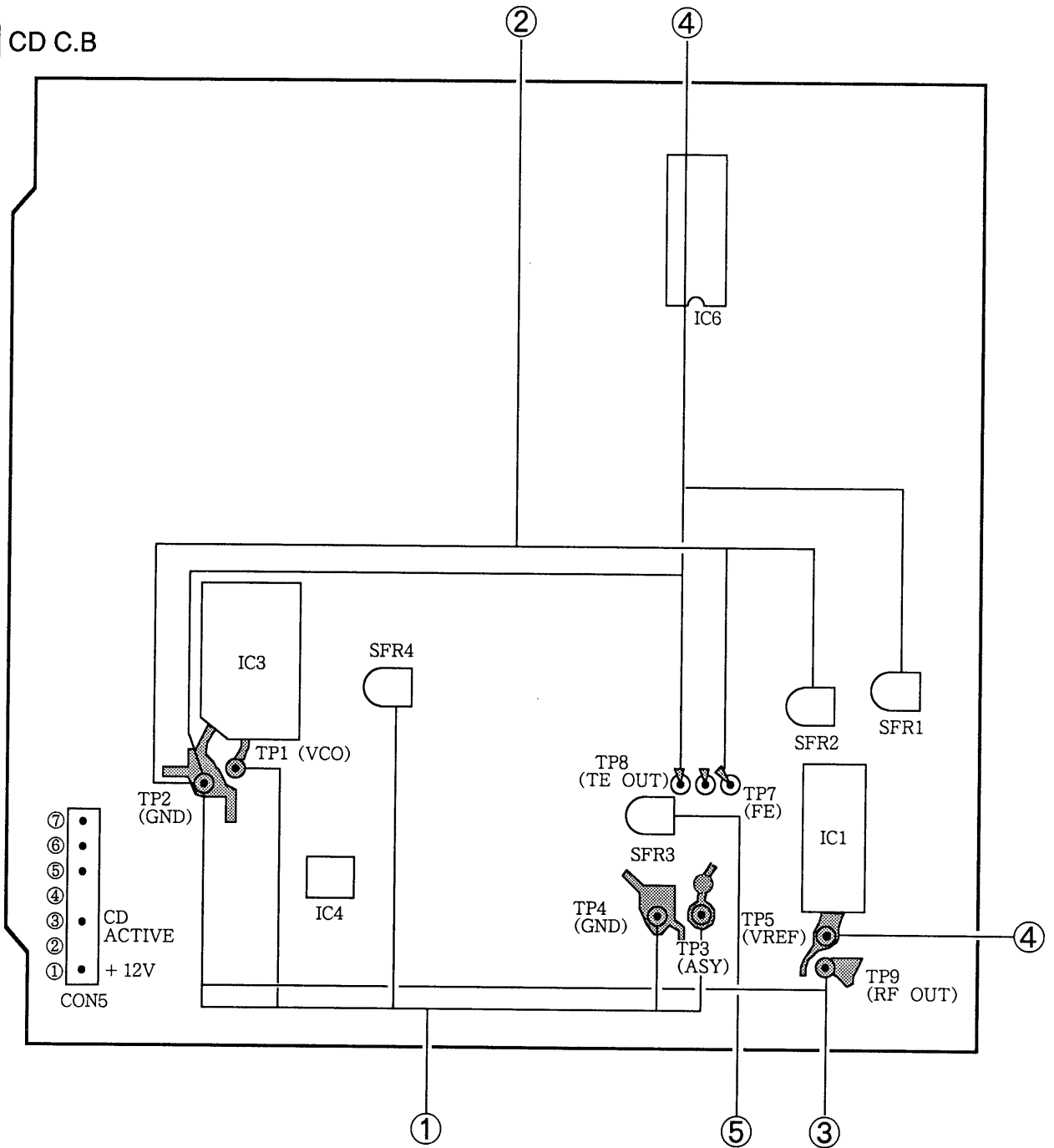
PRACTICAL SERVICE FIGURE

<DECK SECTION>

PB Output Level:	300mV \pm 1dB (LINE OUT)
REC/PB Output Level:	210mV \pm 2dB (LINE OUT)
Distortion (REC/PB):	Less than 2.0% (NORM, CrO ₂)
Erasing Ratio:	More than 60dB (TTA-610) (at 125Hz)
Cross talk:	More than 60dB
Channel Separation:	More than 47dB
Noise (PB):	Less than 3.2mV/2.2mV (DOLBY NR OFF/ON NORM) Less than 2.2mV/1.5mV (DOLBY NR OFF/ON CrO ₂)
Noise (REC/PB):	Less than 3.3mV/2.3mV (DOLBY OFF/ON NORM) Less than 2.3mV/1.7mV (DOLBY OFF/ON CrO ₂)
Recording Bias Frequency:	85kHz
Tape speed:	3kHz \pm 45Hz
Wow & Flutter:	Less than 0.4% (DECK-1/2) TTA-100 (TTA-111S)
Take-up Torque:	NORM: 35~60g-cm (DECK-1/2)
F.F & REW Torque:	75~160g-cm (DECK-1/2)
Back Tension:	2~6g-cm (DECK-1/2)
Test Tape:	NORMAL :TTA-601 CrO ₂ :TTA-610 (TTA-119H)

ADJUSTMENT-3 <CD>

C CD C.B



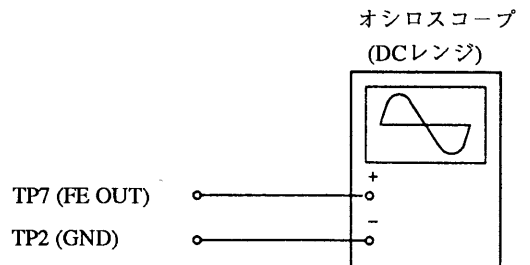
注意: 周波数カウンター又はオシロスコープ (10:1) をテストポイントに接続する。

1. VCO周波数調整

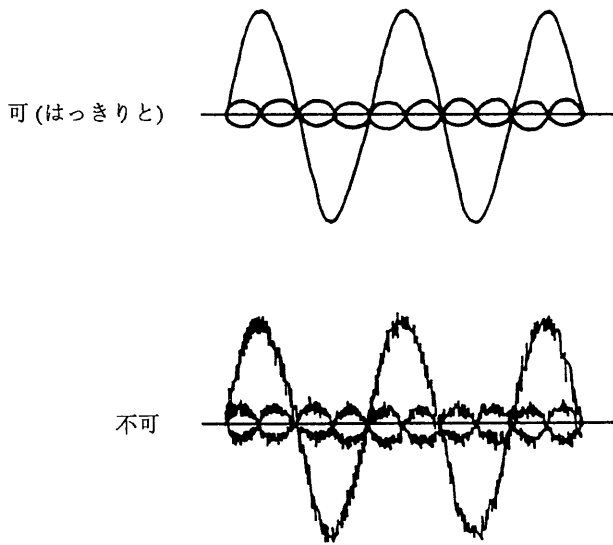
1. CON5の①と③をワイヤーでショートする。
2. TP3 (ASY) とTP4 (GND) を接続し、ショートする。
3. 周波数カウンターをテストポイントTP1 (VCO) とTP2 (GND) に接続する。
4. 周波数カウンターの値が $4.38 \pm 0.01\text{MHz}$ になる様にSFR4 (VCO) を調整する。
5. 調整後、TP2 (GND), TP3 (ASY) 及びTP4からショートクリップを外す。

2. フォーカスバイアス調整

光学ブロックの変換時又は修理時には、必ずフォーカスバイアスを調整する。



1. オシロスコープをテストポイントTP7 (FE OUT) とTP2 (GND) に接続する。
2. 電源スイッチをONにする。
3. テストディスクTCD-782 (YEDS-18) を入れ、2曲目を再生する。
4. テストポイントTP7 (FE OUT) のノイズ (高周波) が最小になる様にSFR2を調整する。

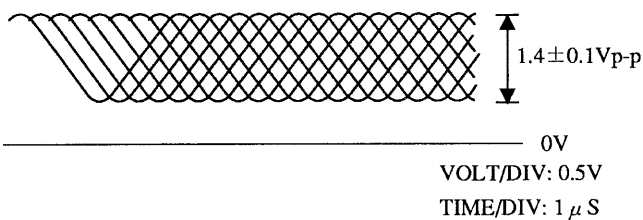


3. RF波形確認

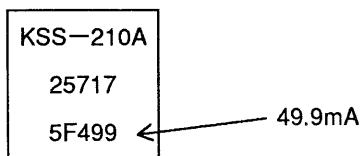
修理の為に光学システムブロックを交換した場合には、RF波形を確認する。

1. オシロスコープをテストポイントTP9 (RF OUT) とTP5 (VREF) に接続する。
2. 電源スイッチをONにする。
3. テストディスクTCD-782 (YEDS-18) を入れ、2曲目を再生する。
4. 波形が下図のように出力することを確認する。

RF信号波形



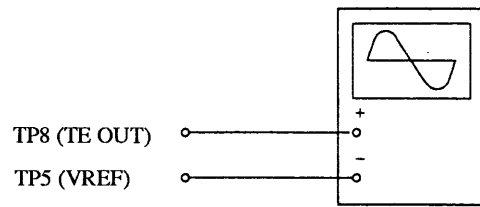
注意: レーザー電流はR4 (10Ω) の両端電圧で確認する。レーザーピックアップ裏側のラベルに示す電流値に対し、±6.0mA以内であること。



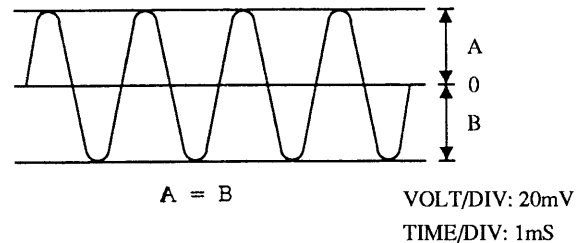
$$\text{レーザー電流 } I_{op} = \frac{R4 \text{ 両端電圧}}{10\Omega}$$

4. トラッキングバイアス調整

オシロスコープ
(DCレンジ)



1. オシロスコープをテストポイントTP8 (TE OUT) とTP5 (VREF) に接続する。
2. 電源スイッチをONにする。
3. テストディスクTCD-782 (YEDS-18) を入れ、PLAY (▶) ボタンを押す。
4. SFR3の midpoint とTP5 (VREF) をショートする。
5. SFR1を調整し、オシロスコープの波形を下図のように上下対称にする。
6. ショートを外す。



5. トラッキングゲイン調整

この調整を正確に行うためにはサーボアナライザーが必要です。また、このゲインはマージンを持っているため、通常では少し位ずれても問題ありません。したがって、この調整は行わないで下さい。2軸デバイス動作時の機械的ノイズと機械的ショックに対し、トラッキングゲインにてピックアップの追従性を決めます。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

- ゲインを上げると、2軸デバイス動作時の雑音が増加する。
- ゲインを下げると、機械的ショックに弱くなり音飛びが起きやすくなる。

そして、ゲインの調整がずれていると、次表の様な症状が現れます。

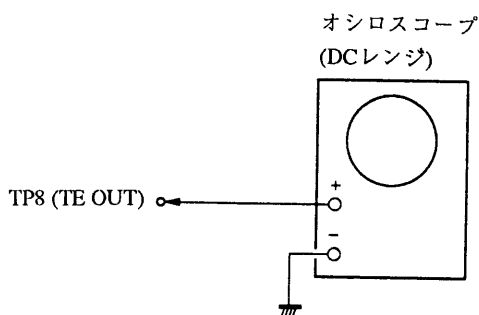
症状	ゲイン	フォーカス	トラッキング
●STOP→▶PLAY時又は自動選曲時 (◀、▶ ボタンを押した時)、演奏開始までの時間が長くなる。(通常は約2秒)		低い	低い又は高い
●STOP→▶PLAY時又は自動選曲時 (◀、▶ ボタンを押した時)、演奏が行われずにディスクだけが回転し続ける。		—	低い
●STOP→▶PLAY時、しばらくすると回転が止まる。		低い又は高い	—
●演奏中に音が途切れ、タイムカウンター表示が停止する。		—	低い
●2軸デバイス動作時、ノイズが多くなる。		高い	高い

なお、簡易調整として下記の方法があります。

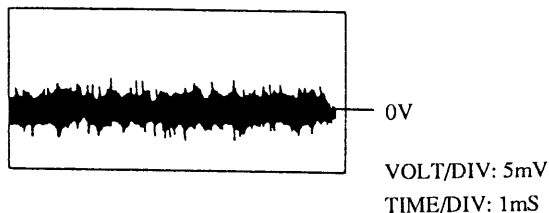
—簡易調整—

注意: 正確には調整出来ないため、調整を行う前のボリュームの位置を覚えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻して下さい。

調整方法:

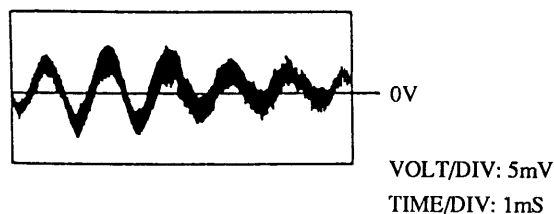


1. セットを水平に置く。(セットを水平に置かないと、2軸デバイスが重力の影響を受けて調整できません。)
2. テストディスクTCD-782(YEDS-18)を入れ、2曲目を再生する。
3. オシロスコープをTP8 (TE OUT) に接続する。
4. SFR3を調整し、オシロスコープの波形を下図の様にする (トラッキングゲイン調整)。



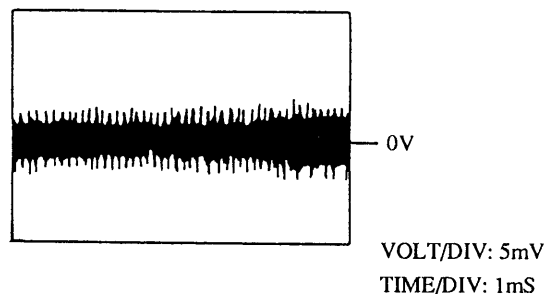
- 悪い例 (調整されている波形と比べて、基本波が現れるようになる。)

トラッキングゲインが低い時



トラッキングゲインが高い時

基本波の周波数はゲインが低い場合より高い



ADJUSTMENT—3<CD>

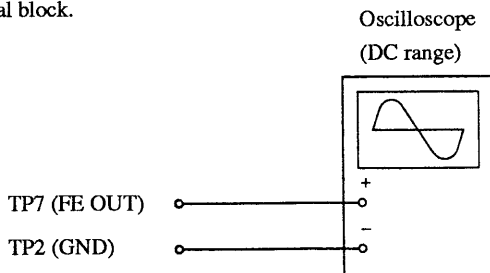
Note: Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point.

1. VCO Frequency Adjustment

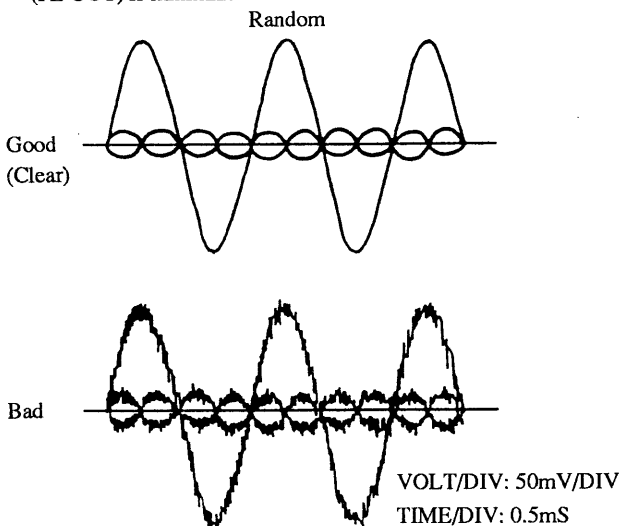
- Short pin ① and ③ of CON5 with wire.
- Connect and short between TP3 (ASY) and TP4 (GND).
- Connect the frequency counter to test points TP1 (VCO) and TP2 (GND).
- Adjust SFR4 (VCO) so that the frequency counter reading is $4.38 \pm 0.01\text{MHz}$.
- After the adjustment is completed, remove the short lead wires from TP2 (GND), TP3 (ASY) and TP4.

2. Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.



- Connect an oscilloscope to test points TP7 (FE OUT) and TP2 (GND).
- Turn on the power switch.
- Insert test disc TCD-782 (YEDS-18) and play back the second composition.
- Adjust SFR2 so that the noise (high frequency) of test point TP7 (FE OUT) is minimized.

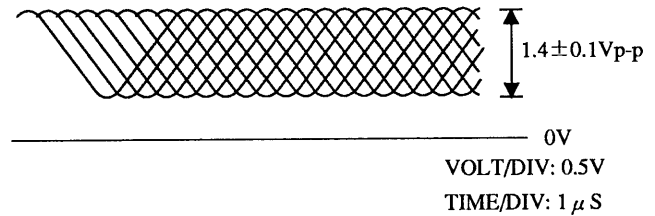


3. RF Waveform Check

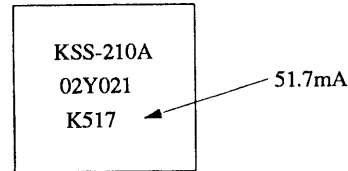
This check should be performed whenever the optical system block is replaced in repair.

- Connect an oscilloscope to test points TP9 (RF OUT) and TP5 (VREF).
- Turn on the power switch.
- Insert test disc TCD-782 (YEDS-18) and play back the second composition.
- Check that the waveform appears as shown in the figure below.

RF signal waveform

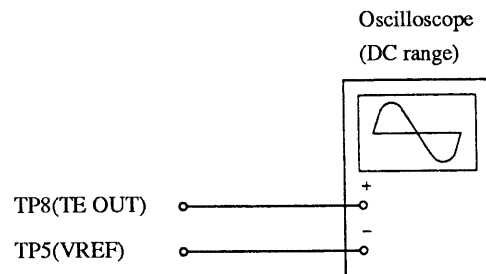


Note: The current of the laser signal can be checked with the voltages on both sides of R4 (10Ω). The difference for the specified value shown on the label must be within $\pm 6.0\text{mA}$.

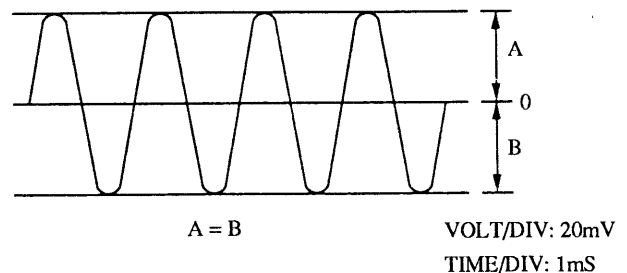


$$\text{Laser current } I_{op} = \frac{\text{Voltage across R4}}{10 \Omega}$$

4. Tracking Balance Adjustment



- Connect an oscilloscope to test points TP8 (TE OUT) and TP5 (VREF).
- Turn on the power switch.
- Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
- Connect the intermediate point of SFR3 to TP5 (VREF).
- Adjust SFR1 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
- Remove the connected wire.



5. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment. Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these gains are reciprocal, the adjustment is performed so that both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is not satisfied, the symptoms below appear.

Symptoms	Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP → ▶ PLAY or automatic selection (⏮ ⏪ buttons pressed.) (Normally takes about 2 seconds.)		Low	Low or High
● Music does not start and disc continues to rotate for STOP → ▶ PLAY or automatic selection (⏮ ⏪ buttons pressed.)		—	Low
● Disc stops to rotate shortly after STOP → ▶ PLAY.		Low or High	—
● Sound is interrupted during PLAY. Or time counter display stops.		—	Low
● More noise during the 2-axis device operation.		High	High

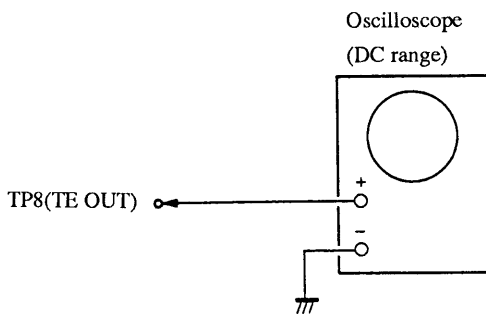
The following is simple adjustment method.

- Simple adjustment -

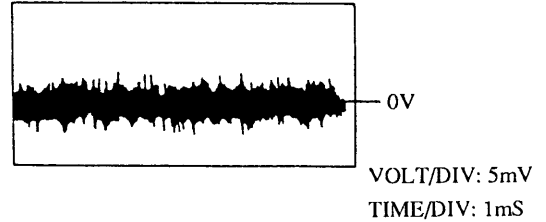
Note: Since the adjustment cannot be performed exactly, remember the positions of the controls before the adjustment and compare the adjusted position and the original position.

If the difference is a little, return the controls to the original position.

Procedure:

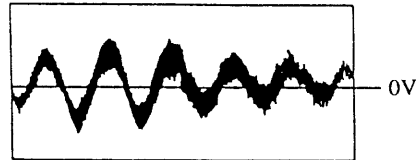


1. Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3. Connect an oscilloscope to TP8 (TE OUT) of the main board.
4. Adjust SFR3 so that the waveform appears as shown in the figure below. (tracking gain adjustment)



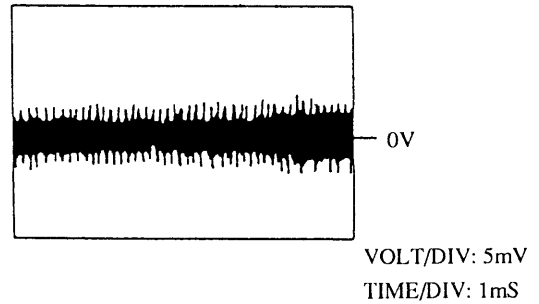
- Incorrect example (The fundamental wave appears as compared with the waveform adjusted.)

Low tracking gain



High tracking gain

The frequency of the fundamental wave is higher than that in low gain.

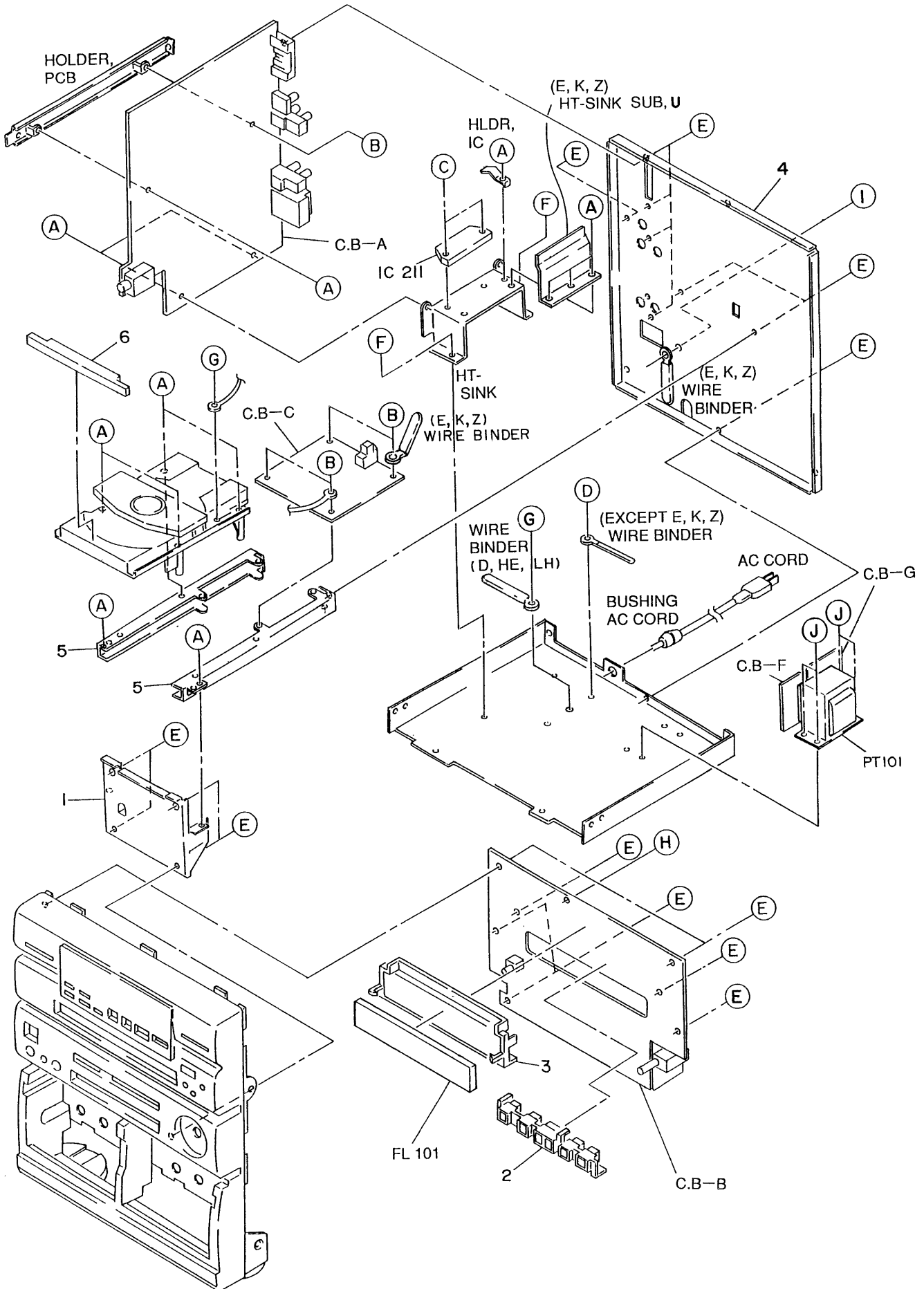


MECHANICAL PARTS LIST—1/2

DESCRIPTION で判断できない物は“REFERENCE NAME LIST”を参照してください。
 If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カテゴリ NO.	DESCRIPTION
1	83-NE2-001-119	2A	CAB, FR [B] (D)
1	83-NE2-016-119		CAB, FR HE [B] (HE, HR, LH)
1	83-NE2-020-119		CAB, FR E [B] (E, EE, K, Z)
1	83-NE2-019-119		CAB, FR U [B] (3100U)
1	83-NE2-033-119		CAB, FR E SIL [ST] (E)
2	81-MX4-019-019	0E	KNOB, MIC
3	83-NE2-006-019	1E	BOX, CASS 1 [B] (D)
3	83-NE2-017-019		BOX, CASS 1 EX [B] (HE, HR, LH, E EE, K, Z, 3100U)
3	83-NE2-035-019		BOX, CASS 1 EX SIL [ST] (E)
4	81-MX4-223-019	0E	SPR-P, CASS
5	81-MX4-014-119	1A	WINDOW, BOX 1
6	83-NE2-201-019	0E	SPR-T EJECT 1
7	83-NE2-202-019	0E	SPR-T EJECT 2
8	83-NE2-007-019	1E	BOX, CASS 2 [B] (D)
8	83-NE2-018-019		BOX, CASS 2 EX [B] (HE, HR, LH, E EE, K, Z, 3100U)
8	83-NE2-036-019		BOX, CASS 2 EX SIL [ST] (E)
9	83-NE2-023-019	1B	KNOB ASSY, VOL [B]
9	83-NE2-038-019		KNOB ASSY, VOL SIL [ST]
10	87-063-165-019	1A	OIL-DMPR 150
11	82-NF5-205-019	1A	HLD R ASSY, LOCK 2
12	80-MV3-210-110	0E	SPR-C, LOCK [B] (D)
12	80-MV3-218-019		SPR-C, LOCK SIN [B] (HE, HR, LH, E EE, K, Z, 3100U) [ST] (E)
13	80-CD3-233-010	0E	PLATE, LOCK
14	82-NF5-204-019	1A	HLD R, ASSY LOCK 1
15	81-MX4-020-019	0E	IND, FUN
16	81-MX4-010-010	1C	KEY, PLAY
17	83-NE2-004-019	1E	WINDOW, DISPLAY
18	87-085-221-010	0E	FOOT, H13.5
19	83-NE2-002-019	0E	KEY, YU
20	83-NE2-003-019	0E	KEY, CD
21	81-MX4-007-019	0E	KEY, POWER
22	83-NE2-025-019	1B	KEY, FUN T [B] (D)
22	83-NE2-022-019		KEY, FUN [B] (HE, HR, LH, E, EE, K Z, 3100U)
22	83-NE2-037-019		KEY, FUN SIL [ST] (E)
23	81-MX4-011-019	0E	KEY, DUBB
24	81-MX4-032-019	0E	BADGE, AIWA N
25	83-NE2-046-019	2M	CAB, STEEL [B] (D, HE, HR, LH, EE K, Z, 3100U)
25	83-NE2-047-018		CAB, STEEL G [B] (E)
25	83-NE2-040-018		CAB, STEEL SIL [ST] (E)
26	81-532-080-019	0E	LBL, CASS COMPT
27	80-VT1-202-019	0E	FELT, 12.5-15.5-2
28	82-NF5-216-019	0E	PLATE EARTH MECHA
A	87-591-094-419	0E	QIT+3-6 GOLD
B	87-067-716-019	0E	BVTT+3-6 BLK
C	87-067-641-019	0E	UTT2+3-8 W/O SLOT BLK
D	87-067-761-019	0E	BVT2+3-10 BLK
E	87-571-032-419	0E	VIT+2-3
F	87-067-579-019	0E	BVT2+3-8 W/O SLOT
G	87-081-808-019	0E	PW, 1.7-3.5-0.25

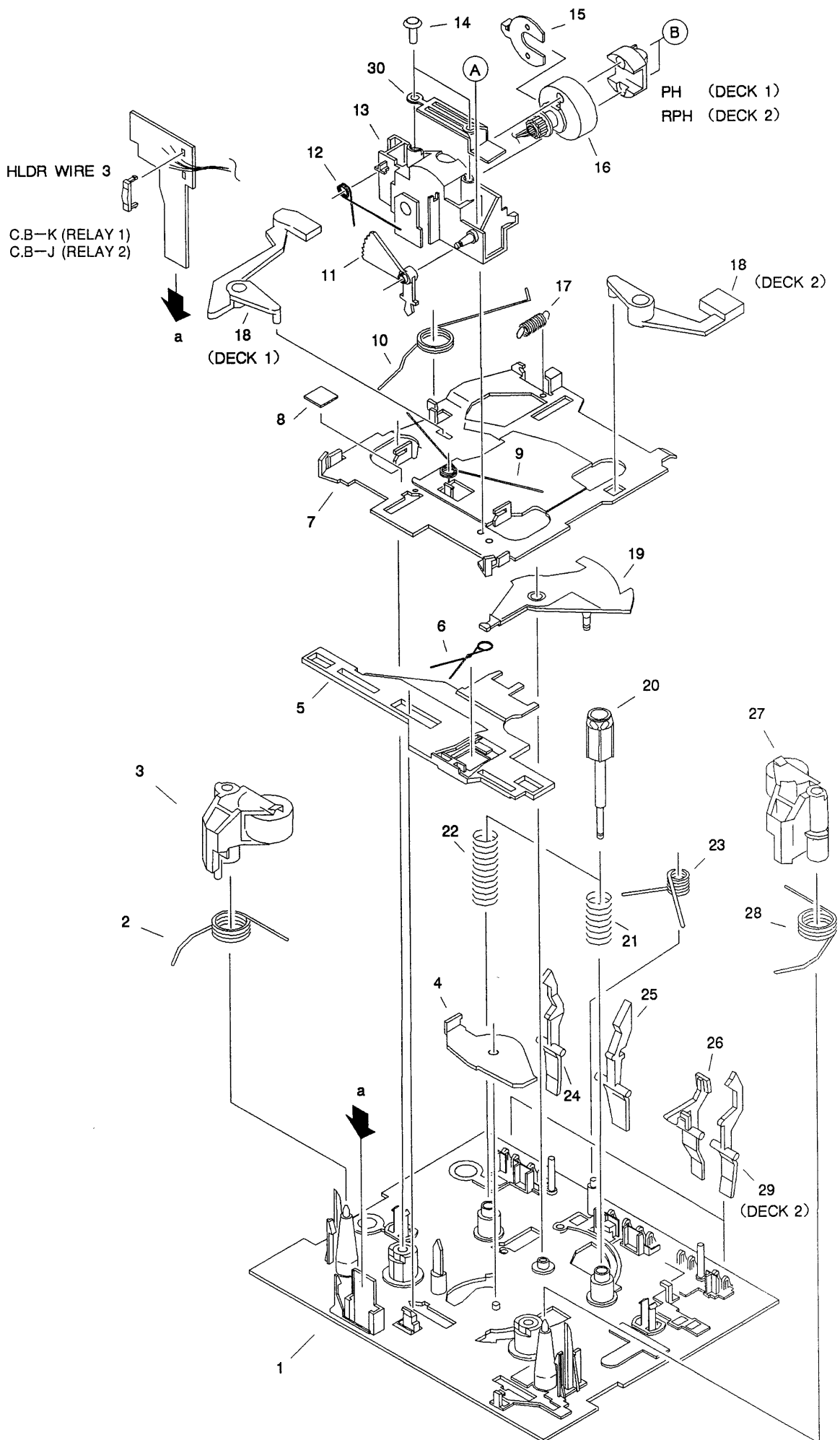
MECHANICAL EXPLODED VIEW—2/2



MECHANICAL PARTS LIST—2/2

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	82-NE8-206-019	1B	HLDR, CD 0.8
2	81-MX4-210-019	0E	GUIDE, PLAY
3	82-MA2-203-019	1A	GUIDE, FL 2
4	83-NE2-044-019	1H	PANEL, REAR BJ [B] (D)
4	83-NE2-009-119		PANEL, REAR HEJBNM [B] (HE)
4	83-NE2-021-019		PANEL, REAR HRJBNM [B] (HR)
4	83-NE2-008-119		PANEL, REAR LHJBNM [B] (LH)
4	83-NE2-011-019		PANEL, REAR EBNE [B, ST] (E)
4	83-NE2-029-019		PANEL, REAR EBNM [B] (EE)
4	83-NE2-030-019		PANEL, REAR KBNM [B] (K)
4	83-NE2-043-019		PANEL, REAR ZBN [B] (Z)
4	83-NE2-048-019		PANEL, REAR UBN [B] (3100U)
5	81-MX4-203-119	1B	HLDR, CD3 [B] (D, HE, HR, LH, EE K, Z, 3100U)
5	81-MX4-216-118		HLDR, CD3 G [B, ST] (E)
6	83-NE2-005-019	1B	PANEL, TRAY [B]
6	83-NE2-034-019		PANEL, TRAY SIL [ST]
A	87-067-579-019	0E	BVT2+3-8 W/O SLOT
B	87-067-633-019	0E	UTT2+3-8 W/CONVEX
C	87-067-581-019	0E	BVT2+3-15 W/O SLOT
D	87-067-585-019	0E	BVTT+4-6
E	87-067-761-019	0E	BVT2+3-10 BLK
F	87-067-584-019	0E	BVT2+3-6 W/O SLOT
G	87-067-688-019	0E	BVTT+3-6
H	87-067-058-019	0E	FW, 3.2-8-0.5
I	87-084-077-019	0E	NYLON RIVET DIA 3.5-4.5
J	87-078-019-019	0E	S-SCREW, IT+4.6

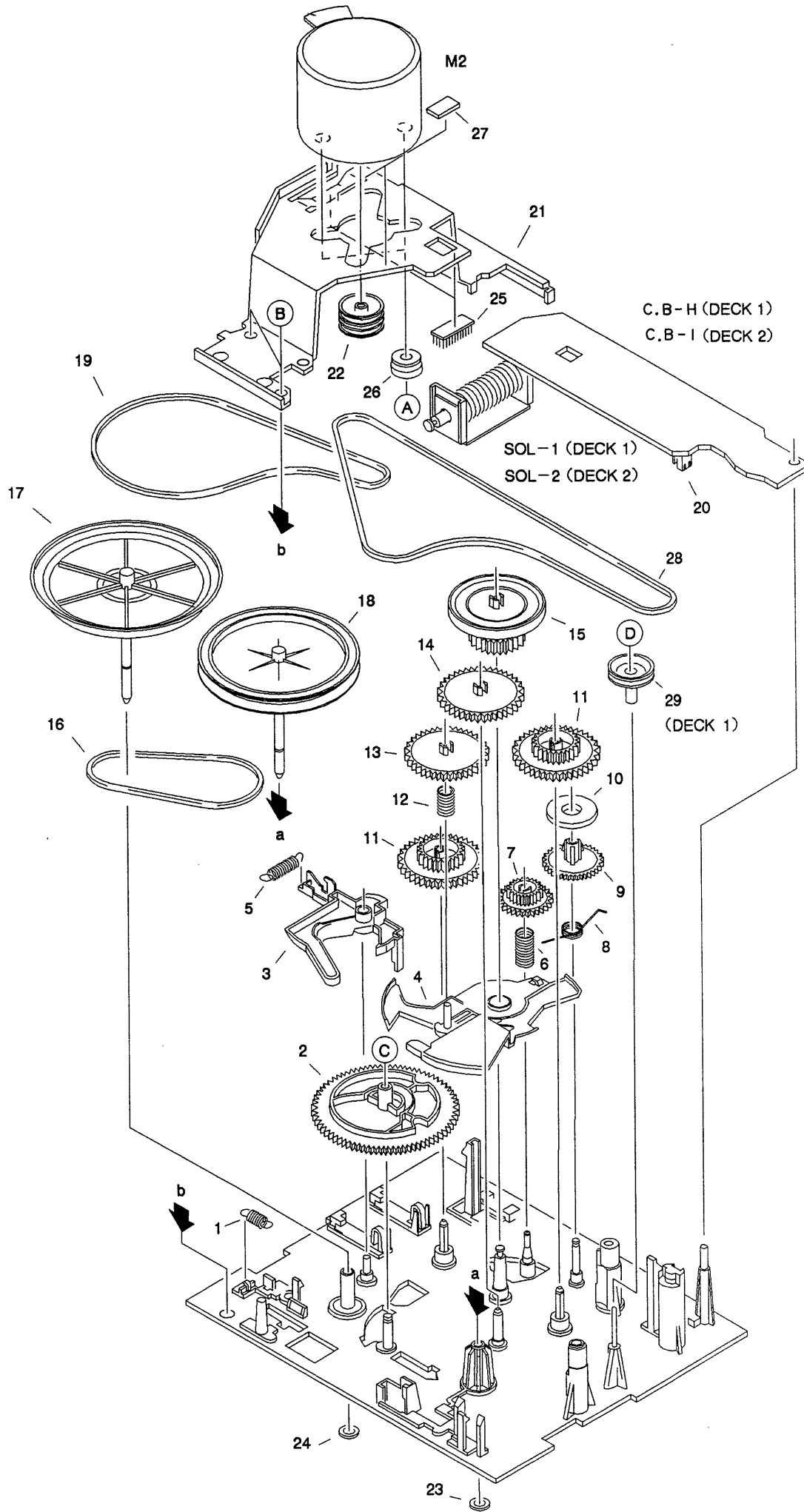
DECK MECHANISM EXPLODED VIEW—1/2



DECK MECHANISM PARTS LIST—1/2

REF. NO	PART NO.	カソリ NO.	DESCRIPTION
1	82-ZM3-214-110	1D	CHAS ASSY, P (DECK 1)
1	82-ZM1-299-010	1D	CHAS ASSY, R (DECK 2)
2	82-ZM1-258-010	0E	SPR-T, PINCH L
3	82-ZM1-248-110	1A	LVR ASSY, PINCH L
4	82-ZM1-295-110	0E	PLATE ASSY, LINK
5	82-ZM1-266-010	0E	LVR, DIR
6	82-ZM1-214-010	0E	SPR-T, DIR
7	82-ZM1-206-010	1A	CHAS, HEAD
8	87-078-014-019	0E	SH, 5-5-0.05
9	82-ZM1-269-010	0E	SPR-T, BRG
10	82-ZM1-219-010	0E	SPR-T, LINK
11	82-ZM1-210-010	0E	GEAR, H T
12	82-ZM1-213-010	0E	SPR-T, HEAD
13	82-ZM1-207-010	1A	GUIDE, TAPE
14	82-ZM1-283-210	0E	S-SCREW, AZIMUTH
15	82-ZM1-209-010	0E	PLATE, HEAD
16	82-ZM1-208-010	0E	HLDR, HEAD
17	82-ZM1-218-010	0E	SPR-E, HB
18	82-ZM1-263-110	0E	LVR, EJECT L (DECK 1)
18	82-ZM1-264-010	0E	LVR, EJECT R (DECK 2)
19	82-ZM1-222-010	0E	LVR, PLAY
20	82-ZM1-217-010	0E	REEL TABLE
21	82-ZM1-244-010	0E	SPR-C, BT
22	82-ZM1-285-010	0E	SPR-C, BT L
23	82-ZM1-257-010	0E	SPR-T, CAS
24	82-ZM1-241-010	0E	LVR, MC
25	82-ZM1-242-010	0E	LVR, CAS
26	82-ZM1-243-010	0E	LVR, STOP
27	82-ZM1-253-110	1A	LVR ASSY, PINCH R
28	82-ZM1-259-010	0E	SPR-T, PINCH R
29	82-ZM1-240-010	0E	LVR, REC (DECK 2)
30	82-ZM1-298-010	0E	SPR-P, EARTH
A	87-585-036-410	0E	UIT+2-8
B	80-ZM6-207-019	0E	V+1.6-7

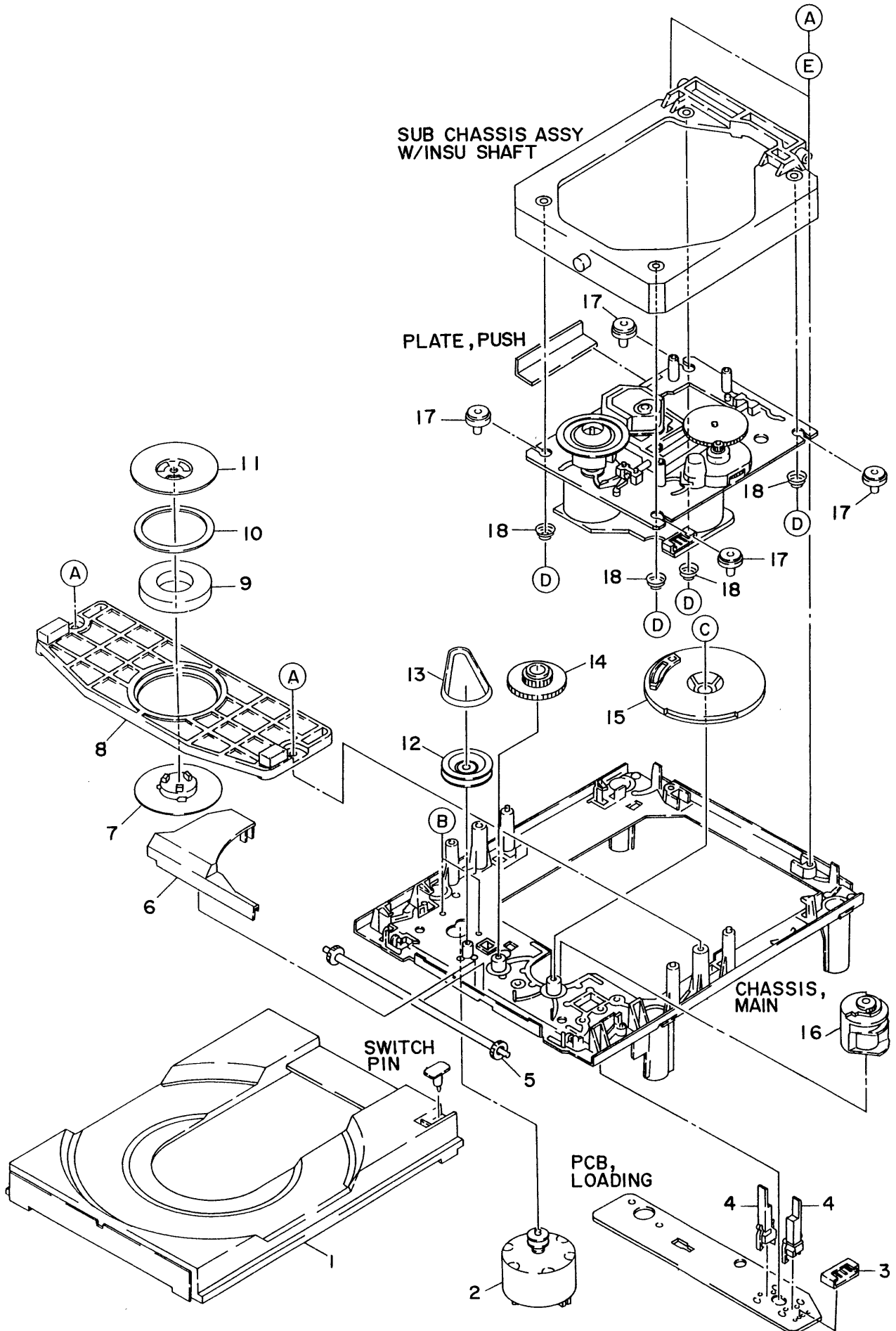
DECK MECHANISM EXPLODED VIEW—2/2



DECK MECHANISM PARTS LIST—2/2

REF. NO	PART NO.	カフリ NO.	DESCRIPTION
1	82-ZM1-255-110	0E	SPR-E, LVR DIR
2	82-ZM1-221-110	0E	GEAR, CAM
3	82-ZM1-227-010	0E	LVR, TRIG
4	82-ZM1-224-010	0E	LVR, FR
5	82-ZM1-265-010	0E	SPR-E, TRIG
6	82-ZM1-277-010	0E	SPR-C, PLAY
7	82-ZM1-223-010	0E	GEAR, PLAY
8	82-ZM1-256-010	0E	SPR-T, FR
9	82-ZM1-220-010	0E	GEAR, IDLER
10	80-ZM6-217-010	0E	RING MAGNET 2
11	82-ZM1-216-110	0E	GEAR, REEL
12	82-ZM1-276-010	0E	SPR-C, FR
13	82-ZM1-225-010	0E	GEAR, FR
14	82-ZM1-226-010	0E	GEAR, REW
15	82-ZM1-228-110	1B	SLIP DISK ASSY
16	82-ZM1-261-110	0E	BELT, FR
17	82-ZM3-209-010	1B	FLY-WHL ASSY, R2 (DECK 1)
17	82-ZM1-237-010	1B	FLY-WHL ASSY, R (DECK 2)
18	82-ZM3-207-010	1B	FLY-WHL ASSY, L2 (DECK 1)
18	82-ZM1-234-010	1B	FLY-WHL ASSY, L (DECK 2)
19	82-ZM3-206-010	0E	BELT, R
20	82-ZM1-245-010	0E	HLD, IC
21	82-ZM3-201-010	1A	HLD, MC
22	82-ZM3-202-010	0E	PULLEY, MOT 2M
23	82-ZM1-288-010	0E	SH, 1.63-3.2-0.5 SLT
24	80-ZM6-243-010	0E	SH, 1.75-3.6-0.5 SLT
25	80-ZM6-230-010	0E	SH, BELT
26	86-575-242-010	0E	CUSH-G, DIA 3.7-9-3.2
27	86-575-361-010	0E	CUSH-G, 6-8-0.8
28	82-ZM3-205-010	0E	BELT, L
29	82-ZM3-204-010	0E	PULLEY COUPLER (DECK 1)
A	86-575-243-010	0E	S-SCREW, MOTOR
B	87-067-178-019	0E	VTT+2.6-3
C	87-067-932-019	0E	PW, 2.15-6.8-0.5
D	87-067-972-019	0E	PW, 1.05-3-0.25 SLT

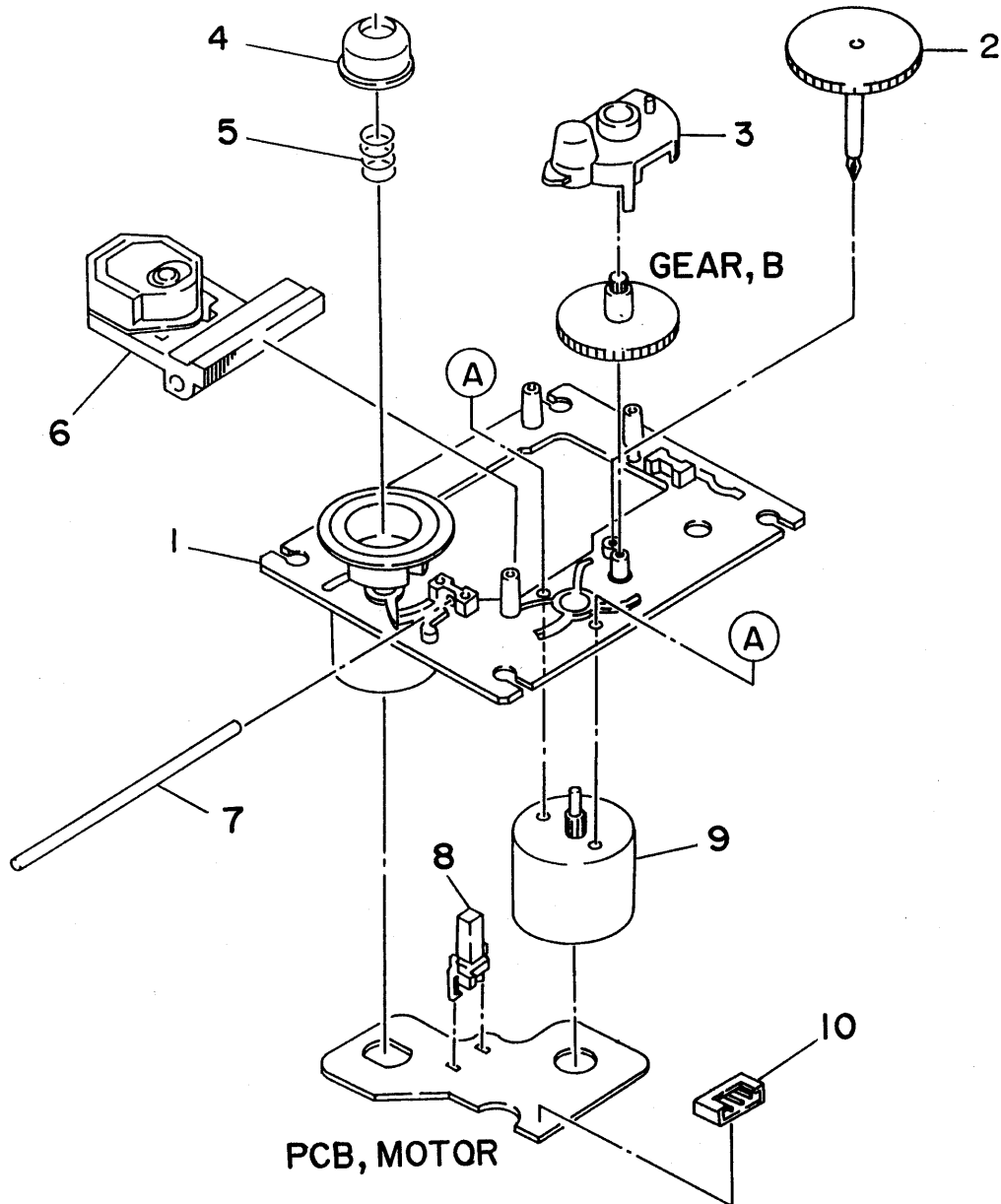
CD MECHANISM EXPLODED VIEW—1/2



CD MECHANISM PARTS LIST—1/2

REF. NO	PART NO.	カリ NO.	DESCRIPTION
1	92-625-288-040	1F	TRAY
2	9X-262-511-710	2M	LOADING MOTOR ASSY
3	91-564-721-110	1B	CONNECTOR 5P
4	91-572-086-110	1B	SWITCH, LEAF
5	92-625-275-030	1C	GEAR, TRAY
6	92-625-282-020	1B	COVER, GEAR
7	92-625-286-030	1B	PULLEY, CHUCKING
8	92-625-284-040	-	PLATE, CHUCKING
9	91-452-493-210	1D	MAGNET
10	92-625-541-010	-	DAMPER
11	92-625-277-010	1B	YOKE, CHUCK
12	92-625-276-010	-	PULLEY, LOADING
13	93-853-387-000	1D	BELT, LM
14	92-625-274-020	1B	GEAR, MEDDLE
15	92-625-285-030	1C	GEAR, DRIVE
16	92-625-283-020	1C	CAM, CONTROL
17	92-625-278-010	1F	INSULATOR
18	92-625-280-010	1B	SPRING
A	87-761-074-410	0E	VFT2+2. 6-8
B	92-625-279-010	0E	U+2. 6-2. 5
C	87-761-079-410	0E	VFT2+2. 6-16
D	92-644-410-020	0E	SCREW SWCH16A
E	93-641-123-000	0E	WASHER

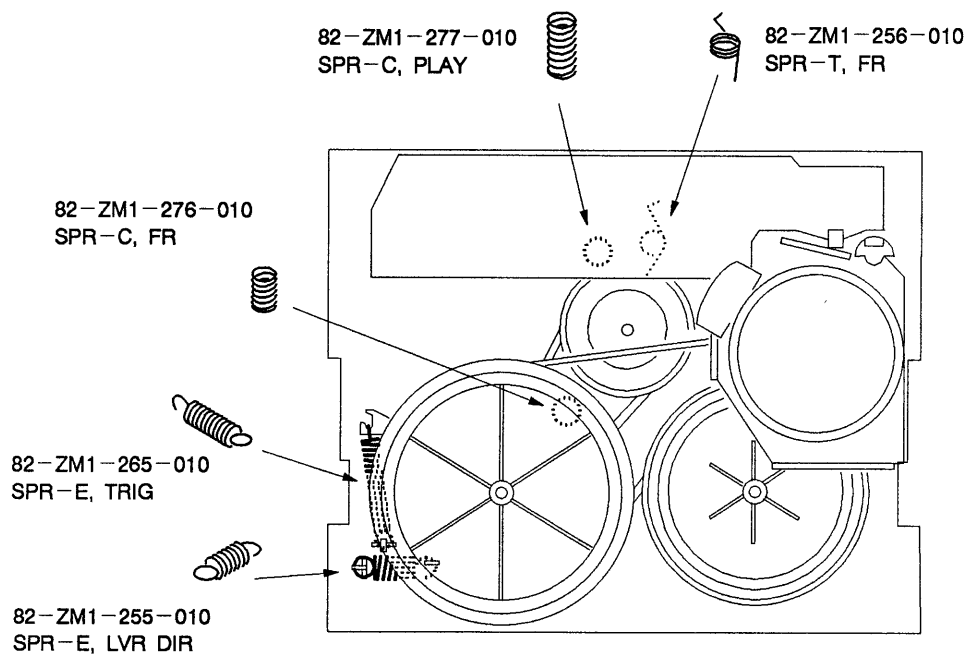
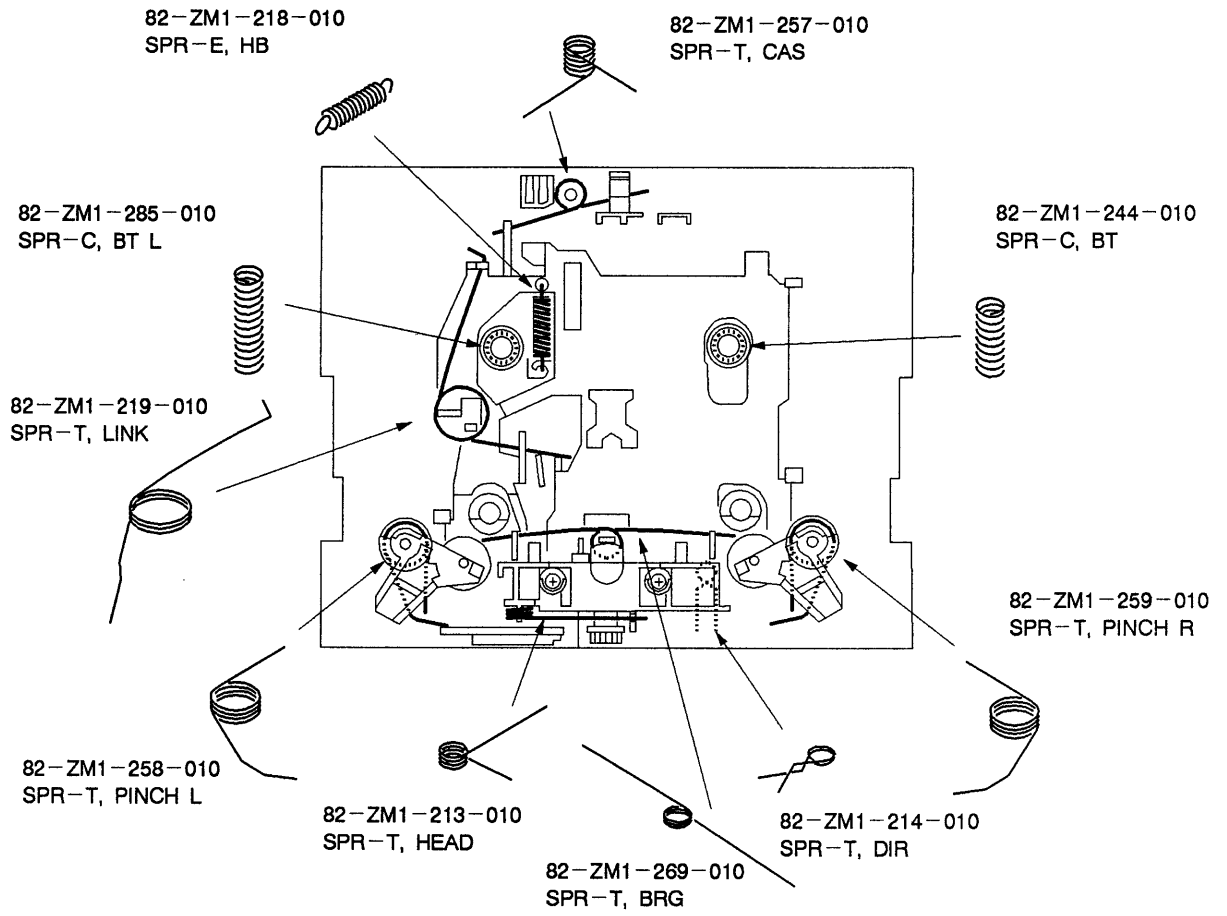
CD MECHANISM EXPLODED VIEW—2/2



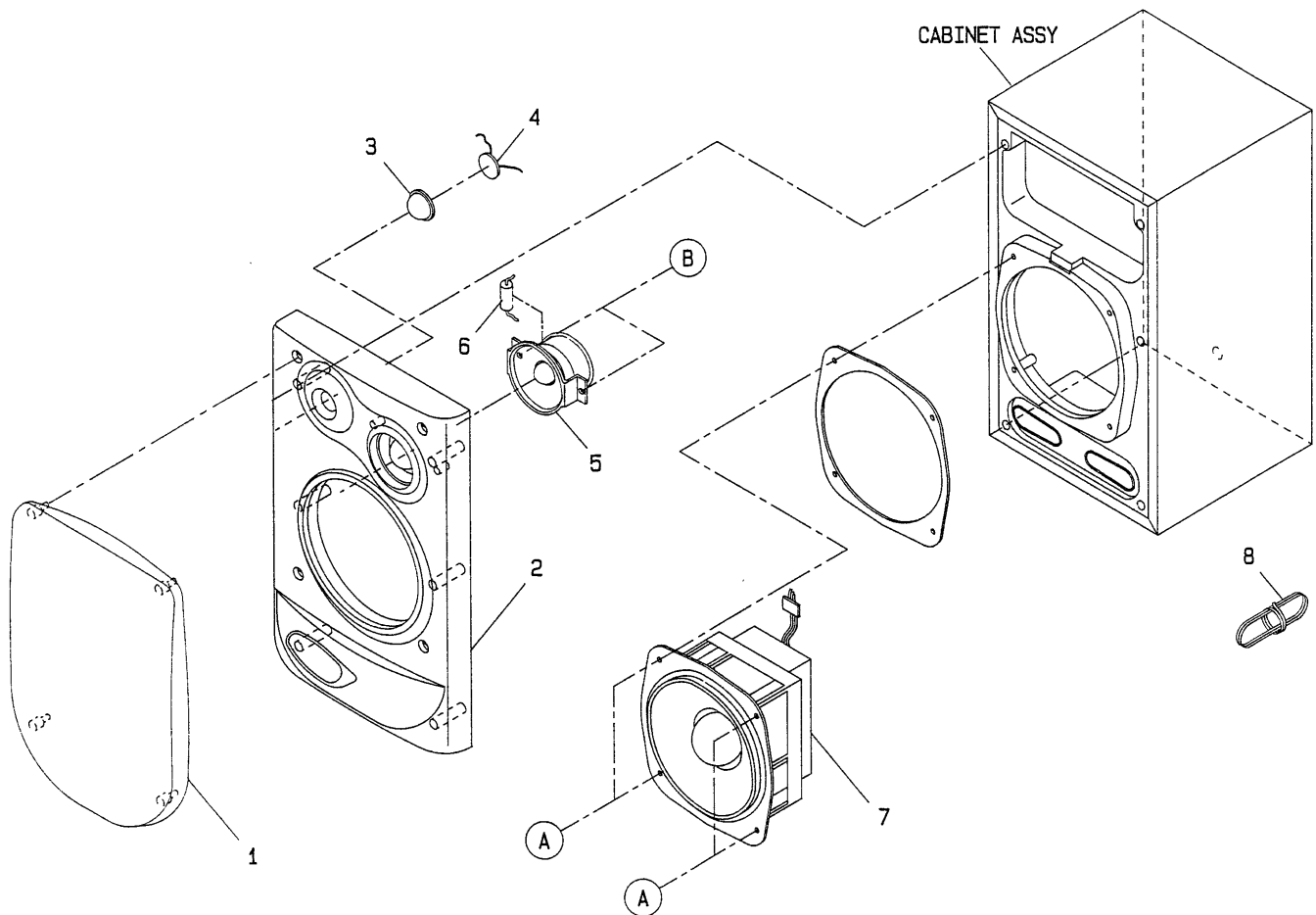
CD MECHANISM PARTS LIST—2/2

REF. NO	PART NO.	カリ NO.	DESCRIPTION
1	9X-262-513-310		2C T. T CHASS ASSY W/MOTOR
2	92-625-188-020		- GEAR A
3	92-625-544-010		- COVER
4	92-625-187-010		1B RING, CENTER
5	92-625-191-010		1B SPRING COMPRESSION
6	98-848-127-110		- PICK UP KSS-210A
7	94-917-565-010		1D SHAFT SLED
8	91-572-085-110		1B LEAF SW (LIMIT)
9	9X-262-513-210		2M SLED MOTOR ASSY
10	91-564-722-110		1B CONNECTOR 6P
A	87-261-032-210		0E V+2-3

SPRING APPLICATION POSITION



SPEAKER EXPLODED VIEW



SPEAKER PARTS LIST

DESCRIPTION で判断できない物は“REFERENCE NAME LIST”を参照してください。
 If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	81-MSE-007-010	2B	GRILL FRAME ASSY(EXCEPT E)	2	82-NS2-012-010		PANEL, FRONT LS(LH, HE)
2	82-NS2-002-010	2M	PANEL, FRONT R(D, Z, K, E)	3	82-MSE-610-010	1C	CERAMIC
2	82-NS2-003-010	2M	PANEL, FRONT L(D, Z, K, E)	4	82-NS2-604-010	2P	SPEAKER, TWEETER
2	82-NS2-004-010		PANEL, FRONT RY(U)	5	82-NS2-602-010	2E	SPEAKER, WOOFER
2	82-NS2-005-010		PANEL, FRONT LY(U)	6	83-096-614-010	1D	CORD, SPEAKER
2	82-NS2-011-010		PANEL, FRONT RS(LH, HE)	A	87-343-172-010	0E	UT, +4-12
				B	87-342-097-010	0E	UT, +3-12

■ ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
 If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カソリ NO.	DESCRIPTION	REF. NO	PART NO.	カソリ NO.	DESCRIPTION
1	87-006-226-010		AM LOOP ANT CON2(Z, K, E)	3	83-NE2-903-010		IB, H(LH, HE, K, E)
1	87-006-225-010	1D	AM LOOP ANT NC2(D, LH, HE, U)	4	87-009-724-010		PLUG, ADPTR. 1R39(LH)
2	81-748-632-010	1B	FEEDER ANT FMN(EXCEPT Z)	4	87-042-062-010		PLUG, ADPTR S-16115(HE)
2	87-043-106-010		FM WIRE ANT(Z) (Z)	5	83-NE2-647-010	2P	RC, RC-TN320 (D)
3	83-NE2-901-010	1C	IB, D(D)	5	83-NE2-650-010		RC, RC-TN320 (EX) (EXCEPT D)
3	83-NE2-904-010	1C	IB, D(Z)				
3	83-NE2-908-010	1C	IB, D(U)				

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP, CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BAT, CONTACT ASSY	BATTERY CONTACT ASSY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
KNOB, VOL REV	KNOB, VOLUME REV
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTORL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOADING MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
SW	SWITCH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジクアーム	ARM, SHAFT
ジクガイド	GUIDE, SHAFT
ストラップ	STRAP
ヒンジ	HINGE

サービス技術ニュース	
番号	連絡内容
G - -	
G - -	
G - -	

アイワ株式会社
AIWA CO., LTD.

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Tokyo Japan