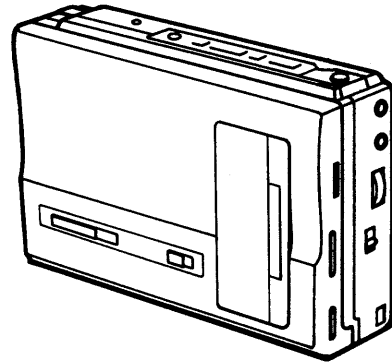


AIWA®

HS-JL505

SERVICE MANUAL



STEREO RADIO CASSETTE RECORDER

• BASIC TAPE MECHANISM : $\alpha - 2$

• TYPE. AH1

SPECIFICATIONS

Frequency range:

AM: 530—1,605kHz

FM/TV (1—3ch): 76—108MHz

TV (4—12ch): 175—222.5MHz

Maximum output:

10mW + 10mW (EIAJ/32 Ω)

[12mW + 12mW (EIAJ/16 Ω)]

Power source:

Battery DC 2V, rechargeable battery (PB-4)

Battery DC 3V, LR-03 (UM-4, AAA, R03) $\times$ 2

Domestic AC power (using optional AC adaptor)

Battery life:

Rechargeable battery (PB-4)

Approx. 2 hours (EIAJ, REC/1 hour recharging)

Approx. 2 hours (EIAJ, PB 1mW/10 minutes recharging)

Approx. 3.5 hours (EIAJ, PB 1mW/1 hour recharging)

Dimensions:

77.5(W) $\times$ 108(H) $\times$ 29.9(D) mm

Weight:

Approx. 245 g incl. rechargeable battery

- 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.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
- Under license from BBE Sound, Inc.

AIWA Co., Ltd.

Tokyo Japan

Printed in Japan

DISASSEMBLY INSTRUCTIONS

1. "Tuner Circuit Board" Removal (See Figure - 1)

- 1) Remove 3 screws (A×2, B×1) and remove the "Lid Cassette ASSY".
- 2) Remove 2 screws (C×2) and remove the "Cover, Cassette" and remove the "Tuner Circuit Board".

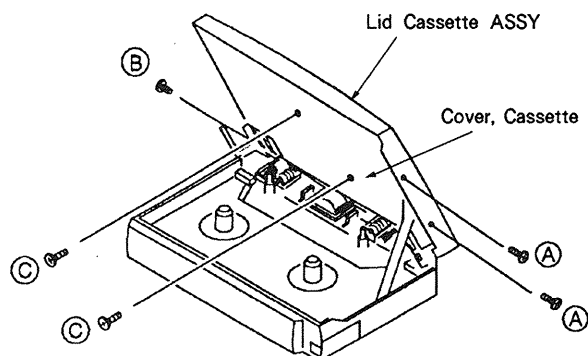


Fig - 1

2. "Cabinet Rear ASSY" and

"Panel Bottom" Removal (See Figure - 2)

- 1) Remove 3 screws (A×1, B×2,) and remove the "Cabinet Rear ASSY" in the direction of the arrow.
- 2) Remove 2 screws (C) and remove the "Panel, Bottom".

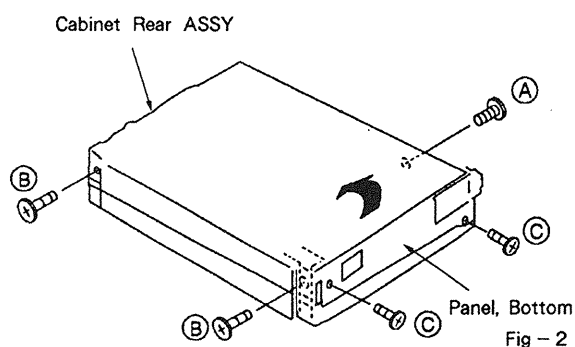


Fig - 2

3. "Frame, Center" Removal (See Figure - 3)

- 1) While moving the "Frame, Center" in the direction of arrow ①, press the "Button, Stop" in the direction of the arrow ② to release the hook in the direction of the arrow ③, and remove the "Frame, Center".

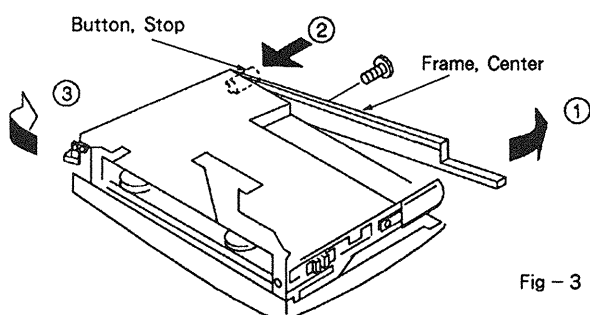


Fig - 3

4. "Main Circuit Board" Removal (See Figure - 4)

- 1) Remove 3 screws (A×1, B×1, C×1) and remove the "Main Circuit Board".

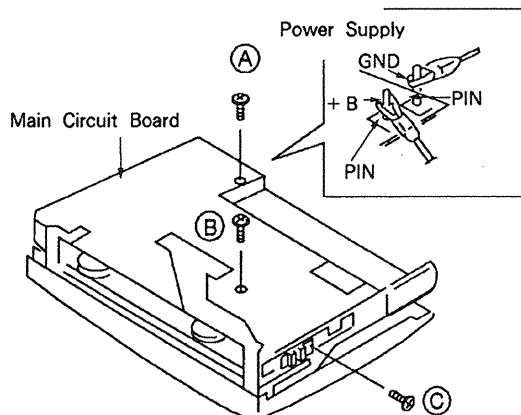


Fig - 4

5. "Motor Circuit Board" Removal (See Figure - 5)

- 1) Remove 2 screws and unsolder the soldered point, then remove the motor circuit board in the direction of the arrow.

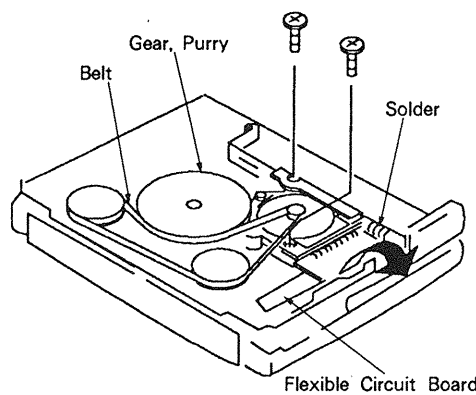


Fig - 5

6. Azimuth Adjustment (See Figure - 6)

- Adjust in both the FWD and REV tape running modes.
- Coat the end of the adjustment screw (near the head) with screw locking compound. When the tape running mode is set, the adjustment screw corresponding to the mode can be seen through the recess in the main circuit board. Tighten this screw by 1 to 1.5 turns and then perform adjustment.
- After adjustment, remove the screw locking compound adhered to the peripheral components of the screw.

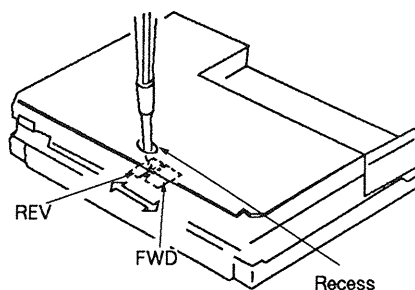


Fig - 6

ELECTRICAL MAIN PARTS LIST

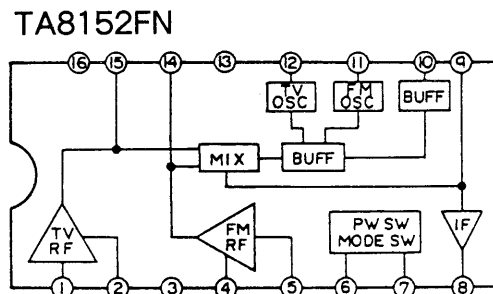
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
--- IC ---					
	87-001-808-010	IC,ASP5410	C19	*87-010-426-010	CAP,CHIP S 0.012-25
	87-001-146-010	IC,BA1362FS	C20	*87-010-426-010	CAP,CHIP S 0.012-25
	87-020-498-010	IC,BA3818F	C21	*87-010-746-010	CAP,CHIP TANTALUM 10-4
	87-001-148-010	IC,BA4230FS	C22	*87-010-746-010	CAP,CHIP TANTALUM 10-4
	87-001-723-010	IC,NJ2076M	C23	*87-010-188-010	CAP,CHIP S 6800P-50
	87-020-224-010	IC,NJM2063A	C24	*87-010-188-010	CAP,CHIP S 6800P-50
	87-020-234-010	IC,TA7688F	C25	*87-010-215-010	CAP,CHIP TANTALUM 0.047-35
	87-001-552-010	IC,TA8152FN	C26	*87-010-215-010	CAP,CHIP TANTALUM 0.047-35
	87-001-894-010	IC,TA8155FN	C27	*87-010-214-010	CAP,CHIP TANTALUM 0.68-16
	87-001-513-010	IC,TC9311F-014	C28	*87-010-214-010	CAP,CHIP TANTALUM 0.68-16
	87-001-516-010	IC,TK11821	C29	*87-010-186-010	CAP,CHIP S 4700P-50
			C30	*87-010-186-010	CAP,CHIP S 4700P-50
--- TRANSISTOR ---					
	89-508-805-010	FET,2SK880GR	C31	*87-010-193-010	CAP,CHIP S 0.033-25
	89-508-824-010	FET,2SK882Y	C32	*87-010-193-010	CAP,CHIP S 0.033-25
	89-112-134-010	TRANSISTOR,2SA1213Y	C33	*87-010-805-010	CAP,CHIP S 1-16
	89-113-625-010	TRANSISTOR,2SA1362GR	C34	*87-010-805-010	CAP,CHIP S 1-16
	89-115-864-010	TRANSISTOR,2SA1586Y	C35	*87-010-197-010	CAP,CHIP S 0.01-25
	89-115-884-010	TRANSISTOR,2SA1588Y	C36	*87-010-197-010	CAP,CHIP S 0.01-25
	89-341-165-010	TRANSISTOR,2SC4116GR	C37	*87-010-194-010	CAP,CHIP S 0.047-25
	89-342-132-010	TRANSISTOR,2SC4213B	C38	*87-010-194-010	CAP,CHIP S 0.047-25
	89-342-153-010	TRANSISTOR,2SC4215(O)	C39	*87-010-194-010	CAP,CHIP S 0.047-25
	89-342-470-010	TRANSISTOR,2SC4247	C40	*87-010-164-010	CAP,CHIP S 68P-50 SL
	87-026-356-010	TRANSISTOR,FMC1	C41	*87-010-194-010	CAP,CHIP S 0.047-25
	87-026-298-010	TRANSISTOR,FMW1	C42	*87-010-194-010	CAP,CHIP S 0.047-25
	87-026-473-010	TRANSISTOR,HN1A01F(GR)	C43	*87-010-164-010	CAP,CHIP S 68P-50 SL
	87-026-467-010	TRANSISTOR,HN1C01F GR	C44	*87-010-194-010	CAP,CHIP S 0.047-25
	87-026-470-010	TRANSISTOR,HN1C03F(B)	C45	*87-015-934-010	CAP,CHIP TANTALUM 2.2-4
	87-026-461-010	TRANSISTOR,1MH3	C46	*87-015-934-010	CAP,CHIP TANTALUM 2.2-4
	87-026-460-010	TRANSISTOR,1MX1	C47	*87-010-424-010	CAP,CHIP TANTALUM 4.7-4
	87-026-411-010	TRANSISTOR,RN1304	C48	*87-010-424-010	CAP,CHIP TANTALUM 4.7-4
	87-026-414-010	TRANSISTOR,RN1307	C49	*87-012-142-010	CAP,CHIP S 0.33-16
	87-026-417-010	TRANSISTOR,RN1310	C50	*87-012-142-010	CAP,CHIP S 0.33-16
	87-026-475-010	TRANSISTOR,RN1607	C51	*87-010-177-010	CAP,CHIP S 820P-50 SL
	87-026-423-010	TRANSISTOR,RN2305	C52	*87-010-177-010	CAP,CHIP S 820P-50 SL
	87-026-478-010	TRANSISTOR,RN2607	C53	*87-010-805-010	CAP,CHIP S 1-16
	87-026-482-010	TRANSISTOR,RN4610	C54	*87-010-805-010	CAP,CHIP S 1-16
--- DIODE ---					
	87-001-167-010	DIODE,1SS302	C55	*87-010-174-010	CAP,CHIP S 470P-50 SL
	87-001-599-010	DIODE,CHIP 1MN11	C56	*87-010-174-010	CAP,CHIP S 470P-50 SL
	87-001-166-010	DIODE,CHIP 1SS301	C57	*87-010-178-010	CAP,CHIP S 1000P-50
	87-001-167-010	DIODE,CHIP 1SS302	C58	*87-010-178-010	CAP,CHIP S 1000P-50
--- MAIN CIRCUIT BOARD SECTION ---					
C1	*87-015-923-010	CAP,CHIP TANTALUM 0.22-35	C63	*87-012-141-010	CAP,CHIP S 0.22-16
C2	*87-015-923-010	CAP,CHIP TANTALUM 0.22-35	C64	*87-012-141-010	CAP,CHIP S 0.22-16
C3	*87-010-176-010	CAP,CHIP S 680P-50 SL	C65	*87-012-141-010	CAP,CHIP S 0.22-16
C4	*87-010-176-010	CAP,CHIP S 680P-50 SL	C66	*87-012-141-010	CAP,CHIP S 0.22-16
C5	*87-010-805-010	CAP,CHIP S 1-16	C67	*87-010-588-010	CAP,ELECT 220-2
C6	*87-010-805-010	CAP,CHIP S 1-16	C68	*87-010-588-010	CAP,ELECT 220-2
C7	*87-010-805-010	CAP,CHIP S 1-16	C101	*87-010-114-010	CAP,ELECT 47-4
C8	*87-010-805-010	CAP,CHIP S 1-16	C102	*87-010-640-010	CAP,CHIP TANTALUM 22-4
C9	*87-010-173-010	CAP,CHIP S 390P-50 SL	C103	*87-010-192-010	CAP,CHIP S 0.022-50
C10	*87-010-173-010	CAP,CHIP S 390P-50 SL	C104	*87-010-192-010	CAP,CHIP S 0.022-50
C11	*87-010-178-010	CAP,CHIP S 1000P-50	C105	*87-010-115-010	CAP,ELECT 100-4
C12	*87-010-178-010	CAP,CHIP S 1000P-50	C106	*87-010-192-010	CAP,CHIP S 0.022-50
C13	*87-010-805-010	CAP,CHIP S 1-16	C107	*87-010-197-010	CAP,CHIP S 0.01-25
C14	*87-010-805-010	CAP,CHIP S 1-16	C108	*87-010-174-010	CAP,CHIP S 470P-50 SL
C15	*87-010-175-010	CAP,CHIP S 560P-50 SL	C109	*87-010-197-010	CAP,CHIP S 0.01-25
C16	*87-010-175-010	CAP,CHIP S 560P-50 SL	C110	*87-010-182-010	CAP,CHIP S 2200P-50
C17	*87-010-640-010	CAP,CHIP TANTALUM 22-4	C111	*87-010-424-010	CAP,CHIP TANTALUM 4.7-4
C18	*87-010-640-010	CAP,CHIP TANTALUM 22-4	C112	*87-010-197-010	CAP,CHIP S 0.01-25
			C113	*87-010-184-010	CAP,CHIP S 3300P-50
			C114	*87-010-197-010	CAP,CHIP S 0.01-25

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C115	*87-010-196-010	CAP,CHIP S 0.1-25	C9	*87-012-271-010	CAP,CHIP SS 560P-50
C117	*87-010-424-010	CAP,CHIP TANTALUM 4.7-4	C10	*87-012-275-010	CAP,CHIP SS 1200P-50
C118	*87-010-746-010	CAP,CHIP TANTALUM 10-4	C11	*87-012-287-010	CAP,CHIP SS 0.015-25
C119	*87-010-424-010	CAP,CHIP TANTALUM 4.7-4	C12	*87-012-275-010	CAP,CHIP SS 1200P-50
C120	*87-010-746-010	CAP,CHIP TANTALUM 10-4	C13	*87-012-251-010	CAP,CHIP SS 27P-50 UJ
C121	*87-010-189-010	CAP,CHIP S 8200P-50	C14	*87-012-286-010	CAP,CHIP SS 0.01-25
C122	*87-010-189-010	CAP,CHIP S 8200P-50	C15	*87-012-263-010	CAP,CHIP SS 82P-50 UJ
C123	*87-010-189-010	CAP,CHIP S 8200P-50	C16	*87-010-198-010	CAP,CHIP S 0.022-25
C124	*87-010-175-010	CAP,CHIP S 560P-50 SL	C17	*87-012-275-010	CAP,CHIP SS 1200P-50
C126	*87-010-114-010	CAP,ELECT 47-4	C18	*87-012-257-010	CAP,CHIP SS 47P-50 UJ
C127	*87-010-197-010	CAP,CHIP S 0.01-25	C19	*87-012-275-010	CAP,CHIP SS 1200P-50
C128	*87-010-805-010	CAP,CHIP S 1-16	C20	*87-012-275-010	CAP,CHIP SS 1200P-50
C129	*87-010-805-010	CAP,CHIP S 1-16	C21	*87-012-237-010	CAP,CHIP SS 6P-50 UJ
C130	*87-010-196-010	CAP,CHIP S 0.1-25	C22	*87-012-286-010	CAP,CHIP SS 0.01-25
C131	*87-010-196-010	CAP,CHIP S 0.1-25	C23	*87-012-291-010	CAP,CHIP SS 220P-50 UJ
C132	*87-010-082-010	CAP,ELECT 220-4	C24	*87-012-337-010	CAP,CHIP SS 56P-50 CH
C133	*87-010-082-010	CAP,ELECT 220-4	C25	*87-012-239-010	CAP,CHIP SS 8P-50 UJ
C134	*87-010-197-010	CAP,CHIP S 0.01-25	C26	*87-010-196-010	CAP,CHIP S 0.1-25
C135	*87-010-805-010	CAP,CHIP S 1-16	C27	*87-012-275-010	CAP,CHIP SS 1200P-50
C136	*87-010-805-010	CAP,CHIP S 1-16	C28	*87-012-274-010	CAP,CHIP SS 1000P-50
C137	*87-010-805-010	CAP,CHIP S 1-16	C29	*87-012-287-010	CAP,CHIP SS 0.015-25
C138	*87-010-195-010	CAP,CHIP S 0.068-25	C30	*87-010-194-010	CAP,CHIP S 0.047-25
C139	*87-010-195-010	CAP,CHIP S 0.068-25	C31	*87-012-286-010	CAP,CHIP SS 0.01-25
C140	*87-010-186-010	CAP,CHIP S 4700P-50	C32	*87-012-287-010	CAP,CHIP SS 0.015-25
C141	*87-015-923-010	CAP,CHIP TANTALUM 0.22-35	C33	*87-012-287-010	CAP,CHIP SS 0.015-25
C142	*87-010-197-010	CAP,CHIP S 0.01-25	C34	*87-012-282-010	CAP,CHIP SS 4700P-50
C143	*87-010-082-010	CAP,ELECT 220-4	C35	*87-012-239-010	CAP,CHIP SS 8P-50 UJ
C144	*87-010-746-010	CAP,CHIP TANTALUM 10-4	C36	*87-012-286-010	CAP,CHIP SS 0.01-25
C145	*87-010-178-010	CAP,CHIP S 1000P-50	C37	*87-012-286-010	CAP,CHIP SS 0.01-25
C146	*87-010-178-010	CAP,CHIP S 1000P-50	C38	*87-010-452-010	CAP,CHIP 1-16
C147	*87-010-162-010	CAP,CHIP S 47P-50 SL	C39	*87-012-286-010	CAP,CHIP SS 0.01-25
CP101	87-026-504-010	PHOTO SENSOR,NJL5146KF1	C40	*87-012-287-010	CAP,CHIP SS 0.015-25
J1	87-009-218-010	JACK,3.5 BK(MIC)	C41	*87-012-286-010	CAP,CHIP SS 0.01-25
L1	*87-003-231-010	COIL,CHIP 1UH	C42	*87-012-287-010	CAP,CHIP SS 0.015-25
L2	*87-003-231-010	COIL,CHIP 1UH	C43	*87-012-287-010	CAP,CHIP SS 0.015-25
L3	*87-003-231-010	COIL,CHIP 1UH	C44	*87-012-333-010	CAP,CHIP SS 180P-50 SL
L4	*87-003-231-010	COIL,CHIP 1UH	C45	*87-012-273-010	CAP,CHIP SS 820P-50
L5	*80-HJ1-614-010	COIL,LOADING DIA 1.8	C46	*87-010-452-010	CAP,CHIP 1-16
L6	*87-007-270-010	COIL,OSC BIAS	C47	*87-010-452-010	CAP,CHIP 1-16
S1	87-036-152-010	SLIDE SW(FWD/REV)	C48	*87-010-573-010	CAP,CHIP S 390P-50 UJ
S2	87-036-143-010	SLIDE SW(REC/PLAY)	C49	*87-012-172-010	CAP,CHIP SS 10P-50 CH
S3	87-036-123-010	SLIDE SW(DOLBY NR)	C50	*87-012-195-010	CAP,CHIP SS 100P-50 CH
S4	87-036-123-010	SLIDE SW(TAPE/FM MODE)	C51	*87-012-195-010	CAP,CHIP SS 100P-50 CH
S7	87-036-144-010	PUSH SW(CASSETTE DETECTION)	C52	*87-012-286-010	CAP,CHIP SS 0.01-25
S8	87-036-123-010	SLIDE SW(REVERSE MODE)	C53	*87-012-286-010	CAP,CHIP SS 0.01-25
SFR1	*87-024-308-010	SFR,470	C54	*87-012-270-010	CAP,CHIP SS 470P-50
SFR2	*87-024-308-010	SFR,470	C55	*87-012-287-010	CAP,CHIP SS 0.015-25
TM3	87-033-201-010	TERMINAL ASSY,BATT	C56	*87-010-243-010	CAP,CHIP TANTALUM 10-4
VR1	87-024-089-010	VOLUME,20KA(VOLUME)	C57	*87-010-243-010	CAP,CHIP TANTALUM 10-4
=== SWITCH/LED CIRCUIT BOARD SECTION ===			C58	*87-012-141-010	CAP,CHIP S 0.22-16
			C59	*87-012-195-010	CAP,CHIP SS 100P-50 CH
			C63	*87-012-349-010	CAP,CHIP S 1000P-50 CH
=== TUNER CIRCUIT BOARD SECTION ===			C64	*87-010-450-010	CAP,CHIP 0.47-16
BPF1	*87-030-166-010	FILTER GTVS03	C65	*87-012-141-010	CAP,CHIP S 0.22-16
C1	*87-012-195-010	CAP,CHIP SS 100P-50 CH	C66	*87-012-142-010	CAP,S 0.33-16
C2	*87-012-195-010	CAP,CHIP SS 100P-50 CH	C67	*87-010-452-010	CAP,CHIP 1-16
C3	*87-012-275-010	CAP,CHIP SS 1200P-50	C68	*87-012-274-010	CAP,CHIP SS 1000P-50
C4	*87-012-287-010	CAP,CHIP SS 0.015-25	C69	*87-012-286-010	CAP,CHIP SS 0.01-25
C5	*87-012-195-010	CAP,CHIP SS 100P-50 CH	C70	*87-010-452-010	CAP,CHIP 1-16
C6	*87-012-275-010	CAP,CHIP SS 1200P-50	C71	*87-010-243-010	CAP,CHIP TANTALUM 10-4
C7	*87-012-275-010	CAP,CHIP SS 1200P-50	C72	*87-012-241-010	CAP,CHIP SS 10P-50 UJ
C8	*87-012-275-010	CAP,CHIP SS 1200P-50	C73	*87-012-263-010	CAP,CHIP SS 82P-50 UJ
			C74	*87-010-196-010	CAP,CHIP S 0.1-25
			C75	*87-010-196-010	CAP,CHIP S 0.1-25

REF.NO.	PART NO.	DESCRIPTION
C76	*87-010-197-010	CAP,CHIP S 0.01-25
C77	*87-010-452-010	CAP,CHIP 1-16
C78	*87-010-452-010	CAP,CHIP 1-16
C80	*87-010-198-010	CAP,CHIP S 0.022-25
C83	*87-012-274-010	CAP,CHIP SS 1000P-50
C84	*87-012-287-010	CAP,CHIP SS 0.015-25
C85	*87-012-287-010	CAP,CHIP SS 0.015-25
C86	*87-010-452-010	CAP,CHIP 1-16
C87	*87-010-452-010	CAP,CHIP 1-16
C88	*87-012-275-010	CAP,CHIP SS 1200P-50
CF1	*87-008-395-010	FILTER 10.7MA5W5-A
CF2	*87-008-395-010	FILTER 10.7MA5W5-A
CF3	*87-008-124-010	FILTER CFMBF468J
D1	*87-026-359-010	DIODE,VARI-CAP KV1410
D2	87-026-360-010	DIODE,VARI-CAP KV1430
D3	*87-026-359-010	DIODE,VARI-CAP KV1410
D4	87-026-360-010	DIODE,VARI-CAP KV1430
D5	87-020-743-010	DIODE,VARI-CAP MA341B
D6	87-020-743-010	DIODE,VARI-CAP MA341B
D7	*87-026-435-010	DIODE,VARI-CAP KV1560
L1	*84-499-602-010	COIL TV OSC
L2	*84-499-605-010	CGIL FM RF
L3	*84-499-602-010	COIL TV OSC
L4	*84-499-603-010	COIL FM OSC
L5	*87-006-168-010	COIL,IFT FM
L6	*84-499-607-010	BAR ANT COIL
L7	*87-006-152-010	COIL,IFT AM
L8	*87-006-151-010	COIL,OSC AM
L9	*87-006-150-010	COIL,DET FM
L10	*87-007-249-010	COIL,DC-DC
L11	*87-005-262-010	COIL,10UH
S1	87-036-145-010	SLIDE SW(BAND)
S2	87-036-123-010	SLIDE SW(FUNCTION)
SFR1	*87-024-183-010	SFR 10KB
TC1	*87-011-189-010	TRIMMER CHIP CTZ-10A
TC2	*87-011-189-010	TRIMMER CHIP CTZ-10A
TC3	*87-011-188-010	TRIMMER CHIP CTZ-5A
TC4	*87-011-189-010	TRIMMER CHIP CTZ-10A
TC5	*87-011-189-010	TRIMMER CHIP CTZ-10A
TC6	*87-011-189-010	TRIMMER CHIP CTZ-10A
VR1	*84-499-606-010	TUN ASSY(TUNING)
=== REGULATOR CIRCUIT BOARD SECTION ===		
C301	*84-439-620-010	CAP,ELECT 470-4
J3	87-049-549-110	JACK,DC(DC 2V)
TM1	*84-435-246-110	TERMINAL ASSY 1.4
=== SP AMP CIRCUIT BOARD SECTION ===		
C1	*87-010-668-010	CAP,ELECT 220-4
C3	*87-010-196-010	CAP,CHIP S 0.1-25
C4	*87-010-180-010	CAP,CHIP S 1500P-50
C5	*87-010-450-010	CAP,CHIP 0.47-16
C6	*87-010-450-010	CAP,CHIP 0.47-16
C7	*87-010-668-010	CAP,ELECT 220-4
S19	87-036-123-010	SLIDE SW(POWER)
TM4	*80-HF1-207-011	TERMINAL ASSY 1.4F
=== MOTOR FLEXIBLE CIRCUIT BOARD SECTION ===		
PCB-F	80-HJ1-615-010	MOTOR FLEXIBLE CIRCUIT BOARD
=== HEAD FLEXIBLE CIRCUIT BOARD SECTION ===		
	84-497-609-010	HEAD FLEXIBLE CIRCUIT BOARD
	84-502-607-010	HEAD ASSY
RPH	84-502-606-010	HEAD ASSY(W/PCB-G)

REF.NO.	PART NO.	DESCRIPTION
=== MOTOR GOVERNOR CIRCUIT BOARD SECTION ===		
M1	M8-655-416-010	MOTOR ASSY ABL-3C(W/PCB-H)
=== RELAY FLEXIBLE CIRCUIT BOARD SECTION ===		
PCB-I	*84-520-609-010	RELAY FLEXIBLE CIRCUIT BOARD
=== HP FLEXIBLE CIRCUIT BOARD SECTION ===		
PCB-J	*80-HJ1-616-010	HP FLEXIBLE CIRCUIT BOARD
J2	87-009-218-010	JACK,3.5 BK(REMOTE/PHONES)
=== REMOTE SW CIRCUIT BOARD SECTION ===		
S6	87-036-145-010	SLIDE SW(REMOTE)
=== DSL FLEXIBLE CIRCUIT BOARD SECTION ===		
PCB-L	*89-HR2-605-010	DSL FLEXIBLE CIRCUIT BOARD
=== MISCELLANEOUS ===		
S16	86-536-468-010	LEAF SW(HEAD-UP)
S17	86-550-603-010	LEAF SW(REC REV)
S18	86-550-603-010	LEAF SW(REC FWD)
SOL101	86-536-477-010	SOLENOID(MD)
SOL102	86-536-477-010	SOLENOID(REC)
SP1	84-512-612-010	SPEAKER DIA36

IC BLOCK DIAGRAM



○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

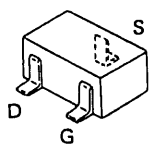
桁表示
Figure

抵抗値
Value of resistor

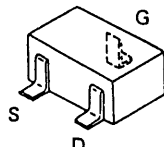
チップ抵抗

Chip resistor

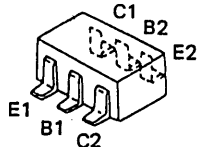
Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions/寸法(mm)				Resistor Code : A 抵抗コード : A
				Form/外形	L	W	t	
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.5 ~0.7	128



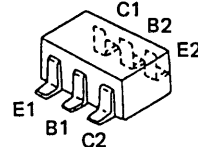
2SK882



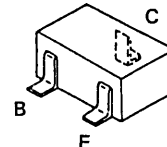
2SK880



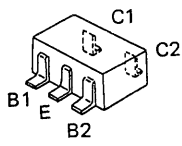
IMX1
IMH3



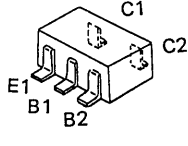
HN1A01
HN1C01
HN1C03
RN1607
RN2607
RN4610



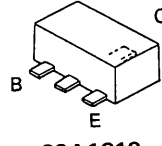
2SA1362
2SA1586
2SA1588
2SC4116
2SC4213
2SC4215
2SC4247
RN1304
RN1310
RN2305
RN1307



FMW1

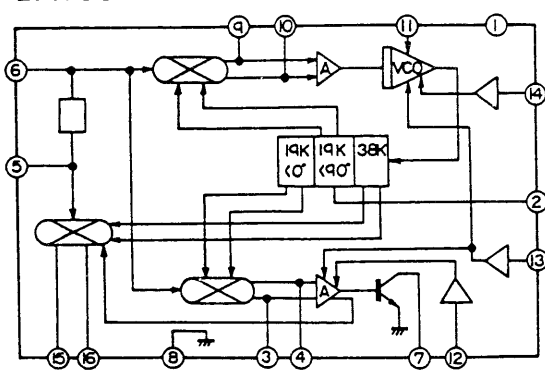


FMC1

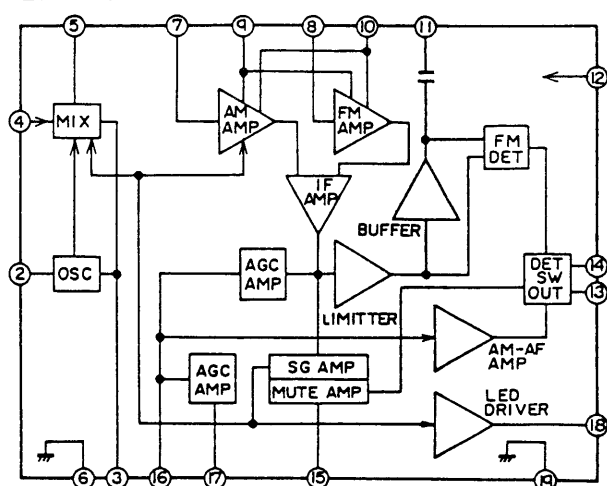


2SA1213

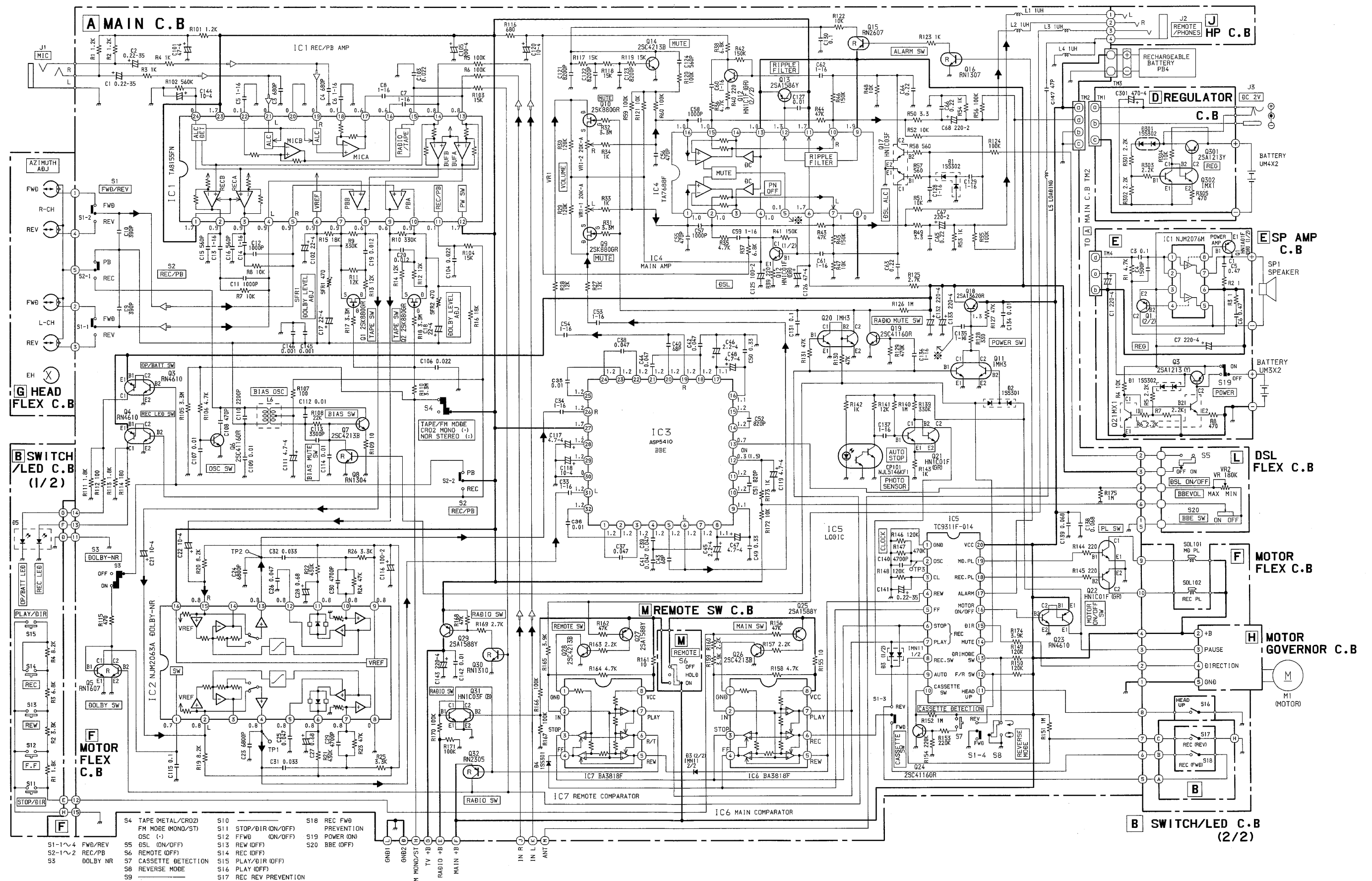
BA1362FS

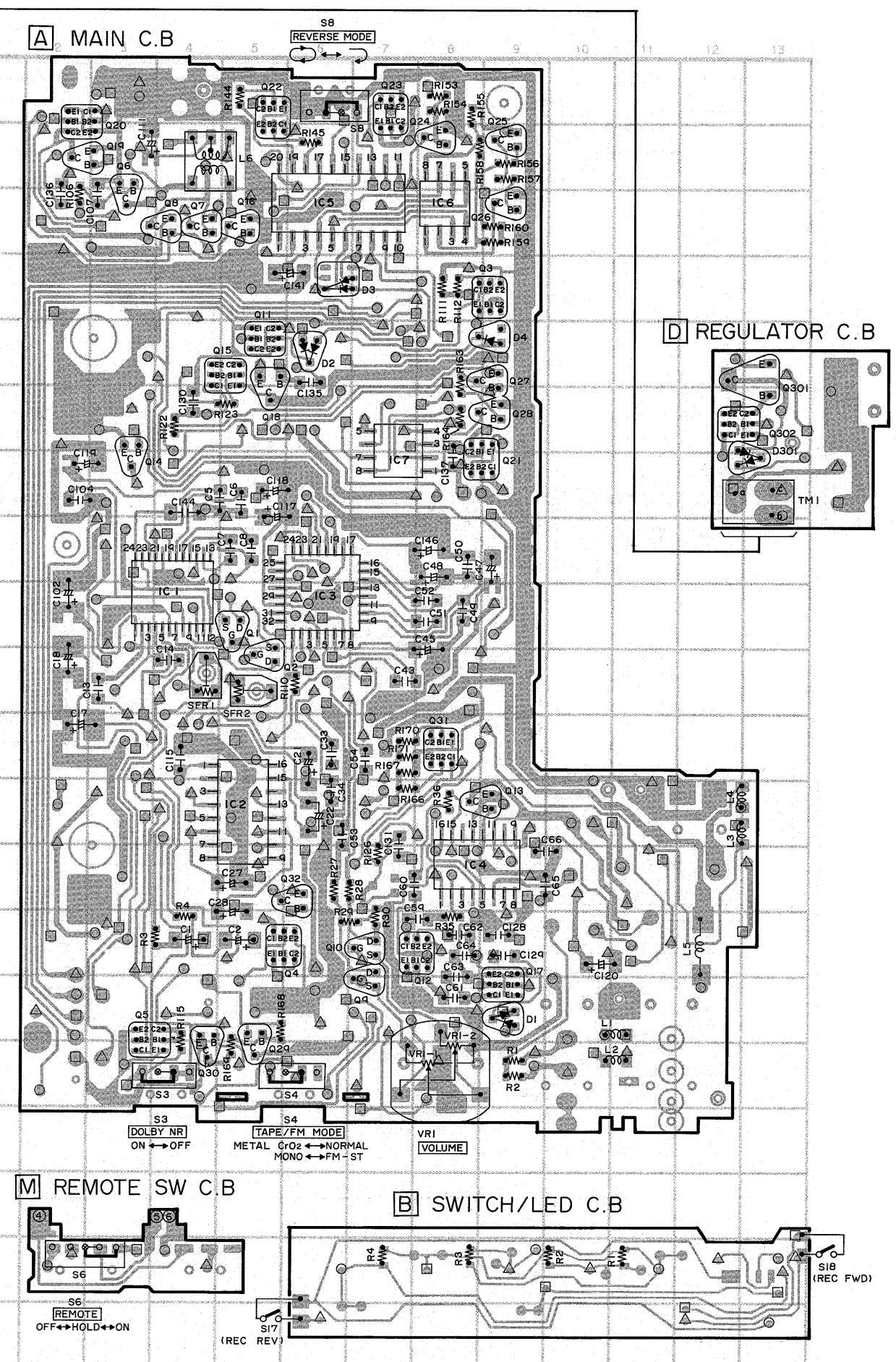
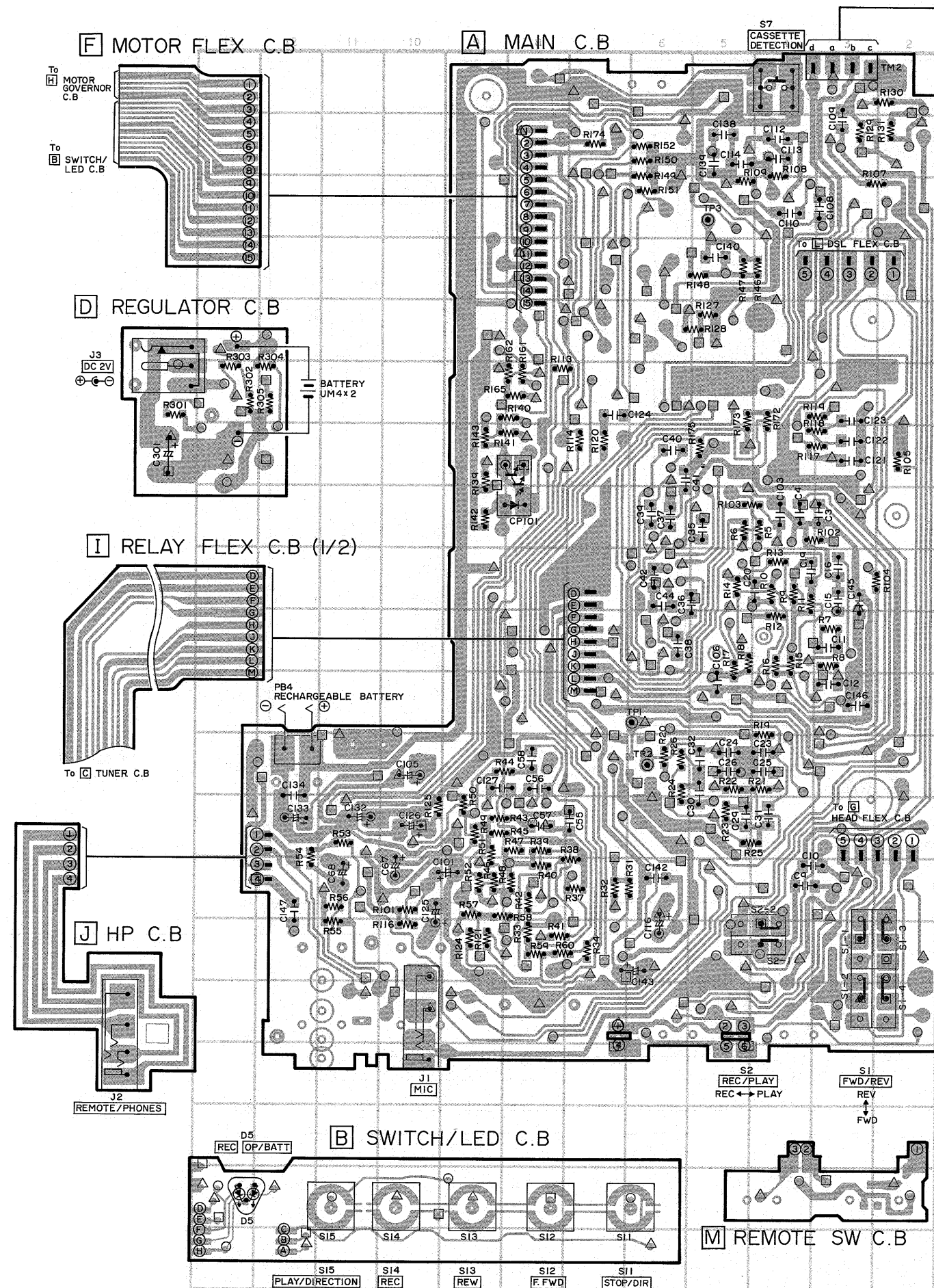


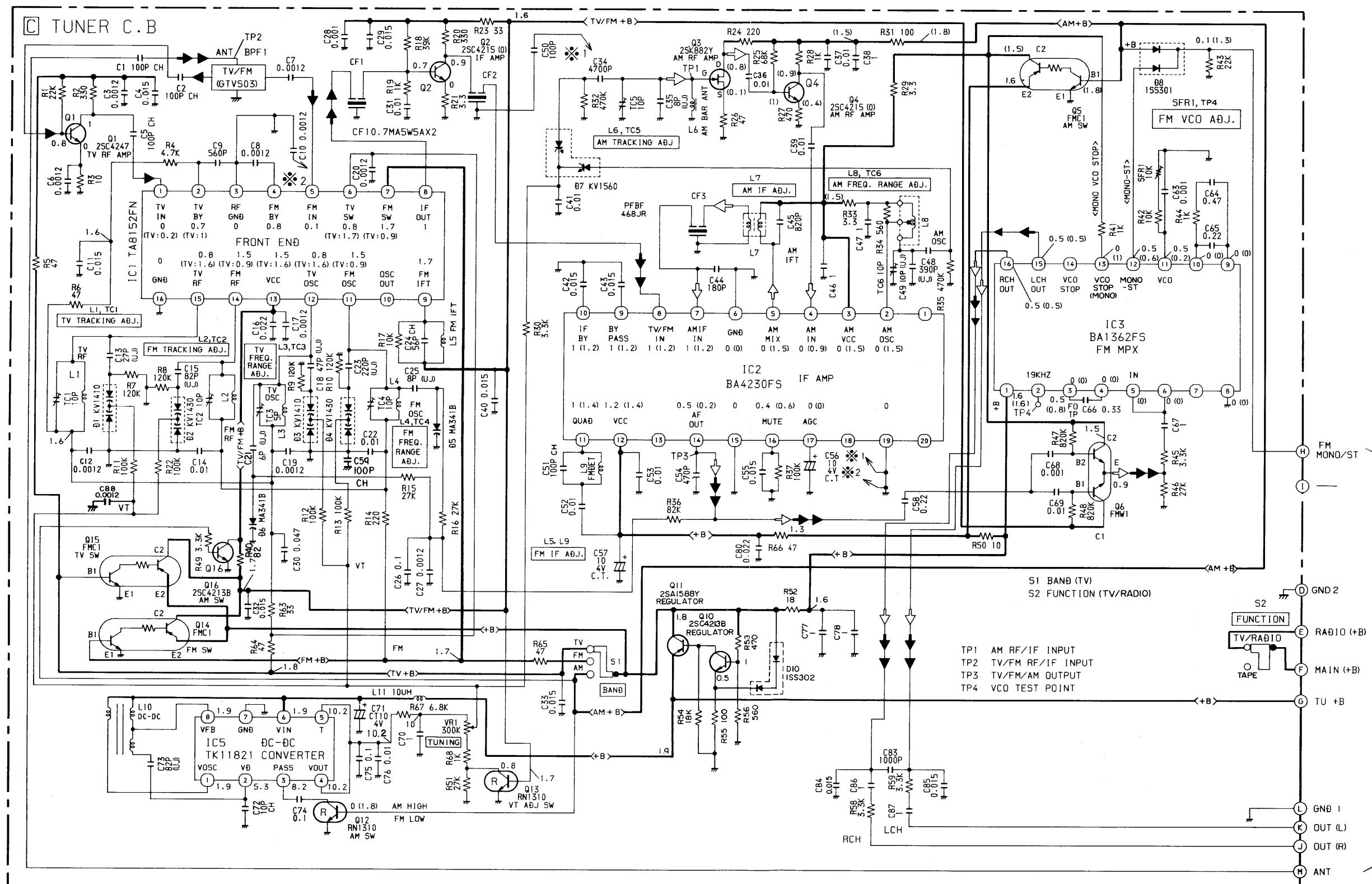
BA4230FS



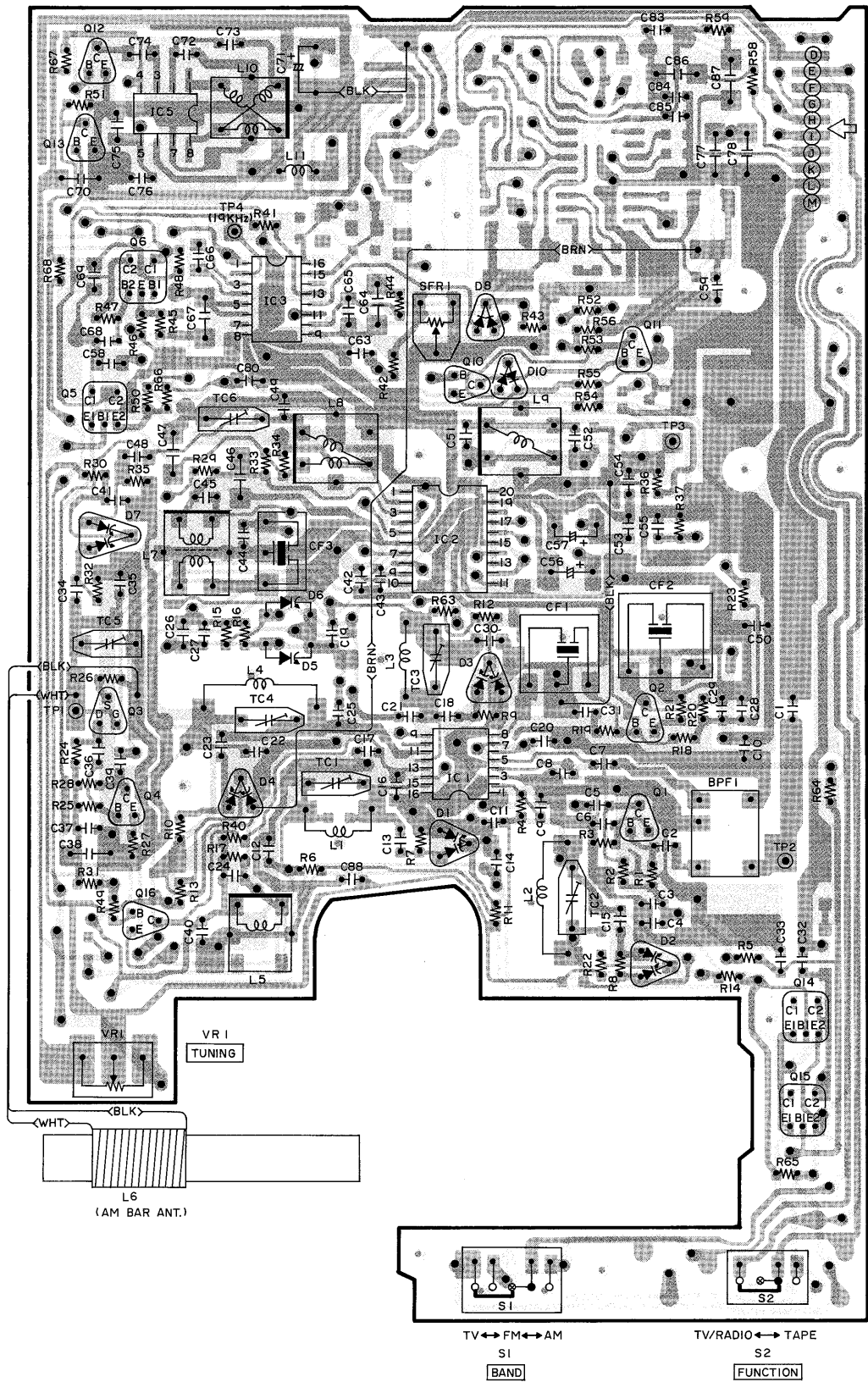
IC Description (IC, TC9311F - 014)
Refer to the HS - F505 service manual.



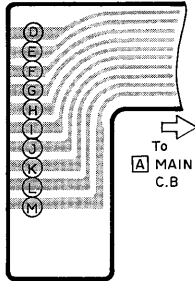




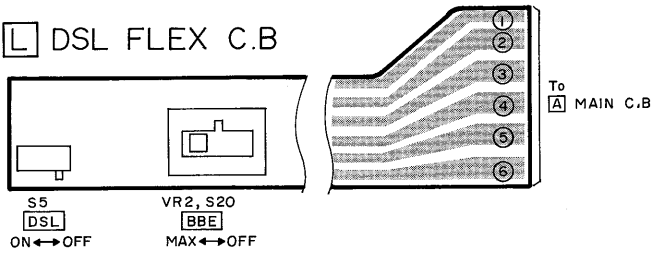
C TUNER C.B



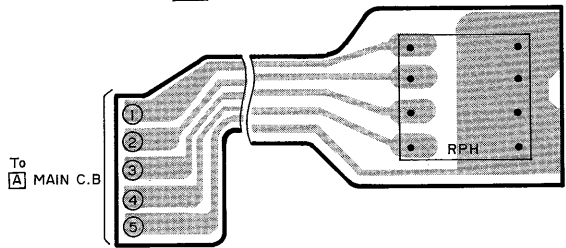
I RELAY FLEX. C.B (2/2)



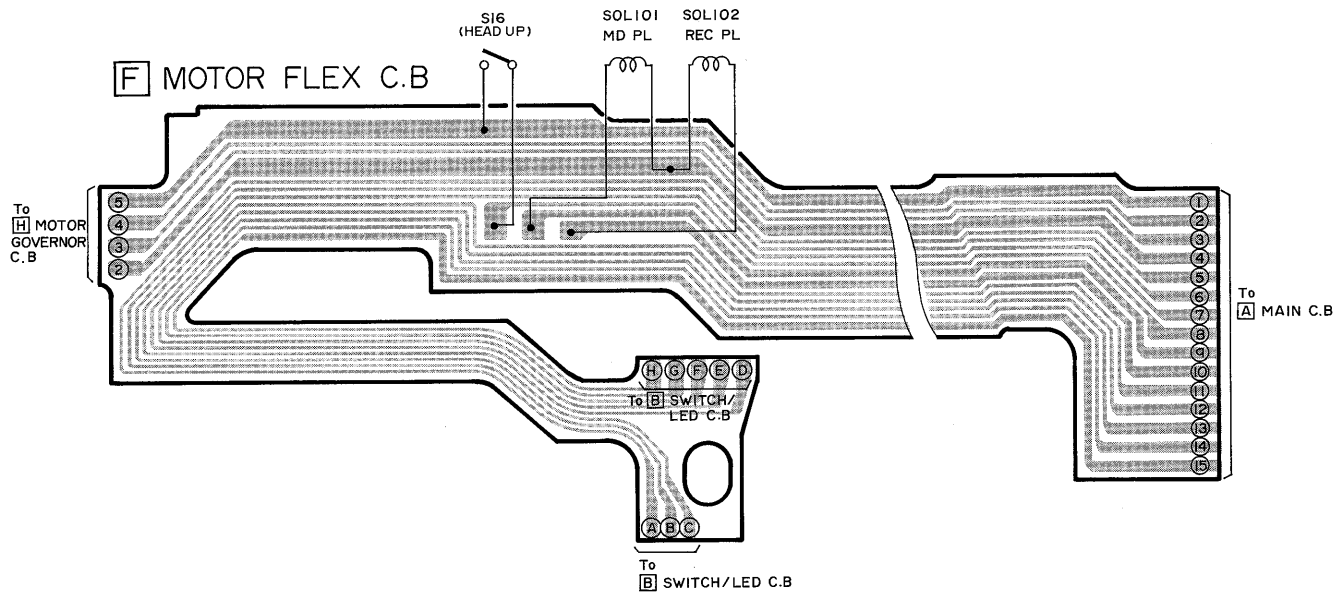
L DSL FLEX C.B



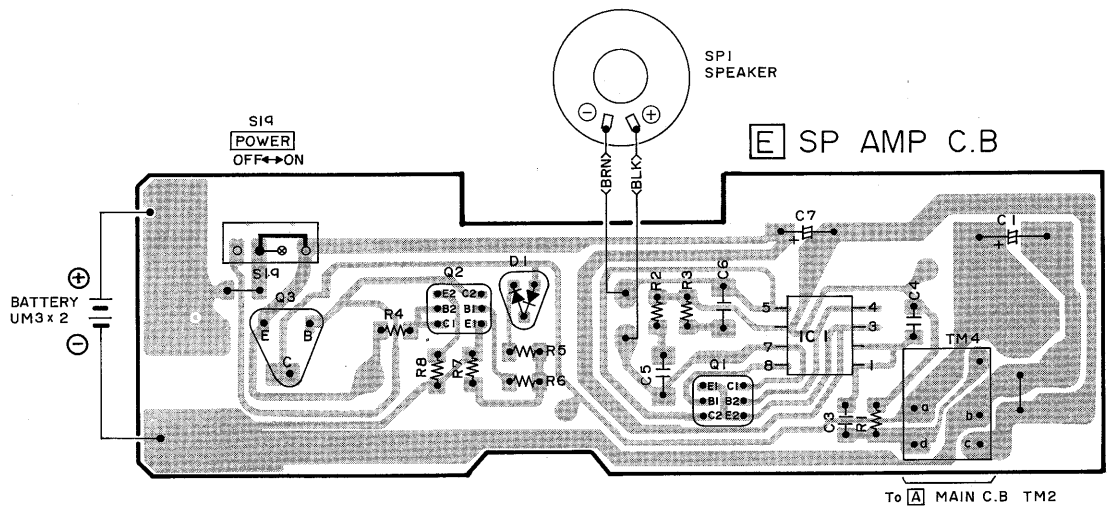
G HEAD FLEX C.B



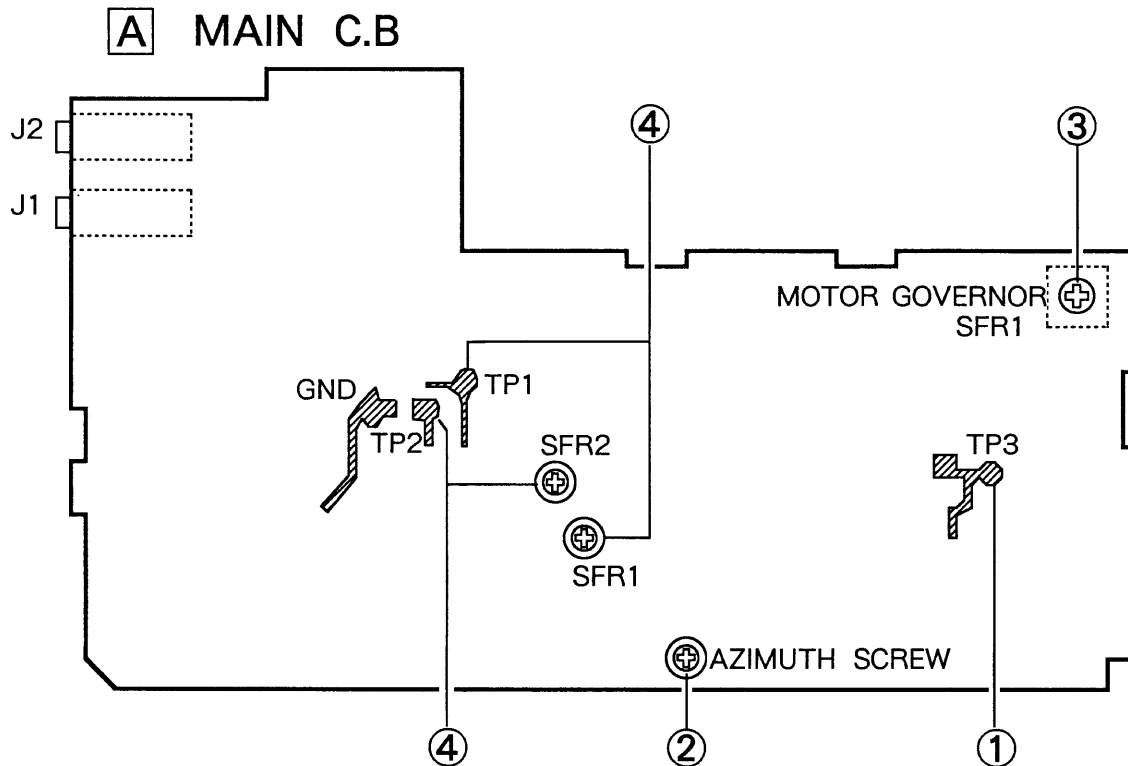
F MOTOR FLEX C.B



E SP AMP C.B



ADJUSTMENT



< TAPE RECORDER SECTION >

1. Clock Frequency Check

Setting : • Test point : TP3

Method : • Connect a resistor ($1M\Omega$) to counter and TP3. Check the frequency at TP3 is $2650\text{Hz} \pm 250\text{Hz}$.

2. Azimuth Adjustment

Settings : • Test tape : TTS - 320 (TTA - 113B, TCC - 152)

• Test point : PHONES JACK

• Adjustment location : Azimuth adjustment screw

Method : • Play back the test tape, and adjust so that the output becomes maximum at FWD or REV mode.

3. Tape Speed Adjustment

Settings : • Test tape : TTA - 100 (TTA - 111S)

• Test point : PHONES JACK

• Adjustment location : SFR1 of motor governor

Method : • Play back the test tape, adjust for 3000Hz at FWD and $\pm 45\text{Hz}$ at REV.

4. Dolby Level Adjustment

Settings : • Test tape : TTS - 200 (TTA - 161, TCC - 130)

• Test point : TP1 (Lch), TP2 (Rch)

• Adjustment location : SFR1 (Lch), SFR2 (Rch)

• DOLBY SW : OFF

• DSL SW : OFF

• BBE SW : OFF

Method : • Connect an electrolytic capacitor ($10\mu\text{F}/16\text{V}$) to measured equipment and TP1 (2), adjust for $100\text{mV} \pm 10\text{mV}$.

5. Motor load Adjustment

Refer to the HS - F505 service manual.

PRACTICAL SERVICE FIGURE

< RADIO SECTION >

Sensitivity :

(IHF THD 3%)

FM $15 \pm 3\text{dB}$ (92.0MHz)

TV $19 \pm 3\text{dB}$ (4ch)

$16 \pm 3\text{dB}$ (8, 12ch)

(S/N 10dB)

AM $53 \pm 3\text{dB}$ (1000Hz)

Intermediate frequency : FM 10.7MHz

AM 468kHz

FM stereo separation : FM $19 \pm 4\text{dB}$ (1kHz)

< TAPE RECORDER SECTION >

Wow & flutter : Less than 0.45% (RMS)

Pinch roller press : $150 \pm 15\text{g-cm}$

Take - up torque : $31 \pm 6\text{g-cm}$ (FWD, REV)

F.F & Rew torque : $120 \pm 45\text{g-cm}$

S/N ratio : More than 44dB (PB)

More than 30dB (REC/PB)

Distortion : Less than 3.0% (PB)

Less than 10.0% (REC/PB)

Noise level : Less than 4.0mV (VOL MAX PB)

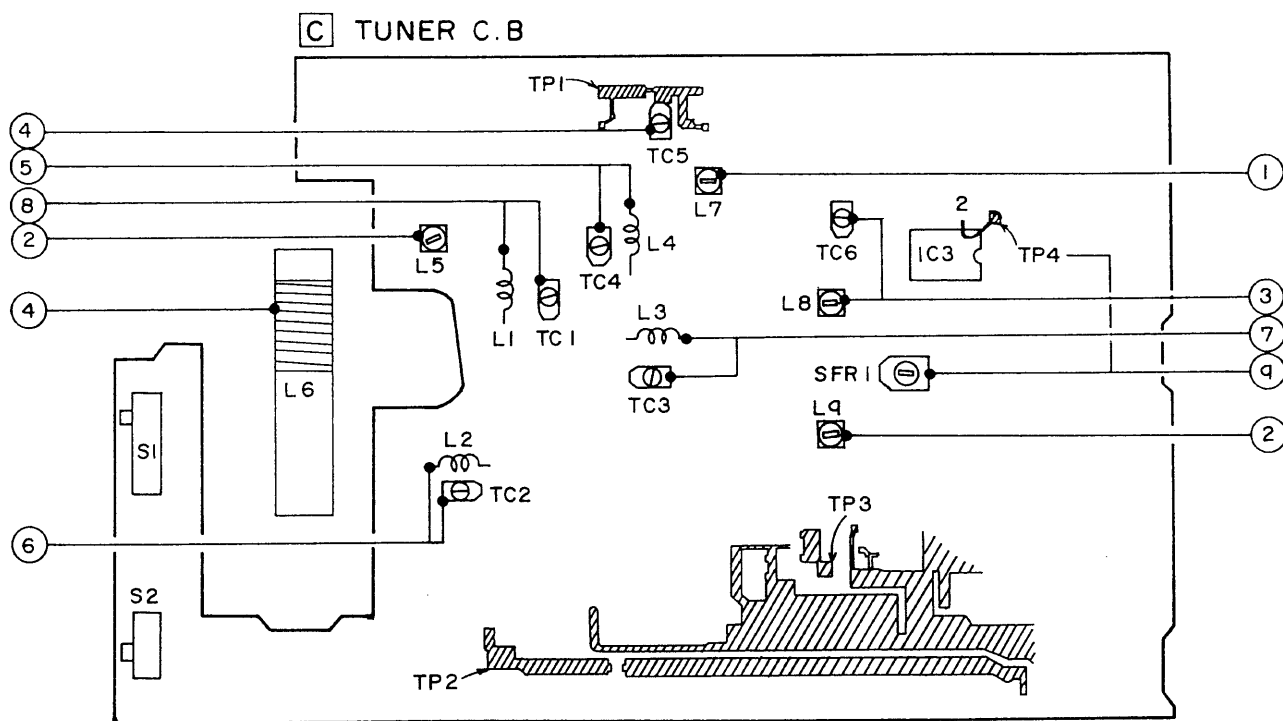
Less than 18.0mV

(VOL MAX REC/PB)

Frequency response : 63Hz~8kHz $\pm 4.5\text{dB}$ (NORMAL)

63Hz~12.5kHz $\pm 5.0\text{dB}$

(CrO2, METAL)



< RADIO SECTION >

1. AM IF Adjustment

L7..... 468kHz

2. FM IF Adjustment

L5, L9.....10.7MHz

3. AM Frequency Range Adjustment

L8..... 516kHz

TC61650kHz

4. AM Tracking Adjustment

L6..... 600kHz

TC51400kHz

5. FM Frequency Range Adjustment

L4..... 75MHz

TC4 109MHz

6. FM Tracking Adjustment

L2..... 76MHz

TC2 92MHz

7. TV Frequency Range Adjustment

L3..... 174MHz

TC3 223.5MHz

8. TV Tracking Adjustment

L1..... 174MHz

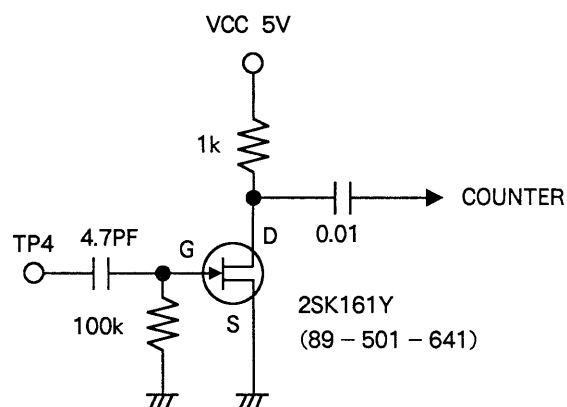
TC1 223.5MHz

9. FM VCO Adjustment

Settings : • Test point : TP4

• Adjustment location : SFR1

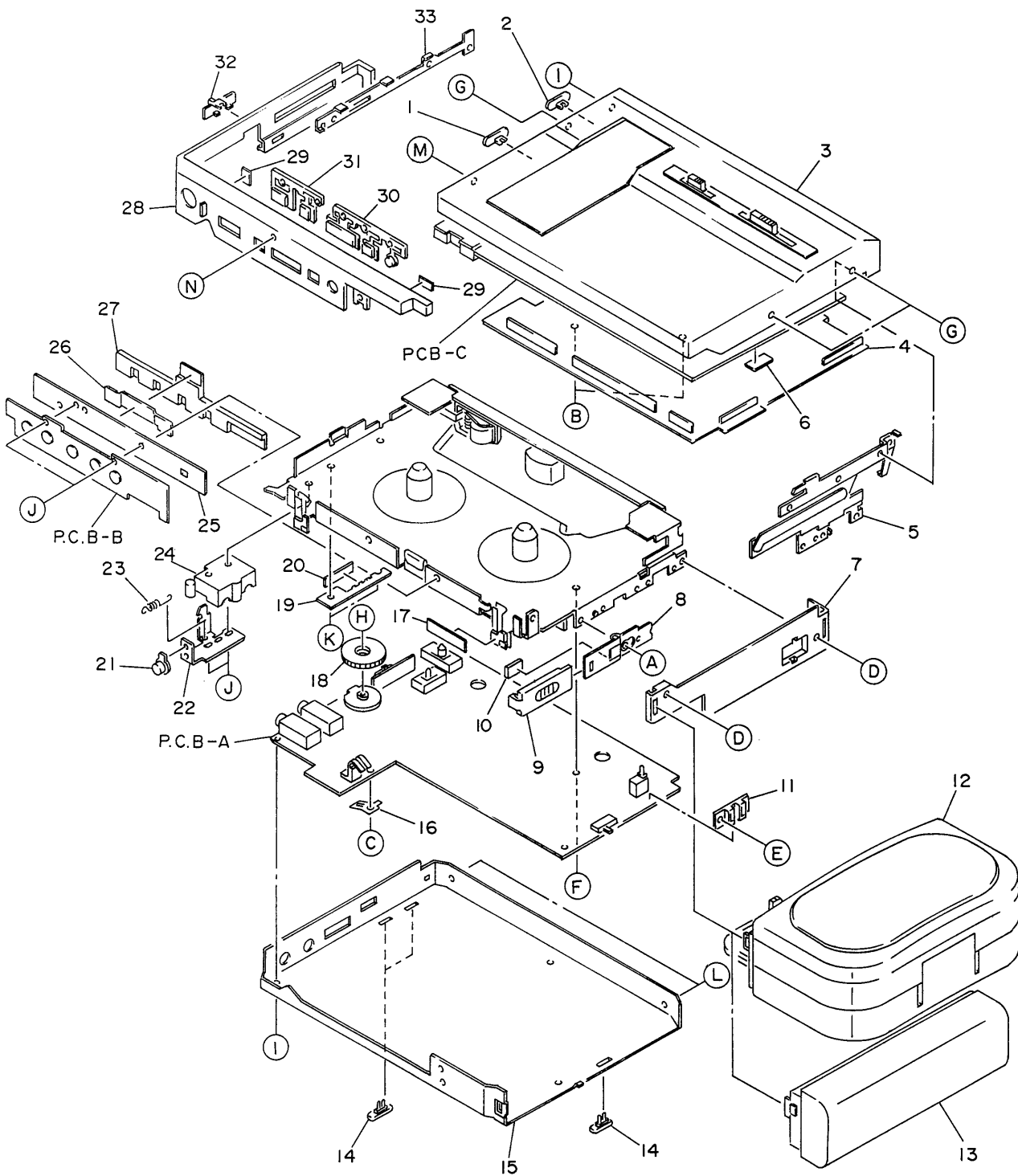
Method : • Connect a buffer to TP4. Adjust SFR1 so that the frequency at TP4 is $19\text{kHz} \pm 20\text{Hz}$.



TP1 AM RF/IF INPUT
TP2 TV/FM RF/IF INPUT
TP3 TV/FM/AM OUTPUT
TP4 VCO MONITOR OUTPUT

EXPLODED VIEW - 1

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	87-067-319-010	SCREW HINGE M1.4-1	F	87-263-501-310	V+1.4-1.6	K	87-261-500-310	V+1.4-1.4[B]
B	87-067-384-010	VT+1.4-3.5	G	87-067-589-010	V+1.4-1.4[B] (NLOCK)	L	87-067-631-010	V+1.4-3[B] (NLOCK)
C	87-067-437-010	SCREW M1.4-2(SERRATE)	H	87-262-507-310	V+1.4-3.0[B]	M	87-067-637-010	Q+1.4-1.6[B]
D	87-067-480-010	S-SCREW+1.4-3	I	87-067-595-010	HINGE SCREW M1.4[B]	N	87-067-733-010	SPECIAL SCREW 1.4-4[B]
E	87-067-501-010	S-SCREW1.4-1.4[B]	J	87-261-503-310	V+1.4-2.0[B]			

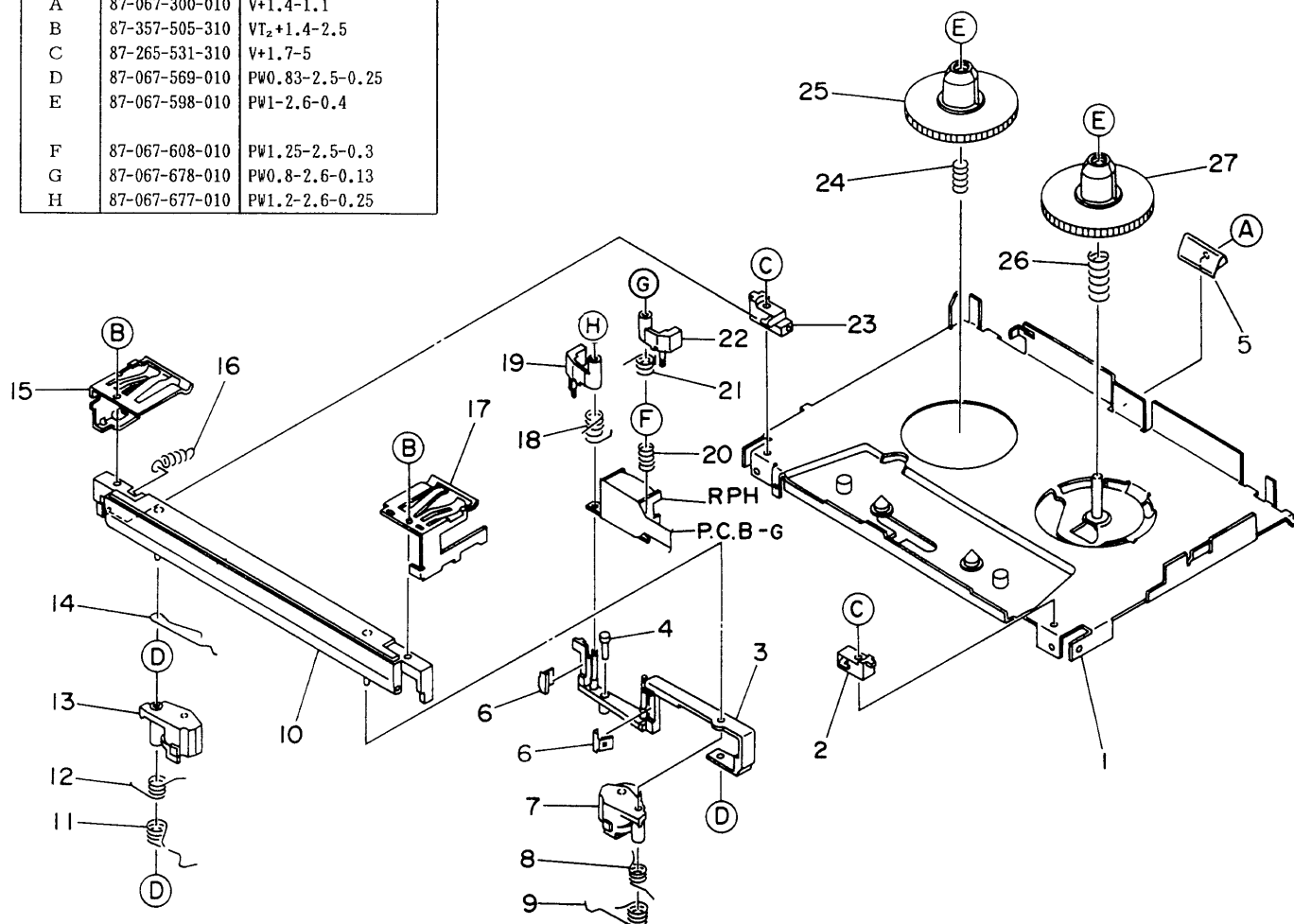


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
1-1		*84-499-013-210	KNOB,SLIDE G		1
1-2		*84-499-012-210	KNOB,SLIDE F		1
1-3		*09-027-830-010	LID CASSETTE ASSY	*	1
1-4		*84-499-007-210	COVER,CASSETTE		1
1-5		*89-HR2-201-010	HOLDER CASSETTE F ASSY		1
1-6		*84-437-212-010	SHEET,G WIRE		1
1-7		*80-HJ1-008-110	PANEL,BOTTOM		1
1-8		*89-HK2-217-010	HINGE BATTERY ASSY		1
1-9		80-HJ1-009-110	LID,BATTERY		1
1-10		*84-497-230-010	CUSHION,G BATTERY		1
1-11		89-HK2-215-110	BATTERY CONTACT ASSY		1
1-12		*09-027-787-010	BOX SPEAKER ASSY	*	1
1-13		*09-027-698-010	BOX BATTERY ASSY	*	1
1-14		*80-HJ1-024-010	KNOB,SLIDE C		3
1-15		*80-HJ2-015-010	CABINET REAR ASSY	*	1
1-16		*89-HK2-212-110	P-SPRING,EARTH		1
1-17		*84-500-235-010	SHEET,FLEX		1
1-18		*84-438-009-110	KNOB,VOLUME		1
1-19		*80-HJ1-203-010	HOLDER,SW		1
1-20		*80-HJ1-207-010	SHEET,SW		1
1-21		*80-HJ1-019-010	BUTTON,OPEN		1
1-22		*80-HJ1-215-010	LEVER,OPEN D		1
1-23		*84-500-217-010	E-SPRING,OPEN		1
1-24		*80-HJ1-214-010	HOLDER,JACK D		1
1-25		*80-HJ1-205-010	SHEET,PCB		1
1-26		*80-HJ1-202-010	HOLDER,TACT B		1
1-27		*80-HJ1-201-010	HOLDER,TACT A		1
1-28		*80-HJ1-004-010	FRAME,CENTER		1
1-29		*84-500-223-010	MYLAR,FRAME		2
1-30		*80-HJ1-026-010	KEY,CONTROL A		1
1-31		*80-HJ1-027-010	KEY,CONTROL B		1
1-32		*80-HJ1-022-010	KNOB,SLIDE A		1
1-33		*80-HJ2-202-110	HOLDER,CASSETTE R	*	1

EXPLODED VIEW - 2

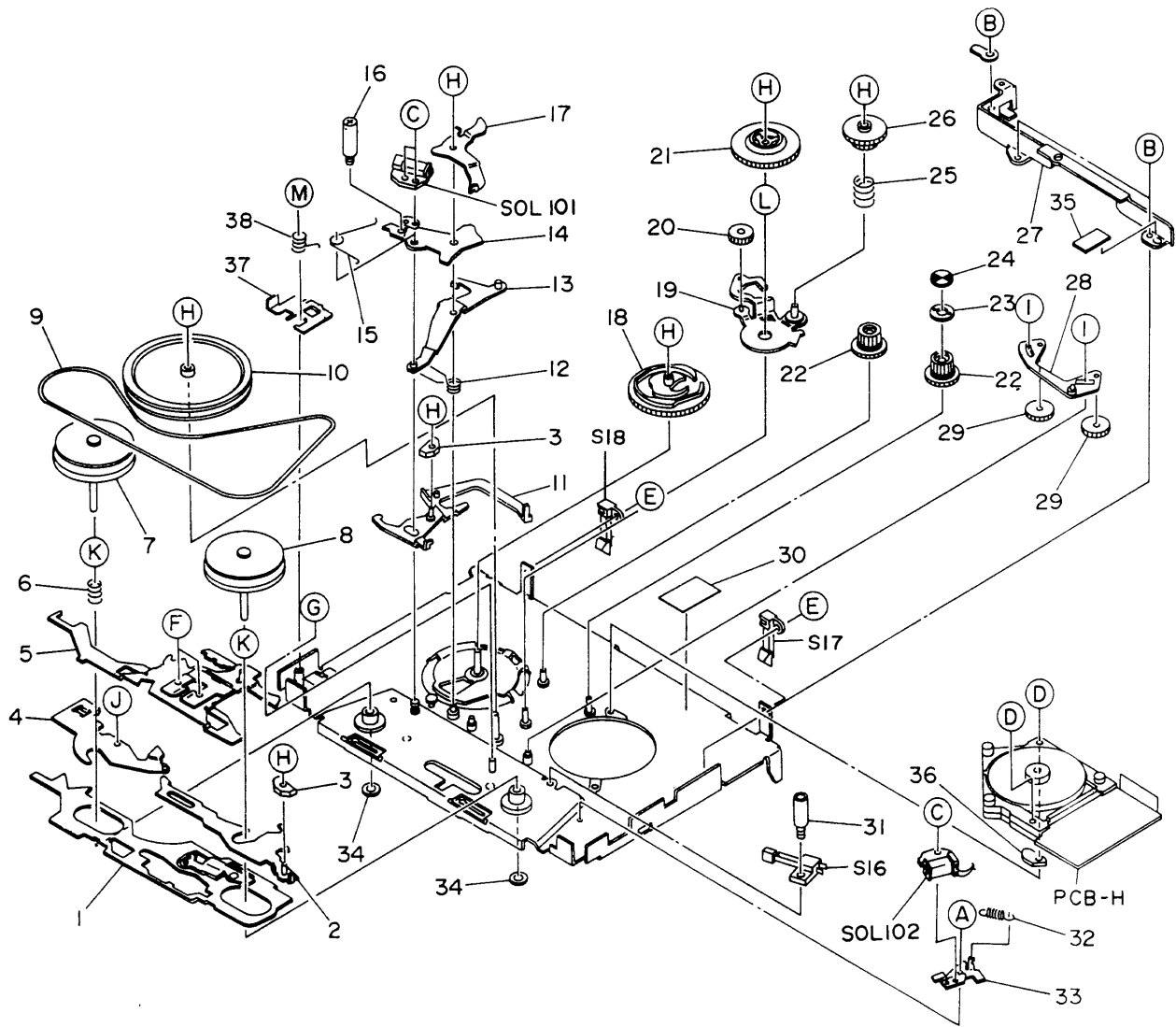
REF.NO.	PART NO.	DESCRIPTION
A	87-067-300-010	V+1.4-1.1
B	87-357-505-310	VT ₂ +1.4-2.5
C	87-265-531-310	V+1.7-5
D	87-067-569-010	PW0.83-2.5-0.25
E	87-067-598-010	PW1-2.6-0.4
F	87-067-608-010	PW1.25-2.5-0.3
G	87-067-678-010	PW0.8-2.6-0.13
H	87-067-677-010	PW1.2-2.6-0.25



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	2-1	*86-550-360-510	CHASSIS REC ASSY		1
	2-2	*86-550-289-110	HOLDER, R		1
	2-3	*86-550-333-210	ARM HEAD REC ASSY		1
	2-4	*86-550-335-010	SHAFT, AZIMUTH REC		1
	2-5	*86-550-218-010	P-SPRING CASSETTE ASSY		1
	2-6	*86-550-352-110	SHEET, EH L		2
	2-7	*86-550-439-110	LEVER PINCH RJ ASSY		1
	2-8	*86-550-275-110	T-SPRING, PLAY BACK R		1
	2-9	*86-550-346-110	T-SPRING, PINCH RJ		1
	2-10	*86-550-421-110	HOLDER CASSETTE J ASSY		1
	2-11	*86-550-348-110	T-SPRING, PINCH LJ		1
	2-12	*86-550-274-010	T-SPRING, PLAY BACK L		1
	2-13	*86-550-427-110	LEVER PINCH LJ ASSY		1
	2-14	*86-550-343-110	T-SPRING, HEAD BACK J		1
	2-15	*86-550-216-110	P-SPRING, HOLDER L		1
	2-16	*86-550-278-010	E-SPRING, HOLDER C		1
	2-17	*86-550-217-110	P-SPRING, HOLDER R		1
	2-18	*86-550-319-010	T-SPRING, AZIMUTH L		1
	2-19	*86-550-349-010	ARM EH L ASSY(W/EH)		1
	2-20	*86-550-358-010	C-SPRING, AZIMUTH		1
	2-21	*86-550-321-010	T-SPRING, AZIMUTH R		1
	2-22	*86-550-350-010	ARM EH R ASSY(W/EH)		1
	2-23	*86-550-290-110	HOLDER, L		1
	2-24	*86-550-288-110	C-SPRING, REEL GEAR L		1
	2-25	*86-550-240-110	GEAR, REEL L		1
	2-26	*86-550-374-010	C-SPRING, GEAR RJ		1
	2-27	*86-550-285-010	GEAR, REEL R		1

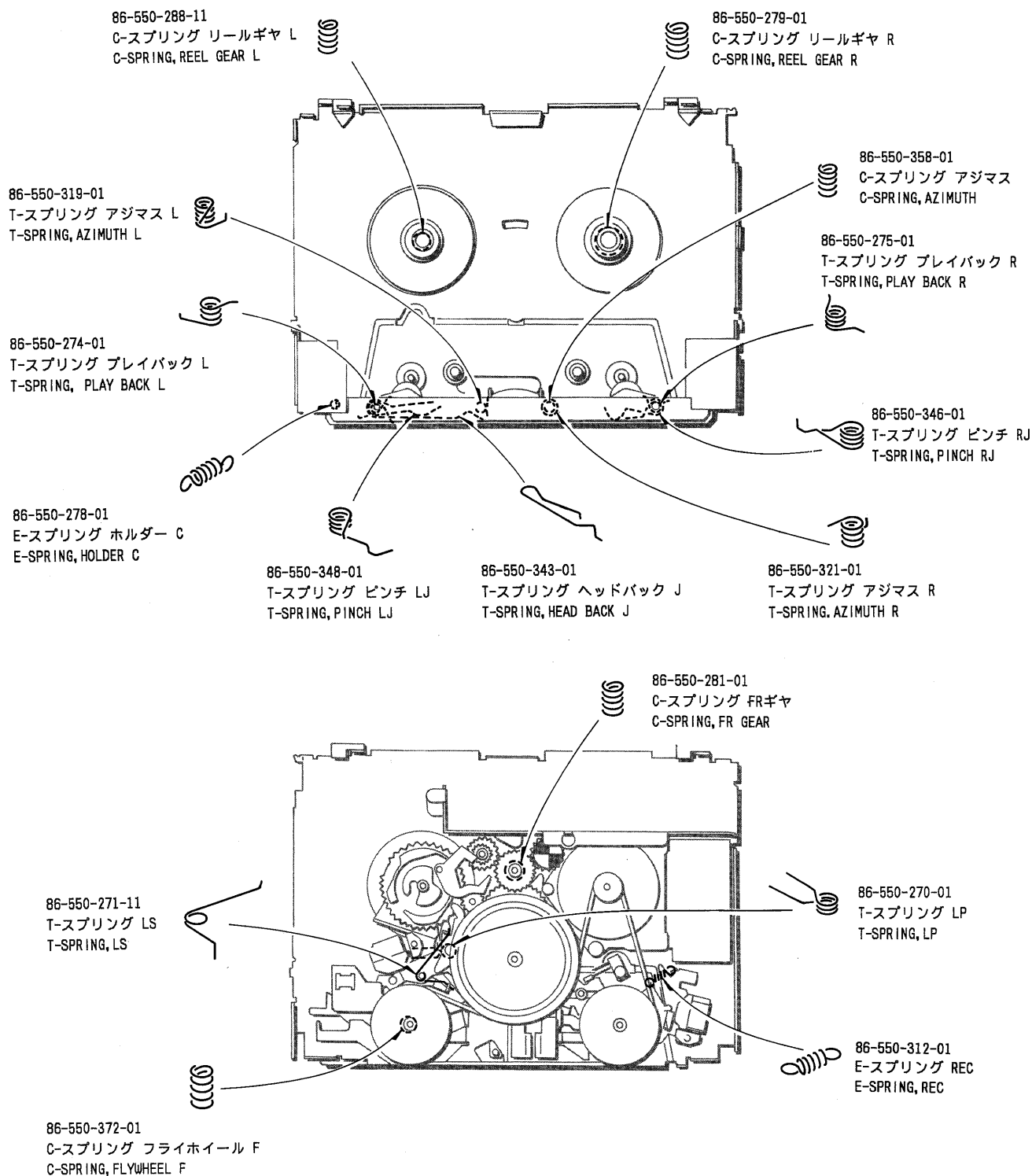
EXPLODED VIEW – 3

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	87-067-300-110	V+1.4-1.4[B]	F	86-550-341-010	SCREW AZIMUTH J	K	87-067-370-010	RW1.2-3-0.25
B	87-261-500-310	V+1.4-1.4	G	87-067-683-010	PW0.8-3-0.5	L	86-550-268-010	STE0.8-5
C	87-067-560-010	V+1.4-2.5	H	87-067-569-010	PW0.83-2.5-0.25	M	86-550-378-010	PW1.7-3.5-0.25 CUT
D	87-262-510-310	V+1.4-4.5[B]	I	87-067-623-010	PW0.85-3.2-0.3			
E	87-067-511-010	SPECIAL SCREW M1.4-2	J	87-067-563-010	PW1.2-3-0.2			



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	3-1	*86-550-338-110	LEVER EH ASSY		1
	3-2	*86-550-302-010	LEVER REC ASSY		1
	3-3	---	PLATE,MR2		2
	3-4	*86-550-311-210	LINK REC SW ASSY		1
	3-5	*86-550-313-010	LEVER HEAD TURN J ASSY		1
	3-6	*86-550-372-010	C-SPRING,FLYWHEEL F		1
	3-7	86-550-315-010	FLYWHEEL REC ASSY		1
	3-8	86-550-354-010	FLYWHEEL REC-T ASSY		1
	3-9	86-550-325-010	BELT,J		1
	3-10	*86-550-242-010	GEAR,PULLEY		1
	3-11	*86-550-211-210	LEVER SOLENOID ASSY		1
	3-12	*86-550-270-110	T-SPRING,L P		1
	3-13	*86-550-489-010	LEVER PLAY CL J ASSY		1
	3-14	*86-550-286-410	PLATE,SOLENOID		1
	3-15	*86-550-271-110	T-SPRING,L S		1
	3-16	*86-550-293-010	SHAFT,P SOLENOID		1
	3-17	*86-550-204-310	LEVER,LOCK		1
	3-18	*86-550-347-310	GEAR,CAM REC		1
	3-19	*86-550-368-210	LEVER FR J ASSY		1
	3-20	*86-550-241-010	GEAR,CAM C		1
	3-21	*86-550-232-010	SLIP GEAR ASSY		1
	3-22	*86-550-237-010	GEAR,FR C		2
	3-23	*86-550-236-210	DISK,AUTO		1
	3-24	*86-550-606-010	SHEET,AUTO		1
	3-25	*86-550-281-010	C-SPRING,FR GEAR		1
	3-26	*86-550-238-010	GEAR,FR		1
	3-27	*86-550-203-110	HOLDER,BATTERY		1
	3-28	*86-550-336-110	LEVER PLAY J ASSY		1
	3-29	*86-550-239-110	GEAR,PLAY		2
	3-30	*86-550-367-010	MYLAR,14-17-0.05		1
	3-31	*86-550-292-110	SHAFT,P SW		1
	3-32	*86-550-312-010	E-SPRING,REC		1
	3-33	*86-550-317-010	PLATE,REC SOLENOID		1
	3-34	*87-067-455-010	SHEET,0.87-2.25-0.25 CUT		2
	3-35	*86-550-301-110	MYLAR,5-10-0.5		1
	3-36	*86-554-019-110	SPACER,B		1
	3-37	*86-550-410-110	LEVER,DIRECTION		1
	3-38	*86-550-406-110	T-SPRING,DIRECTION		1

SPRING APPLICATION POSITION



ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q , TY
1	★	80 - HJ2 - 904 - 010	INSTRUCTION BOOKLET,H	※	1
2	★	09 - 027 - 787 - 010	SPEAKER BOX ASSY		1
3	★	80 - HF1 - 951 - 110	CARRYING CASE B		1
4	★	80 - HJ1 - 954 - 010	EAR PAD ASSY		1
5	★	87 - 041 - 056 - 010	MIC CM - S20		1
6	★	87 - 042 - 063 - 010	AC - 208H		1
7	★	87 - 047 - 107 - 010	PB - 4Y		1
8		87 - 048 - 184 - 010	HP - R20 BK		1
9	★	09 - 027 - 698 - 010	BATTERY BOX ASSY		1

PRINTING THE ELECTRONIC DOCUMENT

The PDF of this service manual is not designed to be printed from cover to cover. The pages vary in size, and must therefore be printed in sections based on page dimensions.

NON-SCHEMATIC PAGES

Data that does NOT INCLUDE schematic diagrams are formatted to 8.5 x 11 inches and can be printed on standard letter-size and/or A4-sized paper.

SCHEMATIC DIAGRAMS

The schematic diagram pages are provided in two ways, full size and tiled. The full-sized schematic diagrams are formatted on paper sizes between 8.5" x 11" and 18" x 30" depending upon each individual diagram size. Those diagrams that are LARGER than 11" x 17" in full-size mode have been tiled for your convenience and can be printed on standard 11" x 17" (tabloid-size) paper, and reassembled.

TO PRINT FULL SIZE SCHEMATIC DIAGRAMS

If you have access to a large paper plotter or printer capable of outputting the full-sized diagrams, output as follows:

- 1) Note the page size(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your large format printer. Confirm that the printer settings are set to output the indicated page size or larger.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT TILED VERSION OF SCHEMATICS

Schematic pages that are larger than 11" x 17" full-size are provided in a 11" x 17" printable tiled format near the end of the document. These can be printed to tabloid-sized paper and assembled to full-size for easy viewing.

If you have access to a printer capable of outputting the tabloid size (11" x 17") paper, then output the tiled version of the diagram as follows:

- 1) Note the page number(s) of the schematics you want to output as indicated in the middle window at the bottom of the viewing screen.
- 2) Go to the File menu and select Print Set-up. Choose the printer name and driver for your printer. Confirm that the plotter settings are set to output 11" x 17", or tabloid size paper in landscape () mode.
- 3) Close the Print Set Up screen and return to the File menu. Select "Print..." Input the page number of the schematic(s) you want to print in the print range window. Choose OK.

TO PRINT SPECIFIC SECTIONS OF A SCHEMATIC

To print just a particular section of a PDF, rather than a full page, access the Graphics Select tool in the Acrobat Reader tool bar.

- 1) To view the Graphics Select Tool, press and HOLD the mouse button over the Text Select Tool which looks like: .
This tool will expand to reveal to additional tools.
Choose the Graphics Select tool by placing the cursor over the button on of the far right that looks like: .
- 2) After selecting the Graphics Select Tool, place your cursor in the document window and the cursor will change to a plus (+) symbol. Click and drag the cursor over the area you want to print. When you release the mouse button, a marquee (or dotted lined box) will be displayed outlining the area you selected.
- 3) With the marquee in place, go to the file menu and select the "Print..." option. When the print window appears, choose the option under the section called "Print Range" which says "Selected Graphic".

Select OK and the output will print only the area that you outlined with the marquee. 