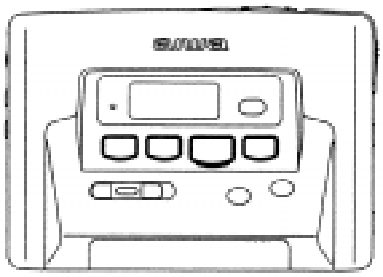
aiwa
SERVICE

HS-JX803 YH
HS-JX804 AH



SERVICE MANUAL

STEREO RADIO
CASSETTE RECORDER

BASIC TAPE MECHANISM : 6ZM–2 R2

aiwa

S/M Code No. 09-989-293-0OT

SPECIFICATIONS

Frequency range:

Reception area "EU" AM 531 – 1,602kHz (9kHz steps)
FM1,FM2 87.5 – 108MHz (50kHz steps)

Reception area "USA" AM 530 – 1,710kHz (10 kHz steps)
FM1,FM2 87.5 – 108.1MHz (200kHz steps)

Reception area "JPN" AM 531 – 1,629kHz (9kHz steps)
FM1, FM2 76 – 108MHz (100kHz step in 76 – 90 MHz, 50kHz step in 90 – 108MHz)

Maximum output: 4 mW + 4 mW (EIAJ 32 ohms)

Power source: 804AH :
DC 1.2V using supplied rechargeable battery NB-3A
DC 1.5V using an R6 (size AA) dry cell battery AC house current using the optional AC adaptor

Maximum dimensions: 111.4 (W) x 79.7 (H) x 38.2 (D) mm
($4^1/_2$ x $3^1/_4$x $1^3/_{16}$ in.)

Weight: Approx.146g (5.1oz) (excluding batteries)

<Battery charger RB-N01>

Rated voltage: AC 115V – 230V, 50/60Hz

- Design and specifications are subject to change without notice.
- "DOLBY" and the double-D symbol ⧫ are trademarks of Dolby Laboratories Licensing Corporation.

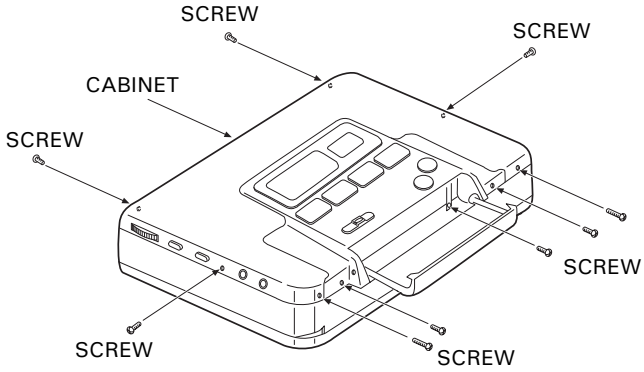
ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-HJ5-901-010		IB,EC
2	87-B30-170-010		HEADPHONE,HP-M007A
3	86-HJ4-950-010		CASE,CARRYING
4	87-041-083-110		CM-S40A
5	87-B30-135-010		CHARGER,RB-N01HNC
6	87-047-153-210		BAT,NB-3A PH

DISASSEMBLY INSTRUCTIONS

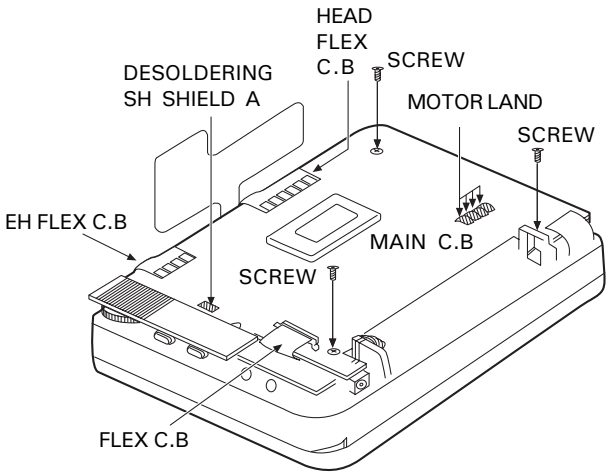
• REMOVAL OF CABINET

1) Remove the 9 screws.
2) Remove the cabinet.



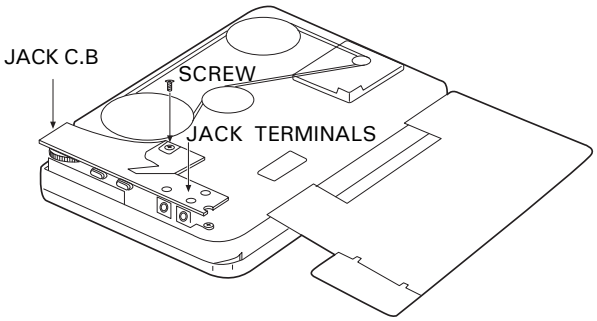
• REMOVAL OF MAIN C.B

1) Remove the 3 screws.
2) Remove SH SHIELD A.
3) Remove the EH FLEX C.B.
4) Remove the HEAD FLEX C.B.
5) Remove the FLEX C.B from the connector.
6) Remove the soldering of the motor terminal.
7) Remove the battery terminal from the holder and pull up the MAIN C.B.



• REMOVAL OF JACK C.B

1) Remove the screw on the JACK C.B.
2) Remove the soldering of the jack terminals.
3) Pull up the JACK C.B.



ELECTRICAL MAIN PARTS LIST

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-745-040		C-IC,TA2030FN
	87-A20-076-040		C-IC,TA2022AFN
	87-A20-124-080		IC,TK11823
	87-A20-441-010		C-IC,BA3632K
	87-A20-818-040		C-IC,NJM2185AV
	87-A20-580-040		C-IC,BA3641FV
	87-A20-878-040		C-IC,TK70403M
	87-A20-880-010		C-IC,TC9327F-017
	87-A21-050-040		C-IC,S-808010ANNP-E72-T2
	87-A20-755-080		C-IC,AK93C45AF
	87-A20-757-040		C-IC,S-80815ANNP-EDC-T2
	87-A20-961-040		C-IC,MM1279XV
	87-A20-603-040		C-IC,RN5RK241A
TRANSISTOR			
	87-026-482-080		TR,RN4610
	87-A30-188-080		C-TR,2SC4915(O)
	89-342-153-080		TR,2SC4215
	87-026-343-080		C-TR,DTC123JU
	89-508-814-080		C-FET 2SK881 Y
	87-026-425-080		C-TR,RN2307
	87-026-480-080		TR,RN4605 (0.3W)
	89-508-804-080		CHIP FET 2SK880Y
	89-341-165-080		CHIP TRANSISTOR 2SC4116GR
	87-026-597-080		C-TR,UMH3
	87-026-352-080		CHIP-TR,DTC144TU
	89-113-625-080		TR,2SA1362GR(120MHZ,0.
	87-026-585-080		C-TR,IMX1 HQQ
	87-026-461-080		C-TR IMH3
	87-026-532-080		C-TR,RN2907
	87-026-596-080		C-TR,UMH9
	87-026-424-080		C-TR,RN2306
	87-026-524-080		CHIP TR,HN1C03F U(B)
	89-413-284-080		TR,2SD1328T
	87-026-346-080		CHIP-TR,DTC114YU
	87-A30-228-080		C-TR,UMB3
	87-026-481-080		TR,RN4607 (0.3W)
	89-342-132-080		TR,2SC4213
	87-026-648-080		C-TR,UPA608T
DIODE			
	87-017-366-080		DIODE,DAN 202U
	87-017-367-080		DIODE,DAP 202U
	87-001-553-080		C-DIODE 1SS322
MAIN C.B			
	87-A90-291-080		C-FLTR,KMFC5132-AE-TC
BPF201	81-HW1-628-080		CHIP BAND PASE FILTER
C201	87-A10-031-080		C-CAP,U 0.01-25 KB
C202	87-012-274-080		CHIP CAP,U 1000P-50B
C203	87-A10-031-080		C-CAP,U 0.01-25 KB
C204	87-012-270-080		CHIP CAP 470P
C205	87-A10-031-080		C-CAP,U 0.01-25 KB
C206	87-012-165-080		CAP 3P
C207	87-012-162-080		C-CAP,U 1P-50 CK
C208	87-A10-031-080		C-CAP,U 0.01-25 KB
C209	87-012-193-080		C-CAP,U 82P-50 CH
C210	87-A10-368-080		C-CAP,S 2.2-10 Z F
C211	87-A10-030-080		C-CAP,U 100P-50 CH
C212	87-A10-030-080		C-CAP,U 100P-50 CH
C214	87-012-275-080		C-CAP,U 1200P-50 B
C251	87-A10-368-080		C-CAP,S 2.2-10 Z F
C254	87-A10-031-080		C-CAP,U 0.01-25 KB
C257	87-A10-263-080		C-CAP,U 0.1-16ZF
C259	87-012-172-080		CAPACITOR CHIP U 10P CH
C260	87-012-180-080		C-CAP,U 22P-50 CH
C261	87-012-140-080		CAP 470P
C262	87-012-245-080		C-CAP,U 15P-50 UJ
C263	87-010-787-080		CAP, U 0.022-25
C264	87-012-274-080		CHIP CAP,U 1000P-50B
C265	87-A10-353-080		C-CAP,U0.22-10KB
C266	87-010-787-080		CAP, U 0.022-25
C267	87-A10-263-080		C-CAP,U 0.1-16ZF
C268	87-A10-249-080		C-CAP,U 1-10 ZF
C269	87-012-273-080		C-CAP,U 820P-50 B
C270	87-A10-031-080		C-CAP,U 0.01-25 KB
C271	87-A10-418-080		C-CAP,TN 22-4 A TCF
C272	87-A10-249-080		C-CAP,U 1-10 ZF
C273	87-A10-422-080		C-CAP,TN 10-4 A TCF
C274	87-012-274-080		CHIP CAP,U 1000P-50B
C275	87-012-282-080		CAP, U 4700P-50
C276	87-012-349-080		C-CAP,S 1000P-50 CH
C277	87-010-829-080		CAP, U 0.047-16
C278	87-012-274-080		CHIP CAP,U 1000P-50B
C279	87-012-282-080		CAP, U 4700P-50
C280	87-012-282-080		CAP, U 4700P-50
C281	87-A10-249-080		C-CAP,U 1-10 ZF
C282	87-A10-249-080		C-CAP,U 1-10 ZF
C283	87-A10-418-080		C-CAP,TN 22-4 A TCF
C284	87-A10-368-080		C-CAP,S 2.2-10 Z F
C301	87-010-787-080		CAP, U 0.022-25
C302	87-A10-419-080		C-CAP,TN 1-16 A TCF
C303	87-A10-707-080		C-CAP,U 0.47-10 ZF
C304	87-A10-251-080		C-CAP,TN 33-2.5 A
C305	87-A10-264-080		C-CAP,S0.1-16 ZF
C306	87-012-167-080		C-CAP,U 5P-50 CH
C307	87-012-174-080		CAP CHIP CERA SS 12P CHJ
C308	87-012-191-080		CHIP CAP 68 PF
C401	87-012-274-080		CHIP CAP,U 1000P-50B
C402	87-012-274-080		CHIP CAP,U 1000P-50B
C403	87-012-274-080		CHIP CAP,U 1000P-50B
C404	87-012-274-080		CHIP CAP,U 1000P-50B
C405	87-016-117-080		C-CAP,U 0.018-25 J B
C406	87-016-117-080		C-CAP,U 0.018-25 J B
C407	87-016-296-080		C-CAP,TN 22-4SV(A)
C408	87-016-296-080		C-CAP,TN 22-4SV(A)
C409	87-010-828-080		CHIP CAPACITOR,U 0.033-25F
C410	87-010-828-080		CHIP CAPACITOR,U 0.033-25F
C411	87-A10-262-080		C-CAP,U 1-10 ZF
C412	87-A10-262-080		C-CAP,U 1-10 ZF
C415	87-012-272-080		C-CAP,U 680P-50 B
C416	87-012-272-080		C-CAP,U 680P-50 B
C417	87-A10-262-080		C-CAP,U 1-10 ZF
C418	87-A10-262-080		C-CAP,U 1-10 ZF
C419	87-A10-263-080		C-CAP,U 0.1-16ZF
C420	87-A10-263-080		C-CAP,U 0.1-16ZF
C423	87-A10-703-080		C-CAP,TN 47-2.5 M A
C424	87-A10-263-080		C-CAP,U 0.1-16ZF
C425	87-016-296-080		C-CAP,TN 22-4SV(A)
C426	87-010-829-080		CAP, U 0.047-16
C427	87-A10-781-080		C-CAP,U 0.15-10 K B
C428	87-016-504-080		C-CAP,TN 6.8-4(A2)
C429	87-A10-260-080		C-CAP,U 0.1-16 K B
C431	87-016-296-080		C-CAP,TN 22-4SV(A)
C432	87-016-286-080		C-CAP,TN 2.2-6.3 F93
C433	87-A10-263-080		C-CAP,U 0.1-16ZF
C434	87-010-274-080		C-CAP,TN 3.3-4
C435	87-A10-704-080		C-CAP,TN 100-2.5 M B2
C436	87-010-787-080		CAP, U 0.022-25
C437	87-A10-263-080		C-CAP,U 0.1-16ZF
C438	87-012-273-080		C-CAP,U 820P-50 B
C439	87-A10-263-080		C-CAP,U 0.1-16ZF
C440	87-A10-263-080		C-CAP,U 0.1-16ZF
C441	87-010-746-080		CAP, TANTAL 10-4
C442	87-012-274-080		CHIP CAP,U 1000P-50B
C443	87-A10-827-080		C-CAP,U 0.47-6.3 K B

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
C444	87-A10-827-080		C-CAP,U 0.47-6.3 K B
C445	87-A10-353-080		C-CAP,U0.22-10KB
C446	87-A10-353-080		C-CAP,U0.22-10KB
C450	87-A10-262-080		C-CAP,U 1-10 ZF
C451	87-A10-262-080		C-CAP,U 1-10 ZF
C452	87-A10-262-080		C-CAP,U 1-10 ZF
C453	87-012-274-080		CHIP CAP,U 1000P-50B
C501	87-012-274-080		CHIP CAP,U 1000P-50B
C502	87-012-274-080		CHIP CAP,U 1000P-50B
C503	87-012-274-080		CHIP CAP,U 1000P-50B
C504	87-012-274-080		CHIP CAP,U 1000P-50B
C505	87-A10-262-080		C-CAP,U 1-10 ZF
C506	87-A10-262-080		C-CAP,U 1-10 ZF
C507	87-A10-262-080		C-CAP,U 1-10 ZF
C508	87-A10-262-080		C-CAP,U 1-10 ZF
C509	87-A10-262-080		C-CAP,U 1-10 ZF
C510	87-A10-262-080		C-CAP,U 1-10 ZF
C511	87-A10-262-080		C-CAP,U 1-10 ZF
C512	87-A10-262-080		C-CAP,U 1-10 ZF
C513	87-012-271-080		CAP, U 560P-50
C514	87-012-267-080		C-CAP,U 270P-50 B
C515	87-012-278-080		C-CAP,U 2200P-50 B
C516	87-A10-031-080		C-CAP,U 0.01-25 KB
C517	87-A10-031-080		C-CAP,U 0.01-25 KB
C518	87-012-279-080		C-CAP,U 2700P-50 B
C519	87-016-296-080		C-CAP,TN 22-4SV(A)
C520	87-010-746-080		CAP, TANTAL 10-4
C521	87-A10-262-080		C-CAP,U 1-10 ZF
C522	87-A10-262-080		C-CAP,U 1-10 ZF
C523	87-015-923-080		C-CAP,TN 0.22-35
C524	87-015-923-080		C-CAP,TN 0.22-35
C525	87-010-787-080		CAP, U 0.022-25
C526	87-010-787-080		CAP, U 0.022-25
C527	87-A10-704-080		C-CAP,TN 100-2.5 M B2
C528	87-016-296-080		C-CAP,TN 22-4SV(A)
C529	87-A10-031-080		C-CAP,U 0.01-25 KB
C530	87-010-746-080		CAP, TANTAL 10-4
C531	87-A10-262-080		C-CAP,U 1-10 ZF
C532	87-A10-262-080		C-CAP,U 1-10 ZF
C533	87-010-505-080		CAP, CHIP TANTALUM 1-16
C534	87-A10-263-080		C-CAP,U 0.1-16ZF
C535	87-010-196-080		CHIP CAPACITOR,0.1-25
C536	87-010-196-080		CHIP CAPACITOR,0.1-25
C601	87-A10-263-080		C-CAP,U 0.1-16ZF
C603	87-A10-031-080		C-CAP,U 0.01-25 KB
C604	87-016-296-080		C-CAP,TN 22-4SV(A)
C605	87-012-172-080		CAPACITOR CHIP U 10P CH
C606	87-012-172-080		CAPACITOR CHIP U 10P CH
C607	87-A10-025-080		C-CAP,U 0.22-16Z F
C608	87-A10-263-080		C-CAP,U 0.1-16ZF
C609	87-A10-263-080		C-CAP,U 0.1-16ZF
C610	87-A10-263-080		C-CAP,U 0.1-16ZF
C611	87-A10-263-080		C-CAP,U 0.1-16ZF
C613	87-A10-262-080		C-CAP,U 1-10 Z F
C701	87-A10-031-080		C-CAP,U 0.01-25 KB
C702	87-A10-260-080		C-CAP,U 0.1-16 K B
C703	87-A10-950-080		C-CAP,S 4.7-10 ZF
C704	87-A10-263-080		C-CAP,U 0.1-16ZF
C705	87-A10-025-080		C-CAP,U 0.22-16Z F
C706	87-A10-707-080		C-CAP,U 0.47U-16 F Z
C707	87-A10-031-080		C-CAP,U 0.01-25 KB
C708	87-A10-031-080		C-CAP,U 0.01-25 KB
C709	87-A10-031-080		C-CAP,U 0.01-25 KB
C801	87-010-674-080		CAP, ELECT 220-2
C805	87-016-296-080		C-CAP,TN 22-4SV(A)
CF251	87-A90-456-080		C-FLTR,PFWCC 450J3
CN401	87-A60-473-080		C-CONN,18P H SFV2ST
D201	87-A40-517-040		C-VARI-CAP,SVC208
D202	87-A40-517-040		C-VARI-CAP,SVC208
D251	87-A40-462-040		C-VARI-CAP,SVC347(S)
IFT251	87-005-788-080		C-IFT,AM (450K)
J801	87-A60-319-010		JACK,DC DIA 2.75
L201	87-A50-245-080		C-COIL,S 0.1UH G
L202	87-A50-244-080		C-COIL,S 82NH G
L203	87-005-564-080		CHIP-COIL S2.2MH
L251	88-HJ3-610-010		BAR-ANT,MW
L252	87-A50-194-080		C-COIL, 100UH J NL252018
L253	87-003-245-080		C-COIL,22UH
L301	87-A50-037-080		C-COIL,D-D 5CDLU
L403	87-A50-322-080		C-COIL,S BK2125LM252
L404	87-HJ2-613-010		COIL,LOADING3.3UH
L405	87-003-245-080		C-COIL,22UH
L501	87-HJ3-605-080		C-COIL,OSC BIAS
L803	87-003-089-110		CHOKE COIL,47UH FL5R200F
L804	87-003-089-110		CHOKE COIL,47UH FL5R200F
L805	87-003-246-080		C-COIL,33UH
LCD601	88-HJ3-608-010		LCD,AIW4145
LED601	87-070-079-080		C-LED,SML-010 VT
PS601	87-A90-440-010		SNSR,PHOTO GP2S24N2-B
R403	87-022-432-080		C-RES,U 270-1/16WF
R404	87-022-432-080		C-RES,U 270-1/16WF
R405	87-022-437-080		C-RES,U 430-1/16WF
R406	87-022-437-080		C-RES,U 430-1/16WF
R434	87-022-252-080		C-RES,U 36K-1/16WF
R612	87-022-245-080		C-RES,U 18K-1/16WF
R613	87-022-245-080		C-RES,U 18K-1/16WF
R616	87-022-223-080		C-RES,U 2.2K-1/16WF
R617	87-022-223-080		C-RES,U 2.2K-1/16WF
R618	87-022-223-080		C-RES,U 2.2K-1/16WF
R619	87-022-227-080		C-RES,U 3.3K-1/16WF
R620	87-022-227-080		C-RES,U 3.3K-1/16WF
R621	87-022-231-080		C-RES,U 4.7K-1/16WF
R804	87-022-569-080		C-RES,0.47-1/2WK
S501	87-036-415-080		C-SW,SL 1-3BSSSS8
S601	87-036-220-080		C-SW,TACT SKQBAA
S602	87-A90-361-010		SW,PUSH SPPB51-H11.3
S603	87-A90-356-210		SW,LEAF 6ZM-2
S604	87-036-373-080		C-SW,SLIDE 1-1-2(E)
S605	87-036-220-080		C-SW,TACT SKQBAA
S606	87-A90-665-080		C-SW,TACT LS7A2M
S607	87-A90-665-080		C-SW,TACT LS7A2M
S608	87-A90-665-080		C-SW,TACT LS7A2M
S609	87-A90-665-080		C-SW,TACT LS7A2M
S610	87-A90-665-080		C-SW,TACT LS7A2M
S611	87-036-203-180		C-SW,SL1-1-3 SSSS81
S614	87-HJ3-608-010		SW,LEAF REC ASSY
S615	87-HJ3-608-010		SW,LEAF REC ASSY
SFR701	87-024-406-080		C-SFR,6.8K RH03A3A
TC201	87-011-189-080		TRIMMER CHIP CTZ-10A
TC202	87-A90-688-080		C-TRIMMER,30P CTZ2S-30C
TC251	87-011-189-080		TRIMMER CHIP CTZ-10A
TH701	87-A90-855-080		C-THMS,SC20-3K102K
VR251	87-A90-027-080		C-SFR,22K H CVR-32
X601	87-A70-078-110		VIB,XTAL 75KHZ KF-26R5

JACK C.B

C413	87-A10-262-080		C-CAP,U 1-10 ZF
C414	87-A10-262-080		C-CAP,U 1-10 ZF
C421	87-010-673-080		CAP, ELECT 100-2
C422	87-010-673-080		CAP, ELECT 100-2
J402	87-A60-273-010		JACK,3.5 ST 5P
J501	87-A60-416-010		JACK,3.5 BLK ST 3P
L401	87-A50-322-080		C-COIL,S BK2125LM252
L402	87-A50-322-080		C-COIL,S BK2125LM252
S612	87-A90-378-080		C-SW,PUSH PTO35C1T
S613	87-A90-378-080		C-SW,PUSH PTO35C1T
VR401	88-HJ3-609-080		C-VR,RTRY 50KCX2 XV0103G

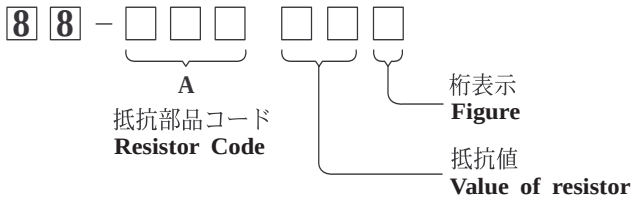
DD C.B

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
C802	87-016-444-080		C-CAP,TN 47-10 F95E
C803	87-016-444-080		C-CAP,TN 47-10 F95E
C804	87-A10-034-080		C-CAP,TN 33-10(B2)
L801	87-A50-174-080		C-COIL, 82UH 7004-2
L802	87-A50-010-080		C-COIL,22UH LQH3C
FLEX C.B			
	88-HJ3-606-010		PWB,FLEX 18P
HEAD FLEX C.B			
RPH	86-ZM2-323-010		HEAD ASSY,R2
DD CON FLEX C.B			
	88-HJ3-607-010		PWB,FLEX 4P
EH FLEX C.B			
	86-ZM2-326-010		HEAD ASSY,EH 6ZM-2 R2

○チップ抵抗部品コード／**CHIP RESISTOR PART CODE**

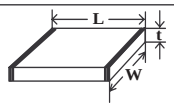
チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding

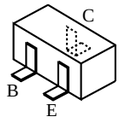


チップ抵抗

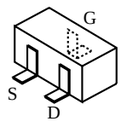
Chip resistor

容量 **Wattage**	種類 **Type**	許容誤差 **Tolerance**	記号 **Symbol**	寸法／**Dimensions** 外形／**Form**	**L**	**W**	**t**	抵抗コード **Resistor** :A
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

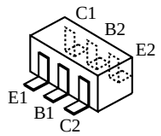
TRANSISTOR ILLUSTRATION



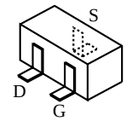
2SA1362 DTC114YU
2SC4116 DTC123JU
2SC4213 DTC144TU
2SC4215 RN2307
2SC4915 RN2306
2SD1328



2SK880

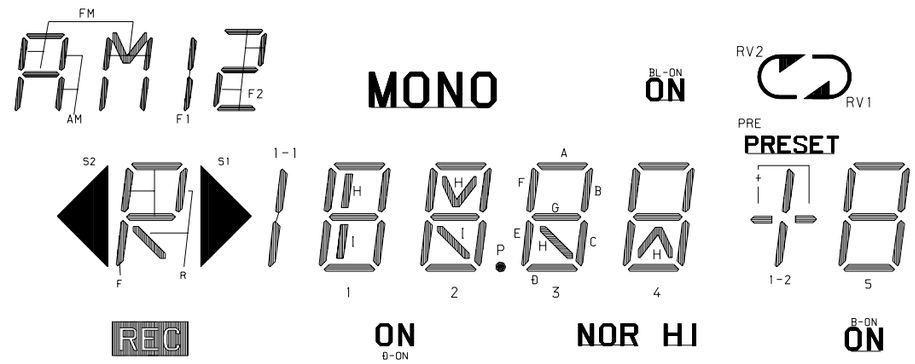


HN1C03F UMH3
RN2907 UMH9
RN4605 IMH3
RN4610 IMX1 HQQ
UMB3 UPA608T
RN4607



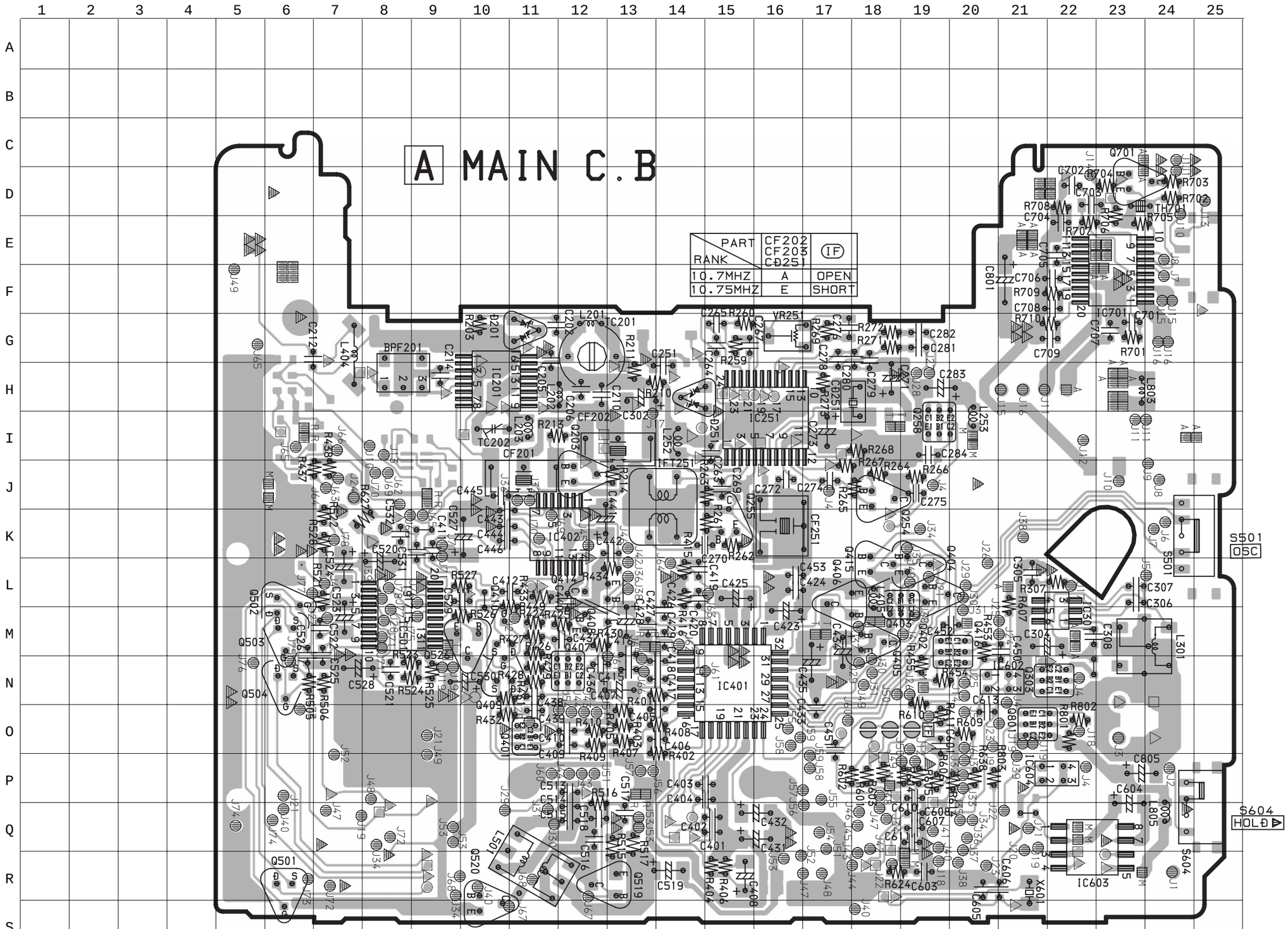
2SK881

LCD DIAGRAM

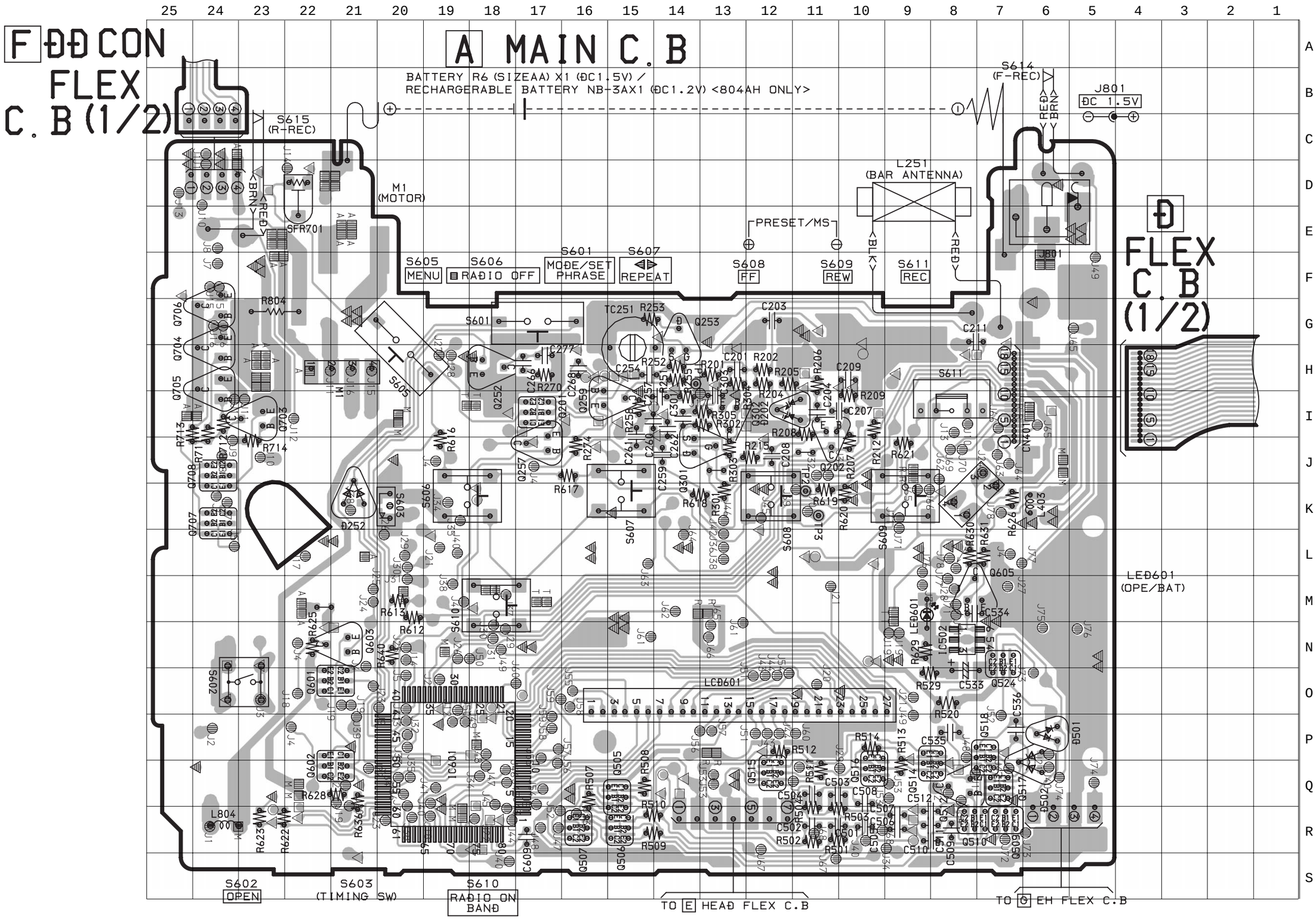


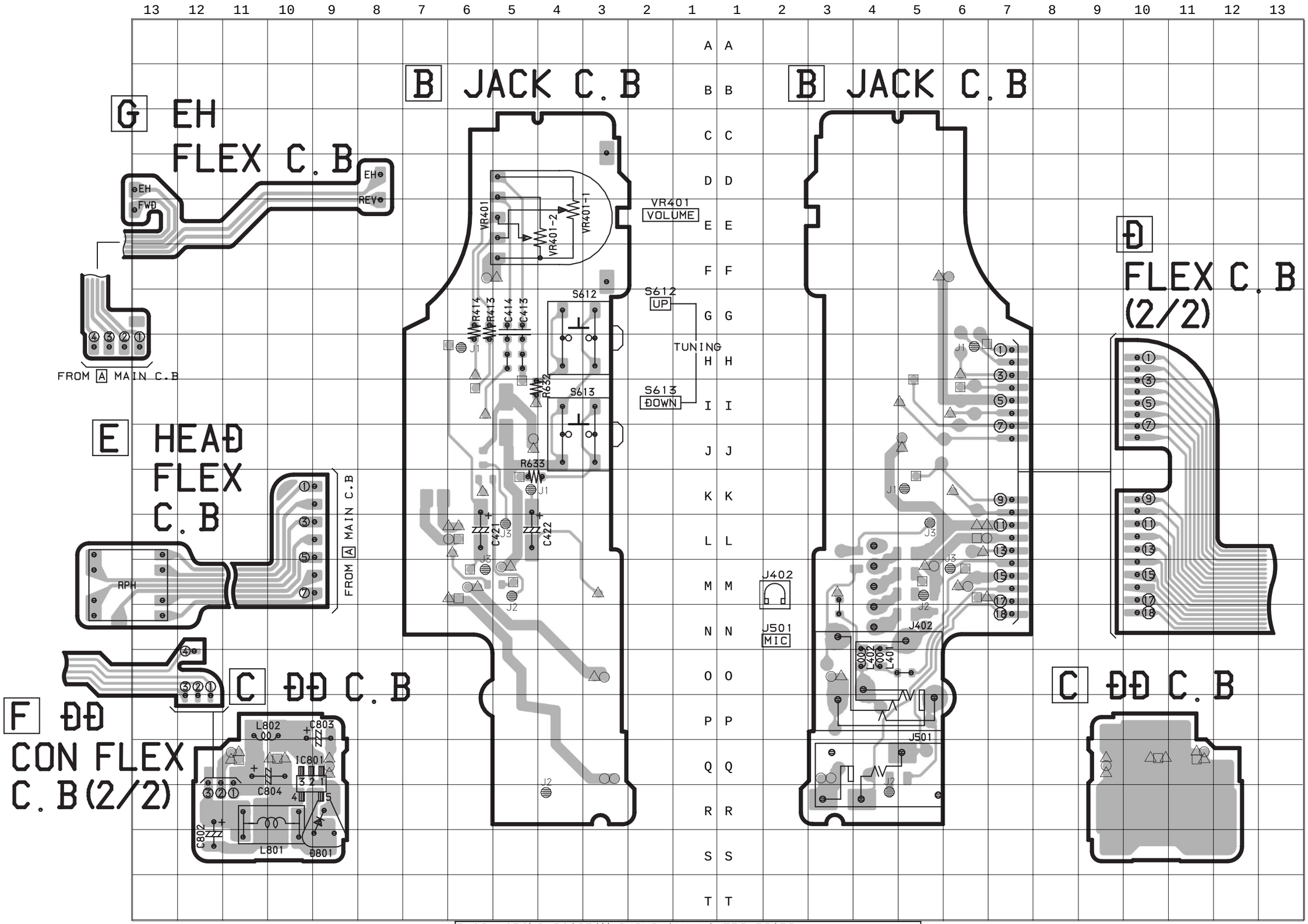
NO	COM1	COM2	COM3	COM4
1	2Đ	2I	2G	NOR
2	P	2C	2B	HI
3	3Đ	3H	——	——
4	3C	3G	3A	+
5	B-ON	4E	4F	5E
6	4Đ	4H	4G	4A
7	——	4C	4B	5Đ
8	——	——	COM3	——
9	——	COM2	——	——
10	COM1	——	——	——
11	5A	5B	5C	5G
12	——	3B	1-2	5F
13	——	3E	3F	PRE
14	——	——	——	COM4
15	——	——	COM3	——
16	——	COM2	——	——
17	COM1	——	——	——
18	MONO	BL-ON	RV2	RV1
19	——	COM2	——	——
20	——	——	COM3	——
21	——	——	——	COM4
22	1-1	1E	1F	1A
23	F	R	AM	F2
24	S2	S1	FM	F1
25	1Đ	1I	1G	1H
26	REC	1C	1B	2A
27	Đ-ON	2E	2F	2H

WIRING-1/2 (MAIN)



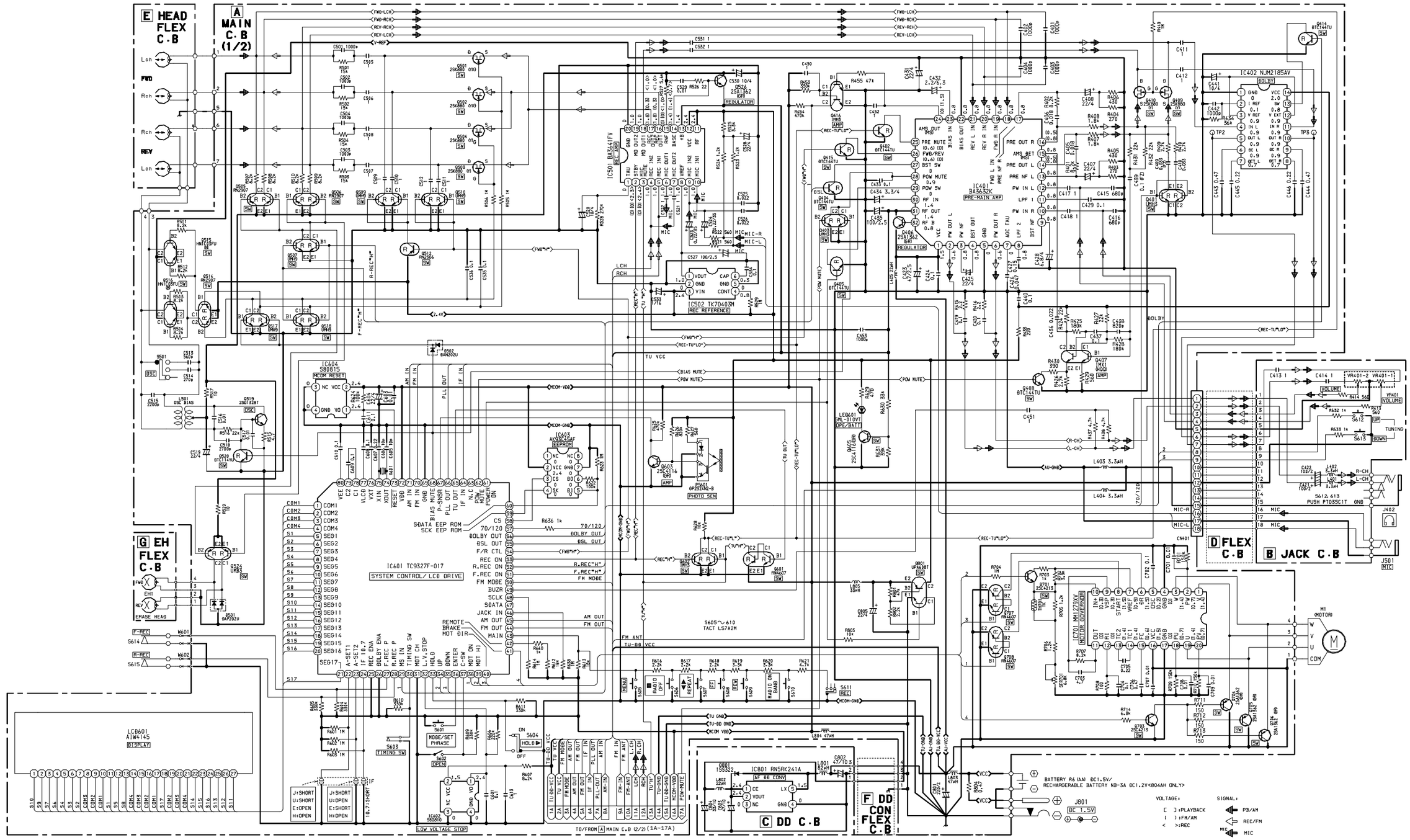
THIS WIRING DIAGRAM SHOWS A 4 LAYER BOARD. THE ▲, ⊖ J1 ∿ J78, ⊟, ⊟A, ⊟M, ⊟R, ⊟T MARKS SHOWS THE CONNECTIONS BETWEEN THE USUAL DOUBLE FACE PATTERNS AND THE PATTERNS ON THE INTERNAL LAYERS THAT CANNOT BE SEEN.
THE PATTERN WITH ▲ MARK ARE CONNECTED TO GND PATTERNS.
THE PATTERN WITH ⊖ J1 ∿ J78 MARK ARE CONNECTED TO JUMPER PATTERNS.
THE PATTERN WITH ⊟ MARK ARE CONNECTED TO VCC PATTERNS.
THE PATTERN WITH ⊟A MARK ARE CONNECTED TO AU/TU DD-VCC PATTERNS.
THE PATTERN WITH ⊟M MARK ARE CONNECTED TO MCOM VDD PATTERNS.
THE PATTERN WITH ⊟T MARK ARE CONNECTED TO TU VCC PATTERNS.
THE PATTERN WITH ⊟R MARK ARE CONNECTED TO VREF PATTERNS.


FDD CON FLEX C.B (1/2)
A MAIN C.B
BATTERY R6 (SIZEAA) X1 (DC1.5V) /
RECHARGERABLE BATTERY NB-3AX1 (DC1.2V) <804AH ONLY>
S614 (F-REC)
J801 DC 1.5V
S615 (R-REC)
M1 (MOTOR)
L251 (BAR ANTENNA)
PRESET/MS
S605 MENU
S606 RADIO OFF
S601 MODE/SET PHRASE
S607 REPEAT
S608 FF
S609 REW
S611 REC
D FLEX C.B (1/2)
LED601 (OPE/BAT)
LCD601
S602 OPEN
S603 (TIMING SW)
S610 RADIO ON BAND
TO E HEAD FLEX C.B
TO G EH FLEX C.B

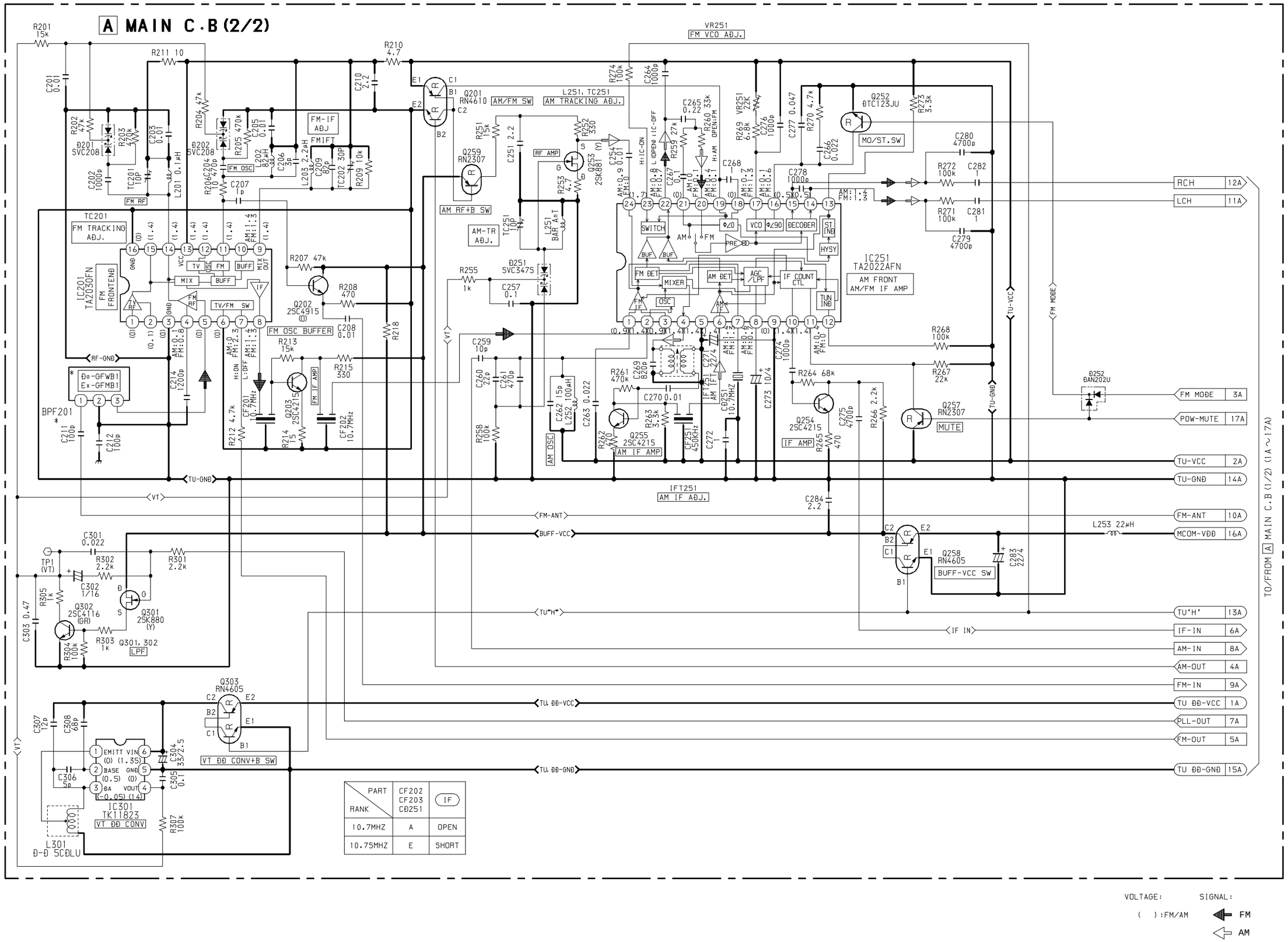


THIS WIRING DIAGRAM SHOWS A 4 LAYERS BOARD.
THE J1 ~ 3 MARKS SHOWS THE CONNECTIONS BETWEEN
THE USUAL DOUBLE FACE PATTERNS AND THE PATTERNS
ON THE INTERNAL LAYERS THAT CANNOT BE SEEN
THE PATTERN WITH J1 ~ 3 ARE CONNECTED TO JUMPER PATTERNS

SCHEMATIC DIAGRAM-1 (MAIN1/2 / JACK / DD)



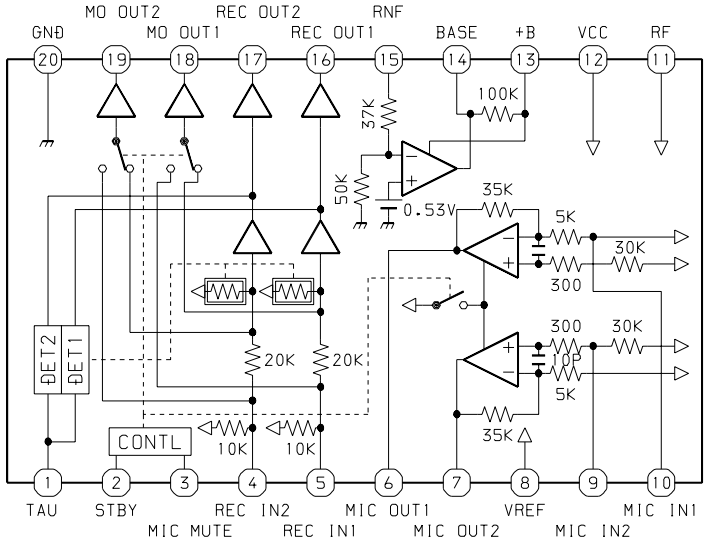
SCHEMATIC DIAGRAM-2 (MAIN 2/2)



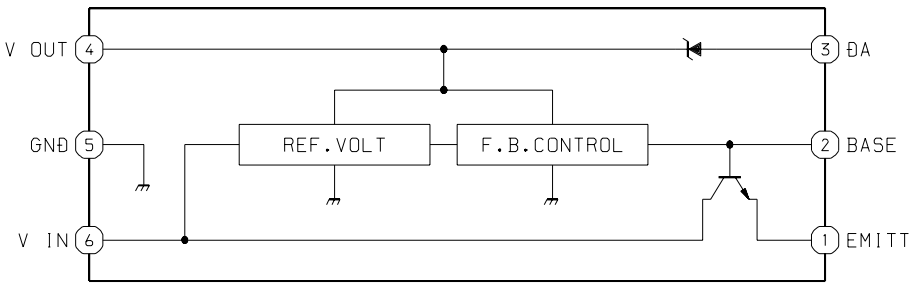
PART / RANK	CF202 CF203 CĐ251 (IF)
10.7MHZ	A (OPEN)
10.75MHZ	E (SHORT)

IC BLOCK DIAGRAM

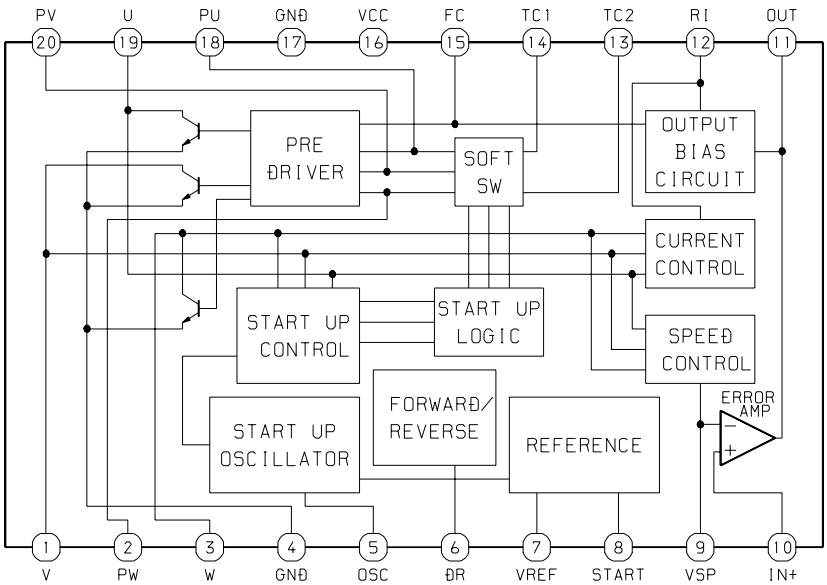
IC,BA3641FV



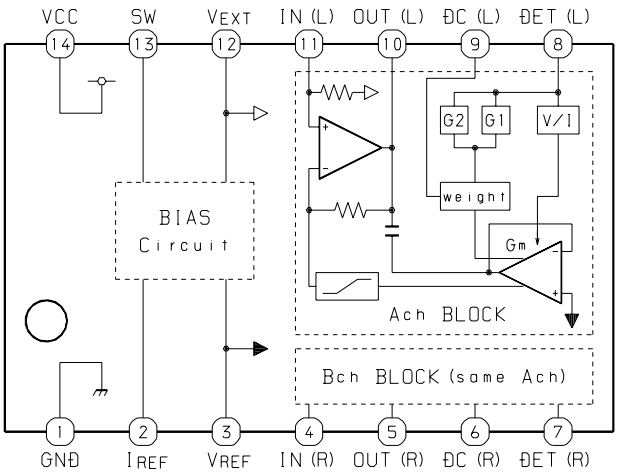
IC,TK11823



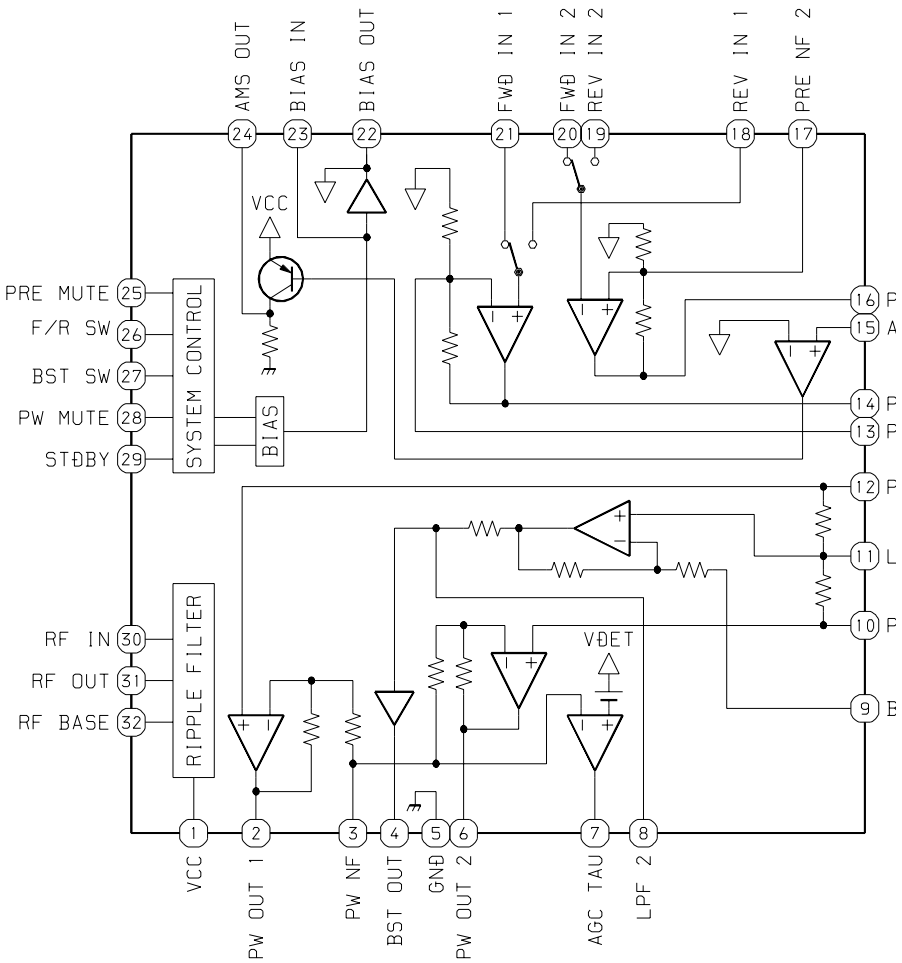
IC,MM1279XV



IC,NJM2185V



IC,BA3632K

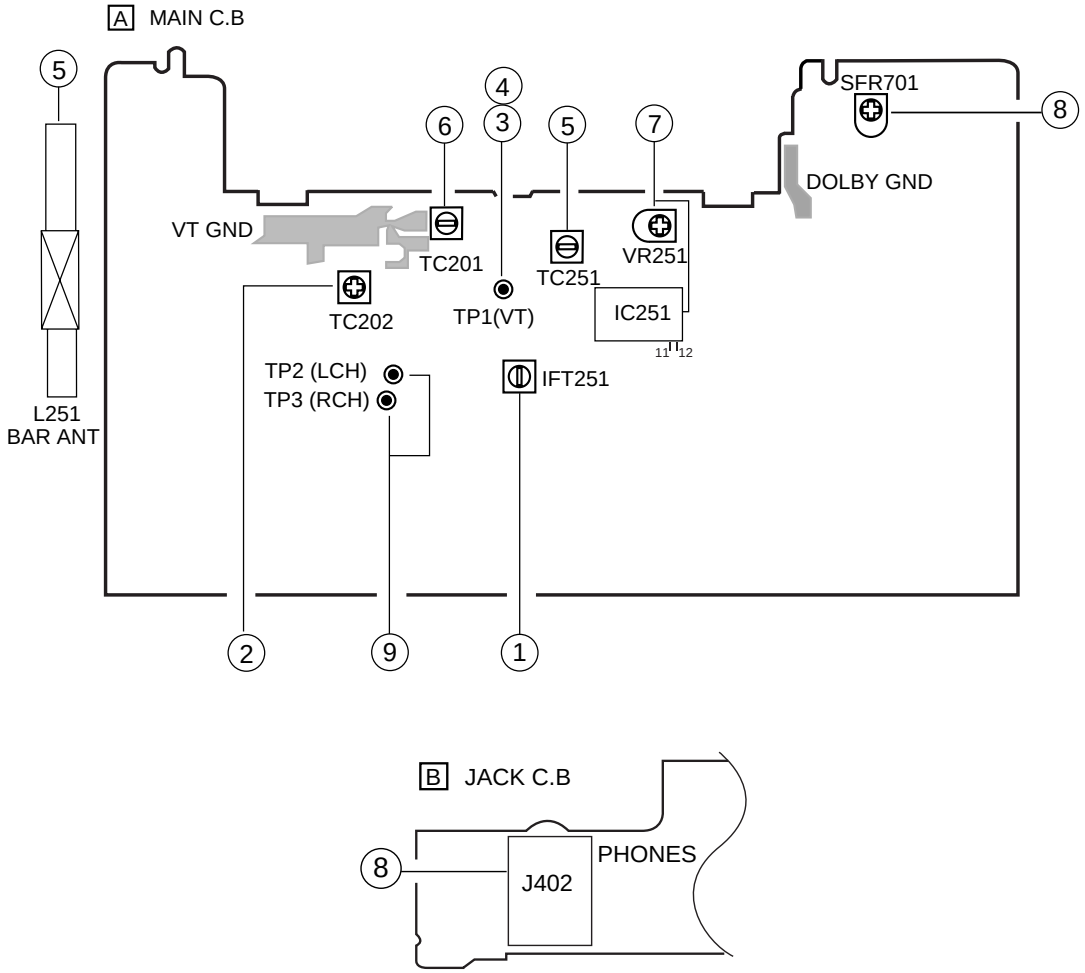


IC DESCRIPTION

IC, TC9327F-017

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1 ~ 4</td><td>COM1~COM4</td><td>O</td><td>LCD common output 1~4.</td></tr>
<tr><td>5 ~ 21</td><td>SEG1 ~ SEG17</td><td>O</td><td>LCD segment output 1~17.</td></tr>
<tr><td>22,23</td><td>A-SET1,2</td><td>I</td><td>Input pin for switching J , U , E , H areas.
<table>
<tr><th></th><th>J area</th><th>U area</th><th>E area</th><th>H area</th></tr>
<tr><td>A-SET1</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>A-SET2</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
</table></td></tr>
<tr><td>24</td><td>IF 10.7</td><td>I</td><td>"H": IF 10.75 MHz. "L": 10.7 MHz.</td></tr>
<tr><td>25</td><td>REC ENA</td><td>I</td><td>Input pin for REC enable. "H": REC enable. "L": REC disable.</td></tr>
<tr><td>26</td><td>DOLBY ENA</td><td>I</td><td>Input pin for DOLBY enable. "H": DOLBY enable. "L": DOLBY disable.</td></tr>
<tr><td>27</td><td>F. REC P</td><td>I</td><td>"H": FWD REC shift disable. "L": enable.</td></tr>
<tr><td>28</td><td>R. REC P</td><td>I</td><td>"H": REV REC shift disable. "L": enable.</td></tr>
<tr><td>29</td><td>MS IN</td><td>I</td><td>Pin to input music sensor signal. "H": music exist. "L": blank.</td></tr>
<tr><td>30</td><td>TIMING SW</td><td>I</td><td>Pin to input for mechanism operation detection.</td></tr>
<tr><td>31</td><td>MOT CH</td><td>I</td><td>Pin to input for motor activation detection.</td></tr>
<tr><td>32</td><td>L.V. STOP</td><td>I</td><td>Stop mechanism operation and hold key input when low voltage is detected.</td></tr>
<tr><td>33</td><td>HOLD</td><td>I</td><td>"H": Hold OFF. "L": Hold ON.</td></tr>
<tr><td>34</td><td>UP</td><td>I</td><td>Up key input pin. "H": Key ON. "L": Key OFF.</td></tr>
<tr><td>35</td><td>DOWN</td><td>I</td><td>Down key input pin. "H": Key ON. "L": Key OFF.</td></tr>
<tr><td>36</td><td>ENTER</td><td>I</td><td>Enter key input pin. "H": Key ON. "L": Key OFF.</td></tr>
<tr><td>37</td><td>C-SW</td><td>I</td><td>Input pin for detecting the presence of cassette. "H": C-SW OFF. "L": C-SW ON.</td></tr>
<tr><td>38</td><td>MOT ON</td><td>O</td><td>Pin to output motor control. "H": Motor ON. "L": Motor OFF.</td></tr>
<tr><td>39</td><td>MOT HI</td><td>O</td><td>Pin to control motor. "H": Motor high speed. "L": Motor normal speed.</td></tr>
<tr><td>40</td><td>MOT DIR</td><td>O</td><td>Pin to output for motor rotation direction. "H": Clockwise. "L": Counter Clockwise.</td></tr>
<tr><td>41</td><td>BRAKE</td><td>O</td><td>Pin to output brake control for motor. "H": Brake ON. "L": Brake OFF.</td></tr>
<tr><td>42</td><td>REMOTE</td><td>I</td><td>Remote control key input pin.</td></tr>
<tr><td>43</td><td>MAIN</td><td>I</td><td>Main unit key input pin.</td></tr>
<tr><td>44</td><td>FM OUT</td><td>O</td><td>Pin to output for FM mode. "H": FM mode. "L" except FM mode.</td></tr>
<tr><td>45</td><td>AM OUT</td><td>O</td><td>Pin to output for AM mode. "H": AM(MW) mode. "L" except AM(MW) mode.</td></tr>
<tr><td>46</td><td>JACK IN</td><td>I</td><td>This is a pin where HP plug input is detected. "H": no plug. "L" plug exist.</td></tr>
<tr><td>47</td><td>SDATA</td><td>O</td><td>Pin to output data for remote controller display.</td></tr>
<tr><td>48</td><td>SCLK</td><td>I</td><td>Pin to input serial clock.</td></tr>
<tr><td>49</td><td>BUZR</td><td>O</td><td>Output buzzer.</td></tr>
<tr><td>50</td><td>FM MODE</td><td>O</td><td>Pin to output FM MONO/ST switching.</td></tr>
<tr><td>51</td><td>F. REC ON</td><td>O</td><td>"H": FWD REC mode. "L": Other mode.</td></tr>
<tr><td>52</td><td>R.REC ON</td><td>O</td><td>"H": REV REC mode. "L": Other mode.</td></tr>
<tr><td>53</td><td>REC ON</td><td>O</td><td>"H": REC mode. "L": Other mode.</td></tr>
<tr><td>54</td><td>F/R CTL</td><td>O</td><td>Output pin for tape run direction. "H": FWD direction. "L": REV direction.</td></tr>
<tr><td>55</td><td>DSL OUT</td><td>O</td><td>Pin to output DSL ON/OFF control.</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
56	DOLBY OUT	O	DOLBY ON/OFF control output pin.
57	70/120	O	Pin to output normal tape and metal tape switching.
58	CS	O	Pin to control READ,WRITE of EEPROM.
59	SCK EEPROM	O	Pin to output serial clock of EEPROM.
60	SDATA EEPROM	I/O	Pin to input/output data of EEPROM.
61	POWER ON	O	"H": POWER ON. "L": POWER OFF.
62	POW MUTE	O	Pin to output muting. "H": MUTE ON. "L": MUTE OFF.
63	NC	–	Not connected.
64	IF IN	I	Pin to input IF signal.
65	TU OUT	O	Output "H". "H": TU mode. "L": except TU mode.
66	PLL OUT	O	Output phase comparison instrument.
67	P-SNSR	I	Pin to input photo sensor waveform output.
68	BIAS MUTE	O	Pin to output mute when REC. "H": MUTE ON. "L": MUTE OFF.
69	GND	–	GND.
70	FM IN	I	Input FM programmable counter.
71	AM IN	I	Input AM programmable counter.
72	VDD	–	Pin to apply voltage.
73	$\overline{\text{RESET}}$	I	Pin to input system reset signal.
74	XOUT	O	Crystal oscillation pin.
75	XIN	I	Crystal oscillation pin.
76	VXT	–	Power supply pin for crystal oscillation.
77	VLCD	–	Reference voltage pin for LCD drive.
78	C1	–	Reference voltage pin for LCD drive.
79	C2	–	Reference voltage pin for LCD drive.
80	VEE	–	1.5V constant voltage power supply pin for LCD drive.



<TUNER SECTION>

1. AM IF Adjustment
   IFT251 ..... 450 kHz

2. FM IF Adjustment
   TC202 ..... 10.7 MHz

3. AM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 531 kHz and check that the test point voltage is 1.3 ± 0.3V. Then set to AM 1602 kHz and check that the test point voltage is less than 6.7~ 8.2V.

4. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 87.5MHz and check that the test point voltage is 3.6 ± 0.4V. Then set to FM 108.0MHz and check that the test point voltage is less than 6.8~9.0V.

5. AM Tracking Adjustment
   L251 ..... 630 kHz
   TC251 .....1440 kHz

6. FM Tracking Adjustment
   TC201 ..... 87.5 MHz

7. FM VCO Adjustment
   Settings : • Adjustment location : VR251
   Method : Connect a frequency counter to pin 11 and 12 of IC251, adjust VR251 for VCO to 19kHz ± 100Hz.

<TAPE PLAYER SECTION>

8. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : PHONES JACK (J402)
   • Volume : MAX.
   • Adjustment location : SFR701
   Method : Play back the test tape and adjust SFR701 for 3015Hz ± 10Hz(FWD) and 3015Hz ± 45Hz (REV).

9. Dolby Level Check
   Settings : • Test tape : TTA-200
   • Test point : TP2(Lch), TP3(Rch)
   • Volume : MIN.
   • DOLBY SW : OFF
   Method : Connect an electrolytic capacitor (10uF/16V) to measured instrument and test point, check the voltage for 31.6mV ± 1dB.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

Sensitivity :	
(IHF, THD 3%)	Less than 17 dB
	[at 87.5 / 98.5 / 108 MHz]
Distortion :	Less than 3% (at 54 dB)
	Less than 5% (at 110 dB)
	[at 98.5 MHz]
Stereo separation :	More than 16 dB
	[at 98.5 MHz]
Auto stop level :	20 dB ± 6 dB
	[at 98.5 MHz]
Intermediate frequency :	10.7/10.75 MHz ± 0.05 MHz

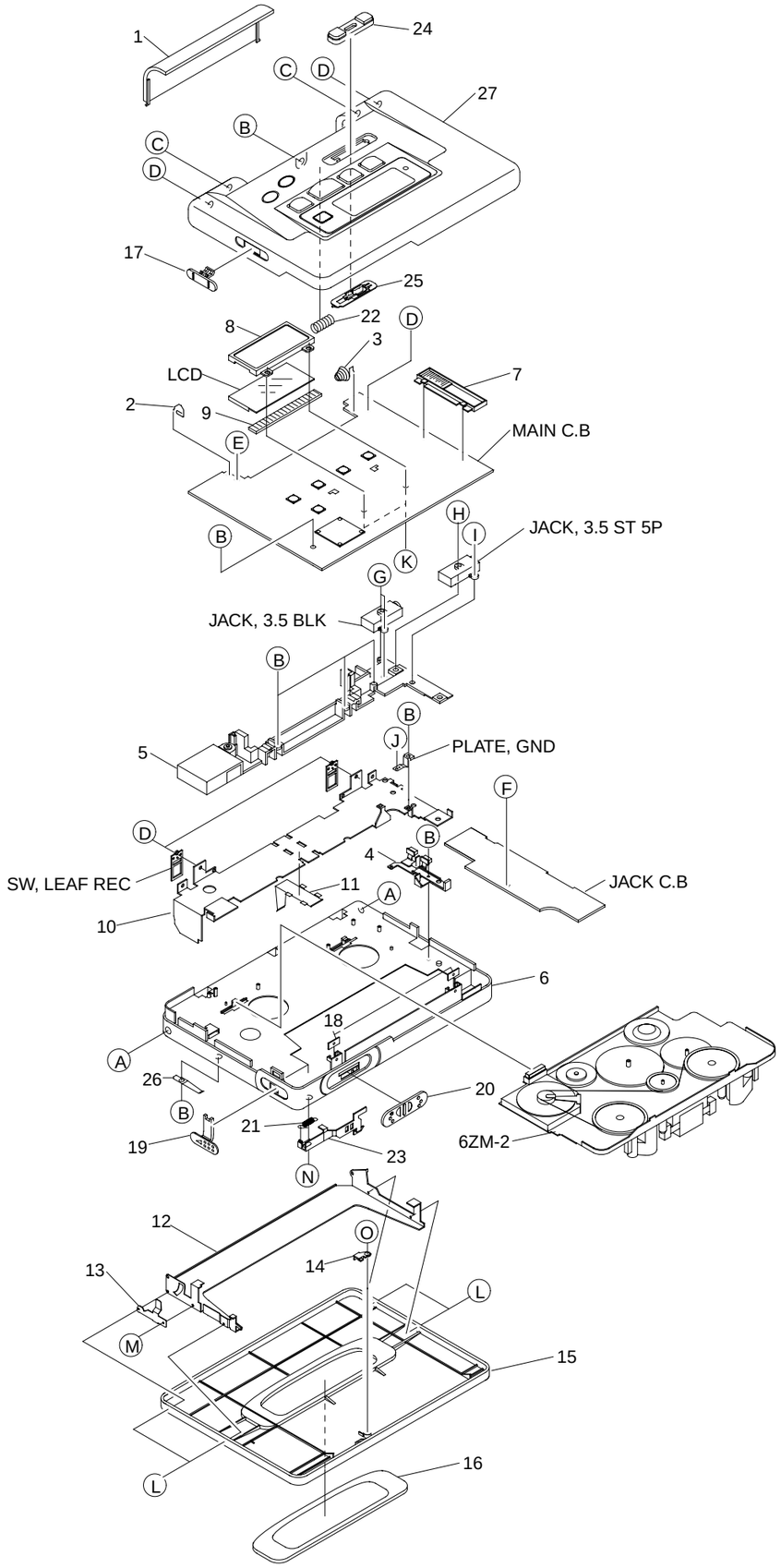
<AM SECTION>

Sensitivity :	
(S/N 10dB)	Less than 58 dB
	[at 630 kHz]
	Less than 56 dB
	[at 999 / 1440 kHz]
S/N ratio :	More than 26 dB
(at 74dB)	[at 630 kHz]
	More than 27 dB
	[at 999 / 1440 kHz]
Distortion :	Less than 5% (at 74 dB)
	Less than 10% (at 120 dB)
	[at 999 kHz]
Auto stop level :	60 dB ± 7 dB
	[at 999 kHz]
Intermediate frequency :	450 kHz ± 3 kHz

<TAPE SECTION>

Tape speed :	3015Hz ± 50Hz
Wow & flutter :	Less than 0.52% (RMS)
Take-up torque :	20 ~ 30g-cm (FWD, REV)
F.F torque :	70 ~ 150g-cm
Rew torque :	70 ~ 150g-cm
Back tension :	1.0 ~ 3.0g-cm (FWD, REV)
S/N ratio :	More than 43dB (PB, DC)
	More than 20dB (REC/PB, DC)
Distortion :	Less than 3.0% (PB, DC)
	Less than 7.0% (REC/PB, DC)
Noise level :	Less than 3.0mV (PB, DC, MAX.)
	Less than 0.3mV (PB, DC, MIN.)
Erasing Ratio:	More than 45dB
Dolby level :	31.6mV ± 1dB
Dolby NR effect :	More than 8.5dB (B-TYPE)
Frequency response :	63Hz +2/–6dB ~ 8kHz ± 4dB
	(NORMAL,PB)
	63Hz +2/–6dB ~ 10kHz ± 4dB
	(CRO2,PB)
	125Hz –4–12dB ~ 8kHz+3/–12dB
	(REC/PB)
Test tape :	MTT–15070
	TTA–100
	TTA–200
	TTA–210
	TTA–320(NORMAL)/
	TTA–310(CRO2)
	TTA–601
	TTA–610

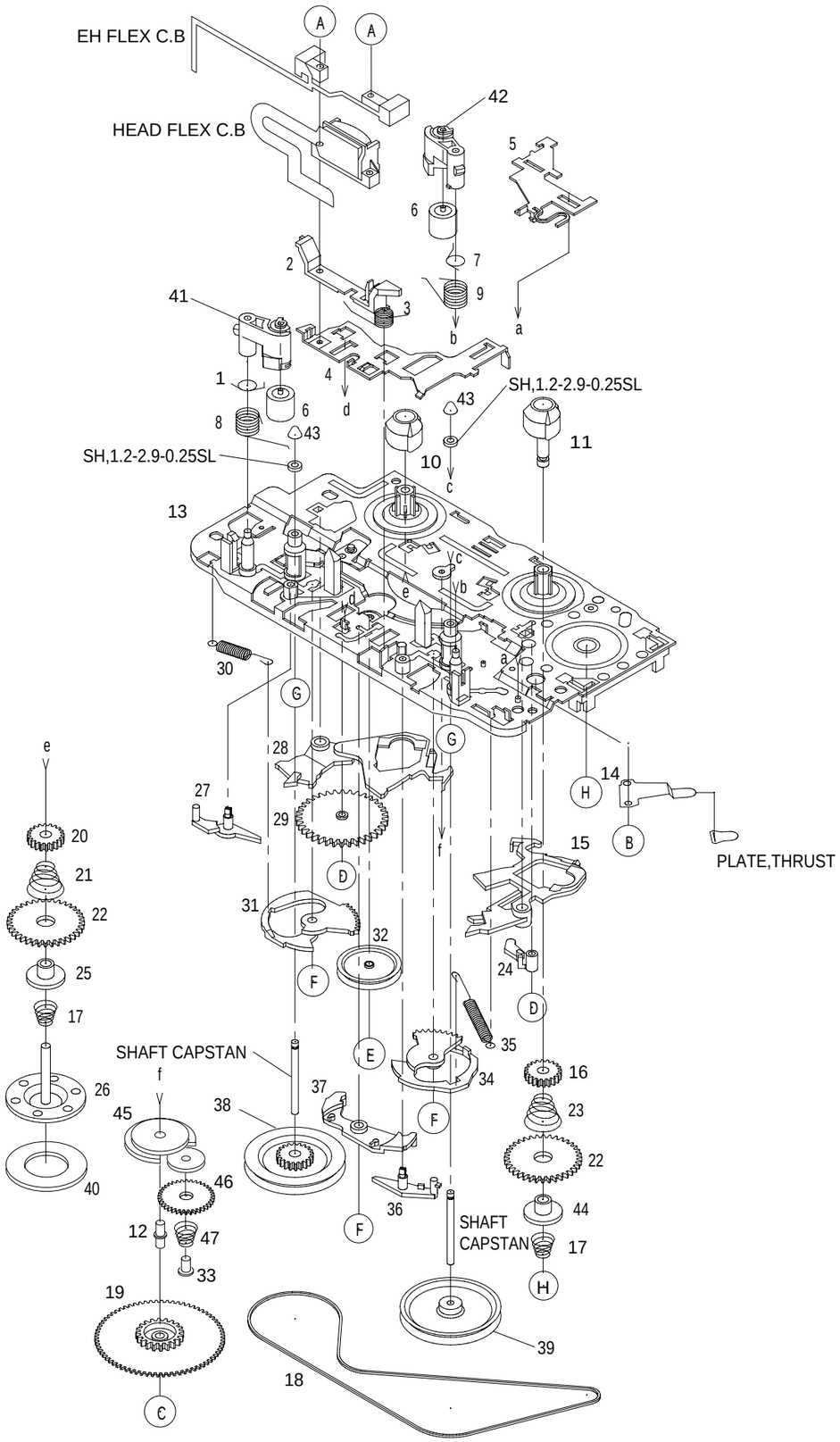
MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-HJ3-006-010		LID,BAT
2	88-HJ3-211-010		TERMINAL,BAT+
3	88-HJ3-212-010		TERMINAL,BAT-
4	88-HJ3-015-010		KEY,TUNING
5	88-HJ3-210-010		HLDR,BAT
6	88-HJ3-020-010		FRAME,CENTER LOW
7	88-HJ3-204-010		HLDR,ANTENNA
8	88-HR4-201-010		HLDR,LCD
9	88-HR4-202-010		CONN, RUBBER LCD
10	88-HJ3-206-010		PLATE,HINGE
11	88-HJ3-205-010		SPR-P,CASS
12	88-HJ3-202-010		HLDR,CASS
13	88-HJ3-203-010		SPR-P,CLICK
14	88-HJ3-201-010		STOPPER,CASS
15	88-HJ5-004-010		LID,CASS S JX803<803YH1>
15	88-HJ5-001-010		LID,CASS S JX804<804AH>
16	88-HJ3-007-010		WINDOW,CASS
17	88-HJ3-010-010		KNOB,SL SIDE
18	88-HJ3-208-010		NUT, FRONT
19	88-HJ3-009-010		KNOB,SL HOLD
20	88-HJ3-008-010		KNOB,SL OPEN
21	87-HR5-225-010		SPR-E,EJECT N
22	82-HK3-206-110		C-SP,LOCK
23	88-HJ3-207-010		PLATE,LOCK
24	88-HJ3-011-010		KNOB,SL REC
25	88-HJ3-012-010		STOPPER,REC
26	87-HR6-219-010		SPR-P,POP UP
27	09-028-357-010		CABI REAR ASSY<803YH1>
27	09-028-358-010		CABI REAR ASSY<804AH>
A	88-HJ3-220-010		S-SCREW,+1.4-0.7-1 CR NL
B	87-067-384-010		SCREWVT1.4-3.5HL
C	86-HK4-224-010		S-SCREW,SERR+1.4-3.5 CR L
D	87-078-153-010		SCRW,1.4-2.5 CR
E	87-067-534-010		SCREW,VT-1.4-6
F	87-078-113-010		S-SCRW,+1.4-3.5 HL(B
G	87-078-185-010		SCRW-SR,1.4-4.5 BL
H	87-262-512-310		V+1.4-5.5
I	87-078-218-010		SCRW-SERR,M1.4-5.3
J	88-HK5-228-010		S-SCREW,+1.4-2 CR
K	88-HR4-222-010		S-SCREW,+1.4-1.6 CR (0.2)
L	86-HJ3-222-010		S-SCREW,SERR+1.4-2 CR L
M	87-078-216-010		SCREW-SR,1.4-1.4B LS
N	87-HK5-235-010		S-SCREW,1.4-0.6-2.5
O	88-HJ3-219-010		S-SCREW,+1.4-2.5 B HL(0.3)

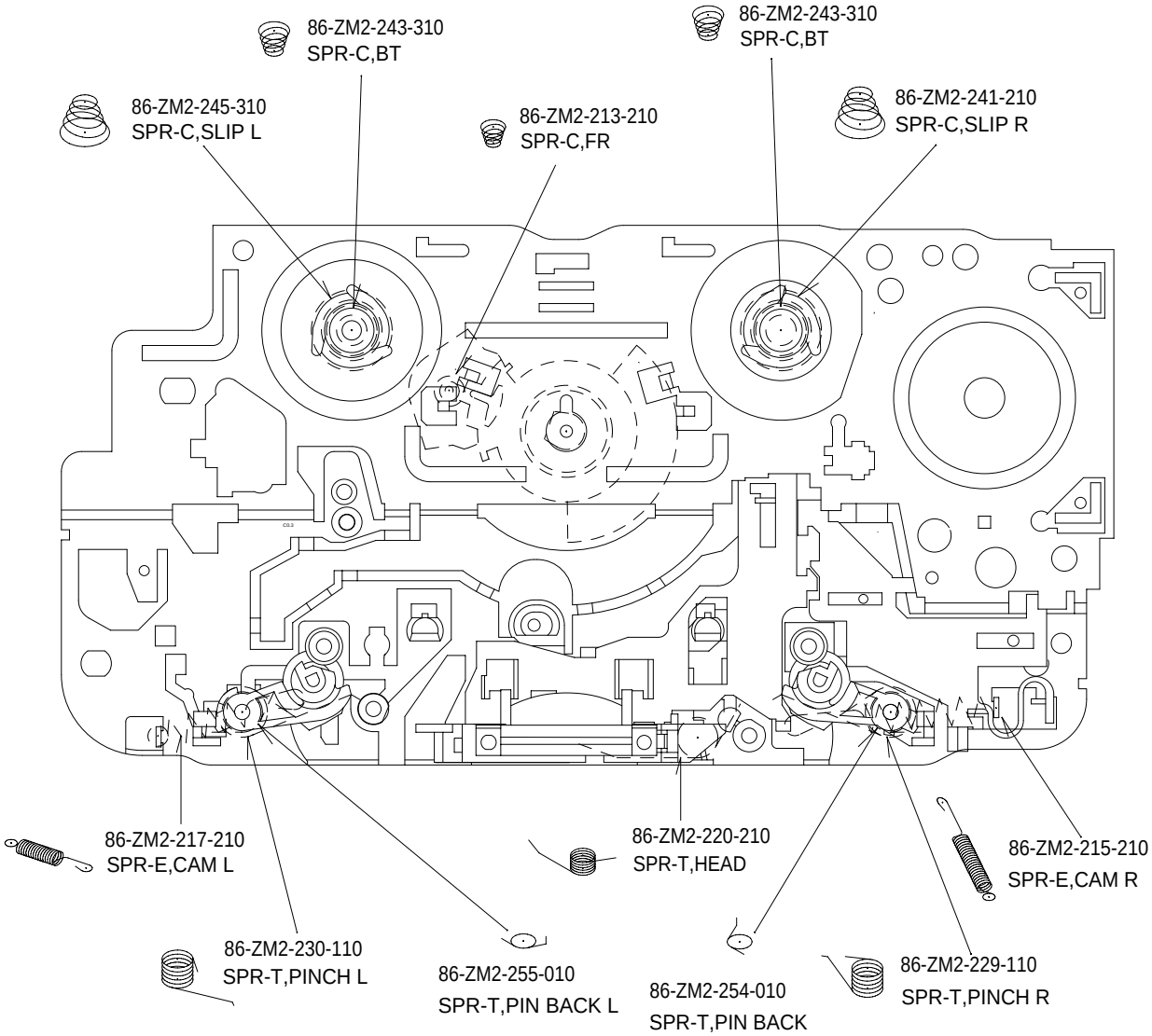
TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM2-255-010		SPR-T,PIN BACK L
2	86-ZM2-286-210		GUIDE,TAPE REC
3	86-ZM2-220-210		SPR-T,HEAD
4	86-ZM2-285-110		LEVER,HEAD REC
5	86-ZM2-247-210		LEVER,MS
6	86-ZM2-226-110		ROLLER ASSY,PINCH
7	86-ZM2-254-010		SPR-T,PIN BACK
8	86-ZM2-230-110		SPR-T,PINCH L
9	86-ZM2-229-110		SPR-T,PINCH R
10	86-ZM2-240-110		CAP,REEL
11	86-ZM2-234-110		SHAFT,REEL R
12	86-ZM2-251-210		SHAFT,GEAR B
13	86-ZM2-308-310		CHAS ASSY,OUT-SERT R
14	86-ZS2-312-010		SPR-P,6A-MOT
15	86-ZM2-232-210		LEVER,REEL R
16	86-ZM2-258-610		GEAR,REW
17	86-ZM2-243-310		SPR-C,BT
18	86-ZM2-329-110		BELT,P5
19	86-ZM2-209-110		GEAR,B
20	86-ZM2-238-610		GEAR,FF
21	86-ZM2-245-310		SPR-C,SLIP L
22	86-ZM2-237-010		GEAR,PLAY
23	86-ZM2-241-210		SPR-C,SLIP R
24	86-ZM2-272-010		LEVER,SW P 8.4
25	86-ZM2-236-210		CAP,SLIP
26	86-ZM2-235-210		SHAFT,REEL L
27	86-ZM2-223-210		LEVER,PIN UP L
28	86-ZM2-233-310		LEVER,REEL L
29	86-ZM2-208-210		GEAR,A
30	86-ZM2-217-210		SPR-E,CAM L
31	86-ZM2-216-410		LEVER,CAM L
32	86-ZM2-276-010		PULLEY,COUPLER
33	86-ZM2-212-210		SHAFT,FR
34	86-ZM2-214-410		LEVER,CAM R
35	86-ZM2-215-210		SPR-E,CAM R
36	86-ZM2-222-210		LEVER,PIN UP R
37	86-ZM2-218-110		LEVER,HEAD UP
38	86-ZM2-205-410		FLY-WHL,L
39	86-ZM2-330-010		FLY-WHL,R2
40	86-ZM2-282-010		SH,AUTO 2
41	86-ZM2-225-310		ARM,PINCH L
42	86-ZM2-224-210		ARM,PINCH R
43	86-ZM2-283-010		CAP,SHAFT
44	86-ZM2-275-110		CAP,SLIP R
45	86-ZM2-210-610		LEVER,FR
46	86-ZM2-211-210		GEAR,FR
47	86-ZM2-213-210		SPR-C,FR
A	86-ZM2-296-110		S-SCREW,+1.4-8.45
B	87-067-430-010		VT1.4-5 BLK
C	87-067-516-010		PW,3-1.58-0.25,SLIT
D	87-067-860-010		PW,3-0.95-0.4
E	86-ZM2-277-010		W-P,0.8-3-0.2 SLT
F	86-ZM2-319-010		W-L,0.95-3-0.35
G	86-ZM2-313-010		W-P,1.76-4-0.13
H	86-ZM2-278-010		W-P,1.36-4-0.2 SLT

SPRING APPLICATION POSITION



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サービス技術ニュース	
番号	連絡内容
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