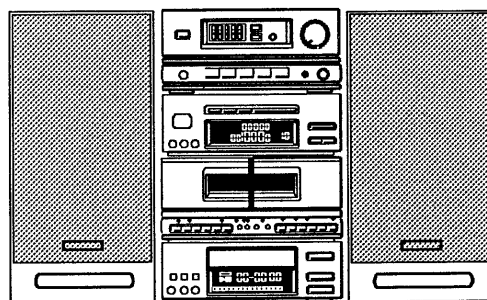


AIWA®

NSX-D5 CUD-DN5

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : α - 14MK II
- BASIC CD MECHANISM : KSL - 210AFM

- TYPE. H,U,C

SYSTEM	AMPLIFIER TUNER	CASSETTE DECK CD PLAYER	REMOTE CONTROLLER	SPEAKER
NSX - D5 (H TYPE)	RX - N5	FD - N5	RC - TN5	SX - N5
CENTER SYSTEM CUD - DN5 (U,C TYPE)	RX - N5	FD - N5	RC - TN5	SX - N5 ※ 1

※ 1 CENTER SYSTEM does not have.

AIWA Co., Ltd.**Tokyo Japan**

Printed in Japan

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SPECIFICATIONS

STEREO RECEIVER RX - N5

< FM section >

Frequency range	87.5MHz to 108MHz
Usable sensitivity (IHF)	2.2 μ V(75 ohms) 18.2dBf
Alternate channel selectivity	50dB($\pm$ 400kHz)
Signal to noise ratio	70dB(STEREO) 78dB(MONO)
Harmonic distortion	0.3%(MONO),1kHz 0.8%(STEREO),1kHz
Frequency response	20Hz to 15kHz (+0.5dB, -3dB)
Stereo separation	40dB at 1kHz
Antenna	75ohms(unbalanced)

< AM section >

Frequency range	H :AM531(530)kHz to 1602(1710)kHz U,C :AM530kHz to 1710kHz
Usable sensitivity	400 μ V/m
Selectivity	22dB (9kHz)
Signal to noise ratio	53dB (100dB input)
Antenna	Loop antenna

< Timer section >

Program timer	"Once"and/ or "every"
Sleep timer	capable of setting in 10 - minute increments, 99minutes maximum

< Amplifier section >

Power output	H: 60W + 60W (6 ohms,T.H.D.10% . 1kHz) FTC RULE (U,C model only) 50watts per channel.Min. RMS at 6 ohms. from 65Hz to 15kHz.with no more than1% Total Harmonic Distortion
Harmonic distortion	0.05% (30W, 1kHz, 6 ohms)
Input sensitivity (load impedance)	DAT/VIDEO1 : 300mV (47k ohms) VIDEO2 : 500mV (47k ohms)
Signal to noise ratio	84dB

< General >	
Power requirements	H : 120/220/240 V AC switchable, 50/60Hz U,C : 120/220 - 240 V AC switchable, 50/60Hz
Power consumption	115W (System total 130W)
Dimensions (W $\times$ H $\times$ D)	260 $\times$ 190 $\times$ 323 mm (10 $\frac{1}{4}$ $\times$ 7 $\frac{1}{2}$ $\times$ 12 $\frac{3}{4}$ in)
Weight	6kg (13.2 lbs.)

COMPACT DISC STEREO CASSETTE DECK FD - N5

< Cassette deck section >

Track format	4 tracks, 2 channels
Frequency response	METAL tape : 20 - 17000Hz CrO2 tape : 20 - 16000Hz Normal tape : 20 - 15000Hz
Signal to noise ratio	65dB (DOLBY NR ON, METAL tape peak level above 5kHz)
Wow and flutter	0.12%(WRMS) $\pm$ 0.19 (WPEAK)
Tape speed	4.8cm/sec.(1 7/8 ips) 9.5cm/sec.(double speed)
Rewind time	120sec. (C - 60)
Fast forward time	120sec. (C - 60)
Recording system	AC bias
Erase system	AC erase
Motor	DC servomotor $\times$ 2
Heads	Playback head $\times$ 1 (deck1) Record/playback/ erase head $\times$ 1 (deck2)

< CD player section >

Disc	Compact disc
Scanning method	Non contact optical scanner (semiconductor laser application)
Laser	Semiconductor laser (λ = 780nm)
Rotation speed	Approx.500rpm - 200rpm (CLV) Approx.1000rpm - 400rpm (CLV,double speed, H model only)
Error correction	Cross Interleave, Reed Solomon cord
No.of channels	2 channels
D - A conversion	16-bit linear
Wow/Flutter	Unmeasurable
Signal to noise ratio	90dB (1kHz, 0dB)
Harmonic distortion	0.05% (1kHz, 0dB)
Low pass filter	8 times digital filter + active filter
Dimensions (W $\times$ H $\times$ D)	260 $\times$ 190 $\times$ 309.5 mm (10 $\frac{1}{4}$ $\times$ 7 $\frac{1}{2}$ $\times$ 12 $\frac{3}{4}$ in)
Weight	4.5kg (9.9 lbs.)

SPEAKER SX - N5

Cabinet type	3 way, bass reflex 130 mm(5 1/8 in)
Speaker	cone type woofer 60 mm(2 3/8 in) cone type tweeter 30 mm(1 3/16 in)ceramic type super tweeter
Impedance	6 ohms
Music power	70W
Output sound pressure level	87dB/W/m
Dimensions (W $\times$ H $\times$ D)	190 $\times$ 380 $\times$ 235mm (7 $\frac{1}{2}$ $\times$ 15 $\times$ 9 3/8 in)
Weight	4.5kg (9.9 lbs.)

COMMON SECTION

Power requirements	H : 120/220/240 V AC switchable, 50/60Hz U,C : 120/220 - 240 V AC switchable, 50/60Hz
Dimensions (W $\times$ H $\times$ D)	640 $\times$ 380 $\times$ 323 mm (25 $\frac{1}{4}$ $\times$ 15 $\times$ 12 $\frac{3}{4}$ in) (vertical placement) 1280 $\times$ 190 $\times$ 323mm (50 $\frac{1}{2}$ $\times$ 7 $\frac{1}{2}$ $\times$ 12 $\frac{3}{4}$ in) (horizontal placement)
Weight	19.5kg (42.9 lbs.)

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- "Dolby", the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
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- Under license from BBE Sound, Inc.

MODEL NO.

RX — N5

ELECTRICAL MAIN PARTS LIST (RX — N5)

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
=== IC ===			C10	★87-010-154-019	CAP, CHIP S 10P-50 CH
	87-001-632-019	IC, BA10393N(H)	C11	★87-010-312-019	CAP, CHIP S 15P-50 CH
	87-001-440-019	IC, BA15218N	C12	★87-010-312-019	CAP, CHIP S 15P-50 CH
	87-001-347-010	IC, HD14051BP	C13	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-942-019	IC, LA1265S(G)	C14	★87-010-146-019	CAP, CHIP S 2P-50 CH
	80-MT3-633-010	IC, LC6538D-4597	C15	★87-010-145-019	CAP, CHIP S 1P-50 CH
	87-001-376-019	IC, LC7218	C16	★87-010-154-019	CAP, CHIP S 10P-50 CH
	87-002-239-010	IC, LM3364K-15 (H)	C17	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-002-241-010	IC, M50195P(H)	C18	★87-010-170-019	CAP, CHIP S 220P-50 SL
	87-027-895-010	IC, M5218AL	C19	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-790-010	IC, SBX1610-52	C20	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-396-019	IC, STK4182-MK2	C21	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-020-446-019	IC, TA7343AP	C22	★87-010-400-019	CAP, ELECT 0.47-50 SME
	87-027-938-019	IC, TC4053BP	C23	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-883-010	IC, XR-C5424B	C24	★87-010-149-019	CAP, CHIP S 5P-50 CH
			C25	★87-010-197-019	CAP, CHIP S 0.01-25 B
=== TRANSISTOR ===			C26	★87-010-312-019	CAP, CHIP S 15P-50 CH
	89-502-094-019	FET, 2SK209Y	C27	★87-010-197-019	CAP, CHIP S 0.01-25 B
	89-502-465-019	FET, 2SK246GR	C30	★87-010-401-019	CAP, ELECT 1-50 SME
	89-503-025-010	FET, 2SK302GR	C31	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-026-463-019	TRANSISTOR, 2SA933S RS	C32	★87-010-197-019	CAP, CHIP S 0.01-25 B
	89-113-187-819	TRANSISTOR, 2SA1318TU	C33	★87-010-405-019	CAP, ELECT 10-50 SME
	87-213-302-019	TRANSISTOR, 2SB1330Q	C34	★87-010-166-019	CAP, CHIP S 100P-50 SL
	89-213-702-019	TRANSISTOR, 2SB1370E	C35	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-026-462-019	TRANSISTOR, 2SC1740S RS	C36	★87-010-401-019	CAP, ELECT 1-50 SME
	89-318-155-019	TRANSISTOR, 2SC1815GR	C37	★87-010-404-019	CAP, ELECT 4.7-50 SME
	89-327-125-019	TRANSISTOR, 2SC2712GR	C38	★87-010-405-019	CAP, ELECT 10-50 SME
	89-327-143-019	TRANSISTOR, 2SC2714 (O)	C39	★87-010-544-019	CAP, ELECT 0.1-50
	89-332-665-019	TRANSISTOR, 2SC3266GR	C40	★87-010-403-019	CAP, ELECT 3.3-50 SME
	89-333-317-819	TRANSISTOR, 2SC3331TU	C41	★87-010-404-019	CAP, ELECT 4.7-50 SME
	89-406-555-019	TRANSISTOR, 2SD655E	C43	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-026-230-019	TRANSISTOR, DTA114YK	C45	★87-010-404-019	CAP, ELECT 4.7-50 SME
	87-026-214-019	TRANSISTOR, DTA114YS	C46	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-026-219-019	TRANSISTOR, DTA144ES	C47	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-026-484-019	TRANSISTOR, DTC123JS	C48	★87-010-197-019	CAP, CHIP S 0.01-25 B
			C49	★87-010-197-019	CAP, CHIP S 0.01-25 B
=== DIODE===			C50	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-783-019	DIODE, 1N4002-T	C51	★87-010-197-019	CAP, CHIP S 0.01-25 B
	87-001-574-010	DIODE, 1SR139-200	C53	★87-010-196-019	CAP, CHIP S 0.1-25 F
	87-020-691-019	DIODE, 1SS132	C56	★87-010-152-019	CAP, CHIP S 8P-50 CH
	87-020-465-019	DIODE, 1SS133	C61	★87-010-401-019	CAP, ELECT 1-50 SME
	87-020-125-019	DIODE, CHIP 1SS181	C62	★87-010-403-019	CAP, ELECT 3.3-50 SME
	87-020-027-019	DIODE, CHIP 1SS184	C63	★87-014-057-019	CAP, PP 1000P-100 J
	87-002-225-019	DIODE, DBF40C-K10	C64	★87-010-405-019	CAP, ELECT 10-50 SME
	87-027-301-019	DIODE, ZENER HZ3A1	C67	★87-010-179-019	CAP, CHIP S 1200P-50 B
	87-027-416-019	DIODE, ZENER HZ3C2	C68	★87-010-179-019	CAP, CHIP S 1200P-50 B
	87-027-555-019	DIODE, ZENER HZ5C2 (H)	C69	★87-010-400-019	CAP, ELECT 0.47-50 SME
	87-027-332-019	DIODE, ZENER HZ6B1L	C70	★87-010-400-019	CAP, ELECT 0.47-50 SME
	87-001-916-019	DIODE, ZENER UTZJ10B	C71	★87-010-184-019	CAP, CHIP S 3300P-50 B
	87-001-909-019	DIODE, ZENER UTZJ24B	C72	★87-010-184-019	CAP, CHIP S 3300P-50 B
	87-001-915-019	DIODE, ZENER UTZJ6.8A	C73	★87-010-401-019	CAP, ELECT 1-50 SME
			C74	★87-010-401-019	CAP, ELECT 1-50 SME
=== TUNER CIRCUIT BOARD SECTION ===			C75	★87-010-248-019	CAP, ELECT 220-10 SME
	80-MT3-632-019	AM PACK 1	C76	★87-010-312-019	CAP, CHIP S 15P-50 CH
C1	★87-010-312-019	CAP, CHIP S 15P-50 CH	C77	★87-010-197-019	CAP, CHIP S 0.01-25 B
C2	★87-015-819-019	CAP, CHIP 0.01	C78	★87-010-197-019	CAP, CHIP S 0.01-25 B
C3	★87-010-197-019	CAP, CHIP S 0.01-25 B	C79	★87-010-197-019	CAP, CHIP S 0.01-25 B
C4	★87-010-197-019	CAP, CHIP S 0.01-25 B	C80	★87-010-384-019	CAP, ELECT 100-25 SME
C5	★87-010-197-019	CAP, CHIP S 0.01-25 B	C81	★87-010-186-019	CAP, CHIP S 4700P-50 B
C6	★87-010-197-019	CAP, CHIP S 0.01-25 B	C82	★87-010-400-019	CAP, ELECT 0.47-50 SME
C7	★87-010-150-019	CAP, CHIP S 6P-50 CH	C83	★87-015-762-019	CAP, CHIP 68P SL
C8	★87-018-102-019	CAP, CERA-SOL U 6.8P-50 SL	C84	★87-010-164-019	CAP, CHIP S 68P-50 SL
C9	★87-010-158-019	CAP, CHIP S 22P-50 SL	C85	★87-010-164-019	CAP, CHIP S 68P-50 SL
			C86	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y

REF. NO.	PART NO.	DESCRIPTION
C87	★87-010-263-019	CAP, ELECT 100-10
C88	★87-010-263-019	CAP, ELECT 100-10
C89	★87-010-263-019	CAP, ELECT 100-10
C90	★87-018-131-019	CAP, CERA-SOL U 1000P-50 B
C100	★87-010-197-019	CAP, CHIP S 0.01-25 B
C101	★87-010-197-019	CAP, CHIP S 0.01-25 B
CF3	87-008-261-019	FILTER, SFE10. 7MA5-A
CF4	87-008-261-019	FILTER, SFE10. 7MA5-A
CF5	82-794-670-019	FILTER, BFU 450C4N
D1	87-026-360-010	VARICAP, CHIP KV1430
D2	87-026-360-010	VARICAP, CHIP KV1430
D3	87-026-360-010	VARICAP, CHIP KV1430
J1	81-760-694-019	PUSH TERMINAL 4P(ANTENNA)
L1	★87-006-209-019	COIL, ANT FM 3/4 T
L2	★87-006-210-019	COIL, ANT FM 2-3/4T
L3	★87-006-200-019	COIL, RF FM 3-1/2T
L4	★87-006-201-019	COIL, RF FM 3-1/2T
L6	★87-006-205-019	COIL, OSC FM (7K)
L7	★87-003-231-019	COIL, CHIP S1UH
L8	★87-008-427-019	COIL, FM IFT(4T)
L9	★81-631-611-019	COIL, QUAD (SINGLE)
L11	★87-008-452-019	FILTER, CFAZ-450
L15	★81-631-643-019	COIL, 1 POLE MPX
L16	★81-631-643-019	COIL, 1 POLE MPX
L19	★87-003-098-019	COIL, 2. 2UH
SFR1	★87-024-174-019	SFR, 33K
SFR2	★87-024-171-019	SFR, 4. 7K
TC1	★87-011-219-019	CAP, TRIMMER 10PF
TC2	★87-011-219-019	CAP, TRIMMER 10PF
TC5	★87-011-219-019	CAP, TRIMMER 30PF
X1	87-030-163-019	RESONATOR, CRYSTAL 7. 2MHZ(NDK)

=== FRONT CIRCUIT BOARD SECTION ===

C101	★87-010-370-019	CAP, ELECT 330-6.3 SME
C102	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C103	★87-010-251-019	CAP, ELECT 10-35 SRE
C104	★87-010-496-019	CAP, ELECT 3.3-50 5L
C105	★87-015-688-019	CAP, ELECT 4.7-35 7L
C107	★87-018-195-019	CAP, CERA-SOL U 1200P-16 X
C108	★87-018-195-019	CAP, CERA-SOL U 1200P-16 X
C109	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C110	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C111	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C113	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C201	★87-018-127-019	CAP, CERA-SOL U 470P-50 B
C202	★87-018-127-019	CAP, CERA-SOL U 470P-50 B
C203	★87-018-195-019	CAP, CERA-SOL U 1200P-16 X
C204	★87-018-195-019	CAP, CERA-SOL U 1200P-16 X
C205	★87-018-133-019	CAP, CERA-SOL U 4700P-16 X
C206	★87-018-133-019	CAP, CERA-SOL U 4700P-16 X
C207	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C208	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C209	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C210	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C211	★87-010-068-019	CAP, ELECT 0.22-50 5L
C212	★87-010-068-019	CAP, ELECT 0.22-50 5L
C213	★87-010-068-019	CAP, ELECT 0.22-50 5L
C214	★87-010-068-019	CAP, ELECT 0.22-50 5L
C215	★87-010-068-019	CAP, ELECT 0.22-50 5L
C216	★87-010-251-019	CAP, ELECT 10-35 SRE
C217	★87-010-406-010	CAP, ELECT 22-50 SME
C218	★87-018-205-019	CAP, CERA-SOL U 0.022-25 F
C219	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
C401	★87-015-688-019	CAP, ELECT 4.7-35 7L

C402	★87-015-688-019	CAP, ELECT 4.7-35 7L
C411	★87-018-133-019	CAP, CERA-SOL U 4700P-16 X
C412	★87-018-133-019	CAP, CERA-SOL U 4700P-16 X
C421	★87-018-127-019	CAP, CERA-SOL U 470P-50 B
C422	★87-018-127-019	CAP, CERA-SOL U 470P-50 B
C451	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C452	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C501	★87-010-497-019	CAP, ELECT 4.7-35 5L
C502	★87-010-497-019	CAP, ELECT 4.7-35 5L
C505	★87-015-695-019	CAP, ELECT 1-50 7L
C506	★87-015-695-019	CAP, ELECT 1-50 7L
C507	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C508	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C601	★87-018-195-019	CAP, CERA-SOL U 1200P-16 X
C602	★87-015-688-019	CAP, ELECT 4.7-35 7L
C603	★87-018-128-019	CAP, CERA-SOL U 560P-50 B
C604	★87-015-693-019	CAP, ELECT 0.33-50 7L
C605	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C606	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y
C607	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F
FL101	80-MT3-620-010	FL, CF1046G(DISPLAY)
J601	80-MT3-614-019	JACK, 3.5(MIC)
L102	★87-003-152-019	COIL, 100UH
LED101	87-001-291-010	LED, SEL2413E(BBE)
LED102	87-001-291-010	LED, SEL2413E(BBE)
LED103	87-001-291-010	LED, SEL2413E(T-BASS)
LED104	87-001-291-010	LED, SEL2413E(T-BASS)
S101	87-036-142-019	TACT SW(BAND)
S102	87-036-142-019	TACT SW(UP)
S103	87-036-142-019	TACT SW(DOWN)
S104	87-036-142-019	TACT SW(TUNING MODE)
S105	87-036-142-019	TACT SW(SET)
S106	87-036-142-019	TACT SW(T-STAND BY)
S107	87-036-142-019	TACT SW(DISPLAY)
S108	87-036-142-019	TACT SW(FM MODE)
S109	87-036-142-019	TACT SW(SLEEP)
S110	87-036-142-019	TACT SW(CD)
S111	87-036-142-019	TACT SW(VIDEO 2)
S112	87-036-142-019	TACT SW(DAT/VIDEO 1)
S113	87-036-142-019	TACT SW(TUNER)
S114	87-036-142-019	TACT SW(TAPE)
S115	87-036-142-019	TACT SW(BBE)
S116	87-036-142-019	TACT SW(POWER)
VR301	89-MK1-634-019	VR, 10KA(BBE)
VR401	80-MT3-612-019	VR, SLIDE 20KB(70HZ)
VR403	80-MT3-612-019	VR, SLIDE 20KB(350HZ)
VR403	80-MT3-612-019	VR, SLIDE 20KB(1KHZ)
VR404	80-MT3-612-019	VR, SLIDE 20KB(3.5KHZ)
VR405	80-MT3-612-019	VR, SLIDE 20KB(10KHZ)
VR601	89-MK1-634-019	VR, 10KA(MIC MIXING)
VR602	89-MK1-633-019	VR, 10KB(ECHO) (H)
X101	89-MX1-704-019	CERA LOCK(MU) 3.9MHZ

=== AMP CIRCUIT BOARD SECTION ===

C101	★87-010-804-019	CAP, ELECT 4700-42V
C102	★87-010-804-019	CAP, ELECT 4700-42V
C103	★87-010-390-019	CAP, ELECT 3300-25 SME
C104	★87-010-381-019	CAP, ELECT 330-16 SME
C105	★87-010-101-019	CAP, ELECT 220-16 SME
C106	★87-010-409-019	CAP, ELECT 220-50 SME
C107	★87-010-408-019	CAP, ELECT 47-50 SME
C108	★87-010-408-019	CAP, ELECT 47-50 SME
C109	★87-010-263-019	CAP, ELECT 100-10
C111	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
C112	★87-010-260-019	CAP, ELECT 47-25 SME	C517	★87-010-400-019	CAP, ELECT 0.47-50 SME
C113	★87-010-403-019	CAP, ELECT 3.3-50 SME	J201	80-MT3-617-019	JACK, PIN 3P (MONI. V/REC OUT)
C114	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F	J202	80-MT3-618-019	JACK, PIN 3P
C115	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y			(DAT/VIDEO 1, V/AU IN)
C116	★87-018-127-019	CAP, CERA-SOL U 470P-50 B	J203	80-MT3-617-019	JACK, PIN 3P (VIDEO 2, V/AU IN)
C117	★87-010-405-019	CAP, ELECT 10-50 SME	J204	87-009-065-019	CONNECTOR, 15P FG(CD/DECK)
C118	★87-010-374-019	CAP, ELECT 47-10	J205	80-MT3-615-019	JACK, 6.3(PHONES)
C119	★87-010-405-019	CAP, ELECT 10-50 SME	J206	80-MT3-616-019	JACK, PIN 2P (SURROUND SPEAKERS)
			J207	87-033-215-019	TERMINAL, SP 4P(SPEAKERS)
C120	★87-010-381-019	CAP, ELECT 330-16 SME			
C151	★87-018-131-019	CAP, CERA-SOL U 1000P-50 B	R105	★87-022-050-019	RES, MF 0.22-1W J
C152	★87-018-131-019	CAP, CERA-SOL U 1000P-50 B	R106	★87-022-050-019	RES, MF 0.22-1W J
C153	★87-010-405-019	CAP, ELECT 10-50 SME	R120	★87-025-469-019	RES, NF 2.2-1/4W J(U, C)
			R525	★87-022-050-019	RES, MF 0.22-1W J
C154	★87-010-405-019	CAP, ELECT 10-50 SME			
C155	★87-010-260-019	CAP, ELECT 47-25 SME	R526	★87-022-050-019	RES, MF 0.22-1W J
C156	★87-010-260-019	CAP, ELECT 47-25 SME	R527	★87-022-050-019	RES, MF 0.22-1W J
C157	★87-010-374-019	CAP, ELECT 47-10	R528	★87-022-050-019	RES, MF 0.22-1W J
			RY101	87-045-285-010	RELAY, VB12MB
C158	★87-010-374-019	CAP, ELECT 47-10			
C159	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F	S501	80-MT3-629-019	SW, SLIDE(T-BASS)
C160	★87-018-214-019	CAP, CERA-SOL U 0.1-50 F	VR201	80-MT3-619-019	VR, 50KBX2 (DAT/V 1 INPUT LEVEL)
C163	★87-018-107-019	CAP, CERA-SOL U 18P-50 SL			
					=== RELAY CIRCUIT BOARD SECTION ===
C164	★87-018-107-019	CAP, CERA-SOL U 18P-50 SL			
C181	★87-010-408-019	CAP, ELECT 47-50 SME			=== POWER-2 CIRCUIT BOARD SECTION ===
C201	★87-010-221-019	CAP, ELECT 470-10			
C202	★87-010-374-019	CAP, ELECT 47-10	R101	★87-025-491-019	RES, NF 0.47-3/4W
			R102	★87-025-491-019	RES, NF 0.47-3/4W
C203	★87-010-263-019	CAP, ELECT 100-10	R103	★87-025-491-019	RES, NF 0.47-3/4W
C204	★87-010-382-019	CAP, ELECT 22-25 SME			
C205	★87-010-404-019	CAP, ELECT 4.7-50 SME			=== VOL. & ECHO CIRCUIT BOARD SECTION ===
C206	★87-010-404-019	CAP, ELECT 4.7-50 SME			
			C32	★87-018-202-019	CAP, CERA-SOL U 6800P-16 X(H)
C207	★87-010-405-019	CAP, ELECT 10-50 SME	C54	★87-010-401-019	CAP, ELECT 1-50 SME(H)
C208	★87-010-382-019	CAP, ELECT 22-25 SME	C55	★87-010-404-019	CAP, ELECT 4.7-50 SME(H)
C301	★87-010-401-019	CAP, ELECT 1-50 SME	C56	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y(H)
C302	★87-010-401-019	CAP, ELECT 1-50 SME			
			C57	★87-010-405-019	CAP, ELECT 10-50 SME(H)
C305	★87-018-127-019	CAP, CERA-SOL U 470P-50 B	C59	★87-018-129-019	CAP, CERA-SOL U 680P-50 B(H)
C306	★87-018-127-019	CAP, CERA-SOL U 470P-50 B	C61	★87-010-404-019	CAP, ELECT 4.7-50 SME(H)
C309	★87-010-546-019	CAP, ELECT 0.33-50 SME	C63	★87-010-260-019	CAP, ELECT 47-25 SME(H)
C310	★87-010-546-019	CAP, ELECT 0.33-50 SME			
			C76	★87-018-208-019	CAP, CERA-SOL U 0.047-50 F(H)
C311	★87-010-400-019	CAP, ELECT 0.47-50 SME	C77	★87-010-260-019	CAP, ELECT 47-25 SME(H)
C312	★87-010-400-019	CAP, ELECT 0.47-50 SME	C80	★87-018-129-019	CAP, CERA-SOL U 680P-50 B(H)
C313	★87-010-404-019	CAP, ELECT 4.7-50 SME	C82	★87-018-119-019	CAP, CERA-SOL U 100P-50 B(H)
C314	★87-010-404-019	CAP, ELECT 4.7-50 SME			
			C83	★87-018-134-019	CAP, CERA-SOL U 0.01-16 Y(H)
C317	★87-018-109-019	CAP, CERA-SOL U 22P-50 SL	C85	★87-010-248-019	CAP

○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

8 8 - □ □ □ - □ □ □

A
抵抗コード
Resistor code

桁表示
Figure

抵抗値
Value of resistor

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 (RX - N5, FD - N5)



2SK246
2SK373



DTA114
DTA123
DTA144
DTC123
DTC144
2SD2144



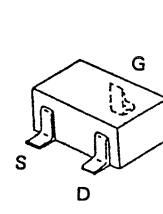
2SD655



2SB1370



2SA933
2SA952
2SA1296
2SA1318
2SC1740
2SC1815
2SC2001
2SC2500
2SC2712
2SC2714
2SC3266
2SC3331

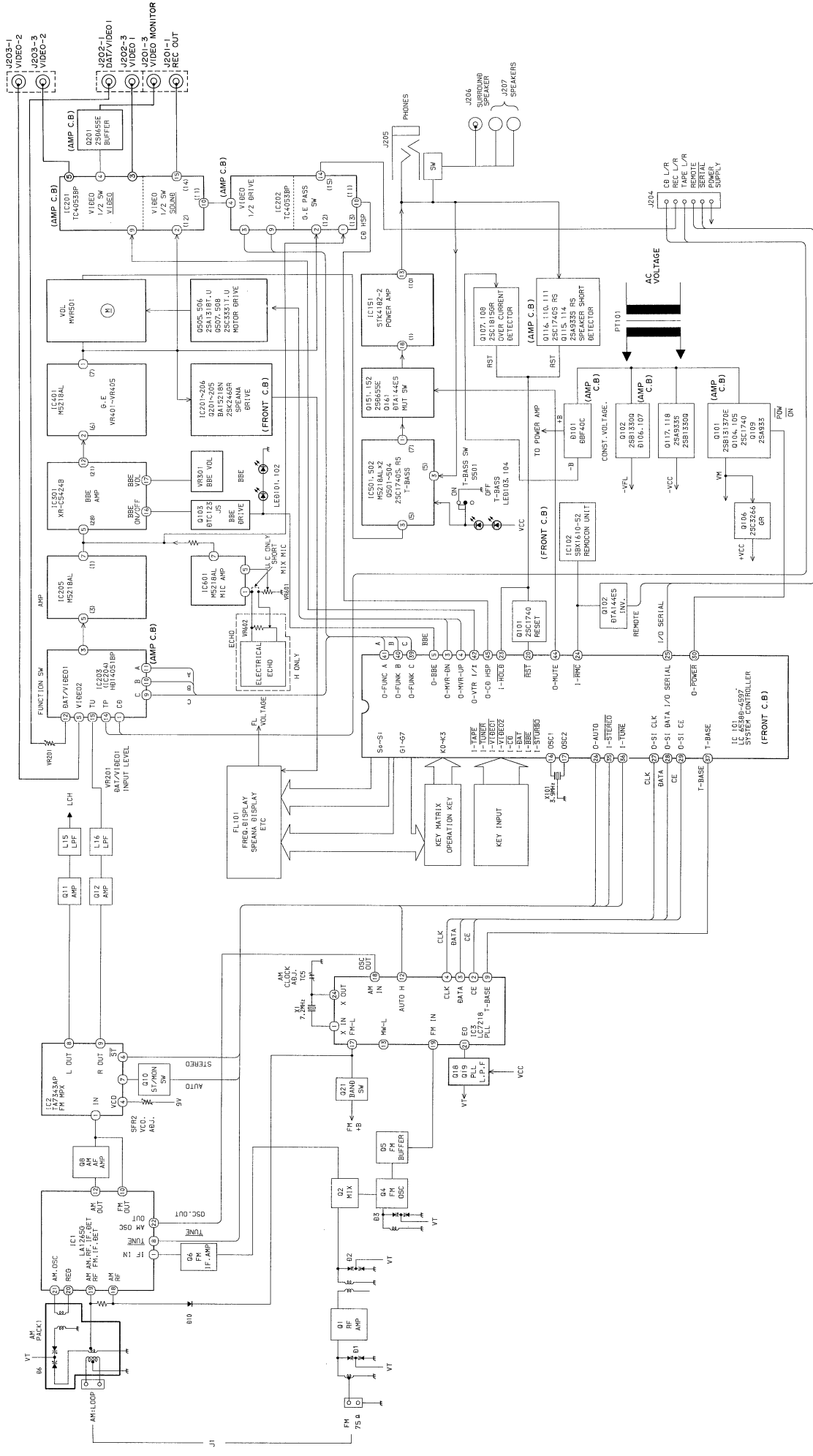


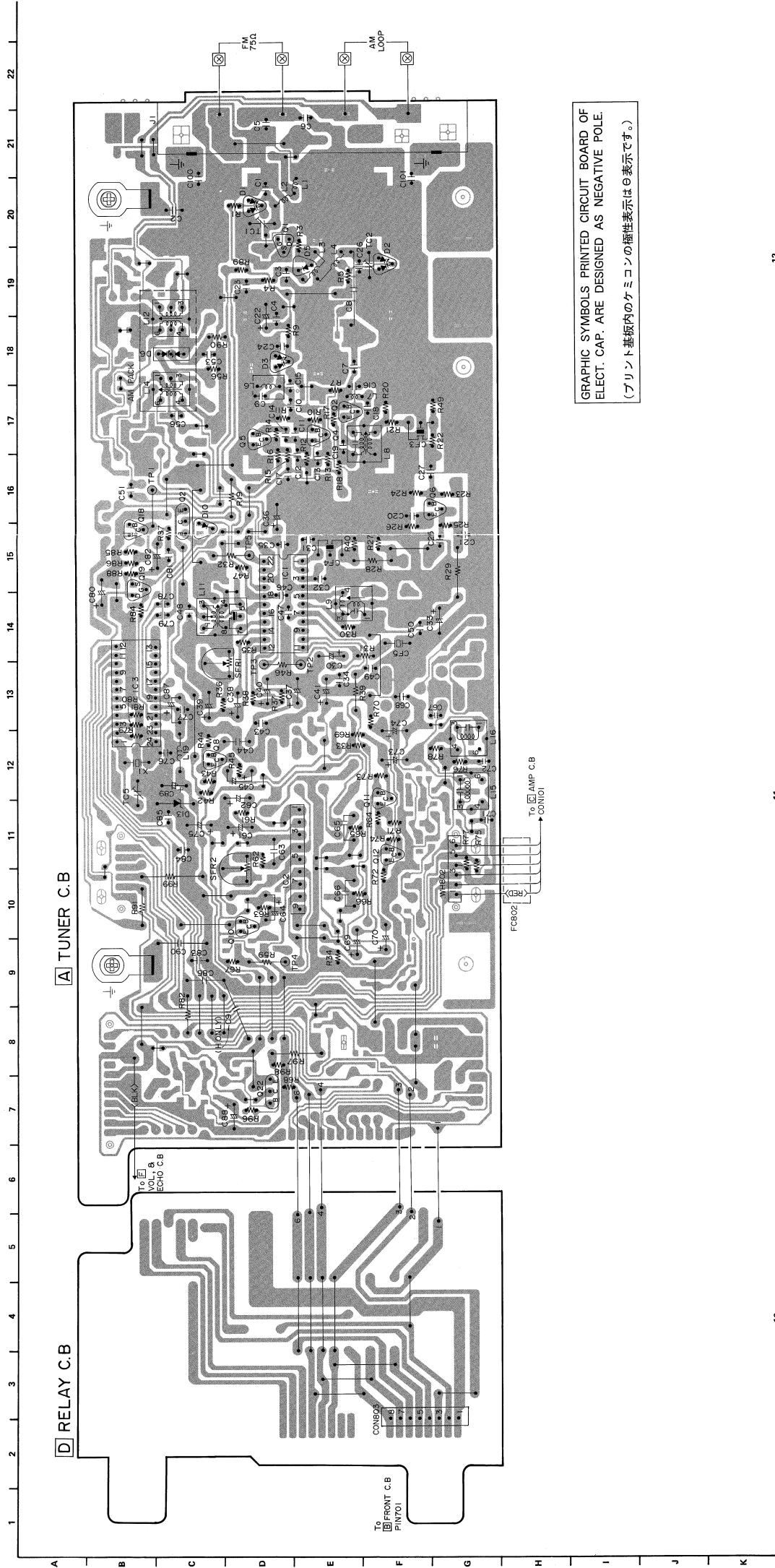
2SK209
2SK302



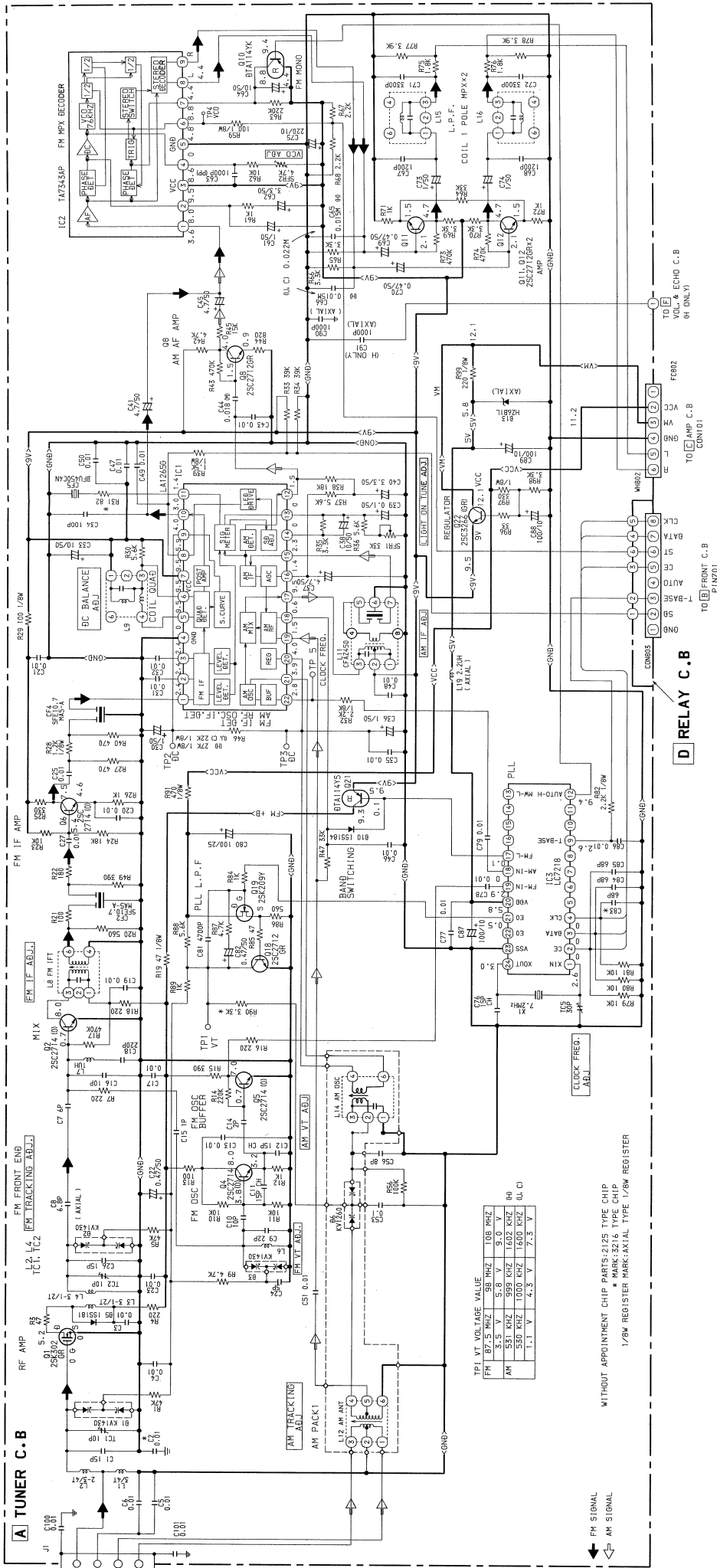
2SB1330

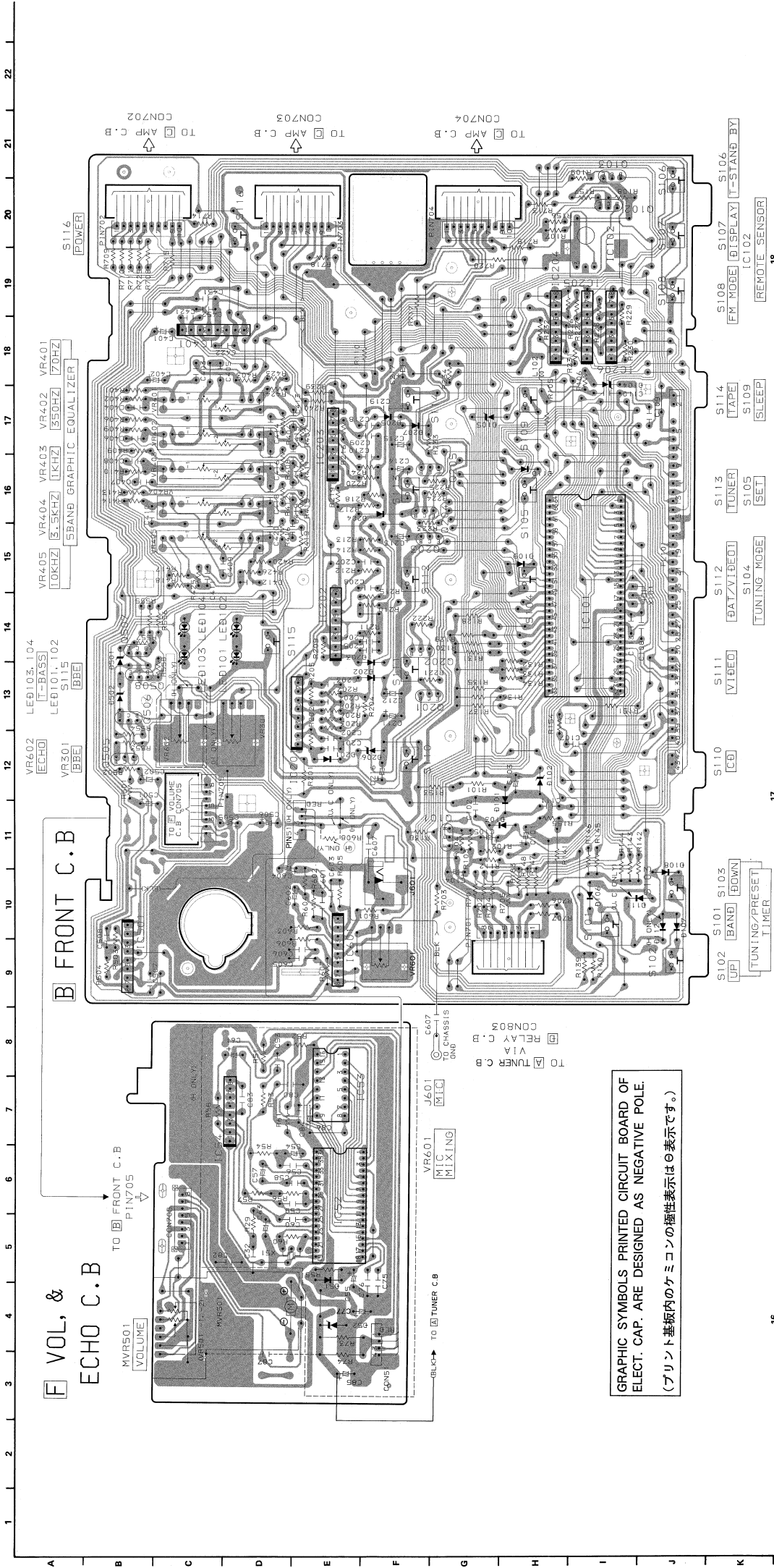
BLOCK DIAGRAM (RX - N5)





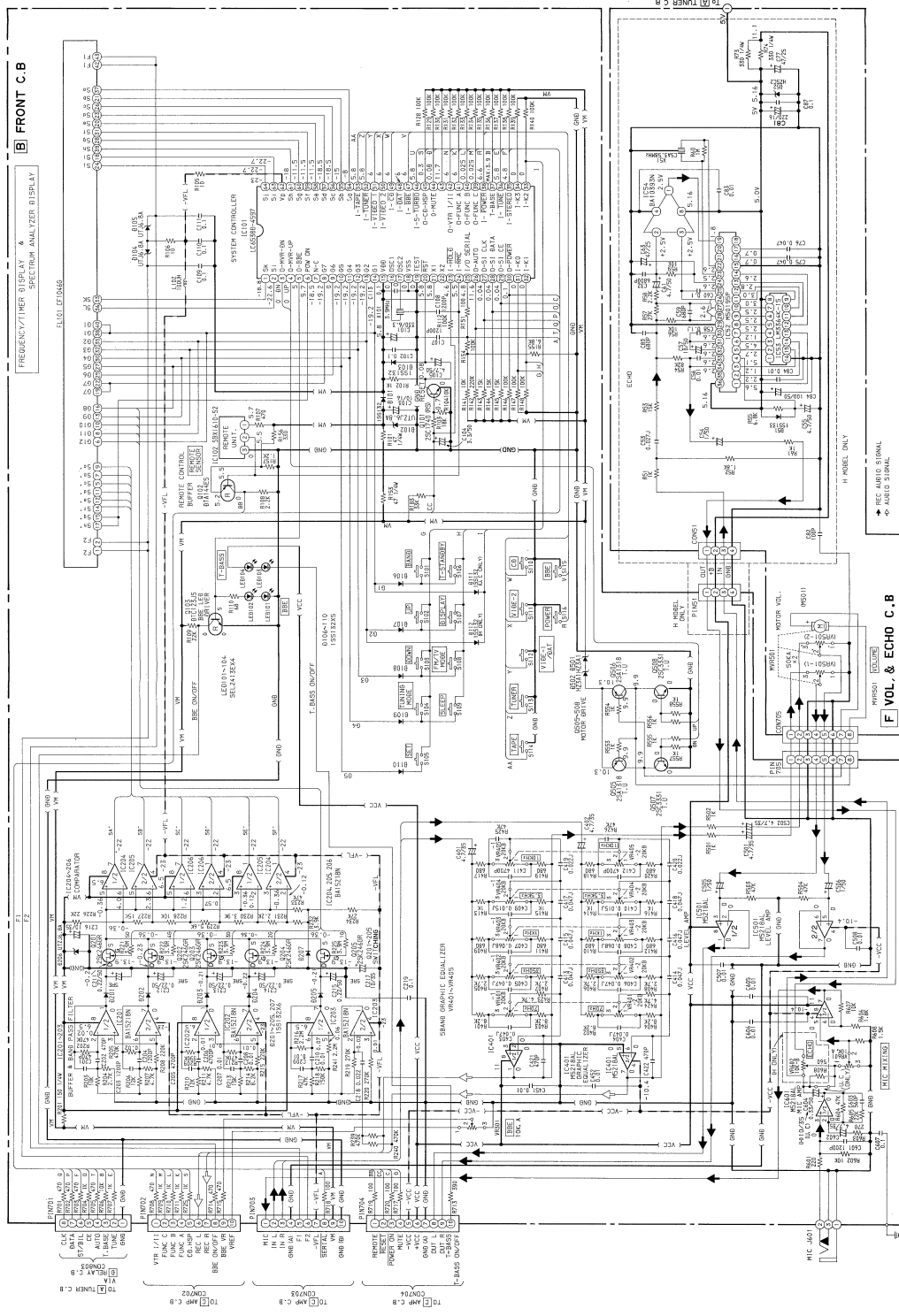
SCHEMATIC DIAGRAM - 1 (RX - N5)



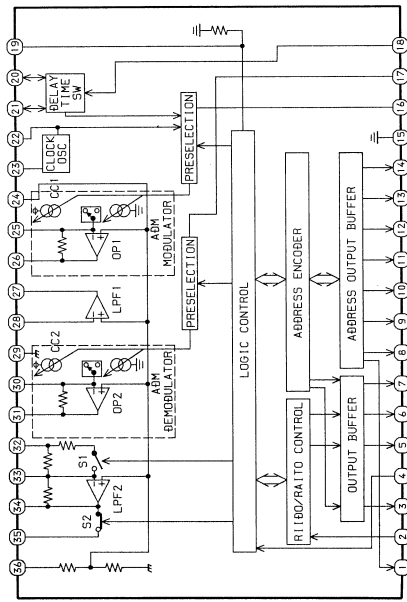


GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

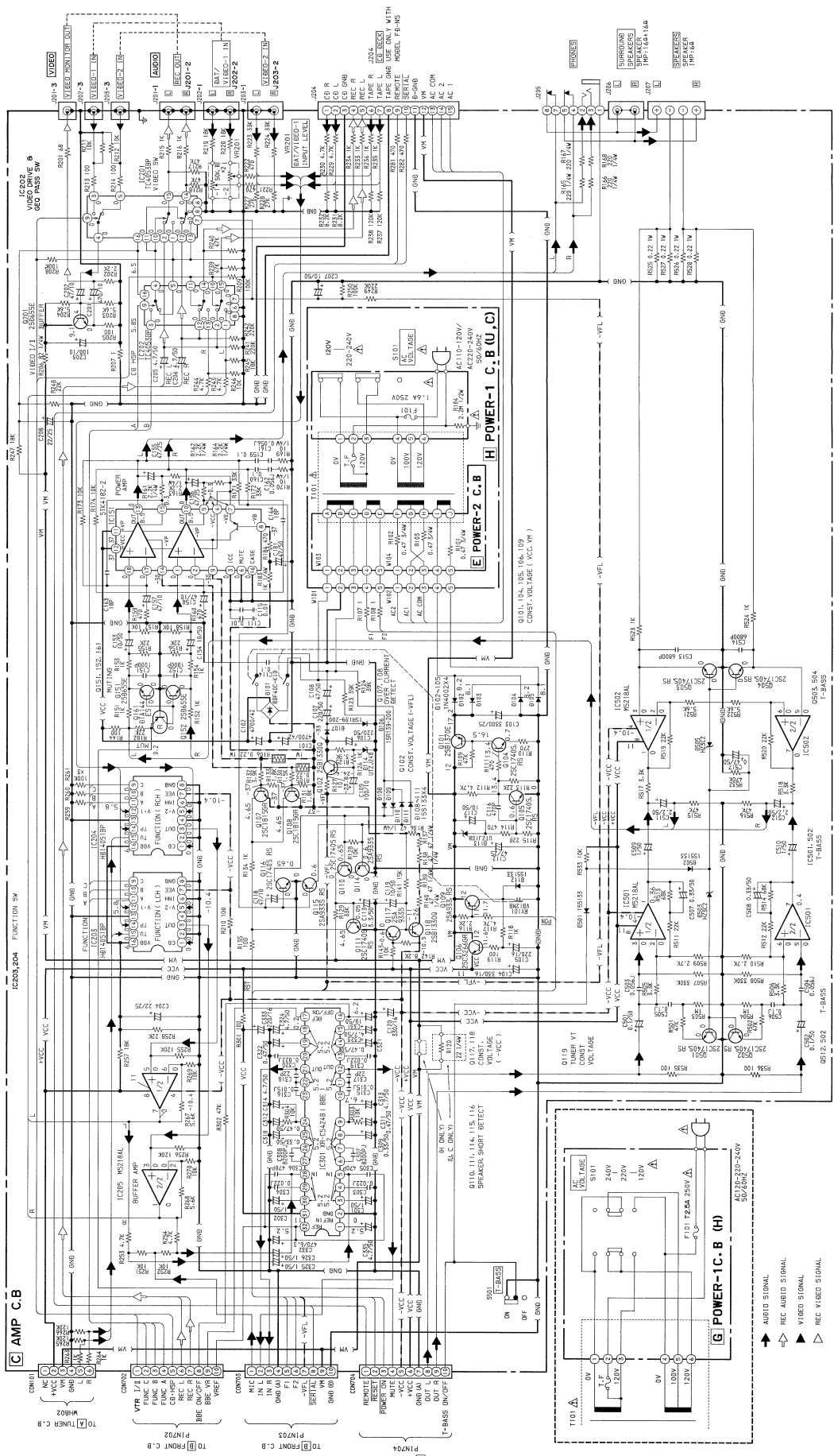
SCHMATIC DIAGRAM - 2 (RX - N5)



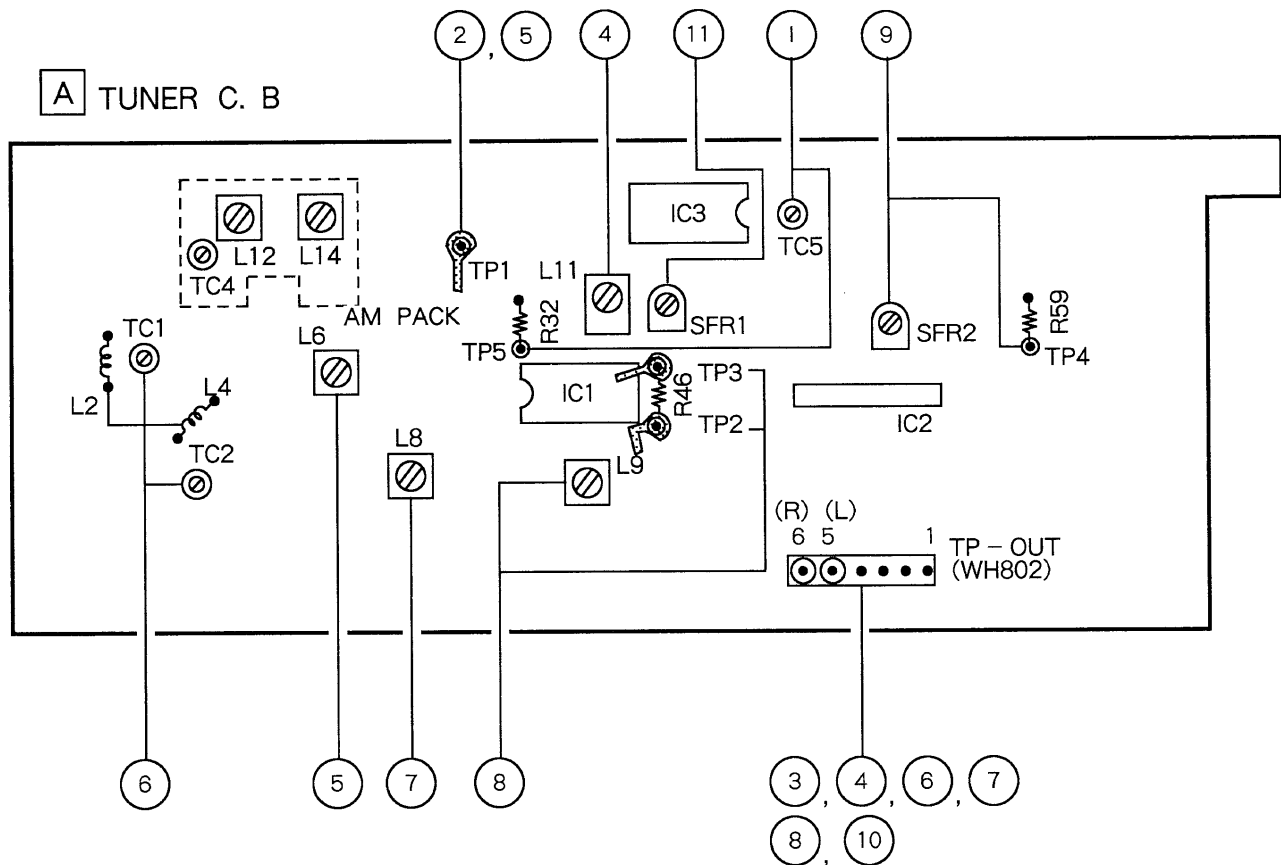
IC BLOCK DIAGRAM (RX - N5)
IC.M50195P



SCHEMATIC DIAGRAM - 3 (RX - N5)



ADJUSTMENT (RX – N5)



1. Clock Frequency Adjustment

Settings : • Test point : TP5

• Adjustment location : TC5

Method : Set to AM 1602kHz (H), 1710kHz (U,C) and adjust so that the test point becomes 2052kHz ± 0.01 kHz (H), 2160kHz ± 0.01 kHz (U,C).

2. AM VT Check

Settings : • Test point : TP1 (VT)

Method : Set to AM 531kHz (H), 530kHz (U,C) and check so that the test point becomes 1.1V ± 0.20 V

3. AM Tracking Check

Settings : • Test point : TP – OUT (WH802)

Method : Set to AM 999kHz (H), 1000kHz (U,C) and check so that the sensitivity becomes less than 56dB.

4. AM IF Adjustment

Settings : • Test point : TP – OUT (WH802)

L11 450kHz

5. FM VT Adjustment

Settings : • Test point : TP1 (VT)

• Adjustment location : L6

Method : Set to FM 108.0MHz and adjust L6 so that the test point becomes 9.0V ± 0.05 V.

6. FM Tracking Adjustment

Settings : • Test point : TP – OUT (WH802)

TC1, 2 108.0MHz

L2, 4 87.5MHz

7. FM IF Adjustment

Settings : • Test point : TP – OUT (WH802)

L8 10.7MHz

8. DC Balance Adjustment

Settings : • Test point : TP2,3

TP – OUT (WH802) (Distortion)

• Adjustment location : L9

Method : Set to FM 98.0MHz and adjust L9 so that TP2 and TP3 output becomes 0V ± 0.02 V.

Next, check so that the distortion becomes less than 0.6%

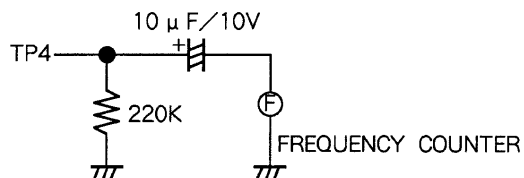
9. MPX VCO Adjustment

Settings : • Test point : TP4

• MODE SW : STEREO

• Adjustment location : SFR2

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



10. Separation Check

Settings : • Test point : TP – OUT (WH802)

Method : Set to FM 98.0MHz and check the separation at TP – OUT becomes more than 27dB.

11. Light on tuning LED Adjustment

Settings : • Adjustment location : SFR1

• Input level : 18dB

Method : Set to FM 98.0MHz and adjust tuning LED to light on by SFR1. After that, LED goes out by 2dB down.

PRACTICAL SERVICE FIGURE (RX – N5)

< FM SECTION >

Usable Sensitivity : $4 \pm 4\text{dB}$ (at 87.5MHz)

(THD 3%) $2 \pm 4\text{dB}$ (at 98.0, 108.0MHz)

S/N 50dB Quieting Sensitivity :

Less than 34dB

(at 87.5, 90.0, 108.0MHz)

Signal to Noise Ratio : (MONO.)

More than 72dB (at 98.0MHz)

(STEREO)

More than 65dB (at 98.0MHz)

Total Harmonic Distortion:

(MONO.)

Less than 0.8 % (at 98.0MHz)

(STEREO)

Less than 1.5 % (at 98.0MHz)

Stereo Separation: More than 27dB

Intermediate Frequency: 10.7MHz

< AM SECTION >

Sensitivity: $56 \pm 4\text{dB}$

[at 603kHz (H), 600kHz (U,C)]

$52 \pm 4\text{dB}$

[at 999kHz (H), 1000kHz (U,C)]

$52 \pm 4\text{dB}$

[at 1404kHz (H), 1410kHz (U,C)]

Total Harmonic Distortion:

Less than 1.6 %

[at 999kHz (H), 1000kHz (U,C)]

Intermediate Frequency: 450kHz

IC DESCRIPTION (RX – N5)

IC, LC6538D – 4597

Pin No.	Pin Name	I/O	Description
1	Sk	O	FL display segment output. Active "H".
2	Se	O	FL display segment output. Active "H".
3	O – MVR – DN	O	Motor volume up/down outputs.
4	O – MVR – UP	O	
5	O – BBE	O	BBE on/off output. "H" turns BBE on.
6	POW ON	O	Power on/off output. "H" turn the power on.
7	N. C	–	–
8 9 14	G7 7 G1	O	Outputs for the FL display. Active "H" key scan outputs.
15	VDD	–	Power terminal
16	OCS1	–	Pins to generate a clock signal (3.9MHz).
17	OCS2	–	
18	TEST	–	Connected to ground
19	VSS	–	Connected to ground
20	RST	I	Reset input. "L" when AC power is supplied.
21	X1	–	Crystal oscillator pin. Connected to VDD.
22	X2	–	Crystal oscillator pin. Unused. Open.
23	I – $\overline{\text{HOLD}}$	I	Power failure detection input "L" input turns off all output ports and shifts the unit to the HOLD mode (the clock stop and memory hold state). "L" is input when overcurrent is detected in the power amplifier block.
24	I – $\overline{\text{RMC}}$	I	Remote control signal input
25	I/O – SERIAL	I/O	DECK/CD sync input/output and auto function input.
26	O – AUTO	O	Outputs "H" when FM stereo is switched to AUTO.
27	O – SI CLK	O	Tuner PLL IC clock output.
28	O – SI DATA	O	Tuner PLL IC data output.
29	O – SI CE	O	Tuner PLL IC chip enable output.
30	O – $\overline{\text{POWER}}$	O	Power on/off output. "L" is output when the power is turned on.
31 32 34	I – K0 0 I – K3	I	Key return inputs.
35	I – $\overline{\text{STEREO}}$	I	"L" is input when the tuner receives a stereo or bilingual program.
36	I – $\overline{\text{TUNE}}$	I	Tuning detection input of the tuner. "L" is input during tuning. "L" is input during auto scanning and performs auto stop and tuning display.
37	T – BASE	I	Clock signal (8kHz) input of the clock. Uses the frequency of the clock signal used in the Tuner PLL (LC7218).
38	I – $\overline{\text{POWER}}$	I	Input to turn the power on/off. Active "L".
39	O – FUNC C	O	Amplifier input switching (function) control outputs
40	O – FUNC B	O	
41	O – FUNC A	O	
42	O – VTR I/II	O	

No	A	B	C	FUNCTION
1	H	L	L	TAPE
2	L	H	L	TUNER
3	H	H	L	VIDEO 1
4	L	L	H	CD
5	H	L	H	VIDEO 2
6	L	H	H	DAT
7	H	H	H	MUTE

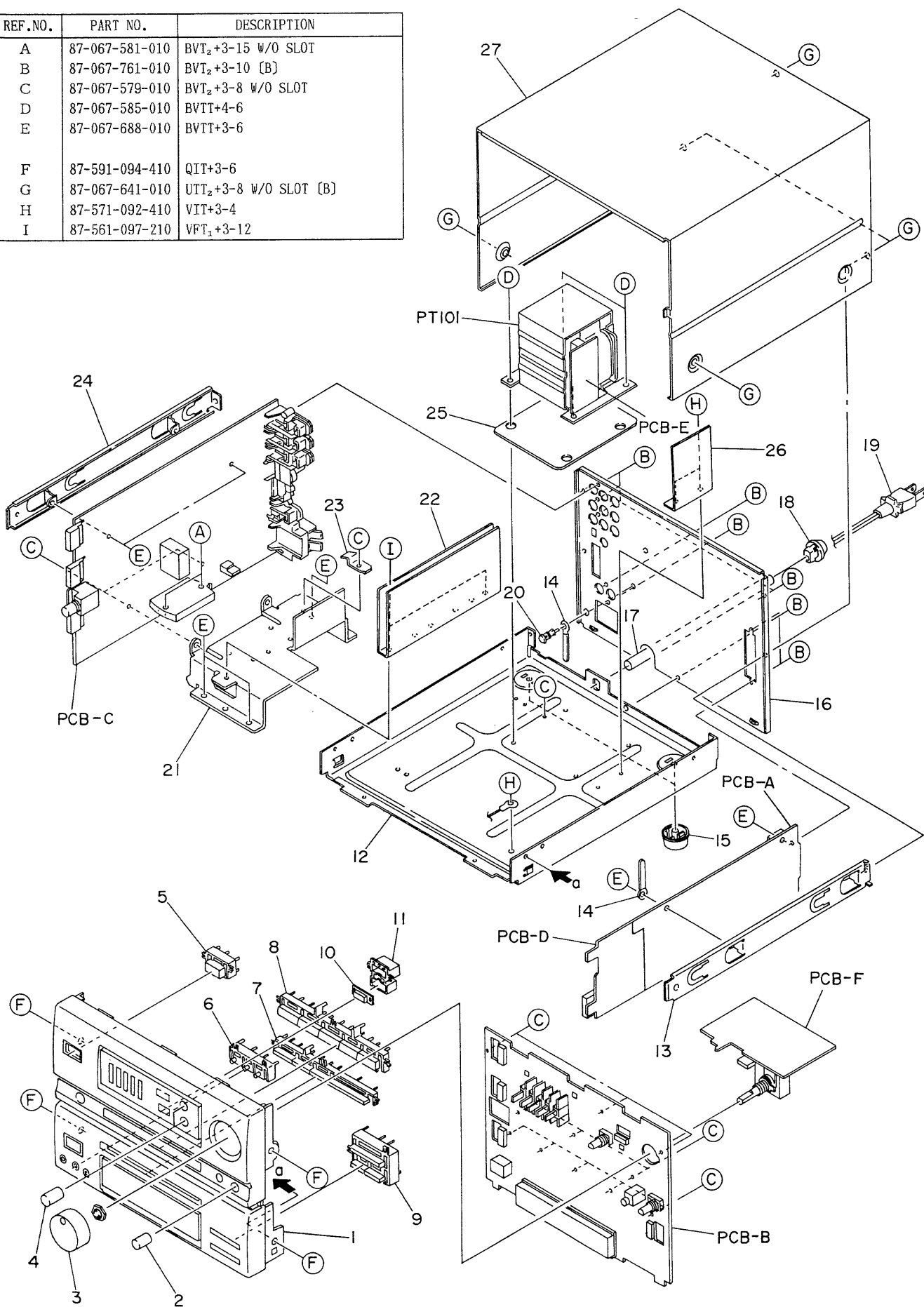
Pin No.	Pin Name	I/O	Description
43	N. C	–	Unused.
44	O – MUTE	O	Muting output. Active “H”.
45	O – CD. HSP	O	Outputs “H” for CD double-speed play. Normally set to “L”.
46	I – $\overline{S}$. TURBO	I	Input to turn T – BASS on or off. Active “L”
47	I – $\overline{BBE}$	I	Input to turn BBE on or off. Active “L”.
48	I – $\overline{DAT}$	–	Unused.
49	I – $\overline{CD}$	I	Input to specify the CD function. Active “L”.
50	I – $\overline{VIDEO\ 1}$	I	Input to specify the VIDEO I function. Active “L”.
51	I – $\overline{VIDEO\ 2}$	I	Input to specify the VIDEO II function. Active “L”.
52	I – $\overline{TUNER}$	I	Input to specify the tuner function. Active “L”.
53	I – $\overline{TAPE}$	I	Input to specify the tape function. Active “L”.
54 } 61	Sa } Sh	O	FL display segment outputs. Active “H”.
62	Vp	–	FL driver negative power pin
63 64	Si Sj	O	FL display outputs. Active “H”.

IC, LC7218

Pin No.	Pin Name	I/O	Description
1 24	X – IN X – OUT	–	A crystal oscillator (7.2MHz) is connected between these pins.
2 3 4	CE DATA CLK	I	When a key is operated, a signal is transmitted from the CPU (microprocessor). Active “H”.
5 } 8	– } –	–	Open.
9	T – BASE	O	Outputs a reference clock signal (8Hz) for the clock.
10 11	–	–	Open.
12	FM AUTO – H	O	Outputs “H” when FM stereo switching is set to AUTO.
13	AM (MW) – L	O	Outputs “H” when an AM (MW) broadcast is received.
14 } 16	– } –	–	Open.
17	FM – L	O	Outputs “L” when an FM broadcast is received.
18	AM IN	I	Receives the AM local oscillator frequency signal.
19	FM IN	I	Receives the FM local oscillator frequency signal.
20	VDD	–	5V power supply pin.
21	E. O.	O	PLL charge pump output.
22	–	–	Open.
23	VSS	–	Connected to GND.

EXPLODED VIEW (RX - N5)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-581-010	BVT ₂ +3-15 W/O SLOT
B	87-067-761-010	BVT ₂ +3-10 [B]
C	87-067-579-010	BVT ₂ +3-8 W/O SLOT
D	87-067-585-010	BVTT+4-6
E	87-067-688-010	BVTT+3-6
F	87-591-094-410	QIT+3-6
G	87-067-641-010	UTT ₂ +3-8 W/O SLOT [B]
H	87-571-092-410	VTT+3-4
I	87-561-097-210	VFT ₁ +3-12



MECHANICAL PARTS LIST (RX – N5)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	★ 09-047-641-010	CABINET FRONT ASSY (H)	*	1
	1	★ 09-047-643-010	CABINET FRONT ASSY (U, C)	*	1
	1	★ 09-047-642-010	CABINET FRONT ASSY (E, K, Z)	*	1
	2	★ 80-MT3-014-019	KNOB, MIC	*	1
	3	★ 80-MT3-012-019	KNOB, VOLUME	*	1
	4	★ 80-MT3-013-019	KNOB, BBE	*	2
	5	★ 80-MT3-011-019	KEY, POWER	*	1
	6	★ 80-MT3-010-019	KEY, MODE	*	1
	7	★ 80-MT3-009-019	KEY, SLEEP	*	1
	8	★ 80-MT3-007-019	KEY, FUNCTION	*	1
	9	★ 80-MT3-008-019	KEY, BAND	*	1
	10	★ 80-MT3-017-019	INDICATOR, BBE	*	1
	11	★ 80-MT3-204-019	GUIDE, LED	*	1
	12	---	CHASSIS, MAIN		1
	13	★ 80-MT3-202-019	HOLDER, PCB	*	1
	14	---	WIRE BINDER		2
	15	★ 81-675-010-010	FOOT, HIO		2
	16	★ 80-MT3-003-119	PANEL, REAR (H)	*	1
	16	★ 80-MT3-026-119	PANEL, REAR (HJ)	*	1
	16	★ 80-MT3-025-019	PANEL, REAR (U)	*	1
	16	★ 80-MT3-030-019	PANEL, REAR (C)	*	1
	16	★ 80-MT3-004-010	PANEL, REAR (E)	*	1
	16	★ 80-MT3-020-019	PANEL, REAR (K)	*	1
	16	★ 80-MT3-005-019	PANEL, REAR (Z)	*	1
	17	87-830-812-010	TUBE UL 8 -120 (H, U, C)		1
	17	87-830-820-010	TUBE UL 8 -200 (E, K, Z)		1
	18	★ 87-085-185-010	BUSHING, AC CORD (H, E, K, Z)		1
	18	★ 87-085-184-010	BUSHING, AC CORD (HJ)		1
	18	★ 87-085-189-010	BUSHING, AC CORD (U, C)		1
	19	★ 82-187-797-019	AC CORD (H)		1
	19	★ 87-034-749-019	AC CORD (HJ)		1
	19	★ 87-034-584-019	AC CORD (U, C)		1
	19	★ 87-034-781-018	AC CORD (E, Z)		1
	19	★ 87-034-592-018	AC CORD (K)		1
	20	★ 87-084-077-019	NYLON RIVET DIA 3.5-4.5		1
	21	---	HEAT-SINK, EX		1
	22	---	HEAT-SINK, SUB		1
	23	★ 89-VP5-206-019	HOLDER, IC		1
	24	★ 80-MT3-206-019	HOLDER, PCB L	*	1
	25	★ 80-MT3-207-019	PLATE, SHIELD	*	1
	26	★ 80-MT3-213-018	PLATE, SHIELD E (E, Z)	*	1
	27	★ 80-MT3-006-019	CABINET, STEEL (H, U, C)	*	1
	27	★ 80-MT3-029-018	CABINET, STEEL (E, K, Z)	*	1

MODEL NO. FD - N5

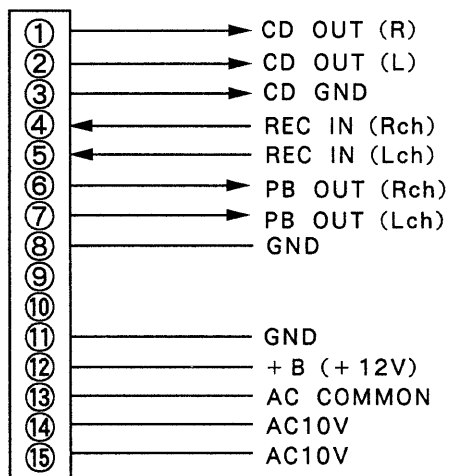
CAUTIONS WHEN SERVICING (FD - N5)

Model FD - N5 does not have a power supply circuit.
Power is supplied to it through a 15-pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the FD - N5 connect it to the RX - N5 so power is supplied to the FD - N5.
If the RX - N5 is not available, follow the procedure below.

[When servicing the unassembled FD - N5]

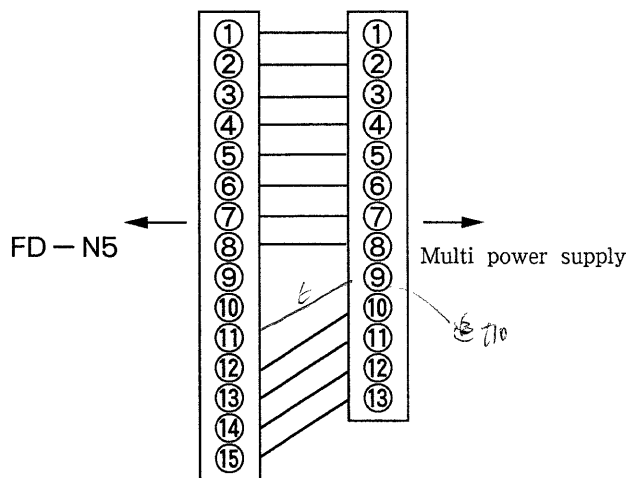
- ① Supply the following voltages to each terminal from an external power supply.

CON951



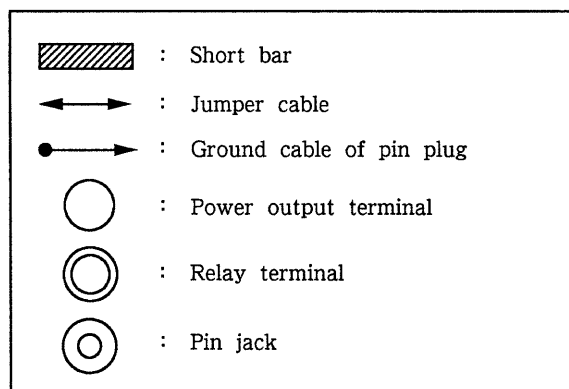
- ② Connection diagram when using multi power supply (LPS - 9088)

- Connect a multi-conversion harness for the Model FD - N5 to J1.



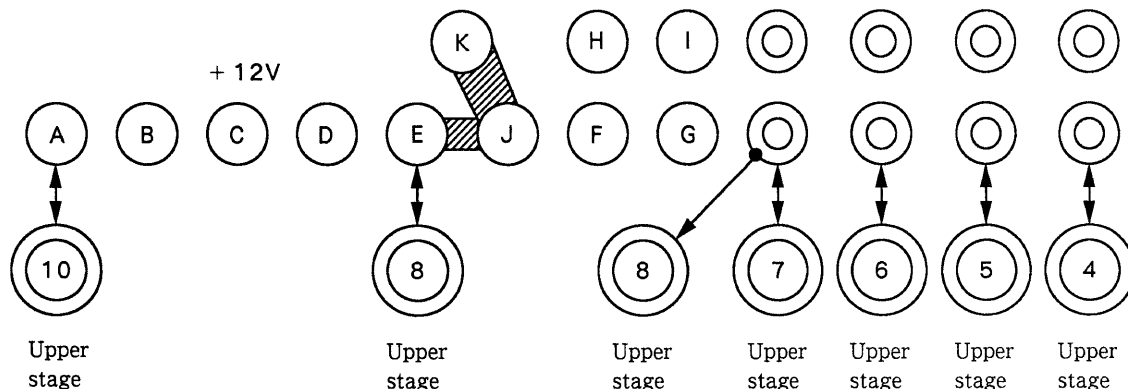
Connect a multi-conversion harness

◎ DECK BLOCK REPAIRING



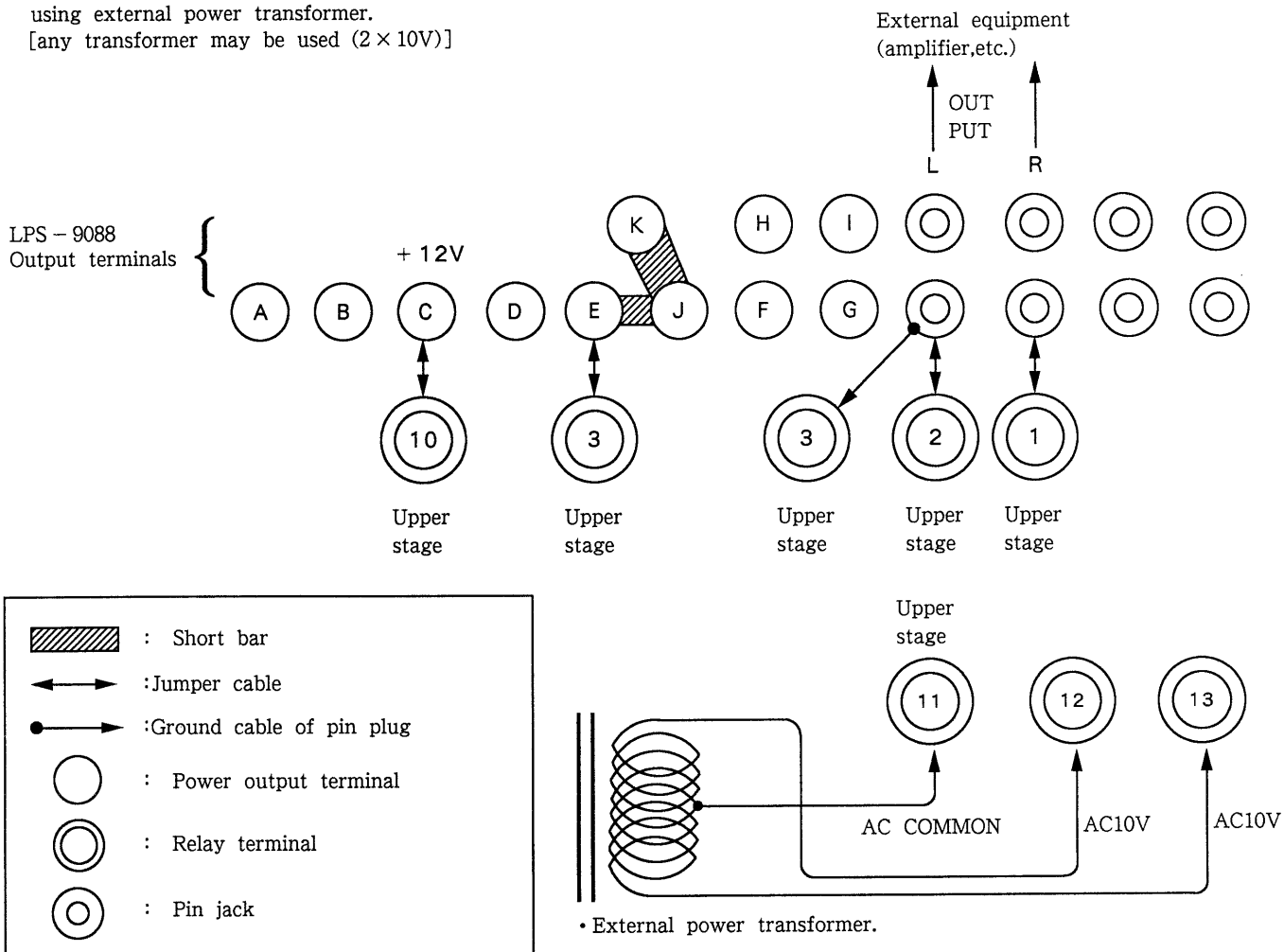
- After connecting the multi-conversion harness, short the anode of diode D809 to ground and then turn the multi power supply on.
(See illustration on P52)

LPS - 9088
Power terminals {



◎ CD BLOCK REPAIRING

Supply AC 10volt to pin 12 and pin 13
using external power transformer.
[any transformer may be used (2 × 10V)]



To turn on the CD PLAYER, short the TP10 (POWER ON)
and TP4 (GND) for a moment (See illustration on P48).

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.

ADVARSEL!



Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VARO!

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

VARNING!

Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

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.

CLASS 1
LASER PRODUCT

LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

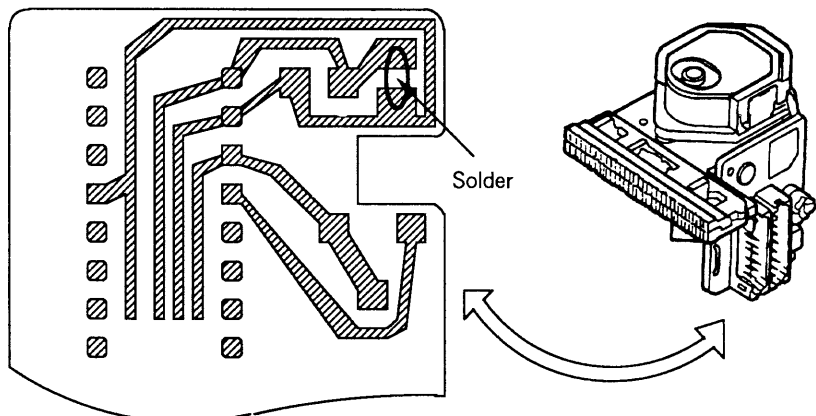
Precaution to replace Optical block (KSS – 210A)

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.

PICK – UP Assy P.C.B.

CD PICK – UP Assy



ELECTRICAL MAIN PARTS LIST (FD – N5)

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
=== IC ===			C202	★87-018-125-010	CAP, CERA-SOL SS 330P-50 B
	87-001-440-010	IC, BA15218N	C203	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL
	87-002-247-010	IC, BU4052B	C204	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL
	87-002-282-010	IC, BU4066B	C207	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
	87-001-184-010	IC, CXA1081S	C208	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
	87-001-400-010	IC, CXA1082S	C211	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-001-944-010	IC, CXD1167Q	C212	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	80-MV3-618-010	IC, CXP50112-199Q	C213	★87-010-101-010	CAP, ELECT 220-16 SME
	87-002-211-010	IC, GP1F32T(OPTICAL)	C251	★87-018-133-010	CAP, CERA-SOL SS 4700P-16 X
	87-001-874-010	IC, HA12134A	C252	★87-018-100-010	CAP, CERA-SOL SS 4. 7P-50 SL
	87-020-840-010	IC, ICPN20	C253	★87-018-132-010	CAP, CERA-SOL SS 2200P-16 X
	87-002-215-010	IC, L780S05	C255	★87-018-121-010	CAP, CERA-SOL SS 150P-50 B
	87-002-321-010	IC, L78LR05F	C256	★87-010-374-010	CAP, ELECT 47-10
	87-001-173-010	IC, LA6510	C257	★87-010-401-010	CAP, ELECT 1-50 SME
	87-001-567-010	IC, LA6520	C258	★87-018-100-010	CAP, CERA-SOL SS 4. 7P-50 SL
	87-001-334-010	IC, LB9051A	C259	★87-018-131-010	CAP, CERA-SOL SS 1000P-50 B
	80-MV3-617-010	IC, LC6568H-4591	C301	★87-018-119-010	CAP, CERA-SOL SS 100P-50 B
	87-002-306-010	IC, LC7883	C302	★87-018-119-010	CAP, CERA-SOL SS 100P-50 B
	87-027-895-010	IC, M5218AL	C303	★87-018-198-010	CAP, CERA-SOL SS 2700P-16 X
	87-020-758-010	IC, NJM2068SD	C304	★87-018-198-010	CAP, CERA-SOL SS 2700P-16 X
	87-027-827-010	IC, TC4069UBP	C305	★87-010-404-010	CAP, ELECT 4. 7-50 SME
=== TRANSISTOR ===			C306	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	89-503-735-010	FET, 2SK373GR	C323	★87-018-128-010	CAP, CERA-SOL SS 560P-50 B
	87-026-463-010	TRANSISTOR, 2SA933S, SR	C324	★87-018-128-010	CAP, CERA-SOL SS 560P-50 B
	89-109-521-010	TRANSISTOR, 2SA952K	C401	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
	89-112-964-010	TRANSISTOR, 2SA1296Y	C402	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
	89-112-965-010	TRANSISTOR, 2SA1296GR	C403	★87-014-068-010	CAP, PP 3000P
	89-213-702-010	TRANSISTOR, 2SB1370E	C409	★87-010-402-010	CAP, ELECT 2. 2-50 SME
	87-026-462-010	TRANSISTOR, 2SC1740S (RS)	C410	★87-010-381-010	CAP, ELECT 330-16 SME
	89-318-155-010	TRANSISTOR, 2SC1815GR	C411	★87-010-221-010	CAP, ELECT 470-10
	89-320-011-010	TRANSISTOR, 2SC2001K	C451	★87-018-131-010	CAP, CERA-SOL SS 1000P-50 B
	89-325-002-010	TRANSISTOR, 2SC2500	C453	★87-018-119-010	CAP, CERA-SOL SS 100P-50 B
	89-406-555-010	TRANSISTOR, 2SD655E	C454	★87-018-119-010	CAP, CERA-SOL SS 100P-50 B
	87-026-500-010	TRANSISTOR, 2SD2144S UV	C501	★87-018-130-010	CAP, CERA-SOL SS 820P-50 B
	87-026-483-010	TRANSISTOR, DTA123JS	C502	★87-018-130-010	CAP, CERA-SOL SS 820P-50 B
	87-026-219-010	TRANSISTOR, DTA144ES	C503	★87-018-132-010	CAP, CERA-SOL SS 2200P-16 X
	87-026-218-010	TRANSISTOR, DTC144ES	C504	★87-018-132-010	CAP, CERA-SOL SS 2200P-16 X
=== DIODE ===			C505	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-027-376-010	DIODE, 1B4B41	C506	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-001-559-010	DIODE, 1SS131	C511	★87-010-545-010	CAP, ELECT 0. 22-50 SME
	87-020-465-010	DIODE, 1SS133	C512	★87-010-545-010	CAP, ELECT 0. 22-50 SME
	87-020-110-010	DIODE, 1SS177	C514	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-020-123-080	DIODE, DS446	C515	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-027-662-010	DIODE, ZENER HZ22-1L	C517	★87-010-371-010	CAP, ELECT 470-6. 3
	87-027-286-010	DIODE, ZENER HZ5C1	C519	★87-015-688-010	CAP, ELECT 4. 7-35 7L
	87-027-475-010	DIODE, ZENER HZ6B1	C520	★87-015-688-010	CAP, ELECT 4. 7-35 7L
	87-027-332-010	DIODE, ZENER HZ6B1L	C601	★87-010-404-010	CAP, ELECT 4. 7-50 SME
	87-001-913-010	DIODE, ZENER UTZJ5. 6B	C602	★87-010-381-010	CAP, ELECT 330-16 SME
=== MAIN CIRCUIT BOARD SECTION ===			C603	★87-010-101-010	CAP, ELECT 220-16 SME
C101	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B	C604	★87-010-237-010	CAP, ELECT 1000-16
C102	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B	C801	★87-010-371-010	CAP, ELECT 470-6. 3
C103	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL	C851	★87-010-404-010	CAP, ELECT 4. 7-50 SME
C104	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL	C951	★87-018-127-010	CAP, CERA-SOL SS 470P-50 B
C109	★87-018-121-010	CAP, CERA-SOL SS 150P-50 B	C952	★87-018-133-010	CAP, CERA-SOL SS 4700P-16 X
C110	★87-018-121-010	CAP, CERA-SOL SS 150P-50 B	C953	★87-018-134-010	CAP, CERA-SOL SS 0. 01-16 Y
C111	★87-010-404-010	CAP, ELECT 4. 7-50 SME	CF801	★89-MX1-704-010	CERALOCK (MU) 3. 9MHZ
C112	★87-010-404-010	CAP, ELECT 4. 7-50 SME	CON951	★87-064-142-010	CORD, FG15P R(TUNER)
C113	★87-010-404-010	CAP, ELECT 4. 7-50 SME	△FR701	87-029-019-010	RES, FUSIBLE 2. 2-1/2W
C114	★87-010-404-010	CAP, ELECT 4. 7-50 SME	L301	★87-005-525-010	COIL, 22MMH-J
C115	★87-010-101-010	CAP, ELECT 220-16 SME	L302	★87-005-525-010	COIL, 22MMH-J
C201	★87-018-125-010	CAP, CERA-SOL SS 330P-50 B	L303	★87-003-131-010	COIL, 10MMH J
			L304	★87-003-131-010	COIL, 10MMH J
			L305	★87-003-123-010	COIL, 2. 2MMH J
			L306	★87-003-123-010	COIL, 2. 2MMH J

REF. NO.	PART NO.	DESCRIPTION
L401	★80-VW1-605-010	COIL, OSC BIAS 108K
L601	★87-003-060-010	COIL, 12UH
R405	★87-025-471-010	RES, NF 4.7-1/4W J
SFR101	★87-024-349-010	SFR, 1K DIA6 H
SFR102	★87-024-349-010	SFR, 1K DIA6 H
SFR201	★87-024-349-010	SFR, 1K DIA6 H
SFR202	★87-024-349-010	SFR, 1K DIA6 H
SFR301	★87-024-353-010	SFR, 10K DIA6 H
SFR302	★87-024-353-010	SFR, 10K DIA6 H
SFR401	★87-024-356-010	SFR, 47K DIA6 H
SFR402	★87-024-356-010	SFR, 47K DIA6 H

=== FRONT CIRCUIT BOARD SECTION ===

LED911	87-002-353-010	LED, SLR-33MC (REV PLAY) (DECK2)
LED912	87-002-353-010	LED, SLR-33MC (FWD PLAY) (DECK2)
LED913	87-002-354-010	LED, SLR-33DC (PAUSE) (DECK2)
LED914	87-002-355-010	LED, SLR-33VC (REC) (DECK2)
LED915	87-002-353-010	LED, SLR-33MC (FWD PLAY) (DECK1)
LED916	87-002-353-010	LED, SLR-33MC (REV PLAY) (DECK1)
LED917	87-002-353-010	LED, SLR-33MC (DOLBY NR)
LED918	87-002-353-010	LED, SLR-33MC (REV MODE ↺)
LED919	87-002-353-010	LED, SLR-33MC (REV MODE ↻)
LED920	87-002-355-010	LED, SLR-33VC (SYNC DUBBING)
LED921	87-002-355-010	LED, SLR-33VC (CD SYNC REC)
SW901	87-036-142-010	TACT SW (OPEN/CLOSE)
SW902	87-036-142-010	TACT SW (F. REW/B. SKIP)
SW903	87-036-142-010	TACT SW (F. FWD/B. SKIP)
SW904	87-036-142-010	TACT SW (REPEAT/BLANK)
SW905	87-036-142-010	TACT SW (RANDOM)
SW906	87-036-142-010	TACT SW (STOP/CLEAR)
SW907	87-036-142-010	TACT SW (PLAY/PAUSE)
SW908	87-036-142-010	TACT SW (PRGM/CHECK)
SW909	87-036-142-010	TACT SW (DISPLAY)
SW910	87-036-142-010	TACT SW (ACTIV EDIT, AUTO/AL)
SW911	87-036-142-010	TACT SW (ACTIV EDIT, PRGM/CONT)
SW921	87-036-142-010	TACT SW (STOP) (DECK2)
SW922	87-036-142-010	TACT SW (CD SYNC REC, NORM)
SW923	87-036-142-010	TACT SW (REW) (DECK2)
SW924	87-036-142-010	TACT SW (CD SYNC REC, HIGH) (H, E, Z)
SW925	87-036-142-010	TACT SW (PLAY) (DECK2)
SW926	87-036-142-010	TACT SW (PAUSE) (DECK2)
SW927	87-036-142-010	TACT SW (FF) (DECK2)
SW928	87-036-142-010	TACT SW (REC) (DECK2)
SW929	87-036-142-010	TACT SW (REVERSE MODE)
SW930	87-036-142-010	TACT SW (STOP) (DECK1)
SW931	87-036-142-010	TACT SW (SYNC DUBBING, NORM)
SW932	87-036-142-010	TACT SW (REW) (DECK1)
SW933	87-036-142-010	TACT SW (SYNC DUBBING, HIGH)
SW934	87-036-142-010	TACT SW (PLAY) (DECK1)
SW935	87-036-142-010	TACT SW (FF) (DECK1)
SW936	87-036-142-010	TACT SW (DOLBY NR)

=== DECK-1 CIRCUIT BOARD SECTION ===

M1	87-045-320-010	MOTOR SHW2L
SFR1	★87-024-331-010	SFR, 5K
SFR2	★87-024-331-010	SFR, 5K
SOL1	★86-575-622-010	SOLENOID (FR)
SOL2	★86-575-622-010	SOLENOID (PLAY)
SW1	87-036-110-010	PUSH SW (CRO2)
SW2	87-036-110-010	PUSH SW (CST)
SW3	86-575-632-010	LEAF SW (FR)
SW4	87-036-110-010	PUSH SW (PLAY)

=== DECK-2 CIRCUIT BOARD SECTION ===

REF. NO.	PART NO.	DESCRIPTION
M11	87-045-320-010	MOTOR SHW2L
SFR11	★87-024-331-010	SFR, 5K
SFR12	★87-024-331-010	SFR, 5K
SOL11	★86-575-622-010	SOLENOID (FR)
SOL12	★86-575-622-010	SOLENOID (PLAY)
SW11	87-036-110-010	PUSH SW (MT)
SW12	87-036-110-010	PUSH SW (REB)
SW13	87-036-109-010	PUSH SW (REA)
SW14	87-036-110-010	PUSH SW (CRO2)
SW15	87-036-110-010	PUSH SW (CST)
SW16	86-575-632-010	LEAF SW (FR)
SW17	87-036-110-010	PUSH SW (PLAY)

=== RELAY-1 CIRCUIT BOARD SECTION ===

=== RELAY-2 CIRCUIT BOARD SECTION ===

=== CD MAIN CIRCUIT BOARD SECTION ===

C101	★87-010-124-010	CAP, ELECT 4700-16
C102	★87-010-262-010	CAP, ELECT 3300-16 SME
C103	★87-010-374-010	CAP, ELECT 47-10
C104	★87-010-265-010	CAP, ELECT 33-16 SME
C105	★87-010-265-010	CAP, ELECT 33-16 SME
C106	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C107	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C108	★87-010-374-010	CAP, ELECT 47-10
C109	★87-010-544-010	CAP, ELECT 0.1-50
C110	★87-015-676-010	CAP, ELECT 47-6.3 7L
C111	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C112	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C113	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C201	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C202	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C305	★87-010-384-010	CAP, ELECT 100-25 SME
C306	★87-010-384-010	CAP, ELECT 100-25 SME
C308	★87-010-237-010	CAP, ELECT 1000-16 SME
C315	87-018-214-019	CAP, CERA-SOL SS 0.1-50F (H, U, C)
C401	★87-010-374-010	CAP, ELECT 47-10
C402	★87-018-132-010	CAP, CERA-SOL SS 2200P-16 X
C404	★87-010-374-010	CAP, ELECT 47-10
C405	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C406	★87-010-374-010	CAP, ELECT 47-10
C407	★87-010-374-010	CAP, ELECT 47-10
C408	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C411	★87-010-400-010	CAP, ELECT 0.47-50 SME
C414	★87-018-203-010	CAP, CERA-SOL SS 8200P-16 Y
C417	★87-018-140-010	CAP, CERA-SOL SS 2.2P-50 CH
C450	★87-018-134-010	CAP, CERA-SOL SS 0.01-16Y
C451	★87-018-131-010	CAP, CERA-SOL SS1000P-50B
C504	★87-010-404-010	CAP, ELECT 4.7-50 SME
C506	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
C507	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
C509	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C510	★87-010-404-010	CAP, ELECT 4.7-50 SME
C511	★87-010-545-010	CAP, ELECT 0.22-50 SME
C512	★87-010-374-010	CAP, ELECT 47-10
C513	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C514	★87-010-374-010	CAP, ELECT 47-10
C515	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C516	★87-018-123-010	CAP, CERA-SOL SS 220P-50 B
C517	★87-010-374-010	CAP, ELECT 47-10
C518	★87-015-695-010	CAP, ELECT 1-50 7L
C519	★87-015-696-010	CAP, ELECT 2.2-50 7L
C521	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C522	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F

REF. NO.	PART NO.	DESCRIPTION
C523	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C524	★87-010-265-010	CAP, ELECT 33-16 SME
C525	★87-010-265-010	CAP, ELECT 33-16 SME
C526	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C527	★87-018-214-010	CAP, CERA-SOL SS 0.1-50 F
C602	★87-018-131-010	CAP, CERA-SOL SS 1000P-50 B
C604	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL
C605	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL
C606	★87-018-115-010	CAP, CERA-SOL SS 47P-50 SL
C607	★87-010-374-010	CAP, ELECT 47-10
C608	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C609	★87-015-694-010	CAP, ELECT 0.47-50
C610	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C611	★87-010-374-010	CAP, ELECT 47-10
C620	★87-018-104-010	CAP, CERA-SOL SS 10P-50 SL
C701	★87-010-374-010	CAP, ELECT 47-10
C702	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C703	★87-018-150-010	CAP, CERA-SOL SS 18P-50 CH
C704	★87-018-150-010	CAP, CERA-SOL SS 18P-50 CH
C705	★87-010-404-010	CAP, ELECT 4.7-50 SME
C706	★87-010-404-010	CAP, ELECT 4.7-50 SME
C711	★87-010-403-010	CAP, ELECT 3.3-50 SME
C712	★87-010-403-010	CAP, ELECT 3.3-50 SME
C713	★87-018-131-010	CAP, CERA-SOL SS 1000P-50 B
C714	★87-018-131-010	CAP, CERA-SOL SS 1000P-50 B
C715	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C716	★87-010-374-010	CAP, ELECT 47-10
C717	★87-018-134-010	CAP, CERA-SOL SS 0.01-16 Y
C718	★87-010-374-010	CAP, ELECT 47-10
C730	★87-018-118-010	CAP, CERA-SOL SS 47P-50SL
CST201	★87-008-394-010	FILTER, CERAMIC CST 4.19MGW
EMI1	★87-008-372-019	FILTR, EMI BL 01RNI
FL301	80-VX1-621-010	FL, 5-BT-125G(DISPLAY)
△FR301	87-029-366-010	RES, FUSIBLE 4.7-1/2W F(H, U, C)
△FR301	87-029-066-010	RES, FUSIBLE 1.5 1/2W F(E, K, Z)
△FR302	87-029-366-010	RES, FUSIBLE 4.7-1/2W F(H, U, C)
△FR302	87-029-066-010	RES, FUSIBLE 1.5 1/2W F(E, K, Z)
J201	87-009-413-010	CONN, 4P FG(DAT CONT)
L301	★87-003-136-010	COIL, 100UH
L401	★87-003-147-010	COIL, 22UH
L501	★87-003-147-010	COIL, 22UH
L502	★87-003-147-010	COIL, 22UH
L601	★87-003-136-010	COIL, 100UH
L701	★87-005-135-010	COIL, LA04NA 220UH
L702	★87-003-102-019	COIL, 10UH
L703	★87-003-102-019	COIL, 10UH
R516	★87-025-422-010	RES, MF 3.3K-1/6W F
R517	★87-025-371-010	RES, MF 2.7K-1/6W F(H, E, Z)
R604	★87-025-425-010	RES, MF 12K-1/6W F
R605	★87-025-425-010	RES, MF 12K-1/6W F
SFR401	★87-024-173-010	SFR, 22K DIA6 V
SFR402	★87-024-173-010	SFR, 22K DIA6 V
SFR403	★87-024-173-010	SFR, 22K DIA6 V
SFR404	★87-024-173-010	SFR, 22K DIA6 V
SFR501	★87-024-360-010	SFR, 2.2K(H, E, Z)
SFR502	★87-024-360-010	SFR, 2.2K
TS301	★84-733-626-010	TRANSFORMER, OSC FL
X701	★84-733-617-010	RESONATER, CRYSTAL 16.9344MHZ

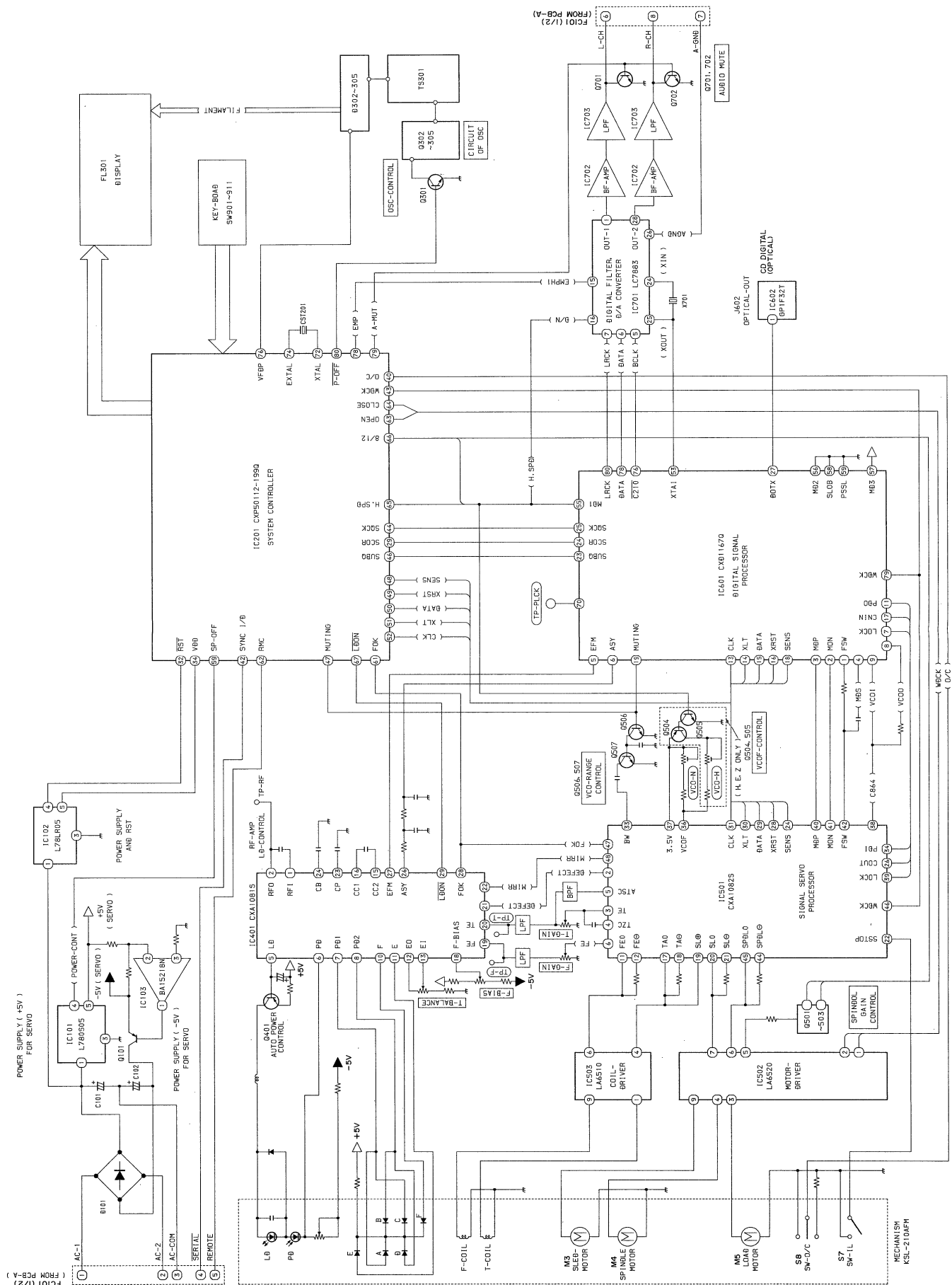
=== MOTOR-1 CIRCUIT BOARD SECTION ===

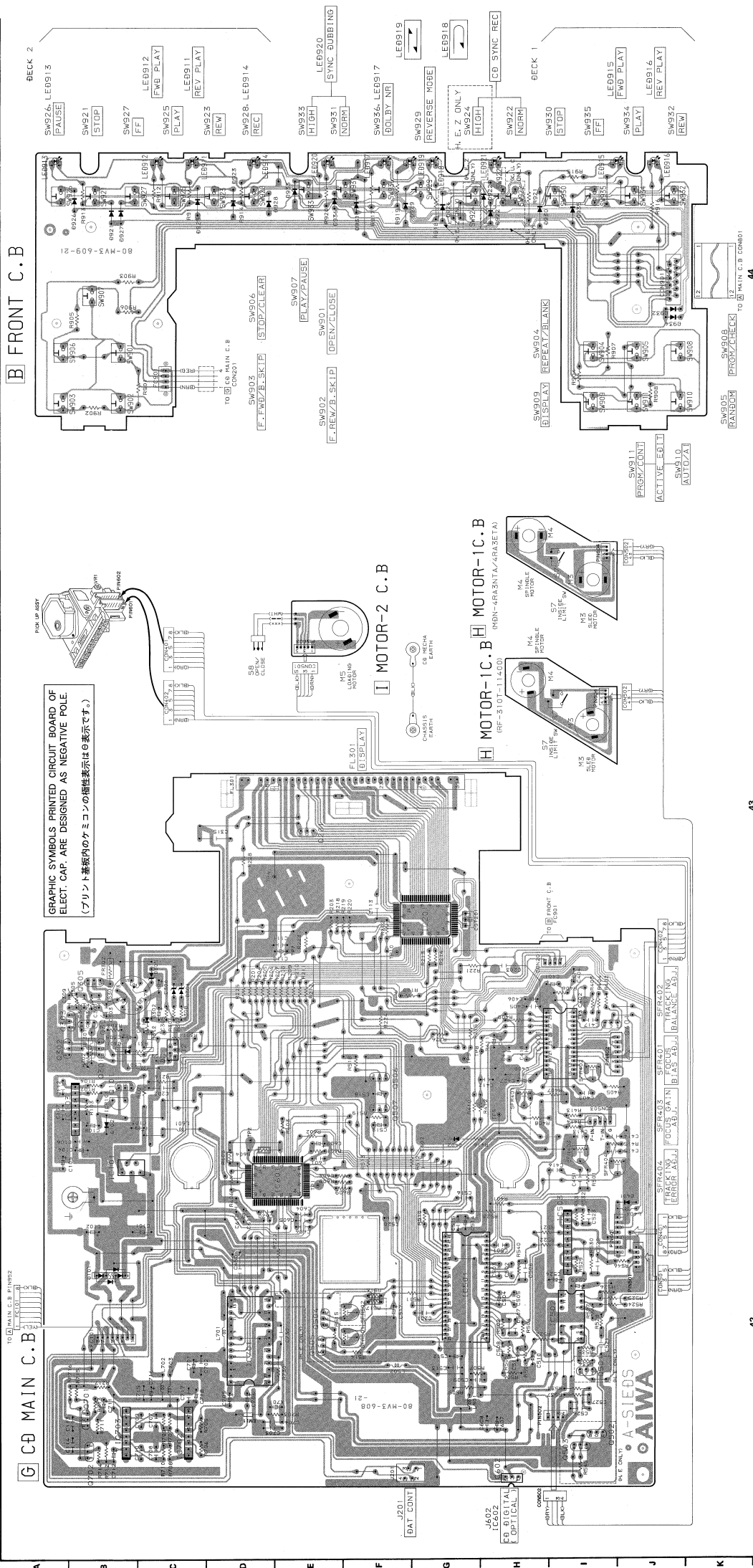
※PCB-H	91-625-848-110	MOTOR-1 C. B(RF-310T-11400)
※PCB-H	91-628-263-110	MOTOR-1 C. B(MDN-4RA3NTAS/4RA3EA)
※M3	9X-264-077-010	MOTOR GEAR ASSY RF-310T-11400 (SLED)

REF. NO.	PART NO.	DESCRIPTION
※M3	9X-264-134-410	MOTOR GEAR ASSY MDN-4RA3RETA (SLED)
※M4	9X-264-133-710	MOTOR ASSY(W/CHASSIS, T. T) (SPINDLE)
※M4	9X-264-135-810	MOTOR ASSY(W/CHASSIS, T. T) (SPINDLE)
S7	91-572-053-110	LEAF SW(INSIDE LIMIT)
=== MOTOR-2 CIRCUIT BOARD SECTION ===		
M5	9X-246-133-610	MOTOR ASSY(LOADING)
=== MISCELLANEOUS ===		
PH1	98-848-127-310	OPTICAL PICK UP KSS-210A(S)RP
RPEH	87-046-355-010	P HEAD(DECK1)
S8	87-046-356-010	R. P. E HEAD(DECK2)
	91-572-052-110	LEAF SW(OPEN/CLOSE)

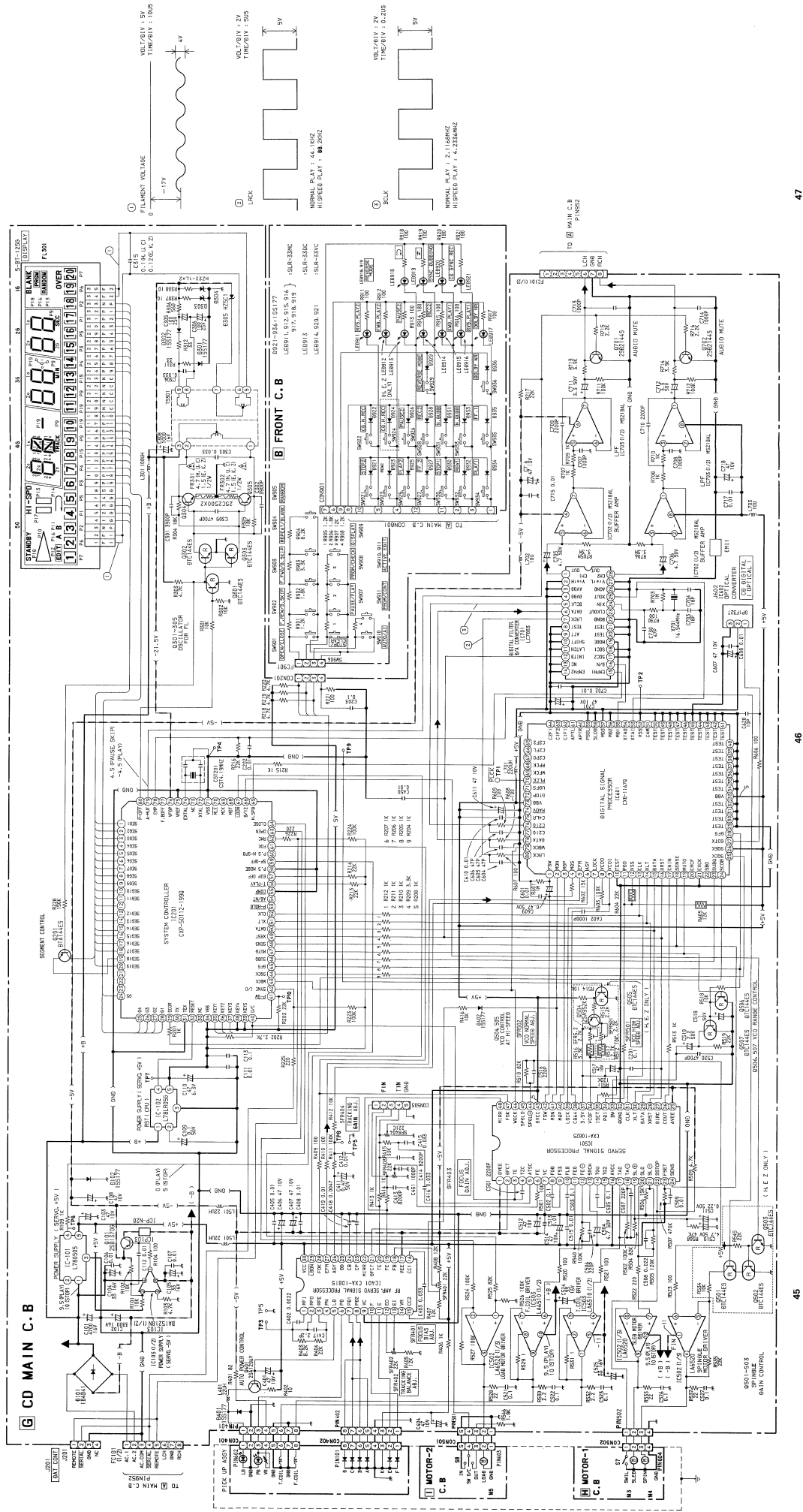
BLOCK DIAGRAM - 1 (FD - N5)

(CD SECTION)





SCHEMATIC DIAGRAM - 1 (FD - N5)

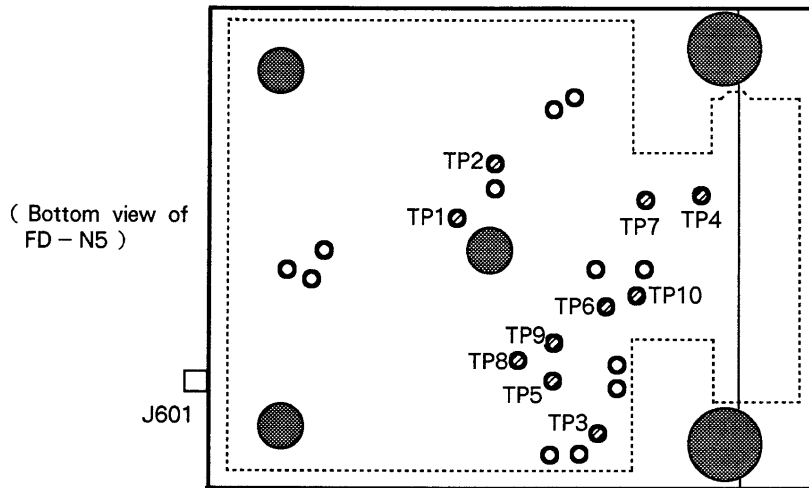


ADJUSTMENT – 1 (FD – N5)

(CD SECTION)

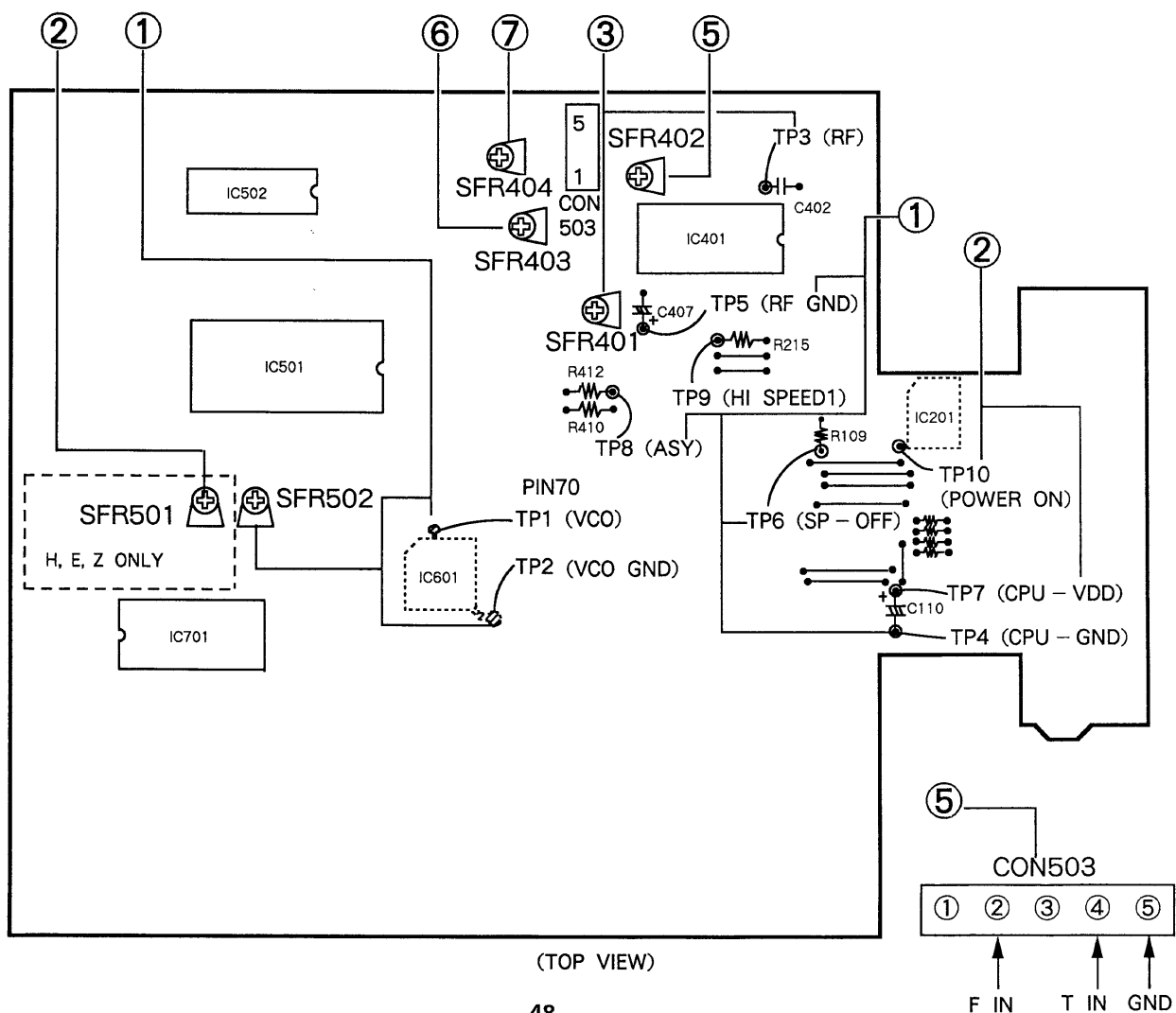
Before performing adjustments in the CD section, disconnect connectors CON101 and CON201 from the head and stand the MAIN C.B on the recess (at a point where 1/3 of the back of the left/right supports of MAIN C.B) of the C.B holder.

The bottom of FD – N5 has holes corresponding to the test points of the CD MAIN C.B.



(Fig – 1)

G CD MAIN C.B



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

1. Normal Speed VCO Frequency Adjustment

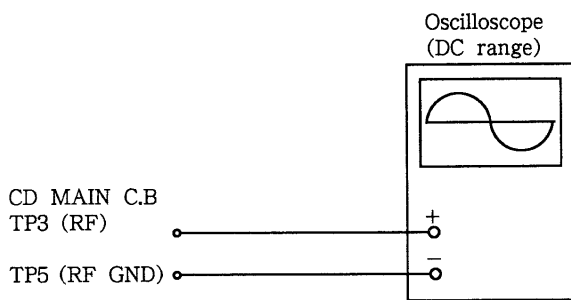
- (1) Press the OPEN/CLOSE button of the unit to open the tray.
- (2) Connect a frequency counter to test points TP1 (VCO) and TP2 (VCO GND).
- (3) Connect TP6 (SP - OFF) to TP4 (CPU - GND).
- (4) Connect TP9 (HI SPEED1) to TP4 (CPU - GND).
- (5) Connect TP5 (RF GND) to TP8 (ASY).
- (6) Adjust SFR502 so that the frequency counter reading is 4.40 ± 0.01 MHz.
- (7) After the adjustment is completed, disconnect the ground lead wire.

2. High Speed VCO Frequency Adjustment (H,E,Z ONLY)

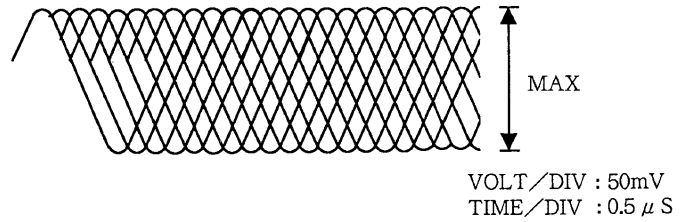
- (1) Press the OPEN/CLOSE button of the unit to open the tray.
- (2) Connect a frequency counter to test points TP1 (VCO) and TP2 (VCO GND).
- (3) Connect TP6 (SP - OFF) to TP4 (CPU - GND).
- (4) Connect TP9 (HI SPEED1) to TP7 (CPU - VDD).
- (5) Connect TP5 (RF GND) to TP8 (ASY).
- (6) Adjust SFR501 so that the frequency counte reading is 9.60 ± 0.01 MHz.
- (7) After the adjustment is completed, disconnect the ground lead wire.

3. Focus Bias Adjustment

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



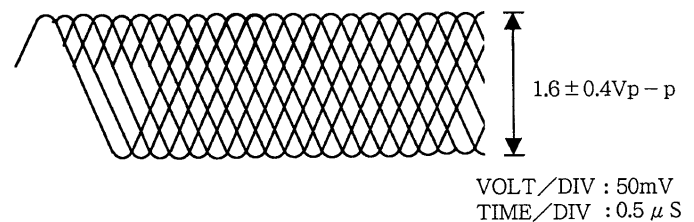
- (1) Connect an oscilloscope to test points TP3 (RF) and TP5 (RF GND).
- (2) Connect TP6 (SP - OFF) to TP4 (CPU - GND).
- (3) Insert test disc YEDS-18 (YEDS-1) and play back the second composition.
- (4) Adjust SFR401 (F.B) so that the amplitude of waveform on the oscilloscope is maximized.
- (5) After adjustment is completed, disconnect the ground lead wire.



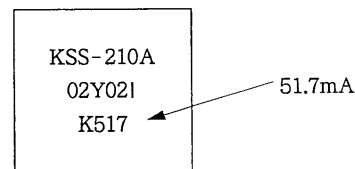
4. RF Waveform Check

Make the RF waveform check when replacing and repairing the optical block.

- (1) Connect an oscilloscope to test points TP3 (RF) and TP5 (RF GND).
- (2) Connect TP6 (SP - OFF) to TP4 (CPU - GND).
- (3) Insert test disc YEDS-18 (YEDS-1) and play back the second composition.
- (4) Check that the waveform on the oscilloscope is as shown in the figure below.
- (5) After checking is completed, disconnect the ground lead wire.

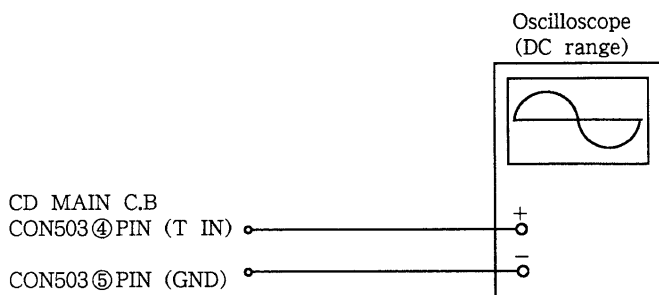


Note : The current of the laser signal can be checked with the voltages on both sides of R402 (10 Ω). The difference for the specified value shown on the label must be within ± 6.0 mA.

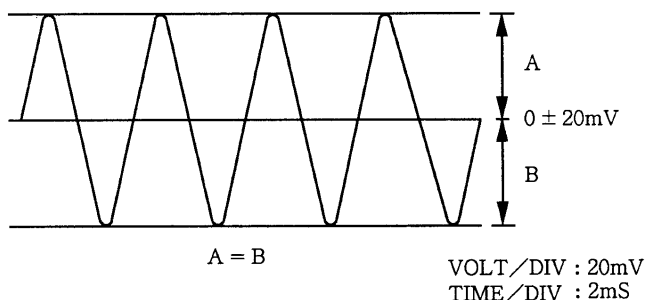


$$\text{Laser current } I_{op} = \frac{\text{Voltage across R402}}{10 \Omega}$$

5. Tracking Balance Adjustment



- (1) Connect an oscilloscope to test points CON503④PIN (T IN) and CON503⑤PIN (GND).
- (2) Connect a center of SFR404 (TG) on the main board to GND.
- (3) Connect TP6 (SP - OFF) to TP4 (CPU - GND).
- (4) Insert test disc YEDS-18 (YEDS-1) and press the PLAY button.
- (5) Adjust SFR402 (TB) so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
- (6) After the adjustment is completed, disconnect the ground lead wire.



6,7.Focus/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 reciprocated, 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.

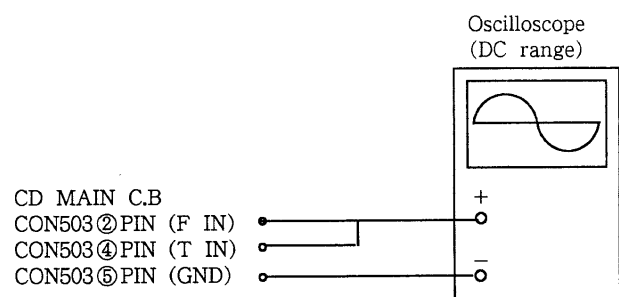
Symptoms	Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP→▶PLAY or automatic selection (◀◀, ▶▶ buttons pressed.) (Normally takes about 2 seconds.)		low	low or high
● Music does not start and disc continues to rotate for STOP→▶PLAY or automatic selection (◀◀, ▶▶ buttons pressed.)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

The following is simple adjustment method.

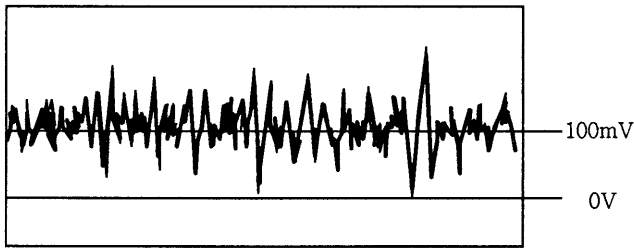
— Simple adjustment —

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 control to the original position.

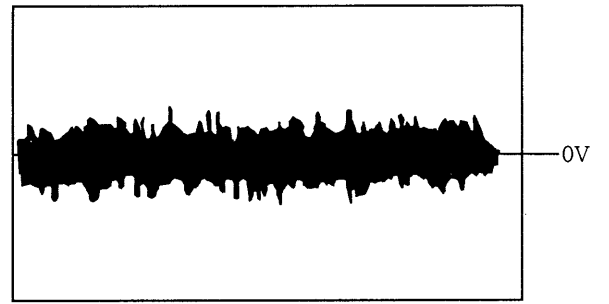
Procedure :



- (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 YEDS-18 (YEDS-1) and play back the second composition.
- (3) Connect an oscilloscope to CON503②PIN (F IN) and pin⑤ (GND).
- (4) Adjust SFR403 (FG) so that the waveform appears as shown in the figure below.(focus gain adjustment)



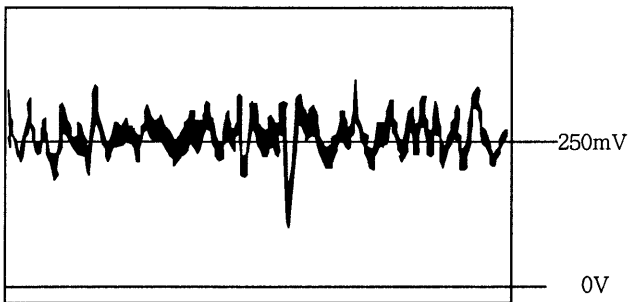
VOLT/DIV : 10mV
TIME/DIV : 2mS



VOLT/DIV : 50mV
TIME/DIV : 2mS

- Incorrect example (DC level changes more than on adjusted waveform)

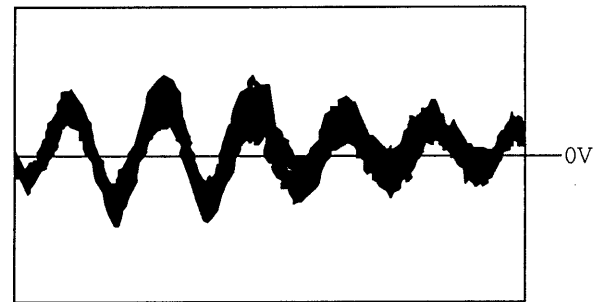
- Incorrect example (The fundamental wave appears as compared with the waveform adjusted.)



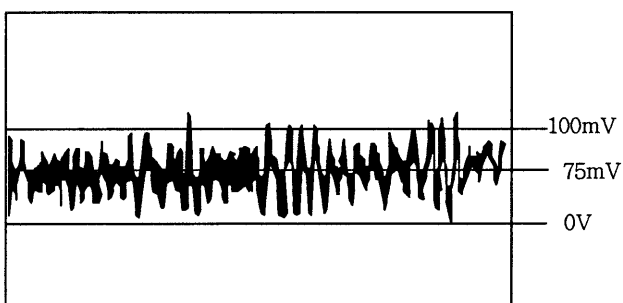
VOLT/DIV : 10mV
TIME/DIV : 2mS

Low focus gain

Low tracking gain



VOLT/DIV : 50mV
TIME/DIV : 2mS

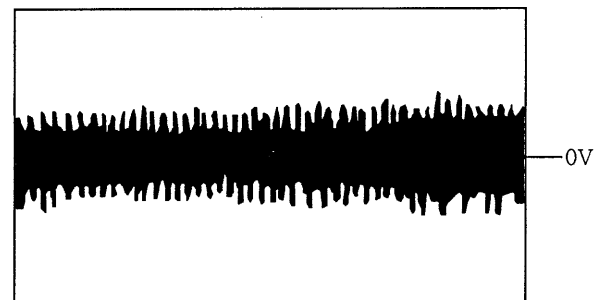


VOLT/DIV : 10mV
TIME/DIV : 2mS

High focus gain

High tracking gain

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

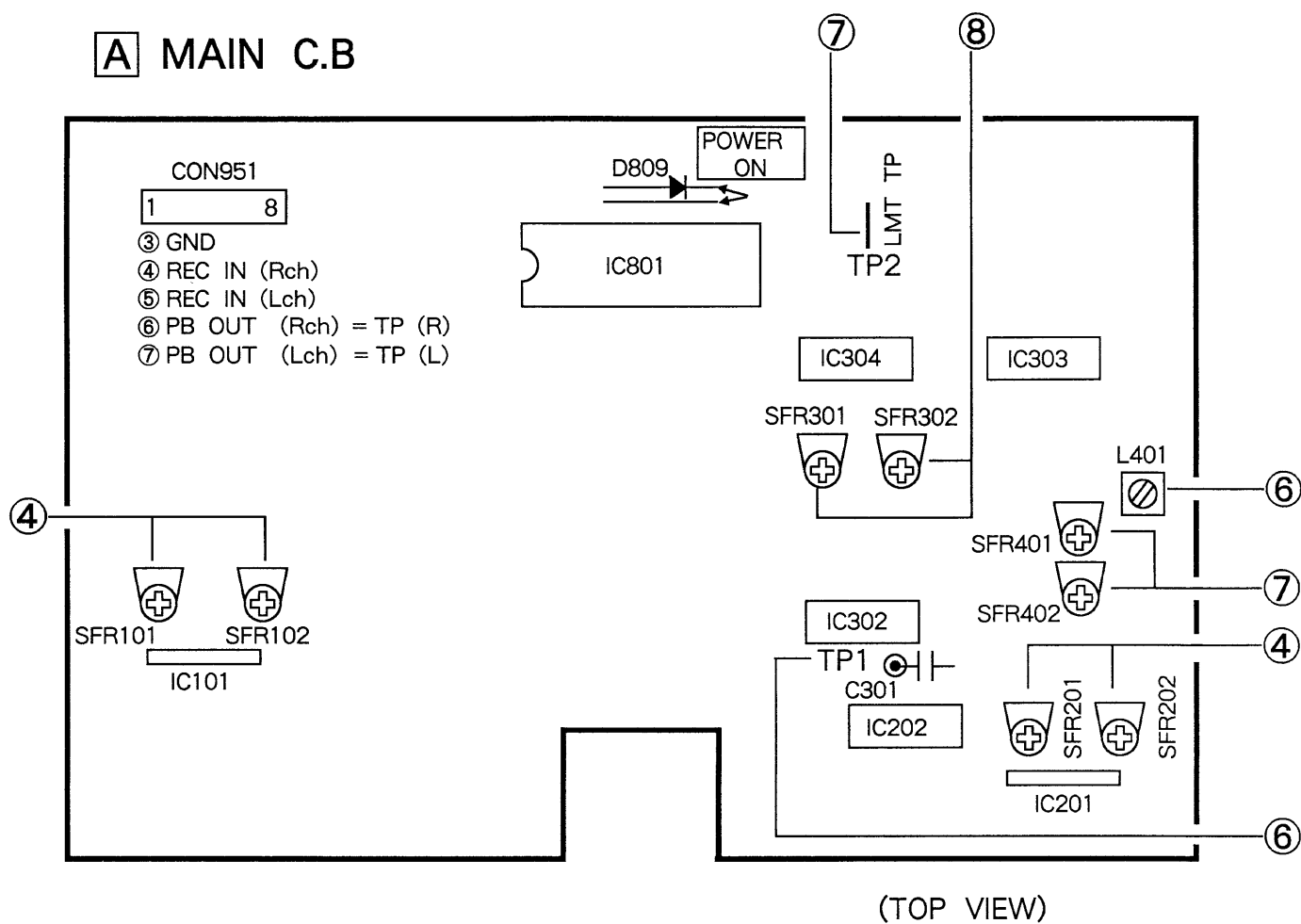


VOLT/DIV : 50mV
TIME/DIV : 2mS

- (5) Connect an oscilloscope to CON503④PIN (T IN) of the main board.
- (6) Adjust SFR404 (TG) so that the waveform appears as shown in the figure below.
(tracking gain adjustment)

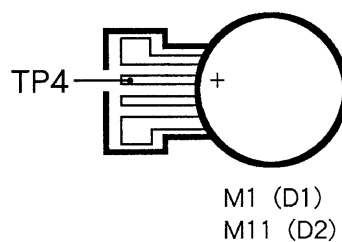
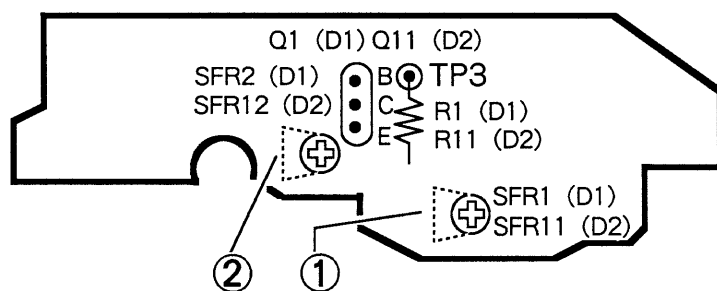
ADJUSTMENT – 2 (FD – N5)
(DECK SECTION)

A MAIN C.B



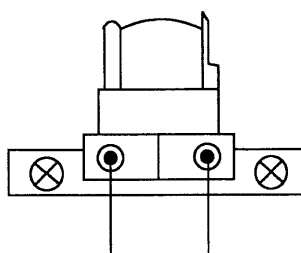
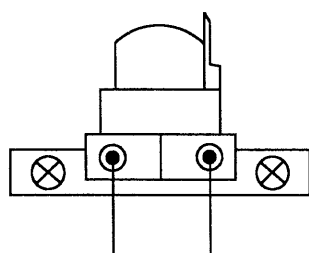
C DECK – 1 C.B

D DECK – 2 C.B



DECK1 P HEAD

DECK2 R/P/E HEAD



③

1. High Speed Adjustment (DECK1, DECK2)

Settings : • Test tape : TTA – 100 (TTA – 111S)
• Test point : PB – OUT (CON951)
• Adjustment Location : SFR1 (DECK1)
 SFR11 (DECK2)

Method : Play back the test tape, and make the high speed condition to be shorted between TP3 and TP4. Adjust for 6000Hz. After adjustment, remove the grounding lead wire.
2. Normal Speed Adjustment (DECK1, DECK2)

Settings : • Test tape : TTA – 100 (TTA – 111S)
• Test point : PB – OUT (CON951)
• Adjustment Location : SFR2 (DECK1)
 SFR12 (DECK2)

Method : Play back the test tape, adjust for 3000Hz.
3. Head Azimuth Adjustment (DECK1, DECK2)

Settings : • Test tape : TTS – 310
 (TTA – 317E, SCC – 1429)
• Test point : PB – OUT (CON951)
• 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.
4. PB Level Adjustment (DECK1, DECK2)

Settings : • Test tape : TTS – 200 (TTA – 161, TCC – 130)
• Test point : PB – OUT (CON951)
• Adjustment Location : SFR101 (DECK1, Lch)
 SFR102 (DECK1, Rch)
 SFR201 (DECK2, Lch)
 SFR202 (DECK2, Rch)

Method : Play back the test tape and adjust so that the output becomes $305\text{mV} \pm 0.3\text{dB}$.
5. PB Frequency Response Check (DECK1, DECK2)

Settings : • Test tape : TTS – 310
 (TTA – 317E, SCC – 1429)
• Test point : PB – OUT (CON951)

Method : Play the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signal is $0\text{dB} \pm 2.5\text{dB}$ with respect to that of the 315Hz signal.
6. Bias Frequency Adjustment (DECK2)

Settings : • Test tape : TTA – 600 (TTA – 119K)
• Test point : TP1
• Adjustment Location : L401

Method : Set DECK2 to the record mode and adjust L401 so that the frequency at TP1 is $108\text{kHz} \pm 2\text{kHz}$.

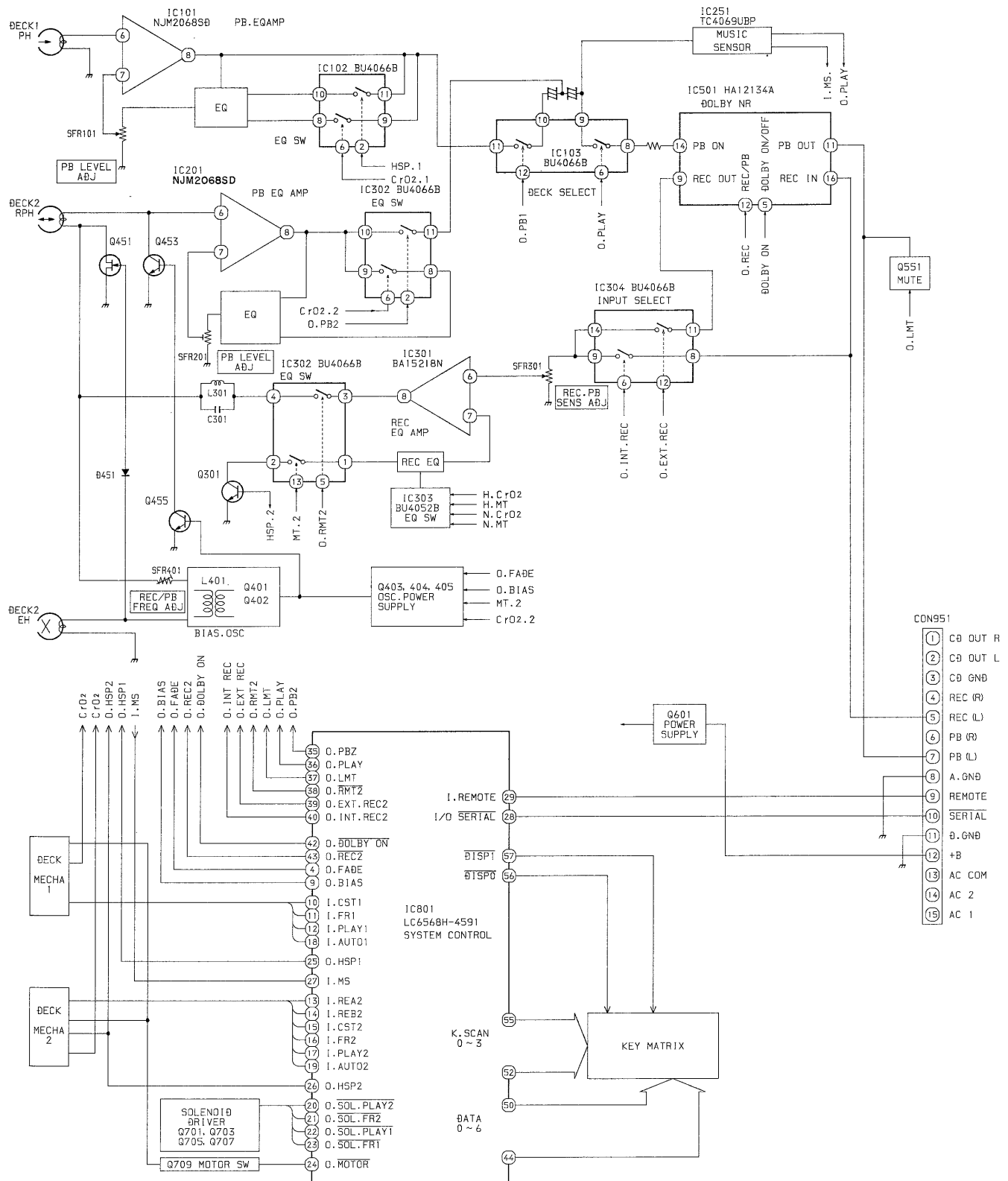
7. REC/PB Frequency Response Adjustment (DECK2)
- Settings : • Test tape : TTA – 600 (TTA – 119K)
- Test point : PB – OUT (CON951)
- Adjustment Location : SFR401 (Lch)
- SFR402 (Rch)
- Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 20mV. Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is $0\text{dB} \pm 0.5\text{dB}$ for 1kHz signal. After adjustment, remove the grounding lead wire.
8. REC/PB Sensitivity Adjustment (DECK2)
- Settings : • Test tape : TTA – 600 (TTA – 119K)
- Test point : PB – OUT (CON951)
- Adjustment Location : SFR301 (Lch)
- SFR302 (Rch)
- Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 20mV. Record and play back the 1kHz signal and adjust SFR301 and SFR302 so that the output level is $20\text{mV} \pm 0.3\text{dB}$. After adjustment, remove the grounding lead wire.

PRACTICAL SERVICE FIGURE (FD - N5)

PB output level :	200mV $\pm$ 1dB TTS - 200 (TTA - 161, TCC - 130)
REC/PB output level :	200mV $\pm$ 1dB(PB OUT, 1kHz)
Distortion (REC/PB) :	Less than 2.0 % (NORM., CrO2)
Erasing ratio :	More than 60dB
Crosstalk :	More than 60dB
Channel separation :	More than 30dB
Noise (REC/PB) :	Less than 2.2mV (DOLBY OFF NORM.) Less than 1.1mV/1.0mV (DOLBY ON CrO2)
Noise (PB) :	Less than 2.0mV (DOLBY OFF NORM.) Less than 1.0mV/0.9mV (DOLBY B/C CrO2)
Recording bias frequency :	108kHz
Tape speed :	3000Hz $\pm$ 1.5 %
Wow & flutter (W.RMS) :	Less than 0.18 % (DECK1, 2)
Take - up torque :	25~60g-cm (DECK1, 2)
F.F & REW torque :	70~150g-cm (DECK1, 2)
Back tension :	2~6g-cm (DECK1, 2)
Test tape :	NORMAL : TTA - 600 (TTA - 119K) CrO2 : TTA - 610 (TTA - 119H)

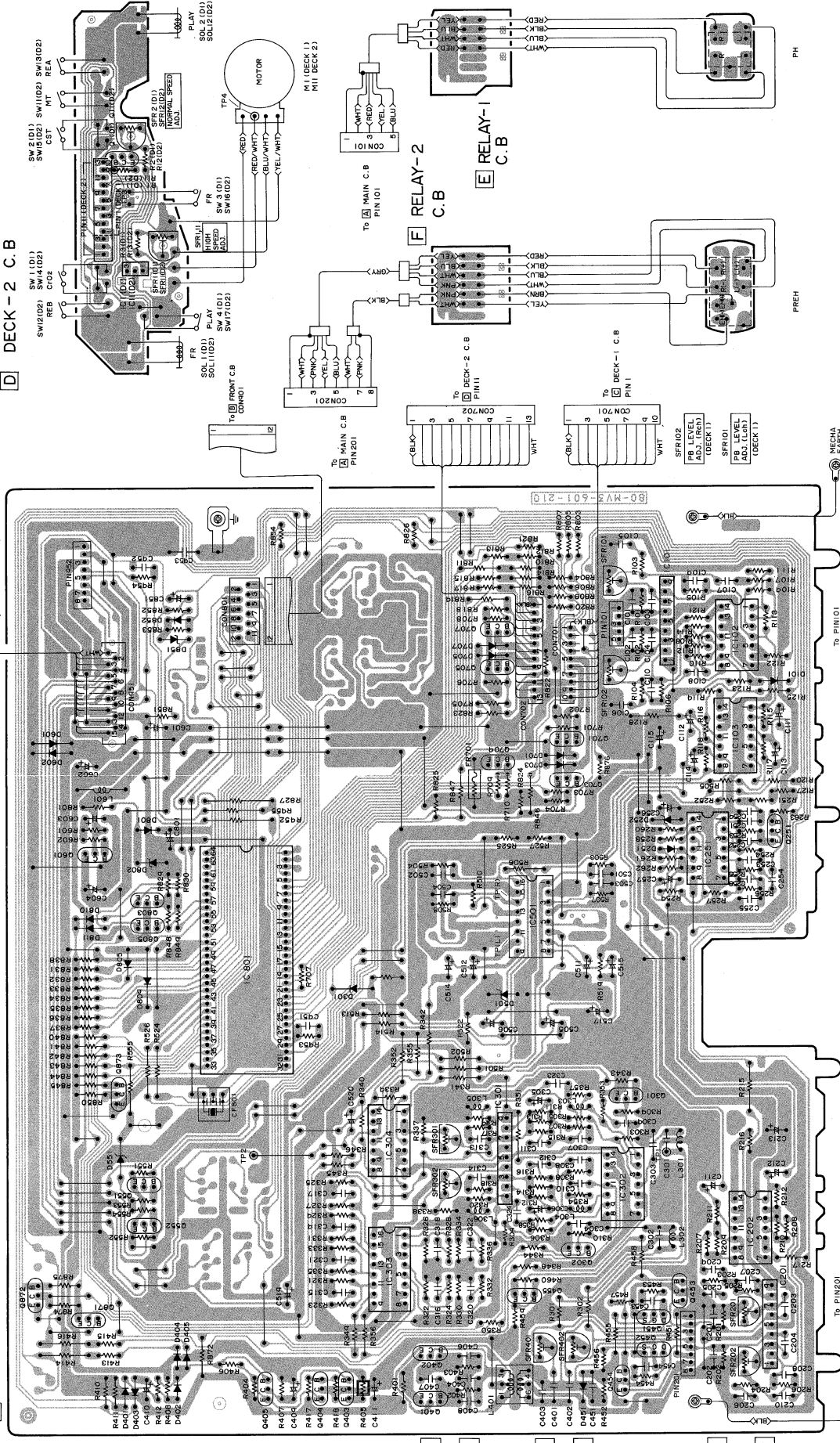
BLOCK DIAGRAM – 2 (FD – N5)

(DECK SECTION)

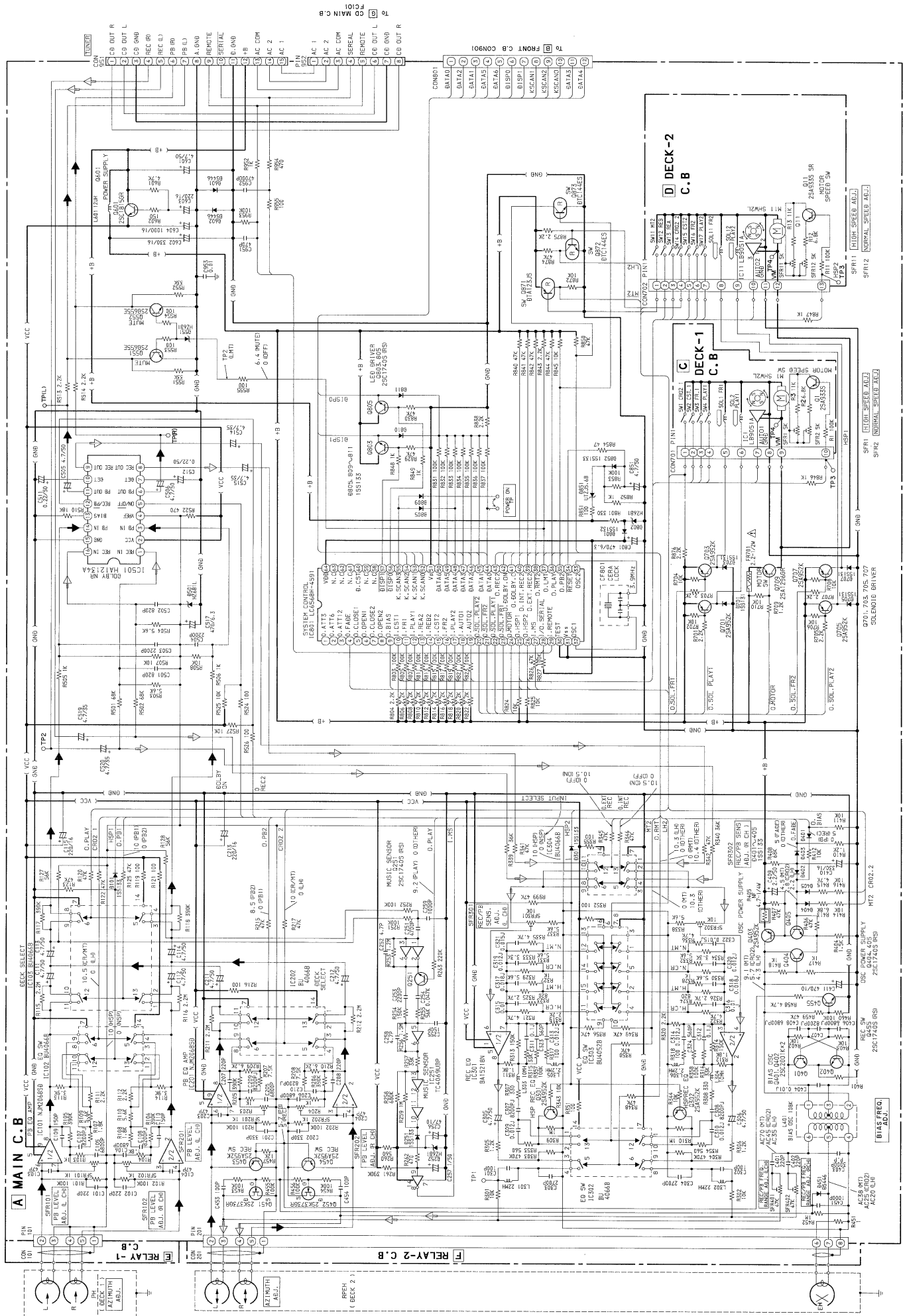


A MAIN C.B

C DECK - 1 C.B
D DECK - 2 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。)



IC DESCRIPTION (FD – N5)

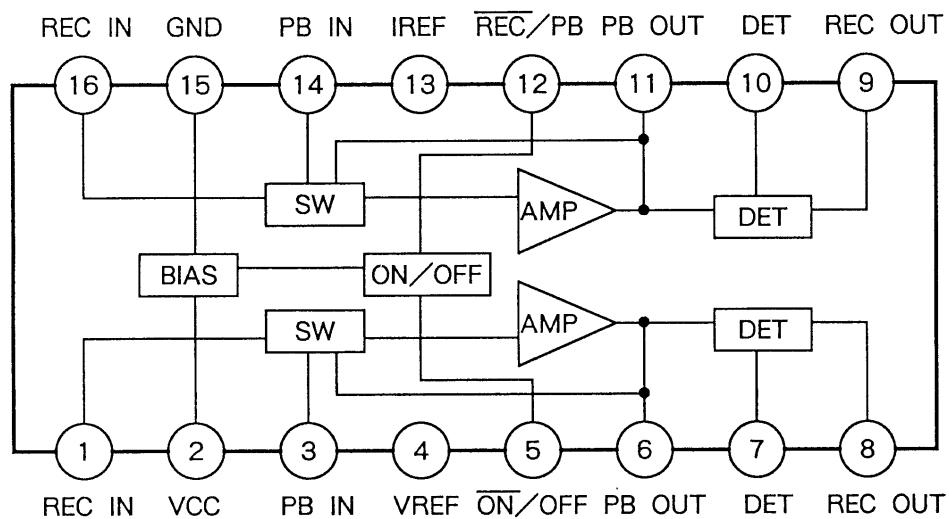
IC, LC6568H – 4591

Pin No.	Pin Name	I/O	Description
1	O • ATT3	O	Input signal level control output from the cross fade. Active "H" (Not used)
2	O • ATT6	O	
3	O • ATT12	O	
4	O • FADE	O	DECK 2 Recording bias oscillation output at the CBRs and cross fade. Active "H".
5	O • CLOSE1	O	DECK 1 Cassette box motor drive control output. Active "H" (Not used)
6	O • OPEN1	O	
7	O • CLOSE2	O	DECK 2 Cassette box motor drive control output. Active "H" (Not used)
8	O • OPEN2	O	
9	O • BIAS	O	DECK 2 Recording bias oscillation output. Goes "H" in the record and dubbing modes.
10	I • CST1	I	DECK 1 Cassette tape detection switching input. Goes "L" switch on.
11	I • FR1	I	DECK 1 FF and FWD detection switching input. Goes "L" FF or RWD switch on.
12	I • PLAY1	I	DECK 1 PLAY detection switching input. Goes "L" PLAY switch on.
13	I • REA2	I	DECK 2 Side A's accidental erasure prevention switch input. Goes "L" when recording is possible.
14	I • REB2	I	DECK 2 Side B's accidental erasure prevention switch input. Goes "L" when recording is possible.
15	I • CST2	I	DECK 2 Cassette tape detection switching input. Goes "L" switch on.
16	I • FR2	I	DECK 2 FF and RWD detection switching input. Goes "L" FF or RWD switch on.
17	I • PLAY2	I	DECK 2 PLAY detection switching input. Goes "L" PLAY switch on.
18	I • AUTO1	I	DECK 1 Reel disk pulse input.
19	I • AUTO2	I	DECK 2 Reel disk pulse input.
20	O • SOL • PLAY2	O	DECK 2 PLAY solenoid drive output. Active "L".
21	O • SOL • FR1	O	DECK 2 FF and RWD solenoid drive output. Active "L".
22	O • SOL • PLAY1	O	DECK 1 PLAY solenoid drive output. Active "L".
23	O • SOL • FR1	O	DECK 1 FF and RWD solenoid drive output. Active "L".
24	O • MOTOR	O	DECK 1/2 Main motor control output. Goes "L" in the STOP mode.
25	O • HSP1	O	DECK 1 High speed control output. Goes "H" in the high speed dubbing mode.
26	O • HSP2	O	DECK 2 High speed control output. Goes "H" in the high speed dubbing mode. (Tape deck and CD)
27	I • MS	I	MS signal input. Active "L".
28	I/O SERIAL	I/O	CD and amplifier serial data input and output.
29	I • REMOTE	I	Remote control serial data input.
30	TEST	–	MPU test pin to be connected to VSS.
31	VSS	–	MPU I/O and power supply common pin.
32	OSC1	–	Pins to generate a 4MHz clock signal.
33	OSC2	–	
34	RESET	I	MPU reset input. Goes "L" input resets the MPU.
35	O • PB2	O	DECK 1/2 PB output level control pin. Goes "H" in the DECK 2 PB.
36	O • PLAY	O	CUE/REVIEW muting and MS sensitivity switching output. Goes "H" PB.
37	O • LMT	O	Record and playback muting output. Active "H".
38	O • RMT2	O	Record muting output. Goes "H" in the REC mute, recording I/O and REC pause.
39	O • EXT • REC2	O	DECK 2 Recording switching output. Goes "H" DECK 1 PB and DECK 2 REC.
40	O • INT • REC2	O	DECK 2 Recording switching output. Goes "H" in the record and dubbing modes. Goes "L" in the O • EXT • REC "H".
41	O • DOLBY C	O	Dolby NR B/C switching output. Goes "H" Dolby C.
42	O • DOLBY ON2	–	Dolby NR ON/OFF switching output. Goes "H" Dolby on.
43	O • REC2	O	Dolby encode/decode switching output. Goes "H" REC, "L" dubbing.

Pin No.	Pin Name	I/O	Description				
			KEY DATA IN				
			K SCAN 0 is "H"	K SCAN 1 is "H"	K SCAN 2 is "H"	DISP 0 lights at "H"	DISP 1 lights at "H"
44	DATA 0	I	PLAY 1 KEY lighths	FF 1 KEY lighths	DOLBY KEY IN	DOLBY B lights	
45	DATA 1	I	RWD 1 KEY IN	H•DUBB KEY IN		R•PLAY 1 lights	CD REC lights
46	DATA 2	I	STOP 1 KEY IN	N•DUBB KEY IN		F•PLAY 1 lights	SYNC DUBB lights
47	DATA 3	I	FF 2 KEY IN	REC 2 KEY IN	REV MODE KEY IN	REC 2 lights	↔
48	DATA 4	I	PLAY 2 KEY IN	PAUSE 2 KEY IN		PAUSE 2 lights	↪
49	DATA 5	I	RWD 2 KEY IN			F•PLAY 2 lights	
50	DATA 6	I	STOP 2 KEY IN	CD.N.REC KEY IN		R•PLAY 2 lights	
51	VP	—	GND				
52	K•SCAN 0	O	KEY SCAN outputs for DATA 0~DATA6.				
53	K•SCAN 1	O					
54	K•SCAN 2	O					
55	K•SCAN 3	O					
56	DISP 0	O	DISP 0 and DISP 1 INDI. output pin.				
57	DISP 1	O					
58 59 61 62 63	NC	—	Not used.				
60	D•CST	—	Cassette box LED display drive output. Power ON → "H", Power OFF → "L"				
64	VDD	—	Power Supply pin.(+5V)				

IC BLOCK DIAGRAM (FD – N5)

IC, HA12134A



IC, CXP50112 – 199Q

Pin No.	Pin Name	I/O	Description
1	SEG 1	O	Display segment output terminal (Pin 12 is not used.)
2	SEG 2		
20	SEG 20		
21	—	—	Not used.
22	—	—	
23	—	—	
24	G1	O	Display grid scan output terminal.
25	G2		
28	G5		
29	SCOR	I	Interrupts at rising edge of subcodes S0 + S1 input
30	TX	—	Not used.
31	TEX	—	Peak search (AD converter) reference clock input (Connected to GND)
32	REST	I	Reset input terminal
33	—	—	Not used.
34	VDD	I	Power supply input terminal(+5V)
35	KEY 1	I	KEY input terminal (Pin 38,39 connected to VDD)
36	KEY 2		
39	KEY 5		
40	O/C	I	Tray open/close input terminal
41	P-SW	I	Power switch input terminal: ON/OFF (STAND BY) selection
42	SYNC I/O	I/O	Synchronizing signal input/output terminal with external equipment (8-bit serial)
43	WDCK	I	Word clock signal input terminal(Not used)
44	SQCK	I	Subcode Q reading clock input terminal
45	GFS		Signal input terminal to indicate the lock state of frame-synchronizing
46	SUBQ		Subcode Q input terminal
47	MUTG	O	Muting output terminal to DSP
48	SENS	I	Connects to SENSE terminal of DSP
49	XRST	O	System reset output terminal
50	DATA		Serial data output terminal to DSP
51	XL T	O	Data latch output terminal
52	CLK		Data transmission clock
53	P. HOLD		Indicates peak search operation. H output during peak searching. (Not used)
54	ADINT		Output terminal of A/D conversion circuit initial and AD START pulse(Not used)
55	COMP	I	A/D conversion timing signal input terminal(Connected to GND)
56	T-PLAY		Timer play mode switch input terminal. Timer play in L.
57	EOP.OFF		Easy operation. OFF in "H" (Note 1)
58	P.S MODE		Peak search mode select input terminal(Connected to GND) H: P.S 1 mode L: P.S 2 mode
59	SP-OFF	O	H output when DSP, SSP, or RF amplifier is off.
60	P.S H-SPD		H output in peak searching(Not used)

P i n N o .	P i n N a m e	I / O	D e s c r i p t i o n
6 1	F O K	I	H input when focus to indicate a state of focus is correct
6 2	R M C	I	42-bit serial remote input
6 3	O P E N	O	H output in tray open output open mode.
6 4	C L O S E		H output in tray close output close mode.
6 5	H. S P D		H output in the high speed mode.
6 6	8 / 1 2		H output when a disc's operation time is 23 minutes or less is used.
6 7	$\overline{\text{LDON}}$	O	L output when ON/OFF output terminal of laser diode is ON.
6 8	M D T		Mode data output terminal(Not used)
6 9	M C K		Mode clock output terminal(Not used)
7 0	$\overline{\text{MLE}}$		Mode latch output terminal(Not used)
7 1	G N D	—	GND
7 2	X T A L	O	Ceramic oscillator connection 4.19 MHz
7 3	—	—	Not used.
7 4	E X T A L	I	Ceramic oscillation connection 4.19 MHz
7 5	V R E F	—	GND
7 6	V F D P	—	Power supply input terminal for FL tube display
7 7	F. B O F F	O	H output when focus bias is off. (Not used)
7 8	E M P		H output when emphasis is ON, independ of Normal/High speed mode.
7 9	A - M U T E		H output when analog mute output is ON.
8 0	$\overline{\text{P-OFF}}$		H output when system ON/OFF output is OFF.

Note 1: EOP means that a tray is opened when NO DISC is received during CD play input (from all the mode) in "EASY OPERATION". Also, it means that the tray is opened when NO DISC is received during Timer set CD input.

("All the mode" means that CD is played with a command of PLAY key input, ten key input, or PLAY with SYNC REC or FUNCTION CD input.)

IC, CXA1082S

Pin No.	Pin Name	I/O	Description
1	DVEE	—	-5V terminal.
2	DFCT	I	Interface input terminal for microcomputer.
3	TE	I	Tracking error signal input terminal.
4	TZC	I	Tracking zero-cross comparator input terminal.
5	ATSC	I	ATSC detection window comparator input terminal.
6	FE	I	Focus error signal input terminal.
7	VC	—	Connected to GND
8	FGD	O	Capacitor is inserted between this pin and pin 3 to decrease the focus servo's high-frequency gain.
9	FS3	I	Focus servo's high-frequency gain is selected by FS3 on/off operation.
10	FLB	O	Time-constant external terminal for raising the focus servo's low-frequency range.
11	FEO	O	Power transistor drive's operational amplifier output terminal.
12	FE	I	Focus amplifier inversion input terminal.
13	SRCH	O	Time-constant external terminal for forming a focus search wave.
14	TG0	O	Time-constant external terminal for tracking high-frequency gain selection.
15	TG2	O	Time-constant external terminal for tracking high-frequency gain selection.
16	AVCC	—	+5V terminal.
17	TAO	O	Tracking error signal output terminal.
18	TA	I	Tracking amplifier's inversion input terminal.
19	SL	I	Threading amplifier's noninversion input terminal.
20	SLO	O	Threading amplifier output terminal.
21	SL	I	Threading amplifier's inversion input terminal.
22	SSTOP	I	Inputs the ON/OFF detection signal of the limit switch which detects the innermost circumference. Fixed at "L" in this unit.
23	FSET	I	Terminal for setting the focus tracking's phase compensation peak and CLV LPF (f0).
24	SENS	O	Outputs IC's internal state corresponding to data address (It is changed according to address of internal serial register.)
25	AVEE		-5V
26	C. OUT	O	Outputs signal for counting number of tracks in high-speed mode.
27	$\overline{\text{DIRECT}}$	I	Used in one-track jump. Normally "H". "L" when track jump pulse is inversed. Consequently "H" when normal tracking mode is set. "L" in a period when the rising and falling edges of TZC are detected.
28	$\overline{\text{XRST}}$	I	"L" when all the internal register are cleared.
29	DATA	I	Serial data transmission from CPU. Input started from LSB.
30	$\overline{\text{XLT}}$	I	"L" when data of internal serial shift register is transmitted to the latch address-decoded.
31	CLK	I	DATA transmission clock. Data is taken in at the falling edge.
32	D GND	—	GND terminal.
33	BW	I	Loop filter's time-constant external terminal. (Not used)
34	PDI	I	CXD1167Q phase comparator output PDO input terminal.
35	ISSET	I	Passes a current to determine the focus search, tracking jump, and threading kick height.

P i n N o .	P i n N a m e	I/O	D e s c r i p t i o n
3 6	V C O F	I	VCO's free-running frequency is proportional to the resistance value between this pin and pin 31.
3 7	3. 5 V		
3 8	C 8 6 4	O	8.64MHz VCO output terminal.
3 9	L O C K	I	Connected to the LOCK terminal of CXD1167Q.
4 0	M D P	I	CXD1167Q MDP connection terminal.
4 1	M O N	I	CXD1167Q MON connection terminal.
4 2	F S W	I	LPF time – constant external terminal of CLV servo's error signal.
4 3	D V C C	—	+5V terminal
4 4	S P D L	I	Spindle drive amplifier's inversion input terminal.
4 5	S P D L O	O	Spindle motor drive terminal.
4 6	W D C K	I	Word clock signal input terminal.
4 7	F O K	I	Focus OK signal input terminal.
4 8	M I R R	I	Mirror signal input terminal

IC, CXA1081S

Pin No.	Pin Name	I/O	Description
1	RFI	I	The RF summing amplifier output is C-connected and input.
2	RF0	O	RF summing amplifier output. Eye pattern test point.
3	RFE	I	Inverting input of the RF summing amplifier. A feedback resistor is connected between pins 2 and 3.
4	P/N	I	Switches the input according to the polarity of the laser diode. (Note used)
5	LD	O	Output to control the laser diode output.
6	PD	I	Connects the photo-detector which detects the laser diode output.
7	PD1	I	RFI-V amplifier (1) inverting input. Connected to PIN diode A + C for the current input.
8	PD2	I	RFI-1 amplifier (2) inverting input. Connected to PIN diode B + D for the current input.
9	VC	I	Reference voltage input within the IC. Connected to pin 14 with single power supply. Connected to the ground with the positive and negative power supply.
10	F	I	FI-V amplifier inverting input. Connected to PIN diode F for the current input.
11	E	I	EI-V amplifier inverting input. Connected to PIN diode E for the current input.
12	EO	O	EI-V amplifier output. A feedback resistor is connected.
13	EI	I	Adjusts the EI-V amplifier gain.
14	VR	O	Outputs the neutral voltage. Connected to pin 9 with the single powersupply. OPEN with positive and negative power supply.
15	CC2	O	Defect bottom hold (1) output. A capacitor is connected between pins 15 and 16.
16	CC1	I	The defect bottom (1) output is C-connected and input.
17	VEE	—	Grounded with the single power supply. Becomes a negative power supply with the positive and negative power supply. (-5V)
18	FE BIAS	I	Inputs a bias voltage for the positive-phase input of the focus error amplifier.
19	FE	O	Focus error amplifier output.
20	TE	O	Tracking error amplifier output.
21	DEFECT	O	Defect detection output. Outputs the H ⁺ signal that detects a defect on the mirror surface.
22	MIRR	O	Mirror comparator output.
23	CP	O	A mirror hold capacitor is connected to this pin.
24	CB	O	The defect bottom hold (2) capacitor is connected to this pin.
25	DGND	—	Ground in the digital circuit.
26	ASY	I	Auto-symmetry control input.
27	EFM	O	EFM output comparator output.
28	FOK	O	Focus OK output.
29	LD ON	I	Laser diode ON/OFF control input.
30	VCC	—	Positive power supply (+5V)

IC, LC7883

Pin no	Pin name	I / O	Description
1	CH1OUT	I	DAC CH – 1 output.
2	VREF H	I	Reference voltage "H" input.(+ 5V)
3	AVDD	—	Power supply pin of analog circuits.(+ 5V)
4	DVDD	—	Power supply pin of digital circuits.(+ 5V)
5	BLACK	I	Bit clock input.
6	DATA	I	Digital audio data input. The data is input bit – serial from the MSB.
7	LRCK	I	LR clock input.
8	TEST	I	Test pin (normally, "L") (Connected to GND)
9	$\overline{ATT}$	I	Attenuator data input. The data is input bit – serial from the LSB. (Connected to GND)
10	SHIFT	I	Attenuator data transfer clock input. (Connected to GND)
11	LATCH	I	Attenuator data latch clock input. (Connected to GND)
12	INITB	I	Initializing signal input (normally, "H")
13	TEST	—	Unused (Connected to GND)
14	EMPH2	I	Deemphasis setting pins (Connected to GND)
15	EMPH1	I	Deemphasis setting pins
16	D / N	I	Hi – speed / standard speed switching
17	SOC2	I	Input source select pins (PULL DOWN) (Connected to GND)
18	SOC1	I	Input source select pins (PULL DOWN) (Connected to GND)
19	MODE	I	Operation mode setting pins setting pins (PULL DOWN) Test pins (normally, "H") (PULL DOWN)
20	TEST	I	Operation mode setting pins setting pins (PULL DOWN) Test pins (normally, "H") (PULL DOWN) (Connected to GND)
21	TEST	I	Operation mode setting pins setting pins (PULL DOWN) Test pins (normally, "H") (PULL DOWN) (Connected to GND)
22	DGND	—	Ground pin of digital circuits
23	CLKOUT	O	Clock output (Not used)
24	XIN	I	Crystal oscillator input
25	XOUT	O	Crystal oscillator output
26	AGND	—	Ground pin of analog circuits
27	VREF L	I	Reference voltage "L" input (Connected to GND)
28	CH2OUT	O	DAC CH – 2 output

IC, CXD1167Q

Pin No.	Pin Name	I/O	Description
1	FSW	O	Output to switch the time constant of the spindle motor output filter.
2	MON	O	Spindle motor on/off control output.
3	MDP	O	Spindle motor drive output. Coarse control in the CLV.S mode and phase control in the CLV.P mode.
4	MDS	O	Spindle motor drive output. Speed control in the CLV.S mode.
5	EFM	I	Inputs an EFM signal from the RF amplifier.
6	ASY	O	Output to control the slice level of the EFM signal.
7	LOCK	O	The GFS signal is sampled by the WFCK/16. When the GFS signal is "H", this pin outputs "H", and when the signal is "L" 8 times continuously, it outputs "L".
8	VCOO	O	VCO output. When this is locked to the EFM signal. $f = 8.6436\text{MHz}$
9	VCOI	I	VCO input.
10	TEST	—	Connected to GND. (0V)
11	PDO	O	Phase comparison output between the EFM signal and VCO/2.
12	VSS	—	Connected to GND. (0V)
13	CLK	I	Inputs a clock signal for the serial data transfer from CPU. Latches data at the rise of the clock signal.
14	XLT	I	Latch input from CPU. Latches 8-bit shift register data (serial data from CPU) to each register.
15	DATA	I	Inputs serial data from CPU.
16	$\overline{\text{XRST}}$	I	System reset input. The system is reset at "L" input.
17	CNIN	I	Tracking pulse input.
18	SENSE	O	Outputs the internal state according to the address.
19	MUTG	I	Muting input. When the ATTM in the internal register is "L", the system is in the normal state if the MUTG is "L" and the sound is muted if the MUTG is "H".
20	CRCF	O	Outputs the CRC checking result of sub-code Q. (Reserved)
21	EXCK	I	Clock input for the sub-code serial output. (Connected to GND)
22	SBSO	O	Sub-code serial output. (Reserved)
23	SUBQ	O	Sub-code Q output.
24	SCOR	O	Sub-code sync S0 + S1 output.
25	SQCK	I/O	Clock signal for reading of sub-code Q.
26	SQEX	I	SQCK select input. (Connected to +5V)
27	WFCK	O	Digital audio interface output. (Reserved)
28	GFS	O	Display output of the frame sync locking state. Goes "H" when locked.
29 }	TEST (DB08) }	—	Connected to GND. (Do not open.) Data terminal of external RAM.
32	TEST (DB05)	—	
33	VDD	—	Power supply (+5V)
34 }	TEST (DB04) }	—	Connected to GND. (Do not open.) Data terminal of the external RAM.
37	TEST (DB01)	—	

Pin No.	Pin Name	I/O	Description
38 { 48	TEST (RA01) TEST (RA11)	—	Connected to GND. (Do not open.) Address output of the external RAM.
49	TEST ($\overline{\text{RAWE}}$)	—	Connected to GND (Do not open) Write Enable output of the external RAM
50	TEST ($\overline{\text{RACS}}$)	—	Connected to GND (Do not open) Chip Select output of the external RAM
51	C4M	O	1/2 division output of the crystal oscillator. $f = 4.2336\text{MHz}$ (Reserved)
52	VSS	—	Connected to GND. (0V)
53	XTAI	I	Crystal oscillator input. $f = 8.4672\text{MHz}$
54	XTAO	O	Crystal oscillator output. $f = 8.4672\text{MHz}$ (Reserved)
55	MD1	I	Mode select input 1 used at "H" Mode select input 2 used at "L" Mode select input 3 used at "H" Mode Used in the mode with the clock frequency 8.4672MHz, the digital output OFF. the digital filter ON.
56	MD2	I	
57	MD3	I	
58	SLOB	I	Input to switch the code of the audio data output. "L" causes the 2 second complement output and "H" causes the offset binary output. (Connected to GND.)
59	PSSL	I	Input to switch the mode of the audio data output. "L" causes serial output and "H" causes parallel output. (Connected to GND.)
60	APTR	O	Aperture correction control output. 44.1kHz with the filter OFF. (Reserved)
61	APTL	O	Aperture correction control output. 44.1kHz with the filter OFF. (Reserved)
62	DA01 (C1F1)	O	DA01(LSB of parallel audio data) output with PSSL = "H". C1F1 output with PSSL = "L". (Reserved)
63	DA02 (C1F2)	O	DA02 output with PSSL = "H". C1F2 output with PSSL = "L". (Reserved)
64	DA03 (C2F1)	O	DA03 output with PSSL = "H". C2F1 output with PSSL = "L". (Reserved)
65	DA04 (C2F2)	O	DA04 output with PSSL = "H". C2F2 output with PSSL = "L". (Reserved)
66	DA05 (C2FL)	O	DA05 output with PSSL = "H". C2FL output with PSSL = "L". (Reserved)
67	DA06 (C2PO)	O	DA06 output with PSSL = "H". C2PO output with PSSL = "L". (Reserved)
68	DA07 (RFCK)	O	DA07 output with PSSL = "H". RFCK output with PSSL = "L". (Reserved)
69	DA08 (WFCK)	O	DA08 output with PSSL = "H". WFCK output with PSSL = "L". (Reserved)
70	DA09 ($\overline{\text{PLCK}}$)	O	DA09 output with PSSL = "H". PLCK output with PSSL = "L". (Note 1)(Reserved)
71	DA10 (VGFS)	O	DA10 output with PSSL = "H". VGFS output with PSSL = "L". (Reserved)
72	DA11 (GTOP)	O	DA11 output with PSSL = "H". GTOP output with PSSL = "L". (Reserved)
73	VDD	—	Power supply (+5V)
74	DA12 ($\overline{\text{RAOV}}$)	O	DA12 output with PSSL = "H". RAOV output with PSSL = "L". (Reserved)
75	DA13 (C4LR)	O	DA13 output with PSSL = "H". C4LR output with PSSL = "L". (Reserved)
76	DA14 (C210)	O	DA14 output with PSSL = "H". C210 output with PSSL = "L".
77	DA15 (C210)	O	DA15 output with PSSL = "H". C210 output with PSSL = "L". (Note 2)(Reserved)
78	DA16 (DATA)	O	DA16(MSB of parallel audio data) output with PSSL = "H".
79	WDCK	O	Strobe signal output. 88.2kHz with the filter OFF.
80	LRCK	O	Strobe signal output. 44.1kHz with the filter OFF.

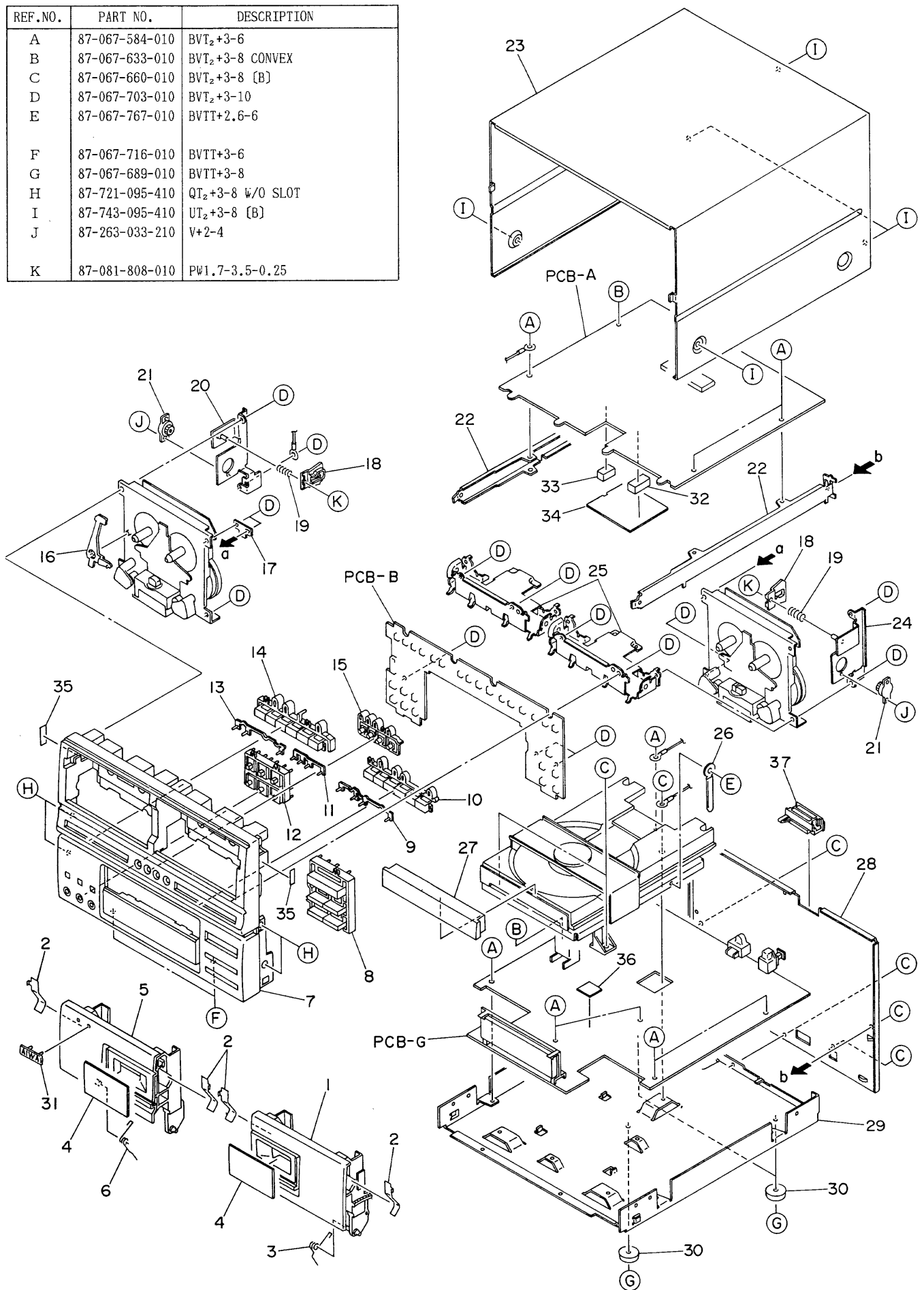
Note 1) $\overline{\text{PLCK}}$: VCO/2 output. When locked to the EFM signal, $f = 4.3218\text{MHz}$

Note 2) C210 : Bit clock signal, $f = 2.1168\text{MHz}$

Note 3) DATA: Audio signal serial data output

EXPLODED VIEW – 1 (FD – N5)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-584-010	BVT ₂ +3-6
B	87-067-633-010	BVT ₂ +3-8 CONVEX
C	87-067-660-010	BVT ₂ +3-8 [B]
D	87-067-703-010	BVT ₂ +3-10
E	87-067-767-010	BVTT+2.6-6
F	87-067-716-010	BVTT+3-6
G	87-067-689-010	BVTT+3-8
H	87-721-095-410	QT ₂ +3-8 W/O SLOT
I	87-743-095-410	UT ₂ +3-8 [B]
J	87-263-033-210	V+2-4
K	87-081-808-010	PW1.7-3.5-0.25

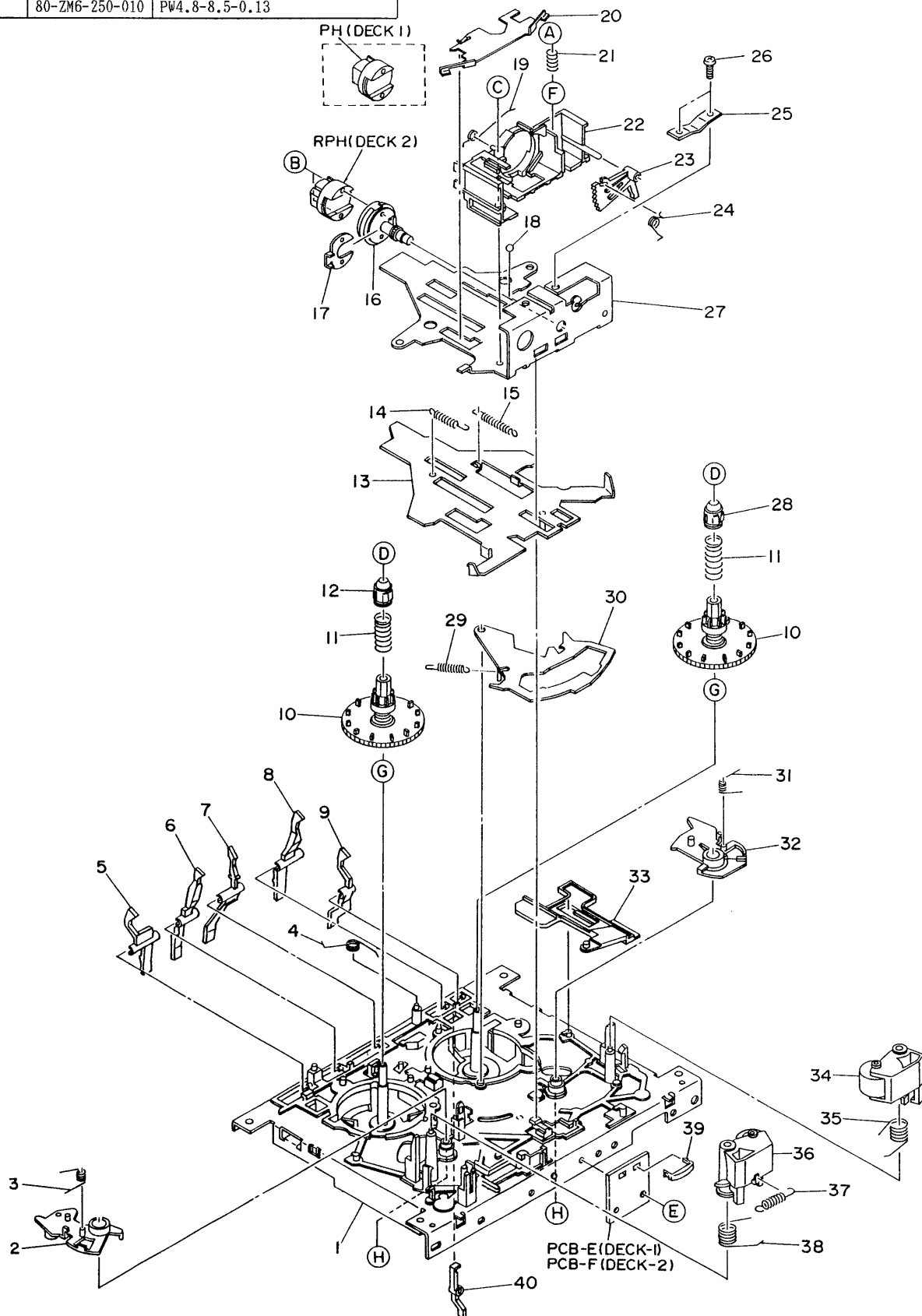


MECHANICAL PARTS LIST (FD - N5)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
1-1	★	80-MV3-004-019	BOX, CASSETTE R	*	1
1-2	★	82-202-217-110	P-SPRING, CASSETTE HOLDER		4
1-3	★	80-MV3-207-019	T-SPRING, EJECT 1	*	1
1-4	★	80-MV3-012-019	WINDOW, DECK 1	*	2
1-5	★	80-MV3-023-019	BOX, CASSETTE L	*	1
1-6	★	80-MV3-208-019	T-SPRING, EJECT 2	*	1
1-7	★	09-047-650-010	CABINET FRONT ASSY(YK)	*	1
1-7	★	09-047-651-010	CABINET FRONT ASSY(YU, YC)	*	1
1-8	★	80-MV3-006-019	KEY, CD PLAY	*	1
1-9	★	80-MV3-015-019	INDICATOR, DECK 2	*	1
1-10	★	80-MV3-008-019	KEY, DECK 2 (Y)	*	1
1-10	★	80-MV3-032-019	KEY, DECK 2 (YU, YC, YK)	*	1
1-11	★	80-MV3-016-019	INDICATOR, DOLBY	*	1
1-12	★	80-MV3-005-019	KEY, CD EDIT	*	1
1-13	★	80-MV3-014-019	INDICATOR, DECK 1	*	1
1-14	★	80-MV3-007-019	KEY, DECK 1 (Y)	*	1
1-14	★	80-MV3-031-019	KEY, DECK 1 (YU, UC, YK)	*	1
1-15	★	80-MV3-009-019	KEY, DOLBY (Y)	*	1
1-15	★	80-MV3-033-019	KEY, DOLBY (YU, YC, YK)	*	1
1-16	★	86-535-242-210	LEVER, EJECT L		1
1-17	★	80-MV3-214-010	PLATE, MECHANISM	*	1
1-18	★	80-CD3-233-010	PLATE, LOCK		2
1-19	★	80-MV3-218-019	C-SPRING, LOCK	*	2
1-20	★	80-MV3-201-019	HOLDER, LOCK 1 ASSY	*	1
1-21	★	87-063-151-010	OIL-DAMPER 37 SLIM		2
1-22	---	---	HOLDER, PCB		2
1-23	★	80-MV3-017-019	CABINET, STEEL (YJ, YU, YC)	*	1
1-23	★	80-MV3-038-018	CABINET, STEEL (Y, YK)	*	1
1-24	★	80-MV3-204-019	HOLDER, LOCK 2 ASSY	*	1
1-25	---	---	HOLDER, MECHANISM		2
1-26	---	---	WIRE BINDER		1
1-27	★	80-MV3-039-019	PANEL, TRAY	*	1
1-28	★	80-MV3-025-010	PANEL, REAR (YN)	*	1
1-28	★	80-MV3-030-010	PANEL, REAR (YJ)	*	1
1-28	★	80-MV3-028-010	PANEL, REAR (YNE)	*	1
1-28	★	80-MV3-029-010	PANEL, REAR (YK)	*	1
1-28	★	80-MV3-026-019	PANEL, REAR (YU)	*	1
1-28	★	80-MV3-027-019	PANEL, REAR (YC)	*	1
1-29	---	---	CHASSIS, MAIN		1
1-30	★	87-085-218-010	FOOT, H5		3
1-31	★	84-764-009-119	BADGE, AIWA		1
1-32	★	87-063-156-010	S CUSHION, 15-35-10 (Y, YK)		1
1-32	★	87-063-158-019	S CUSHION, 15-35-10 (YU, YC)		1
1-33	★	87-063-157-010	S CUSHION, 14-20-10 (Y, YK)		1
1-33	★	87-063-159-019	S CUSHION, 14-20-10 (YU, YC)		1
1-34	★	80-MV3-215-010	PLATE, SHIELD	*	1
1-35	★	80-MV3-217-019	SHEET, 24-10-0.2	*	2
1-36	★	80-HJ4-620-019	SHEET, CONTACT-A		1
1-37	★	89-VT5-202-019	BUSHING, CORD		1

EXPLODED VIEW - 2 (FD - N5)

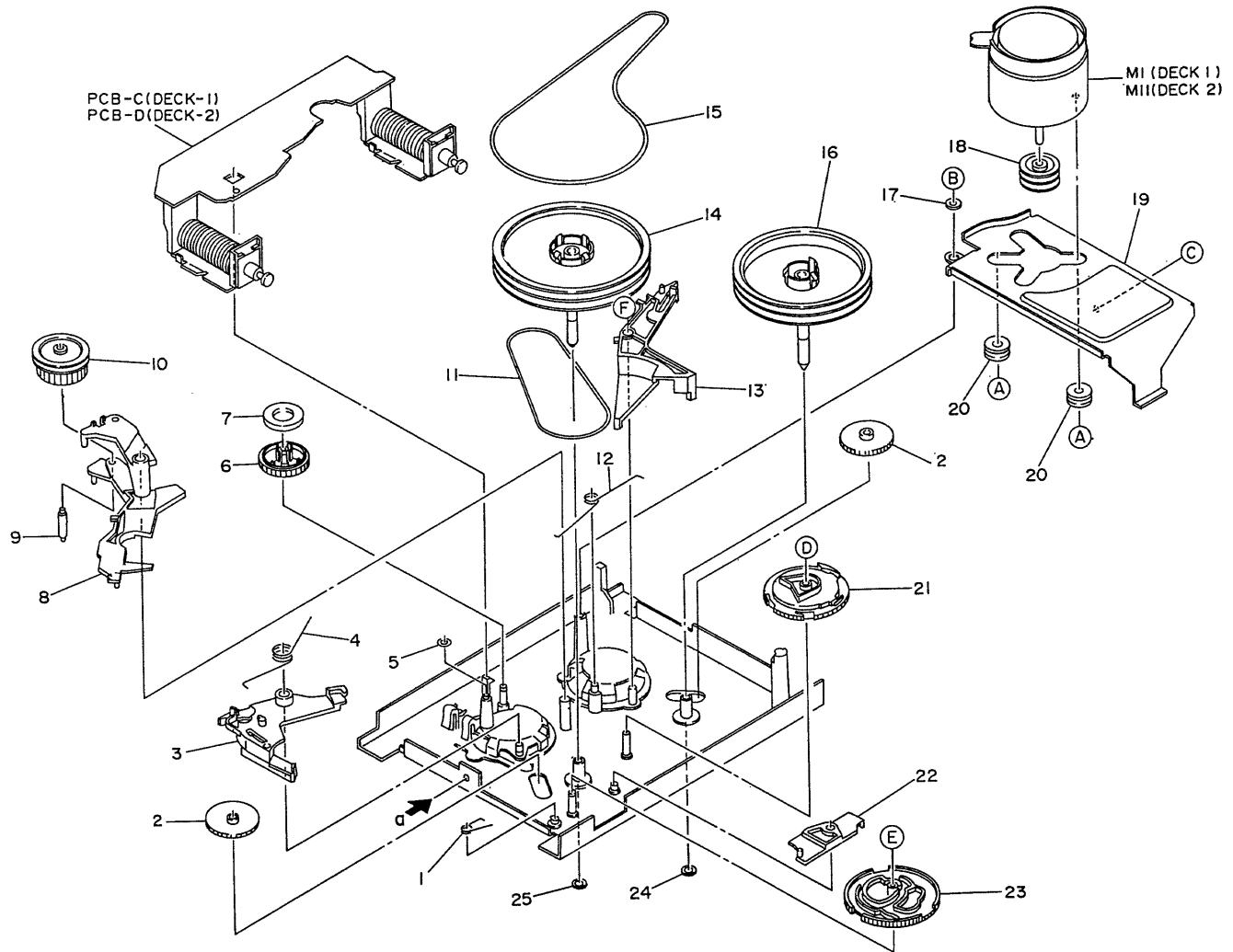
REF.NO.	PART NO.	DESCRIPTION
A	87-251-036-210	U+2-8
B	80-ZM6-207-010	V+1.6-7
C	87-263-033-110	V+2-4
D	86-524-418-010	VFT ₂ +1.4-5
E	87-067-174-010	VTT+2-4
F	87-067-804-010	PW2.23-4.7-0.5
G	87-067-470-010	PW4.1-6.9-0.13 CPANL
H	80-ZM6-250-010	PW4.8-8.5-0.13



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	2-1	★ 80-ZM6-201-010	CHASSIS ASSY B		1
	2-2	★ 86-535-239-110	LEVER, PLAY R		1
	2-3	★ 86-535-283-010	T-SPRING, PLAY GEAR R		1
	2-4	★ 80-ZM6-206-010	T-SPRING, CASSETTE		1
	2-5	★ 86-575-322-010	LEVER, REC A (D2)	*	1
	2-6	★ 86-575-325-010	LEVER, METAL (D2)	*	1
	2-7	★ 86-575-324-010	LEVER, CASSETTE	*	1
	2-8	★ 86-575-327-110	LEVER, CLOME	*	1
	2-9	★ 86-575-323-010	LEVER, REC B (D2)	*	1
	2-10	86-575-330-010	GEAR REEL ASSY	*	2
	2-11	★ 86-535-293-010	C-SPRING, REEL TABLE		2
	2-12	★ 86-524-218-119	STOPPER, S REEL TABLE		1
	2-13	★ 86-535-215-310	SLIDE PLATE ASSY		1
	2-14	★ 86-535-285-010	E-SPRING, SLIDE		1
	2-15	★ 86-575-226-010	E-SPRING, HEAD CHASSIS	*	1
	2-16	86-575-306-110	HOLDER, HOUSING	*	1
	2-17	★ 86-575-305-010	PLATE, HOUSING	*	1
	2-18	★ 87-073-018-010	BOARD, STEEL 1.588		1
	2-19	★ 86-575-310-110	T-SPRING, HEAD	*	1
	2-20	★ 86-575-347-010	P-SPRING, HEAD 2	*	1
	2-21	★ 86-541-318-110	C-SPRING, AZIMUTH		1
	2-22	86-575-288-210	GUIDE, TAPE	*	1
	2-23	★ 86-575-290-010	GEAR, SEGUMENT	*	1
	2-24	★ 80-ZM6-229-010	T-SPRING, SEGUMENT GEAR 2		1
	2-25	★ 86-575-343-110	P-SPRING, AZIMUTH 2	*	1
	2-26	★ 86-535-297-010	SCREW, AZIMUTH 3H		2
	2-27	★ 86-575-311-110	CHASSIS, HEAD	*	1
	2-28	★ 86-524-233-119	STOPPER, T REEL PLATE		1
	2-29	★ 86-535-284-010	E-SPRING, DIRECTION LEVER		1
	2-30	★ 86-535-218-210	DIRECTION LEVER ASSY		1
	2-31	★ 86-535-282-010	T-SPRING, PLAY GEAR F		1
	2-32	★ 86-535-238-210	LEVER, PLAY F		1
	2-33	★ 86-575-345-010	LEVER, SW2	*	1
	2-34	★ 86-535-226-210	PINCH LEVER ASSY F		1
	2-35	★ 86-575-222-110	T-SPRING, PINCH ROLLER F	*	1
	2-36	★ 86-535-228-310	PINCH LEVER ASSY R		1
	2-37	★ 86-575-339-010	E-SPRING, PINCH 22	*	1
	2-38	★ 86-575-341-010	T-SPRING, PINCH L	*	1
	2-39	★ 86-575-342-010	HOLDER, WIRE 2	*	1
	2-40	★ 86-575-326-010	LEVER, RINK	*	1

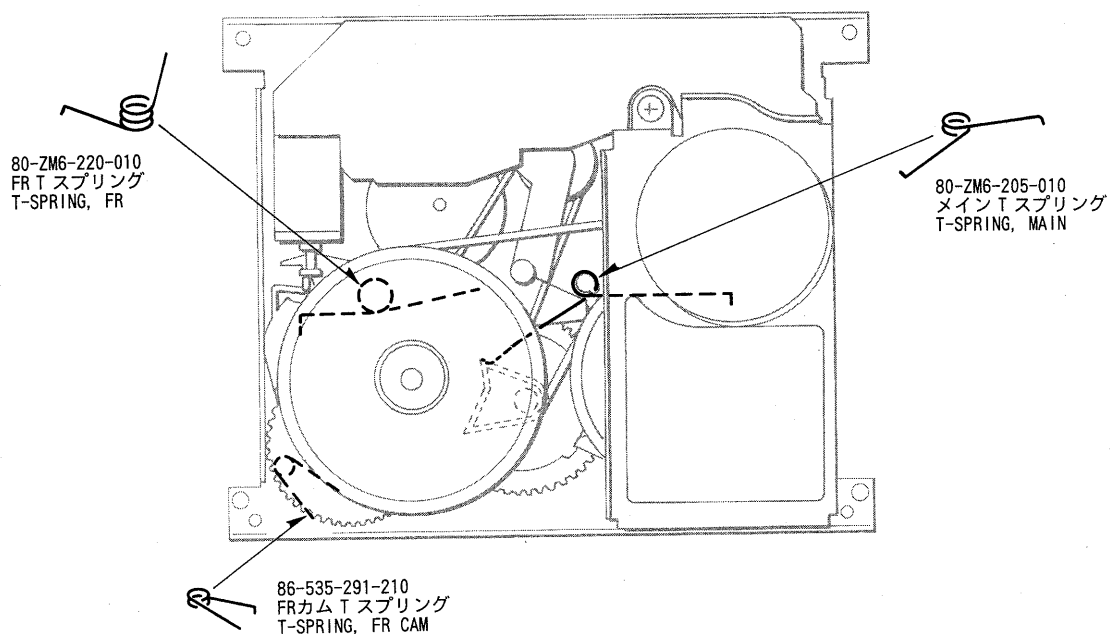
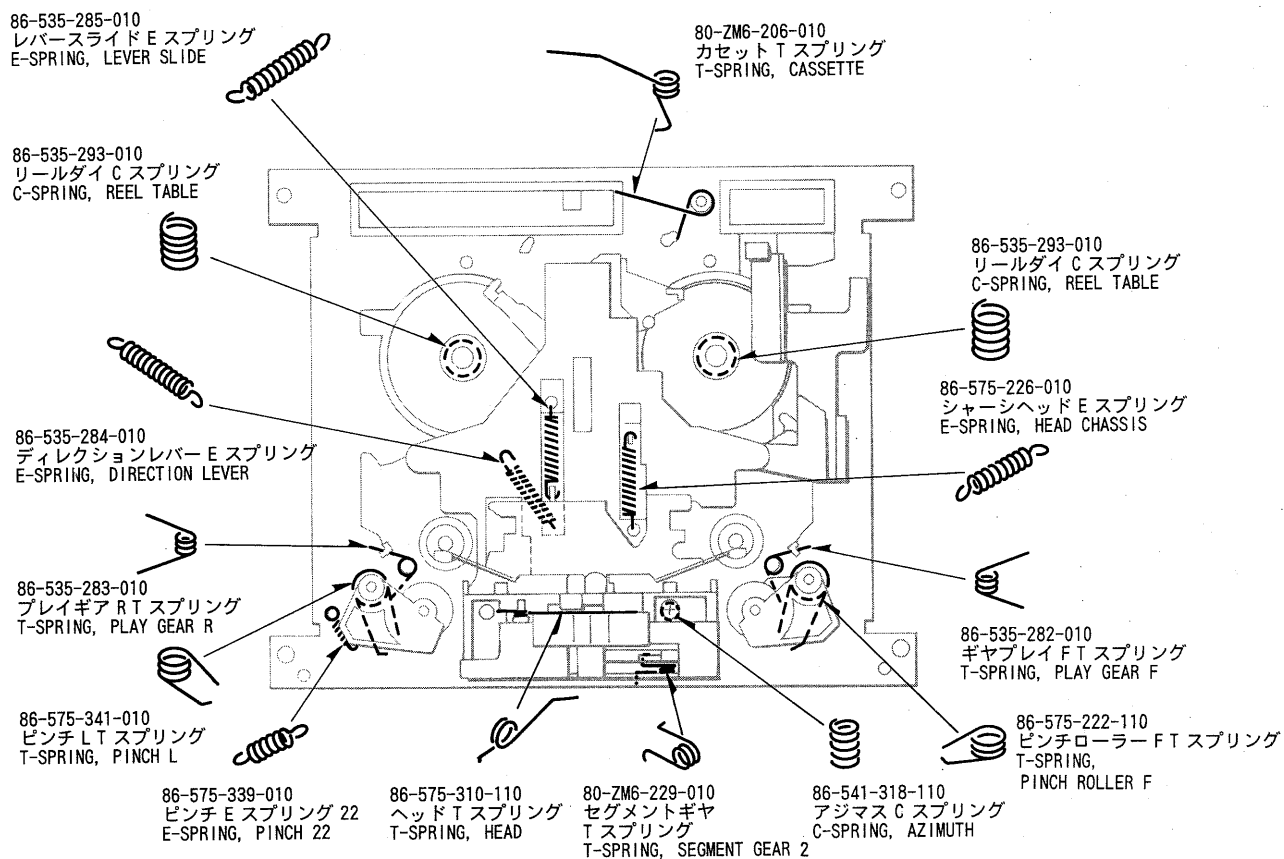
EXPLODED VIEW – 3 (FD – N5)

REF.NO.	PART NO.	DESCRIPTION
A	86-524-457-010	U+2.6-5.5
B	87-741-073-410	UT ₂ +2.6-6
C	87-081-501-010	VTT+2.6-4
D	87-081-489-010	PW1.7-3.5-0.25 SLOT
E	87-067-380-010	PW1.7-7-0.5
F	80-ZM6-211-010	PW2.68-4.15-0.3 SLOT



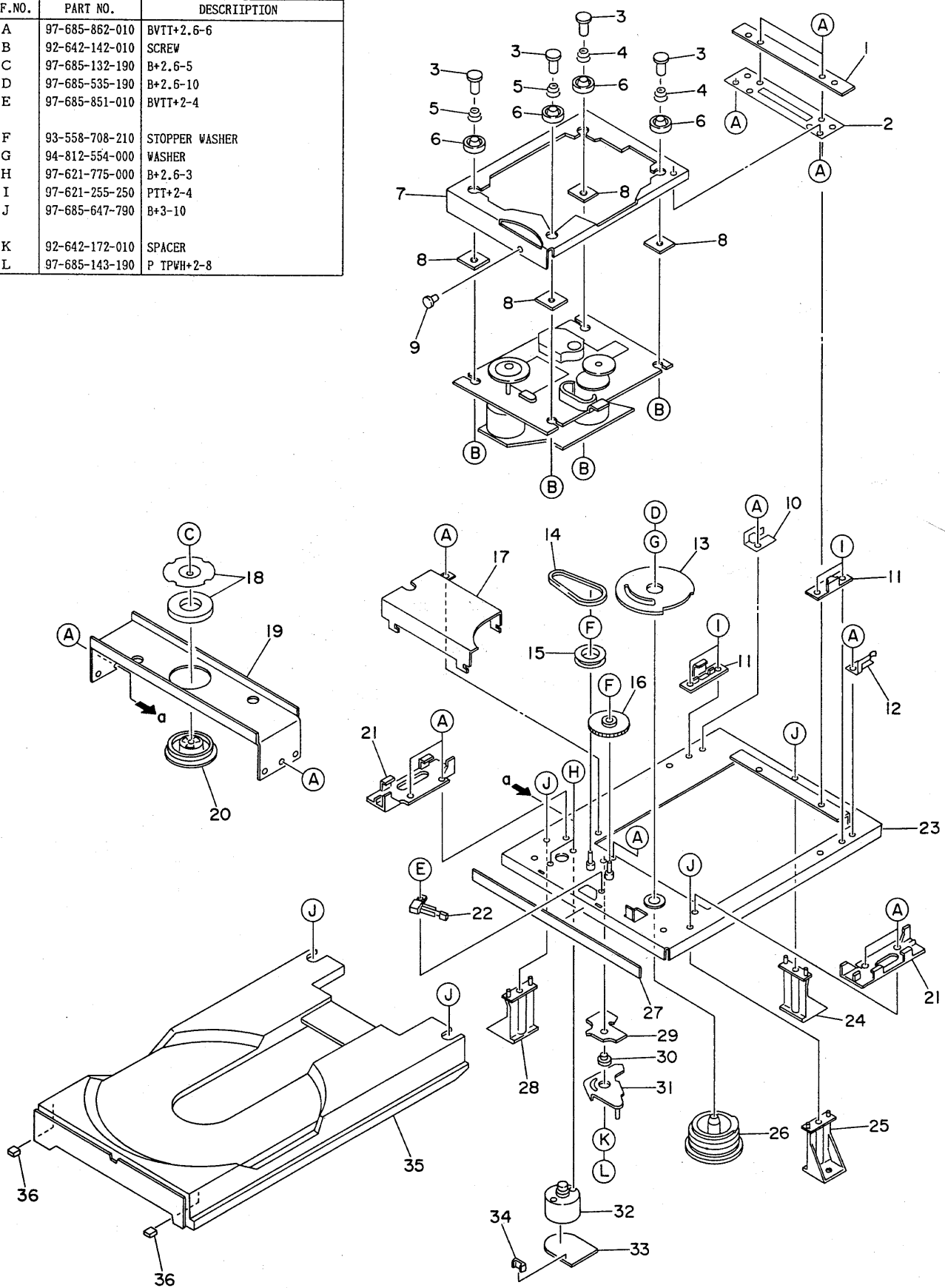
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	3-1	★ 86-535-291-010	T-SPRING, FR CAM		1
	3-2	★ 86-575-221-210	GEAR, PLAY	*	2
	3-3	★ 86-535-230-410	LEVER, PLAY TRIGGER		1
	3-4	★ 80-ZM6-220-010	T-SPRING, FR2		1
	3-5	★ 86-535-387-010	MYLAR, 2. 3-5-0. 88		1
	3-6	★ 86-575-328-010	GEAR, IDLER	*	1
	3-7	★ 80-ZM6-217-010	RING, MAGNET 2		1
	3-8	★ 80-ZM6-218-010	LEVER, FR2		1
	3-9	★ 80-ZM6-222-010	SHAFT, PULLY FR		1
	3-10	★ 80-ZM6-221-010	GEAR, FR2		1
	3-11	★ 80-ZM6-227-110	BELT, SQ 1. 2-140		1
	3-12	★ 80-ZM6-205-010	T-SPRING, MAIN		1
	3-13	★ 86-535-231-310	LEVER, PLAY TRIGGER		1
	3-14	80-ZM6-208-110	FLYWHEEL, ASSY 1. 1		1
	3-15	86-575-302-110	BELT, SQ 1. 3-213	*	1
	3-16	80-ZM6-203-010	FLAYWHEEL ASSY R1		1
	3-17	★ 80-ZM6-246-010	COLLAR, MOTOR		1
	3-18	★ 80-ZM6-228-110	PULLY, MOTOR 2		1
	3-19	★ 86-575-301-010	HOLDER, MOTOR	*	1
	3-20	★ 86-513-441-110	COLLAR		2
	3-21	★ 86-575-312-010	CAM, MAIN	*	1
	3-22	---	LEVER, PAUSE		1
	3-23	★ 80-ZM6-219-010	CAM, FR MK2 2M		1
	3-24	★ 80-ZM6-243-010	SHEET, 1. 75-3. 6-0. 5		1
	3-25	★ 80-ZM6-242-010	SHEET, 1. 95-3. 6-0. 5		1

SPRING APPLICATION POSITION (FD - N5)



EXPLODED VIEW - 4 (FD - N5)

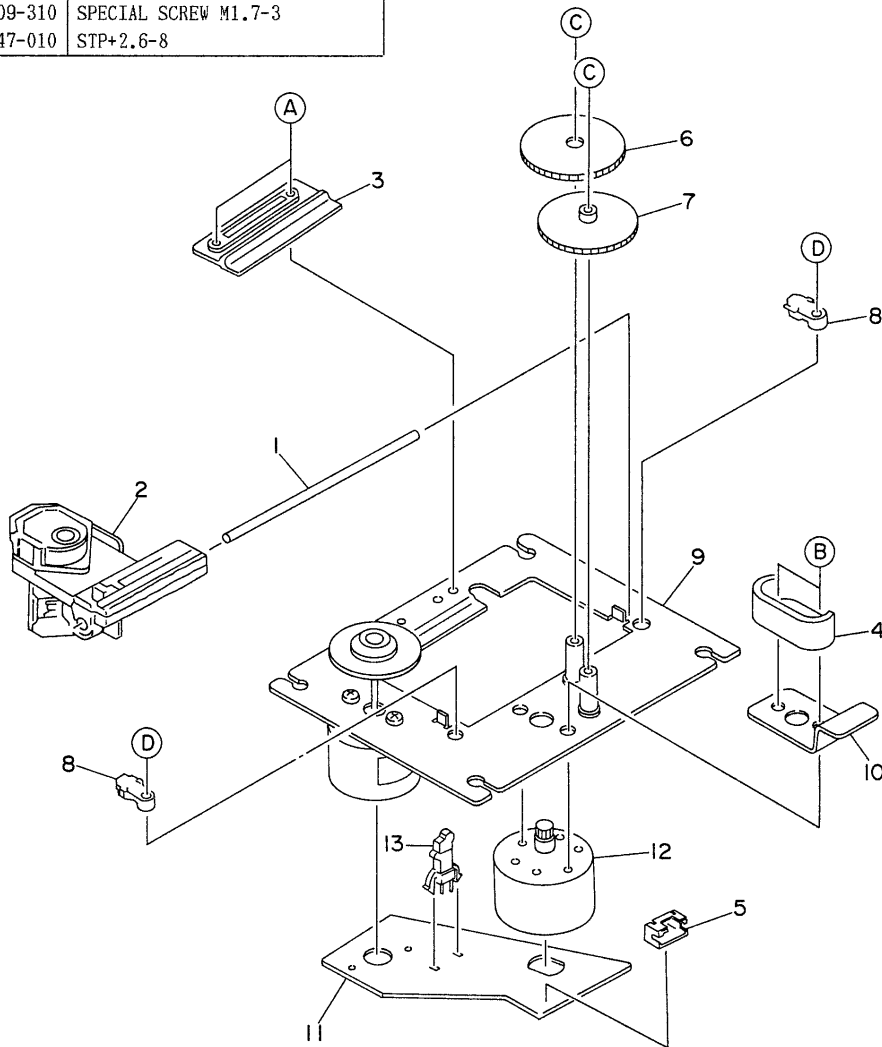
REF.NO.	PART NO.	DESCRIPTION
A	97-685-862-010	BVTT+2.6-6
B	92-642-142-010	SCREW
C	97-685-132-190	B+2.6-5
D	97-685-535-190	B+2.6-10
E	97-685-851-010	BVTT+2-4
F	93-558-708-210	STOPPER WASHER
G	94-812-554-000	WASHER
H	97-621-775-000	B+2.6-3
I	97-621-255-250	PTT+2-4
J	97-685-647-790	B+3-10
K	92-642-172-010	SPACER
L	97-685-143-190	P TPVH+2-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
4-1	★	92-642-170-010	HOLDER, HINGE		1
4-2	★	92-642-164-010	SPRING, HINGE		1
4-3	★	92-642-160-010	SHAFT, SPRING T		4
4-4	★	92-642-137-010	SPRING, COIL B		2
4-5	★	92-642-139-010	SPRING, COIL A		2
4-6	★	92-642-158-010	FOOT, C		4
4-7	★	9X-264-210-510	SPRING SUB CHASSIS ASSY		1
4-8	★	92-642-159-010	PLATE, SPRING T		4
4-9	★	92-642-169-010	ROLLER		1
4-10	★	92-642-147-010	GUIDE, TRAY L		1
4-11	★	92-042-102-030	HOLDER, TRAY		2
4-12	★	92-642-146-010	GUIDE, TRAY R		1
4-13	★	92-642-154-020	GEAR, SPRING DRIVE		1
4-14	★	93-053-307-010	BELT, LM		1
4-15	★	94-913-731-010	PULLEY, LOADING		1
4-16	★	92-642-148-010	GEAR, SPRING RELAY		1
4-17	★	92-642-149-010	COVER, SPRING GEAR		1
4-18	★	9X-264-210-810	MAGNET ASSY		1
4-19	★	92-642-165-010	CHASSIS, CHUCK		1
4-20	★	92-642-181-010	PULLEY, CHUCKING		1
4-21	★	92-642-161-010	HOLDER, FRONT TRAY		2
4-22	★	91-572-052-110	SWITCH, LEAF (OPEN/CLOSE)		1
4-23	★	9X-264-210-610	SPRING MAIN CHASSIS ASSY		1
4-24	★	92-642-512-010	HOLDER, MD BOSS REAR		1
4-25	★	92-642-510-010	HOLDER, MD BOSS		1
4-26	★	92-642-153-010	CAM, SPRING CONTROL		1
4-27	★	92-642-157-030	TAPE, FRONT		1
4-28	★	92-642-511-010	HOLDER, MD BOSS L		1
4-29	★	92-642-173-010	PLATE, RING		1
4-30	★	92-642-133-020	BOSS		1
4-31	★	9X-264-210-910	STOPPER RING ASSY		1
4-32	★	9X-264-133-610	MOTOR ASSY (LOADING)		1
4-33	★	91-624-793-210	CD MOTOR 2 C.B		1
4-34	★	91-564-721-110	CONNECTOR, PIN 5P		1
4-35	★	92-642-156-010	TRAY		1
4-36	★	92-642-125-010	DAMPER		2

EXPLODED VIEW - 5 (FD - N5)

REF.NO.	PART NO.	DESCRIPTION
A	92-641-386-010	PTT+2-5
B	97-621-255-350	P+2-5
C	93-303-809-310	SPECIAL SCREW M1.7-3
D	92-641-447-010	STP+2.6-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	5-1	★ 94-910-431-010	SHAFT, SLIDE		1
	5-2	98-848-127-310	PICK UP (KSS-210 ASRP)		1
	5-3	★ 92-641-443-020	HOLDER, SLIDE		1
	5-4	★ 92-641-434-010	COVER, GEAR		1
	5-5	★ 92-564-720-110	CONNECTOR, PIN		1
	5-6	92-641-404-020	GEAR, A		1
	5-7	★ 92-641-403-050	GEAR, B		1
	5-8	★ 92-641-448-020	CLAMP, SHAFT		2
※ 5-9		9X-264-133-710	SP MOTOR ASSY (W/CHASSIS, T. T.) (DISC) (RF-310T-11400)		1
※ 5-9		9X-264-135-810	SP MOTOR ASSY (W/CHASSIS, T. T.) (DISC) (MDN-4RA3NTAS)		1
	5-10	★ 92-641-371-010	STOPPER		1
※ 5-11		★ 91-625-848-110	CD MOTOR 1 C. B (RF-310T-11400)		1
※ 5-11		★ 91-628-263-110	CD MOTOR 1 C. B (MDN-4RA3NTAS/4RA3ETA)		1
※ 5-12		9X-264-077-010	SLED MOTOR GEAR ASSY (SLED) (RF-310T-11400)		1
※ 5-12		9X-264-134-410	SLED MOTOR GEAR ASSY (SLED) (MDN-4RA3ETA)		1
	5-13	91-572-053-110	SWITCH LEAF (LIMIT)		1

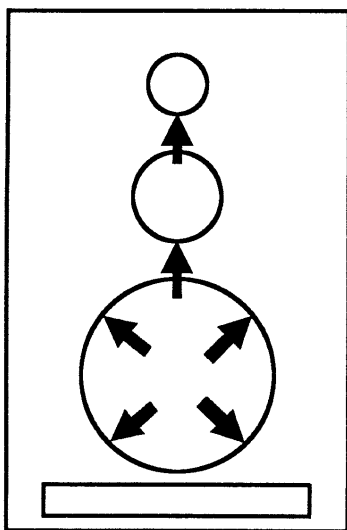
※ Caution

Two types of the spindle (DISC) motor and sled motor are used, but they are not compatible.
Check the part numbers (MDN ..., RF ...) on the labels of motors and replace motors with the same one.

MODEL NO.

SX — N5

DISASSEMBLY INSTRUCTIONS (SX — N5)

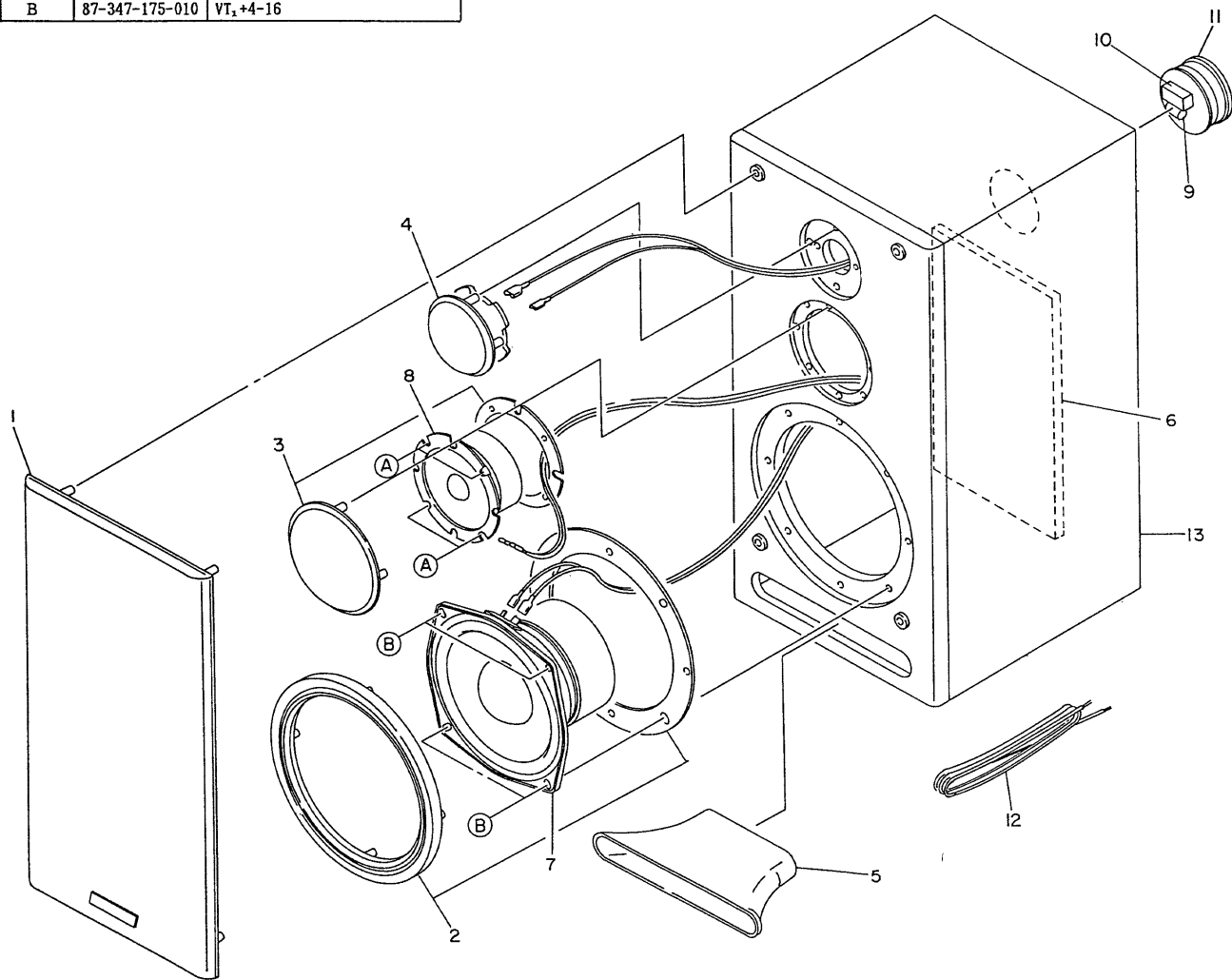


- Insert a flat-bladed screwdriver into the positions indicated by the arrows (shown in the figure on the left) and remove the grille assemblies of the woofer, mid-range speaker and tweeter. Remove the screws of each speaker unit and then remove the speaker units.

- SX — N5 (3-way speaker system)

EXPLODED VIEW (SX – N5)

REF.NO.	PART NO.	DESCRIPTION
A	87-342-097-010	VT ₁ +3-12
B	87-347-175-010	VT ₁ +4-16



■ SPEAKER LIST (SX – N5)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q.TY
	1	★80-MSD-012-010	GRILL ASSY	※	2
	2	★80-VS2-005-010	PANEL W ASSY	※	2
	3	★80-VS1-012-010	PANEL M ASSY	※	2
	4	★80-VS1-013-010	PANEL T ASSY	※	2
	5	★80-VS2-004-010	DUCT	※	2
	6	★80-MSD-004-010	FELT	※	2
	7	80-MSD-602-010	SPEAKER W	※	2
	8	80-MSD-604-010	SPEAKER T	※	2
	9	★83-135-622-010	CAP,ELECT 2.2		2
	10	★81-672-627-010	RES, 2.7 Ω 5W		2
	11	★83-149-611-010	TERMINAL		2
	12	★81-672-612-010	SPEAKER CORD		2
	13	- - -	CABINET		2

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★80-MK3-904-019	INSTRUCTION BOOKLET H (H,U)	※	1
	1	★80-MK3-907-019	INSTRUCTION BOOKLET C (C)	※	1
	2	★81-653-645-010	AM - LOOP ANT (6T) NC		1
	3	★80-MRD-019-019	REMOTE CONTROLLER RC - TN5FYBN	※	1
	4	★81-748-632-010	FEEDER ANT FM N		1
	5	★87-032-845-019	PLUG,CONVERSION (HJ)		1