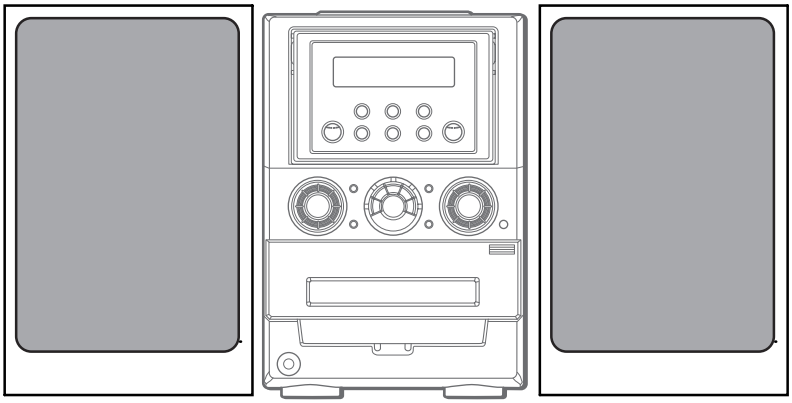
aiwa SERVICE

XR-MK220 HC, HE, HR



SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC TAPE MECHANISM : 2ZM-1 YR11NC
BASIC CD MECHANISM : 3ZG-3 E3NC / E6NC / YE3NC

SYSTEM	TYPE	TAPE MECHANISM	CD MECHANISM	REMOTE CONTROLLER
XR–MK220	HC	2ZM–1 YR11NC	3ZG–3 E6NC	RC–ZAT05
XR–MK220	HE		3ZG–3 YE3NC	
XR–MK220	HR		3ZG–3 E3NC	

• This Service Manual is the "Revision Publishing" and replaces "Simple Manual" XR-MK220 <HR>, (S/M Code No. 09-009-437-9T1).

aiwa

S/M Code No. 09-00C-437-9R1

REVISION DATA

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SPECIFICATIONS

Main unit XR-MK220

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 μV/m
Antenna	Loop antenna

<Amplifier section>

Mid-high frequency amplifier

Power output	Rated: 10 W + 10 W (16 ohms, T.H.D. 10 %, 1 kHz) Reference: 8 W + 8 W (16 ohms, T.H.D. 1 %, 1 kHz)
Total harmonic distortion	0.15 % (5 W, 1 kHz, 16 ohms, DIN AUDIO)

Low frequency amplifier

Power output	Rated: 30 W + 30 W (6 ohms, T.H.D. 10 %, 75 Hz) Reference: 25 W + 25 W (6 ohms, T.H.D. 1 %, 75 Hz)
Total harmonic distortion	0.15 % (12.5 W, 75 Hz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 0.4 V MD: 0.4 V
Outputs	VIDEO OUT: 1.0 Vp-p (75 ohms) LINE OUT: 0.4 V (47 kohms load) SPEAKERS HIGH FREQ: accept speakers of 16 ohms or more SPEAKERS LOW FREQ: accept speakers of 6 ohms or more PHONES (stereo minijack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz – 15000 Hz
Signal-to-noise ratio	50 dB (CrO_2 tape peak level above 1 kHz)
Recording system	AC bias
Heads	Recording/playback head x 1 Erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D/A converter	1 bit dual
Signal-to-noise ratio	75 dB (1 kHz, 0 dB)
Harmonic distortion	0.1 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable
Video signal	NTSC/PAL color format (selectable)
Video data	MPEG 1
Audio data	MPEG 1, LAYER 2

<General>

Power requirements	AC : 120 V/220 V – 240 V, switchable 50/60 Hz
Power consumption	95 W
Dimensions of main unit **(W x H x D)**	175 x 260 x 299 mm (7 x $10^1/_4$ x $11^7/_8$ in.)
Weight of main unit	5.5 kg (12 lbs 2 oz)
Standby power consumption	If the power-economizing mode is on: 1.0 W If the power-economizing mode is off: 13 W

Speaker system

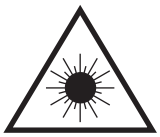
Cabinet type	3 way, built in subwoofer (magnetic shield type)
Speakers	Subwoofer: 130 mm ($5^1/_8$ in.) cone type Full range: 100 mm (4 in.) cone type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms / 16 ohms
Output sound pressure level	86 dB/W/m
Dimensions (W x H x D)	162 x 258 x 200 mm ($6^1/_2$ x $10^1/_4$ x $7^7/_8$ in.)
Weight	3.2 kg (7 lbs 1 oz)

• Design and specifications are subject to change without notice.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

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



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

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

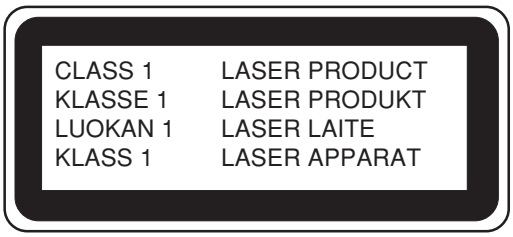
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

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

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

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

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

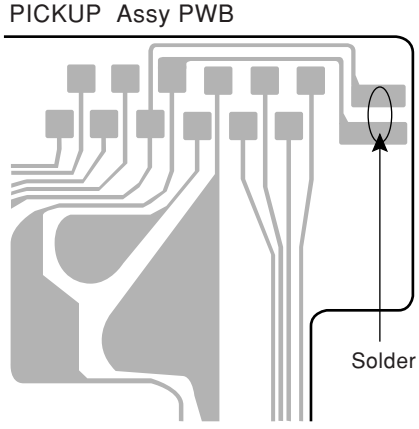


Precaution to replace Optical block

(KSS – 213F)

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 the right figure.



CAUTION WHEN SERVICING

The 3 FFCs connected to the Motorised Front Panel is movable with the Motorised Front Panel.
To prevent the FFCs from being trap in between the Motorised Front Panel and the Front Cabinet, the FFCs must be arrange as shown in Fig. 1.

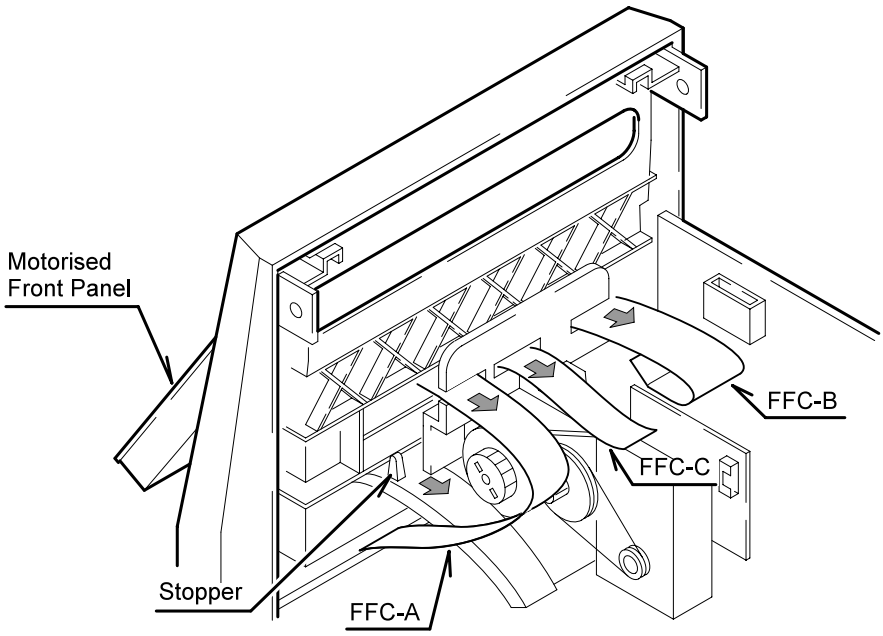


Fig - 1 Remove Slack of FFCs

1. Remove slack of FFCs

1) Return the Motorised Front Panel to its upright position slowly while at the same time pull the FFCs (FFC-A/-B/-C) near to the slot to remove any slack that is formed in between the Motorised Front Panel and the Front Cabinet.

Note: To remove the Motorised Front Panel, rotate GEAR, PUSHER as shown in Fig. 2.

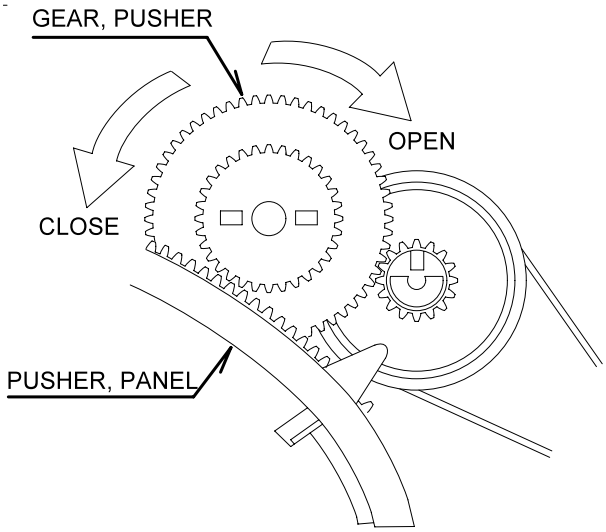


Fig - 2 GEAR, PUSHER

2. Arranging FFC-B

1) Fold the end of the FFC-B at an angle of 45 degrees.
2) Connect FFC-B to CN202 of MAIN C.B.
3) Put FFC-B onto the Plastic Plate to prevent it from sagging.

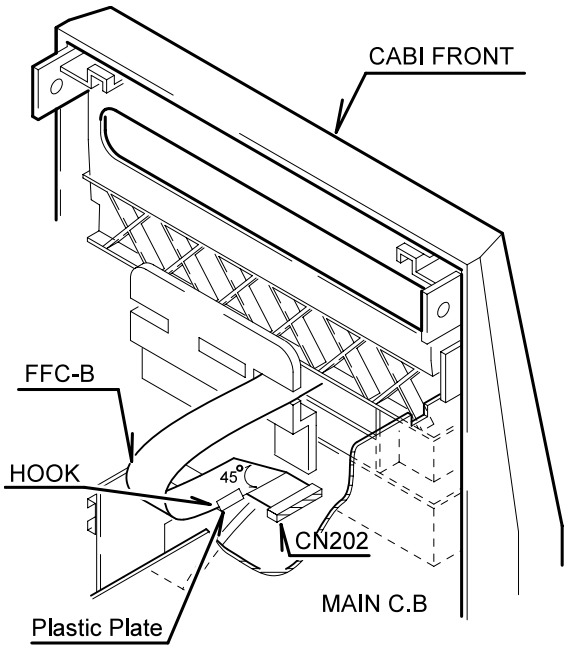


Fig - 3 FFC-B Top View

Note: FFC-B is easy to trap in between the VCD unit and the Front Cabinet when assembling the VCD unit to the set.
Arrange FFC-B as shown in Fig. 4.

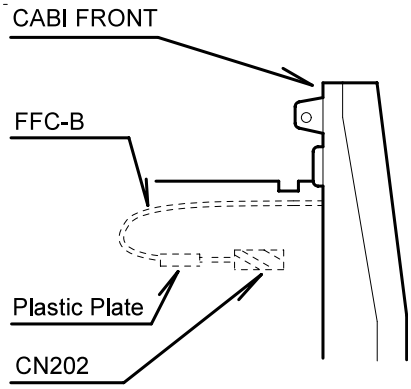


Fig - 4 FFC-B Side View

3. Assembling VCD unit

1) Assemble VCD unit to the Front Cabinet.
2) Connect FFC-D to CN5 of MAIN C.B (①).
3) Connect FFC-C to CN403 of VCD C.B (②).
4) Connect the motor wire to CN600 of MOTOR C.B (③).

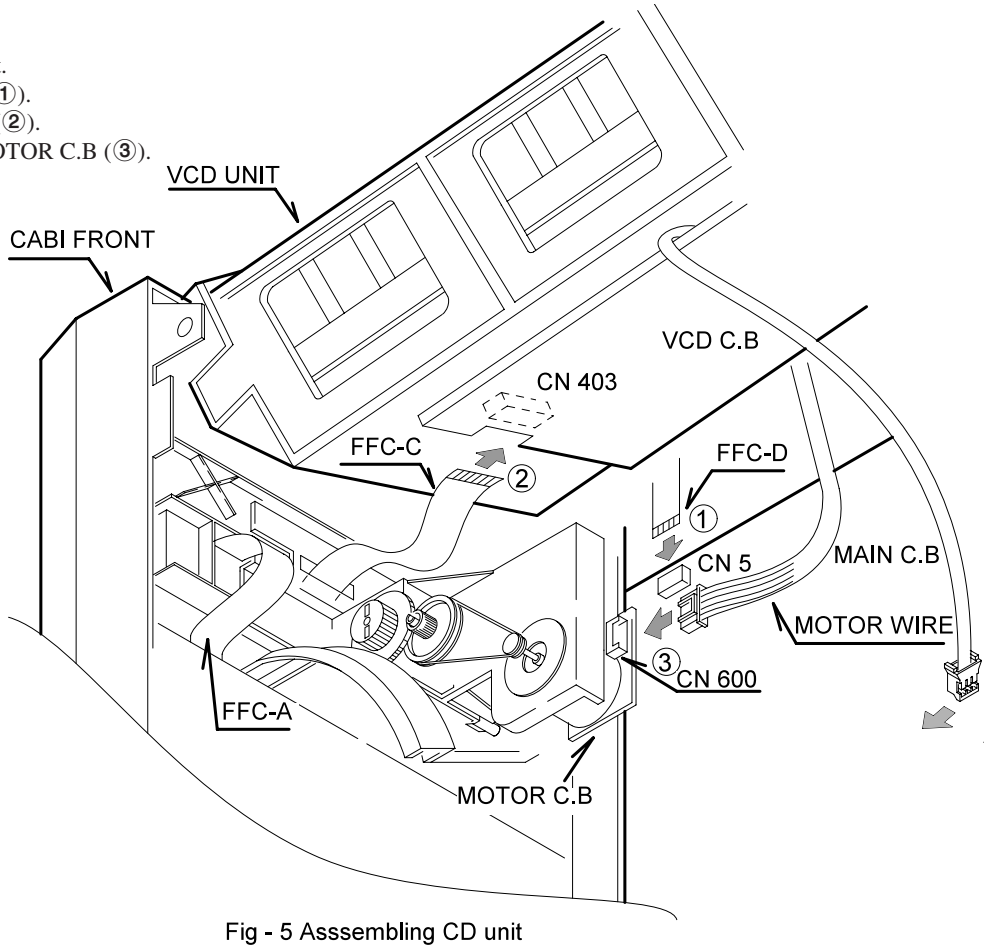


Fig - 5 Asssembling CD unit

4. Arranging FFC-C

1) Hook the motor wire to the wire binder (①).
2) Let the FFC-C go through the motor wire (②).
3) Pull the wire binder and strap FFC-C to the VCD C.B and away from the gears.

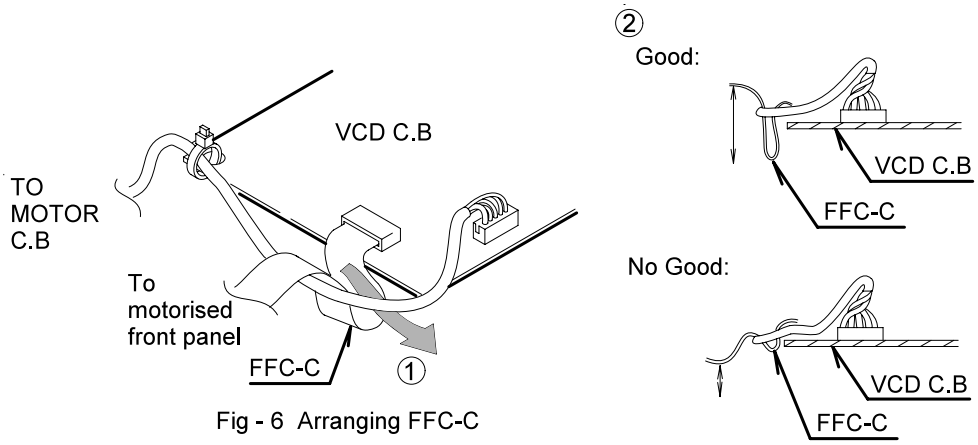


Fig - 6 Arranging FFC-C

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DN6851
	87-A20-547-010		C-IC,CXA1992AR
	87-A20-919-040		C-IC,BA5915FP
	87-A20-917-010		C-IC,CXD2540Q-1/2
	8A-CG9-670-010		C-IC,UPD78016CFG-584-AB8
	87-017-760-080		IC,M51943BML
	8A-CG8-686-010		C-IC,M38258MCM-080FP
	87-A20-602-040		C-IC,M5291FP
	87-017-889-010		IC,NJM4558LD
	87-A20-925-040		C-IC,BA05FP
	87-A20-905-040		C-IC,BA033FP
	87-A21-831-010		IC,SPS-442-1-F1<EXCEPT HR>
	87-A20-914-010		IC,SPS-442-1-F<HR>
	87-001-982-010		IC,TA7291S
	87-A20-920-010		C-IC,CL680-D1
	87-A20-921-040		C-IC,SN74LVU04APW
	87-A20-962-040		C-IC,MSM54V16258B/BSL
	84-ZG1-695-040		C-IC,LH5V2RN1
	87-A20-975-040		C-IC,SN74LV74APW
	87-070-391-040		C-IC,BA4558F
	87-A21-443-040		C-IC,M62495AFP
	87-A20-372-010		C-IC,TC9409BF
	87-A20-974-040		C-IC,LC74781M-9017
	87-070-127-110		IC,LC72131D
	87-A20-913-010		IC,LA1837NL
TRANSISTOR			
	89-111-625-080		C-TR,2SA1162GR
	89-213-702-010		TR,2SB1370E
	87-026-610-080		TR,KTC3198GR
	87-026-237-080		C-TR,DTC124XK<HE>
	87-A30-432-040		C-TR,DTC124XKA<HC,HR>
	89-327-125-080		C-TR,2SC2712GR
	87-A30-492-080		TR,2SC5343G
	87-A30-076-080		C-TR,2SC3052F
	87-026-211-080		C-TR,DTA144EK
	87-A30-196-080		TR,2SC4115SRS
	87-A30-075-080		C-TR,2SA1235F
	87-A30-450-040		C-TR,DTA124XKA<HC,HR>
	87-026-231-080		C-TR,DTA124XK<HE>
	87-A30-257-080		C-TR,2SD1306E
	87-A30-087-080		C-FET,2SK2158
	87-A30-190-080		TR,CC5551
	87-A30-215-010		TR,2SD2025
	87-A30-214-010		TR,2SB1344
	87-A30-106-070		C-TR,CMBT5551
	87-A30-268-040		C-TR,2SA1514K(S)
	87-A30-484-080		C-TR,KRA102S
	87-A30-117-010		TR,2SA1357Y
	87-A30-198-080		TR,KTC3199GR
	89-112-965-080		TR,2SA1296GR
	87-A30-197-080		TR,KTA1267GR
	87-026-218-080		TR,DTC144ES
	87-A30-427-040		C-TR,DTC114EKA<HR>
	87-A30-287-040		C-TR,DTC114TKA<EXCEPT HR>
	87-026-239-080		C-TR,DTC114TK
	87-A30-127-010		TR,2SD2478
	87-A30-126-010		TR,2SB1616
	87-A30-269-040		C-FET,2SJ461-T1
	87-026-219-080		TR,DTA144ES
	87-026-210-080		C-TR,DTC144EK
	89-327-143-080		C-TR,2SC2714O
	87-A30-072-080		C-TR,RT1P144C
DIODE			
	87-020-027-080		CHIP-DIODE 1SS184
	87-020-465-080		DIODE,1SS133 (110MA)
	87-070-022-010		DIODE,IN5402 (RECT)
	87-A40-459-090		DIODE,RL203GW (15MM)
	87-A40-206-080		ZENER,UZ10BSC
	87-017-024-040		C-DIODE,DA204K
	87-A40-906-080		C-DIODE,DCC010
	87-A40-488-080		DIODE,1SS244
	87-A40-270-080		C-DIODE,MC2838
	87-A40-180-040		C-DIODE,SB07-015C
	87-002-693-080		C-DIODE,1SS357
	87-A40-350-080		ZENER,MTZJ 4.7C
	87-A40-739-080		ZENER,UZ2.7BSA
	87-027-513-080		ZENER,HZ6B2L (200MA)
	87-027-349-080		ZENER,HZ6A1L (5MA)
MAIN C.B			
C101	87-A10-520-000		CAP,E 3300-35 M SMG
C102	87-A10-520-000		CAP,E 3300-35 M SMG
C103	87-A12-317-080		C-CAP,U 0.1-50 Z F
C104	87-A12-317-080		C-CAP,U 0.1-50 Z F
C105	87-A10-520-000		CAP,E 3300-35 M SMG
C106	87-016-051-000		CAP,E 2200-35 M SMG
C107	87-A12-317-080		C-CAP,U 0.1-50 Z F
C108	87-A12-317-080		C-CAP,U 0.1-50 Z F
C109	87-012-270-080		CAP, U 470P-50
C110	87-010-408-080		CAP, ELECT 47-50V
C111	87-012-286-080		CAP, U 0.01-25
C112	87-010-384-080		CAP, ELECT 100-25V
C113	87-010-381-080		CAP, ELECT 330-16V
C116	87-010-374-080		CAP, ELECT 47-10V
C117	87-010-403-080		CAP, ELECT 3.3-50V
C118	87-010-404-080		CAP, ELECT 4.7-50V
C119	87-012-274-080		CHIP CAP,U 1000P-50B
C120	87-010-404-080		CAP, ELECT 4.7-50V
C121	87-A12-317-080		C-CAP,U 0.1-50 Z F
C122	87-A12-317-080		C-CAP,U 0.1-50 Z F
C124	87-A12-317-080		C-CAP,U 0.1-50 Z F
C125	87-A12-317-080		C-CAP,U 0.1-50 Z F
C300	87-A10-031-080		C-CAP,U 0.01-25 KB
C301	87-A10-031-080		C-CAP,U 0.01-25 KB
C303	87-012-273-080		C-CAP,U 820P-50 B
C304	87-012-273-080		C-CAP,U 820P-50 B
C307	87-010-263-080		CAP, ELECT 100-10V
C308	87-010-263-080		CAP, ELECT 100-10V
C311	87-010-758-080		C-CAP,U 0.068-25F
C312	87-010-758-080		C-CAP,U 0.068-25F
C313	87-012-282-080		CAP, U 4700P-50
C314	87-012-282-080		CAP, U 4700P-50
C315	87-010-374-080		CAP, ELECT 47-10V
C317	87-010-546-080		CAP, ELECT 0.33-50V
C318	87-010-546-080		CAP, ELECT 0.33-50V
C321	87-010-405-080		CAP, ELECT 10-50V
C340	87-010-759-080		C-CAP,U 0.1-25F
C361	87-010-374-080		CAP, ELECT 47-10V
C362	87-010-401-080		CAP, ELECT 1-50V
C381	87-010-759-080		C-CAP,U 0.1-25F
C384	87-012-199-080		CAP 220P
C393	87-010-759-080		C-CAP,U 0.1-25F
C394	87-010-759-080		C-CAP,U 0.1-25F
C401	87-010-401-080		CAP, ELECT 1-50V
C402	87-010-401-080		CAP, ELECT 1-50V
C403	87-012-193-080		C-CAP,U 82P-50 CH
C404	87-012-193-080		C-CAP,U 82P-50 CH
C405	87-012-284-080		CAP, U 6800P-50
C406	87-012-284-080		CAP, U 6800P-50
C407	87-010-784-080		C-CAP,U 0.012-25 B
C408	87-010-784-080		C-CAP,U 0.012-25 B
C451	87-010-787-080		CAP, U 0.022-25
C452	87-010-382-080		CAP, ELECT 22-25V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C453	87-012-279-080		C-CAP,U 2700P-50 B
C454	87-012-279-080		C-CAP,U 2700P-50 B
C455	87-012-279-080		C-CAP,U 2700P-50 B
C456	87-012-286-080		CAP, U 0.01-25
C458	87-012-274-080		CHIP CAP,U 1000P-50B
C459	87-012-271-080		CAP, U 560P-50
C461	87-012-269-080		C-CAP,U 390P-50 B
C462	87-012-269-080		C-CAP,U 390P-50 B
C501	87-010-546-080		CAP, ELECT 0.33-50V
C502	87-010-546-080		CAP, ELECT 0.33-50V
C503	87-010-788-080		C-CAP,U 0.033-25F
C504	87-010-788-080		C-CAP,U 0.033-25F
C505	87-012-280-080		C-CAP, U 3300P-50
C506	87-012-280-080		C-CAP, U 3300P-50
C507	87-010-403-080		CAP, ELECT 3.3-50V
C508	87-010-403-080		CAP, ELECT 3.3-50V
C509	87-012-195-080		C-CAP,U 100P-50CH
C510	87-012-195-080		C-CAP,U 100P-50CH
C511	87-012-282-080		C-CAP, U 4700P-50
C512	87-012-282-080		C-CAP, U 4700P-50
C513	87-010-403-080		CAP, ELECT 3.3-50V
C514	87-010-403-080		CAP, ELECT 3.3-50V
C515	87-010-260-080		CAP, ELECT 47-25V
C516	87-010-260-080		CAP, ELECT 47-25V
C517	87-012-199-080		C-CAP 220P
C518	87-012-199-080		C-CAP 220P
C519	87-012-195-080		C-CAP,U 100P-50CH
C520	87-012-195-080		C-CAP,U 100P-50CH
C521	87-010-788-080		C-CAP,U 0.033-25F
C522	87-010-788-080		C-CAP,U 0.033-25F
C523	87-010-759-080		C-CAP,U, 0.1-25F
C524	87-010-759-080		C-CAP,U, 0.1-25F
C528	87-012-286-080		CAP, U 0.01-25
C530	87-010-759-080		C-CAP,U, 0.1-25F
C531	87-010-759-080		C-CAP,U, 0.1-25F
C532	87-010-759-080		C-CAP,U, 0.1-25F
C533	87-010-787-080		CAP, U 0.022-25
C534	87-010-787-080		CAP, U 0.022-25
C535	87-010-260-080		CAP, ELECT 47-25V
C563	87-010-260-080		CAP,E 47-25 SME
C571	87-A10-047-080		C-CAP,U 1-10 Z F
C572	87-A10-047-080		C-CAP,U 1-10 Z F
C600	87-012-280-080		C-CAP, U 3300P-50
C601	87-012-276-080		C-CAP, U 1500P-50<HR>
C601	87-012-280-080		C-CAP, U 3300P-50<EXCEPT HR>
C602	87-012-276-080		C-CAP, U 1500P-50<HR>
C602	87-012-280-080		C-CAP, U 3300P-50<EXCEPT HR>
C609	87-012-287-080		C-CAP,U 0.015-25 F
C610	87-012-287-080		C-CAP,U 0.015-25 F
C611	87-010-545-080		CAP, ELECT 0.22-50V
C612	87-010-545-080		CAP, ELECT 0.22-50V
C613	87-010-545-080		CAP, ELECT 0.22-50V
C614	87-010-545-080		CAP, ELECT 0.22-50V
C615	87-012-172-080		CAPACITOR CHIP U 10P CH
C616	87-010-408-080		CAP, ELECT 47-50V
C617	87-010-408-080		CAP, ELECT 47-50V
C690	87-010-263-080		CAP, ELECT 100-10V
C691	87-012-280-080		C-CAP, U 3300P-50
C697	87-010-378-080		CAP, ELECT 10-16V
C698	87-010-263-080		CAP, ELECT 100-10V
C699	87-010-757-080		C-CAP,U 0.047-25F
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-012-286-080		C-CAP, U 0.01-25
C704	87-012-286-080		C-CAP, U 0.01-25
C710	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-112-080		CAP, ELECT 100-16V
C712	87-010-759-080		C-CAP,U, 0.1-25F
C713	87-012-286-080		CAP, U 0.01-25
C714	87-012-286-080		CAP, U 0.01-25
C717	87-012-178-080		C-CAP,U 18P-50 CH<HR>
C717	87-012-188-080		C-CAP,U 47P-50 CH<EXCEPT HR>
C719	87-012-178-080		C-CAP,U 18P-50 CH<HR>
C719	87-012-188-080		C-CAP,U 47P-50 CH<EXCEPT HR>
C721	87-012-176-080		C-CAP 15P
C722	87-012-176-080		C-CAP 15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-012-274-080		CHIP CAP,U 1000P-50B
C727	87-010-759-080		C-CAP,U, 0.1-25F
C728	87-010-248-080		CAP, ELECT 220-10V
C755	87-012-286-080		CAP, U 0.01-25
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C761	87-010-759-080		C-CAP,U, 0.1-25F
C762	87-012-286-080		CAP, U 0.01-25
C763	87-010-757-080		C-CAP,U 0.047-25F
C764	87-012-337-080		C-CAP,U 56P-50 CH
C765	87-012-286-080		C-CAP, U 0.01-25
C766	87-012-286-080		C-CAP, U 0.01-25
C767	87-010-405-080		CAP, ELECT 10-50V
C768	87-012-286-080		C-CAP, U 0.01-25
C769	87-010-408-080		CAP, ELECT 47-50V
C770	87-010-757-080		C-CAP,U 0.047-25F
C771	87-010-407-080		CAP, ELECT 33-50V
C772	87-010-757-080		C-CAP,U 0.047-25F
C773	87-010-759-080		C-CAP,U, 0.1-25F
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-421-080		CAP, ELECT 4.7-50V
C776	87-012-286-080		C-CAP, U 0.01-25
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-759-080		C-CAP,U, 0.1-25F
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-012-286-080		C-CAP, U 0.01-25
C784	87-012-286-080		C-CAP, U 0.01-25
C785	87-010-403-080		CAP, ELECT 3.3-50V
C786	87-010-403-080		CAP, ELECT 3.3-50V
C787	87-012-280-080		C-CAP, U 3300P-50
C788	87-012-280-080		C-CAP, U 3300P-50
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-829-080		C-CAP, U 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C797	87-012-276-080		C-CAP, U 1500P-50
C798	87-012-276-080		C-CAP, U 1500P-50
C799	87-010-757-080		C-CAP,U 0.047-25F
C814	87-012-286-080		C-CAP, U 0.01-25
C820	87-010-408-080		CAP, ELECT 47-50V
C821	87-012-286-080		C-CAP, U 0.01-25
C822	87-012-286-080		C-CAP, U 0.01-25
C823	87-012-286-080		C-CAP, U 0.01-25
C824	87-012-286-080		CAP, U 0.01-25
C828	87-010-759-080		C-CAP,U, 0.1-25F
C829	87-010-759-080		C-CAP,U, 0.1-25F
C912	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C913	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C914	87-A12-317-080		C-CAP,U 0.1-50 Z F
C916	87-010-415-080		CAP ELE SRE 10-50V
C917	87-010-415-080		CAP ELE SRE 10-50V
C959	87-010-759-080		C-CAP,U, 0.1-25F
C960	87-010-759-080		C-CAP,U, 0.1-25F
C961	87-012-170-080		C-CAP,U 8P-50 CH
CF801	87-008-261-010		FILTER,CF SFE10.7MA5
CF802	87-008-261-010		FILTER,CF SFE10.7MA5

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN5	87-099-201-010		CONN,8P 6216 H
CN202	87-A61-250-010		CONN,25P V
CN203	87-009-030-010		CONNECTOR 2P PH M
CN351	87-A60-624-010		CONN,7P V 2MM JMT
CN603	87-A60-996-010		CONN,13P V BLK TAC-L13X-A3
FB118	83-XM1-617-080		C-COIL,BK2125HM601
FB119	83-XM1-617-080		C-COIL,BK2125HM601
FB600	83-XM1-617-080		C-COIL,BK2125HM601<HR>
FFC5	88-908-271-110		FF-CABLE,8P 1.25 270MM
FFC101	8A-CL9-671-010		FF-CABLE,9P 2.5
FFE801	A8-8ZA-193-070		8ZA-1 YFEUNC
J501	87-A61-237-010		JACK,3.5 ST W/SW
J541	87-A61-157-010		JACK,PIN 2P R/W/BL V(SEPA) KM
J602	87-A60-885-010		JACK,PIN 6P R/W MSC
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L451	87-007-342-010		COIL,OSC 85KHZ BIAS
L501	87-005-366-010		COIL, 1UH K
L502	87-005-366-010		COIL, 1UH K
L770	87-005-847-080		COIL,2.2UH(CECS)
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	88-CL4-693-010		FLTR,PCFAYH-450 (TOK)
L832	87-005-847-080		COIL,2.2UHK CECS
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
⚠ PR601	87-A91-153-080		FUSE,630MA 125V 251
R543	87-A00-258-080		RES,M/F 0.22-1W J
R544	87-A00-258-080		RES,M/F 0.22-1W J
R545	87-A00-258-080		RES,M/F 0.22-1W J
R546	87-A00-258-080		RES,M/F 0.22-1W J
W101	87-A90-510-010		HLDR,WIRE 2.5-9P
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT CNTL C.B

C309	87-010-787-080		CAP, U 0.022-25
C313	87-010-071-040		CAP,E 1-50 M 5L SRE
C314	87-A10-189-040		CAP,E 220-10
C316	87-A10-031-080		C-CAP,U 0.01-25 KB
C319	87-012-281-080		C-CAP,U 3900P-50 B
C329	87-010-787-080		CAP, U 0.022-25
C330	87-012-188-080		C-CAP,U 47P-50 CH
C331	87-012-176-080		CAP 15P
C335	87-012-184-080		C-CAP,U 33P-50 CH
C341	87-A10-025-080		C-CAP,U 0.22-16Z F
C344	87-012-188-080		C-CAP,U 47P-50 CH
CN301	87-A61-247-010		CONN,25P H
CN303	87-A61-249-010		CONN,15P H
CN304	87-A61-248-010		CONN,22P H
FFC301	8A-CL8-704-110		FF-CABLE,25P 1.0 240MM
FFC303	8A-CL8-706-010		FF-CABLE,15P 1.0 230MM
FFC304	8A-CL8-705-110		FF-CABLE,22P 1.0 210MM
LCD301	8A-CL8-682-010		LCD,ACL8
LED301	87-A40-229-040		LED,SLR-342VR TB7 RED
LED307	87-A40-831-010		LED,SELU1E10CXM-LF70 BLUE-DEF
LED308	87-A40-831-010		LED,SELU1E10CXM-LF70 BLUE-DEF
S301	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
X301	87-A70-124-080		VIB,CER 8.0MHZ

FRONT SEC C.B

C301	87-012-274-080		CHIP CAP,U 1000P-50B
C302	87-A10-031-080		C-CAP,U 0.01-25 KB
C304	87-010-405-040		CAP,E 10-50
C340	87-A10-031-080		C-CAP,U 0.01-25 KB
CN302	8A-CL8-703-010		CONN ASSY,9P DECK
CN305	87-A61-248-010		CONN,22P H
CN306	8A-CL8-640-010		CONN ASSY,2P
LED302	87-A40-228-040		LED,SLR-342MG T31 GREEN
LED303	87-A40-228-040		LED,SLR-342MG T31 GREEN
LED304	87-A40-228-040		LED,SLR-342MG T31 GREEN
LED305	87-A40-228-040		LED,SLR-342MG T31 GREEN
LED306	87-A40-228-040		LED,SLR-342MG T31 GREEN
LED309	87-A40-831-010		LED,SELU1E10CXM-LF70 BLUE-DEF
S302	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S351	87-A91-671-010		SW,RTRY JOG RE0121PVB20FINA
S352	87-A91-670-010		SW,RTRY VOL RE0121PVB20FINB

VCD C.B

C101	87-012-278-080		C-CAP,U 2200P-50 B
C102	87-010-759-080		C-CAP,U, 0.1-25F
C103	87-010-759-080		C-CAP,U, 0.1-25F
C104	87-010-759-080		C-CAP,U, 0.1-25F
C105	87-010-404-040		CAP,E 4.7-50 SME
C106	87-A11-070-080		C-CAP,U 0.033-16 K B
C107	87-012-286-080		CAP, U 0.01-25
C108	87-010-401-040		CAP,E 1-50 SME
C109	87-010-382-040		CAP,E 22-25 SME
C110	87-012-287-080		C-CAP,U 0.015-25 F
C111	87-010-263-040		CAP,E 100-10
C112	87-012-286-080		CAP, U 0.01-25
C113	87-A11-070-080		C-CAP,U 0.033-16 K B
C114	87-A11-070-080		C-CAP,U 0.033-16 K B
C115	87-A11-070-080		C-CAP,U 0.033-16 K B<HR>
C115	87-016-114-080		C-CAP,U 0.01-25 J B GRM<EXCEPT HR>
C116	87-012-269-080		C-CAP,U 390P-50 B<HR>
C116	87-012-271-080		C-CAP,U 560P-50 B<EXCEPT HR>
C117	87-012-197-080		C-CAP,U 150P-50 CH
C118	87-010-401-040		CAP,E 1-50 SME
C119	87-012-176-080		CAP,15P<HR>
C119	87-012-174-080		C-CAP,U 12P-50<EXCEPT HR>
C120	87-010-757-080		C-CAP,U 0.047-25F
C121	87-010-757-080		C-CAP,U 0.047-25F
C122	87-012-162-080		C-CAP,U 1P-50<EXCEPT HR>
C123	87-010-759-080		C-CAP,U, 0.1-25F
C125	87-010-787-080		CAP, U 0.022-25
C126	87-010-759-080		C-CAP,U, 0.1-25F
C127	87-010-263-040		CAP,E 100-10
C130	87-010-263-040		CAP,E 100-10
C131	87-010-263-040		CAP,E 100-10
C132	87-012-274-080		CHIP CAP,U 1000P-50B
C133	87-010-263-040		CAP,E 100-10
C134	87-010-759-080		C-CAP,U, 0.1-25F
C135	87-010-759-080		C-CAP,U, 0.1-25F
C136	87-010-759-080		C-CAP,U, 0.1-25F
C137	87-010-759-080		C-CAP,U, 0.1-25F
C138	87-012-280-080		CAP, U 3300P-50
C139	87-012-286-080		CAP, U 0.01-25
C140	87-010-112-040		CAP,E 100-16
C141	87-010-759-080		C-CAP,U, 0.1-25F
C142	87-010-831-080		C-CAP,U,0.1-16F
C143	87-012-287-080		C-CAP,U 0.015-25 F<HR>
C143	87-012-286-080		C-CAP,U 0.01-25 K B<EXCEPT HR>
C151	87-010-263-040		CAP,E 100-10
C152	87-012-286-080		CAP, U 0.01-25
C153	87-010-248-040		CAP,E 220-10 SME<HR>
C153	87-010-221-080		CAP,E 470-10 M SME<EXCEPT HR>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C154	87-012-286-080		CAP, U 0.01-25
C155	87-012-280-080		CAP, U 3300P-50
C156	87-010-757-080		C-CAP,U 0.047-25F
C157	87-010-757-080		C-CAP,U 0.047-25F
C158	87-012-199-080		CAP,220P
C159	87-A10-025-080		C-CAP,U 0.22-16Z F
C160	87-016-396-080		C-CAP,U 0.22-16F
C161	87-012-278-080		C-CAP,U 2200P-50 B<HR>
C161	87-012-279-080		C-CAP,U 2700P-50 B<EXCEPT HR>
C162	87-012-274-080		CHIP CAP,U 1000P-50B
C201	87-010-759-080		C-CAP,U, 0.1-25F
C203	87-012-274-080		CHIP CAP,U 1000P-50B
C206	87-012-195-080		C-CAP,U 100P-50CH
C207	87-012-195-080		C-CAP,U 100P-50CH
C208	87-012-195-080		C-CAP,U 100P-50CH
C209	87-012-195-080		C-CAP,U 100P-50CH
C210	87-010-759-080		C-CAP,U, 0.1-25F
C211	87-010-263-040		CAP,E 100-10
C213	87-012-286-080		CAP, U 0.01-25
C214	87-010-759-080		C-CAP,U, 0.1-25F
C240	87-010-759-080		C-CAP,U, 0.1-25F
C301	87-016-251-040		CAP,E 220-16 SMG
C302	87-012-270-080		CAP, U 470P-50
C303	87-012-274-080		CHIP CAP,U 1000P-50B
C304	87-010-384-040		CAP,E 100-25 SME
C305	87-010-383-040		CAP,E 33-25 SME
C306	87-010-112-040		CAP,E 100-16
C307	87-010-759-080		C-CAP,U, 0.1-25F
C308	87-010-263-040		CAP,E 100-10
C309	87-010-759-080		C-CAP,U, 0.1-25F
C310	87-010-263-040		CAP,E 100-10
C311	87-010-759-080		C-CAP,U, 0.1-25F
C312	87-012-274-080		CHIP CAP,U 1000P-50B
C320	87-A10-025-080		C-CAP,U 0.22-16Z F
C321	87-016-396-080		C-CAP,U 0.22-16F
C322	87-016-396-080		C-CAP,U 0.22-16F
C401	87-010-759-080		C-CAP,U, 0.1-25F
C402	87-010-112-040		CAP,E 100-16
C403	87-010-759-080		C-CAP,U, 0.1-25F
C404	87-010-759-080		C-CAP,U, 0.1-25F
C434	87-012-286-080		C-CAP, U 0.01-25
C441	87-010-759-080		C-CAP,U, 0.1-25F
C442	87-010-112-040		CAP,E 100-16
C501	87-012-286-080		CAP, U 0.01-25
C502	87-012-286-080		CAP, U 0.01-25
C503	87-012-286-080		CAP, U 0.01-25
C504	87-012-172-080		CAPACITOR CHIP U 10P CH
C505	87-012-172-080		CAPACITOR CHIP U 10P CH
C506	87-012-286-080		CAP, U 0.01-25
C508	87-010-263-040		CAP,E 100-10
C509	87-010-759-080		C-CAP,U, 0.1-25F
C510	87-010-263-040		CAP,E 100-10
C511	87-010-759-080		C-CAP,U, 0.1-25F
C512	87-012-286-080		CAP, U 0.01-25
C513	87-012-286-080		CAP, U 0.01-25
C514	87-012-286-080		CAP, U 0.01-25
C517	87-012-203-080		C-CAP,U 6P-50 D RH
C518	87-012-195-080		C-CAP,U 100P-50CH
C519	87-012-335-080		C-CAP,U 270P-50 SL
C520	87-012-336-080		C-CAP, 3300P-50
C521	87-012-197-080		C-CAP,U 150P-50 CH
C523	87-012-286-080		CAP, U 0.01-25
C524	87-012-286-080		CAP, U 0.01-25
C525	87-012-286-080		CAP, U 0.01-25
C526	87-012-286-080		C-CAP, U 0.01-25
C527	87-012-286-080		CAP, U 0.01-25
C528	87-012-286-080		CAP, U 0.01-25
C529	87-012-286-080		CAP, U 0.01-25
C530	87-012-286-080		CAP, U 0.01-25
C531	87-012-286-080		CAP, U 0.01-25
C532	87-010-374-040		CAP,E 47-10
C533	87-012-286-080		C-CAP, U 0.01-25
C534	87-010-263-040		CAP,E 100-10
C535	87-012-286-080		C-CAP, U 0.01-25
C536	87-010-374-040		CAP,E 47-10
C537	87-012-286-080		C-CAP, U 0.01-25
C538	87-010-759-080		C-CAP,U, 0.1-25F
C539	87-010-759-080		C-CAP,U, 0.1-25F
C540	87-010-374-040		CAP,E 47-10
C541	87-012-286-080		C-CAP, U 0.01-25
C542	87-012-188-080		C-CAP,U 47P-50 CH
C543	87-A12-317-080		C-CAP,U 0.1-50 Z F
C544	87-012-286-080		CAP, U 0.01-25
C546	87-012-286-080		C-CAP, U 0.01-25
C560	87-012-188-080		C-CAP,U 47P-50 CH
C563	87-010-759-080		C-CAP,U, 0.1-25F
C564	87-012-196-080		C-CAP,U 120P-50 CH
C565	87-012-196-080		C-CAP,U 120P-50 CH
C567	87-012-196-080		C-CAP,U 120P-50 CH
C601	87-010-759-080		C-CAP,U, 0.1-25F
C602	87-010-263-040		CAP,E 100-10
C603	87-010-759-080		C-CAP,U, 0.1-25F
C604	87-010-374-040		CAP,E 47-10
C605	87-012-270-080		CAP, U 470P-50
C606	87-010-378-040		CAP,E 10-16
C607	87-012-282-080		CAP, U 4700P-50
C608	87-012-283-080		C-CAP,U 5600P-50 B
C609	87-010-378-040		CAP,E 10-16
C610	87-010-378-040		CAP,E 10-16
C611	87-012-276-080		CAP, CHIP SS 1500P<HR>
C611	87-012-275-080		C-CAP,U 1200P-50 K B<EXCEPT HR>
C612	87-012-276-080		CAP, CHIP SS 1500P<HR>
C612	87-012-275-080		C-CAP,U 1200P-50 K B<EXCEPT HR>
C613	87-012-196-080		C-CAP,U 120P-50 CH<HR>
C613	87-012-197-080		C-CAP,U 150P-50 CH<EXCEPT HR>
C614	87-012-196-080		C-CAP,U 120P-50 CH<HR>
C614	87-012-197-080		C-CAP,U 150P-50 CH<EXCEPT HR>
C617	87-010-374-040		CAP,E 47-10
C618	87-010-374-040		CAP,E 47-10
C620	87-012-178-080		C-CAP,U 18P-50 CH
C621	87-012-178-080		C-CAP,U 18P-50 CH
C622	87-010-759-080		C-CAP,U, 0.1-25F
C623	87-010-374-040		CAP,E 47-10
C624	87-012-188-080		C-CAP,U 47P-50 CH
C627	87-010-759-080		C-CAP,U, 0.1-25F
C628	87-010-374-040		CAP,E 47-10
C639	87-012-197-080		C-CAP,U 150P-50 CH
C640	87-012-180-080		C-CAP,U 22P-50 CH
C641	87-012-197-080		C-CAP,U 150P-50 CH
C642	87-012-282-080		C-CAP, U 4700P-50
C643	87-012-195-080		C-CAP,U 100P-50CH
C644	87-012-195-080		C-CAP,U 100P-50CH
C645	87-012-195-080		C-CAP,U 100P-50CH
C646	87-012-195-080		C-CAP,U 100P-50CH
C651	87-010-757-080		C.CAP,U 0.047-25F
C671	87-010-073-040		CAP,E 3.3-50 5L
C672	87-010-073-040		CAP,E 3.3-50 5L
C673	87-012-274-080		CHIP CAP,U 1000P-50B
C674	87-012-274-080		CHIP CAP,U 1000P-50B
C675	87-012-274-080		CHIP CAP,U 1000P-50B
C676	87-012-274-080		CHIP CAP,U 1000P-50B
C681	87-010-759-080		C-CAP,U, 0.1-25F
C682	87-A12-319-080		C-CAP,U 0.1-25 K B
C700	87-010-759-080		C-CAP,U, 0.1-25F
C702	87-010-759-080		C-CAP,U, 0.1-25F
C713	87-010-378-040		CAP,E 10-16
C722	87-010-371-040		CAP,E 470-6.3
C749	87-010-401-040		CAP,E 1-50 SME
C750	87-015-699-040		CAP,E 10-50 7L
C751	87-012-196-080		C-CAP,U 120P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C752	87-A10-463-080		C-CAP,U 0.47-10 Z F
C754	87-012-286-080		CAP, U 0.01-25
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-182-080		C-CAP,U 27P-50 CH
C758	87-012-182-080		C-CAP,U 27P-50 CH
C800	87-A10-031-080		C-CAP,U 0.01-25 K B
CN101	87-A60-429-010		CONN,16P H TOC-A
CN102	87-A60-131-010		CONN,6P V FE
CN401	87-099-210-010		CONN,5P 6216 H
CN402	8A-CL8-707-010		CONN ASSY,5P DOOR
CN403	87-A61-249-010		CONN,15P H
CN404	8A-CG8-702-010		CONN ASSY,3P MIC
CON301	87-099-201-010		CONN,8P 6216 H
FB901	83-XM1-617-080		C-COIL,BK2125HM601
FB904	83-XM1-617-080		C-COIL,BK2125HM601
FB905	83-XM1-617-080		C-COIL,BK2125HM601
FB910	83-XM1-617-080		C-COIL,BK2125HM601
FB916	87-A90-896-080		F-BEAD,035600STY7
FB917	87-A90-896-080		F-BEAD,035600STY7
FFC101	8A-CL8-702-010		FF-CABLE,16P 1.0 140MM
J501	87-A61-472-010		JACK,PIN 1P YELLOW
JR501	83-XM1-617-080		C-COIL,BK2125HM601
JR915	87-010-759-080		C-CAP,U 0.1-25 Z F<EXCEPT HR>
L101	87-005-196-080		COIL,10UH
L301	87-A50-095-010		COIL,68UH RCR875D
L302	87-005-426-080		COIL,3.3UH K FLR50
L502	87-005-204-080		COIL,47UH
L503	87-005-189-080		COIL 2.7UH
L504	87-005-187-080		COIL,1.8UH
L505	87-005-204-080		COIL,47UH
L506	87-005-204-080		COIL,47UH
L507	87-005-204-080		COIL,47UH
L708	87-005-817-080		C-COIL, 33UH J FLC32
⚠ PR301	87-A90-757-080		PROTECTOR,0.75A 60V 491
R130	87-022-237-080		C-RES,U 8.2K-1/16W F
R131	87-022-237-080		C-RES,U 8.2K-1/16W F
R132	87-022-237-080		C-RES,U 8.2K-1/16W F
R133	87-022-237-080		C-RES,U 8.2K-1/16W F
R134	87-022-237-080		C-RES,U 8.2K-1/16W F
R135	87-022-237-080		C-RES,U 8.2K-1/16W F
R180	87-022-237-080		C-RES,U 8.2K-1/16W F<HR>
R180	87-022-239-080		C-RES,U 10K-1/16W F<EXCEPT HR>
R181	87-022-237-080		C-RES,U 8.2K-1/16W F<HR>
R181	87-022-239-080		C-RES,U 10K-1/16W F<EXCEPT HR>
R182	87-022-237-080		C-RES,U 8.2K-1/16W F<HR>
R182	87-022-239-080		C-RES,U 10K-1/16W F<EXCEPT HR>
R183	87-022-237-080		C-RES,U 8.2K-1/16W F<HR>
R183	87-022-239-080		C-RES,U 10K-1/16W F<EXCEPT HR>
R190	87-022-221-080		C-RES,U 1.8K-1/16W F<HR>
R190	87-022-217-080		C-RES,U 1.2K-1/16W F<EXCEPT HR>
R191	87-022-221-080		C-RES,U 1.8K-1/16W F<HR>
R191	87-022-217-080		C-RES,U 1.2K-1/16W F<EXCEPT HR>
R193	87-022-221-080		C-RES,U 1.8K-1/16W F<HR>
R193	87-022-223-080		C-RES,U 2.2K-1/16W F<EXCEPT HR>
R194	87-022-221-080		C-RES,U 1.8K-1/16W F<HR>
R194	87-022-223-080		C-RES,U 2.2K-1/16W F<EXCEPT HR>
R284	87-012-276-080		C-CAP,U 1500P-50 K B<EXCEPT HR>
R285	87-012-276-080		C-CAP,U 1500P-50 K B<EXCEPT HR>
R507	87-022-222-080		C-RES,U 2.0K-1/16W F
S201	87-A90-300-010		SW,SL SS11 SSAA 1-3 B
X201	87-A70-124-080		VIB,CER 8.0MHZ
X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
X601	87-030-270-080		VIB,XTAL 16.9344MHZ

PAMP C.B

C203	87-010-400-080		CAP, ELECT 0.47-50V
C204	87-010-400-080		CAP, ELECT 0.47-50V
C207	87-010-759-080		C-CAP,U, 0.1-25F
C208	87-010-759-080		C-CAP,U, 0.1-25F
C209	87-012-283-080		C-CAP,U 5600P-50 B
C210	87-012-283-080		C-CAP,U 5600P-50 B
C211	87-010-404-080		CAP, ELECT 4.7-50V
C212	87-010-404-080		CAP, ELECT 4.7-50V
C213	87-012-195-080		C-CAP,U 100P-50CH
C214	87-012-195-080		C-CAP,U 100P-50CH
C215	87-012-280-080		CAP, U 3300P-50
C216	87-012-280-080		CAP, U 3300P-50
C217	87-010-403-080		CAP, ELECT 3.3-50V
C218	87-010-403-080		CAP, ELECT 3.3-50V
C219	87-010-260-080		CAP, ELECT 47-25V
C220	87-010-260-080		CAP, ELECT 47-25V
C221	87-012-270-080		CAP, U 470P-50
C222	87-012-270-080		CAP, U 470P-50
C223	87-A10-025-080		C-CAP,U 0.22-16Z F
C224	87-A10-025-080		C-CAP,U 0.22-16Z F
C225	87-012-282-080		CAP, U 4700P-50
C226	87-012-282-080		CAP, U 4700P-50
C229	87-010-544-080		CAP, ELECT 0.1-50V
C230	87-010-544-080		CAP, ELECT 0.1-50V
C231	87-010-759-080		C-CAP,U, 0.1-25F
C232	87-010-759-080		C-CAP,U, 0.1-25F
C233	87-010-788-080		C-CAP,U 0.033-25F
C234	87-010-788-080		C-CAP,U 0.033-25F
C235	87-010-759-080		C-CAP,U, 0.1-25F
C236	87-010-759-080		C-CAP,U, 0.1-25F
C237	87-012-286-080		CAP, U 0.01-25
C239	87-010-787-080		CAP, U 0.022-25
C240	87-010-787-080		CAP, U 0.022-25
C241	87-012-270-080		CAP, U 470P-50
C242	87-012-270-080		CAP, U 470P-50
C243	87-012-275-080		C-CAP,U 1200P-50B<HC>
C263	87-A10-025-080		C-CAP,U 0.22-16Z F
C264	87-A10-025-080		C-CAP,U 0.22-16Z F
CN201	87-A61-011-010		CONN,13P H BLK TAC-L13P-A3
FB201	87-A11-148-080		CAP,TC U 0.1-50 Z F<HC>
J201	87-A60-238-010		TERMINAL,SP 4P (MSC)
L201	87-003-383-010		COIL,1UH K
L202	87-003-383-010		COIL,1UH K
R247	87-A00-258-080		RES,M/F 0.22-1W J
R248	87-A00-258-080		RES,M/F 0.22-1W J
R249	87-A00-258-080		RES,M/F 0.22-1W J
R250	87-A00-258-080		RES,M/F 0.22-1W J
R251	87-A00-258-080		RES,M/F 0.22-1W J
R252	87-A00-258-080		RES,M/F 0.22-1W J
TH201	87-A91-042-080		C-THMS,100K 55001
TH202	87-A91-042-080		C-THMS,100K 55001

MOTOR C.B

CN600	87-A60-115-010		CONN,5P H S2M-5WR
M600	87-A91-069-010		MOT,RF-370CA15370
S600	87-036-109-010		SW,MICRO SPPB61
S601	87-036-109-010		SW,MICRO SPPB61

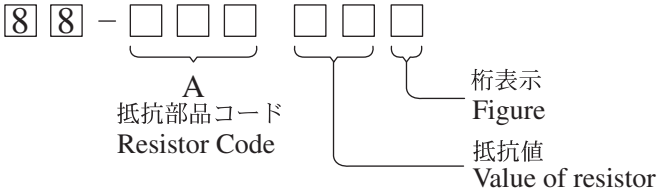
PT C.B

C101	87-010-387-080		CAP,E 470-25 SME
C103	87-A11-148-080		CAP,TC U 0.1-50 Z F<HC>
⚠ C104	87-A10-956-010		CAP,CER 1500P-4000 M E KX
CN101	87-A61-110-010		CONN,9P V TID-A
⚠ F101	87-035-190-010		FUSE,2A 250V T218
⚠ FC101	87-033-213-080		FUSE,CLAMP PFC5000
⚠ FC102	87-033-213-080		FUSE,CLAMP PFC5000
⚠ PR101	87-026-681-080		PROTECTOR,5A 60V 491
⚠ PR102	87-026-681-080		PROTECTOR,5A 60V 491
⚠ PR103	87-A90-473-080		PROTECTOR,3.5A 491SERIES 60V
⚠ PR104	87-A90-473-080		PROTECTOR,3.5A 491SERIES 60V
⚠ PT101	8A-CL8-602-010		PT,H EI66-60
⚠ PT102	8A-NF8-673-010		PT,SUB ANF-8 (H)KAMI

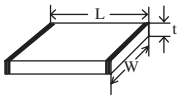
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ RY101	87-A91-281-010		RELAY,AC DC12V OSA-SS-212DM5
⚠ SW101	87-A90-234-010		SW,SL 1-2-2 SW2201
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC
MIC C.B			
C200	87-010-069-080		CAP,E 0.33-50 5L
C201	87-012-337-080		C-CAP,U 56P-50 CH
C202	87-012-195-080		C-CAP,U 100P-50CH
C203	87-A12-317-080		C-CAP,U 0.1-50 Z F
C204	87-016-044-040		CAP,E 100-16 GAS
C205	87-012-282-080		CAP, U 4700P-50
C206	87-010-415-080		CAP ELE SRE 10-50V
C207	87-010-067-080		CAP,E 0.1-50 5L
C208	87-012-274-080		CHIP CAP,U 1000P-50B
C209	87-012-182-080		C-CAP,U 27P-50 CH
C210	87-010-415-080		CAP ELE SRE 10-50V
C211	87-A12-317-080		C-CAP,U 0.1-50 Z F
C212	87-A10-819-080		CAP,E 47-25 5L SRM
C213	87-012-274-080		CHIP CAP,U 1000P-50B
C214	87-010-759-080		C-CAP,U, 0.1-25F<HC>
CN200	87-A60-667-010		CONN,3P H 2MM JMT
FB201	83-XM1-617-080		C-COIL,BK2125HM601<HC>
J200	87-A60-420-010		JACK,3.5 ST (MSC)
DECK C.B			
CON1	87-009-352-010		CONN,9P PH H
M1	87-045-347-010		MOT,SHU2L 70
SFR1	87-024-581-010		SFR,3.3K DEA6V K0A
SOL2	82-ZM3-628-010		SOL ASSY,23 SO
SW2	87-036-110-010		SW,MICRO SPPB62
SW3	87-036-110-010		SW,MICRO SPPB62
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-A90-248-010		SW,MICRO ESE11SH2CXQ
W1	82-ZM1-625-010		RBN-CORD,4P-55
LOAD C.B			
CON6	87-099-210-010		CONN,5P 6216 H
FFC6	88-905-131-210		FF-CABLE,5P 1.25 130MM
M1	87-045-305-010		MOTOR,RF-500TB DC-5V (2MA)
SW1	87-036-110-010		SW,MICRO SPPB62
SW2	87-036-110-010		SW,MICRO SPPB62
DRIVE C.B			
CON3	87-A60-086-010		CONN,6P H6216-11
FFC3	88-906-101-110		FF-CABLE,6P 1.25
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-363-010		MOT,MDN4RA3ET
SW1	87-A90-042-010		SW,LEAF MSW-17310MVP0
HEAD C.B			
	85-ZM3-602-010		PWB,FLEX A
CN301	88-CL4-701-010		CONN ASSY,7P RPEH

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

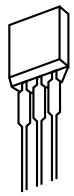
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

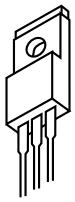
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



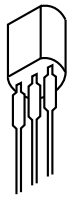
E C B

2SC4115
DTA144ES
DTC144ES
KTA1267
KTC3199



B C E

2SB1344
2SB1370
2SB1616
2SD2025
2SD2478

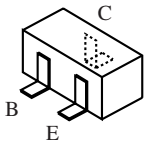


E C B

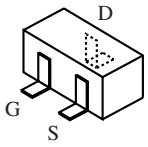
2SA1296
KTC3198

E C B

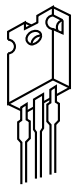
2SC5343
CC5551



2SA1162
2SA1235
2SA1514
2SC2712
2SC2714
2SC3052
2SD1306
CMBT5551
DTA124XK
DTA124XKA
DTA144EK
DTC114EKA
DTC114TK
DTC114TKA
DTC124XK
DTC124XKA
DTC144EK
KRA102S
RT1P144C



2SJ461
2SK2158



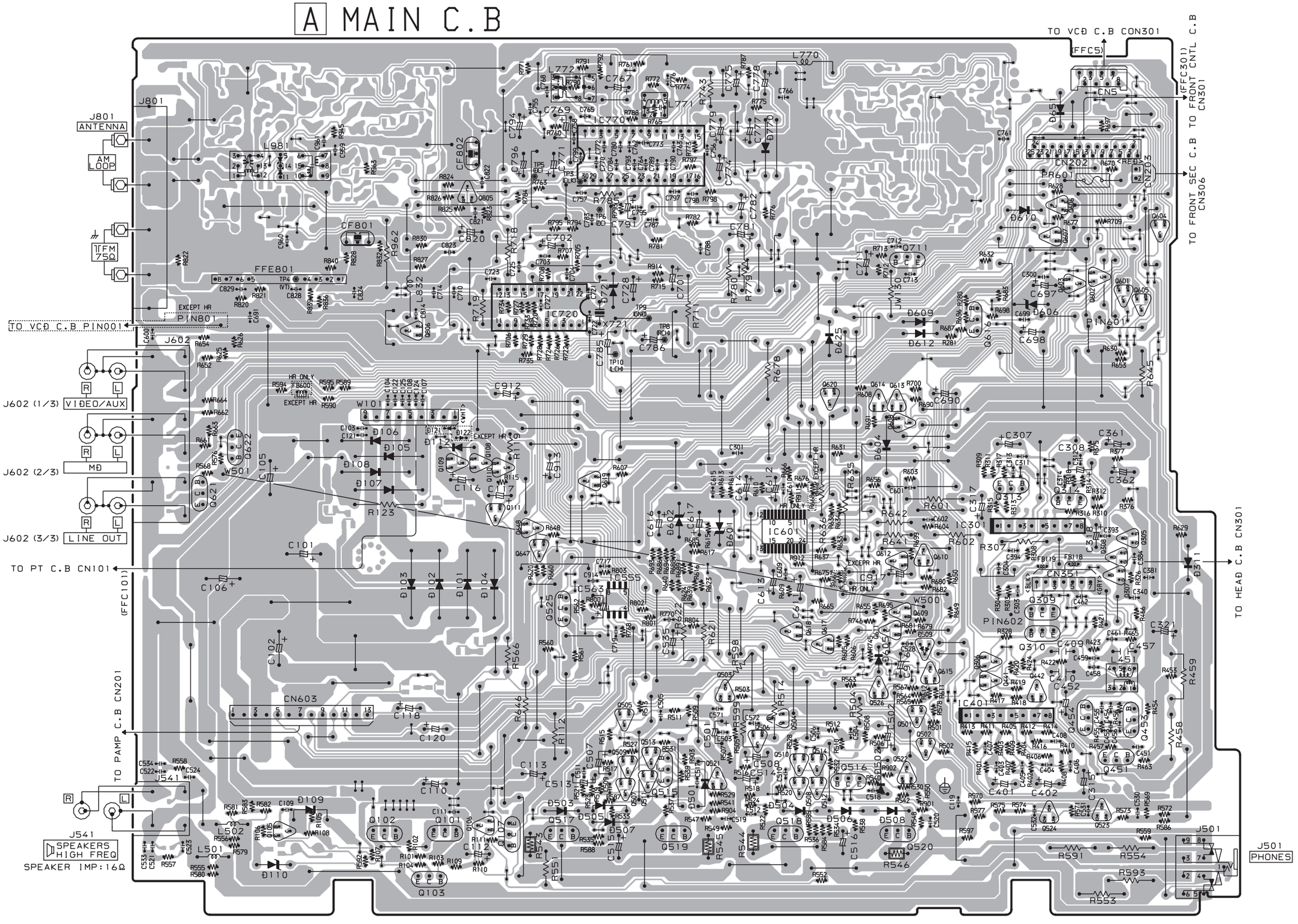
E C B

2SA1357

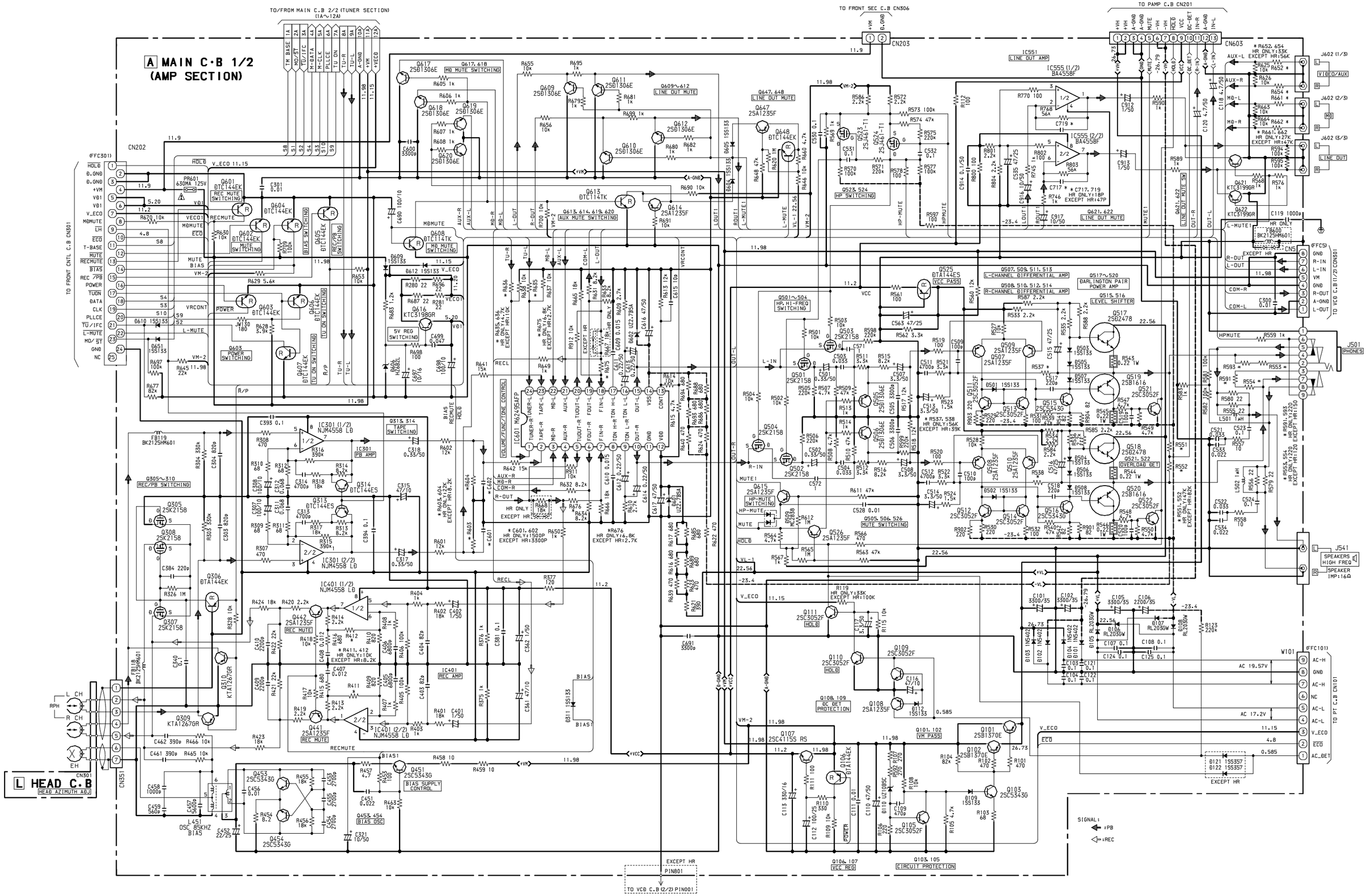
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

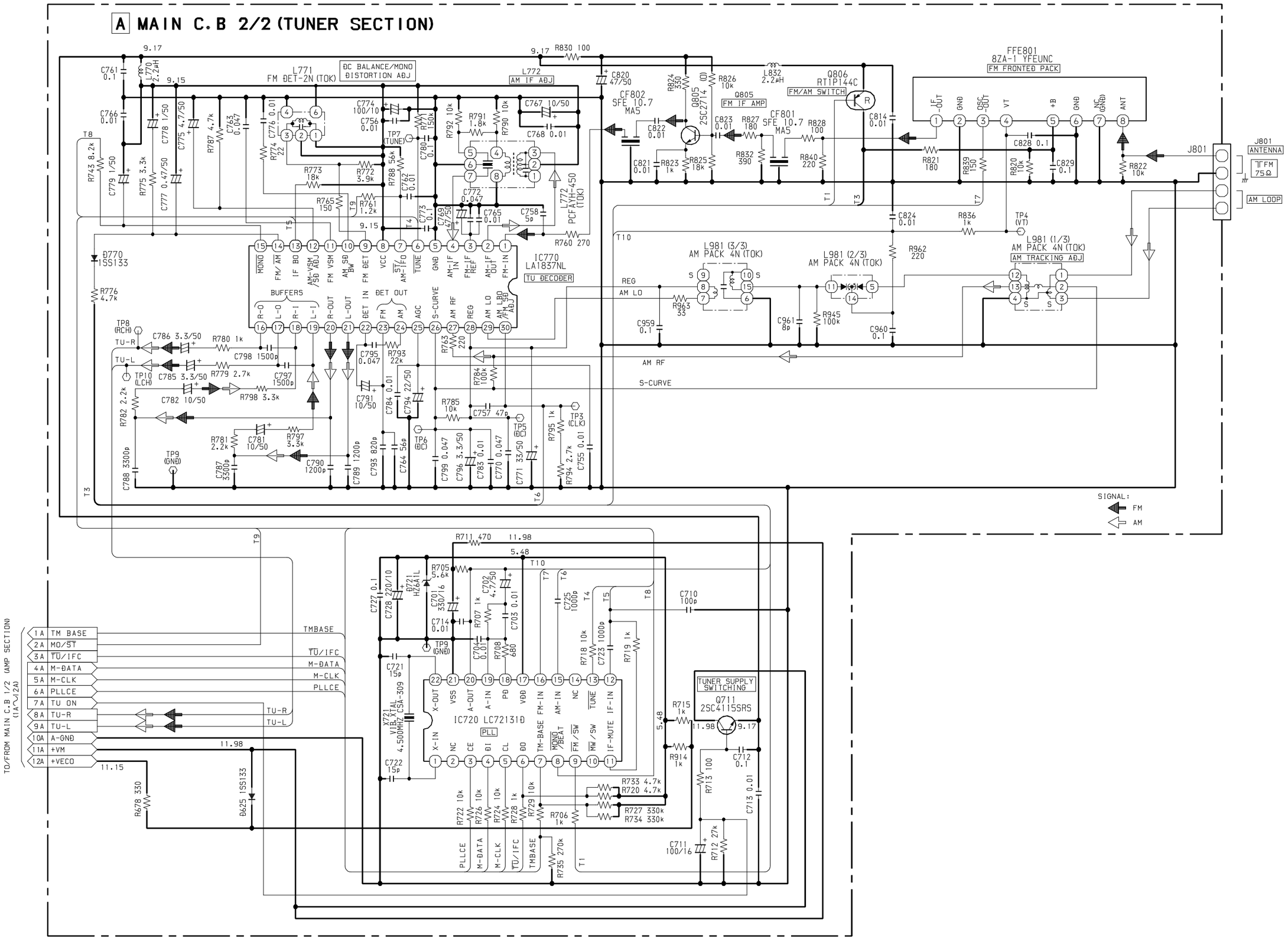
A B C D E F G H I J K L M N O P Q R S T U

A MAIN C.B



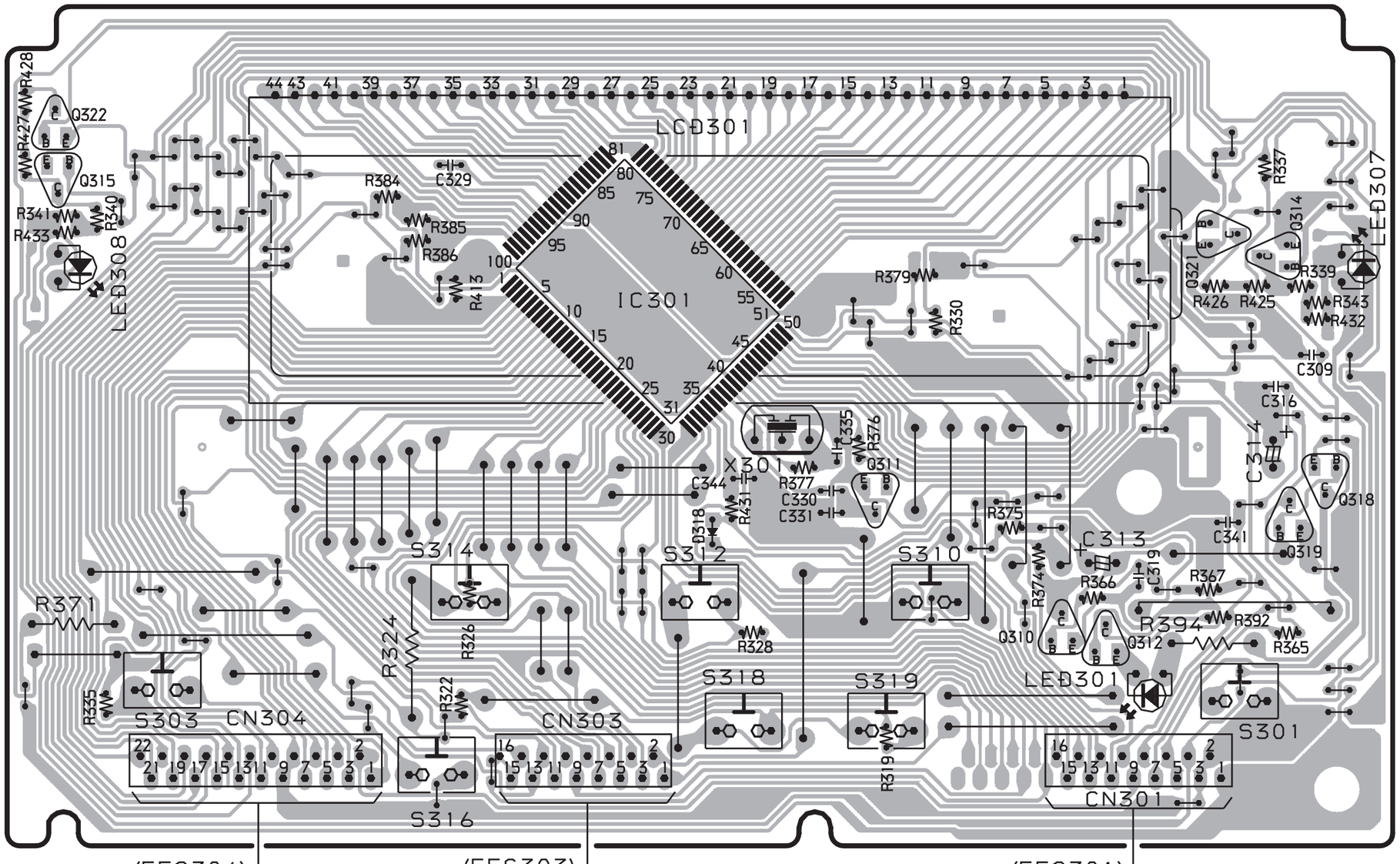
SCHEMATIC DIAGRAM – 1 (MAIN : 1 / 2 <AMP SECTION> / HEAD)




A MAIN C.B 2/2 (TUNER SECTION)
ĐC BALANCE/MONO DISTORTION ADJ
L771 FM ĐET-2N (TOK)
L772 AM IF ADJ
CF802 SFE 10.7 MA5
CF801 SFE 10.7 MA5
Q805 FM IF AMP
Q806 RTIP144C FM/AM SWITCH
FFE801 8ZA-1 YFEUNC FM FRONTED PACK
IF-OUT
GNĐ
OSC-OUT
VT
+B
GNĐ
NC (GNĐ)
ANT
J801 ANTENNA
TFM 75Ω
AM LOOP
L981 (3/3) AM PACK 4N (TOK)
L981 (2/3) AM PACK 4N (TOK)
L981 (1/3) AM PACK 4N (TOK)
AM TRACKING ĐJ
TP4 (VT)
REG
AM LO
AM RF
S-CURVE
IC770 LA1837NL TU ĐECODER
MONO
FM/AM
IF BO
AM-VSM /SD ĐJ
FM VSM
AM SD BW
FM ĐET
VCC
ST/FO
TUNE
GND
AM-IF IN
FM-IF REF
AM-IF OUT
FM-IN
BUFFERS
R-O
L-O
R-I
L-I
R-OUT
L-OUT
ĐET IN
ĐET OUT
FM
AM
AGC
S-CURVE
AM RF
REG
AM LO
AM LBO /FM SD ĐJ
TP8 (RCH)
TU-R
TU-L
TP10 (LCH)
TP9 (GNĐ)
TP7 (TUNE)
TP6 (ĐC)
TP5 (ĐC)
TP3 (CLK)
SIGNAL:
FM
AM
IC720 LC72131Đ
PLL
X-OUT
VSS
A-OUT
A-IN
PĐ
VĐĐ
FM-IN
AM-IN
NC
TUNE
IF-IN
X-IN
NC
CE
ĐI
CL
ĐO
TM-BASE
MONO /BEAT
FM/SW
MW/SW
IF-MUTE
X721 VIB.XTAL CSA-309 4.500MHZ
TUNER SUPPLY SWITCHING
Q711 2SC4115SR5
TO/FROM MAIN C.B 1/2 (AMP SECTION) (1A~12A)
1A TM BASE
2A MO/ST
3A TU/IFC
4A M-ĐATA
5A M-CLK
6A PLLCE
7A TU ON
8A TU-R
9A TU-L
10A A-GNĐ
11A +VM
12A +VECO
TMBASE
TU/IFC
M-ĐATA
M-CLK
PLLCE
TU-R
TU-L

B FRONT CNTL C.B

LCĐ301
ĐISPLAY



S303 ▲OPEN/CLOSE

S314 ▶▶/▶▶| TUNING UP /NEXT

S316 ●REC/REC MUTE

S312 ◀▶ĐIR/PRESET /SELECT

S318 ■CLEAR/ ↩RETURN

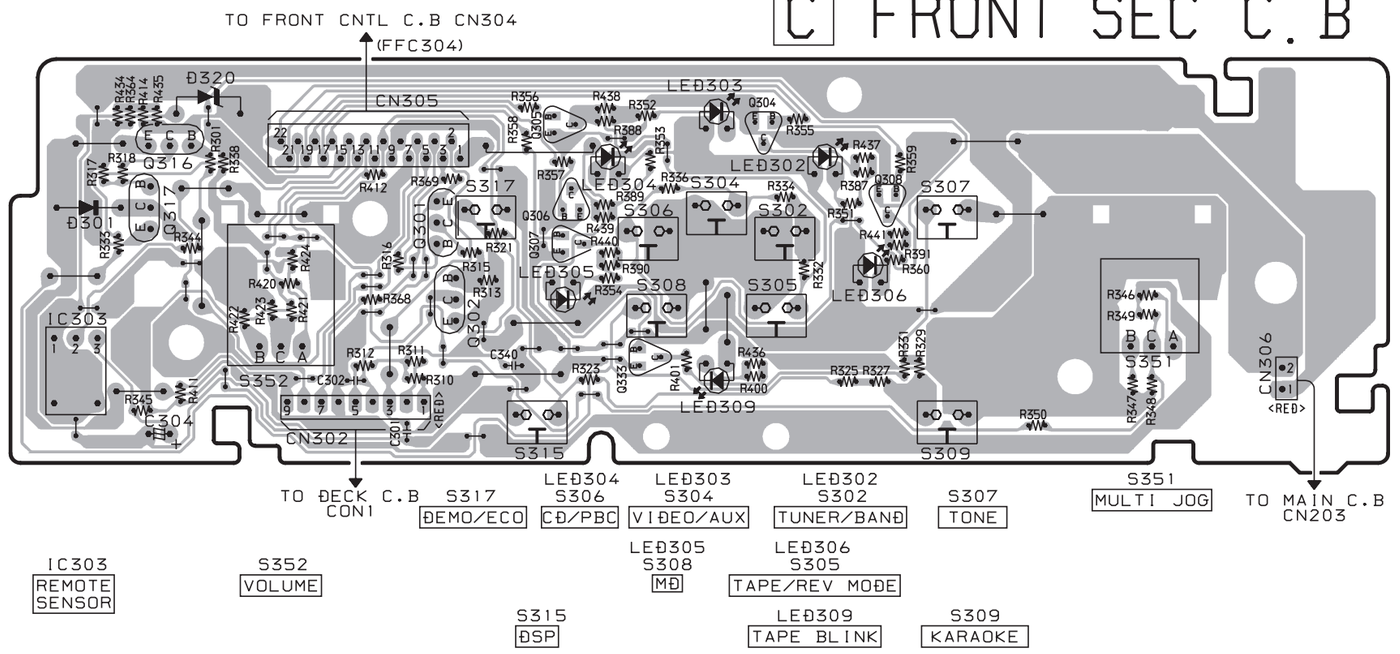
S310 ◀◀/|◀◀ TUNING ĐOWN /PREVIOUS

S319 ❚❚SET

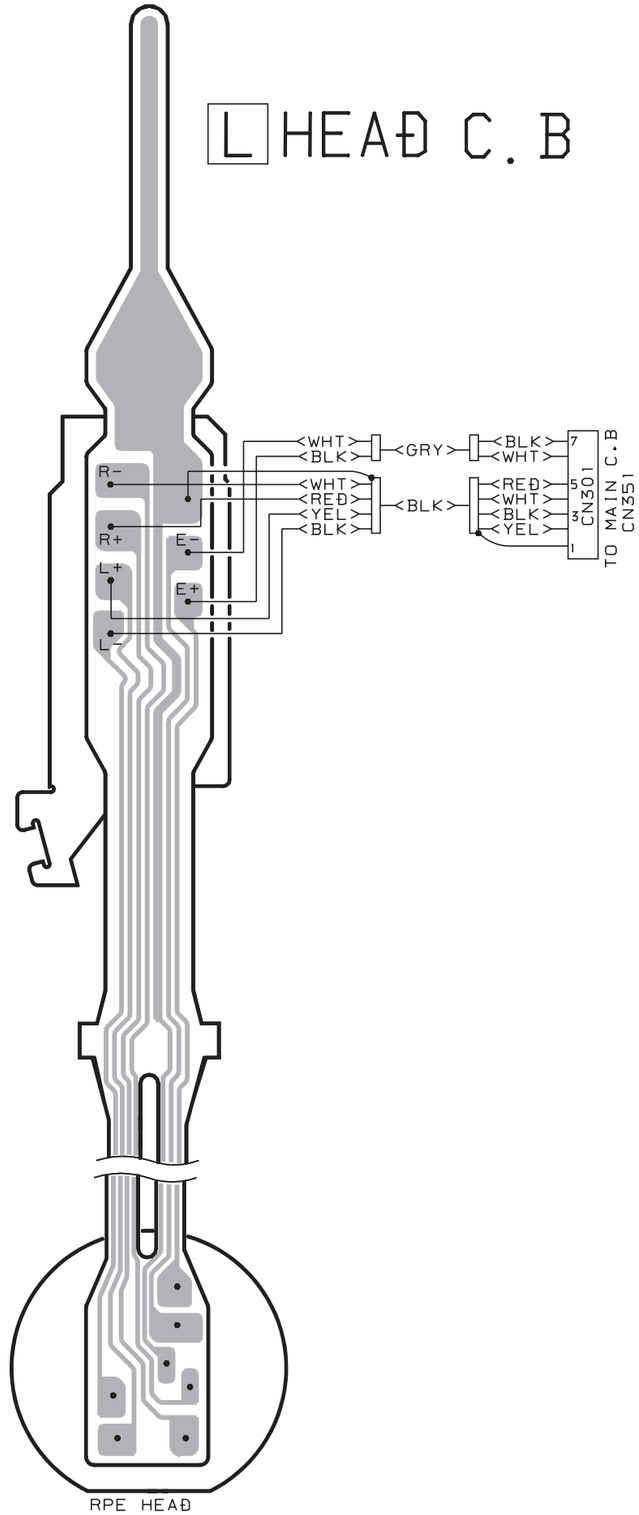
LEĐ301 (ECO INĐICATION)

S301 POWER

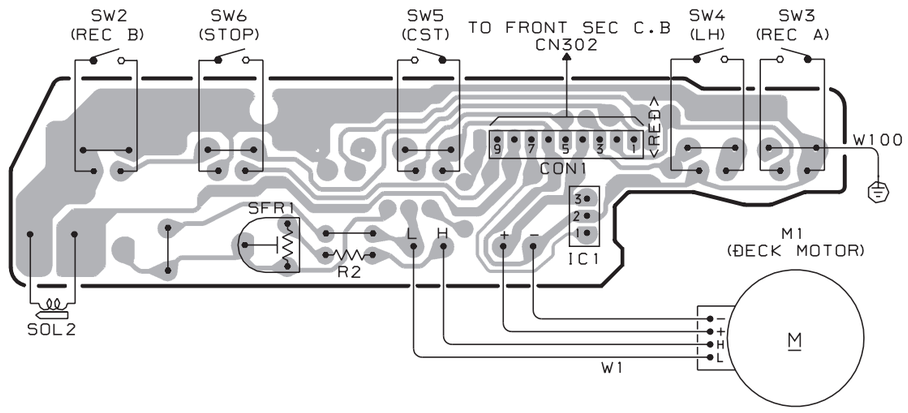
C FRONT SEC C.B

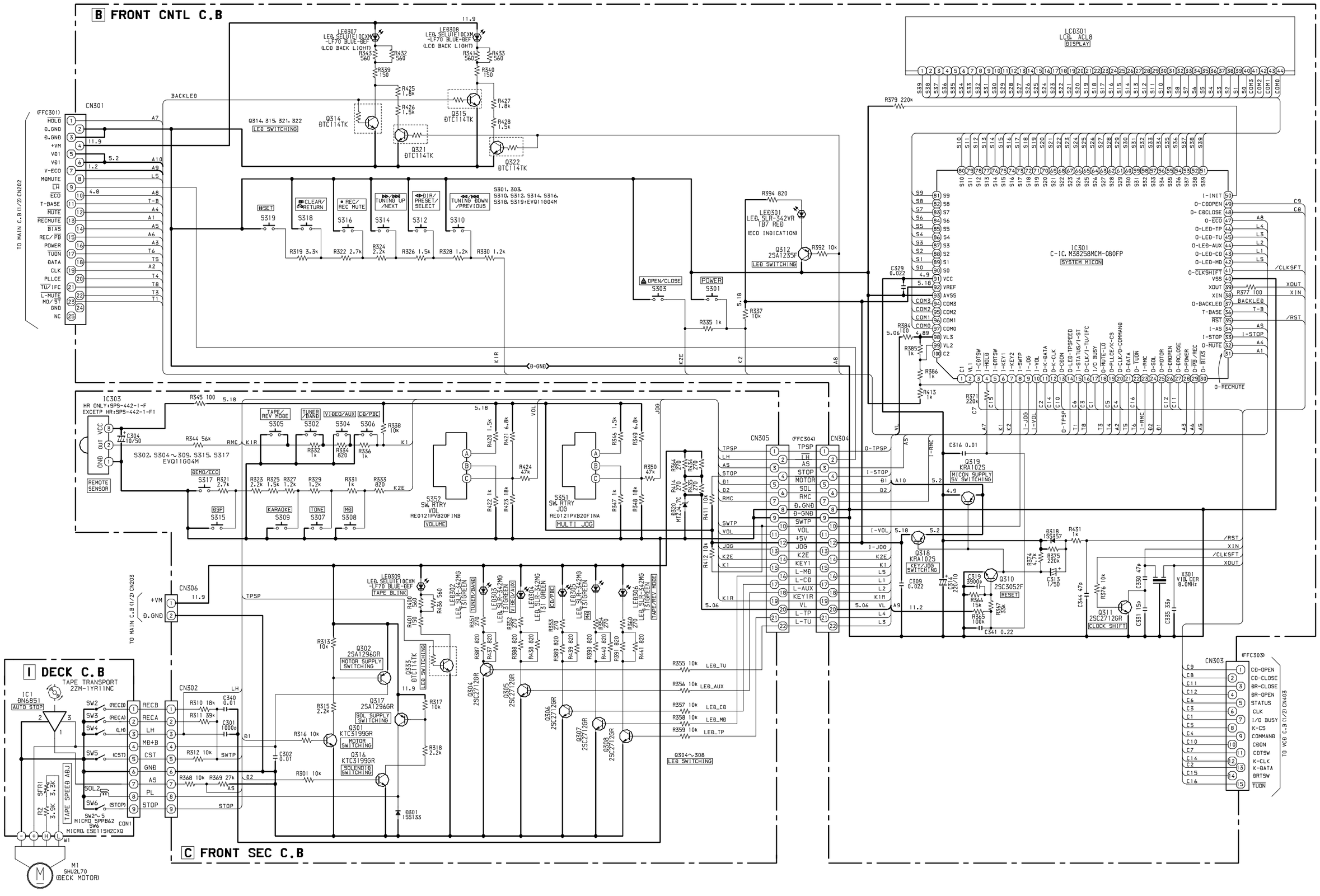


L HEAĐ C.B

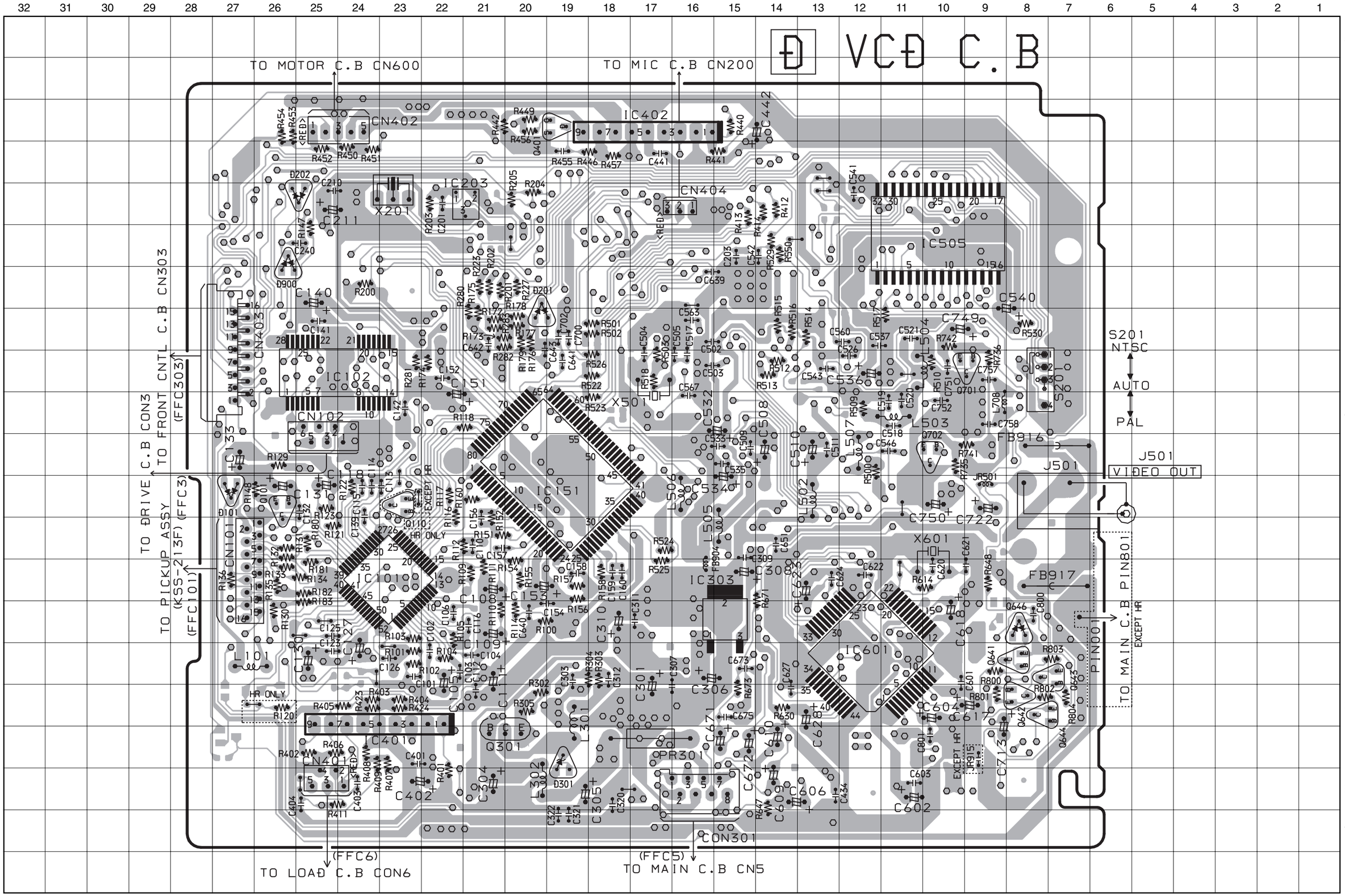


I ĐECK C.B

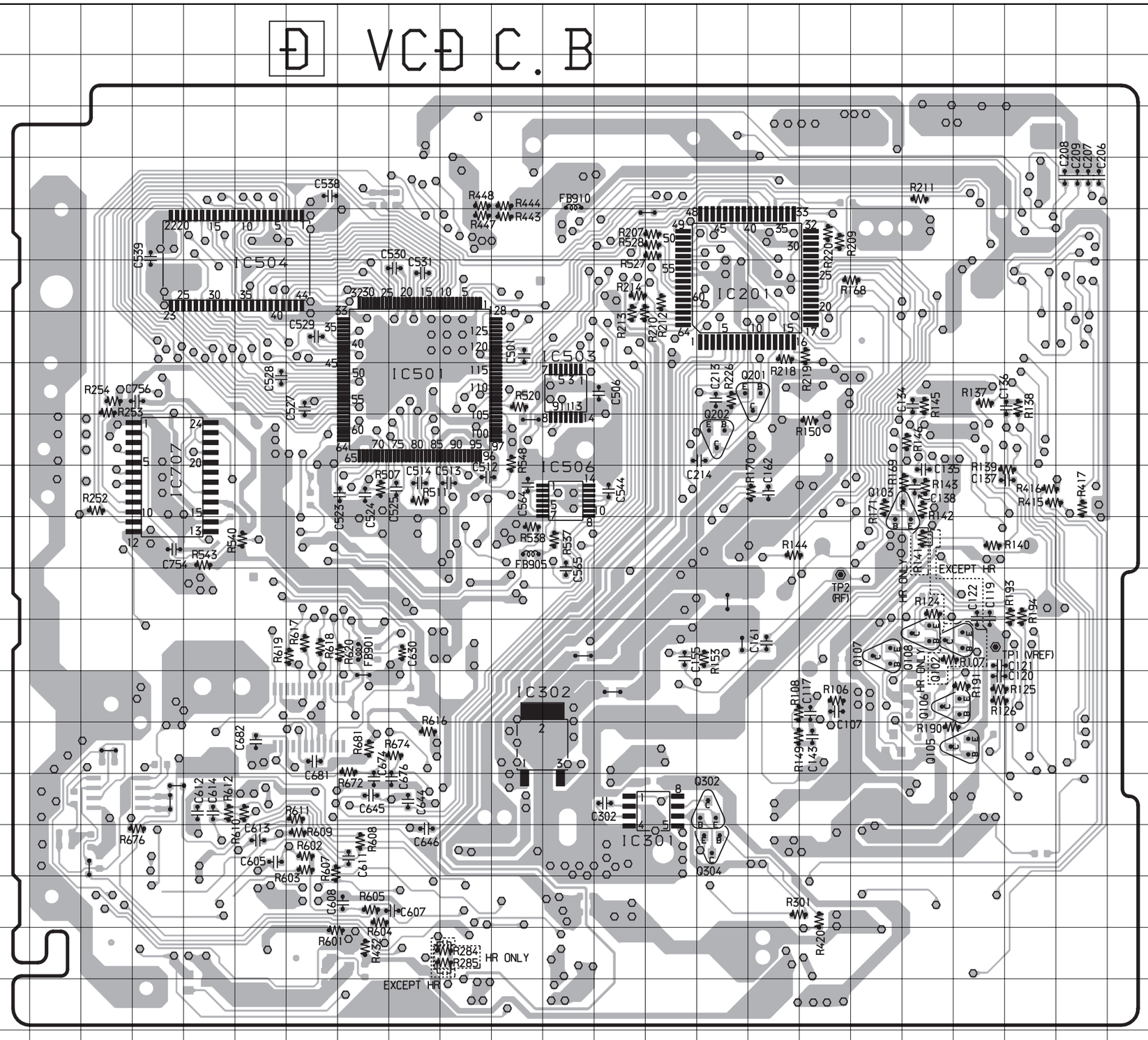



B FRONT CNTL C.B
LCD301
LCD, ACL8
DISPLAY
IC301
C-IC, M38258MCM-080FP
SYSTEM MICON
CN301
(FFC301)
TO MAIN C.B (1/2) CN202
BACKLED
LED307
LED308
LED, SEL1E10CXM
-LF70 BLUE-DEF
(LCD BACK LIGHT)
Q314, 315, 321, 322
LED SWITCHING
Q314 DTC114TK
Q315 DTC114TK
Q321 DTC114TK
Q322 DTC114TK
S301, 303,
S310, S312, S314, S316,
S318, S319: EVQ11G04M
SET
S319
CLEAR/
RETURN
S318
REC/
REC MUTE
S316
TUNING UP
/NEXT
S314
DIR/
PRESET/
SELECT
S312
TUNING DOWN
/PREVIOUS
S310
OPEN/CLOSE
S303
POWER
S301
LED301
LED, SLR-342VR
TB7 RED
(ECO INDICATION)
Q312
25A1235F
LED SWITCHING
R394 820
R392 10k
R337 10k
R335 1k
R379 220k
C329 0.022
R384 100
R385 1k
R386 1k
R413 1k
R371 220k
C316 0.01
Q319
KRA102S
MICON SUPPLY
5V SWITCHING
Q318
KRA102S
KEY/JOG
SWITCHING
Q310
2SC3052F
RESET
D318
1S5357
R431 1k
R374 4.7k
R375 220k
C313 1/50
C319 3900p
R366 15k
R367 33k
R365 100k
C341 0.22
C309 0.022
C314 220/10
Q311
2SC2712GR
CLOCK SHIFT
X301
VIB, CER
8.0MHz
C344 47p
R376 10k
C350 47p
C331 15p
C355 35p
IC303
HR ONLY: SPS-442-1-F
EXCEPT HR: SPS-442-1-F1
C304 10/50
R344 56k
S302, S304~309, S315, S317
EVQ11G04M
DEMO/ECO
REMOTE
SENSOR
S317
S321 2.7k
S305 TAPE/REV MODE
S302 TUNER/BAND
S304 VIDEO/AUX
S306 CD/PBC
R338 10k
R332 1k
R334 820
R336 1k
R323 2.2k
R325 1.5k
R327 1.2k
R329 1.2k
R331 1k
R333 820
S315 BSP
S309 KARAOKE
S307 TONE
S308 MD
S352
SW, RTRY
VOL
RE0121PVB20FINB
VOLUME
S351
SW, RTRY
JOG
RE0121PVB20FINA
MULTI JOG
R420 1.5k
R421 6.8k
R424 47k
R422 1k
R423 18k
R346 1.5k
R349 6.8k
R350 47k
R347 1k
R348 18k
R364 270
R434 270
R414 270
R435 270
R320 MTZJ4.7C
R411 10k
R412 10k
CN305
(FFC304)
CN304
TPSP
LH
AS
STOP
MOTOR
SOL
RMC
D.GND
SWTP
VOL
+5V
JOG
K2E
KEY1
L-MD
L-CD
L-AUX
KEY1R
VL
L-TP
L-TU
O-TPSP
I-STOP
Ø1
Ø2
I-VOL
I-JOG
I-RMC
CN306
+VM
D.GND
LED309
LED, SEL1E10CXM
-LF70 BLUE-DEF
TAPE BLINK
LED302
LED, SLR-342MG
1S1GREEN
TUNER/BAND
LED303
LED, SLR-342MG
1S1GREEN
VIDEO/AUX
LED304
LED, SLR-342MG
1S1GREEN
CD/PBC
LED305
LED, SLR-342MG
1S1GREEN
MD
LED306
LED, SLR-342MG
1S1GREEN
TAPE/REV MODE
R400 560
R436 560
R401 150
R351 270
R352 270
R353 270
R354 270
R360 270
R387 820
R437 820
R388 820
R438 820
R389 820
R439 820
R390 820
R440 820
R391 820
R441 820
Q333
DTC114TK
LED SWITCHING
Q302
2SA1296GR
MOTOR SUPPLY
SWITCHING
Q317
2SA1296GR
SOL SUPPLY
SWITCHING
Q301
KTC3199GR
MOTOR
SWITCHING
Q316
KTC3199GR
SOLENOID
SWITCHING
Q304~308
LED SWITCHING
Q304 2SC2712GR
Q305 2SC2712GR
Q306 2SC2712GR
Q307 2SC2712GR
Q308 2SC2712GR
LED_TU
LED_AUX
LED_CD
LED_MD
LED_TP
R355 10k
R356 10k
R357 10k
R358 10k
R359 10k
R313 10k
R315 2.2k
R316 10k
R317 10k
R318 2.2k
R310 18k
R311 39k
R312 10k
R368 10k
R369 27k
R301 10k
C340 0.01
C301 1000p
C302 0.01
D301
1SS133
I DECK C.B
TAPE TRANSPORT
2ZM-1YR11NC
IC1
BN6851
AUTO STOP
SW2 (RECB)
SW3 (RECA)
SW4 (LH)
SW5 (CST)
SW6 (STOP)
SOL2
SW2~5
MICRO SPPB62
SW6
MICRO ESE11SH2CXQ
CON1
SFR1 3.3K
R2 3.9K
TAPE SPEED ADJ
M1
9HU2L70
(DECK MOTOR)
CN302
RECB
RECA
LH
MD+B
CST
GND
AS
PL
STOP
C FRONT SEC C.B
CN303
(FFC303)
CD-OPEN
CD-CLOSE
BR-CLOSE
BR-OPEN
STATUS
CLK
I/O BUSY
K-CS
COMMAND
CDON
CDTSW
K-CLK
K-DATA
DRTSW
TUON
TO VCB C.B (1/2) CN403
/RST
XIN
/CLKSFT
XOUT

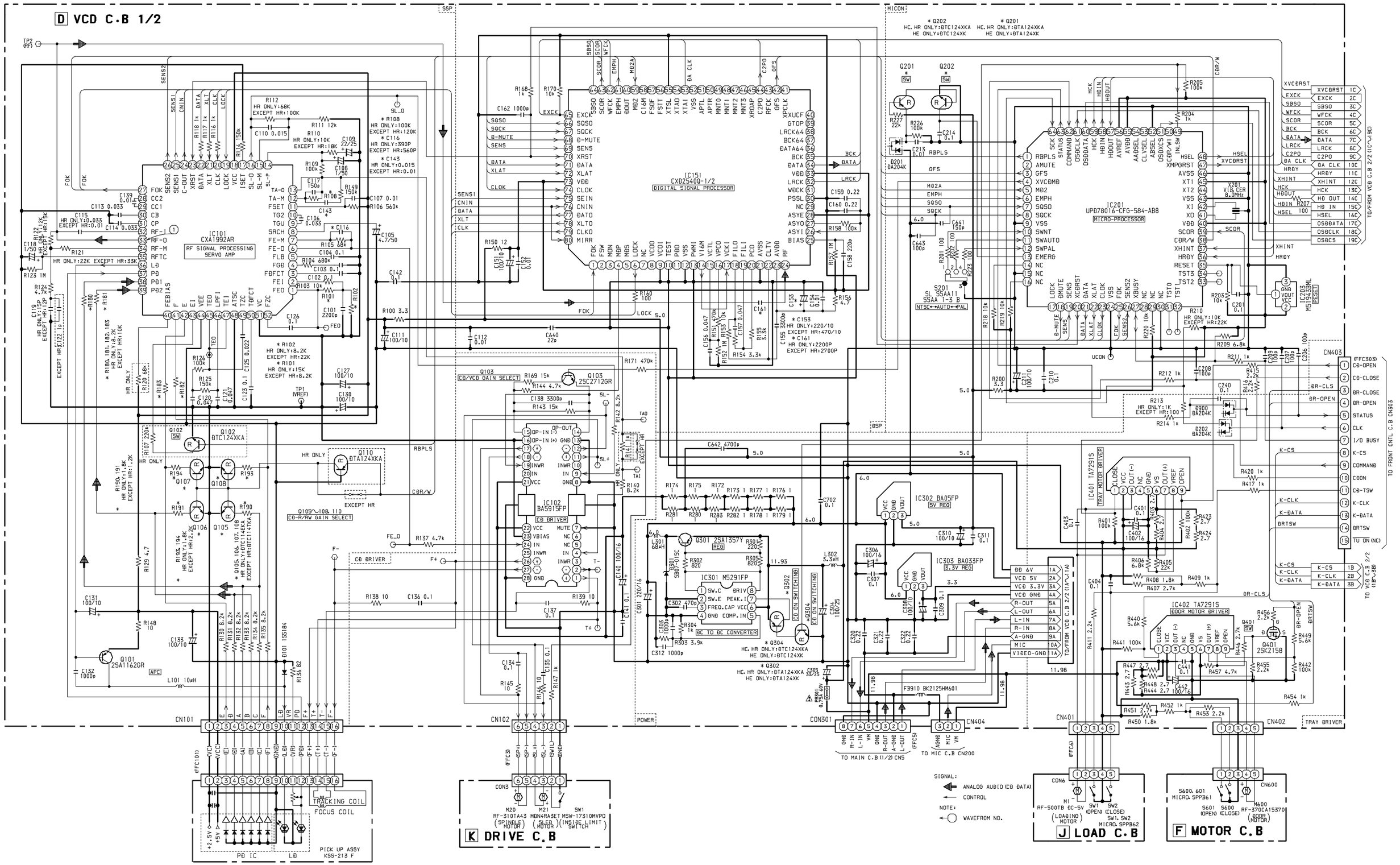
WIRING – 4 (VCD) <1 / 2>



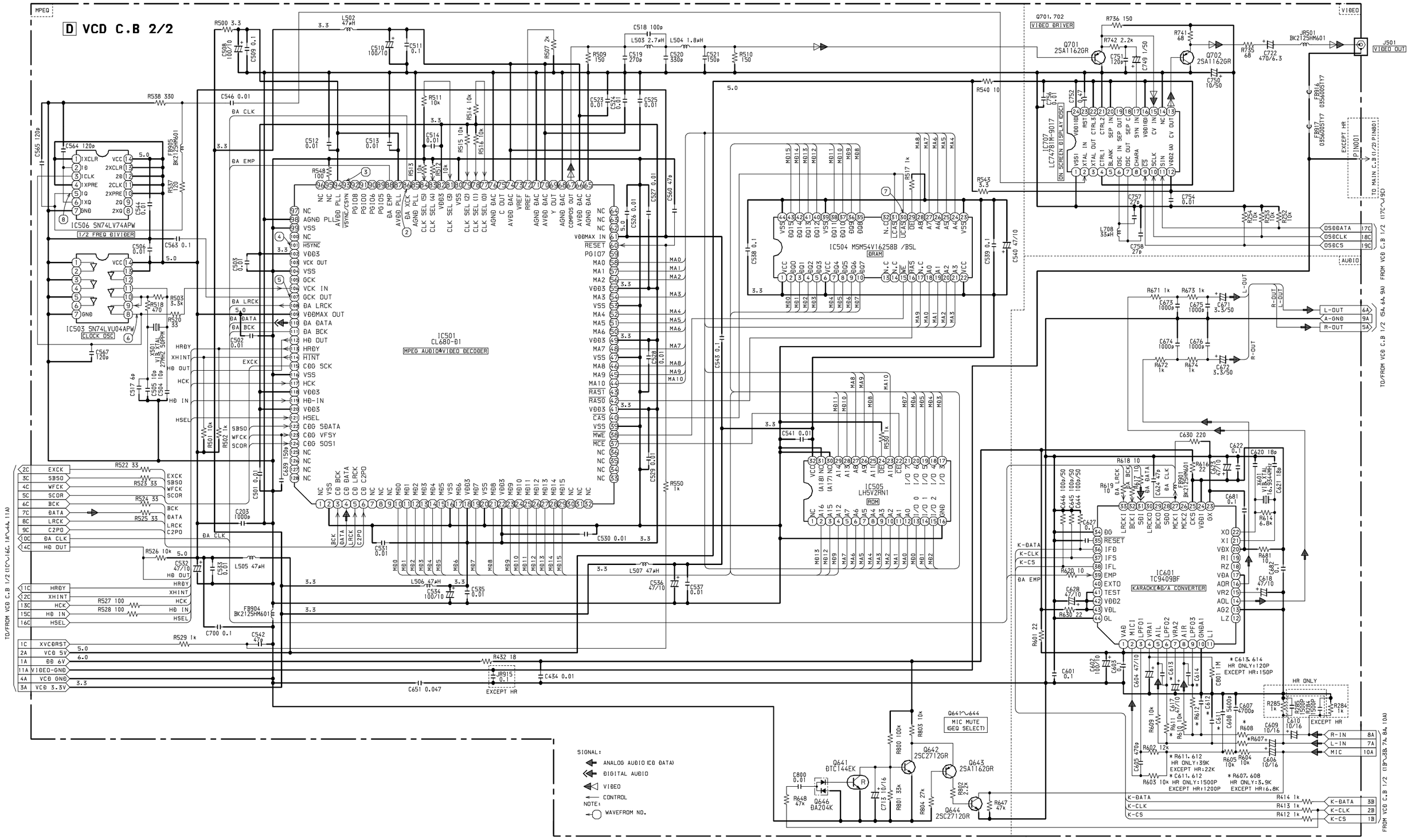
VCD C.B


IC504
IC501
IC505
IC506
IC707
IC201
IC302
IC301
EXCEPT HR
HR ONLY
TP2 (RF)
TP1 (VREF)

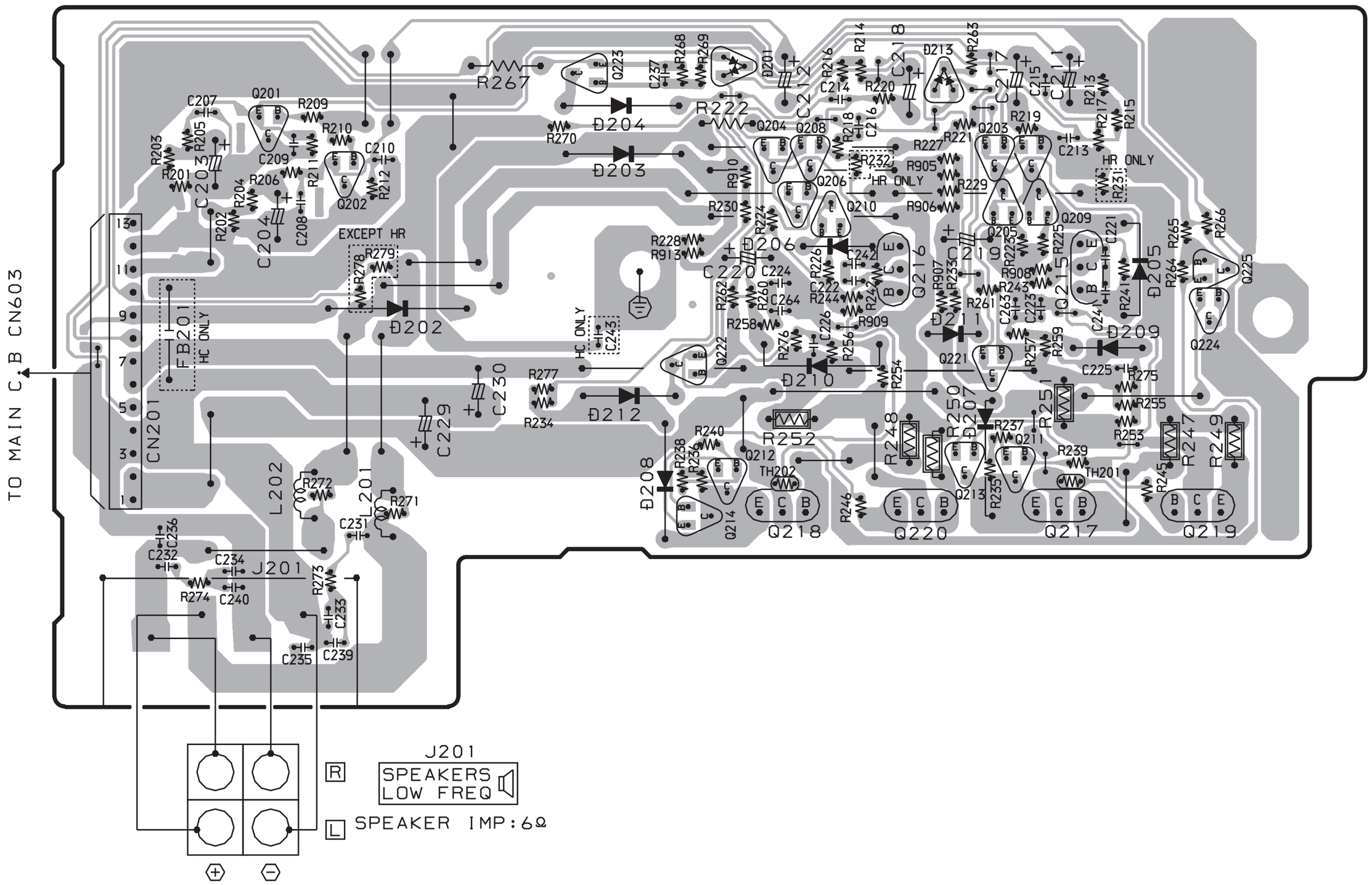
SCHEMATIC DIAGRAM – 4 (VCD : 1 / 2 / MOTOR / LOAD / DRIVE)



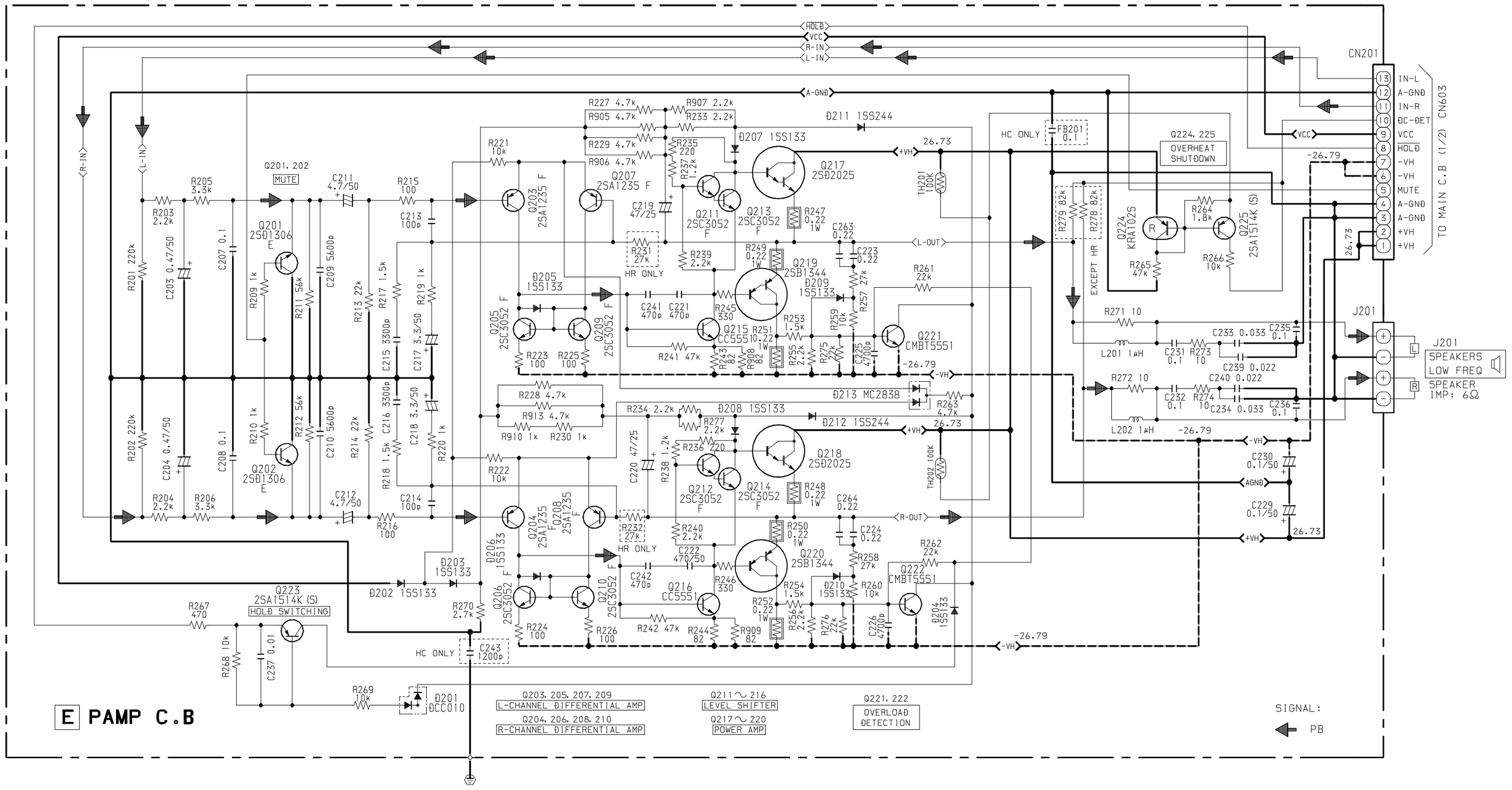
SCHEMATIC DIAGRAM – 5 (VCD : 2 / 2)

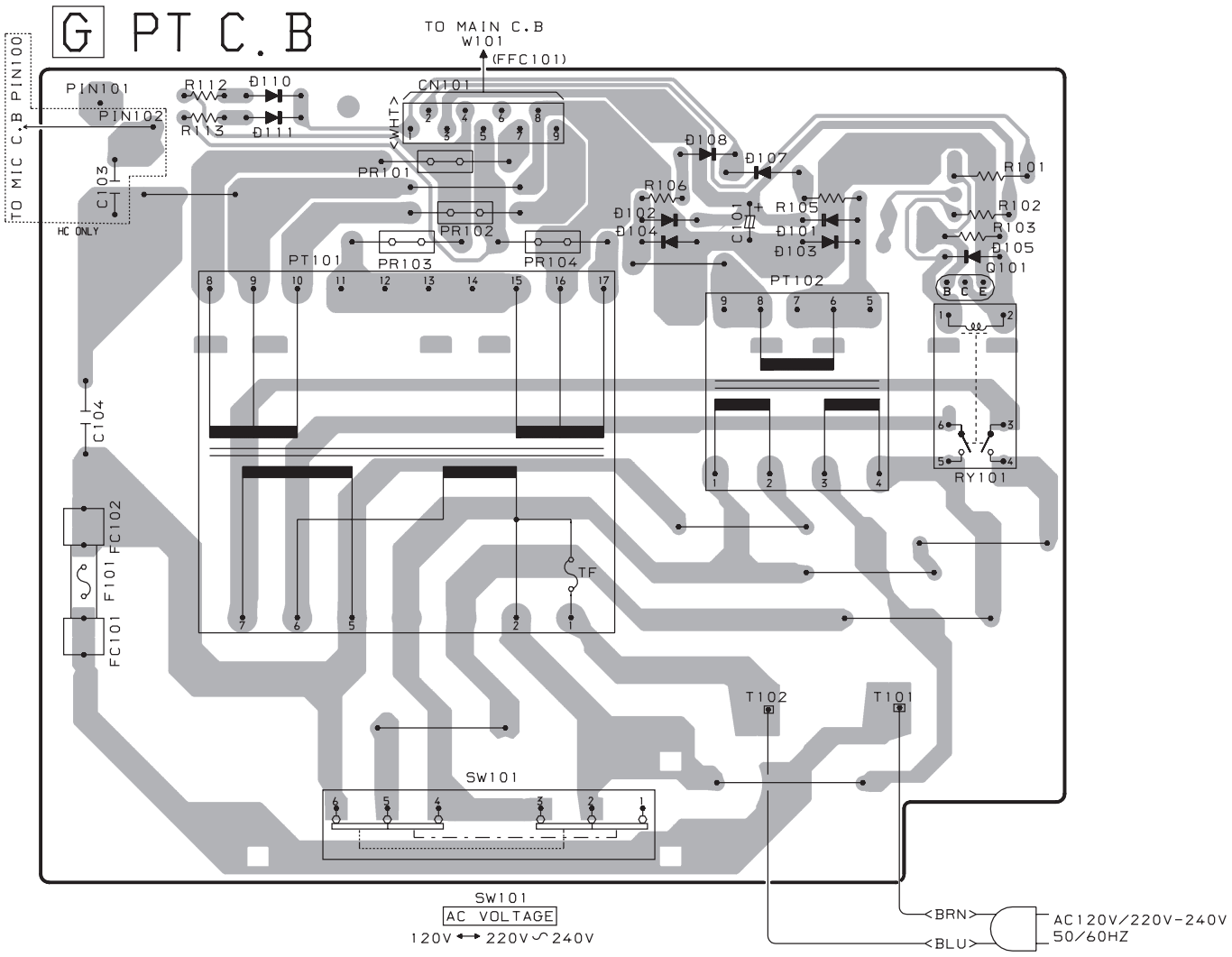


E PAMP C.B

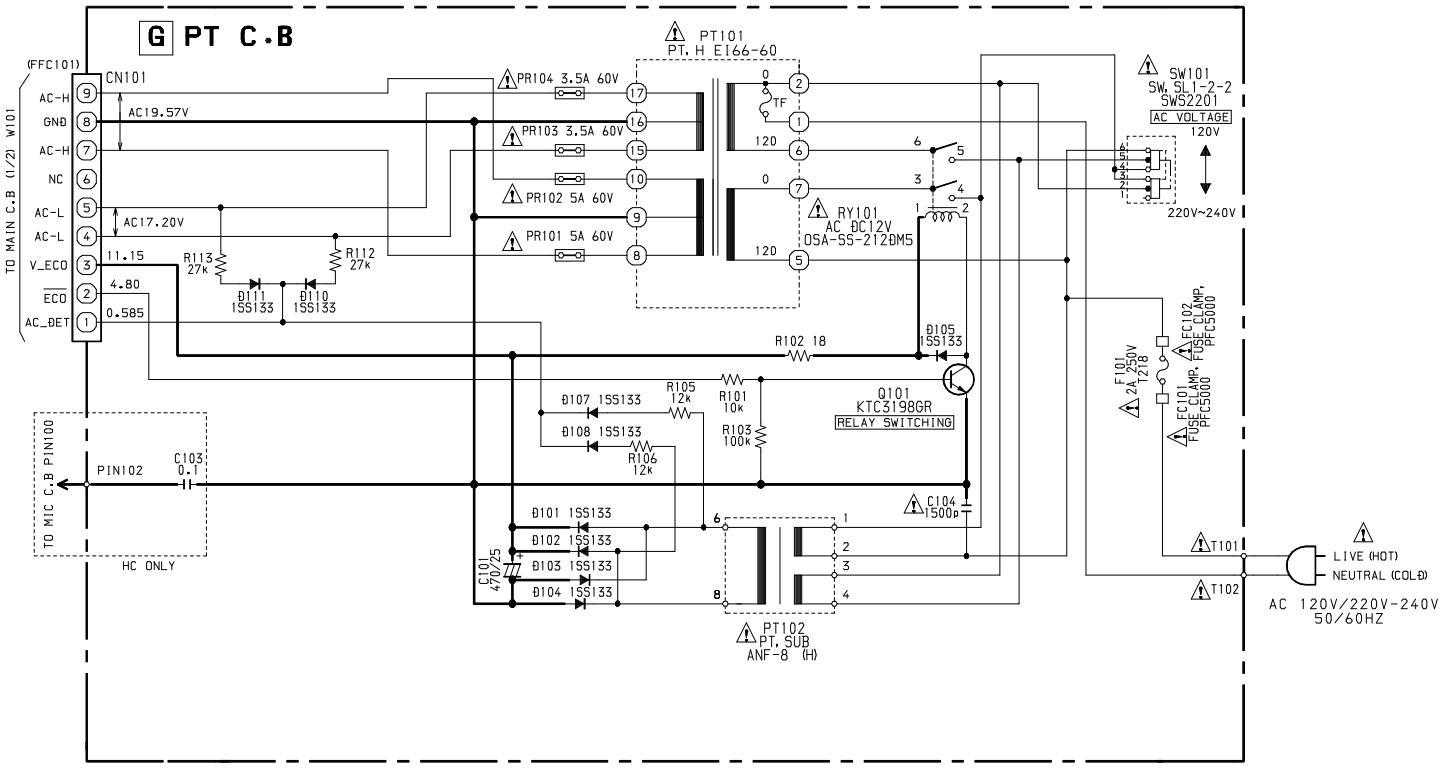

TO MAIN C.B CN603
CN201
FB201
HC ONLY
EXCEPT HR
HC ONLY
HR ONLY
HR ONLY
J201
SPEAKERS
LOW FREQ
R
L
SPEAKER IMP:6Ω
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q208
Q209
Q210
Q211
Q212
Q213
Q214
Q215
Q216
Q217
Q218
Q219
Q220
Q221
Q222
Q223
Q224
Q225
D201
D202
D203
D204
D205
D206
D207
D208
D209
D210
D211
D212
D213
TH201
TH202
L201
L202

SCHEMATIC DIAGRAM – 6 (PAMP)

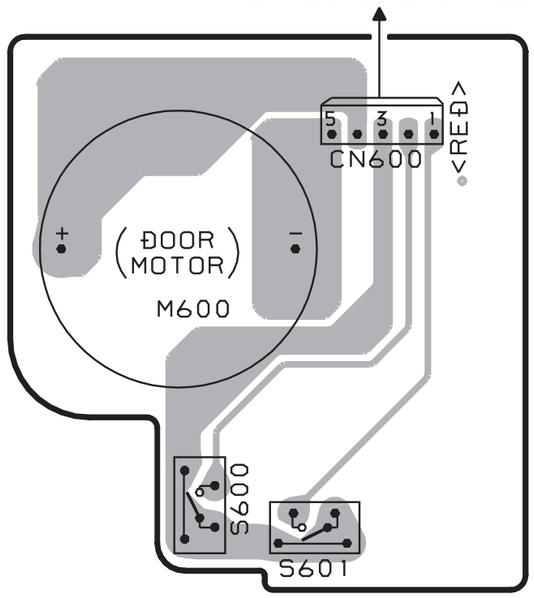



G PT C.B
TO MAIN C.B
W101
(FFC101)
TO MIC C.B PIN100
PIN101
PIN102
C103
HC ONLY
R112
R113
Đ110
Đ111
CN101
<WHT>
PR101
PR102
PR103
PR104
PT101
PT102
Đ108
Đ107
R106
Đ102
Đ104
C101
R105
Đ101
Đ103
R101
R102
R103
Đ105
Q101
RY101
C104
FC102
F101
FC101
TF
T102
T101
SW101
SW101
AC VOLTAGE
120V ↔ 220V ∿ 240V
<BRN>
<BLU>
AC120V/220V-240V
50/60HZ

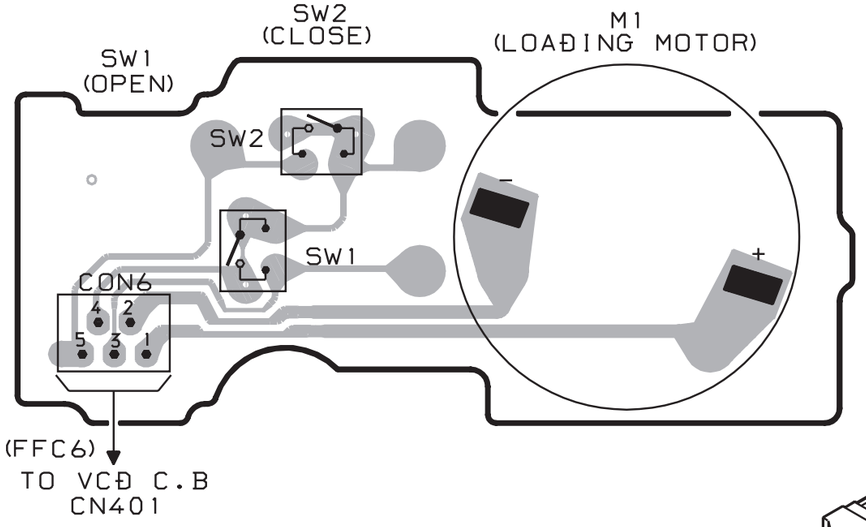
SCHEMATIC DIAGRAM – 7 (PT)

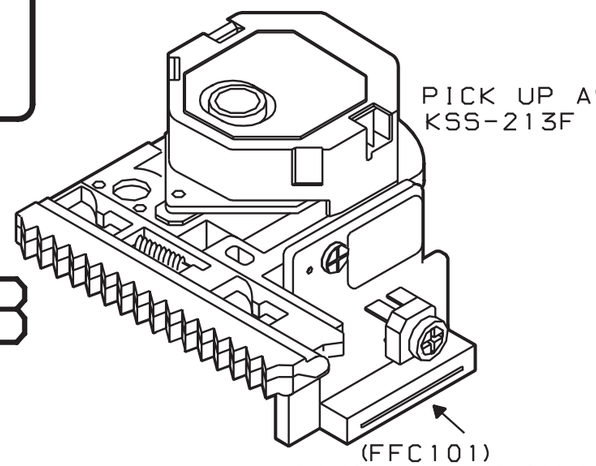


F MOTOR C.B

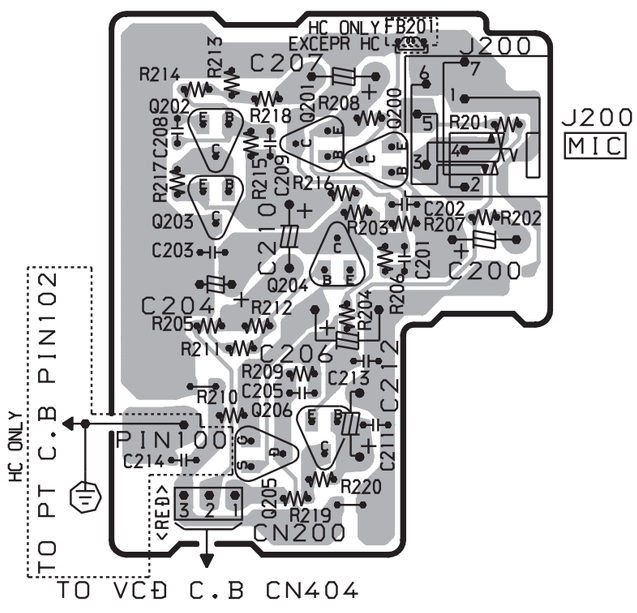


J LOAĐ C.B

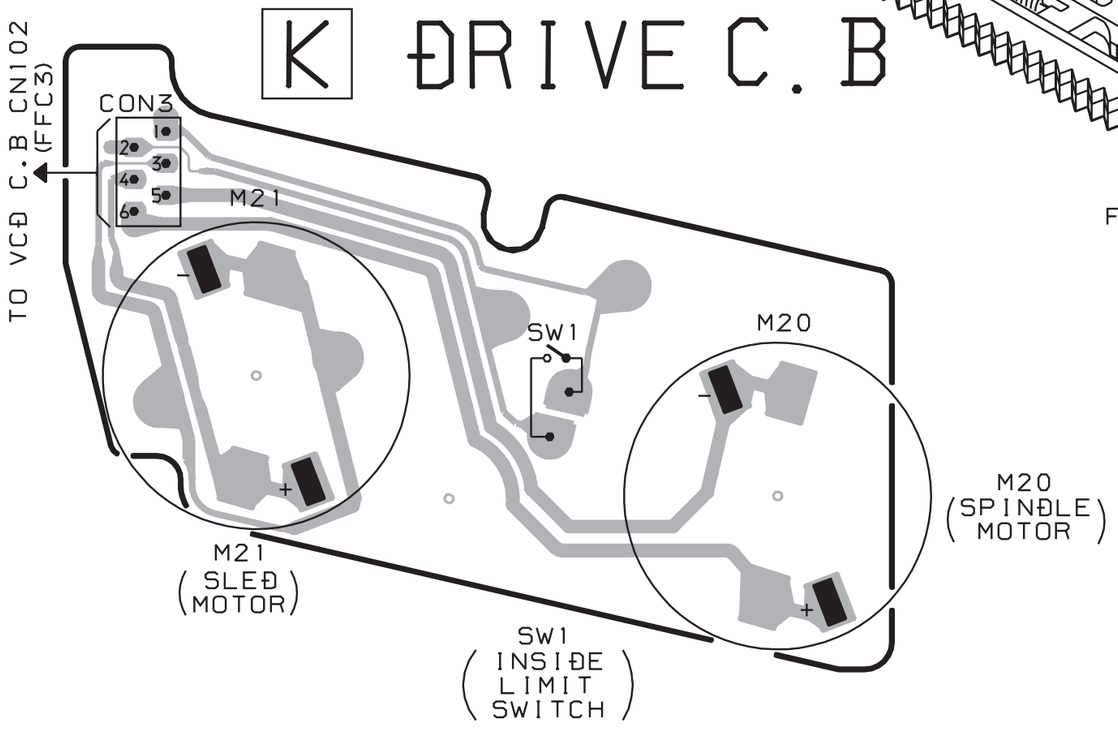




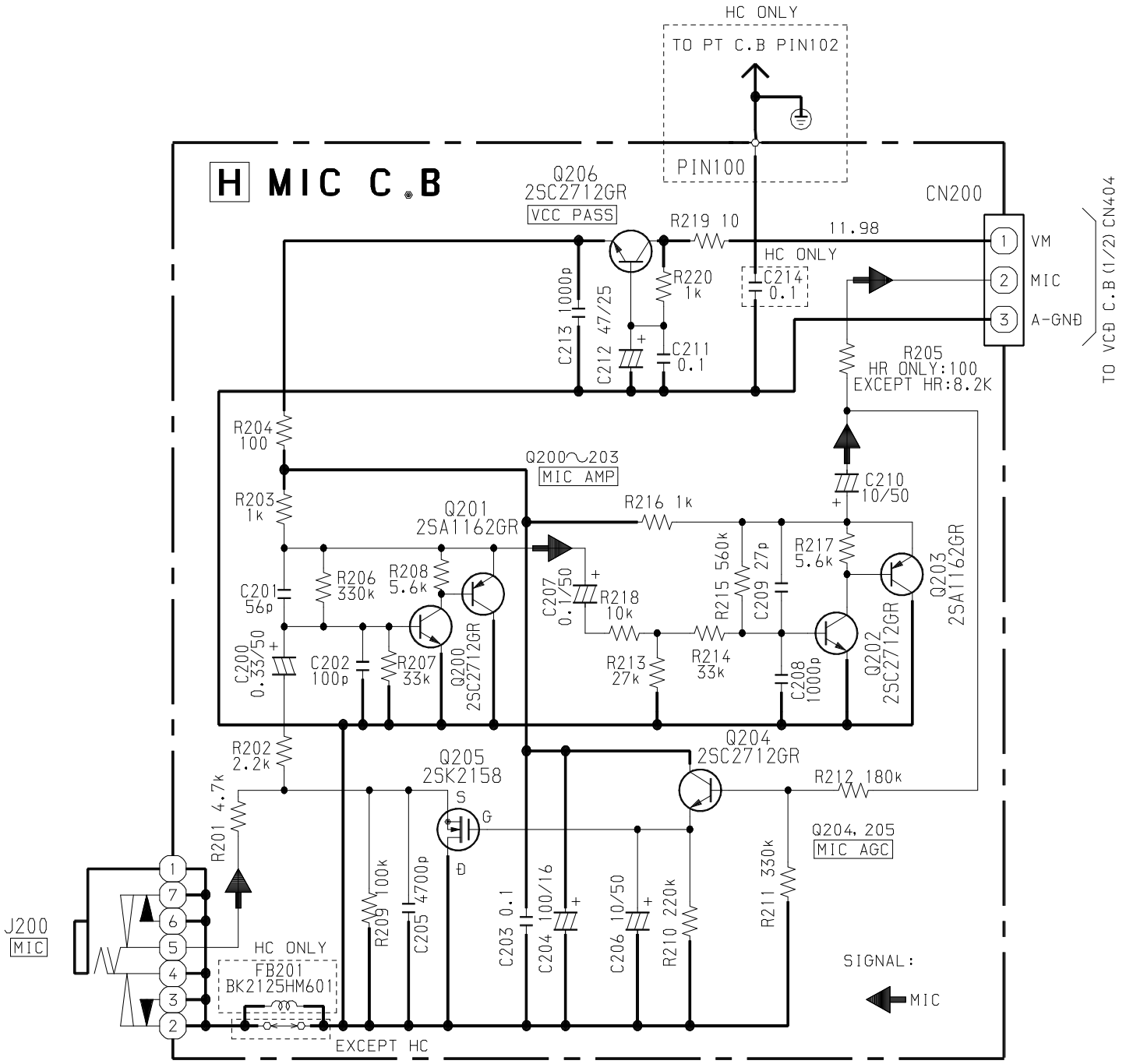
H MIC C.B



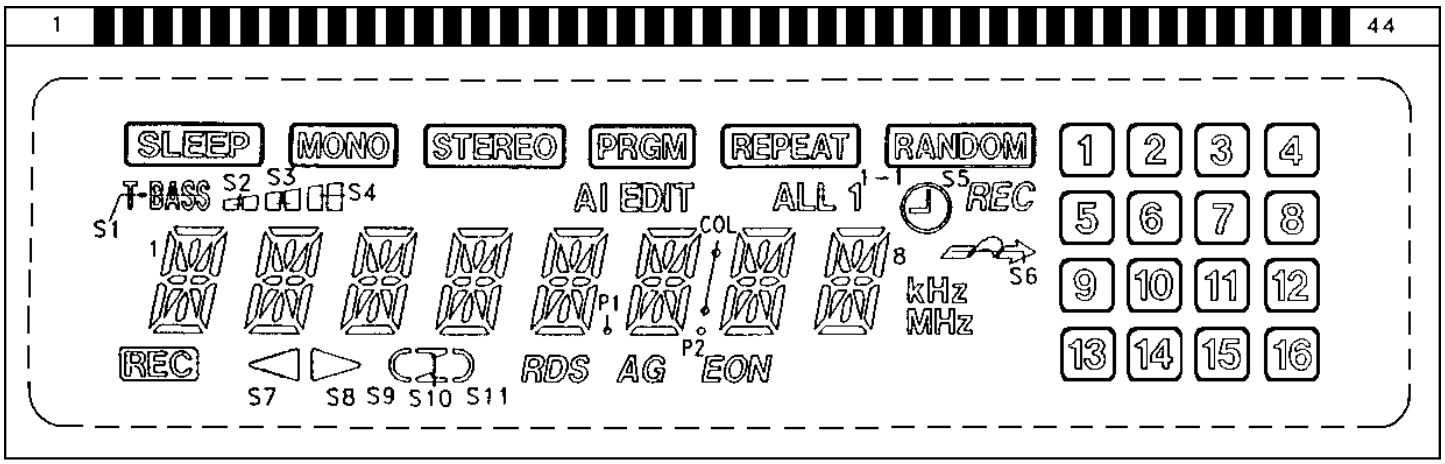
K ĐRIVE C.B



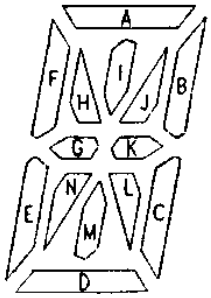
SCHEMATIC DIAGRAM – 8 (MIC)



LCD DISPLAY

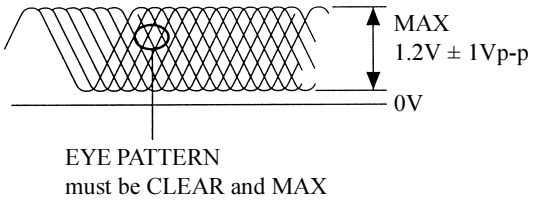


PIN No.	COM1	COM2	COM3	COM4	PIN No.	COM1	COM2	COM3	COM4
1	1D	1E	1F	SLEEP	23	6M	6K	6J	6A
2	1N	1G	1H	1I	24	6L	6C	6B	/
3	1M	1K	1J	1A	25	7D	7E	7F	REPEAT
4	1L	1C	1B	S2	26	7N	7G	7H	7I
5	2D	2E	2F	S3	27	7M	7K	7J	7A
6	2N	2G	2H	2I	28	7L	7C	7B	ALL
7	2M	2K	2J	2A	29	8D	8E	8F	RANDOM
8	2L	2C	2B	S4	30	8N	8G	8H	8I
9	3D	3E	3F	MONO	31	8M	8K	8J	8A
10	3N	3G	3H	3I	32	8L	8C	8B	S5
11	3M	3K	3J	3A	33	MHz	kHz	S6	REC
12	3L	3C	3B	S9	34	13	9	5	1
13	4D	4E	4F	S10	35	14	10	6	2
14	4N	4G	4H	4I	36	15	11	7	3
15	4M	4K	4J	4A	37	16	12	8	4
16	4L	4C	4B	STEREO	38	COL	P2	EON	1 – 1
17	5D	5E	5F	S11	39	AG	P1	AI	PRGM
18	5N	5G	5H	5I	40	S8	S7	REC	S1
19	5M	5K	5J	5A	41	/	/	/	COM4
20	5L	5C	5B	RDS	42	/	/	COM3	/
21	6D	6E	6F	EDIT	43	/	COM2	/	/
22	6N	6G	6H	6I	44	COM1	/	/	/

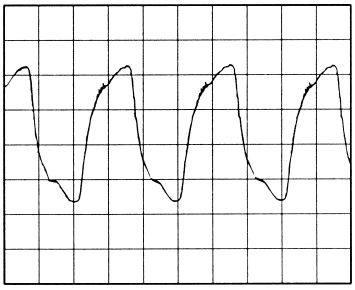


WAVEFORM (VCD)

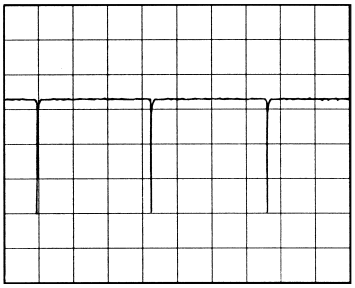
① IC101 Pin 33 (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS



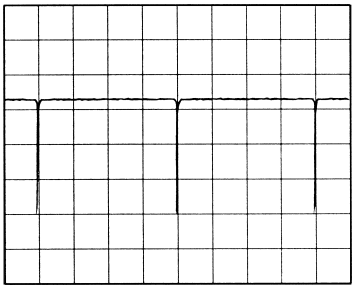
② IC501 Pin 86 (DA XCK)
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



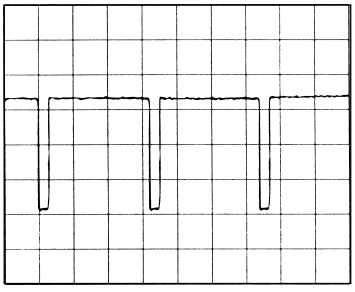
③ IC501 Pin 93 ($\overline{\text{VSYNC}}$)
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



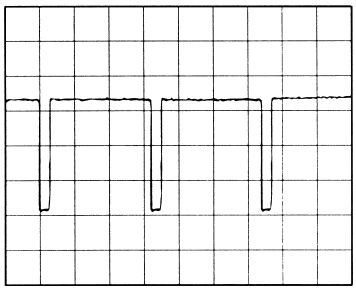
③ IC501 Pin 93 ($\overline{\text{VSYNC}}$)
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS



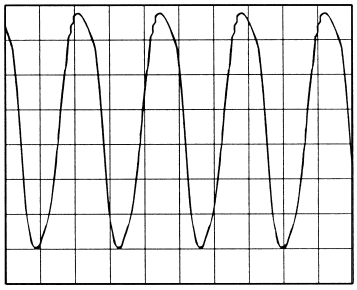
④ IC501 Pin 101 ($\overline{\text{HSYNC}}$)
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



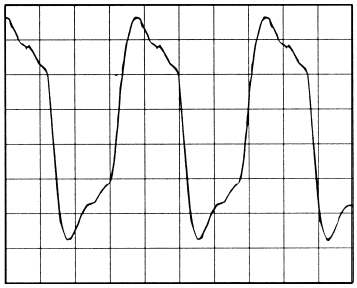
④ IC501 Pin 101 ($\overline{\text{HSYNC}}$)
PAL
VOLT/DIV: 1V
TIME/DIV: 20µS



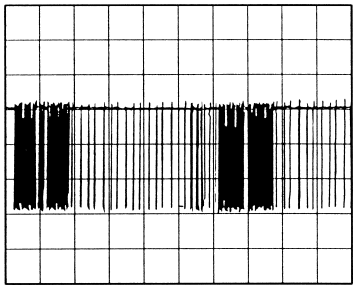
⑤ IC501 Pin 107 (GCK OUT)
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



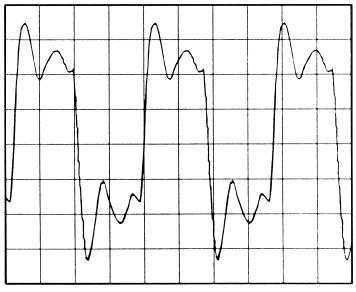
⑥ IC503 Pin 8 (33 VCK)
27MHz ± 1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS



⑦ IC504 Pin 30 ($\overline{\text{UCAS}}$)
(Pin 31 ($\overline{\text{LCAS}}$))
VOLT/DIV: 1V
TIME/DIV: 2µS

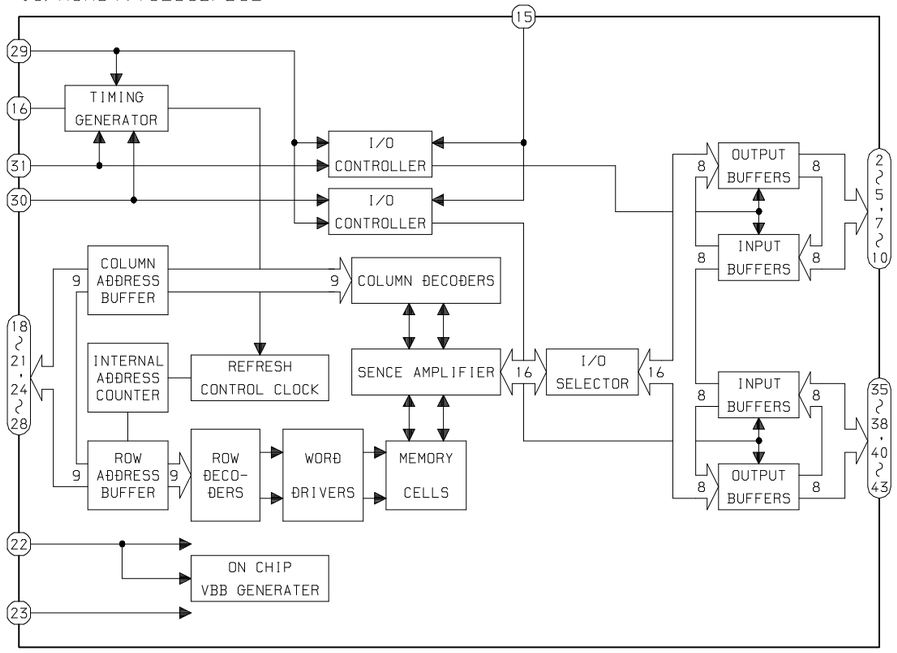


⑧ IC506 Pin 5 (OSD CLK)
13.5MHz ± 675kHz
VOLT/DIV: 1V
TIME/DIV: 20nS

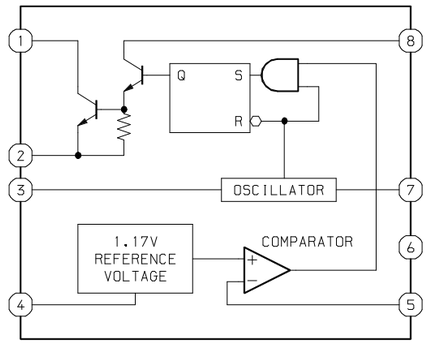


IC BLOCK DIAGRAM

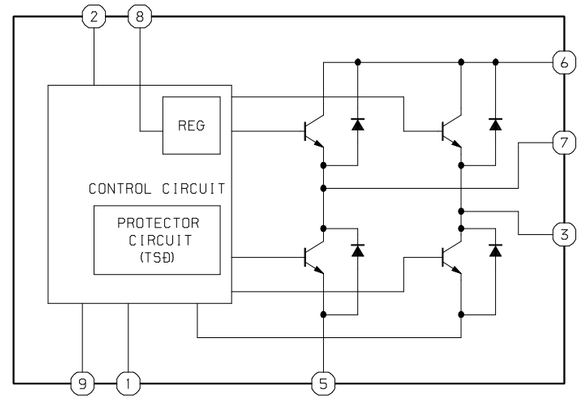
IC, MSM54V16258B/BSL



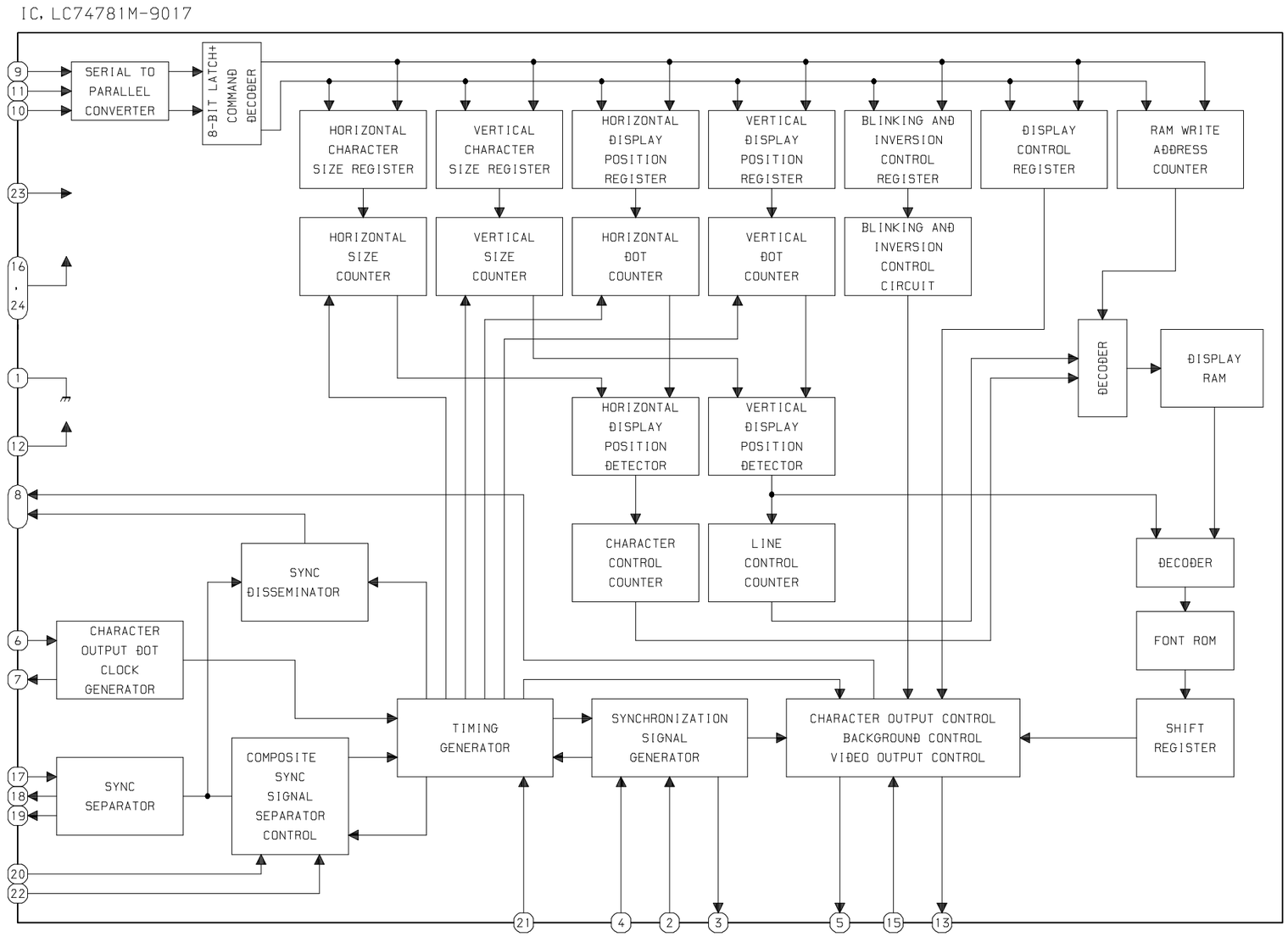
IC, M5291FP



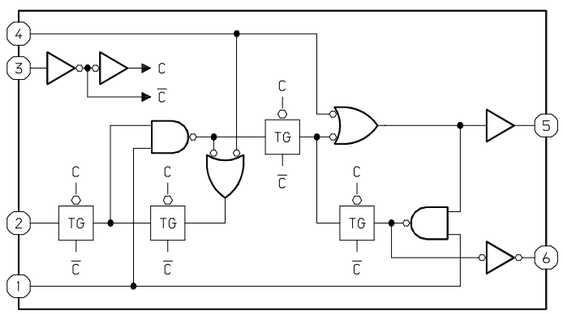
IC, TA7291S



IC, LC74781M-9017



IC, SN74LV74APW



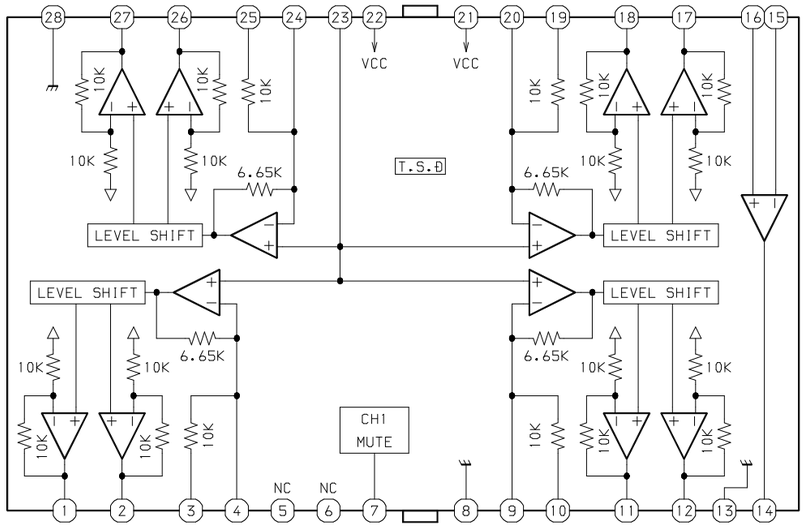
※ THE OTHER PAIR OF FLIP-FLOP NOT SHOWN

TRUTH TABLE

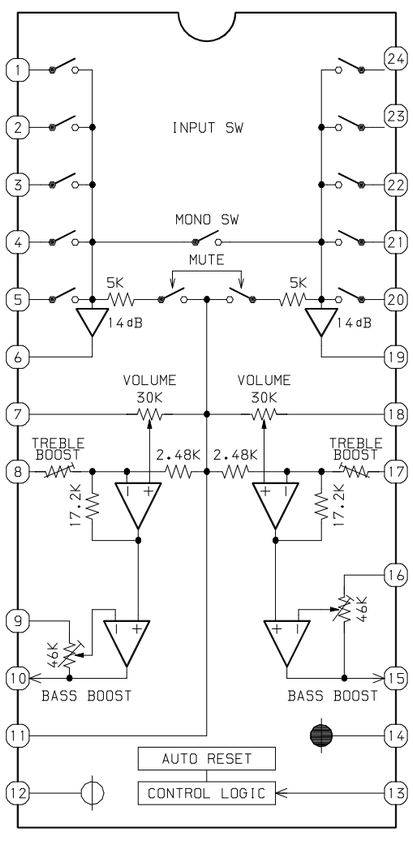
INPUTS				OUTPUTS	
$\overline{PRE}$	$\overline{CLR}$	CLK	D	Q	$\overline{Q}$
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H^F	H^F
H	H	↓	H	H	L
H	H	↓	L	L	H
H	H	↓	X	Q_0	$\overline{Q_0}$

H:HIGH LEVEL L:LOW LEVEL
X:IRRELEVANT F:NON-STABLE

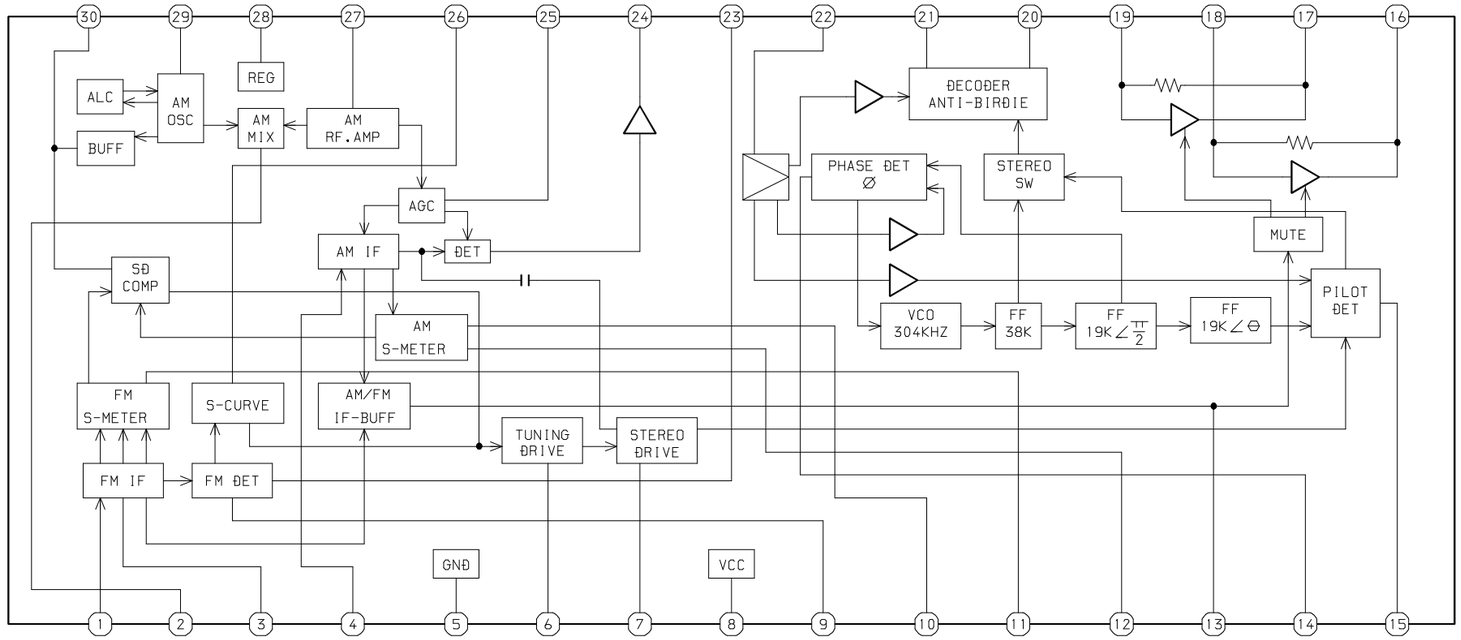
IC, BA5915FP



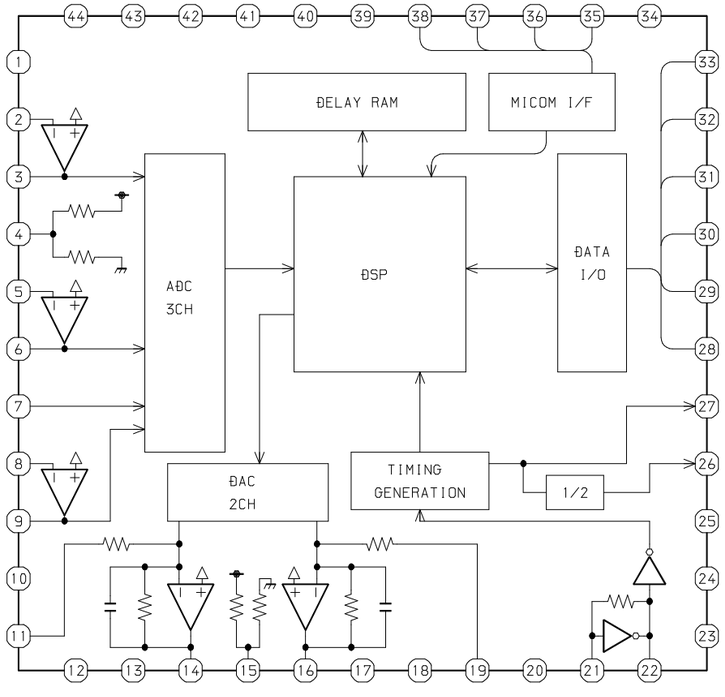
IC, M62495AFP



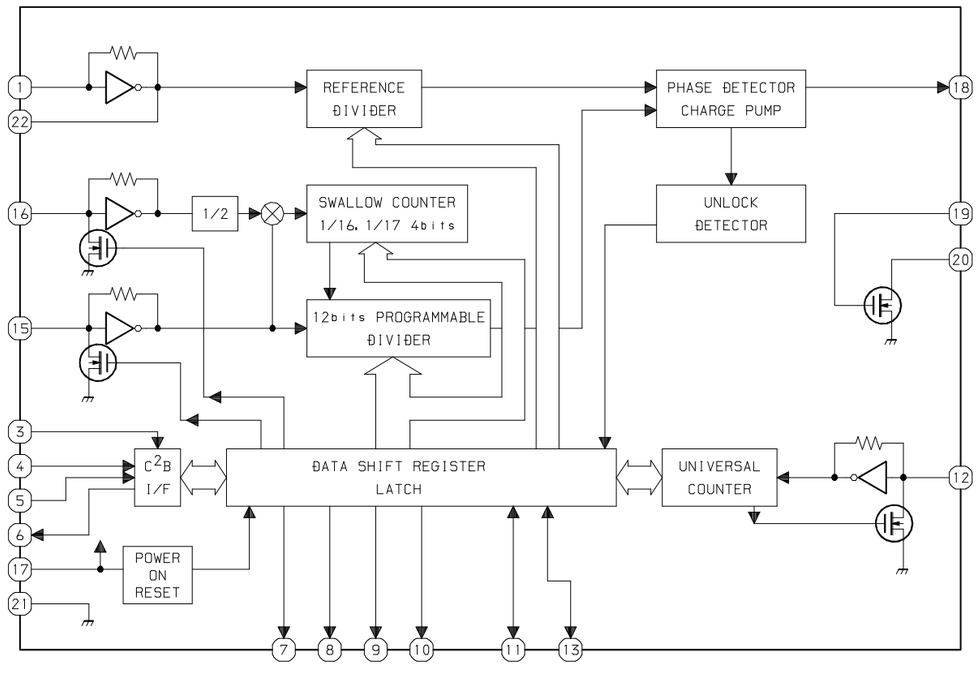
IC, LA1837NL



IC, TC9409BF



IC, LC72131Đ



IC DESCRIPTION

IC, M38258MCM-080FP

Pin No.	Pin Name	I/O	Description
1	C1	–	Not used.
2	VL1	I	LCD driver supply voltage VL1.
3	I-CDTSW	I	CD tray switch A/D input.
4	I-$\overline{\text{HOLD}}$	I	Hold level A/D input.
5	I-DRTSW	I	CD door switch A/D input.
6	I-KEY1	I	Key 1 A/D input.
7	I-KEY2	I	Key 2 A/D input.
8	I-SWTP	I	Cassette detect switch A/D input.
9	I-JOG	I	Multi jog A/D input.
10	I-VOL	I	Volume jog A/D input.
11	O-K-DATA	O	Karaoke data output.
12	O-K-CLK	O	Karaoke clock output.
13	O-CDON	O	CD ON/$\overline{\text{OFF}}$ control output.
14	O-LED-TPSPEED	O	Tape's blinking LED output.
15	I-STATUS/I-ST	I	VCD status input / Tuner $\overline{\text{stereo}}$ input.
16	O-CLK/I-TU/IFC	O/I	VCD output clock / Tuner $\overline{\text{TUNE}}$, IFC input.
17	I/O BUSY	I/O	VCD I/O busy.
18	O-$\overline{\text{MUTE-LO}}$	O	Line out mute.
19	O-PLLCE/K-CS	O	PLL chip enable output / Karaoke IC chip select output.
20	O-CLK/O-COMMAND	O	Common serial clock output / VCD control data output.
21	O-DATA	O	Common serial data output.
22	O-$\overline{\text{TUON}}$	O	Tuner $\overline{\text{ON}}$/OFF control.
23	I-RMC	I	Remote control data input.
24	O-SOL	O	Deck solenoid ON/$\overline{\text{OFF}}$ output.
25	O-MOTOR	O	Deck motor ON/$\overline{\text{OFF}}$ output.
26	O-DROPEN	O	Front panel open output.
27	O-DRCLOSE	O	Front panel close output.
28	O-POWER	O	Power ON/$\overline{\text{OFF}}$ control output.
29	O-$\overline{\text{PB}}$/REC	O	Deck $\overline{\text{PLAYBACK}}$ / RECORD select output.
30	O-$\overline{\text{BIAS}}$	O	Record 85kHz oscillator $\overline{\text{ON}}$/OFF output.
31	O-$\overline{\text{RECMUTE}}$	O	Record mute output.
32	O-$\overline{\text{MUTE}}$	O	Mute control output.
33	I-STOP	I	Deck stop signal input.
34	I-AS	I	Deck autostop signal input.
35	$\overline{\text{RST}}$	I	Micon $\overline{\text{RESET}}$ input.
36	T-BASE	I	8Hz time base input from PLL.
37	O-BACKLED	O	Backlit LED control signal.
38	XIN	I	8MHz ceralock.
39	XOUT	O	8MHz ceralock.
40	VSS	I	GND.
41	O-$\overline{\text{CLKSHIFT}}$	O	Micon clock shift output.

Pin No.	Pin Name	I/O	Description
42	O-LED-MD	O	MD function LED ON/$\overline{\text{OFF}}$ output.
43	O-LED-CD	O	CD function LED ON/$\overline{\text{OFF}}$ output.
44	O-LED-AUX	O	AUX function LED ON/$\overline{\text{OFF}}$ output.
45	O-LED-TU	O	TUNER function LED ON/$\overline{\text{OFF}}$ output.
46	O-LED-TP	O	TAPE functiom LED ON/$\overline{\text{OFF}}$ output.
47	O-$\overline{\text{ECO}}$	O	Economical mode $\overline{\text{ON}}$/OFF output.
48	O-CDCLOSE	O	CD tray close output.
49	O-CDOPEN	O	CD tray open output.
50	I-INIT	I	Diode matrix detection input.
51 ~ 90	S39 ~ S0	O	LCD segment S39 ~ S0 output.
91	VCC	I	Power supply.
92	VREF	I	A/D converter reference voltage.
93	AVSS	I	Analogue GND.
94 ~ 97	COM3 ~ COM0	O	LCD common output.
98	VL3	I	LCD driver supply voltage VL3.
99	VL2	I	LCD driver supply voltage VL2.
100	C2	–	Not used.

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE-O	O	Focus drive output.
7	FE-M	I	Focus amplifier inverted input.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA-M	I	Tracking amplifier inverted input.
13	TA-O	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input.
15	SL-M	I	Sled amplifier inverted input.
16	SL-O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	VCC	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (No pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C-OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.
32	RF-I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF-O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.

Pin No.	Pin Name	I/O	Description
34	RF-M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF-M and RF-O terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38 ~ 39	PD1 ~ PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41 ~ 42	F ~ E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	–	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	–	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2540Q-1/2

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
2	FSW	O	Spindle motor output filter switching output. (Not used)
3	MON	O	Spindle motor on/off control output. (Not used)
4	MDP	O	Spindle motor servo control.
5	MDS	O	Spindle motor servo control. (Not used)
6	LOCK	O	High, when sampled value of GFS at 460Hz is high. Low, when sampled value of GFS at 460Hz is low by 8 times successively.
7	NC	–	Not connected.
8	VCOO	O	Analog EFM PLL oscillation circuit output. (Not used)
9	VCOI	I	Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz. (Connected to GND)
10	TEST	I	TEST pin. (Connected to GND)
11	PDO	O	Analog EFM PLL charge pump output. (Not used)
12	VSS	–	GND.
13	PWMI	I	Spindle motor external control input. (Connected to GND)
14	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
15	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL.
16	VPCO	O	Wide-band EFM PLL charge pump output.
17	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
18	FILO	O	Multiplier PLL (slave=digital PLL) filter output.
19	FILI	I	Multiplier PLL filter input.
20	PCO	O	Multiplier PLL charge pump output.
21	AVSS	–	Analog GND.
22	CLTV	I	Multiplier VCO1 control voltage input.
23	AVDD	–	Analog power supply (5V).
24	RF	I	EFM signal input.
25	BIAS	I	Constant current input of the asymmetry circuit.
26	ASYI	I	Asymmetry comparator voltage input.
27	ASYO	O	EFM full-swing output.
28	ASYE	I	Low: asymmetry circuit off; high: asymmetry circuit on. (Connected to VDD)
29	NC	–	Not connected.
30	PSSL	I	Audio data output mode switching input. Low: serial output; high: parallel output. (Connected to GND)
31	WDCK	O	D/A interface for 48-bit slot. Word clock f=2Fs. (Not used)
32	LRCK	O	D/A interface for 48-bit slot. LR clock f=Fs.
33	VDD	–	Power supply (5V).
34	DATA	O	DA16 (MSB) output when PSSL=1. 48-bit slot serial data (two's complement, MSB first) when PSSL=0.
35	BCK	O	DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0.
36	DATA64	O	DA14 output when PSSL=1. 64-bit slot serial data (two's complement, LSB first) when PSSL=0. (Not used)
37	BCK64	O	DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0. (Not used)

Pin No.	Pin Name	I/O	Description
38	LRCK64	O	DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0. (Not used)
39	GTOP	O	DA11 output when PSSL=1. GTOP output when PSSL=0. (Not used)
40	XUCF	O	DA10 output when PSSL=1. XUGF output when PSSL=0. (Not used)
41	PCLK	O	DA09 output when PSSL=1. XPLCK output when PSSL=0. (Not used)
42	GFS	O	DA08 output when PSSL=1. GFS output when PSSL=0.
43	RFCK	O	DA07 output when PSSL=1. RFCK output when PSSL=0. (Not used)
44	C2PO	O	DA06 output when PSSL=1. C2PO output when PSSL=0.
45	XROAP	O	DA05 output when PSSL=1. XRAOF output when PSSL=0. (Not used)
46	MNT3	O	DA04 output when PSSL=1. MNT3 output when PSSL=0. (Not used)
47	MNT2	O	DA03 output when PSSL=1. MNT2 output when PSSL=0. (Not used)
48	MNT1	O	DA02 output when PSSL=1. MNT1 output when PSSL=0. (Not used)
49	MNT0	O	DA01 output when PSSL=1. MNT0 output when PSSL=0. (Not used)
50	APTR	O	Aperture compensation control output. This pin outputs a high signal when the right channel is used. (Not used)
51	APTL	O	Aperture compensation control output. This pin outputs a high signal when the left channel is used. (Not used)
52	VSS	–	GND. (Not used)
53	XTAI	I	Crystal oscillation circuit input.
54	XTAO	O	Crystal oscillation circuit output. (Not used)
55	XTSL	I	Crystal selector input. (Connected to GND)
56	FSTT	O	2/3 frequency divider output for Pins 53 and 54. (Not used)
57	FSOF	O	1/4 frequency divider output for Pins 53 and 54. (Not used)
58	C16M	O	16.9344MHz output. (V16M output in CLV-W and CAV-W modes) (Not used)
59	MD2	I	Digital-out on/off control. High: on; low: off.
60	DOUT	O	Digital-out output. (Not used)
61	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
62	WFCK	I	WFCK (write frame clock) output.
63	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
64	SBSO	O	Sub P to W serial output.
65	EXCK	I	SBSO readout clock input.
66	SQSO	O	Sub Q 80-bit and PCM peak, level meter and internal status outputs.
67	SQCK	I	SQSO readout clock input.
68	D-MUTE	I	High: mute; low: release.
69	SENS	–	SENS output to CPU.
70	XRST	I	System reset. Reset when low.
71	DATA	O	Serial data input from CPU.
72	XLAT	O	Latch input from CPU. Serial data is latched at the falling edge.
73	VDD	–	Power supply (5V).
74	CLOK	O	Serial data transfer clock input from CPU.
75	SEIN	I	SENS input from SSP.

Pin No.	Pin Name	I/O	Description
76	CNIN	I	Track jump count signal input.
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer.

Notes:

- The 64-bit slot is an LSB first, two's complement output, and the 48-bit slot is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136µ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

IC, TC9409BF

Pin No.	Pin Name	I/O	Description
1	VAD	–	ADC voltage supply terminal.
2	MICI	I	MIC LPF input terminal.
3	LPFO1	O	MIC LPF output terminal.
4	VRA1	–	ADC reference voltage terminal.
5	AIL	I	LPF input terminal for L-ch line input.
6	LPFO2	O	LPF output terminal for L-ch line input.
7	VRA2	–	ADC reference voltage terminal.
8	AIR	I	LPF input terminal for R-ch line input.
9	LPFO3	O	LPF output terminal for L-ch line input.
10	GNDA1	–	ADC ground terminal.
11	LI	I	L-ch analog additional input terminal. (Not used)
12	LZ	O	L-ch digital input 0 detect terminal. (Not used)
13	AG2	–	DAC ground terminal.
14	AOL	O	L-ch DAC output terminal.
15	VR2	–	DAC reference voltage terminal.
16	AOR	O	R-ch DAC output terminal.
17	VDA	–	DAC voltage supply terminal.
18	RZ	O	R-ch digital input 0 detect terminal. (Not used)
19	RI	I	R-ch analog additional terminal. (Not used)

Pin No.	Pin Name	I/O	Description
20	VDX	–	Crystal oscillator voltage supply terminal.
21	XI	I	Crystal oscillator connection terminal. (256, 384, 512, 768fs)
22	XO	O	Crystal oscillator connection terminal.
23	GX	–	Crystal oscillator ground terminal.
24	VDD1	–	Digital voltage supply terminal.
25	CKS	I	Master clock select terminal. ("H": 256/384fs, "L": 512/768fs) (Connected to VDD1)
26	MCK2	O	1/2 divider clock output terminal. (Not used)
27	MCK1	O	Oscillator clock output terminal.
28	SDO	O	Digital audio data output terminal. (Not used)
29	BCKO	O	Bit clock output terminal. (Not used)
30	LRCKO	O	Channel clock output terminal. (Not used)
31	SDI	I	Digital audio data input terminal.
32	BCKI	I	Bit clock input terminal.
33	LRCKI	I	Channel clock input terminal.
34	DG	–	Digital ground terminal.
35	$\overline{\text{RESET}}$	I	Reset terminal. ("L": Reset active)
36	IFD	I	μ-COM I/F data input terminal.
37	IFS	I	μ-COM I/F data shift clock input terminal.
38	IFL	I	μ-COM I/F latch pulse input terminal.
39	EMP	I	De-emphasis filter setting terminal. ("H": De-emphasis filter ON)
40	EXTO	O	Extend output terminal. (Not used)
41	TEST	I	Test terminal. Usually "H". (Connected to VDD2)
42	VDD2	–	Digital voltage supply terminal.
43	VDL	–	Digital voltage supply terminal for DRAM.
44	GL	–	Digital ground terminal for DRAM.

IC, LC74781M-9017

Pin No.	Pin Name	I/O	Description
1	VSS1	–	GND connection terminal. (Digital ground terminal).
2	XTAL IN	I	External X'tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	XTAL OUT	O	
4	CTRL1	I	Either the external clock input mode or the X'tal generator mode is selected by this selector terminal. L: X'tal generator mode, H: External clock input. (Connected to VDD)
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{RST}$ terminal = L), the X'tal clock signal is output. (It is not output when reset by the reset command). (Not used)
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{RST}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command). (Not used)
9	$\overline{CS}$	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2(A)	–	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	–	Connected to GND.
15	CV IN	I	Composite video signal input terminal.
16	VDD1(A)	–	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	–	Internal sync separator circuit bias voltage monitoring terminal. (Not used)
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal). (Not used)
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1. (Connected to VDD)
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system. (Connected to GND)

Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the VSYNC signal to the SEPIN input. L: to input the VSYNC signal. H: not to input the VSYNC signal. (Connected to VDD)
23	RST	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1(D)	–	Power supply. (+5V digital power supply).

IC, LC72131D

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>X-IN</td><td>I</td><td rowspan="2">A crystal oscillator (4.5MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>X-OUT</td><td>O</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not connected.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (M38258MCM-080FP) when relevant key is operated.
Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (M38258MCM-080FP).</td></tr>
<tr><td>7</td><td>TM-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$ / SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not connected.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor used for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

IC, CL680-D1

Pin No.	Pin Name	I/O	Description
1	NC	–	Not connected.
2	VSS	–	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7 ~ 9	NC	–	Not connected.
10 ~ 15	MD0 ~ MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	–	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	–	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	–	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	–	Power supply 3.3V.
23 ~ 29	MD9 ~ MD15	I/O	DRAM/ROM interface. (DATA)
30 ~ 36	NC	–	Not connected.
37	$\overline{\text{MCE}}$	–	ROM chip enable.
38	$\overline{\text{MWE}}$	O	DRAM write enable.
39	VSS	–	Ground.
40	$\overline{\text{CAS}}$	O	DRAM/ROM interface.
41	VDD3	–	Power supply 3.3V.
42 ~ 43	$\overline{\text{RAS0}}$ ~ $\overline{\text{RAS1}}$	O	DRAM/ROM interface.
44 ~ 46	MA10 ~ MA8	O	DRAM/ROM interface. (Address)
47	VSS	–	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	–	Power supply 3.3V.
50 ~ 52	MA6 ~ MA4	O	DRAM/ROM interface. (Address)
53	VSS	–	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	–	Power supply 3.3V.
56 ~ 58	MA2 ~ MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O. (Not used)
60	$\overline{\text{RESET}}$	I	Reset input.
61	VDD MAX IN	I	Power supply - VDDMAX. (5.0V)
62 ~ 64	NC	–	Not connected.
65	AGND DAC	–	Analog ground.
66	AVDD DAC	–	Analog power supply (DAC) : 3.3V.
67	COMPOS OUT	O	Composite out.
68	AGND DAC	–	Analog ground.
69	YOUT	O	Video signal “Y” OUT. (Not used)

Pin No.	Pin Name	I/O	Description
70	AVDD DAC	–	Analog power supply (DAC) 3.3V.
71	AGND DAC	–	Analog ground.
72	RREF	I	Reference resistor input.
73	VREF	I	Voltage reference input. (Not used)
74	AVDD DAC	–	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out. (Not used)
76	AGND DAC	–	Analog ground.
77 ~ 79	CLK SEL(0) ~ (2)	I	Clock selection input.
80	VSS	–	Ground.
81	CLK SEL(3)	I	Clock selection input.
82	VDD3	–	Power supply 3.3V.
83 ~ 84	CLK SEL(4) ~ (5)	I	Clock selection input.
85	AGND PLL	–	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	–	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89 ~ 90	PGIO5 ~ 6	I/O	Programmable I/O. (Not used)
91	PGIO0		
92	PGIO8		
93	$\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$	O	$\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$ output. (Not used)
94	AVDD PLL	–	Analog power supply (PLL) 3.3V.
95	NC	–	Connected to VSS through a resistor.
96 ~ 97	NC	–	Not connected.
98	AGND PLL	–	Analog ground.
99	VSS	–	Ground.
100	NC	–	Not connected.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output. (Not used)
102	VDD3	–	Power supply 3.3V.
103	VCK OUT	O	VCK out. (Not used)
104	VSS	–	Ground.
105	GCK	I	Global clock signal input. (42.3MHz) (Not used)
106	VCK IN	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	–	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.

Pin No.	Pin Name	I/O	Description
116	VSS	–	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	–	Power supply 3.3V.
119	HD-IN	I	Micon interface. (Host data in)
120	VDD3	–	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG SDATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125 ~ 128	NC	–	Not connected.

IC, µPD78016-CFG-584-AB8

Pin No.	Pin Name	I/O	Description
1	RBPLS	O	Radial balance plus.
2	AMUTE	O	Audio analog mute ("H" = Mute ON). (Not used)
3	GFS	I	GFS input terminal.
4	XVCDMD	I	Audio/Video CD mode ("L" = VCD = Spindle gain up).
5	MD2	O	DOUT mute CONT.
6	EMPH	I	Emphasis input terminal.
7	SQSO	I	SQDATA from CD.
8	SQCK	O	SQCLK to CD.
9	VSS	–	GND.
10	SWNT	I	Switch TV OUT mode ("L" = NTSC).
11	SWAUTO	I	Switch TV OUT mode ("L" = NTSC/PAL AUTO).
12	SWPAL	I	Switch TV OUT mode ("L" = PAL).
13	EMERG	I	Power emergency stop (L*3sec = STOP).
14	NC	–	Connected to VDD through a resistor.
15	NC	–	Connected to GND.
16	NC	–	Connected to VDD through a resistor.
17	LOCK	O	GFS (FRAME SYNC) LOCK (Not used = "H"). (Not used)
18	DMUTE	O	Digital data out mute.
19	SENS	I	DSP SENS1 from CD.
20	XCDRST	O	CD reset output terminal.
21	DATA	O	DATA to CD.
22	XLAT	O	XLT to CD.
23	CLOK	O	CLK to CD.
24	VSS	–	GND.

Pin No.	Pin Name	I/O	Description
25	FOK	I	FOCUS OK input terminal.
26	SENS2	I	SSP SENS2 from CD.
27	XBUSY	I/O	READY/BUSY I/O to HOST OD.
28	NC	–	Not connected.
29	NC	–	Connected to VDD through a resistor.
30	NC	–	Not connected.
31 ~ 34	TST0 ~ TST3	I/O	Check Land. (Not used)
35	RESET	I	Reset.
36	HRDY	I	HRDY from CL680.
37	XHINT	I	HINT from CL680
38	CD R/W	O	CD R/W select ("L" = CD RW).
39	SCOR	I	SCOR from CD.
40	VDD	–	5.0VDD.
41	XO	O	8.0MHz ceralock.
42	XI	I	
43	VSS	–	GND.
44	XT2	–	Not used.
45	XT1	I	Connected to VDD.
46	AVSS	–	GND.
47	XMPGRST	O	MPEG block IC reset.
48	HSEL	O	Address/Data SEL to CL680.
49	INLSW	I	Inside limit switch.
50	CD R/W1	O	CD R/W1 select. (Not used)
51	OSDXCS	O	OSD chip select.
52	ABSEL	I	CXA1992A/B select ("L" = CXA1992A). (Connected to GND)
53	CLVSEL	I	CLV mode select ("H" = CLV-N). (Not used)
54	AADSEL	I	Auto adjust select ("H" = Auto ON). (Not used)
55	AVDD	–	5.0VDD.
56	AVREF		
57	HDOUT	I	HD-OUT from CL680.
58	DHIN	O	HD-IN to CL680.
59	HCK	O	HCK to CL680.
60	OSDDATA	O	OSD data.
61	OSDCLK	O	OSD clock.
62	COMMAND	I	COMMAND from host.
63	STATUS	O	STATUS to host.
64	SCK	I	SCK from host.

ADJUSTMENT (TUNER / DECK)

< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP3 (CLK)
   Method : Set to AM 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP4 (VT)
   Method : Set to AM 1602kHz and check that the test point is less than 8.5V. Then set to AM 531kHz and check that the test point is more than 0.3V.

3. AM Tracking Adjustment
   Settings : • Test point : TP8 (RCH)
   TP9 (GND)
   TP10 (LCH)
   • Adjustment location : L981 (1/3)
   Method : Set to AM 999kHz and adjust L981(1/3) so that the test point becomes maximum.

4. AM IF Adjustment
   Settings : • Test point : TP8 (RCH)
   TP9 (GND)
   TP10 (LCH)
   • Adjustment location :
   L772 ..... 450kHz

5. FM VT Check
   Settings : • Test point : TP4 (VT)
   Method : Set to FM 108.0MHz (87.5MHz) and check that the test point is less than 8.0V (108.0MHz) and more than 0.5V (87.5MHz).

6. FM Tracking Check
   Settings : • Test point : TP8 (RCH)
   TP9 (GND)
   TP10 (LCH)
   Method : Set to FM 98.0MHz and check that the test point is less than 8dBuV.

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP5 (DC), TP6 (DC)
   • Adjustment location : L771
   • Input level : 60dBuV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP5 and TP6 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.0%.

8. FM Separation Check
   Settings : • Test point : TP8 (RCH)
   TP9 (GND)
   TP10 (LCH)
   • Input level : 60dBuV
   Method : Set to FM 98.0MHz and check that the test point is more than 25dB.

< DECK SECTION >

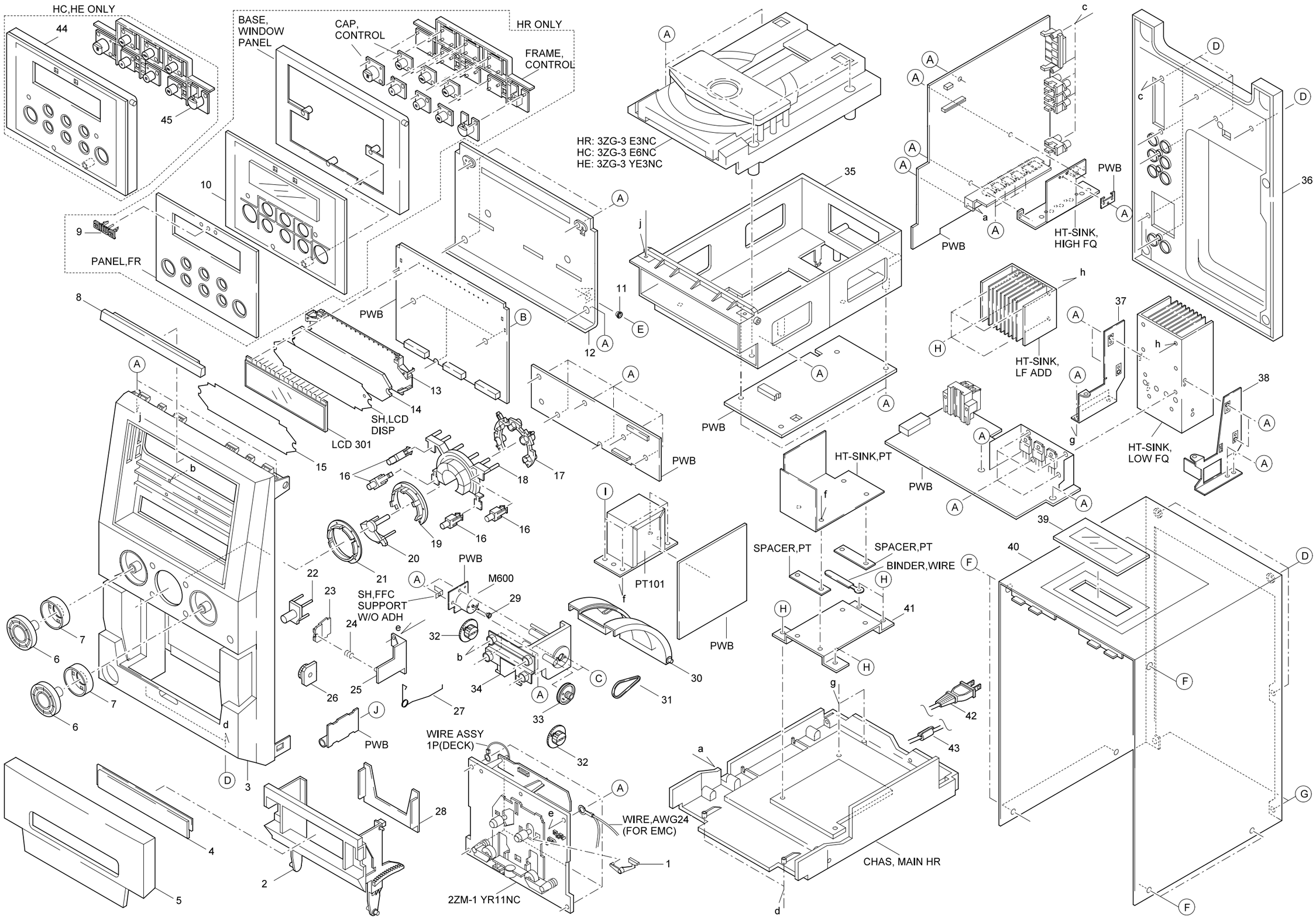
9. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : J602 (3/3) LINE OUT
   • Adjustment location : SFR1
   Method : Play back the 3kHz signal of the test tape and adjust SFR1 for 3000Hz ± 5Hz (FWD) and FWD PLAY speed ± 45Hz (REV).

10. Head Azimuth Adjustment
    Settings : • Test tape : TTA–300
    • Test point : J602 (3/3) LINE OUT
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.

11. PB Frequency Response Check
    Settings : • Test tape : TTA–320
    • Test point : J602 (3/3) LINE OUT
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is –3dB ± 3dB.

12. REC/PB Frequency Response Check
    Settings : • Test tape : TTA–602
    • Test point : J602 (3/3) LINE OUT
    Method : Input a –20VU (0dB) signal to the AUX terminal. Record the 1kHz and 8kHz signals on the test tape and play back them. Check that the difference between the record level and the play back level at 1kHz and 8kHz signal is –2dB to ± 3dB.

MECHANICAL EXPLODED VIEW 1 / 1



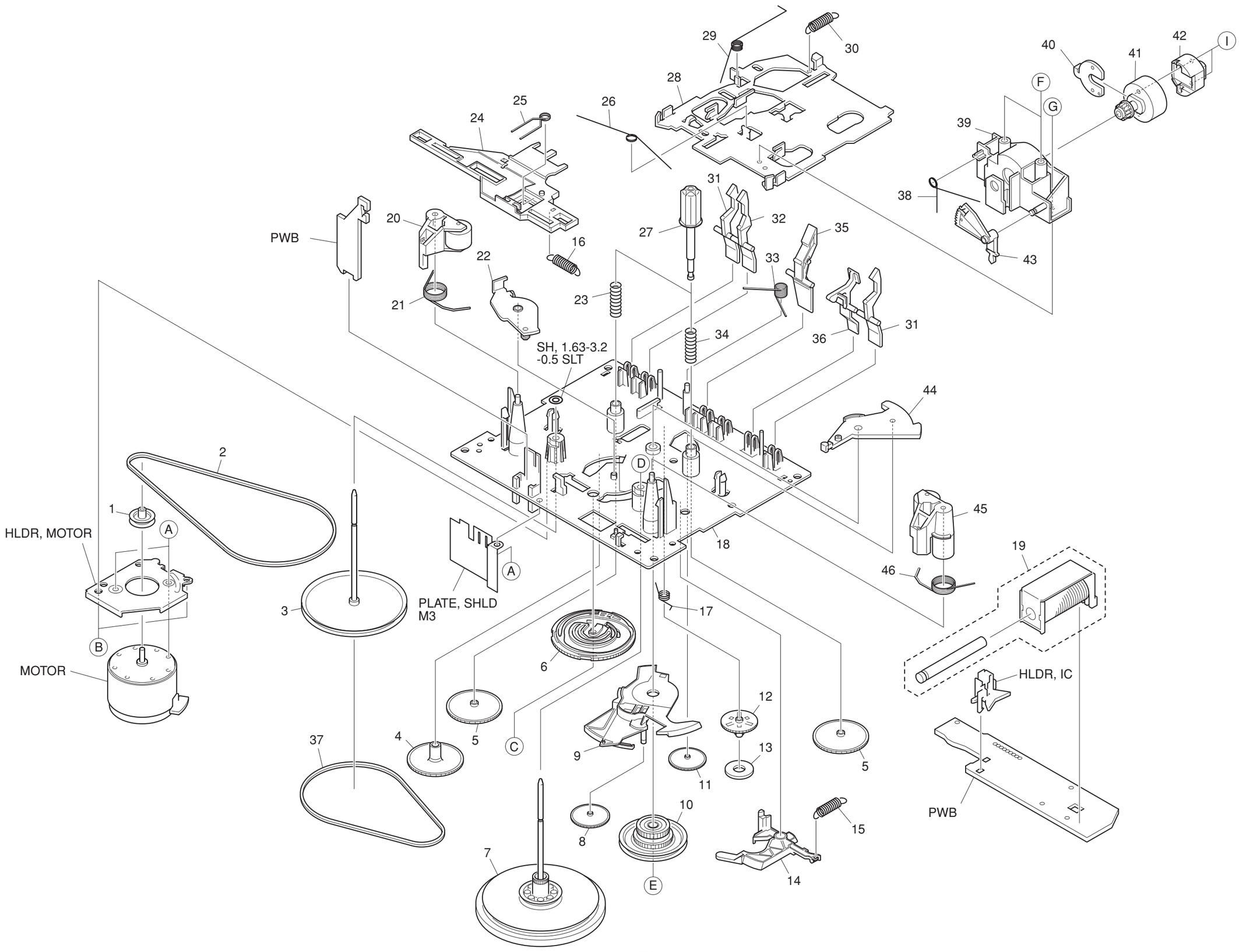
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-264-010		LVR,EJECT R
2	8A-CL8-201-010		FRAME,CASS
3	8A-CG8-001-010		CABI,FR HR
4	8A-CL8-053-010		WINDOW,CASS
5	8A-CL8-031-010		PANEL,CASS
6	8A-CL8-076-010		KNOB,RTRY VOL
7	8A-CL8-071-010		RING,VOL
8	8A-CG8-036-010		PANEL,TRAY
9	8Z-CL7-107-010		BADGE,AIWA SILVER<HR>
10	8A-CL8-051-010		WINDOW,PANEL<HR>
11	8A-CL8-218-010		HLDR,PIVER
12	8A-CL8-217-010		COVER, WINDOW PANEL
13	8A-CL8-204-010		GUIDE,LCD DISP
14	8A-CL8-084-010		LENS,LCD DISP
15	8A-CL8-230-010		HLDR,LCD DISP
16	8A-CL8-063-010		CAP, MODE
17	8A-CL8-202-010		GUIDE,LED FUNC
18	8A-CL8-061-010		KEY,FUNC
19	8A-CL8-081-010		REFLECTOR,FUNC
20	8A-CL8-048-010		PLATE,FUNC
21	8A-CL8-072-010		RING,FUNC
22	8A-CL8-083-110		LENS,RC
23	82-NF5-229-010		PLATE,LOCK
24	86-NF9-224-010		SPR-C,LOCK
25	87-NF4-217-110		HLDR,LOCK 2
26	87-NF8-220-010		DMPR,150
27	88-CL4-220-010		SPR-T,CASS
28	8A-CL8-082-010		REFLECTOR,CASS
29	8A-CL8-211-010		PULLEY,MOTOR
30	8A-CL8-216-010		SLIDER,PANEL
31	8A-CL8-215-010		BELT,1.4-97.1
32	8A-CL8-213-010		GEAR,SLIDER
33	8A-CL8-212-010		PULLEY,RELLAY
34	8A-CL8-210-010		HLDR,MECHA
35	8A-CL8-206-010		HLDR,CD
36	8A-CG8-011-010		PANEL,REAR HRJ<HR>
36	8A-CG8-012-010		PANEL,REAR HC<HC,HE>
37	8A-CL8-228-010		HLDR,HT-SINK LF L
38	8A-CL8-229-010		HLDR,HT-SINK LF R
39	8A-CL8-055-010		WINDOW,TOP
40	8A-CG8-026-010		CABI,TOP
41	8A-CL8-226-010		HLDR,TRANS
⚠ 42	87-A80-083-010		AC CORD,HC BLK<HC>
⚠ 42	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI<HR,HE>
43	87-A91-870-010		F-BEAD,9.5-17.5-28.5 TAITECH
44	8A-CG8-040-010		PANEL,FR ASSY<HC,HE>
45	8A-CG8-065-010		KEY,CONTROL ASSY<HC,HE>
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-761-095-410		VFT2+3-8
C	87-261-092-010		SCREW, V+3-4
D	87-B10-230-010		BVT2+3-10 W/O SLOT SILVER CR
E	8A-CL8-246-010		S-SCREW,QT2+2.6-15
F	87-B10-231-010		QT1+3-12 SILVER CR
G	87-B10-250-010		BVT2+3-12 W/O SLOT CR SILVER
H	87-067-758-010		BVT2+3-12 W/O SLOT
I	87-581-170-410		UIT+4-8
J	8A-CG8-246-010		S-SCREW,BFT2+3-10

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green		

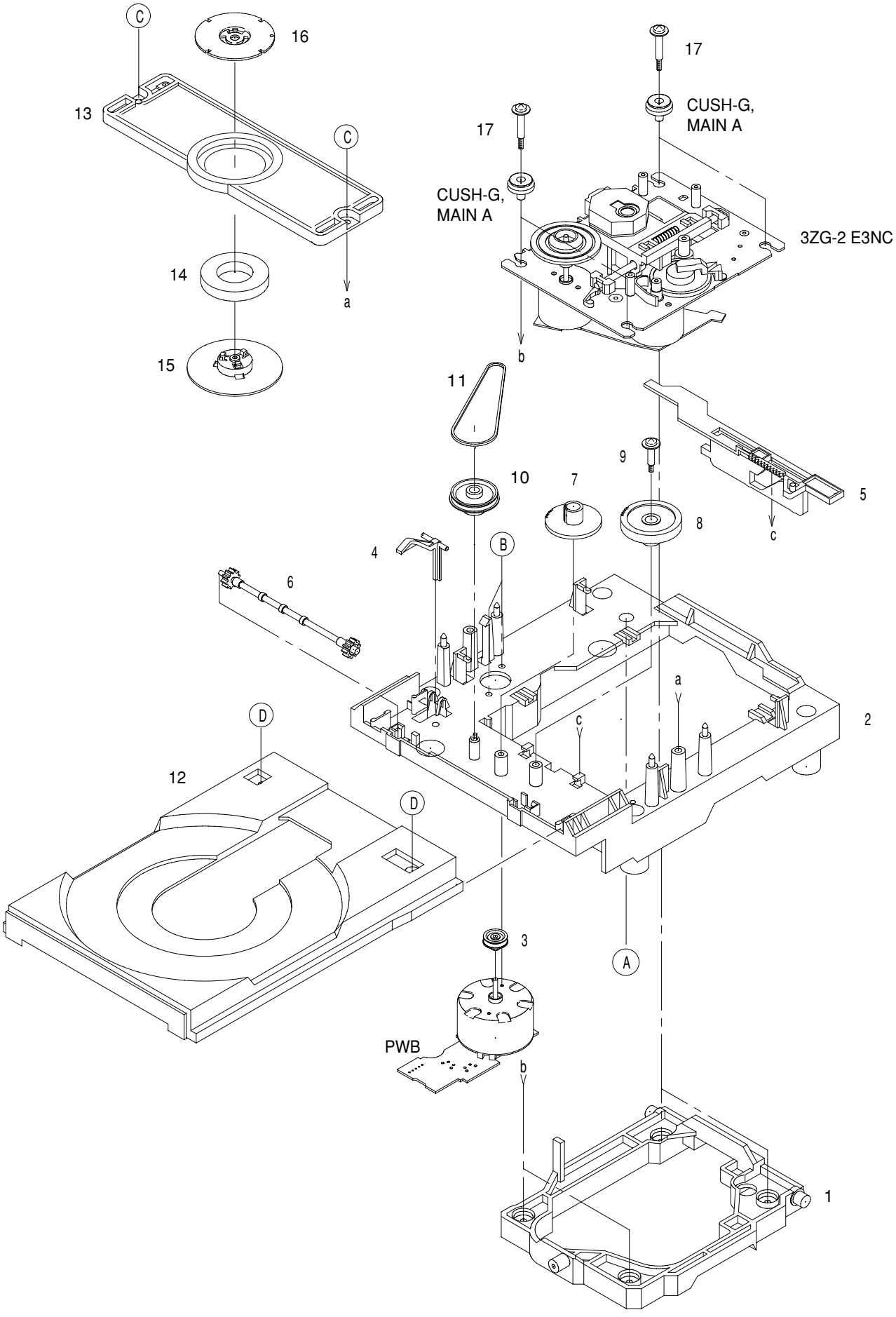
TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-247-210		PULLEY,MOTOR
2	82-ZM1-354-010		BELT,SBU MAIN2 EPDM
3	82-ZM1-234-310		FLY-WHL ASSY,L
4	82-ZM1-226-010		GEAR,REW
5	82-ZM1-216-510		GEAR,REEL
6	82-ZM1-221-310		GEAR,CAM(*)
7	82-ZM1-237-610		FLY-WHL ASSY,R
8	82-ZM1-225-210		GEAR,FR
9	82-ZM1-224-410		LVR,FR
10	82-ZM3-333-310		SLIP DISK ASSY 2
11	82-ZM1-223-010		GEAR,PLAY
12	82-ZM1-220-210		GEAR,IDLER
13	82-ZM3-616-010		RING MAGNET 4
14	82-ZM1-227-310		LVR,TRIG
15	82-ZM1-305-210		SPR-E,TRIG 2
16	82-ZM1-255-310		SPR-E,LVR DIR
17	82-ZM1-322-010		SPR-T,FR 60
18	82-ZM1-358-010		CHAS ASSY,FPC
19	82-ZM3-628-010		SOL ASSY,23 SO
20	82-ZM1-341-210		LVR ASSY,PINCH L2
21	82-ZM1-258-210		SPR-T,PINCH L
22	82-ZM1-333-210		PLATE,LINK2
23	82-ZM1-244-510		SPR-C,BT
24	82-ZM1-266-310		LVR,DIR
25	82-ZM1-214-010		SPR-T,DIR
26	82-ZM1-269-210		SPR-T,BRG
27	82-ZM1-217-410		REEL TABLE
28	82-ZM1-206-910		CHAS,HEAD
29	82-ZM1-219-110		SPR-T,LINK
30	82-ZM1-218-010		SPR-E,HB
31	82-ZM1-240-110		LVR,REC(*)
32	82-ZM1-241-310		LVR,MC
33	82-ZM1-257-010		SPR-T,CAS
34	82-ZM1-285-410		SPR-C,BT L
35	82-ZM1-242-010		LVR,CAS
36	82-ZM1-243-010		LVR,STOP
37	82-ZM1-338-110		BELT,FR 4
38	82-ZM3-353-010		SPR-T,HEAD 2
39	82-ZM1-207-910		GUIDE,TAPE
40	82-ZM1-314-110		PLATE,HEAD
41	82-ZM1-208-310		HLDR,HEAD
42	87-A90-821-010		HEAD,RPH HADKH56 FPC
43	82-ZM1-210-110		GEAR,H T
44	82-ZM1-222-310		LVR,PLAY(*)
45	82-ZM1-344-210		LVR ASSY,PINCH R2
46	82-ZM1-259-210		SPR-T,PINCH R
A	87-251-070-410		U+2.6-3
B	87-741-073-410		UT2+2.6-6 GLD
C	87-B10-008-010		W-P,2.08-8-0.4-SLIP
D	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT
E	82-ZM3-334-010		PW 2.16-6-0.4
F	86-ZM4-206-110		S-SCREW,AZIMUTH L
G	85-ZM3-202-010		S-SCREW,TG
H	82-ZM3-222-010		S-SCREW,SHILD PLATE
I	80-ZM6-207-010		V+1.6-7

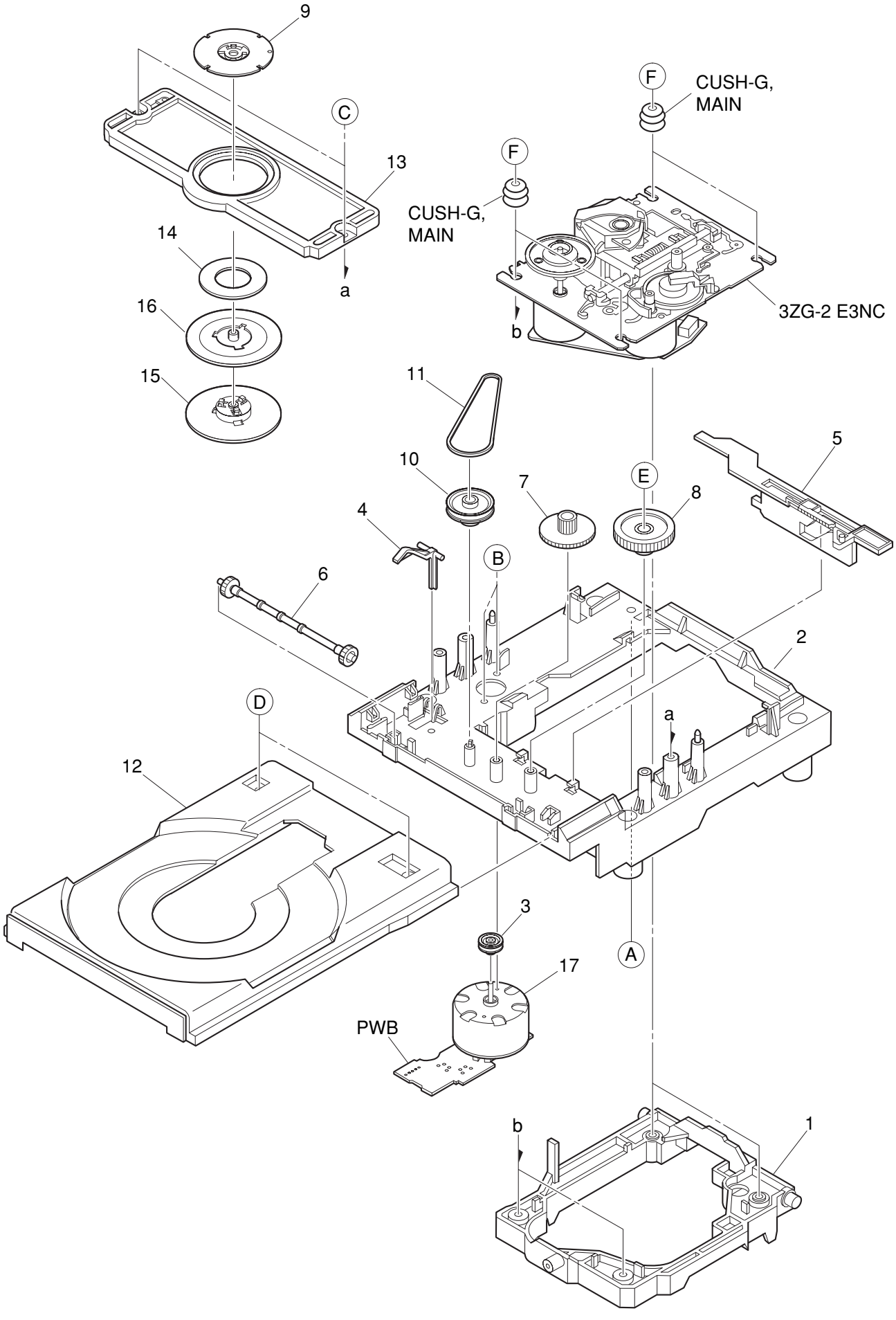
CD MECHANISM EXPLODED VIEW 1 / 2 (3ZG–3 E3NC / YE3NC)



CD MECHANISM PARTS LIST 1 / 2 (3ZG–3 E3NC / YE3NC)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-217-010		S-SCREW,GEAR D
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-229-410		TRAY,CD 2
13	83-ZG3-210-110		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-010		CAP,DISC
16	83-ZG3-211-010		PLATE,DISC
17	81-ZG1-254-010		S-SCREW,MECH HLDR
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-410		U+2.6-4
C	87-512-074-210		SCREW, 2+2.6-8
D	87-352-075-210		VT2+2.6-10

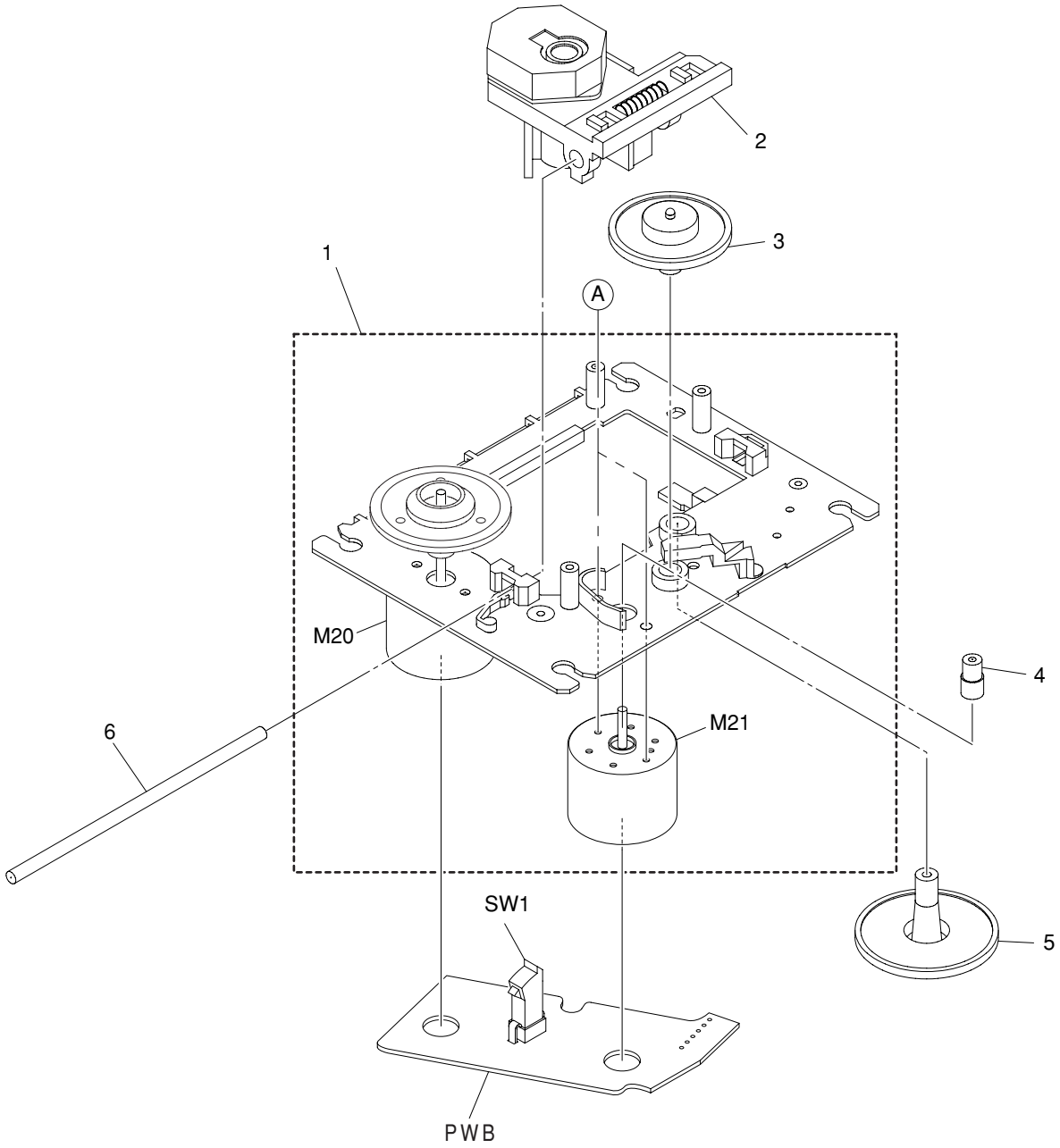
CD MECHANISM EXPLODED VIEW 1 / 2 (3ZG–3 E6NC)



CD MECHANISM PARTS LIST 1 / 2 (3ZG–3 E6NC)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-219-010		PLATE,CLAMP
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-231-210		TRAY,CD 3
13	83-ZG3-230-110		HLDR,CHUCK 2(*)
14	86-ZG1-239-110		PLATE,DISC
15	83-ZG3-604-010		RING,MAG 2
16	86-ZG1-238-010		HLDR,MAGNET 6ZG N
17	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-410		U+2.6-4
C	83-ZG3-235-010		VFT2+2.6-8
D	87-352-075-210		VT2+2.6-10
E	83-ZG3-217-010		S-SCREW,GEAR D
F	81-ZG1-254-010		S-SCREW,MECH HLDR

CD MECHANISM EXPLODED VIEW 2 / 2 (3ZG–2 E3NC)



CD MECHANISM PARTS LIST 2 / 2 (3ZG–2 E3NC)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-262-010		CHAS ASSY,E3
2	87-A90-836-010		PICKUP,KSS-213F
3	83-ZG2-235-010		GEAR,A3
4	83-ZG2-236-010		GEAR,MOTOR 3
5	83-ZG2-205-310		GEAR,B
6	83-ZG2-253-010		SHAFT,SLIDE 5
A	87-261-032-210		V+2-3

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CG8-901-010		IB,H (EC-H)-C<HR>
1	8A-CG8-902-010		IB,HC (EC-K)-C<HC>
2	87-043-115-010		ANT,FEEDER FM
3	87-A90-030-010		ANT,LOOP AM-NC C
⚠ 4	87-A91-015-010		PLUG,CONVERSION JT-0475A<HC>
⚠ 4	87-A91-017-010		PLUG,CONVERSION JT-0476<HE,HR>
5	87-A80-167-010		CORD,PIN 1PY 150CM
6	8Z-CG8-952-010		RC UNIT,RC-ZAT05

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