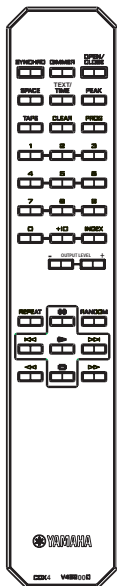
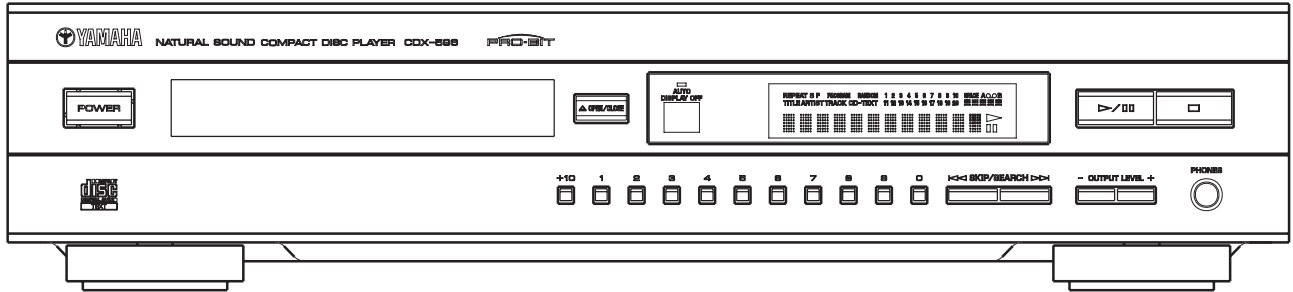


COMPACT DISC PLAYER CDX-596

SERVICE MANUAL



IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that all service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

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This Service Manual uses recycled paper.

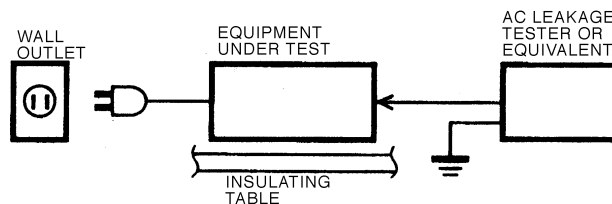


■ TO SERVICE PERSONNEL

1. Critical Components Information.

Components having special characteristics are marked \triangle and must be replaced with parts having specifications equal to those originally installed.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

1. Laser Diode Properties

- Material : GaAlAs
- Wavelength : 780 nm
- Emission Duration : Continuous
- Laser Output : max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.

WARNING: CHEMICAL CONTENT NOTICE!

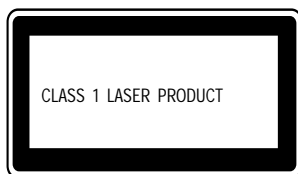
The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

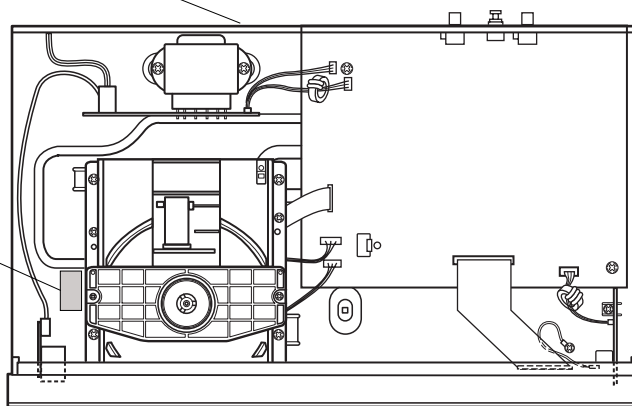
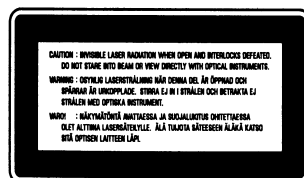
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

① G, B models



② G, B models



English

- ① THIS PRINTING (SEE POSITION SHOWN IN THE ILLUSTRATION) INFORMS THE USER THAT THE APPARATUS CONTAINS A LASER COMPONENT.
- ② THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) WARNS THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.

CAUTION : USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Swedish

- ① DENNA MÄRKNING (SE FIGUR) UPPLYSER OM ATT DET I APPARATEN INGÅR EN LASERKOMPONENT AV TYP KLASS 1.
- ② VARNINGSMÄRKNING (SE FIGUR) FÖR STRÅLNING. INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KÄNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD: BETRÄKTA EJ STRÅLEN.

Danish

- ① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.
- ② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

ADVARSEL : INDGREB BOR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

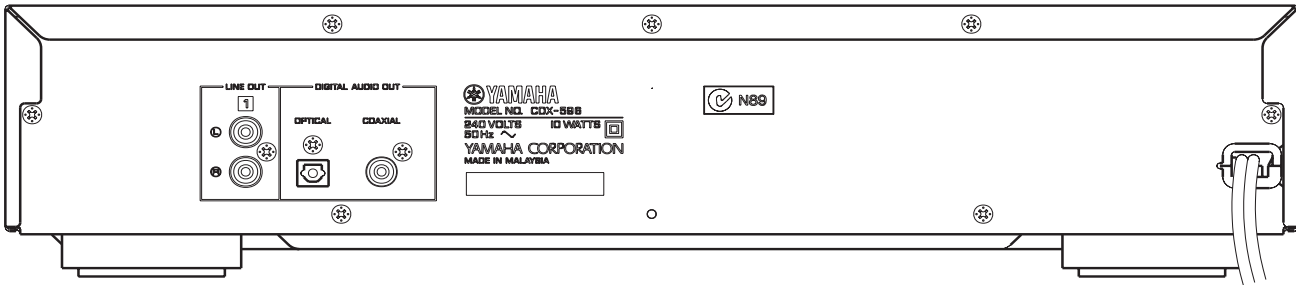
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

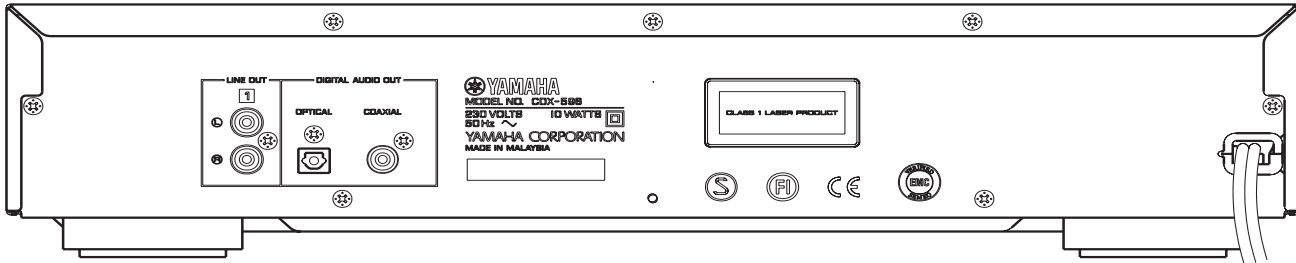
VARO! :
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

REAR PANELS

A model



G, B models



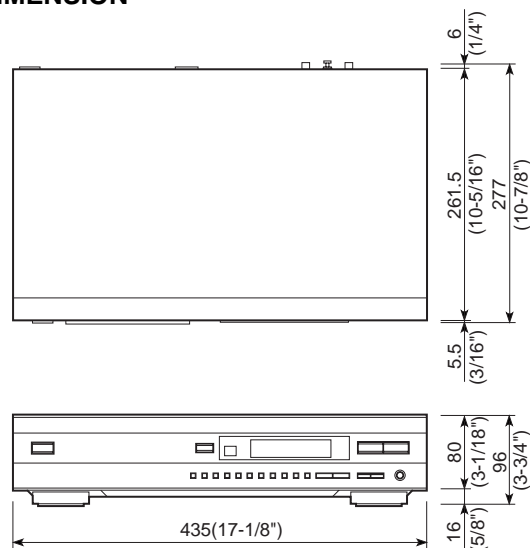
■ SPECIFICATIONS

| | |
|--|---|
| Output Level 1kHz, 0dB | 2.0 ± 0.5Vrms |
| Signal to Noise Ratio (EIAJ) | 115dB |
| Dynamic Range | 100dB |
| Harmonic Distortion+Noise (1kHz) | 0.0025% |
| Frequency Response 2Hz — 20kHz | ±0.5dB |
| Power Requirements B, G models A model | 230V AC 50Hz 240V AC 50Hz |
| Power Consumption | 10W |
| Dimensions (W x H x D) | 435 x 96 x 277mm (17-1/8" x 3-3/4" x 10-7/8") |
| Weight | 3.7kg (7 lbs 11 oz) |
| Finish CDX-596BL CDX-596GD CDX-596TI | Black color Gold color Titanium color |
| Accessories | Pin plug cord Remote control transmitter (Dry-cell : x 2: Size "AA", R06) |

*Specifications are subject to change without notice.

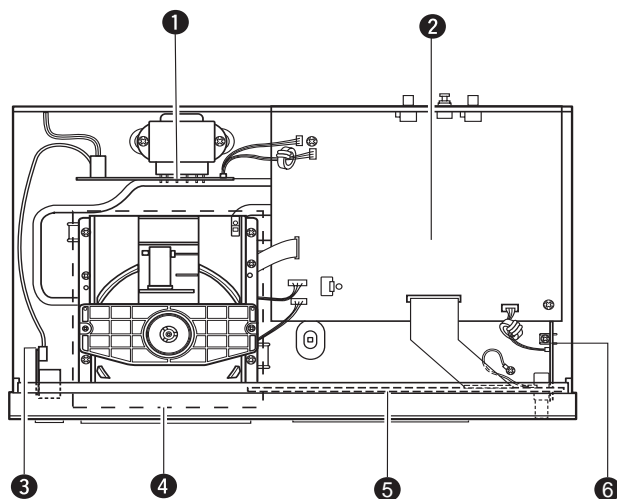
A Australian model
B British model
G European model

● DIMENSION



Unit : mm (inch)

■ INTERNAL VIEW



- ① MAIN P.C.B. (3)
- ② MAIN P.C.B. (1)
- ③ MAIN P.C.B. (4)
- ④ CD MECHANISM UNIT
- ⑤ MAIN P.C.B. (2)
- ⑥ MAIN P.C.B. (5)

DISASSEMBLY PROCEDURES (Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

- a. Remove 4 screws (①) and 3 screws (②) in Fig. 1.
- b. Lift the Top Cover at the rear and move it rear-ward.

2. Removal of Front Panel

- a. Press the OPEN/CLOSE key and open the tray. Then remove the Lid attached to the front edge of the tray in Fig. 2.
- Press the OPEN/CLOSE key and close the tray, then unplug the power cord.
- b. Remove 3 connectors (CB100, CB202, CB301) in Fig. 2.
- c. Remove 5 (③) screws in Fig. 1.
- d. Remove 2 hooks and then pull the Front Panel forward.

3. Removal of CD Mechanism Unit

- a. Remove 3 connectors (CB1, CB2, CB3) in Fig. 2.
- b. Remove 4 screws (④) in Fig. 1.

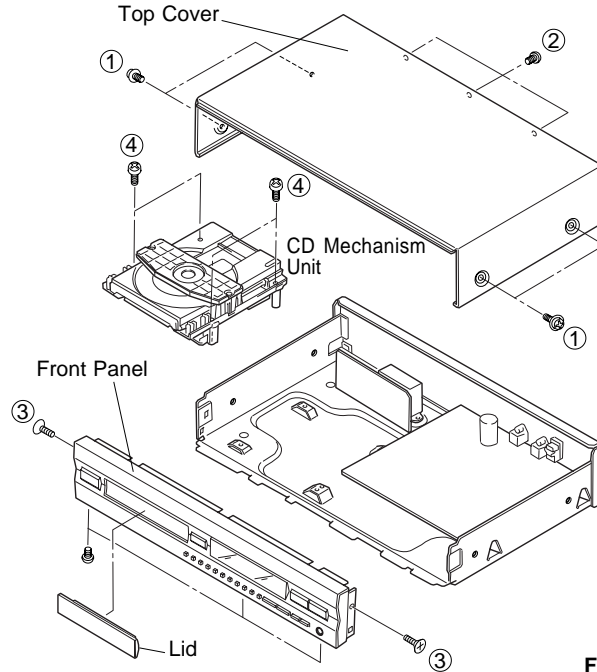


Fig. 1

4. Removal of Tray Unit

- a. Remove 2 screws (⑤) and then remove the Chucking Unit in Fig. 3.
- b. Remove 1 hook and then remove the Stopper Pin in Fig. 3.
- c. Rotate the Drive Gear and then open the Tray Unit in Fig. 3.
- d. Detach the Stoppers on both sides and then pull out the Tray in Fig. 3.

5. Removal of Pick-up Head

- a. Remove 2 screws (⑥) in Fig. 4.
- b. Remove 4 screws (⑦) and then remove the Drive Unit in Fig. 4.
- c. Remove the gear A in Fig. 5.
- d. Pull out the Sled Shaft in Fig. 5.
- e. Remove the Pick-up Head.

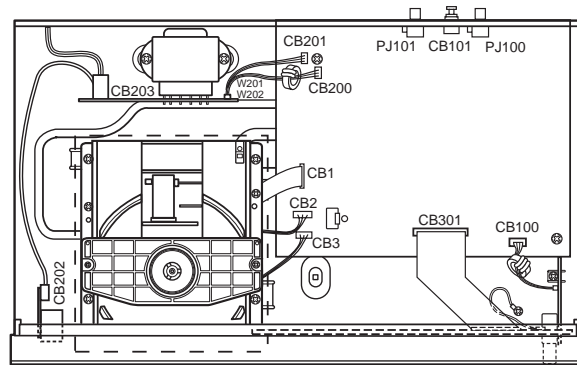


Fig. 2

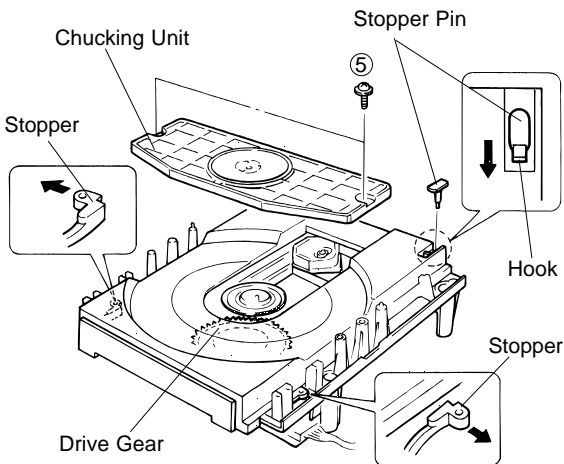


Fig. 3

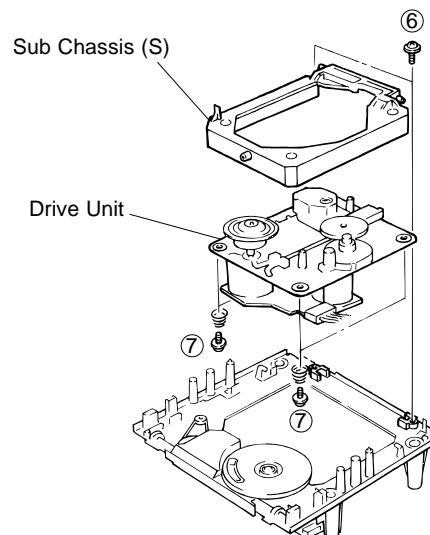
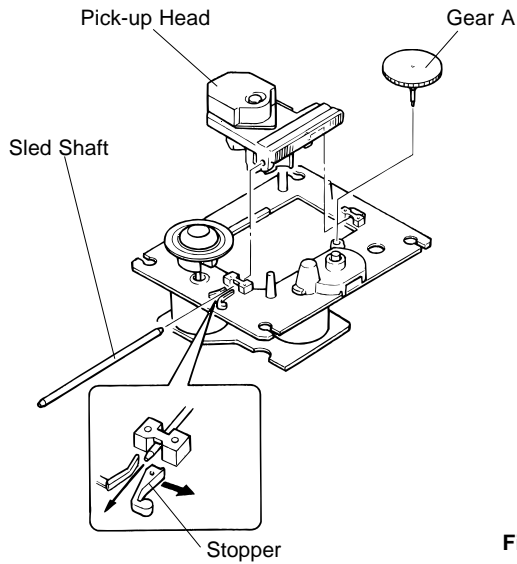


Fig. 4



Check that the disc table height is as specified below.

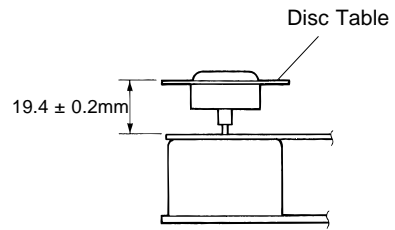
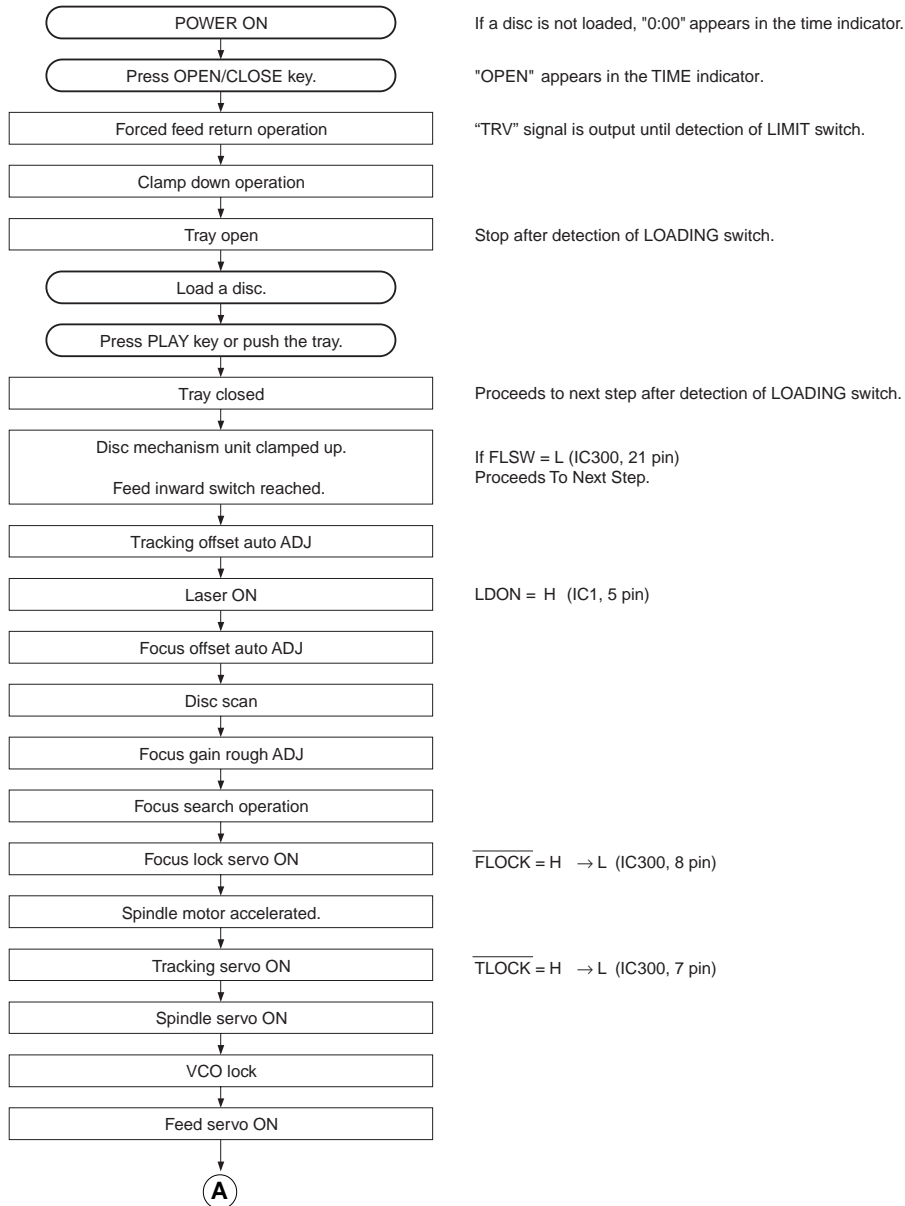
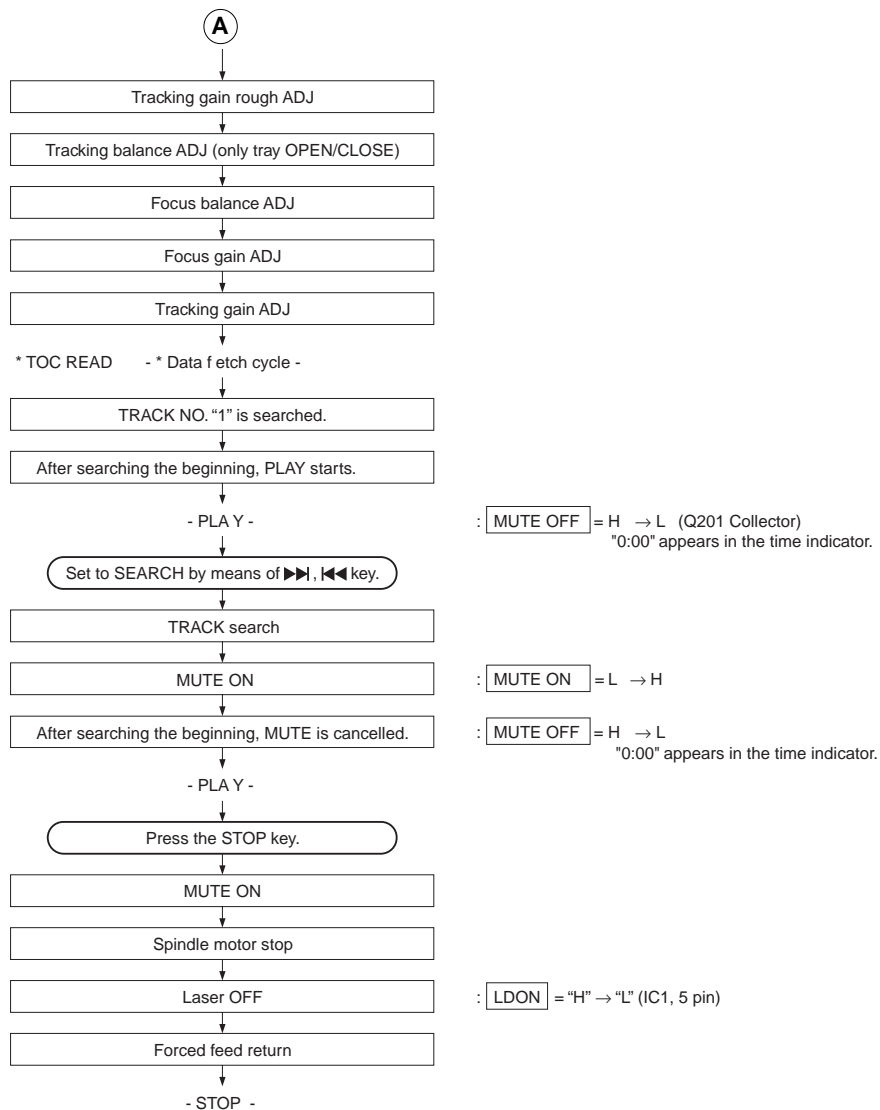


Fig. 5

STANDARD OPERATION CHART





■ TEST MODE

- (1) Turning ON the POWER while pressing the keys "PLAY/PAUSE" and "STOP" will set to the TEST mode.
(When the TEST mode is set, all indicators light for 1 second.)



(2) Shown below are the panel key and remote control transmitter functions in the TEST mode.

● **Function List of Panel keys**

Note) "Traverse servo" means the same as "feed servo".

| PANEL KEY | FUNCTION |
|---------------------|--|
| ▲ OPEN/CLOSE | Tray open/close. |
| ▶/ | FOON, TRON, SPON, TVON(FEON). |
| ■ | All stop. (Focus, spindle, feed, laser, tray, etc.) Initializes FL display |
| ◀◀ (SKIP/SEARCH) | Inner circumference traverse servo. |
| ▶▶ (SKIP/SEARCH) | Outer circumference traverse servo. |
| +10 | Rotating the mode of coefficients. (Coefficient mode --- Coefficient setting --- product mode) Pressing twice will set to the product mode. |
| 1 | Returns to product mode. |
| 2 | Auto adjustment mode 1 (TR-off set, FO-off set, FO-rough gain adjustment) |
| 3 | Auto adjustment mode 2 (TR-balance, TR-rough gain adjustment) |
| 4 | Auto adjustment mode 3 (FO-fine gain, TR-fine gain, FO-balance adjustment) |
| 5 | 1 TRACK KICK (-) continuously (Coefficient set up mode : address down) |
| 6 | 1 TRACK KICK (+) continuously (Coefficient set up mode : address up) |
| 7 | 30 TRACK KICK (-) continuously (Coefficient set up mode : upper digit down) |
| 8 | 30 TRACK KICK (+) continuously (Coefficient set up mode : upper digit up) |
| 9 | 150 TRACK KICK (-) continuously (Coefficient set up mode : lower digit down) |
| 0 | 150 TRACK KICK (+) continuously (Coefficient set up mode : lower digit up) |

● **Function List of Remote Control Transmitter**

CUSTOM CODE = (79)x

| CODE | KEY | FUNCTION |
|------|------------|--|
| 01 | OPEN/CLOSE | Tray open/close. |
| 02 | ▶ | PLAY (FOON, TRON, TVON(FEON), SPON) |
| 04 | ◀◀ | Inner circumference traverse servo. |
| 05 | ◀◀ | Inner 10 tracks kick continuously. |
| 06 | ▶▶ | Outer 10 tracks kick continuously. |
| 07 | ◀◀ | Outer circumference traverse servo. |
| 08 | REPEAT S/F | FOON, TROF (Enter focus search if focus servo is off.) |
| 0A | TIME | Checks FL display. (88 8888 --- goes out --- All lamps.) |
| 0B | INDEX | FOON, TROF, TVOF(EFOF) (Enter focus search if focus servo is off.) |
| 0C | PROG | Rotates or accelerates spindle. |
| 0D | CLEAR | Decelerates spindle. (checking EFM pattern and reflected STAT) |
| 0F | SPACE | FOOF, TROF, TVOF(EFOF) |
| 10 | 0 | 150 TRACK KICK (+) continuously (Coefficient set up mode : lower digit up) |
| 11 | 1 | Returns to product mode. (tray inoperative.) |
| 12 | 2 | Auto adjustment mode 1 (TR-off set, FO-off set, FO-rough gain adjustment) |
| 13 | 3 | Auto adjustment mode 2 (TR-balance, TR-rough gain adjustment) |
| 14 | 4 | Auto adjustment mode 3 (FO-fine gain, TR-fine gain, FO-balance adjustment) |
| 15 | 5 | 1 TRACK KICK (-) continuously (Coefficient set up mode : address down) |
| 16 | 6 | 1 TRACK KICK (+) continuously (Coefficient set up mode : address up) |
| 17 | 7 | 30 TRACK KICK (-) continuously (Coefficient set up mode : upper digit down) |
| 18 | 8 | 30 TRACK KICK (+) continuously (Coefficient set up mode : upper digit up) |
| 19 | 9 | 150 TRACK KICK (-) continuously (Coefficient set up mode : lower digit down) |
| 1A | +10 | Rotating the mode of coefficients. |
| 1B | RANDOM | SPON (Spindle servo on.) |
| 1E | DIMMER | Checks FL display. (All lamps --- 88 8888 --- goes out.) |
| 55 | | FOON, TROF, TVOF(EFOF) (Enter focus search if focus servo is off.) |
| 56 | ■ | All stop. (Focus, spindle, traverse, laser, tray, etc.) |
| 57 | TAPE | Spindle free (off) |
| 58 | SYNCHRO | TV(Feed) REV |
| 5D | PEAK | - |

■ ERROR MESSAGE

- (1) When operation is terminated in an abnormal condition (stop or open), pressing STOP on the remote control while pressing STOP on the panel will set to the error message display enable mode.
- (2) Shown below is an example of display. ("E-73" as an example)



- (3) This function stays effective till the power is turned OFF. (It is cleared at OFF.)
- (4) Listed in the table below are error messages.

● Error Messages List

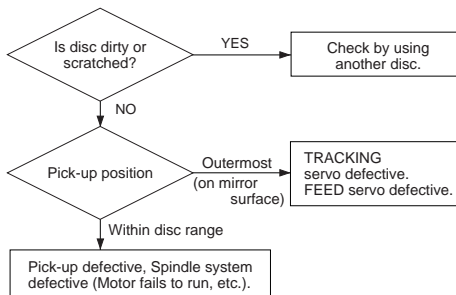
| ERROR MESSAGES | DESCRIPTION |
|----------------|--|
| E - X 0 | Data cannot be read after finishing search. |
| E - X 1 | Data cannot be read during PLAY(X=0), PAUSE(X=3), or SCAN(X=2). |
| E - 7 1 | At the start, tracking servo is not effective. |
| E - 7 2 | At the start, spindle servo PLL is not effective. |
| E - 7 3 | At the start, data cannot be read. |
| E - 9 4 | Close switch does not work with tray closed. |
| E - A 5 | Open switch does not work with tray open. |
| E - X 7 | Traverse(Feed) inner switch does not work. |
| E - X 8 | Recovery action fails after focus drop. |
| E r r | MN35511AL does not give response of SENSE, with resetting by the unit's microcomputer. |

*No. for each state
(meaning of "X")

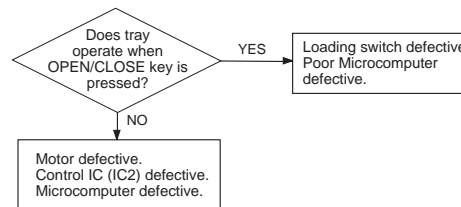
| | |
|-------------|-------|
| PLAY | X="0" |
| SCAN | X="2" |
| PAUSE | X="3" |
| PEAK SEARCH | X="4" |
| SEARCH | X="5" |
| START | X="7" |
| STOP | X="8" |
| LOADING | X="9" |
| OPEN | X="-" |
| NO DISC | X="C" |

1) Error Code Troubleshooting

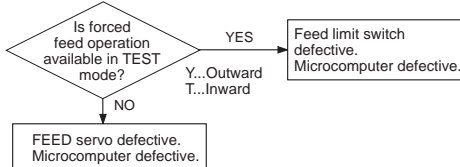
Error code **X0** , **X1** , **73** Data cannot be read.



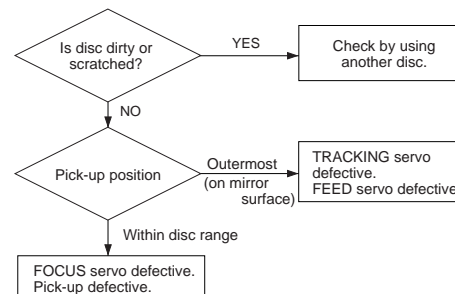
Error codes **94** , **A5** Poor tray loading operation.



Error code **X7** FEED operation defective. (Limit switch fails)

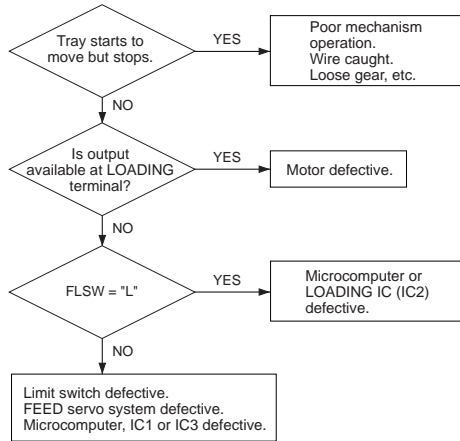


Error code **X8** Focus drops.



2) Troubleshooting from System Malfunctions

a) Tray fails to come out/go in.

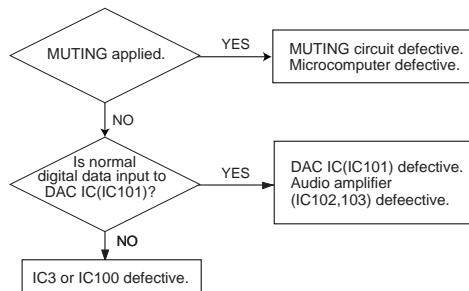


When tray fails to close completely (when it stops midway)

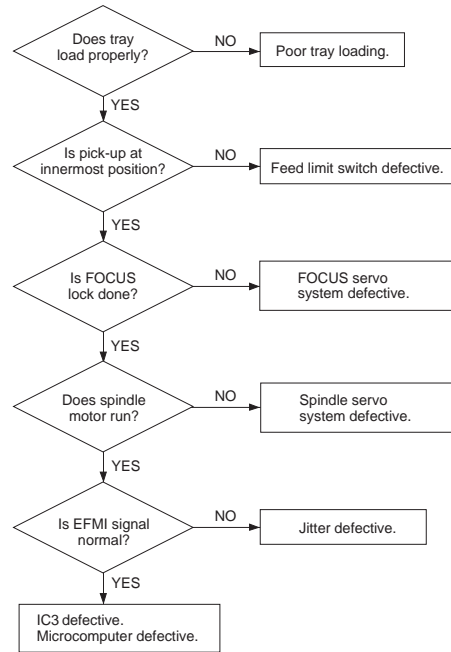
[Corrective measure]

- 1) Turn ON the power and open the tray.
- * If it failed to open (head and tray contacting each other), open it after removing the chucking unit.
- 2) Turn OFF the power and force the tray to go in fully and close.
- 3) With the power turned ON, open and close the tray to check if the tray close completely.

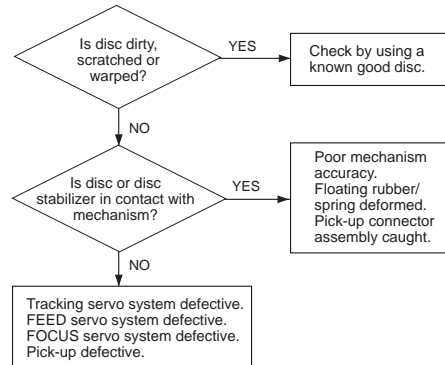
b) No sound generated, Sound cut during play. (but time display advances properly)



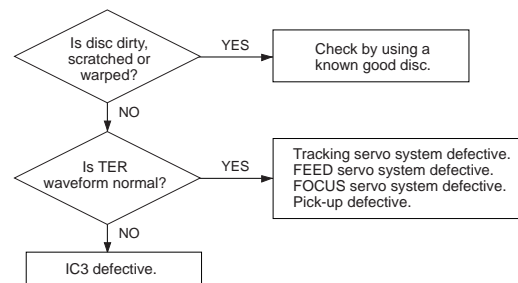
c) Operates as if no disc loaded. (although loaded)



d) Sound skips. (Time display fails to advance properly)

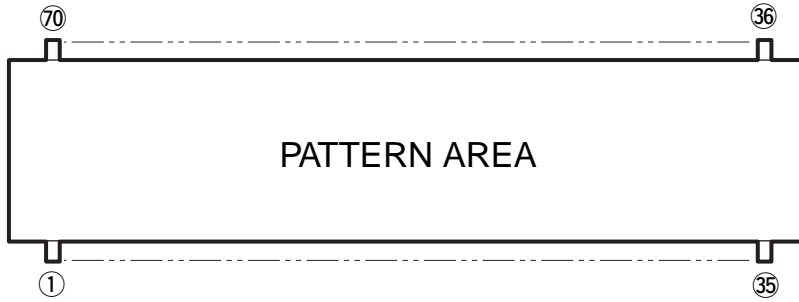


e) No search provided. (Sound skipped after search)



■ DISPLAY DATA

V300 : 14-BT-56GN

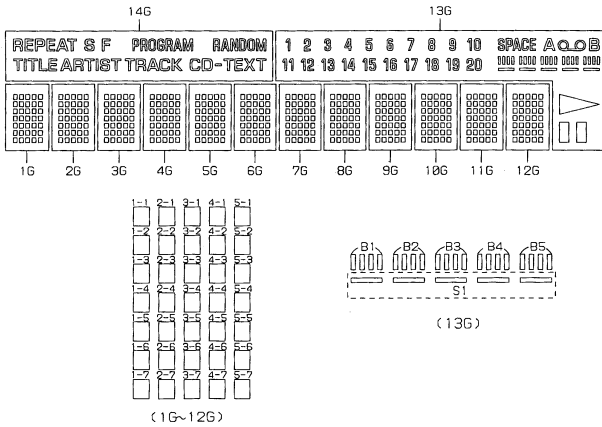


● PIN CONNECTION

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Connection | F1 | F1 | NP | 14G | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | NX | NX | NX | NX | 1G | IC | P35 | P34 | P33 | P32 | P31 | P30 | P29 | P28 |
| Pin No. | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Connection | P27 | P26 | NP | F2 | F2 | F2 | F2 | NP | P25 | P24 | P23 | P22 | P21 | P20 | P19 | P18 | P17 | P16 | P15 | P14 | P13 | NX | NX | NX | NX | P12 | P11 | P10 | P9 | P8 |
| Pin No. | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | | | | | | | | | | | | | | | | | | | | |
| Connection | P7 | P6 | P5 | P4 | P3 | P2 | P1 | NP | F1 | F1 | | | | | | | | | | | | | | | | | | | | |

Note 1) F1, F2 Filament 3) NX No Extend pin 5) 1G~14G Grid
 2) NP No Pin 4) P1~P35 Datum Line 6) IC Internal Connection

● GRID ASSIGNMENT



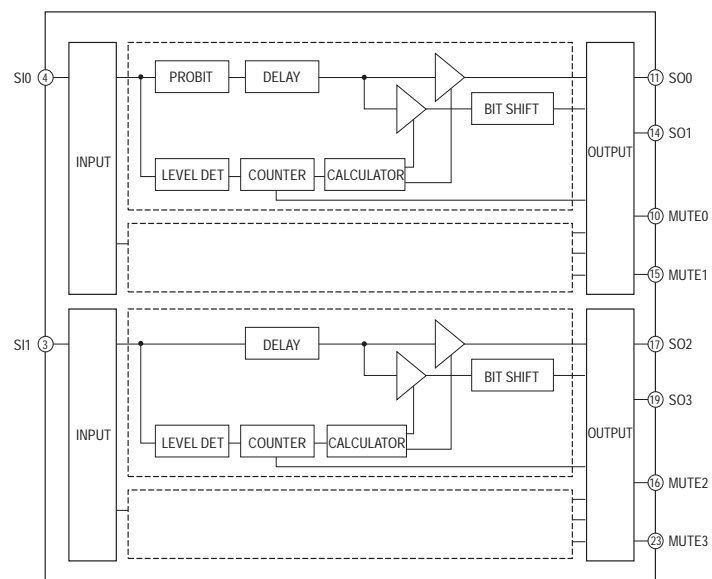
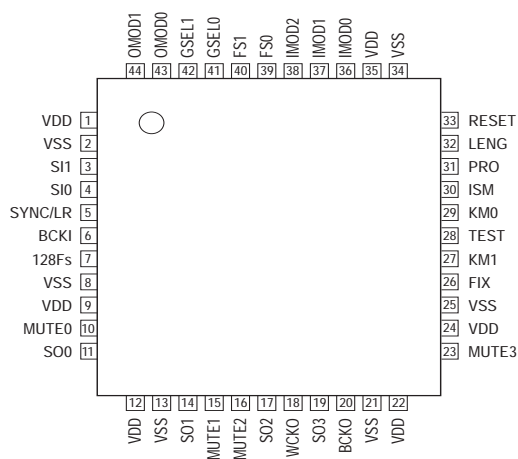
● ANODE CONNECTION

| | | | |
|-----|---------|-------|--------|
| | 14G | 13G | 12G~1G |
| P1 | REPEAT | ▶ | 1-1 |
| P2 | S | ▯▯ | 2-1 |
| P3 | F | SPACE | 3-1 |
| P4 | PROGRAM | A | 4-1 |
| P5 | RANDOM | ○ | 5-1 |
| P6 | TITLE | B | 1-2 |
| P7 | ARTIST | B1 | 2-2 |
| P8 | TRACK | B2 | 3-2 |
| P9 | CD-TEXT | B3 | 4-2 |
| P10 | - | B4 | 5-2 |
| P11 | - | B5 | 1-3 |
| P12 | - | S1 | 2-3 |
| P13 | - | 1 | 3-3 |
| P14 | - | 2 | 4-3 |
| P15 | - | 3 | 5-3 |
| P16 | - | 4 | 1-4 |
| P17 | - | 5 | 2-4 |
| P18 | - | 6 | 3-4 |
| P19 | - | 7 | 4-4 |
| P20 | - | 8 | 5-4 |
| P21 | - | 9 | 1-5 |
| P22 | - | 10 | 2-5 |
| P23 | - | 11 | 3-5 |
| P24 | - | 12 | 4-5 |
| P25 | - | 13 | 5-5 |
| P26 | - | 14 | 1-6 |
| P27 | - | 15 | 2-6 |
| P28 | - | 16 | 3-6 |
| P29 | - | 17 | 4-6 |
| P30 | - | 18 | 5-6 |
| P31 | - | 19 | 1-7 |
| P32 | - | 20 | 2-7 |
| P33 | - | - | 3-7 |
| P34 | - | - | 4-7 |
| P35 | - | - | 5-7 |

CDX-596

IC DATA

IC100: YSZ914B-F DAFC

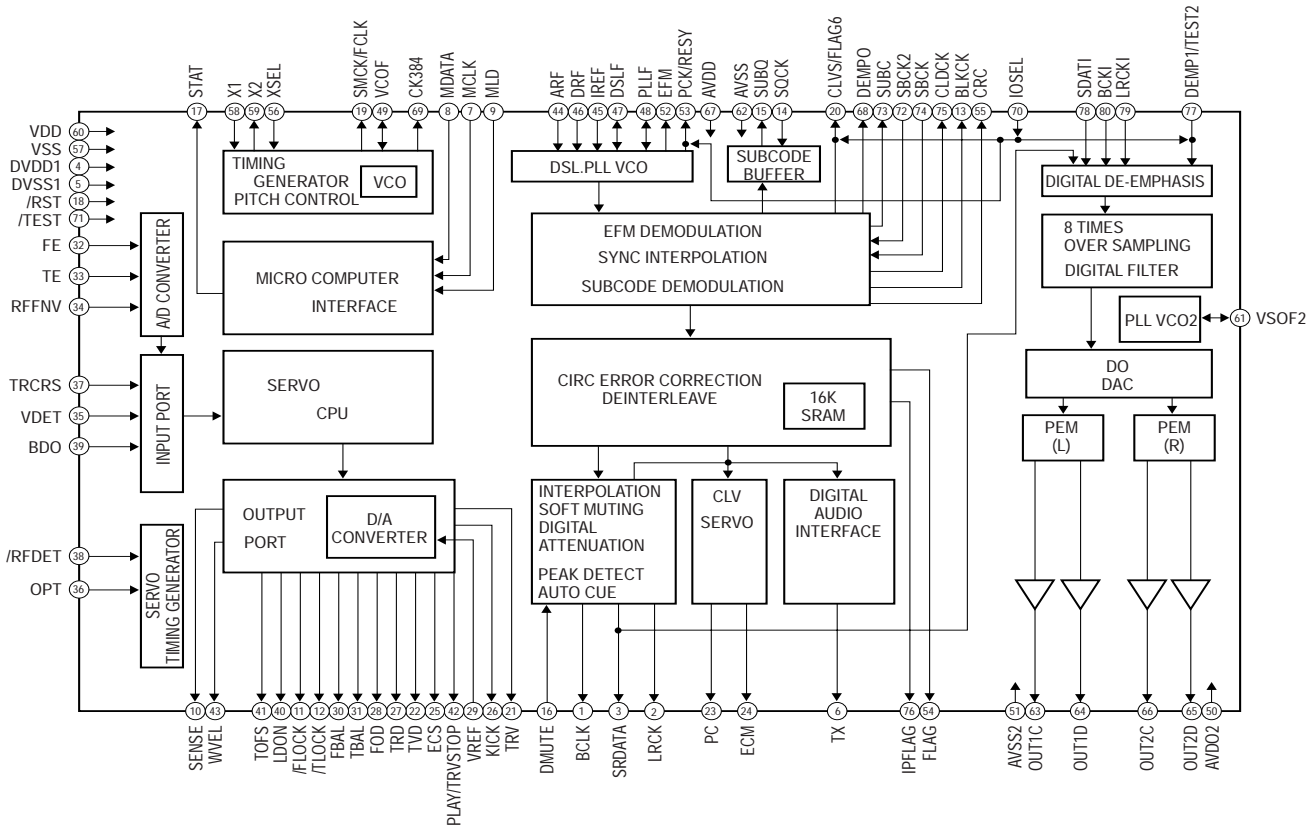
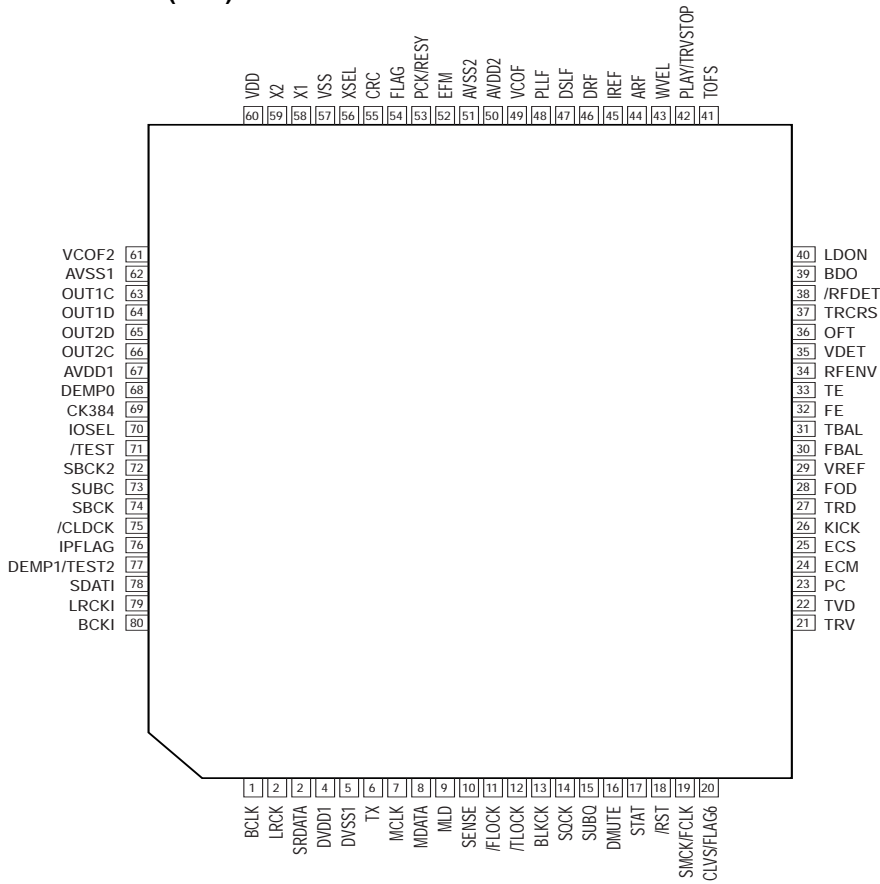


| PIN No. | NAME | I/O | FUNCTION |
|---------|---------|-----|---------------------------|
| 1 | VDD | | +5V Power supply |
| 2 | VSS | | GND |
| 3 | SI1 | I | Serial data IN (ch2, 3) |
| 4 | SI0 | I | Serial data IN (ch0, 1) |
| 5 | SYNC/LR | I | Sync. signal |
| 6 | BCKI | I | Bit clock (System clock) |
| 7 | 128FS | I | 128FS signal |
| 8 | VSS | | GND |
| 9 | VDD | | +5V Power supply |
| 10 | MUTE0 | O | ch0 Mute signal (H: Mute) |
| 11 | SO0 | O | ch0 Serial data OUT |
| 12 | VDD | | +5V Power supply |
| 13 | VSS | | GND |
| 14 | SO1 | O | ch1Serial data OUT |
| 15 | MUTE1 | O | ch1 Mute signal (H: Mute) |
| 16 | MUTE2 | O | ch2 Mute signal (H: Mute) |
| 17 | SO2 | O | ch2 Serial data OUT |
| 18 | WCKO | O | Serial word clock |
| 19 | SO3 | O | ch3 Serial data OUT |
| 20 | BCKO | O | Serial bit clock |
| 21 | VSS | | GND |
| 22 | VDD | | +5V Power supply |

| PIN No. | NAME | I/O | FUNCTION |
|---------|-------|-----|------------------------------|
| 23 | MUTE3 | O | ch1 Mute signal (H: Mute) |
| 24 | VDD | | +5V Power supply |
| 25 | VSS | | GND |
| 26 | FIX | I | Cross fade ON/OFF |
| 27 | KM1 | I | BCKI phase control |
| 28 | TEST | I | Test (L: Test) |
| 29 | KM0 | I | Frame sync. control |
| 30 | ISM | I | Number of ch for an IN line |
| 31 | PRO | I | Pro-bit control |
| 32 | LENG | I | Input word length of pro-bit |
| 33 | RESET | I | Reset |
| 34 | VSS | | GND |
| 35 | VDD | | +5V Power supply |
| 36 | IMOD0 | I | IN line format |
| 37 | IMOD1 | I | |
| 38 | IMOD2 | I | |
| 39 | FS0 | I | Sampling rate control |
| 40 | FS1 | I | |
| 41 | GSEL0 | I | Floating gain control |
| 42 | GSEL1 | I | |
| 43 | OMOD0 | I | OUT line format |
| 44 | OMOD1 | I | |

IC3 : MN35511AL

Signal Process Controller (SPC) & D/A Converter

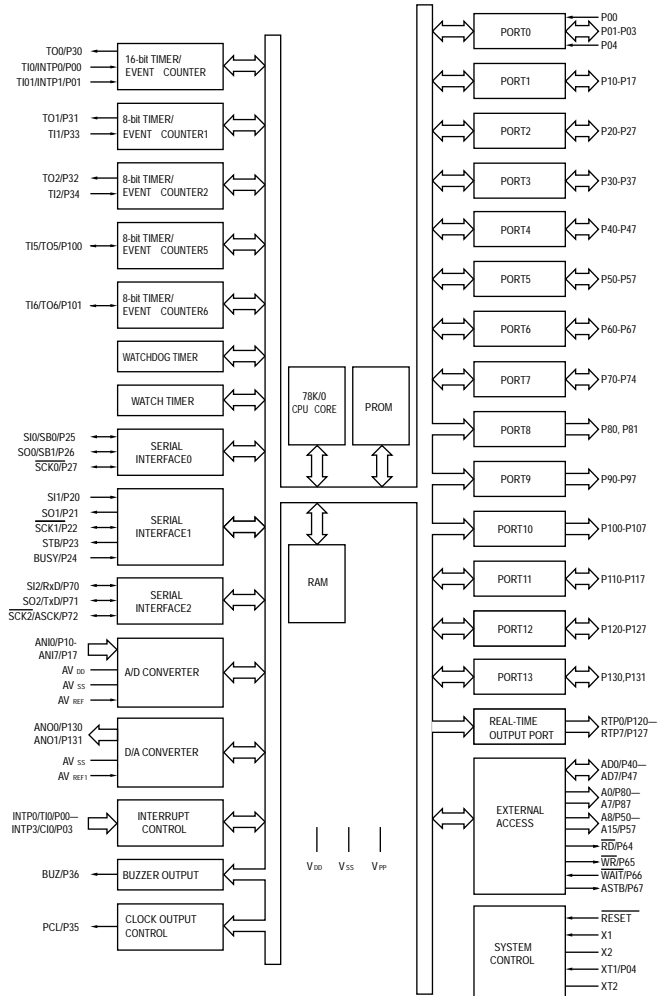
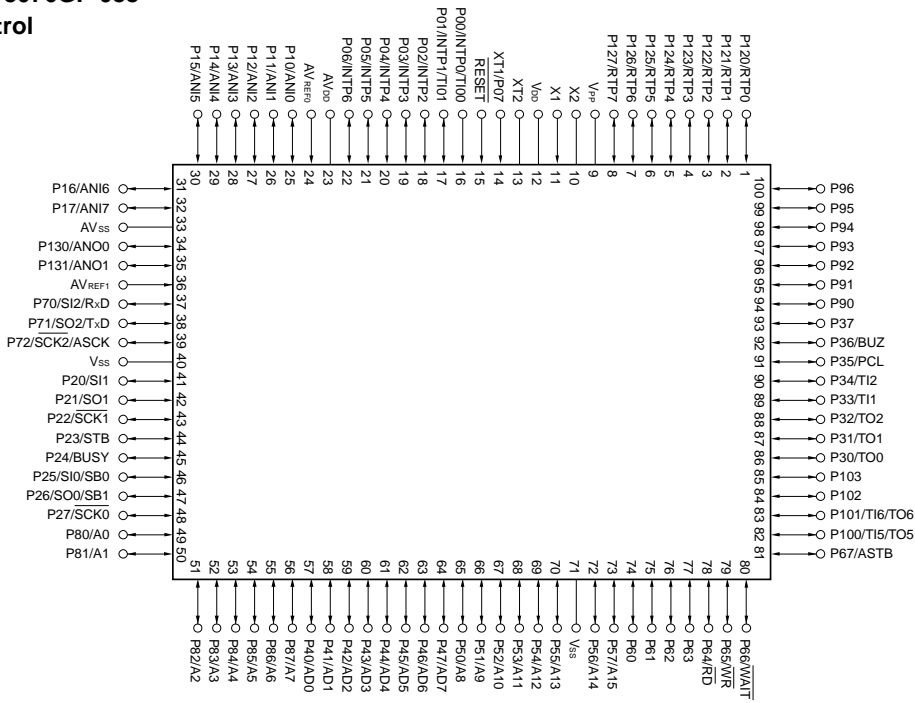


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| PIN No. | NAME | I / O | FUNCTION |
|---------|------------|-------|--------------------------------|
| 1 | BCLK | | NC |
| 2 | LRCK | | NC |
| 3 | SRDR | | NC |
| 4 | DVDD1 | | +5V |
| 5 | DVSS1 | | GND |
| 6 | TX | O | Digital audio interface signal |
| 7 | MCLK | I | CPU clock |
| 8 | MDATA | I | CPU data |
| 9 | MLD | I | CPU load signal |
| 10 | SENSE | O | Sense signal |
| 11 | /FLOCK | O | Focus servo draw signal |
| 12 | /TLOCK | O | Tracking servo draw signal |
| 13 | BLKCK | O | Sub-code block clock |
| 14 | SQCK | I | Sub-code Q clock |
| 15 | SUBQ | O | Sub-code Q code signal |
| 16 | DMUTE | I | Mute signal |
| 17 | STAT | O | Status signal |
| 18 | /RST | I | Reset signal |
| 19 | SMCK/FCLK | | NC |
| 20 | CLVS/FLAG6 | | NC |
| 21 | TRV | O | Traverse forced feed signal |
| 22 | TVD | O | Traverse drive signal |
| 23 | PC | | NC |
| 24 | ECM | O | Spindle forced drive signal |
| 25 | ECS | O | Spindle drive signal |
| 26 | KICK | O | Kick pulse |
| 27 | TRD | O | Tracking drive signal |
| 28 | FOD | O | Focus drive signal |
| 29 | VREF | O | Reference Voltage |
| 30 | FBAL | O | Focus balance signal |
| 31 | TBAL | O | Tracking balance signal |
| 32 | FE | I | Focus error signal |
| 33 | TE | I | Tracking error signal |
| 34 | RFENV | I | RF envelope signal |
| 35 | VDET | | GND |
| 36 | OFT | I | Off-track signal |
| 37 | TRCRS | I | Tracking close signal |
| 38 | /RFDET | I | RF signal detect |
| 39 | BD0 | I | Black dot detect |
| 40 | LDON | O | Laser ON signal |

| PIN No. | NAME | I / O | FUNCTION |
|---------|--------|-------|---------------------------|
| 41 | TOFS | | NC |
| 42 | PLAY | | NC |
| 43 | WVEL | | NC |
| 44 | ARF | I | RF signal |
| 45 | IREF | I | Reference current |
| 46 | DREF | I | Bias for DSL |
| 47 | DSLFL | I / O | Loop filter for DSL |
| 48 | PLLF | I / O | Loop filter for PLL |
| 49 | VCOF | | +5V |
| 50 | AVDD2 | | +5V |
| 51 | AVSS2 | | GND |
| 52 | EFM | | NC |
| 53 | PCK | | NC |
| 54 | FLAG | | NC |
| 55 | CRC | | NC |
| 56 | XSEL | | GND |
| 57 | VSS | | GND |
| 58 | X1 | I | Crystal oscillation |
| 59 | X2 | O | Crystal oscillation |
| 60 | VDD | | +5V |
| 61 | VCOF2 | | GND |
| 62 | AVSS1 | | GND |
| 63 | OUT1C | O | PEM 1C signal |
| 64 | OUT1D | O | PEM 1D signal |
| 65 | OUT2D | O | PEM 2D signal |
| 66 | OUT2C | O | PEM 2C signal |
| 67 | AVDD1 | | +5V |
| 68 | DEMPO | | De-emphasis detect signal |
| 69 | CK384 | O | NC |
| 70 | IOSEL | | Mode select (H) |
| 71 | /TEST | | Test mode set (H) |
| 72 | SBCK2 | | NC |
| 73 | SUBC | | NC |
| 74 | SBCK | | NC |
| 75 | /CLDCK | | NC |
| 76 | IPFLAG | | NC |
| 77 | DEMPI | | GND |
| 78 | SDATI | | NC |
| 79 | LRCKI | | NC |
| 80 | BCKI | | NC |

IC300 : uPD78076GF-088
System Control

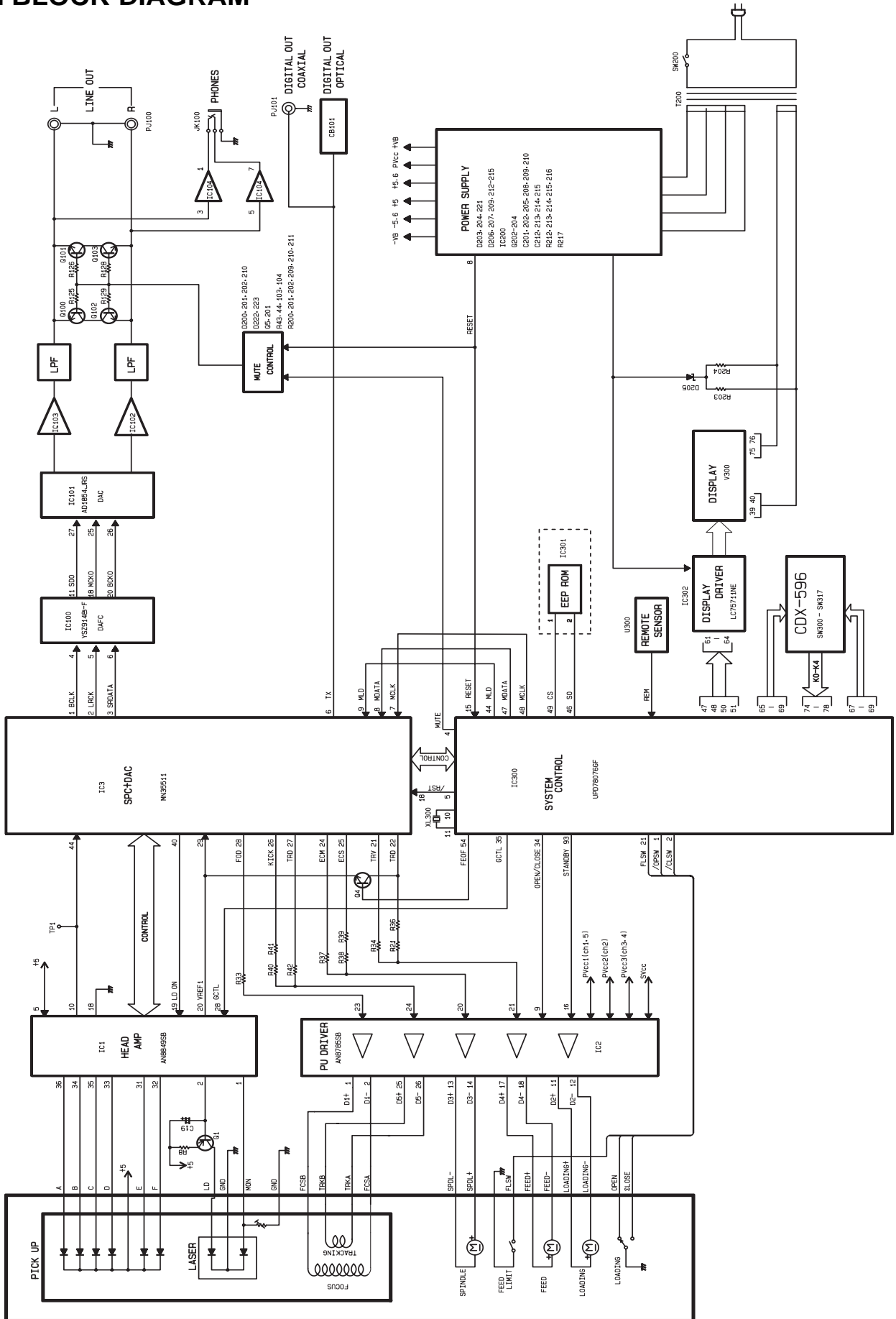


CDX-596

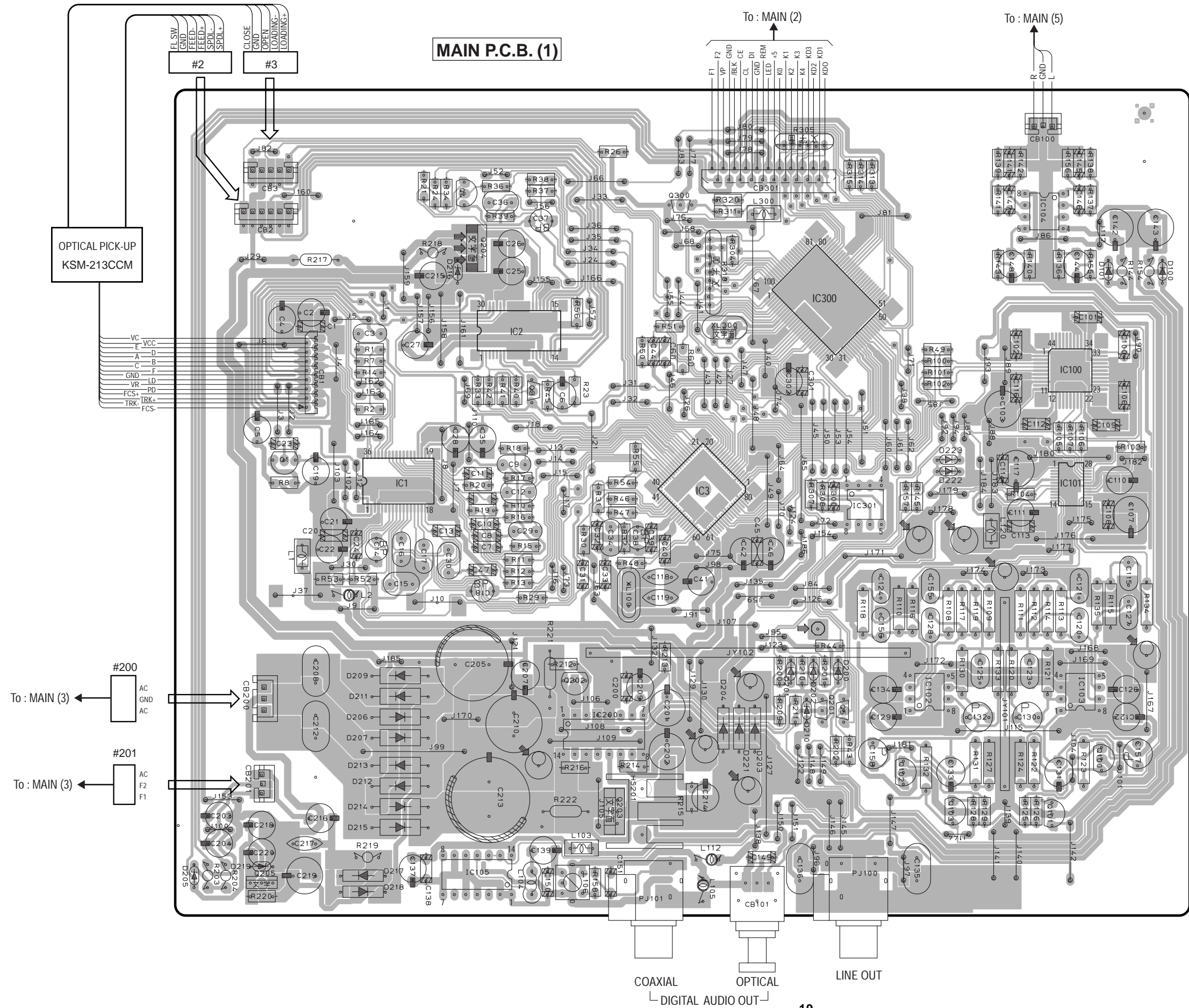
| PIN No. | NAME | | I / O | FUNCTION |
|---------|----------------|---------|-------|----------------------------------|
| | DEVICE | CIRCUIT | | |
| 1 | P120/RTP0 | OPSW | I | Tray open limit switch |
| 2 | P21/RTP1 | CLSW | I | Tray close limit switch |
| 3 | P122/RTP2 | | | NC |
| 4 | P123/RTP3 | MUTE | O | Analog mute signal |
| 5 | P124/RTP4 | /RST | O | Reset signal |
| 6 | P125/RTP5 | DMUTE | O | Digital mute signal |
| 7 | P126/RTP6 | /TLOCK | I | Tracking servo signal |
| 8 | P127/RTP7 | /FLOCK | I | Focus servo signal |
| 9 | IC (Vpp) | IC | | GND |
| 10 | X2 | X2 | | OSC terminal |
| 11 | X1 | X1 | | OSC terminal |
| 12 | VDD | VDD | | +5V |
| 13 | XT2 | XT2 | | NC |
| 14 | XT1/P07 | XT1 | | +5V |
| 15 | RESET | /RESET | I | Reset signal |
| 16 | P00/INTP0/TI00 | REM | I | Remote control receiver signal |
| 17 | P01/INTP1/TI01 | BLKCK | I | Subcode block clock |
| 18 | P02/INTP2 | LED | O | LED control signal |
| 19 | P03/INTP3 | DOWNSW | | NC |
| 20 | P04/INTP4 | UPSW | | NC |
| 21 | P05/INTP5 | FLSW | I | Feed limit switch |
| 22 | P06/INTP6 | /CLOCK | I | Clock |
| 23 | AVDD | AVDD | | +5V |
| 24 | AVREF0 | AVREF0 | | GND |
| 25 | P10/ANI0 | | | NC |
| 26 | P11/ANI1 | | | NC |
| 27 | P12/ANI2 | | | NC |
| 28 | P13/ANI3 | | | NC |
| 29 | P14/ANI4 | SDA | I/O | Data for EEPROM |
| 30 | P15/ANI5 | SCL | O | Clock for EEPROM |
| 31 | P16/ANI6 | | | NC |
| 32 | P17/ANI7 | | | NC |
| 33 | AVSS | AVSS | | GND |
| 34 | P130/ANO0 | OPN/CLS | O | Open/Close signal |
| 35 | P131/ANO1 | GCTRL | O | Gain control signal |
| 36 | AVREF1 | VREF2 | | +5V |
| 37 | P70/SI2/RxD | SUBQ | I | Sub-code Q signal |
| 38 | P71/SO2/TxD | STAT | I | Status signal |
| 39 | P72/SCK/ASCK | SQCK | O | Register clock for sub-code Q |
| 40 | Vss | VSS | | GND |
| 41 | P20/SI1 | SUBC | I | Sub-code serial signal |
| 42 | P21/SO1 | | | NC |
| 43 | P22/SCK1 | SBCK2 | O | Sub-code clock |
| 44 | P23/STB | MLD | O | Load signal for μ -processor |
| 45 | P24/BUSY | SENSE | I | Sense signal |
| 46 | P25/SI0/SB0 | SO | | NC |
| 47 | P26/SO0/SB1 | MDATA | O | Data for μ -processor |
| 48 | P27/SCK0 | MCLK | O | Clock for μ -processor |
| 49 | P80/A0 | /CS | | NC |
| 50 | P81/A1 | CE | O | Chip enable signal for LC75711 |

| PIN No. | NAME | | I / O | FUNCTION |
|---------|--------------|----------|-------|-----------------------------|
| | DEVICE | CIRCUIT | | |
| 51 | P82/A2 | /BLK | O | Control signal for LC7511 |
| 52 | P83/A3 | | O | DAFC RST |
| 53 | P84/A4 | | | NC |
| 54 | P85/A5 | FEED OFF | O | Feed mute signal |
| 55 | P86/A6 | | | NC |
| 56 | P87/A7 | | | NC |
| 57 | P40/AD0 | | | NC |
| 58 | P41/AD1 | | | NC |
| 59 | P42/AD2 | | | NC |
| 60 | P43/AD3 | | | NC |
| 61 | P44/AD4 | | | NC |
| 62 | P45/AD5 | | | NC |
| 63 | P46/AD6 | | | NC |
| 64 | P47/AD7 | | | NC |
| 65 | P50/A8 | | | NC |
| 66 | P51/A9 | KD3 | O | Key digit signals 0 - 3 |
| 67 | P52/A10 | KD2 | O | |
| 68 | P53/A11 | KD1 | O | |
| 69 | P54/A12 | KD0 | O | |
| 70 | P55/A13 | | | NC |
| 71 | Vss | VSS | | GND |
| 72 | P56/A14 | | | NC |
| 73 | P57/A15 | | | NC |
| 74 | P60 | K4 | I | Key-in return signals 0 - 4 |
| 75 | P61 | K3 | I | |
| 76 | P62 | K2 | I | |
| 77 | P63 | K1 | I | |
| 78 | P64/RD | K0 | I | |
| 79 | P65/WR | | | NC |
| 80 | P66/WAIT | | | NC |
| 81 | P67/ASTB | | | NC |
| 82 | P100/TI5/TO5 | | | NC |
| 83 | P101/TI6/TO6 | | | NC |
| 84 | P102 | | | NC |
| 85 | P103 | | | NC |
| 86 | P30/TO0 | | | NC |
| 87 | P31/TO1 | | | NC |
| 88 | P32/TO2 | | | NC |
| 89 | P33/TI1 | | | NC |
| 90 | P34/TI2 | | | NC |
| 91 | P35/PCL | | | NC |
| 92 | P36/BUZ | | | NC |
| 93 | P37 | STAN | O | Standby signal |
| 94 | P90 | | | (Fixed to H) |
| 95 | P91 | | | |
| 96 | P92 | | | |
| 97 | P93 | | | |
| 98 | P94 | | | |
| 99 | P95 | | | |
| 100 | P96 | | | |

BLOCK DIAGRAM



1 ■ PRINTED CIRCUIT BOARD (Foil side)

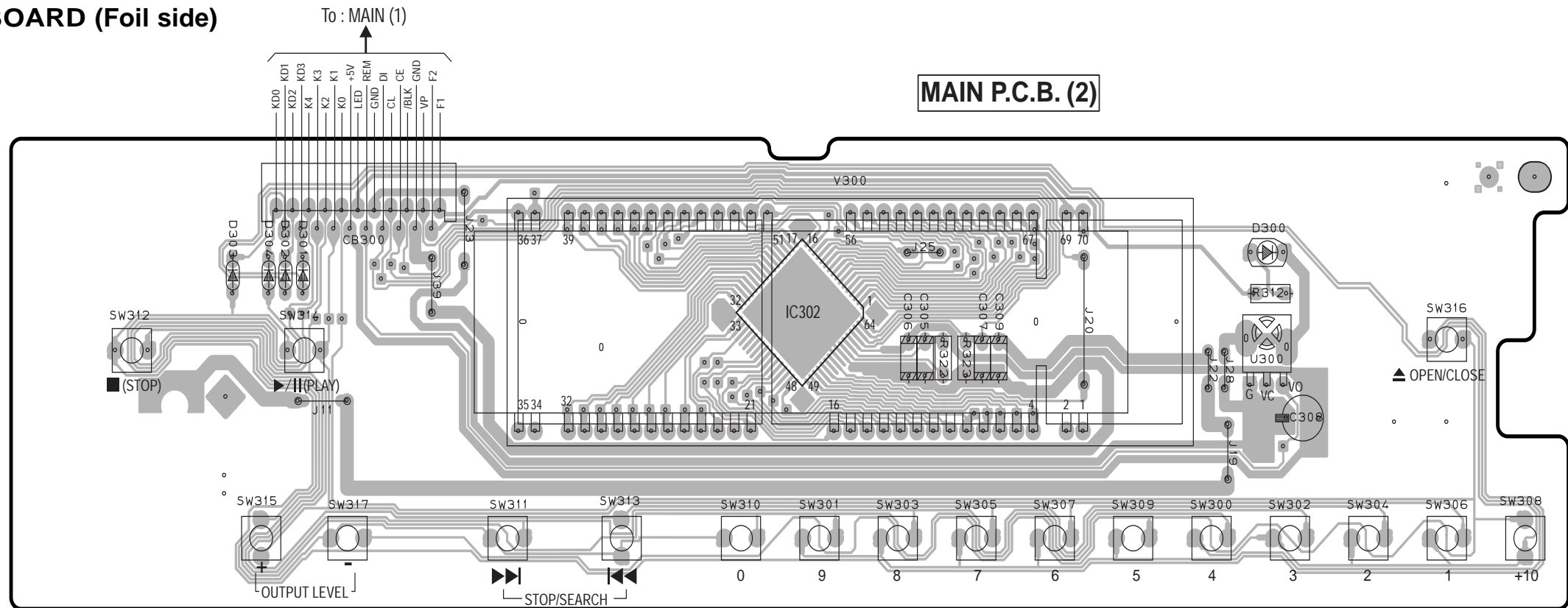


• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D100 | I3 |
| D101 | H3 |
| D200 | G5 |
| D201 | F5 |
| D202 | F5 |
| D203 | F6 |
| D204 | F5 |
| D205 | C6 |
| D206 | D5 |
| D207 | D6 |
| D209 | D5 |
| D210 | F5 |
| D211 | D5 |
| D212 | D6 |
| D213 | D6 |
| D214 | D6 |
| D215 | D6 |
| D216 | D3 |
| D217 | D6 |
| D218 | D7 |
| D219 | C6 |
| D221 | F6 |
| D222 | G4 |
| D223 | G4 |
| Q1 | C4 |
| Q3 | E3 |
| Q4 | D2 |
| Q5 | G5 |
| Q100 | F6 |
| Q101 | H6 |
| Q102 | G6 |
| Q103 | G6 |
| Q201 | F5 |
| Q202 | E5 |
| Q203 | E6 |
| Q204 | D3 |
| Q205 | C6 |
| Q300 | F2 |
| IC1 | D4 |
| IC2 | E3 |
| IC3 | F4 |
| IC100 | H3 |
| IC101 | H4 |
| IC102 | G5 |
| IC103 | H5 |
| IC104 | H2 |
| IC105 | D6 |
| IC200 | E5 |
| IC300 | G3 |
| IC301 | G4 |

1
2
3
4
5
6
7

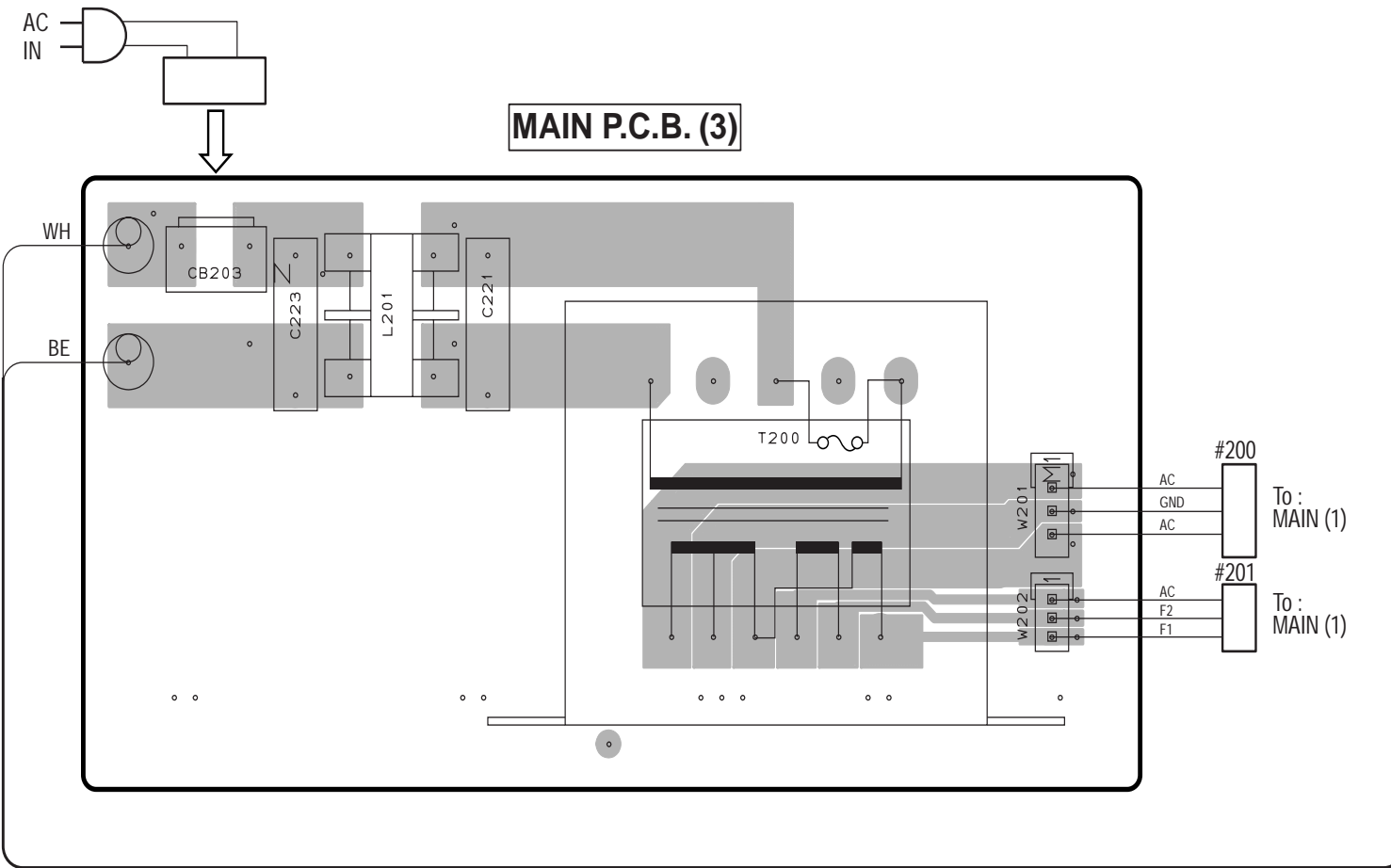
■ PRINTED CIRCUIT BOARD (Foil side)



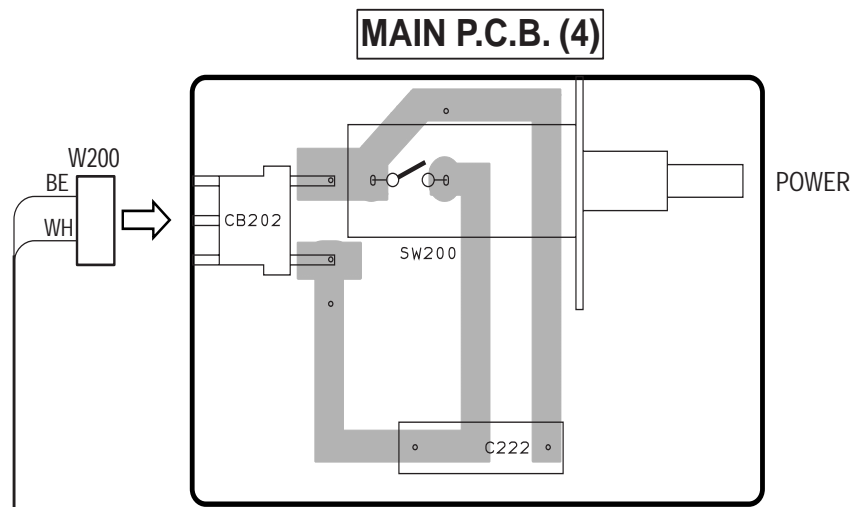
MAIN P.C.B. (2)

• Semiconductor Location

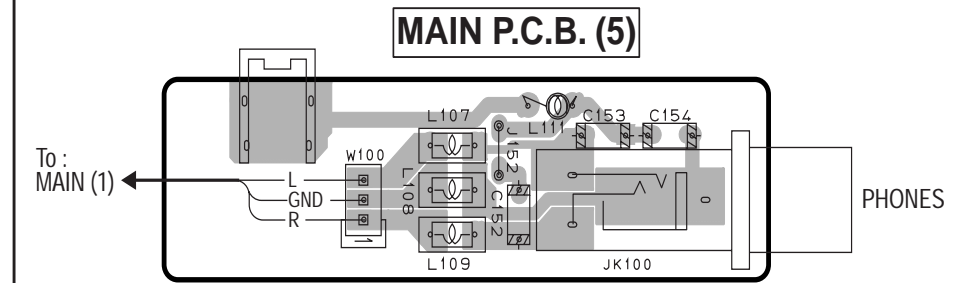
| Ref. No. | Location |
|----------|----------|
| D300 | H2 |
| D301 | D2 |
| D302 | D2 |
| D303 | C2 |
| D304 | C2 |
| IC302 | F2 |



MAIN P.C.B. (3)



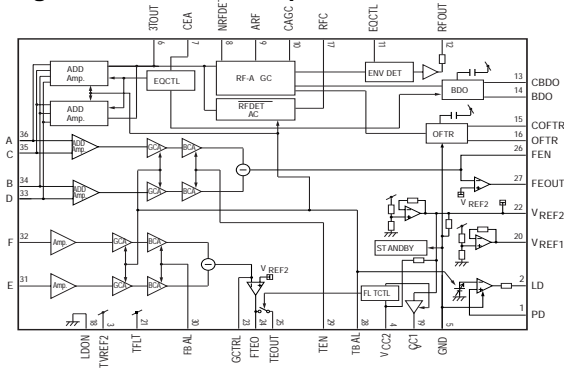
MAIN P.C.B. (4)



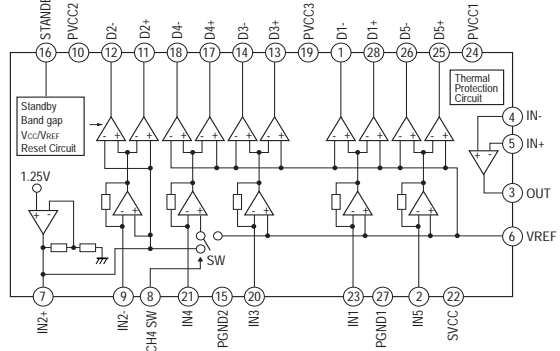
MAIN P.C.B. (5)

IC BLOCK

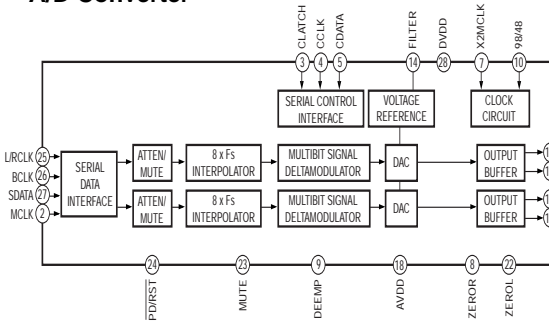
IC1 : AN8882SB
Digital Servo Head Amp



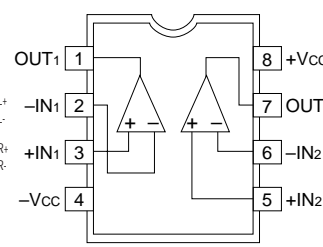
IC2 : AN8785SB
PU Driver



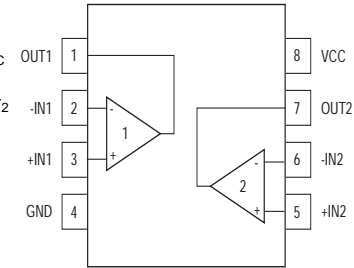
IC101:AD1854JRS
A/D Converter



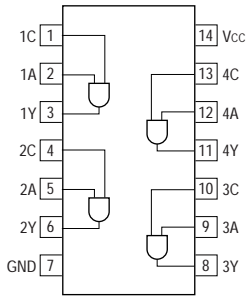
IC102, 103 : NJM5532D
Dual OP-Amp



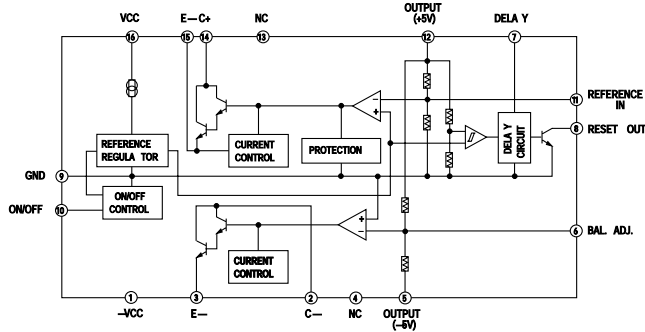
IC104 : BA15218
Dual OP-Amp



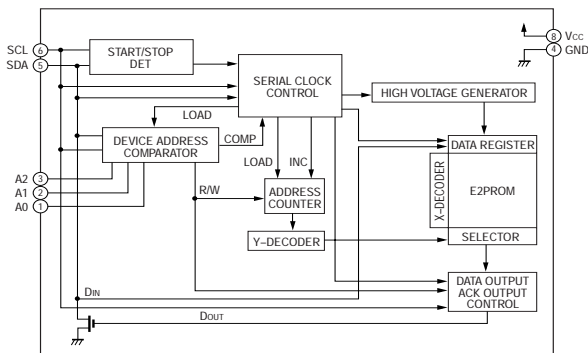
IC105: HD74HC00P
2-Input NAND



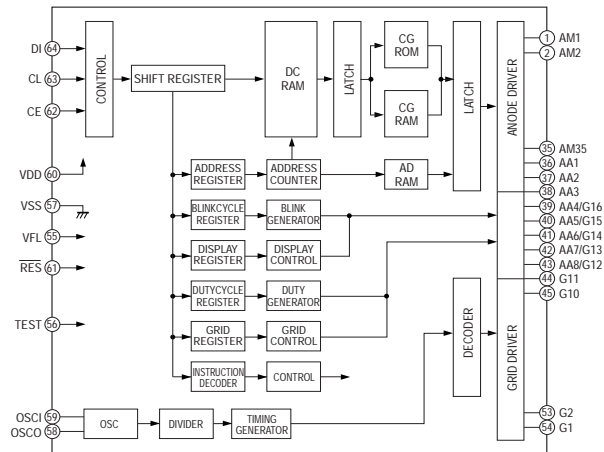
IC200 : M5290P
Constant-Voltage Tracking Supply with Reset



IC301 : S-24001ADP
EEPROM



IC302 : LC75711NE
FL Filter

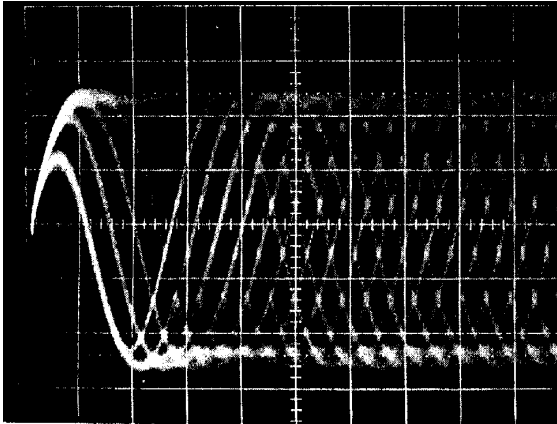


Other ICs

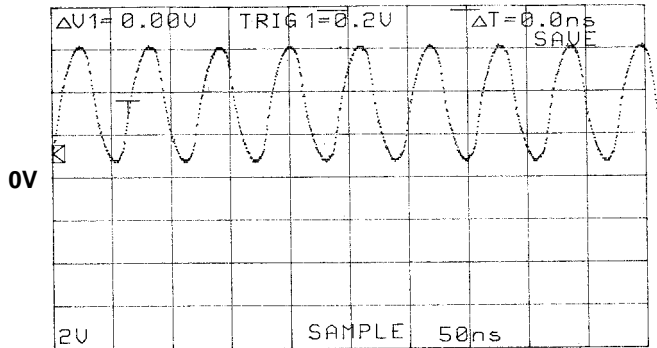
- IC3: See page 13.
- IC100: See page 12.
- IC300: See page 15.

■ WAVEFORMS

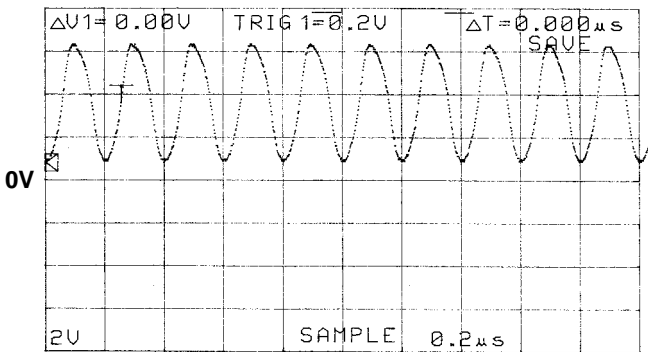
Point A (EFM : Pin10 of IC1)
 V : 0.2V/div H : 0.5 μ sec/div
 AC range 1 : 1 probe



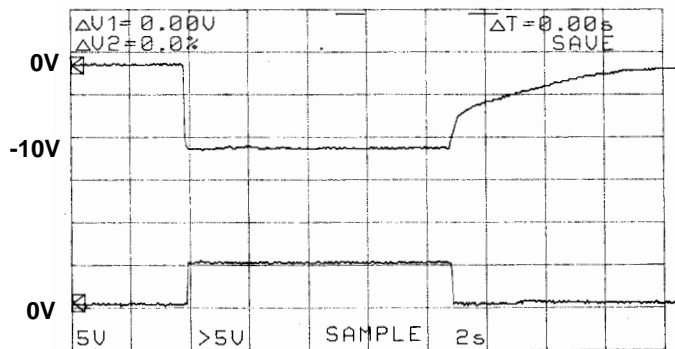
Point B (Pin59 of IC3)
 V : 1V/div H : 50 nsec/div
 DC range 1 : 1 probe



Point C (Pin10 of IC300)
 V : 2V/div H : 0.2 μ sec/div
 DC range 1 : 1 probe



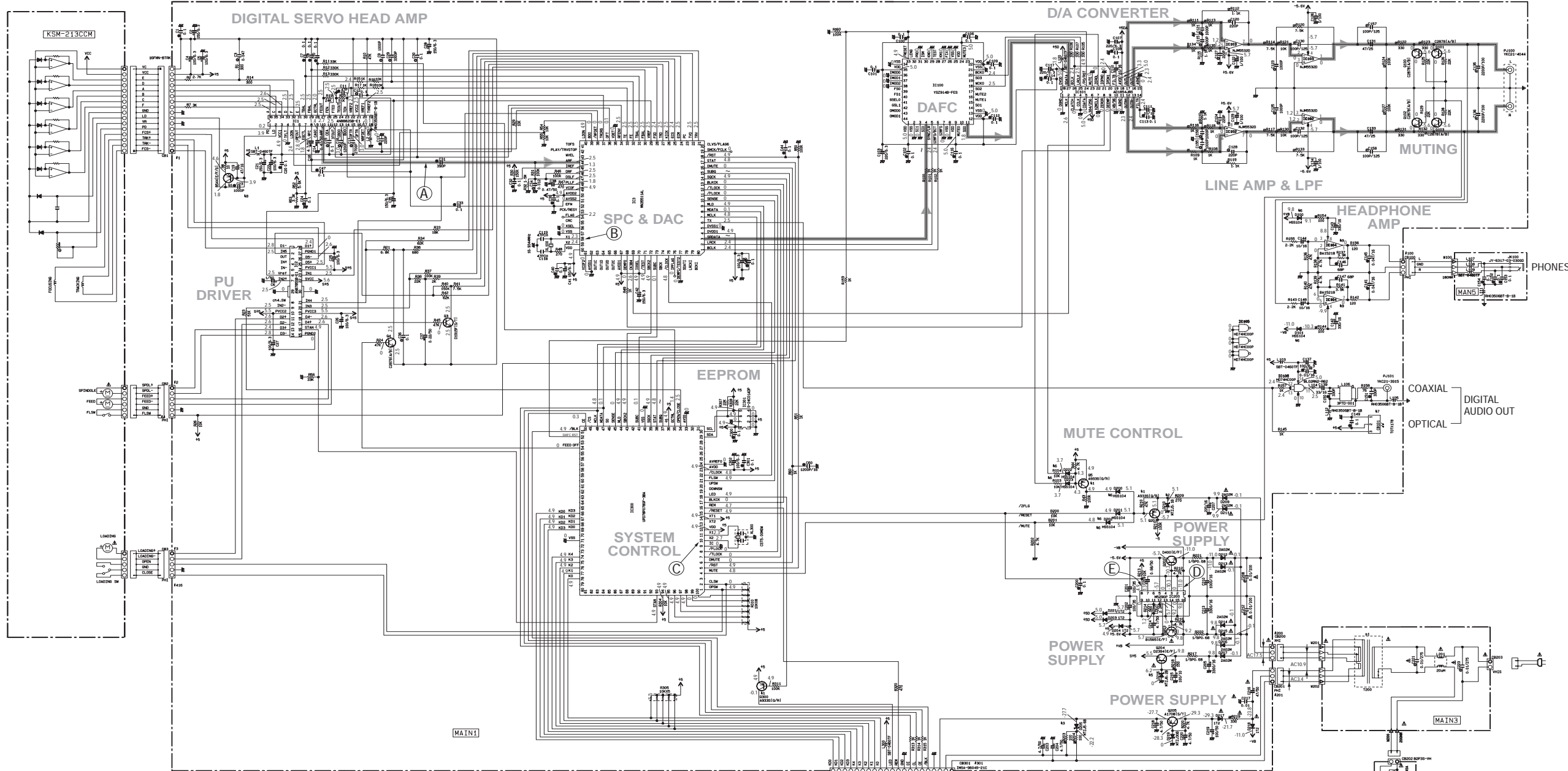
Point D (CH1 : Pin1 of IC200)
Point E (CH2 : Pin8 of IC200)
 V : 5V/div H : 2 sec/div
 DC range1 1 : probe



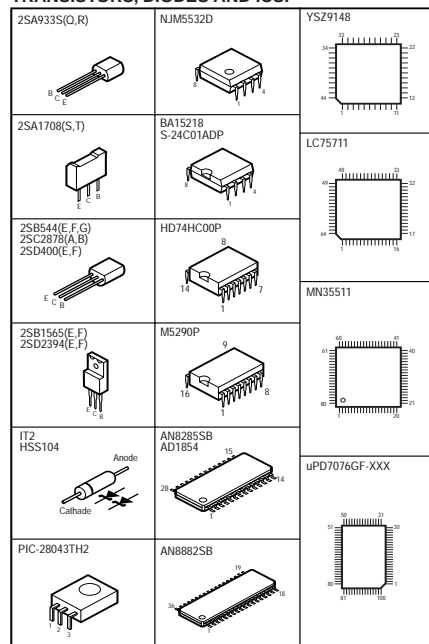
▲ With the POWER switch turned ON, connect the power cord to the AC outlet. ▲ Disconnect the power cord from the AC outlet.

{ This waveform is not available by pushing the power switch ON and OFF. }

SCHEMATIC DIAGRAM



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



CAPACITOR

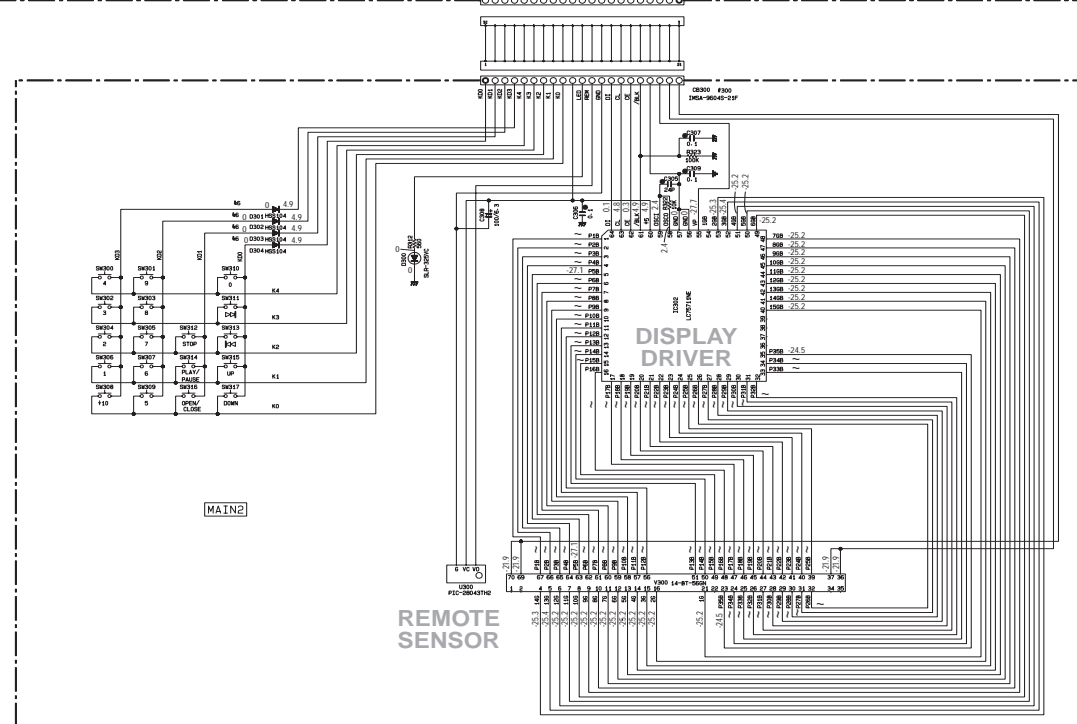
| REMARKS | PARTS NAME | UNIT |
|---------|----------------------------------|------|
| NO MARK | ELECTROLYTIC CAPACITOR | μF |
| ○ | TANTALUM CAPACITOR | μF |
| NO MARK | CERAMIC CAPACITOR | μF |
| ○ | CERAMIC TUNING CAPACITOR | μF |
| ○ | POLYESTER FILM CAPACITOR | μF |
| ○ | POLYSTYRENE FILM CAPACITOR | μF |
| ○ | MYLAR CAPACITOR | μF |
| ○ | POLYPROPYLENE FILM CAPACITOR | μF |
| ■ | SEMICONDUCTIVE CERAMIC CAPACITOR | μF |

RESISTOR

| REMARKS | PARTS NAME | UNIT |
|---------|--------------------------------|------|
| NO MARK | CARBON FILM RESISTOR (F/P/S) | Ω |
| ○ | CARBON FILM RESISTOR (F/P/S) | Ω |
| △ | METAL FILM RESISTOR | Ω |
| ○ | METAL FILM RESISTOR | Ω |
| ○ | METAL PLATE RESISTOR | Ω |
| ○ | FINE GRID CARBON FILM RESISTOR | Ω |
| ○ | CEMENT MOUNTED RESISTOR | Ω |
| ○ | TEMP. VARIABLE RESISTOR | Ω |
| ■ | CHIP RESISTOR | Ω |

NOTICE (code 1)

(J)..... JAPANESE
 (U)..... U. S. A.
 (C)..... CANADIAN
 (R)..... GENERAL
 (A)..... AUSTRALIAN
 (B)..... BRITISH
 (G)..... EUROPEAN
 (T)..... TAIWANESE
 (L)..... SINGAPORE



Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number | Parts Name |
|------|---------------------------------------|--|
| 41 | 05-201-300 | 2SA933S(G/R) 2SA1115(E/F) 2SA1309A(G/R/S) |
| 42 | D210 | MTZJ5-1B HZ50C1 |
| 43 | D205 | MTZJ5-6B HZ56A3 |
| 44 | | |
| 45 | D216 | MTZJ6-2B HZ52C2 |
| 46 | D100, 101, 200-202, 222, 223, 230-304 | HS304 ISS133 ISS136 T0147B GP1735 T0147BA |
| 47 | CB104 | 2SB644(E/F/G) 2SA934(F/G/R) |
| 48 | Q1 | 2SB644(E/F/G) 2SA934(F/G/R) |
| 49 | IC104 | BA15218 H5218AP |
| 410 | | |

| 5 | J | A | B-G |
|---|------|-------|----------------|
| 1 | T200 | XY0B2 | XY0B3 XY0B4 |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

* All voltages are measured with a 10M/DC electric volt meter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the part Nos. of the carbon resistors, refer to the last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

| | | | |
|------------|--------------------------------|------------|--------------------------------|
| C.A.EL.CHP | : CHIP ALUMI. ELECTROLYTIC CAP | L.EMIT | : LIGHT EMITTING MODULE |
| C.CE | : CERAMIC CAP | LED.DSPLY | : LED DISPLAY |
| C.CE.ARRAY | : CERAMIC CAP ARRAY | LED.INFRD | : LED, INFRARED |
| C.CE.CHP | : CHIP CERAMIC CAP | MODUL.RF | : MODULATOR, RF |
| C.CE.ML | : MULTILAYER CERAMIC CAP | PHOT.CPL | : PHOTO COUPLER |
| C.CE.M.CHP | : CHIP MULTILAYER CERAMIC CAP | PHOT.INTR | : PHOTO INTERRUPTER |
| C.CE.SAFTY | : RECOGNIZED CERAMIC CAP | PHOT.RFLCT | : PHOTO REFLECTOR |
| C.CE.TUBLR | : CERAMIC TUBULAR CAP | PIN.TEST | : PIN, TEST POINT |
| C.CE.SMI | : SEMI CONDUCTIVE CERAMIC CAP | PLST.RIVET | : PLASTIC RIVET |
| C.EL | : ELECTROLYTIC CAP | R.ARRAY | : RESISTOR ARRAY |
| C.MICA | : MICA CAP | R.CAR | : CARBON RESISTOR |
| C.ML.FLM | : MULTILAYER FILM CAP | R.CAR.CHP | : CHIP RESISTOR |
| C.MP | : METALLIZED PAPER CAP | R.CAR.FP | : FLAME PROOF CARBON RESISTOR |
| C.MYLAR | : MYLAR FILM CAP | R.FUS | : FUSABLE RESISTOR |
| C.MYLAR.ML | : MULTILAYER MYLAR FILM CAP | R.MTL.CHP | : CHIP METAL FILM RESISTOR |
| C.PAPER | : PAPER CAPACITOR | R.MTL.FLM | : METAL FILM RESISTOR |
| C.PLS | : POLYSTYRENE FILM CAP | R.MTL.OXD | : METAL OXIDE FILM RESISTOR |
| C.POL | : POLYESTER FILM CAP | R.MTL.PLAT | : METAL PLATE RESISTOR |
| C.POLY | : POLYETHYLENE FILM CAP | RSNR.CE | : CERAMIC RESONATOR |
| C.PP | : POLYPROPYLENE FILM CAP | RSNR.CRYS | : CRYSTAL RESONATOR |
| C.TNTL | : TANTALUM CAP | R.TW.CEM | : TWIN CEMENT FIXED RESISTOR |
| C.TNTL.CHP | : CHIP TANTALUM CAP | R.WW | : WIRE WOUND RESISTOR |
| C.TRIM | : TRIMMER CAP | SCR.BND.HD | : BIND HEAD B-TITE SCREW |
| CN | : CONNECTOR | SCR.BW.HD | : BW HEAD TAPPING SCREW |
| CN.BS.PIN | : CONNECTOR, BASE PIN | SCR.CUP | : CUP TITE SCREW |
| CN.CANNON | : CONNECTOR, CANNON | SCR.TERM | : SCREW TERMINAL |
| CN.DIN | : CONNECTOR, DIN | SCR.TR | : SCREW, TRANSISTOR |
| CN.FLAT | : CONNECTOR, FLAT CABLE | SUPRT.PCB | : SUPPORT, P.C.B. |
| CN.POST | : CONNECTOR, BASE POST | SURG.PRTCT | : SURGE PROTECTOR |
| COIL.MX.AM | : COIL, AM MIX | SW.TACT | : TACT SWITCH |
| COIL.AT.FM | : COIL, FM ANTENNA | SW.LEAF | : LEAF SWITCH |
| COIL.DT.FM | : COIL, FM DETECT | SW.LEVER | : LEVER SWITCH |
| COIL.MX.FM | : COIL, FM MIX | SW.MICRO | : MICRO SWITCH |
| COIL.OUTPT | : OUTPUT COIL | SW.PUSH | : PUSH SWITCH |
| DIOD.ARRAY | : DIODE ARRAY | SW.RT.ENC | : ROTARY ENCODER |
| DIODE.BRG | : DIODE BRIDGE | SW.RT.MTR | : ROTARY SWITCH WITH MOTOR |
| DIODE.CHP | : CHIP DIODE | SW.RT | : ROTARY SWITCH |
| DIODE.VAR | : VARACTOR DIODE | SW.SLIDE | : SLIDE SWITCH |
| DIOD.Z.CHP | : CHIP ZENER DIODE | TERM.SP | : SPEAKER TERMINAL |
| DIODE.ZENR | : ZENER DIODE | TERM.WRAP | : WRAPPING TERMINAL |
| DSCR.CE | : CERAMIC DISCRIMINATOR | THRMST.CHP | : CHIP THERMISTOR |
| FER.BEAD | : FERRITE BEADS | TR.CHP | : CHIP TRANSISTOR |
| FER.CORE | : FERRITE CORE | TR.DGT | : DIGITAL TRANSISTOR |
| FET.CHP | : CHIP FET | TR.DGT.CHP | : CHIP DIGITAL TRANSISTOR |
| FL.DSPLY | : FLUORESCENT DISPLAY | TRANS | : TRANSFORMER |
| FLTR.CE | : CERAMIC FILTER | TRANS.PULS | : PULSE TRANSFORMER |
| FLTR.COMB | : COMB FILTER MODULE | TRANS.PWR | : POWER TRANSFORMER ASS'y |
| FLTR.LC.RF | : LC FILTER ,EMI | TUNER.AM | : TUNER PACK, AM |
| GND.MTL | : GROUND PLATE | TUNER.FM | : TUNER PACK, FM |
| GND.TERM | : GROUND TERMINAL | TUNER.PK | : FRONT-END TUNER PACK |
| HOLDER.FUS | : FUSE HOLDER | VR | : ROTARY POTENTIOMETER |
| IC.PRTCT | : IC PROTECTOR | VR.MTR | : POTENTIOMETER WITH MOTOR |
| JUMPER.CN | : JUMPER CONNECTOR | VR.SW | : POTENTIOMETER WITH ROTARY SW |
| JUMPER.TST | : JUMPER, TEST POINT | VR.SLIDE | : SLIDE POTENTIOMETER |
| L.DTCT | : LIGHT DETECTING MODULE | VR.TRIM | : TRIMMER POTENTIOMETER |

Note) Those parts marked with “#” are not included in the P.C.B. ass'y.

| Schm | | | |
|------|----------|-------------|-----------------------|
| Ref. | PART NO. | Description | |
| * | V5004600 | P.C.B. | MAIN(A) |
| * | V5004700 | P.C.B. | MAIN(BG) |
| | CB1 | V2731000 | CN.FMN 16P |
| | CB2 | VB390200 | CN.BS.PIN 6P |
| | CB3 | VB390100 | CN.BS.PIN 5P |
| | CB100 | VB389900 | CN.BS.PIN 3P |
| | CB101 | VT707200 | L.EMIT TOTX178 |
| △ | CB200 | VL844700 | CN.BS.PIN 3P |
| | CB201 | VB389900 | CN.BS.PIN 3P |
| △ | CB202 | VP245600 | CN 2P |
| △ | CB203 | VG879900 | CN.BS.PIN 2P |
| * | CB300 | VU282100 | CN 21P |
| * | CB301 | VU272100 | CN 21P |
| | C1 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| * | C2 | V4749000 | C.EL 150uF 6.3V |
| | C3 | UA954470 | C.MYLAR 0.047uF 50V |
| | C4 | UR818100 | C.EL 100uF 6.3V |
| | C5 | UR818100 | C.EL 100uF 6.3V |
| | C6 | UR866100 | C.EL 1uF 50V |
| | C7 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C8 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C9 | UA953100 | C.MYLAR 1000pF 50V |
| | C10 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C11 | VF466700 | C.CE.TUBLR 47pF 50V |
| | C12 | UA655100 | C.MYLAR 0.1uF 50V |
| | C13 | VG278400 | C.CE.TUBLR 220pF 50V |
| | C14 | UN865470 | C.EL 0.47uF 50V |
| | C15 | UA655100 | C.MYLAR 0.1uF 50V |
| | C16 | UA953120 | C.MYLAR 1200pF 50V |
| | C17 | UA953270 | C.MYLAR 2700pF 50V |
| | C18 | UN866470 | C.EL 4.7uF 50V |
| | C19 | UR837470 | C.EL 47uF 16V |
| | C20 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| * | C21 | V4749000 | C.EL 150uF 6.3V |
| | C22 | UR818100 | C.EL 100uF 6.3V |
| | C23 | VF467000 | C.CE.TUBLR 1000pF 50V |
| | C24 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C25 | UR818100 | C.EL 100uF 6.3V |
| | C26 | UR818100 | C.EL 100uF 6.3V |
| | C27 | UR818100 | C.EL 100uF 6.3V |
| * | C28 | V4749000 | C.EL 150uF 6.3V |
| | C29 | UA953330 | C.MYLAR 3300pF 50V |
| | C30 | UA655100 | C.MYLAR 0.1uF 50V |
| | C31 | VG278700 | C.CE.TUBLR 390pF 50V |
| | C32 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C33 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C34 | UA954120 | C.MYLAR 0.012uF 50V |
| * | C35 | V4749000 | C.EL 150uF 6.3V |
| | C36 | UA655100 | C.MYLAR 0.1uF 50V |
| * | C37 | UN865220 | C.EL 0.22uF 50V |
| | C38 | UA655100 | C.MYLAR 0.1uF 50V |
| | C39 | VJ599100 | C.CE.TUBLR 0.1uF 50V |
| | C40 | VJ599100 | C.CE.TUBLR 0.1uF 50V |

* New Parts

| Schm | | | | |
|------|----------|-------------|------------|-------------|
| Ref. | PART NO. | Description | | |
| * | C41 | V4749000 | C.EL | 150uF 6.3V |
| * | C42 | V4749000 | C.EL | 150uF 6.3V |
| | C44 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C45 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C46 | UR818100 | C.EL | 100uF 6.3V |
| | C47 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C60 | VG279100 | C.CE.TUBLR | 1200pF 16V |
| | C100 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C101 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C102 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * | C103 | VH619100 | C.EL | 220uF 6.3V |
| | C106 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * | C107 | VH619100 | C.EL | 220uF 6.3V |
| | C108 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C109 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C110 | VG287200 | C.EL | 10uF 50V |
| | C111 | VG287200 | C.EL | 10uF 50V |
| | C112 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C113 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| | C114 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * | C115 | Vi715500 | C.MYLAR | 1000pF 50V |
| | C116 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * | C117 | VE016600 | C.EL | 220uF 6.3V |
| | C118 | VA761400 | C.CE | 47pF 50V |
| | C119 | VA761400 | C.CE | 47pF 50V |
| * | C120 | VQ462600 | C.MYLAR | 220pF 50V |
| * | C121 | Vi715500 | C.MYLAR | 1000pF 50V |
| | C122 | VQ572600 | C.EL | 1uF 100V |
| * | C123 | V2508400 | C.MYLAR | 1000pF 50V |
| * | C124 | VQ462600 | C.MYLAR | 220pF 50V |
| * | C125 | V2508400 | C.MYLAR | 1000pF 50V |
| | C126 | VQ572600 | C.EL | 1uF 100V |
| * | C127 | VQ462600 | C.MYLAR | 220pF 50V |
| * | C128 | VQ462600 | C.MYLAR | 220pF 50V |
| | C129 | VQ572600 | C.EL | 1uF 100V |
| * | C130 | UT552100 | C.PP | 100pF 125V |
| * | C131 | VQ562000 | C.EL | 47uF 25V |
| * | C132 | UT552100 | C.PP | 100pF 125V |
| * | C133 | VQ562000 | C.EL | 47uF 25V |
| | C134 | VQ572600 | C.EL | 1uF 100V |
| | C135 | VL883800 | C.PP | 2200pF 100V |
| | C136 | VL883800 | C.PP | 2200pF 100V |
| | C137 | UR818100 | C.EL | 100uF 6.3V |
| | C138 | VF467300 | C.CE.TUBLR | 0.01uF 16V |
| | C139 | UR837330 | C.EL | 33uF 16V |
| | C141 | VJ599000 | C.CE.TUBLR | 0.047uF 16V |
| | C142 | UR838330 | C.EL | 330uF 16V |
| | C143 | UR838330 | C.EL | 330uF 16V |
| | C144 | UR837100 | C.EL | 10uF 16V |
| | C145 | VJ599000 | C.CE.TUBLR | 0.047uF 16V |
| | C146 | VG277700 | C.CE.TUBLR | 68pF 50V |
| | C147 | VG277700 | C.CE.TUBLR | 68pF 50V |
| | C148 | UR837100 | C.EL | 10uF 16V |

* New Parts

CDX-596

| Schm | | | |
|--------|----------|-------------|-------------------|
| Ref. | PART NO. | Description | |
| C149 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C150 | VG278600 | C.CE.TUBLR | 330pF 50V |
| C151 | VG278600 | C.CE.TUBLR | 330pF 50V |
| C152 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C153 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C154 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * C155 | Vi715500 | C.MYLAR | 1000pF 50V |
| * C156 | Vi715500 | C.MYLAR | 1000pF 50V |
| * C157 | UT552100 | C.PP | 100pF 125V |
| * C158 | UT552100 | C.PP | 100pF 125V |
| C200 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| * C201 | VN011900 | C.EL | 100uF 35V |
| * C202 | VN011900 | C.EL | 100uF 35V |
| C203 | UR866470 | C.EL | 4.7uF 50V |
| C204 | UR866470 | C.EL | 4.7uF 50V |
| * C205 | VG288200 | C.EL | 3300uF 16V |
| C207 | UR838220 | C.EL | 220uF 16V |
| C208 | VK534100 | C.PP | 0.01uF 100V |
| △ C209 | UR865680 | C.EL | 0.68uF 50V |
| * C210 | VN137400 | C.EL | 1000uF 16V |
| △ C212 | VK534100 | C.PP | 0.01uF 100V |
| * C213 | V5421400 | C.EL | 3300uF 25V |
| C214 | UR866470 | C.EL | 4.7uF 50V |
| C215 | UR828100 | C.EL | 100uF 10V |
| △ C216 | UR867470 | C.EL | 47uF 50V |
| △ C217 | FG644100 | C.CE | 0.01uF 50V |
| C218 | UR866470 | C.EL | 4.7uF 50V |
| C219 | UR868100 | C.EL | 100uF 50V |
| C220 | UR866470 | C.EL | 4.7uF 50V |
| △ C221 | VS741700 | C.CE.SAFTY | 0.01uF 275V |
| △ C222 | VS741700 | C.CE.SAFTY | 0.01uF 275V |
| △ C223 | VS741700 | C.CE.SAFTY | 0.01uF 275V |
| C300 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C301 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C302 | UR818100 | C.EL | 100uF 6.3V |
| C305 | VG276700 | C.CE.TUBLR | 24pF 50V |
| C306 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C307 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| C308 | UM388100 | C.EL | 100uF 10V |
| C309 | VJ599100 | C.CE.TUBLR | 0.1uF 50V |
| D100 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D101 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D200 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D201 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D202 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D203 | VS997800 | DIODE | 1T2 |
| D204 | VS997800 | DIODE | 1T2 |
| D205 | VG437700 | DIODE.ZENR | MTZJ5.6B 5.6V |
| D206 | VV731400 | DIODE | 2A02M |
| D207 | VV731400 | DIODE | 2A02M |
| △ D209 | VV731400 | DIODE | 2A02M |
| D210 | VG437400 | DIODE.ZENR | MTZJ5.1B 5.1V |
| △ D211 | VV731400 | DIODE | 2A02M |

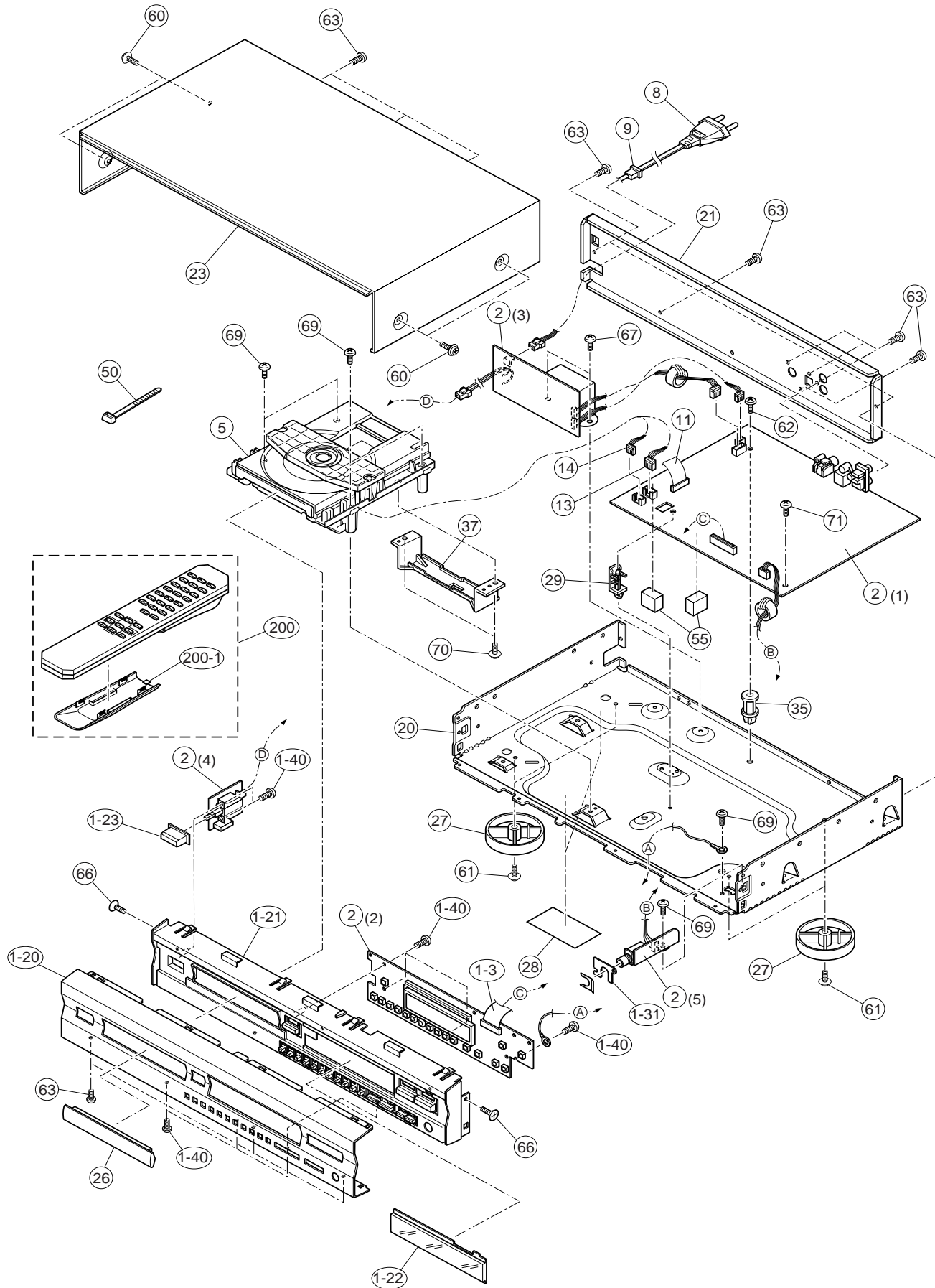
* New Parts

| Schm | | | |
|---------|----------|-------------|--------------------|
| Ref. | PART NO. | Description | |
| D212 | VV731400 | DIODE | 2A02M |
| D213 | VV731400 | DIODE | 2A02M |
| △ D214 | VV731400 | DIODE | 2A02M |
| △ D215 | VV731400 | DIODE | 2A02M |
| D216 | VG438000 | DIODE.ZENR | MTZJ6.2B 6.2V |
| △ D217 | VS997800 | DIODE | 1T2 |
| △ D218 | VS997800 | DIODE | 1T2 |
| D219 | VG443300 | DIODE.ZENR | MTZJ30B 30V |
| D221 | VS997800 | DIODE | 1T2 |
| D222 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D223 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D300 | VS132300 | LED(re) | SLR-325VCT31 |
| D301 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D302 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D303 | VD631600 | DIODE | 1SS133,176,HSS104 |
| D304 | VD631600 | DIODE | 1SS133,176,HSS104 |
| HS201 | VR506800 | HEAT.SINK | PUH16-25 |
| HS202 | Vi835500 | HEAT.SINK | PH-0124S-B |
| * IC1 | XW249A00 | IC | AN8882SB |
| * IC2 | XW244A00 | IC | AN8785SB |
| * IC3 | XW915A00 | IC | MN35511AL |
| * IC100 | XY080A00 | IC | YS2914B-F |
| * IC101 | XY108A00 | IC | AD1854JRS |
| IC102 | iG142800 | IC | NJM5532D |
| IC103 | iG142800 | IC | NJM5532D |
| IC104 | Xi249A00 | IC | BA15218 |
| IC105 | iR000010 | IC | HD74HC00P 2INN AND |
| IC200 | XD201A00 | IC | M5290P |
| * IC300 | XW823A00 | IC.CPU | uPD78076GF-088 CPU |
| IC301 | XS070A00 | IC | S-24C01ADP EEPROM |
| IC302 | XV633A00 | IC | LC75711NE FLD |
| JK100 | V2700900 | JACK.PHONE | JY-6317-03-030GD |
| L1 | VD473700 | COIL | 60uH |
| L2 | V4769500 | FER.BEAD | RH03506BT-B-1B |
| L103 | VD473700 | COIL | 60uH |
| L104 | VB871100 | FER.BEAD | BL02RN2-R62 |
| L105 | V4769500 | FER.BEAD | RH03506BT-B-1B |
| L106 | Vi530800 | TRANS.PULS | 3PTD-001 |
| L107 | VD473700 | COIL | 60uH |
| L108 | VD473700 | COIL | 60uH |
| L109 | VD473700 | COIL | 60uH |
| L110 | Vi491100 | FER.CORE | BP53RB19012080M |
| L111 | V4769500 | FER.BEAD | RH03506BT-B-1B |
| L112 | V4769500 | FER.BEAD | RH03506BT-B-1B |
| L120 | VD473700 | COIL | 60uH |
| △ L201 | VV900900 | FLTR | 3071-012-0 |
| L300 | VD473700 | COIL | 60uH |
| * PJ100 | V4925200 | JACK.PIN | 2P |
| PJ101 | V2283400 | JACK.PIN | 1P |
| Q1 | iB054430 | TR | 2SB544 D,E,F,G |
| Q3 | VK432900 | TR | 2SD1915F S,T |
| Q4 | iC287820 | TR | 2SC2878 A,B |
| Q5 | iA093320 | TR | 2SA933S Q,R |

* New Parts

CDX-596

EXPLODED VIEW



MECHANICAL PARTS

| Ref. No. | PART NO. | Description | Remarks | Markets |
|----------|----------|-----------------------------|-----------------|---------|
| 1-3 | MF121160 | FLEXIBLE FLAT CABLE | 21P 160mm | |
| * 1-20 | V4210800 | FRONT PANEL | | BL |
| * 1-20 | V4210900 | FRONT PANEL | | TI |
| * 1-20 | V4411100 | FRONT PANEL | | GD |
| * 1-21 | V4211000 | PANEL, SUB | | BL |
| * 1-21 | V4211100 | PANEL, SUB | | TI |
| * 1-21 | V4413900 | PANEL, SUB | | GD |
| * 1-22 | V4210600 | WINDOW PANEL, LID | | |
| 1-23 | V0068200 | BUTTON | | GD |
| 1-23 | VZ494400 | BUTTON | 11x22 | BL |
| 1-23 | VZ494500 | BUTTON | 11x22 | TI |
| 1-31 | V2668300 | SUPPORT, HP | | |
| 1-40 | EP630290 | BIND HEAD P-TITE SCREW | 3x6 FCRM3-BL | |
| * 2 | V5004600 | P.C.B. ASS'Y | MAIN | (A) |
| * 2 | V5004700 | P.C.B. ASS'Y | MAIN | (BG) |
| 5 | VZ573200 | CD MECHANISM UNIT | KSL-2130CCM | |
| △ 8 | V2296800 | POWER CORD ASS'Y | | (A) |
| △ 8 | VN363700 | POWER CORD ASS'Y | | (G) |
| △ 8 | VV437300 | POWER CORD ASS'Y | | (B) |
| 9 | V2438700 | CORD STOPPER | #10P1 | |
| 11 | V5343800 | CONNECTOR, FLAT CABLE | 16P 260mm | |
| 13 | MF706100 | CONNECTOR ASS'Y | 6P 100mm | |
| 14 | MF705100 | CONNECTOR ASS'Y | 5P 100mm | |
| 20 | VZ151800 | CHASSIS, MAIN | ALL | |
| * 21 | V4410900 | REAR PANEL | | (BG) |
| * 21 | V4629800 | REAR PANEL | | (A) |
| 23 | V3081200 | TOP COVER | | GD |
| 23 | VZ151900 | TOP COVER | | BL |
| 23 | VZ152000 | TOP COVER | | TI |
| * 26 | V4200800 | LID, CDX | | BL |
| * 26 | V4200900 | LID, CDX | | TI |
| * 26 | V4411200 | LID, CDX | | GD |
| 27 | V0049900 | LEG | D60xH16 | GD |
| 27 | VQ780300 | LEG | D60xH16 | BL, TI |
| 28 | VS037900 | SHEET, TRAY | B | |
| 29 | V3205000 | CARD EDGE SPACER | KGES-18 | |
| 35 | VU981200 | SUPPORT, P.C.B.No. 3596 | | |
| 37 | VZ262200 | SUPPORT | PU | |
| 50 | VU590000 | BINDING TIE | CBTD001B | |
| 55 | V2113100 | SPACER | | |
| 60 | 21991500 | PW HEAD S-TITE SCREW | 4x8-10 FCRM3-BL | BL |
| 60 | VD069600 | PW HEAD S-TITE SCREW | 4x8-10 MFNI-33 | GD |
| 60 | VH313200 | BW HEAD S-TITE SCREW | 4x8-10 FNM3-BL | TI |
| 61 | EP600250 | BIND HEAD B-TITE SCREW | 3x8 ZMC2-Y | |
| 62 | EP630640 | BIND HEAD P-TITE SCREW | 3x20 FCRM3-BL | |
| 63 | VN413300 | BIND HEAD BONDING B-T.SCREW | 3x8 MFZN2-BL | |
| 66 | EP630400 | FLAT HEAD B-TITE SCREW | 3x6 FCRM3-BL | |
| 67 | V2728500 | BIND HEAD S-TITE SCREW | 4x7 MFZN2-BL | |
| 69 | EP600830 | BIND HEAD B-TITE SCREW | 3x8 FCRM3-BL | |
| 70 | V2128100 | PW HEAD S-TITE SCREW | 3x12-8 MFZN2-Y | |
| 71 | VT669300 | PW HEAD B-TITE SCREW | 3x8-8 MFC2 | |
| | | ACCESSORIES | | |
| * 200 | V4926000 | REMOTE CONTROL TRANSMITTER | CDX4 | |
| 200-1 | AAK13340 | LID | BLJYE 60050001 | |
| | VS381600 | PIN-PLUG CORD | 2P 1.0m | |
| | | BATTERY, MANGANESE | SUM-3, AA, R06 | |

* New Parts

1

■ EXPLODED VIEW (CD Mechanism Unit)

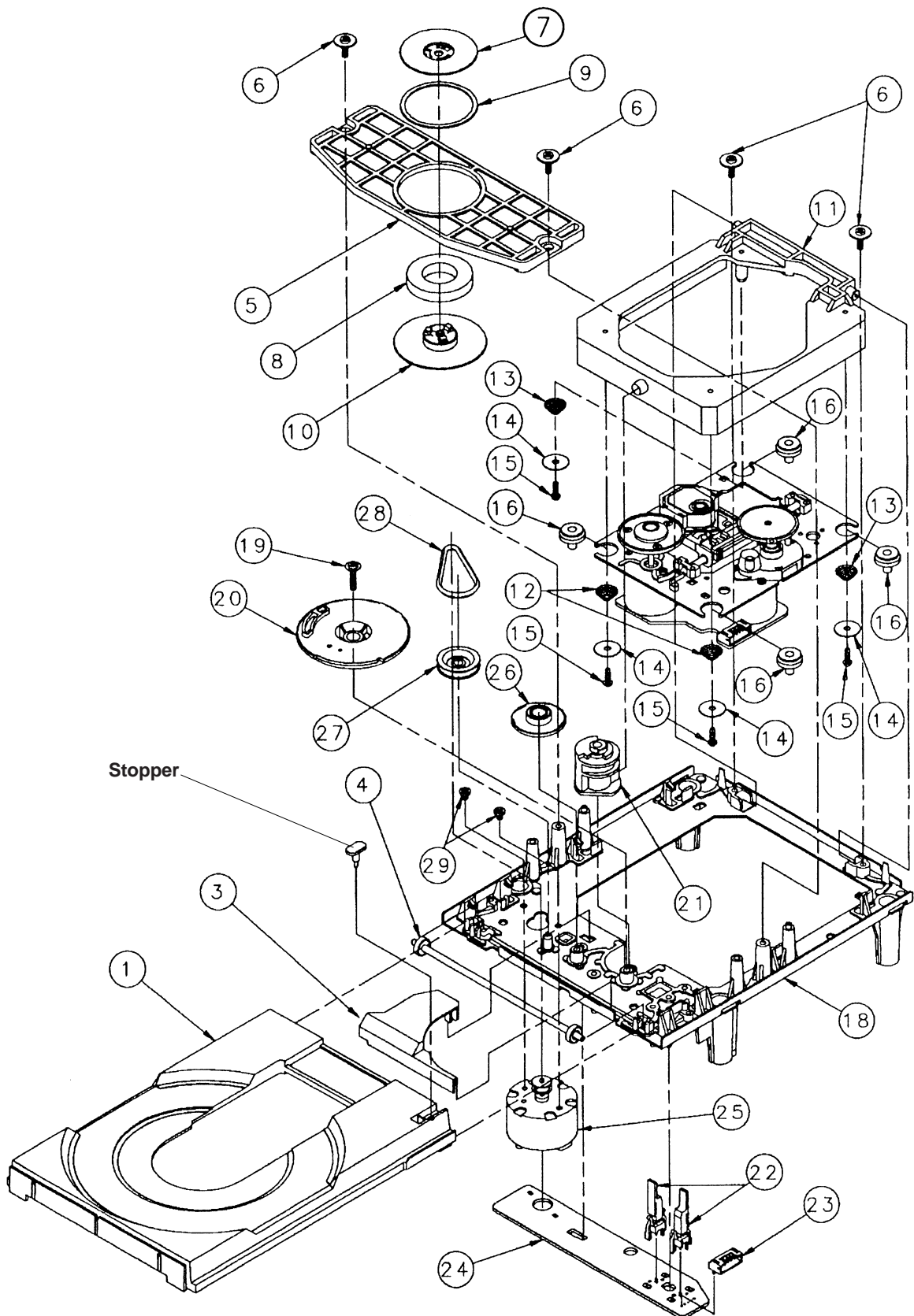
2

3

4

5

6



Stopper

7

* The stopper is not supplied with the tray as a spare part.

When replacing the tray, keep the removed stopper and reuse it.

Should it be lost and a new one be necessary, order service part ⑱ Main Chassis (S) and remove the stopper only from it and use it as a spare part.

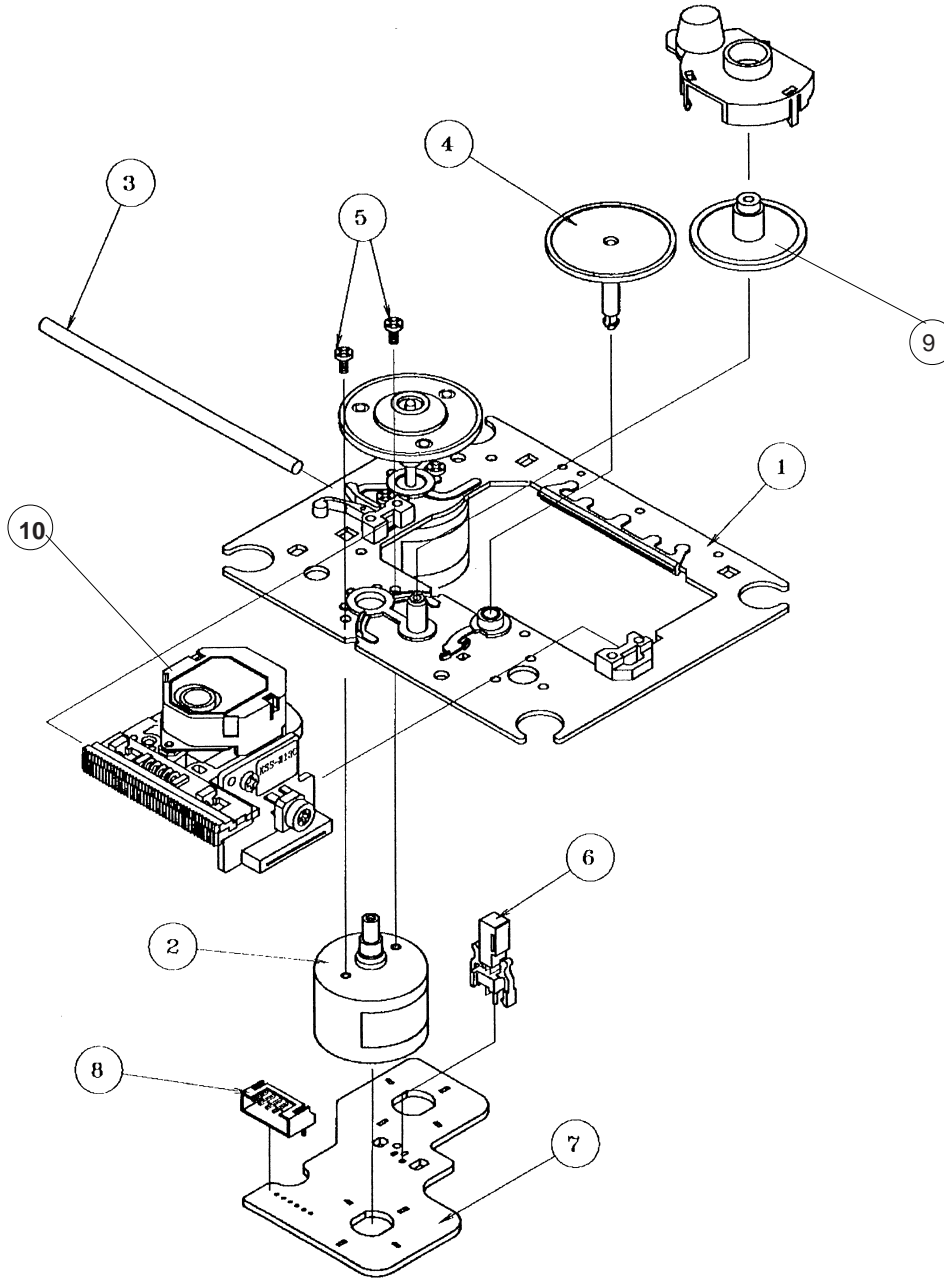
MECHANICAL PARTS (CD Mechanism Unit)

| Ref. No. | PART NO. | Description | Remarks | Markets |
|----------|----------|---------------------------|-------------|-----------|
| | VZ573200 | CD MECHANISM UNIT | KSL-2130CCM | |
| 1 | CX680620 | TRAY (C) | 2130 | 264629001 |
| 3 | CX675250 | GEAR COVER (S) | | 262554401 |
| 4 | CX675210 | TRAY GEAR (S) | | 262553501 |
| 5 | AX619150 | CHUCKING PLATE (S) | | 262554601 |
| 6 | EX602890 | BW HEAD P-TITE SCREW | 2.6x7 | 262629401 |
| 7 | BX602660 | CHUCKING YOKE (S) | | 262553701 |
| 8 | NX610570 | MAGNET ASS'Y | | 145249321 |
| 9 | CX675240 | DAMPER (S) | | 262554102 |
| 10 | NX636010 | CHUCKING PULLEY | | 264629101 |
| 11 | AX624650 | SUB CHASSIS ASS'Y (S) | | 264628801 |
| 12 | AX624640 | COIL, SPRING (F) | | 264723601 |
| 13 | AX624630 | COIL, SPRING (R) | | 262723501 |
| 14 | AX624660 | WASHER | 2130 | 264628901 |
| 15 | EX604270 | P-TITE SCREW | 2.6x10 | 768513511 |
| 16 | AX624620 | INSULATOR | | 262723401 |
| 18 | AX619160 | MAIN CHASSIS (S), OUTSERT | | 262555206 |
| 19 | VH554700 | BW HEAD P-TITE SCREW | 2.6x16 | 331950151 |
| 20 | CX675270 | DRIVE GEAR (S) | | 262554701 |
| 21 | CX675260 | CONTROL CAM (S) | | 262554504 |
| 22 | KX604780 | LEAF SWITCH | | 169266711 |
| 23 | LX608390 | CONNECTOR PIN | 5P | 156472111 |
| 24 | NX613050 | PWB, LOADING (S) | | 164052311 |
| △ 25 | JX601470 | LOADING MOTOR ASS'Y | | X26251171 |
| 26 | CX675200 | CENTER GEAR (S) | | 262527402 |
| 27 | CX675220 | LOADING PULLEY (S) | | 262553602 |
| 28 | CX610840 | BELT, LOADING MOTOR | | 365338700 |
| 29 | EX602880 | SCREW | 2.6x2.5 | 262527901 |

* New Parts

CDX-596

EXPLODED VIEW (Drive Unit)



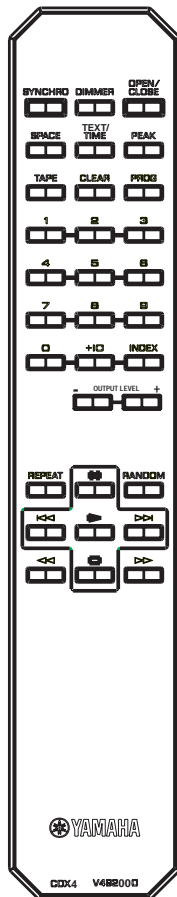
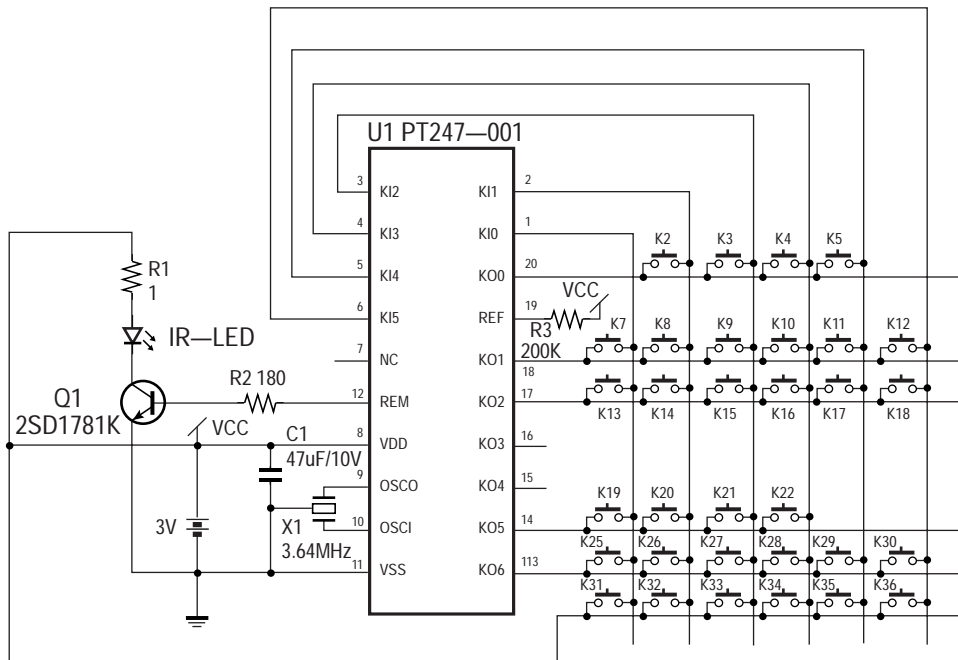
| Ref. No. | PART NO. | Description | Remarks | Markets |
|----------|----------|---------------------|------------|-----------|
| 1 | NX635420 | MOTOR CHASSIS ASS'Y | (MB) | X26258771 |
| 2 | CX679710 | MOTOR GEAR ASS'Y | | X26257691 |
| 3 | AX623980 | SLED SHAFT | | 262690801 |
| 4 | CX679720 | GEAR, A | (S) | 262690701 |
| 5 | EA020036 | PAN HEAD SCREW | 2x3 ZMC2-Y | 762125515 |
| 6 | KX604660 | LEAF SWITCH | | 157208511 |
| 7 | NX613040 | PWB, MOTOR | MOTOR 6P | 163967812 |
| 8 | LX610120 | CONNECTOR PIN | 6P | 156472211 |
| 9 | CX680030 | GEAR | | 262700301 |
| 10 | NX636020 | OPTICAL HEAD | | KSS213C |

* New Parts

CDX-596

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM



| KEY No. | FUNCTION | CUSTOM CODE (HEX) | DATA CODE (HEX) |
|---------|---------------|-------------------|-----------------|
| K2 | REPEAT | 79 | 08 |
| K3 | 0 | 79 | 10 |
| K4 | 8 | 79 | 18 |
| K5 | 5 | 79 | 15 |
| K7 | OPEN/CLOSE | 79 | 01 |
| K8 | CLEAR | 79 | 0D |
| K9 | 1 | 79 | 11 |
| K10 | 9 | 79 | 19 |
| K11 | 6 | 79 | 16 |
| K12 | STOP | 79 | 56 |
| K13 | PLAY | 79 | 02 |
| K14 | TIME/TEXT | 79 | 0A |
| K15 | 2 | 79 | 12 |
| K16 | +10 | 79 | 1A |
| K17 | SEARCH ►► | 79 | 06 |
| K18 | OUTPUT LEVEL- | 79 | 1D |
| K19 | PEAK | 79 | 5D |
| K20 | INDEX | 79 | 0B |
| K21 | 3 | 79 | 13 |
| K22 | RANDOM | 79 | 1B |
| K25 | ◀◀ SKIP | 79 | 04 |
| K26 | PROG | 79 | 0C |
| K27 | 4 | 79 | 14 |
| K28 | OUTPUT LEVEL+ | 79 | 1C |
| K29 | TAPE | 79 | 57 |
| K30 | SYNCHRO | 79 | 58 |
| K31 | SKIP ►► | 79 | 07 |
| K32 | SPACE | 79 | 0F |
| K33 | 7 | 79 | 17 |
| K34 | DIMMER | 79 | 1E |
| K35 | PAUSE | 79 | 55 |
| K36 | ◀◀ SEARCH | 79 | 05 |

Parts List for Carbon Resistors

| Value | 1/4W Type Part No. | 1/6W Type Part No. | Value | 1/4W Type Part No. | 1/6W Type Part No. |
|-------|--------------------|--------------------|-------|--------------------|--------------------|
| 1.0 | HJ35 3100 | HF85 3100 | 10 k | HF45 7100 | HF45 7100 |
| 1.8 | HJ35 3180 | * | 11 k | HF45 7110 | HF45 7110 |
| 2.2 | HJ35 3220 | HF85 3220 | 12 k | HJ35 7120 | HF85 7120 |
| 3.3 | HJ35 3330 | HF85 3330 | 13 k | HF45 7130 | HF45 7130 |
| 4.7 | HJ35 3470 | HF85 3470 | 15 k | HF45 7150 | HF45 7150 |
| 5.6 | HJ35 3560 | HF85 3560 | 18 k | HF45 7180 | HF45 7180 |
| 10 | HF45 4100 | HF45 4100 | 22 k | HF45 7220 | HF45 7220 |
| 15 | HJ35 4150 | HF85 4150 | 24 k | HF45 7240 | HF45 7240 |
| 22 | HF45 4220 | HF45 4220 | 27 k | HJ35 7270 | HF85 7270 |
| 27 | HJ35 4270 | HF85 4270 | 30 k | HF45 7300 | HF45 7300 |
| 33 | HF45 4330 | HF45 4330 | 33 k | HF45 7330 | HF45 7330 |
| 39 | HJ35 4470 | HF85 4390 | 36 k | HF45 7360 | HF45 7360 |
| 47 | HF45 4470 | HF45 4470 | 39 k | HF45 7390 | HF45 7390 |
| 56 | HF45 4560 | HF45 4560 | 47 k | HF45 7470 | HF45 7470 |
| 68 | HF45 4680 | HF45 4680 | 51 k | HF45 7510 | HF45 7510 |
| 75 | HF45 4750 | HF45 4750 | 56 k | HF45 7560 | HF45 7560 |
| 82 | HF45 4820 | HF45 4820 | 62 k | HF45 7620 | HF45 7620 |
| 91 | HF45 4910 | HF45 4910 | 68 k | HF45 7680 | HF45 7680 |
| 100 | HF45 5100 | HF45 5100 | 82 k | HF45 7820 | HF45 7820 |
| 110 | HJ35 5110 | HF85 5110 | 91 k | HF45 7910 | HF45 7910 |
| 120 | HF45 5120 | HF45 5120 | 100 k | HF45 8100 | HF45 8100 |
| 150 | HF45 5150 | HF45 5150 | 110 k | HF45 8110 | HF45 8110 |
| 160 | HJ35 5160 | * | 120 k | HF45 8120 | HF45 8120 |
| 180 | HF45 5180 | HF45 5180 | 150 k | HF45 8150 | HF45 8150 |
| 200 | HF45 5200 | HF45 5200 | 180 k | HF45 8180 | HF45 8180 |
| 220 | HF45 5220 | HF45 5220 | 220 k | HJ35 8220 | HF85 8220 |
| 270 | HF45 5270 | HF45 5270 | 270 k | HF45 8270 | HF45 8270 |
| 330 | HF45 5330 | HF45 5330 | 300 k | HF45 8300 | HF45 8300 |
| 390 | HF45 5390 | HF45 5390 | 330 k | HF45 8330 | HF45 8330 |
| 430 | HF45 5430 | HF45 5430 | 390 k | HJ35 8390 | HF85 8390 |
| 470 | HF45 5470 | HF45 5470 | 470 k | HF45 8470 | HF45 8470 |
| 510 | HF45 5510 | HF45 5510 | 560 k | HJ35 8560 | HF85 8560 |
| 560 | HF45 5560 | HF45 5560 | 680 k | HJ35 8680 | HF85 8680 |
| 680 | HF45 5680 | HF45 5680 | 820 k | HJ35 8820 | HF85 8820 |
| 820 | HF45 5820 | HF45 5820 | 1.0 M | HF45 9100 | HF45 9100 |
| 910 | HF45 5910 | HF45 5910 | 1.2 M | HJ35 9120 | * |
| 1.0 k | HF45 6100 | HF45 6100 | 1.5 M | HJ35 9150 | HF85 9150 |
| 1.2 k | HF45 6120 | HF45 6120 | 1.8 M | HJ35 9180 | HF85 9180 |
| 1.5 k | HF45 6150 | HF45 6150 | 2.2 M | HJ35 9220 | HF85 9220 |
| 1.8 k | HF45 6180 | HF45 6180 | 3.3 M | HJ35 9330 | HF85 9330 |
| 2.0 k | HJ35 6200 | HF85 6200 | 3.9 M | HJ35 9390 | * |
| 2.2 k | HF45 6220 | HF45 6220 | 4.7 M | HJ35 9470 | HF85 9470 |
| 2.4 k | HJ35 6240 | HF85 6240 | | | |
| 2.7 k | HF45 6270 | HF45 6270 | | | |
| 3.0 k | HF45 6300 | HF45 6300 | | | |
| 3.3 k | HF45 6330 | HF45 6330 | | | |
| 3.6 k | HJ35 6360 | HF85 6360 | | | |
| 3.9 k | HF45 6390 | HF45 6390 | | | |
| 4.7 k | HF45 6470 | HF45 6470 | | | |
| 5.1 k | HF45 6510 | HF45 6510 | | | |
| 5.6 k | HF45 6560 | HF45 6560 | | | |
| 6.8 k | HF45 6680 | HF45 6680 | | | |
| 8.2 k | HF45 6820 | HF45 6820 | | | |
| 9.1 k | HF45 6910 | HF45 6910 | | | |

1/4W Type

HJ35 ○○○○

10mm

1/4W Type

HF45 ○○○○

5mm

1/6W Type

HF85 ○○○○

5mm

CDX-596

YAMAHA