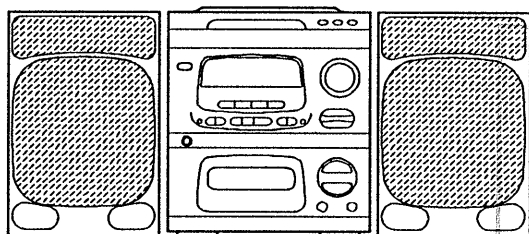


# aiwa



## CX-N400 SX-N400



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM-1 R2N
- BASIC CD MECHANISM: KSM-2101ABM

- TYPE: G

## REVISION PUBLISHING

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual":  
(CX-N400 : S/M Code No. 09-947-074-20T).

MANUAL  
SERVICE

## TABLE OF CONTENTS

|                                                           |       |
|-----------------------------------------------------------|-------|
| SPECIFICATIONS .....                                      | 3     |
| PROTECTION OF EYES FROM LASER BEAM DURING SERVICING ..... | 4     |
| PRECAUTION TO REPLACE OPTICAL BLOCK (KSS – 210A) .....    | 4     |
| ELECTRICAL MAIN PARTS LIST .....                          | 5~9   |
| FL GRID ASSIGNMENT/ANODE CONNECTION .....                 | 10    |
| BLOCK DIAGRAM – 1 (MAIN/FRONT) .....                      | 11~12 |
| BLOCK DIAGRAM – 2 (CD) .....                              | 13    |
| BLOCK DIAGRAM – 3 (TUNER) .....                           | 14    |
| WIRING – 1 (MAIN) .....                                   | 15~16 |
| SCHEMATIC DIAGRAM – 1 (MAIN) .....                        | 17~18 |
| WIRING – 2 (FRONT) .....                                  | 19~20 |
| SCHEMATIC DIAGRAM – 2 (FRONT) .....                       | 21~22 |
| WIRING – 3 (CD) .....                                     | 23~24 |
| SCHEMATIC DIAGRAM – 3 (CD) .....                          | 25~26 |
| WIRING – 4 (TAPE) .....                                   | 27    |
| IC DESCRIPTION .....                                      | 28~33 |
| IC BLOCK DIAGRAM .....                                    | 34~37 |
| TRANSISTOR ILLUSTRATION .....                             | 38    |
| ELECTRICAL ADJUSTMENT .....                               | 39~44 |
| PRACTICAL SERVICE FIGURE .....                            | 41    |
| MECHANICAL EXPLODED VIEW 1/2 .....                        | 45    |
| MECHANICAL PARTS LIST 1/2 .....                           | 46    |
| MECHANICAL EXPLODED VIEW 2/2 .....                        | 47    |
| MECHANICAL PARTS LIST 2/2 .....                           | 48    |
| TAPE MECHANISM EXPLODED VIEW 1/1 .....                    | 49~50 |
| TAPE MECHANISM PARTS LIST 1/1 .....                       | 51    |
| CD MECHANISM EXPLODED VIEW 1/1 .....                      | 52    |
| CD MECHANISM PARTS LIST 1/1 .....                         | 52    |
| SPRING APPLICATION POSITION .....                         | 53    |
| SPEAKER PARTS LIST .....                                  | 54    |
| ACCESSORIES/PACKAGE LIST .....                            | 55    |
| REFERENCE NAME LIST .....                                 | 56    |

## SPECIFICATIONS

### <FM section>

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| Frequency range               | 87.5 MHz to 108 MHz                               |
| Usable sensitivity (IHF)      | 1.3 $\mu$ V (75 ohms) 13.2 dBf                    |
| Alternate channel selectivity | 50 dB ( $\pm$ 400 kHz)                            |
| Signal-to-noise ratio         | STEREO: 65 dB<br>MONO: 75 dB                      |
| Harmonic distortion           | 0.3 % (MONO), 1 kHz<br>0.5 % (STEREO, L-R), 1 kHz |
| Frequency response            | 30 Hz to 15 kHz (+0.5 dB, -3 dB)                  |
| Stereo separation             | 30 dB at 1 kHz                                    |
| Antenna                       | 75 ohms (unbalanced)                              |

### <MW section>

|                       |                                  |
|-----------------------|----------------------------------|
| Frequency range       | 531 (530) kHz to 1602 (1710) kHz |
| Usable sensitivity    | 350 $\mu$ V/m                    |
| Selectivity           | 22 dB (9 kHz)                    |
| Signal-to-noise ratio | 53 dB (100 dB input)             |
| Antenna               | Loop antenna                     |

### <Timer section>

|               |                                                         |
|---------------|---------------------------------------------------------|
| Program timer | On-timer, free setting                                  |
| Sleep timer   | Setting in 10-minute increments,<br>240 minutes maximum |

### <Amplifier section>

|                     |                                                           |
|---------------------|-----------------------------------------------------------|
| Power output        | 30 W+30 W<br>(6 ohms, T.H.D. 10 % 1 kHz)                  |
| Harmonic distortion | 0.05 % (10 W, 1 kHz, 6 ohms)                              |
| Input terminal      | VIDEO/AUX: 150 mV (adjustable)<br>MIC: 2 mV/10 k $\Omega$ |
| Output terminal     | SUPER WOOFER: 1.5 V                                       |

### <Cassette deck section>

|                       |                                                |
|-----------------------|------------------------------------------------|
| Track format          | 4 tracks, 2 channels                           |
| Frequency response    | Normal tape: 50 - 17,000 Hz                    |
| Signal-to-noise ratio | 58 dB (DOLBY NR ON, Normal<br>tape peak level) |
| Tape speed            | 4.8 cm/sec. (1 $\frac{7}{8}$ ips)              |
| Recording system      | AC bias                                        |
| Erasure system        | AC erase                                       |
| Motor                 | DC servo motor $\times$ 1                      |
| Heads                 | Recording/playback/erasure head<br>$\times$ 1  |

### <CD player section>

|                       |                                                    |
|-----------------------|----------------------------------------------------|
| Disc                  | Compact disc                                       |
| Scanning method       | Non-contact optical scanner (semi-conductor laser) |
| Laser                 | Semiconductor laser ( $\lambda$ = 780 nm)          |
| Rotation speed        | Approx. 500 rpm - 200 rpm (CLV)                    |
| Error correction      | Cross Interleave, Reed Solomon code                |
| No. of channels       | 2 channels                                         |
| D-A conversion        | 16-bit linear                                      |
| Wow/flutter           | Unmeasurable                                       |
| Signal-to-noise ratio | 90 dB (1 kHz, 0 dB)                                |
| Harmonic distortion   | 0.05% (1 kHz, 0 dB)                                |

### SPEAKER SYSTEM

(These values are for one speaker.)

|                                      |                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Cabinet type                         | 3 way, bass reflex (magnetism sealed type)                                                                                                  |
| Speaker                              | 130 mm (5 $\frac{1}{8}$ in.) cone type woofer<br>50 mm (2 in.) cone type tweeter<br>20 mm (1 $\frac{3}{16}$ in.) ceramic type super tweeter |
| Impedance                            | 6 ohms                                                                                                                                      |
| Music power                          | 40 W                                                                                                                                        |
| Output sound pressure level          | 87 dB/W/m                                                                                                                                   |
| Dimensions (W $\times$ H $\times$ D) | 180 $\times$ 302 $\times$ 220 mm<br>(7 $\frac{1}{8}$ $\times$ 12 $\times$ 8 $\frac{3}{4}$ in.)                                              |
| Weight                               | 2.6 kg (5 lbs. 12 oz)                                                                                                                       |

### COMMON SECTION

|                                      |                                                                                                                                                                                                                                                           |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power requirements                   | AC 240 V, 50 Hz                                                                                                                                                                                                                                           |
| Power consumption (System total)     | 95 W                                                                                                                                                                                                                                                      |
| Dimensions (W $\times$ H $\times$ D) | Main unit:<br>260 $\times$ 305 $\times$ 340 mm<br>(10 $\frac{1}{4}$ $\times$ 12 $\frac{1}{8}$ $\times$ 13 $\frac{1}{2}$ in.)<br>System:<br>620 $\times$ 305 $\times$ 340 mm<br>(24 $\frac{1}{2}$ $\times$ 12 $\frac{1}{8}$ $\times$ 13 $\frac{1}{2}$ in.) |
| Weight                               | Main unit: 7.0 kg (15 lbs. 7 oz)<br>System: 12.2 kg (26 lbs. 14 oz)                                                                                                                                                                                       |

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

## 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 saattaa altistaa käyt-täjän turvallisuusluokan 1 ylit-tävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

### CAUTION

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

### ATTENTION

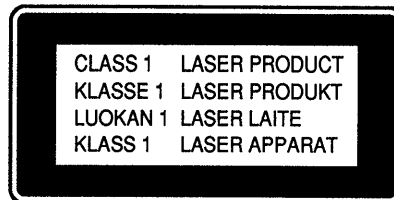
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL!

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

This Compact Disc player is classified as a CLASS 1 LASER product.

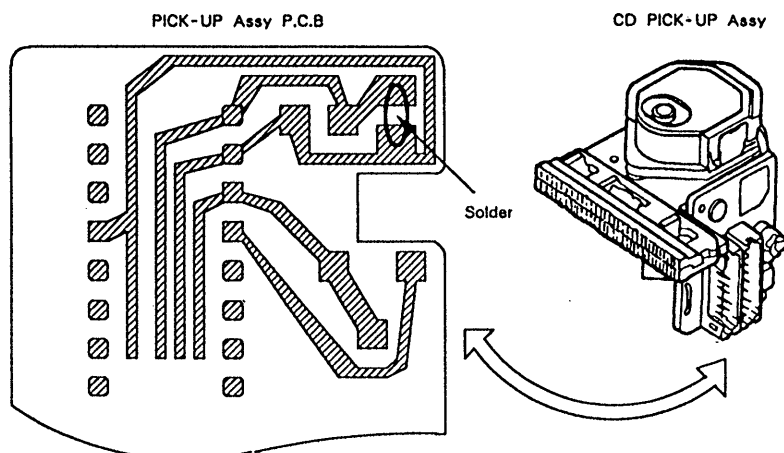
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



## Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and make sure the clothes do not touch the diode.

- 1) After the connection, remove the solder shown in the right figure.



# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO    | PART NO.       | カンリ<br>NO.            | DESCRIPTION | REF. NO                      | PART NO.       | カンリ<br>NO.          | DESCRIPTION |
|------------|----------------|-----------------------|-------------|------------------------------|----------------|---------------------|-------------|
| IC         |                |                       |             | 87-017-083-080 ZENER, HZS4C2 |                |                     |             |
|            | 87-017-745-010 | IC, CXA1782BQ         |             | MAIN C. B                    |                |                     |             |
|            | 87-001-334-010 | IC, LB9051A           |             | C101                         | 87-010-398-090 | CAP, E 2200-35V     |             |
|            | 87-017-486-080 | IC, BA6397FP          |             | C102                         | 87-010-398-090 | CAP, E 2200-35V     |             |
|            | 87-017-586-010 | IC, CXD2518Q          |             | C104                         | 87-010-235-080 | CAP, E 470-16 SME   |             |
|            | 83-NFJ-601-010 | IC, LC866432V-5531    |             | C105                         | 87-010-381-080 | CAP, E 330-16 SME   |             |
|            | 87-017-585-080 | IC, NJM4580E          |             | C106                         | 87-010-764-080 | CAP, E 47-63V       |             |
|            | 82-NE6-617-010 | IC, GPIU581X          |             |                              |                |                     |             |
|            | 87-001-475-010 | IC, STK4132-2         |             | C107                         | 87-010-260-080 | CAP, E 47-25 SME    |             |
|            | 87-001-982-010 | IC, TA7291S           |             | C108                         | 87-010-260-080 | CAP, E 47-25 SME    |             |
|            | 87-017-738-010 | IC, NJM2068LD         |             | C109                         | 87-010-263-080 | CAP, E 100-10       |             |
|            |                |                       |             | C112                         | 87-010-237-080 | CAP, E 1000-16      |             |
|            | 87-017-887-010 | IC, XR1090ACP         |             | C113                         | 87-010-403-080 | CAP, E 3.3-50 SME   |             |
|            | 87-002-727-010 | IC, NJM4558L          |             |                              |                |                     |             |
|            | 87-017-375-080 | IC, TC4094BF          |             | C115                         | 87-016-247-080 | C-CAP, 0.1-50 F     |             |
|            | 87-001-874-010 | IC, HA12134A          |             | C116                         | 87-012-140-080 | C-CAP, S 470P-50 CH |             |
|            | 87-017-673-010 | IC, BA3837            |             | C118                         | 87-016-247-080 | C-CAP, 0.1-50 F     |             |
|            |                |                       |             | C122                         | 87-018-134-080 | CAP, TC-U 0.01-16 Y |             |
|            | 87-017-449-010 | IC, XR-1071CP         |             | C123                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            | 87-001-607-080 | IC, NJM4558M          |             |                              |                |                     |             |
|            | 87-017-374-010 | IC, TC4094BP          |             | C124                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            | 87-002-247-010 | IC, BU4052B           |             | C213                         | 87-010-404-080 | CAP, E 4.7-50 SME   |             |
|            | 87-002-272-080 | IC, TC4052BF          |             | C214                         | 87-010-404-080 | CAP, E 4.7-50 SME   |             |
|            |                |                       |             | C215                         | 87-010-182-080 | C-CAP, S 2200P-50 B |             |
|            | 87-001-376-010 | IC, LC7218            |             | C216                         | 87-010-182-080 | C-CAP, S 2200P-50 B |             |
|            | 87-017-714-010 | IC, LA1836            |             |                              |                |                     |             |
| TRANSISTOR |                |                       |             | C217                         | 87-010-404-080 | CAP, E 4.7-50 SME   |             |
|            | 89-110-154-080 | TR, 2SA1015Y          |             | C218                         | 87-010-404-080 | CAP, E 4.7-50 SME   |             |
|            | 89-113-187-880 | TR, 2SA1318TU         |             | C219                         | 87-010-185-080 | C-CAP, S 3900P-50 B |             |
|            | 87-026-233-080 | C-TR, DTA114TK        |             | C220                         | 87-010-185-080 | C-CAP, S 3900P-50 B |             |
|            | 87-026-211-080 | C-TR, DTA144EK T147   |             | C221                         | 87-010-401-080 | CAP, E 1-50 SME     |             |
|            | 89-213-702-010 | TR, 2SB1370E          |             |                              |                |                     |             |
|            | 87-026-609-080 | TR, KTA1266GR         |             | C222                         | 87-010-401-080 | CAP, E 1-50 SME     |             |
|            | 87-026-610-080 | TR, KTC3198GR         |             | C223                         | 87-016-130-080 | CAP, E 47-25 KME    |             |
|            | 89-327-125-080 | C-TR, 2SC2712GR       |             | C224                         | 87-016-130-080 | CAP, E 47-25 KME    |             |
|            | 89-332-665-080 | TR, 2SC3266GR         |             | C225                         | 87-016-130-080 | CAP, E 47-25 KME    |             |
|            | 89-111-625-080 | C-TR, 2SA1162GR       |             | C226                         | 87-016-130-080 | CAP, E 47-25 KME    |             |
|            | 89-333-266-080 | C-TR, 2SC3326B        |             |                              |                |                     |             |
|            | 87-026-232-080 | C-TR, DTA144WK        |             | C227                         | 87-012-368-080 | C-CAP, S 0.1-50F    |             |
|            | 89-318-154-080 | TR, 2SC1815Y          |             | C228                         | 87-012-368-080 | C-CAP, S 0.1-50F    |             |
|            | 89-333-317-080 | TR, 2SC3331T          |             | C229                         | 87-012-361-080 | C-CAP, S 0.056-25 Y |             |
|            | 87-026-213-080 | C-TR, DTC114YK        |             | C230                         | 87-012-361-080 | C-CAP, S 0.056-25 Y |             |
|            |                |                       |             | C236                         | 87-010-408-080 | CAP, E 47-50 SME    |             |
|            | 87-026-226-080 | C-TR, DTA143EK        |             |                              |                |                     |             |
|            | 89-503-655-680 | FET, 2SK365GR, BL     |             | C243                         | 87-010-154-080 | C-CAP, S 10P-50 CH  |             |
|            | 87-026-210-080 | C-TR, DTC144EK T147   |             | C244                         | 87-010-154-080 | C-CAP, S 10P-50 CH  |             |
|            | 87-026-235-080 | C-TR, DTC114EK        |             | C250                         | 87-010-196-080 | C-CAP, S 0.1-25 F   |             |
|            | 87-026-224-080 | C-TR, DTC143XK        |             | C313                         | 87-010-196-080 | C-CAP, S 0.1-25 F   |             |
|            |                |                       |             | C351                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            | 89-109-521-080 | TR, 2SA952K           |             |                              |                |                     |             |
|            | 89-112-965-080 | TR, 2SA1296GR         |             | C352                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            | 89-406-555-080 | TR, 2SD655E           |             | C353                         | 87-012-145-080 | C-CAP, S 270P-50CH  |             |
|            | 89-502-464-080 | FET, 2SK246Y          |             | C354                         | 87-012-145-080 | C-CAP, S 270P-50CH  |             |
|            | 87-026-214-080 | TR, DTA114YS          |             | C355                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            |                |                       |             | C356                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            | 89-327-143-080 | C-TR, 2SC2714 (O)     |             |                              |                |                     |             |
|            | 89-503-025-080 | C-FET, 2SK302 GR      |             | C357                         | 87-010-189-080 | C-CAP, S 8200P-50 B |             |
|            |                |                       |             | C358                         | 87-010-189-080 | C-CAP, S 8200P-50 B |             |
|            |                |                       |             | C361                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            |                |                       |             | C362                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            |                |                       |             | C363                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
| DIODE      |                |                       |             |                              |                |                     |             |
|            | 87-002-564-080 | DIODE, 1SS133 RA      |             | C364                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            | 87-002-225-010 | DIODE, DBF40C-K10     |             | C401                         | 87-010-402-080 | CAP, E 2.2-50 SME   |             |
|            | 87-020-465-080 | DIODE, 1SS133         |             | C402                         | 87-010-402-080 | CAP, E 2.2-50 SME   |             |
|            | 87-001-574-080 | DIODE, 1SR139-200 T31 |             | C405                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            | 87-020-027-080 | C-DIODE, 1SS184       |             | C406                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            | 87-020-125-080 | C-DIODE, 1SS181       |             |                              |                |                     |             |
|            | 87-017-174-080 | ZENER, HZS11A3L       |             | C409                         | 87-010-189-080 | C-CAP, S 8200P-50 B |             |
|            | 87-017-147-080 | ZENER, HZS33-2        |             | C410                         | 87-010-189-080 | C-CAP, S 8200P-50 B |             |
|            | 87-001-731-080 | ZENER, HZS6C2L        |             | C415                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            | 87-017-091-080 | ZENER, HZS5C1         |             | C416                         | 87-012-154-080 | C-CAP, S 150P-50 CH |             |
|            |                |                       |             | C451                         | 87-012-156-080 | C-CAP, S 220P-50 CH |             |
|            | 87-020-331-080 | C-DIODE, DAN202K      |             |                              |                |                     |             |
|            | 87-001-290-080 | ZENER, HZS6B1L        |             | C452                         | 87-012-156-080 | C-CAP, S 220P-50 CH |             |
|            | 87-001-559-080 | DIODE, 1SS131 (T-72)  |             | C453                         | 87-010-178-080 | C-CAP, S 1000P-50 B |             |
|            |                |                       |             | C456                         | 87-010-260-080 | CAP, E 47-25 SME    |             |
|            |                |                       |             | C457                         | 87-010-197-080 | C-CAP, S 0.01-25 B  |             |
|            |                |                       |             | C458                         | 87-010-183-080 | C-CAP, S 2700P-50 B |             |

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION          | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION          |
|---------|----------------|------------|----------------------|---------|----------------|------------|----------------------|
| C459    | 87-010-183-080 |            | C-CAP, S 2700P-50 B  | C702    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   |
| C460    | 87-010-183-080 |            | C-CAP, S 2700P-50 B  | C703    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C470    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C704    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C501    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C711    | 87-010-263-080 |            | CAP, E 100-10        |
| C502    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C712    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   |
| C503    | 87-012-155-080 |            | C-CAP, S 180P-50 CH  | C722    | 87-010-312-080 |            | C-CAP, S 15P-50 CH   |
| C504    | 87-012-155-080 |            | C-CAP, S 180P-50 CH  | C723    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C507    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  | C724    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C508    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  | C725    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C509    | 87-010-371-080 |            | CAP, E 470-6. 3      | C727    | 87-010-194-080 |            | C-CAP, S 0. 047-25 F |
| C515    | 87-010-545-080 |            | CAP, E 0. 22-50 SME  | C728    | 87-010-248-080 |            | CAP, E 220-10 SME    |
| C516    | 87-010-545-080 |            | CAP, E 0. 22-50 SME  | C732    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C517    | 87-012-142-080 |            | C-CAP, S 0. 33-16 F  | C771    | 87-010-405-080 |            | CAP, E 10-50 SME     |
| C518    | 87-012-142-080 |            | C-CAP, S 0. 33-16 F  | C772    | 87-010-194-080 |            | C-CAP, S 0. 047-25 F |
| C519    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C773    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   |
| C521    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  | C774    | 87-010-263-080 |            | CAP, E 100-10        |
| C522    | 87-010-318-080 |            | C-CAP, S 47P-50 CH   | C775    | 87-010-405-080 |            | CAP, E 10-50 SME     |
| C523    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  | C776    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C524    | 87-010-402-080 |            | CAP, E 2. 2-50 SME   | C777    | 87-010-400-080 |            | CAP, E 0. 47-50 SME  |
| C530    | 87-010-194-080 |            | C-CAP, S 0. 047-25 F | C778    | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C531    | 87-010-545-080 |            | CAP, E 0. 22-50 SME  | C779    | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C532    | 87-010-382-080 |            | CAP, E 22-25 SME     | C780    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C533    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C781    | 87-010-405-080 |            | CAP, E 10-50 SME     |
| C534    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C782    | 87-010-405-080 |            | CAP, E 10-50 SME     |
| C535    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C787    | 87-010-184-080 |            | C-CAP, S 3300P-50 B  |
| C536    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C788    | 87-010-184-080 |            | C-CAP, S 3300P-50 B  |
| C537    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C789    | 87-010-179-080 |            | C-CAP, S 1200P-50 B  |
| C538    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C790    | 87-010-179-080 |            | C-CAP, S 1200P-50 B  |
| C539    | 87-010-405-080 |            | CAP, E 10-50 SME     | C791    | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C540    | 87-010-260-080 |            | CAP, E 47-25 SME     | C792    | 87-010-180-080 |            | C-CAP, S 1500P-50 B  |
| C541    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C793    | 87-010-189-080 |            | C-CAP, S 8200P-50 B  |
| C543    | 87-010-546-080 |            | CAP, E 0. 33-50 SME  | C794    | 87-010-408-080 |            | CAP, E 47-50 SME     |
| C544    | 87-010-546-080 |            | CAP, E 0. 33-50 SME  | C795    | 87-010-194-080 |            | C-CAP, S 0. 047-25 F |
| C545    | 87-010-400-080 |            | CAP, E 0. 47-50 SME  | C796    | 87-010-403-080 |            | CAP, E 3. 3-50 SME   |
| C546    | 87-010-400-080 |            | CAP, E 0. 47-50 SME  | C797    | 87-010-405-080 |            | CAP, E 10-50 SME     |
| C547    | 87-010-220-080 |            | C-CAP, S 0. 018-25 B | C798    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   |
| C548    | 87-010-220-080 |            | C-CAP, S 0. 018-25 B | C802    | 87-010-154-080 |            | C-CAP, S 10P-50 CH   |
| C549    | 87-012-142-080 |            | C-CAP, S 0. 33-16 F  | C804    | 87-010-151-080 |            | C-CAP, S 7P-50 CH    |
| C550    | 87-016-081-080 |            | C-CAP, S 0. 1-16 RK  | C805    | 87-010-150-080 |            | C-CAP, S 6P-50 CH    |
| C551    | 87-016-081-080 |            | C-CAP, S 0. 1-16 RK  | C806    | 87-010-145-080 |            | C-CAP, S 1P-50 CH    |
| C601    | 87-010-401-080 |            | CAP, E 1-50 SME      | C807    | 87-010-154-080 |            | C-CAP, S 10P-50 CH   |
| C602    | 87-010-405-080 |            | CAP, E 10-50 SME     | C808    | 87-010-322-080 |            | C-CAP, S 100P-50 CH  |
| C603    | 87-010-101-080 |            | CAP, E 220-16 SME    | C809    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C605    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  | C810    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C606    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  | C811    | 87-010-149-080 |            | C-CAP, S 5P-50 CH    |
| C607    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C812    | 87-010-313-080 |            | C-CAP, S 18P-50 CH   |
| C608    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C814    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C609    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C816    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C610    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C817    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C611    | 87-010-177-080 |            | C-CAP, S 820P-50 SL  | C818    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C612    | 87-010-177-080 |            | C-CAP, S 820P-50 SL  | C819    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C613    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C820    | 87-010-260-080 |            | CAP, E 47-25 SME     |
| C614    | 87-010-404-080 |            | CAP, E 4. 7-50 SME   | C821    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C615    | 87-010-400-080 |            | CAP, E 0. 47-50 SME  | C823    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C616    | 87-010-400-080 |            | CAP, E 0. 47-50 SME  | C830    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C617    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  | C831    | 87-010-154-080 |            | C-CAP, S 10P-50 CH   |
| C618    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  | C835    | 87-010-154-080 |            | C-CAP, S 10P-50 CH   |
| C619    | 87-010-184-080 |            | C-CAP, S 3300P-50 B  | C836    | 87-010-312-080 |            | C-CAP, S 15P-50 CH   |
| C620    | 87-010-184-080 |            | C-CAP, S 3300P-50 B  | C837    | 87-010-312-080 |            | C-CAP, S 15P-50 CH   |
| C621    | 87-012-155-080 |            | C-CAP, S 180P-50 CH  | C840    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C622    | 87-012-155-080 |            | C-CAP, S 180P-50 CH  | C843    | 87-010-146-080 |            | C-CAP, S 2P-50 CH    |
| C623    | 87-010-405-080 |            | CAP, E 10-50 SME     | C851    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C624    | 87-010-405-080 |            | CAP, E 10-50 SME     | C871    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C630    | 87-010-405-080 |            | CAP, E 10-50 SME     | C872    | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C631    | 87-010-401-080 |            | CAP, E 1-50 SME      | C944    | 87-010-311-080 |            | C-CAP, S 12P-50 CH   |
| C640    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C946    | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C641    | 87-010-196-080 |            | C-CAP, S 0. 1-25 F   | C947    | 87-010-197-080 |            | C-CAP, S 0. 01-25 B  |
| C645    | 87-012-142-080 |            | C-CAP, S 0. 33-16 F  | C948    | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C646    | 87-012-142-080 |            | C-CAP, S 0. 33-16 F  | C950    | 87-010-322-080 |            | C-CAP, S 100P-50 CH  |
| C701    | 87-010-381-080 |            | CAP, E 330-16 SME    | C981    | 87-018-134-080 |            | CAP, TC-U 0. 01-16 Y |

| REF. NO    | PART NO.       | カンリ<br>NO. | DESCRIPTION             | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION         |
|------------|----------------|------------|-------------------------|---------|----------------|------------|---------------------|
| C983       | 87-010-544-080 |            | CAP, E 0.1-50           | C213    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| C984       | 87-010-196-080 |            | C-CAP, S 0.1-25 F       | C214    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| C985       | 87-010-196-080 |            | C-CAP, S 0.1-25 F       | C215    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| C987       | 87-010-197-080 |            | C-CAP, S 0.01-25 B      | C302    | 87-010-197-080 |            | C-CAP, S 0.01-25 B  |
| C988       | 87-015-785-080 |            | C-CAP, 0.1-25 F         | C381    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| C989       | 87-018-134-080 |            | CAP, TC-U 0.01-16 Y     | C382    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| C990       | 87-010-197-080 |            | C-CAP, S 0.01-25 B      | C383    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| CF801      | 87-008-261-010 |            | FLTR, SFE10.7MA5-A      | C389    | 87-010-154-080 |            | C-CAP, S 10P-50 CH  |
| CF802      | 87-008-261-010 |            | FLTR, SFE10.7MA5-A      | C401    | 87-015-785-080 |            | C-CAP, 0.1-25 F     |
| D801       | 87-002-730-080 |            | VARI-CAP, SVC203SPA     | C402    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| D802       | 87-002-730-080 |            | VARI-CAP, SVC203SPA     | C403    | 87-010-196-080 |            | C-CAP, S 0.1-25 F   |
| D803       | 87-002-730-080 |            | VARI-CAP, SVC203SPA     | C501    | 87-010-384-040 |            | CAP, E 100-25 SME   |
| J250       | 87-049-855-010 |            | JACK, 6.3 W/S           | C701    | 87-010-175-080 |            | C-CAP, S 560P-50 SL |
| J253       | 87-099-474-010 |            | JACK, PIN 3P BLK        | C702    | 87-010-175-080 |            | C-CAP, S 560P-50 SL |
| J254       | 87-033-226-010 |            | TERMINAL, SP 4P (JT)    | C703    | 87-010-154-080 |            | C-CAP, S 10P-50 CH  |
| J652       | 80-MT3-616-010 |            | JACK, PIN 2P            | C704    | 87-010-154-080 |            | C-CAP, S 10P-50 CH  |
| J801       | 82-NF5-621-010 |            | ANT TERM JBT0222        | C705    | 87-012-154-080 |            | C-CAP, S 150P-50 CH |
| L401       | 87-005-580-080 |            | COIL, 10MHJ             | C706    | 87-012-154-080 |            | C-CAP, S 150P-50 CH |
| L402       | 87-005-580-080 |            | COIL, 10MHJ             | C707    | 87-010-220-080 |            | C-CAP, S 0.018-25 B |
| L403       | 82-231-622-080 |            | COIL, 22MH-J            | C708    | 87-010-220-080 |            | C-CAP, S 0.018-25 B |
| L404       | 82-231-622-080 |            | COIL, 22MH-J            | C709    | 87-010-186-080 |            | C-CAP, S 4700P-50 B |
| L451       | 87-007-300-010 |            | COIL, OSC BIAS 85K      | C710    | 87-010-186-080 |            | C-CAP, S 4700P-50 B |
| L701       | 81-631-643-010 |            | COIL, 1 POLE MPX        | C711    | 87-012-140-080 |            | C-CAP, S 470P-50 CH |
| L702       | 81-631-643-010 |            | COIL, 1 POLE MPX        | C712    | 87-012-140-080 |            | C-CAP, S 470P-50 CH |
| L741       | 87-006-253-010 |            | COIL, FM DET N          | C713    | 87-010-213-080 |            | C-CAP, S 0.015-25 B |
| L742       | 82-NT1-659-010 |            | FLTR, CFAZ-450 2NT      | C714    | 87-010-213-080 |            | C-CAP, S 0.015-25 B |
| L770       | 87-003-102-080 |            | COIL, 10UH              | C715    | 87-010-318-080 |            | C-CAP, S 47P-50 CH  |
| L771       | 87-003-098-080 |            | COIL, 2.2UH             | C716    | 87-010-318-080 |            | C-CAP, S 47P-50 CH  |
| L801       | 87-006-249-010 |            | COIL, ANT FM 3/4TS, L4  | C717    | 87-010-178-080 |            | C-CAP, S 1000P-50 B |
| L802       | 87-006-254-010 |            | COIL, ANT FM2-3/4TS, S  | C718    | 87-010-178-080 |            | C-CAP, S 1000P-50 B |
| L803       | 87-006-244-010 |            | COIL, RF FM 3-1/2T, L4  | C719    | 87-010-176-080 |            | C-CAP, S 680P-50 SL |
| L804       | 87-006-250-010 |            | COIL, RF FM3-1/2TS, L4  | C720    | 87-010-176-080 |            | C-CAP, S 680P-50 SL |
| L805       | 87-003-098-080 |            | COIL, 2.2UH             | C729    | 87-010-264-040 |            | CAP, E 100-10 5L    |
| L806       | 87-008-427-010 |            | COIL, FMIFT (4T)        | C730    | 87-010-384-040 |            | CAP, E 100-25 SME   |
| L807       | 87-006-205-010 |            | COIL, OSC FM (7K)       | FL101   | 83-NFJ-602-010 |            | FL, BJ289GK         |
| L832       | 87-003-098-080 |            | COIL, 2.2UH             | FT102   | 82-NF5-651-010 |            | CABLE FFC 14P-1.25  |
| L981       | 81-MX4-620-010 |            | AM PACK 3, S            | LED401  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| R105       | 87-022-050-080 |            | RES METAL 1W-0.22J      | LED402  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| R106       | 87-022-050-080 |            | RES METAL 1W-0.22J      | LED403  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| R203       | 87-022-184-080 |            | RES METAL 0.33-1W       | LED404  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| R204       | 87-022-184-080 |            | RES METAL 0.33-1W       | LED405  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| SFR351     | 87-024-349-080 |            | SFR, 1K DIA6 H          | LED406  | 87-017-784-080 |            | LED, SEL1550CM TP8  |
| SFR352     | 87-024-349-080 |            | SFR, 1K DIA6 H          | LED420  | 87-017-733-080 |            | LED, SEL1250SM      |
| SFR401     | 87-024-349-080 |            | SFR, 1K DIA6 H          | LED421  | 87-017-733-080 |            | LED, SEL1250SM      |
| SFR402     | 87-024-349-080 |            | SFR, 1K DIA6 H          | LED422  | 87-017-733-080 |            | LED, SEL1250SM      |
| SFR451     | 87-024-356-080 |            | SFR, 47K DIA6 H         | LED423  | 87-017-733-080 |            | LED, SEL1250SM      |
| SFR452     | 87-024-356-080 |            | SFR, 47K DIA6 H         | LED424  | 87-017-350-080 |            | LED, SEL1550CM      |
| SFR722     | 87-024-352-080 |            | SFR, 4.7K DIA6 H        | LED425  | 87-017-350-080 |            | LED, SEL1550CM      |
| SFR771     | 87-024-354-080 |            | SFR, 22K DIA6 H         | LED426  | 87-017-350-080 |            | LED, SEL1550CM      |
| TC701      | 87-011-221-080 |            | TRIMMER, 30P VCT51      | LED427  | 87-017-350-080 |            | LED, SEL1550CM      |
| TC801      | 87-011-219-080 |            | CAP, TRIMMER 10P VCT    | S303    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| TC802      | 87-011-219-080 |            | CAP, TRIMMER 10P VCT    | S304    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| VR651      | 83-NF5-639-010 |            | VR, 50KBX2 RK14K12A0    | S305    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| W101       | 83-NE2-618-010 |            | F-CABEL, 5P-2.5         | S306    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| W301       | 83-NF5-647-010 |            | CABLE FFC 6P-1.25(4ZG1) | S321    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| W301       | 83-NF5-631-010 |            | F-CABLE, 6-2.0          | S322    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| X703       | 84-508-618-010 |            | VIB, CER CSB 456 F15    | S323    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| X721       | 87-030-163-010 |            | VIB, XTAL 7.2MHZ(NDK)   | S324    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S325    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S326    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S327    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S328    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S329    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S341    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S342    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S343    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S344    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S345    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S347    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
|            |                |            |                         | S348    | 87-036-215-080 |            | SW, TACT EVQ21404M  |
| FRONT C. B |                |            |                         |         |                |            |                     |
| C201       | 87-010-404-040 |            | CAP, E 4.7-50 SME       |         |                |            |                     |
| C202       | 87-010-404-040 |            | CAP, E 4.7-50 SME       |         |                |            |                     |
| C203       | 87-010-408-040 |            | CAP, E 47-50 SME        |         |                |            |                     |
| C204       | 87-010-196-080 |            | C-CAP, S 0.1-25 F       |         |                |            |                     |
| C205       | 87-010-264-040 |            | CAP, E 100-10 5L        |         |                |            |                     |
| C206       | 87-016-088-040 |            | CAP, E 220-6.3 SR       |         |                |            |                     |
| C207       | 87-010-071-040 |            | CAP, E 1-50 5L          |         |                |            |                     |
| C208       | 87-015-785-080 |            | C-CAP, 0.1-25 F         |         |                |            |                     |
| C212       | 87-010-405-040 |            | CAP, E 10-50 SME        |         |                |            |                     |

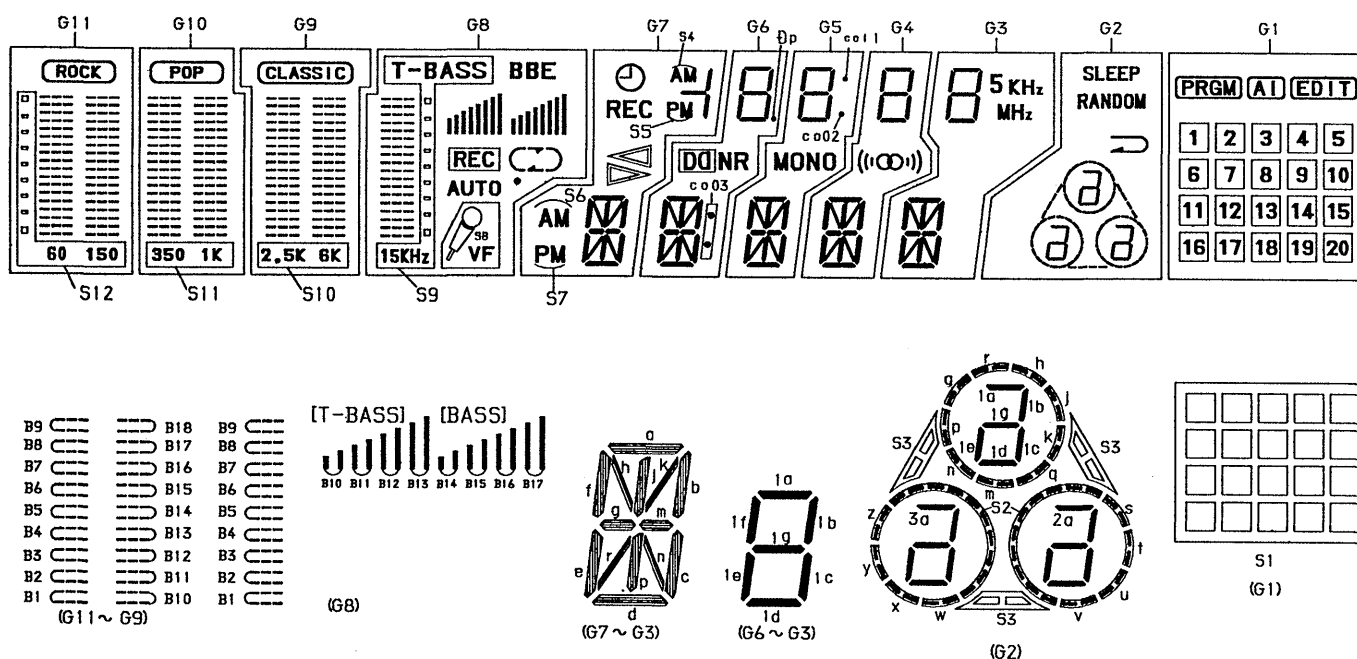
| REF. NO  | PART NO.       | カンリ<br>NO. | DESCRIPTION          | REF. NO  | PART NO.       | カンリ<br>NO. | DESCRIPTION          |
|----------|----------------|------------|----------------------|----------|----------------|------------|----------------------|
| W302     | 83-NF8-613-010 |            | F-CABLE 2P-2.0 KEY   | C210     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  |
| W303     | 83-NF8-612-010 |            | F-CABLE 8P-2.0 MIC   | C211     | 87-010-401-080 |            | CAP, E 1-50 SME      |
| X201     | 87-030-345-080 |            | VIB, CER CST 5.76MGW | C212     | 87-010-401-080 |            | CAP, E 1-50 SME      |
| 3CD C. B |                |            |                      | C213     | 87-010-186-080 |            | C-CAP, S 4700P-50 B  |
| C1       | 87-010-188-080 |            | C-CAP, S 6800P-50 B  | C214     | 87-010-186-080 |            | C-CAP, S 4700P-50 B  |
| C2       | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C231     | 87-010-263-080 |            | CAP, E 100-10        |
| C3       | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C232     | 87-010-263-080 |            | CAP, E 100-10        |
| C4       | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C301     | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C5       | 87-010-404-080 |            | CAP, E 4.7-50 SME    | C302     | 87-010-404-080 |            | CAP, E 4.7-50 SME    |
| C6       | 87-010-594-080 |            | C-CAP, S 0.033-16 RK | C304     | 87-010-197-080 |            | C-CAP, S 0.01-25 B   |
| C7       | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C305     | 87-010-381-080 |            | CAP, E 330-16 SME    |
| C8       | 87-010-403-080 |            | CAP, E 3.3-50 SME    | C306     | 87-010-198-080 |            | C-CAP, S 0.022-25 B  |
| C9       | 87-010-382-080 |            | CAP, E 22-25 SME     | C307     | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C10      | 87-010-260-080 |            | CAP, E 47-25 SME     | C308     | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C11      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C310     | 87-018-184-080 |            | CAP, TC-U 0.01-16 Y  |
| C12      | 87-010-193-080 |            | C-CAP, S 0.033-25 F  | C312     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C13      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C313     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C14      | 87-010-193-080 |            | C-CAP, S 0.033-25 F  | L1       | 87-003-295-080 |            | COIL, 10UH           |
| C15      | 87-010-182-080 |            | C-CAP, S 2200P-50 B  | M301     | 87-045-305-010 |            | MOTOR, RF-500TB      |
| C21      | 87-010-198-080 |            | C-CAP, S 0.022-25 B  | SFR1     | 87-024-176-080 |            | SFR, 100K DIA6 V     |
| C22      | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | SFR2     | 87-024-173-080 |            | SFR, 22K DIA6 V      |
| C23      | 87-010-263-080 |            | CAP, E 100-10        | SFR3     | 87-024-176-080 |            | SFR, 100K DIA6 V     |
| C24      | 87-010-178-080 |            | C-CAP, S 1000P-50 B  | W501     | 83-NF5-644-010 |            | F-CABLE 2-2.0-230    |
| C25      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | X101     | 87-030-227-080 |            | VIB, XTAL 33.8688MHZ |
| C26      | 87-010-260-080 |            | CAP, E 47-25 SME     | MIC C. B |                |            |                      |
| C27      | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C604     | 87-010-183-080 |            | C-CAP, S 2700P-50 B  |
| C28      | 87-010-263-080 |            | CAP, E 100-10        | C606     | 87-010-401-040 |            | CAP, E 1-50 SME      |
| C29      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C607     | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C30      | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C608     | 87-010-075-040 |            | CAP, E 10-16 5L      |
| C31      | 87-010-193-080 |            | C-CAP, S 0.033-25 F  | C609     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C33      | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C610     | 87-012-145-080 |            | C-CAP S 270P-50CH    |
| C34      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C612     | 87-010-322-080 |            | C-CAP, S 100P-50 CH  |
| C35      | 87-010-381-080 |            | CAP, E 330-16 SME    | C613     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C36      | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | C624     | 87-010-183-080 |            | C-CAP, S 2700P-50 B  |
| C37      | 87-010-260-080 |            | CAP, E 47-25 SME     | C626     | 87-010-401-040 |            | CAP, E 1-50 SME      |
| C38      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C627     | 87-010-178-080 |            | C-CAP, S 1000P-50 B  |
| C39      | 87-010-260-080 |            | CAP, E 47-25 SME     | C630     | 87-010-075-040 |            | CAP, E 10-16 5L      |
| C40      | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C640     | 87-010-075-040 |            | CAP, E 10-16 5L      |
| C41      | 87-010-146-080 |            | C-CAP, S 2P-50 CH    | C644     | 87-010-071-040 |            | CAP, E 1-50 5L       |
| C42      | 87-010-154-080 |            | C-CAP, S 10P-50 CH   | C645     | 87-010-263-040 |            | CAP, E 100-10        |
| C45      | 87-018-209-080 |            | CAP, TC-U 0.1-50 F   | C646     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C101     | 87-010-194-080 |            | C-CAP, S 0.047-25 F  | C647     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C102     | 87-010-180-080 |            | C-CAP, S 1500P-50 B  | C648     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    |
| C103     | 87-010-263-080 |            | CAP, E 100-10        | J601     | 82-NF7-630-010 |            | JACK, 3.5 MO         |
| C104     | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | J621     | 82-NF7-630-010 |            | JACK, 3.5 MO         |
| C105     | 87-010-186-080 |            | CHIP CAP 4700P-50 B  | O601     | 89-327-125-080 |            | C-TR, 2SC2712GR      |
| C106     | 87-012-156-080 |            | C-CAP, S 220P-50 CH  | O622     | 89-327-125-080 |            | C-TR, 2SC2712GR      |
| C107     | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | S308     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C108     | 87-010-400-080 |            | CAP, E 0.47-50 SME   | S312     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C112     | 87-010-154-080 |            | C-CAP, S 10P-50 CH   | VR602    | 82-NK7-615-010 |            | VR, 10KA RK11K1130   |
| C113     | 87-010-154-080 |            | C-CAP, S 10P-50 CH   | MVR C. B |                |            |                      |
| C114     | 87-010-314-080 |            | C-CAP, S 22P-50 CH   | C721     | 87-010-402-080 |            | CAP, E 2.2-50 SME    |
| C115     | 87-010-404-080 |            | CAP, E 4.7-50 SME    | C722     | 87-010-402-080 |            | CAP, E 2.2-50 SME    |
| C116     | 87-010-263-080 |            | CAP, E 100-10        | C738     | 87-010-370-080 |            | CAP, E 330-6.3 SME   |
| C117     | 87-010-194-080 |            | C-CAP, S 0.047-25 F  | C741     | 87-010-198-080 |            | C-CAP, S 0.022-25 B  |
| C118     | 87-010-154-080 |            | C-CAP, S 10P-50 CH   | C747     | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C120     | 87-010-263-080 |            | CAP, E 100-10        | C748     | 87-010-401-080 |            | CAP, E 1-50 SME      |
| C121     | 87-010-197-080 |            | C-CAP, S 0.01-25 B   | C750     | 87-010-381-080 |            | CAP, E 330-16 SME    |
| C122     | 87-010-196-080 |            | C-CAP, S 0.1-25 F    | MVR741   | 83-NF8-609-010 |            | VR, 50KBX2 (M)       |
| C201     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | KEY C. B |                |            |                      |
| C202     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | S349     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C203     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | S350     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C204     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | S351     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C205     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | S352     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C206     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  | S353     | 87-036-215-080 |            | SW, TACT EVQ21404M   |
| C207     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  |          |                |            |                      |
| C208     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  |          |                |            |                      |
| C209     | 87-012-153-080 |            | C-CAP, S 120P-50 CH  |          |                |            |                      |

| REF. NO       | PART NO.       | カンリ<br>NO.        | DESCRIPTION |
|---------------|----------------|-------------------|-------------|
| SNSR C. B     |                |                   |             |
| PH401         | 87-026-573-010 | P-SNSR, GP1S53V   |             |
| MOTOR-1 C. B  |                |                   |             |
| C314          | 87-010-196-080 | C-CAP, S 0.1-25 F |             |
| M302          | 87-045-305-010 | MOTOR, RF-500TB   |             |
| U/D C. B      |                |                   |             |
| SW601         | 87-036-271-010 | SW, LVR 1-2-2 (*) |             |
| OPEN SW C. B  |                |                   |             |
| SW602         | 87-036-271-010 | SW, LVR 1-2-2 (*) |             |
| CLOSE SW C. B |                |                   |             |
| SW701         | 87-036-109-010 | SW, PUSH SPPB 61  |             |
| LED C. B      |                |                   |             |
| LED902        | 87-017-806-010 | LED, SEL1810DM    |             |
| LED903        | 87-017-350-080 | LED, SEL1550CM    |             |
| LED904        | 87-017-350-080 | LED, SEL1550CM    |             |
| LED905        | 87-017-806-010 | LED, SEL1810DM    |             |
| MOTOR-2 C. B  |                |                   |             |
| M2            | 9X-262-513-210 | SLED MOTOR        |             |
| S4            | 91-572-085-110 | LEAF SW           |             |

| REF. NO    | PART NO.       | カンリ<br>NO.            | DESCRIPTION |
|------------|----------------|-----------------------|-------------|
| AC2 C. B   |                |                       |             |
| △ PT101    | 83-NF8-607-010 | PT, HR                |             |
| AC1 C. B   |                |                       |             |
| △          | 87-033-147-010 | CLAMP, FUSE           |             |
| △          | 82-304-743-010 | TERMINAL, 1P          |             |
| △ F101     | 87-035-360-010 | FUSE, 630MA 250V T E  |             |
| DECK C. B  |                |                       |             |
| SFR1       | 87-024-581-010 | SFR, 3. 3K DIA 6H KOA |             |
| SOL1       | 82-ZM1-618-310 | SOL ASSY, 27          |             |
| SW2        | 87-036-110-010 | SW, PUSH SPPB 62      |             |
| SW3        | 87-036-110-010 | SW, PUSH SPPB 62      |             |
| SW4        | 87-036-110-010 | SW, PUSH SPPB 62      |             |
| SW5        | 87-036-110-010 | SW, PUSH SPPB 62      |             |
| SW6        | 87-036-110-010 | SW, PUSH SPPB 62      |             |
| RELAY C. B |                |                       |             |
| TR-1 C. B  |                |                       |             |
| TR-2 C. B  |                |                       |             |

## FL (BJ289GK) GRID ASSIGNMENT/ANODE CONNECTION

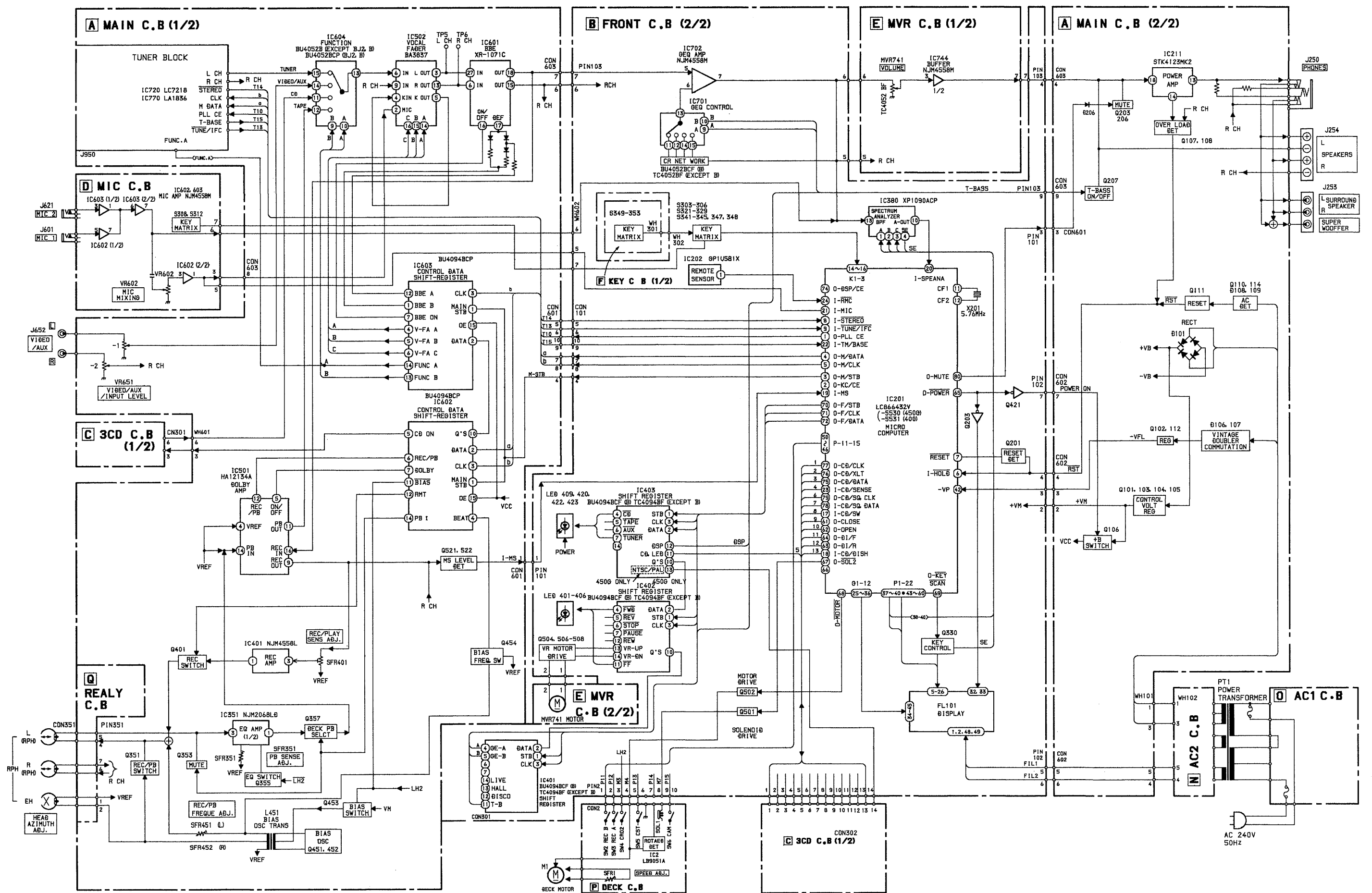
## GRID ASSIGNMENT



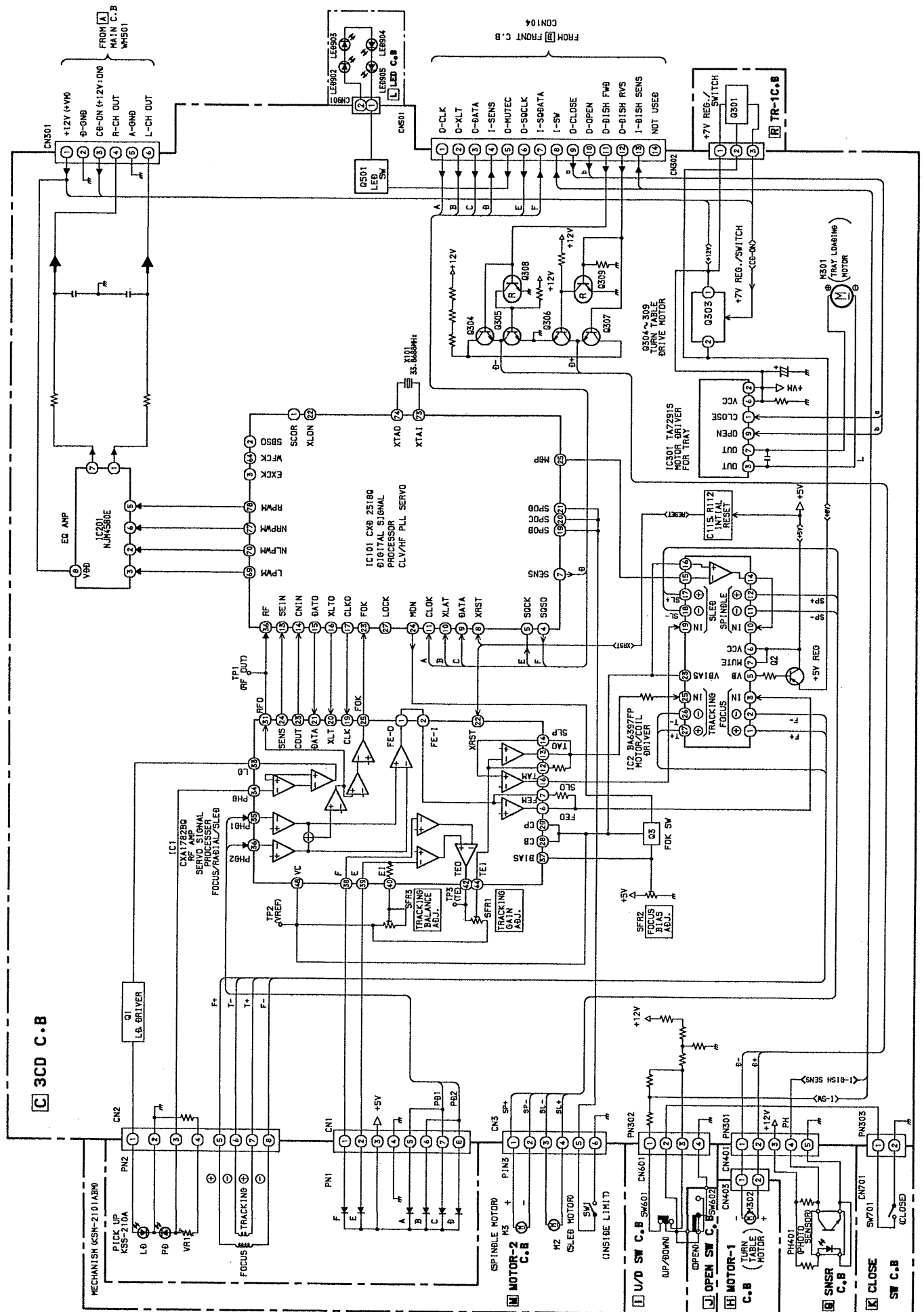
## ANODE CONNECTION

|     | G11         | G10        | G9             | G8          | G7         | G6    | G5          | G4   | G3         | G2                    | G1        |
|-----|-------------|------------|----------------|-------------|------------|-------|-------------|------|------------|-----------------------|-----------|
| P1  | B10         | B10        | B10            |             | d          | d     | d           | d    | d          | s, t <sub>w</sub> , x | <b>20</b> |
| P2  | B1          | B1         | B1             | B1          | j, p       | j, p  | j, p        | j, p | j, p       | u, v <sub>y</sub> , z | <b>19</b> |
| P3  | B11         | B11        | B11            | S8          | n          | n     | n           | n    | n          | 3e                    | <b>18</b> |
| P4  | B2          | B2         | B2             | B2          | r          | r     | r           | r    | r          | 3c                    | <b>17</b> |
| P5  | B12         | B12        | B12            |             | c          | c     | c           | c    | c          | 3a,3d,3g              | <b>16</b> |
| P6  | B3          | B3         | B3             | B3          | e          | e     | e           | e    | e          | 3b                    | <b>15</b> |
| P7  | B13         | B13        | B13            | O           | m          | m     | m           | m    | m          | 2e                    | <b>14</b> |
| P8  | B4          | B4         | B4             | B4          | g          | g     | g           | g    | g          | 2c                    | <b>13</b> |
| P9  | B5          | B5         | B5             | B5          | f          | f     | f           | f    | f          | 2a,2d,2g              | <b>11</b> |
| P10 | B15         | B15        | B15            | <b>AUTO</b> | b          | b     | b           | b    | b          | S3                    | <b>10</b> |
| P11 | B6          | B6         | B6             | B6          | k          | k     | k           | k    | k          | j, m, q               | <b>9</b>  |
| P12 | B16         | B16        | B16            | B10         | h          | h     | h           | h    | h          | h, l, p               | <b>8</b>  |
| P13 | B7          | B7         | B7             | B7          | a          | a     | a           | a    | a          | k, n, r               | <b>7</b>  |
| P14 | B14         | B14        | B14            |             | S7         | col 3 | col 1       | —    | <b>KHz</b> | 2b                    | <b>12</b> |
| P15 | B17         | B17        | B17            | B11         | S6         | NR    | <b>MONO</b> |      | <b>5</b>   | 1e                    | <b>6</b>  |
| P16 | B8          | B8         | B8             | B8          |            | dp1   | col 2       | —    | <b>MHz</b> | 1a,1d,1g              | <b>5</b>  |
| P17 | B18         | B18        | B18            | B12         |            | 1d    | 1d          | 1d   | 1d         | 1c                    | <b>4</b>  |
| P18 | B9          | B9         | B9             | B9          | <b>REC</b> | 1e    | 1e          | 1e   | 1e         | 1b                    | <b>3</b>  |
| P19 |             |            |                | B13         | S5         | 1c    | 1c          | 1c   | 1c         | —                     | <b>2</b>  |
| P20 | —           | —          | —              | B14         | —          | 1g    | 1g          | 1g   | 1g         | S2                    | <b>1</b>  |
| P21 | —           | —          | —              | B15         | /          | 1f    | 1f          | 1f   | 1f         |                       |           |
| P22 | —           | —          | —              | B16         |            | 1b    | 1b          | 1b   | 1b         | <b>SLEEP</b>          |           |
| ST1 | <b>ROCK</b> | <b>POP</b> | <b>CLASSIC</b> | B17         | S4         | 1a    | 1a          | 1a   | 1a         | <b>RANDOM</b>         |           |
| ST2 | S12         | S11        | S10            | S9          | —          | —     | —           | —    | —          | —                     | S1        |
| ST3 | —           | —          | —              | <b>BBE</b>  | —          | —     | —           | —    | —          | —                     | —         |

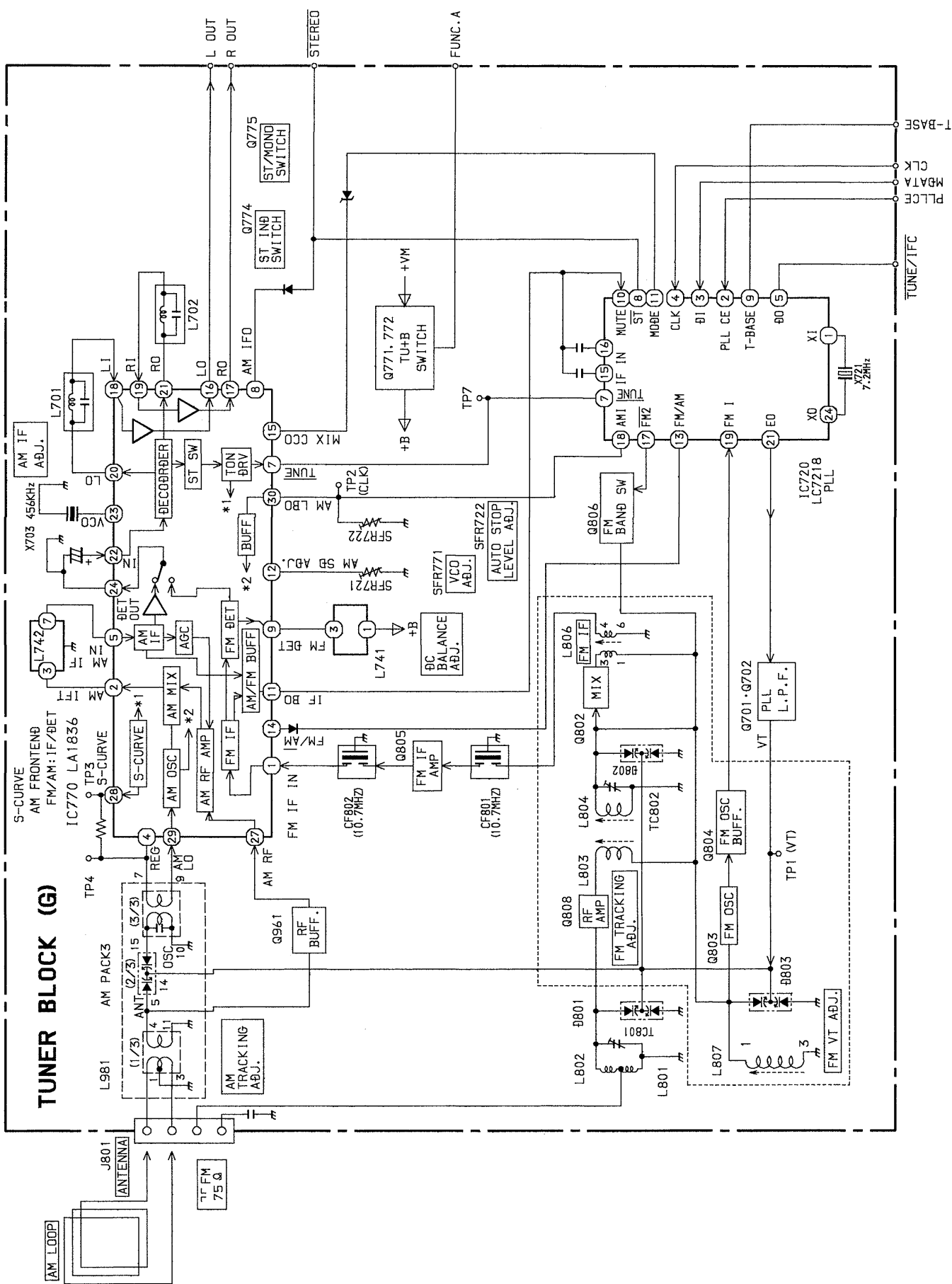
# BLOCK DIAGRAM - 1 (MAIN/FRONT)



# BLOCK DIAGRAM - 2 (CD)

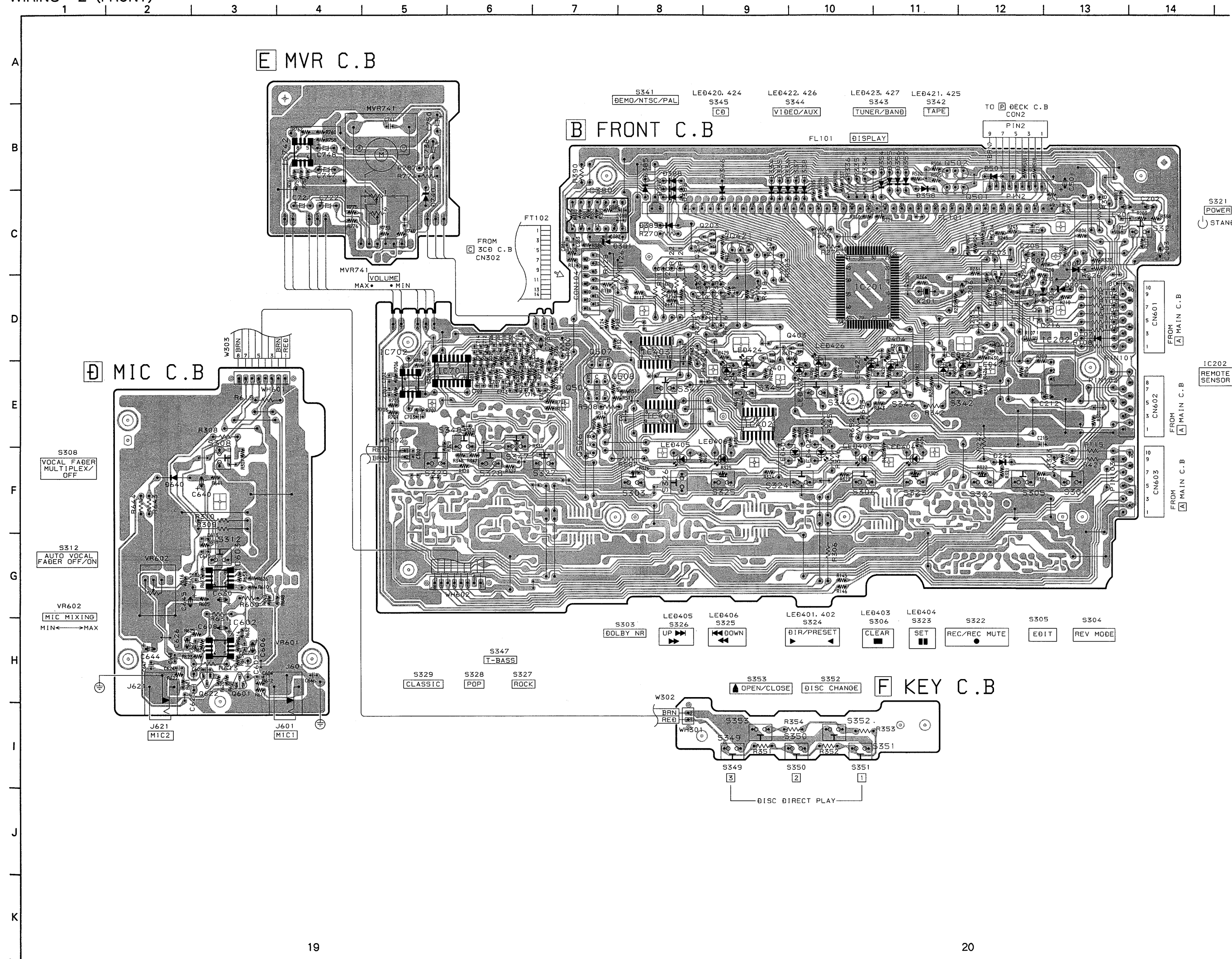


### BLOCK DIAGRAM - 3 (TUNER)



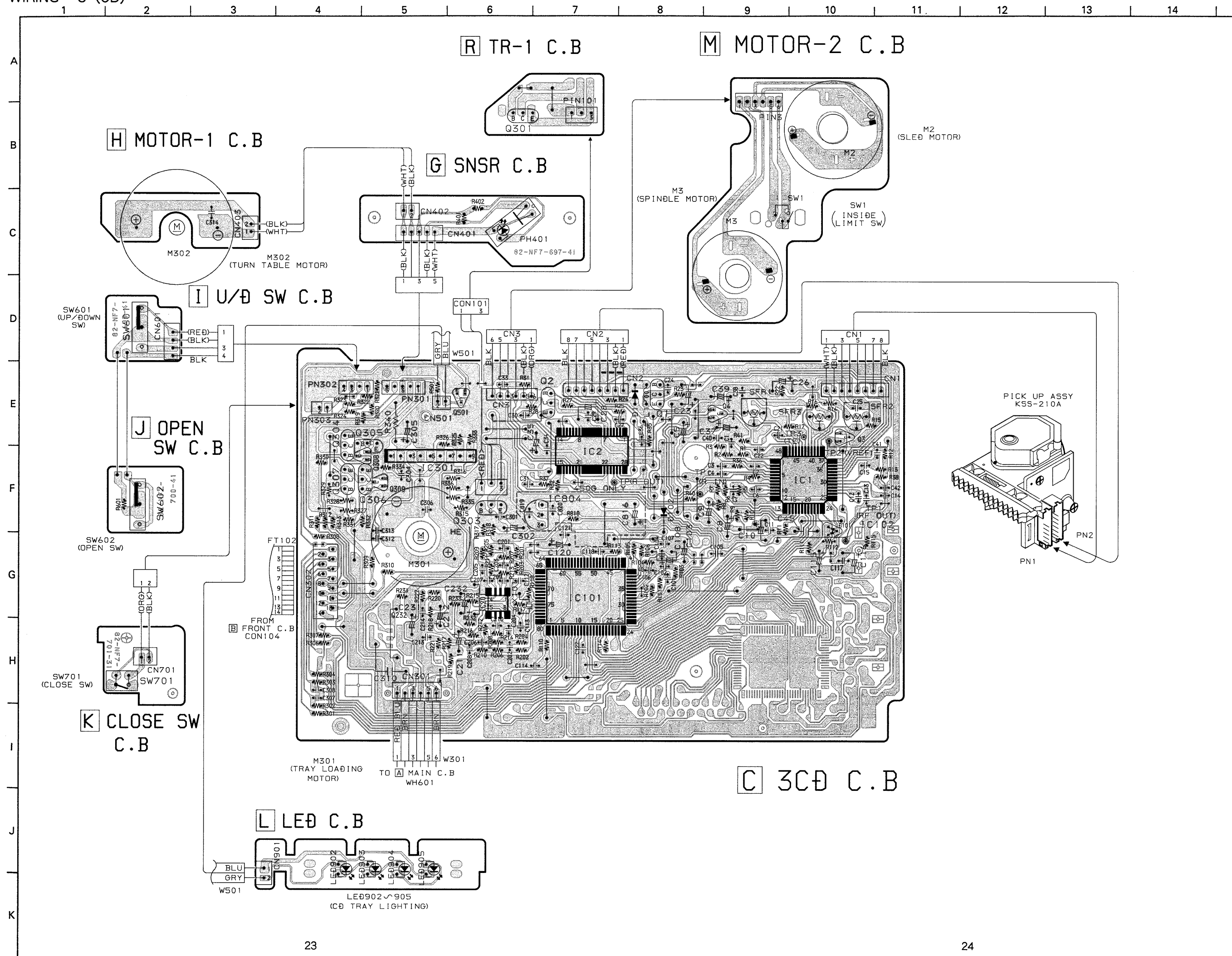


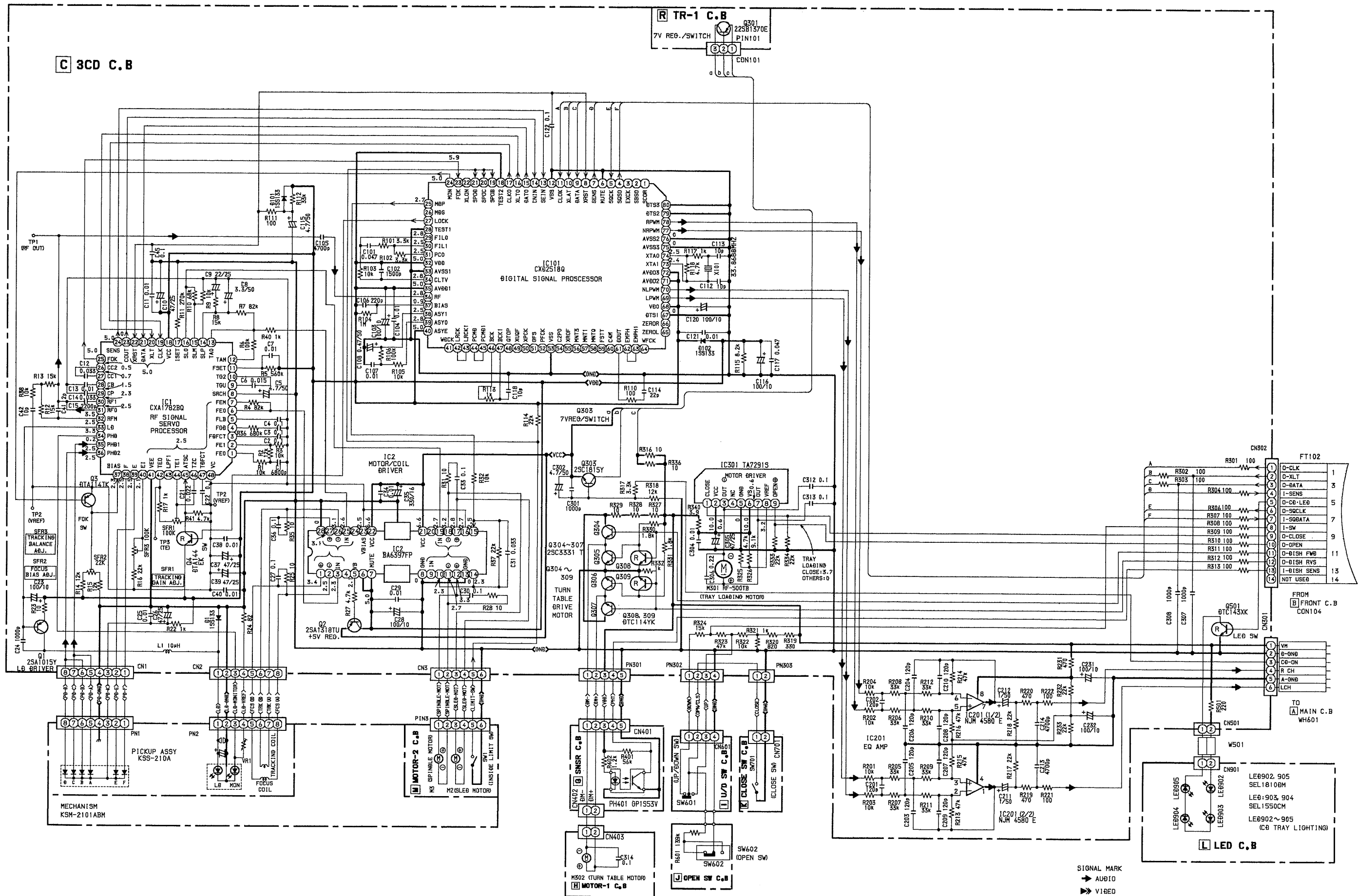


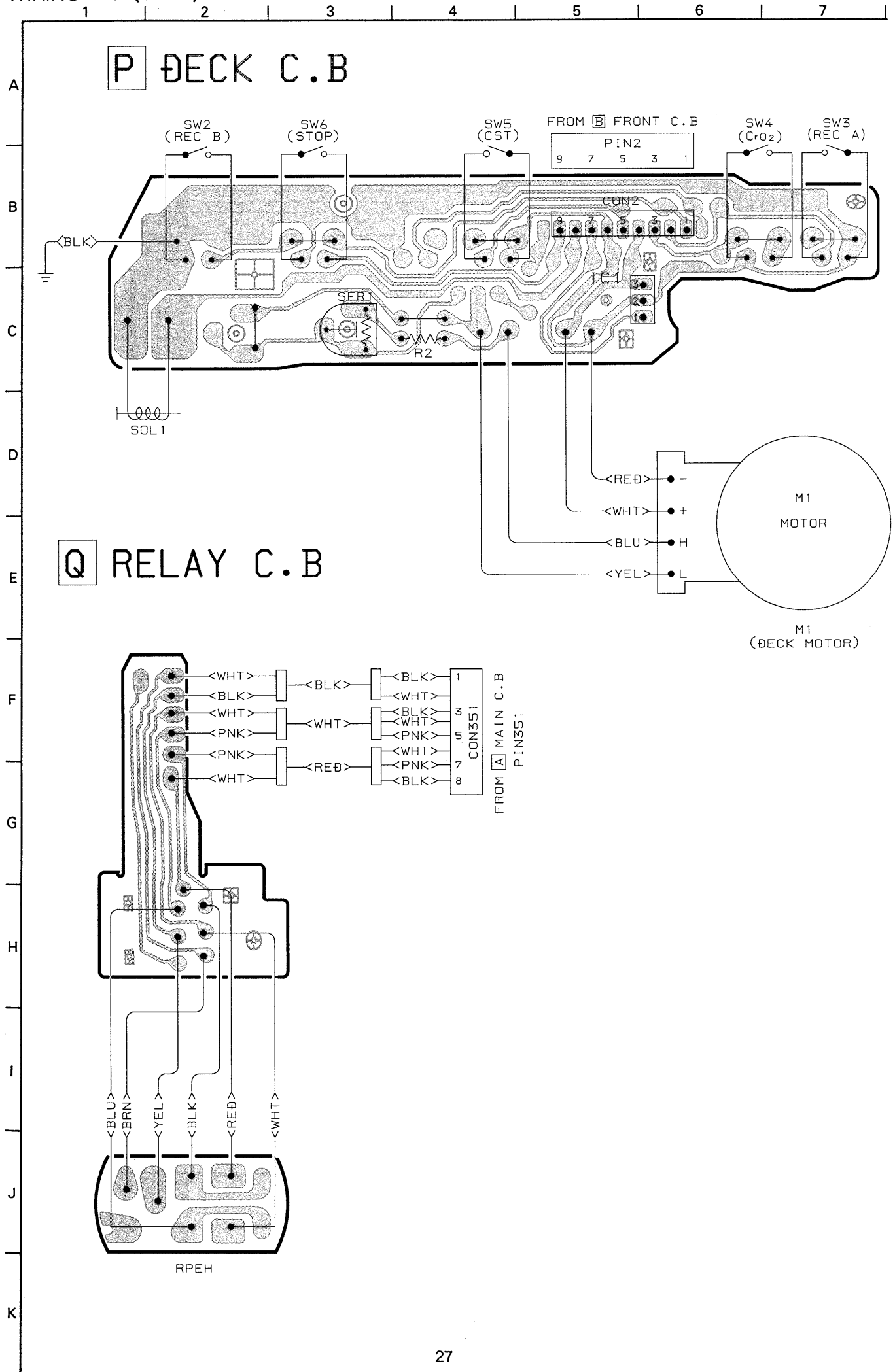


The schematic diagram illustrates the internal circuitry of a stereo system, organized into several functional sections:

- Section A (Top Left):** Contains input connectors (PIN101, PIN102) and associated resistors (R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267, R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387, R388, R389, R390, R391, R392, R393, R394, R395, R396, R397, R398, R399, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R89







# IC DESCRIPTION

## IC,LC866432V – 5531

| Pin No. | Pin Name       | I/O | Description                                                                 |
|---------|----------------|-----|-----------------------------------------------------------------------------|
| 1       | O-PLL CE       | O   | PLL IC chip enable.                                                         |
| 2       | O-KC/CE        | O   | Key control IC M65840 data latched strobe output.                           |
| 3       | O-M/STB        | O   | Main shift register (IC602, 603) data latch strobe output.                  |
| 4       | O-M/DATA       | O   | Main shift register (IC602, 603), PLL/key control/DSP related data output.  |
| 5       | O-M/CLK        | O   | Main shift register (IC602, 603), PLL/key control/DSP related clock output. |
| 6       | I-HOLD         | I   | Power failure detected input. L to stop clock and maintain memory.          |
| 7       | RESET          | I   | Reset input.                                                                |
| 8       | I-STEREO       | I   | Tuner stereo detected input.                                                |
| 9       | I-TUNE/IFC     | I   | Tuner SD detected input. IF count serial data input.                        |
| 10      | VSS1           | —   | GND.                                                                        |
| 11, 12  | CF1, 2         | —   | 5.76MHz oscillator circuit.                                                 |
| 13      | VDD1           | —   | Power supply input.                                                         |
| 14~16   | I-KEY1~3       | I   | Key input. (A/D)                                                            |
| 17      | I-CD/SW        | I   | CD mechanical switch A/D converter input.                                   |
| 18      | I-CD/DISH      | I   | CD turntable photo sensor A/D converter input.                              |
| 19      | I-MS           | I   | Deck music sensor signal input.                                             |
| 20      | I-SPEANA       | I   | A/D input for spectrum analyzer display.                                    |
| 21      | I-MIC          | I   | Microphone input for auto VF display.                                       |
| 22      | I-TM BASE      | I   | Reference clock input for timer watch.                                      |
| 23      | I-CD/SENSE     | I   | CD IC control SENS input.                                                   |
| 24      | I-RMC          | I   | System remote control signal input.                                         |
| 25~36   | G12~G1         | O   | FL grid output G12~G1.                                                      |
| 37      | P22            | O   | FL segment output P22.                                                      |
| 38      | P21/O-SPEANA A | O   | FL segment output P21, spectrum analyzer band switch output (A).            |
| 39      | P20/O-SPEANA B | O   | FL segment output P20, spectrum analyzer band switch output (B).            |
| 40      | P19/O-SPEANA C | O   | FL segment output P19, spectrum analyzer band switch output (C).            |
| 41      | VDD2           | —   | Power supply input.                                                         |
| 42      | -VP            | —   | Power supply input (-34.5V) for FL display.                                 |
| 43      | P18            | I/O | FL segment output P18.                                                      |
| 44      | P17            | I/O | FL segment output P17.                                                      |
| 45      | P16            | I/O | FL segment output P16.                                                      |
| 46      | P15/CSM2       | I/O | FL segment output P15, DECK cam switch signal input.                        |
| 47      | P14/AUTO2      | I/O | FL segment output P14, DECK auto stop data input.                           |
| 48      | P13/CST2       | I/O | FL segment output P13, DECK cassette detect switch data input.              |
| 49      | P12/REA        | I/O | FL segment output P12, DECK side-A record OK switch data input.             |
| 50      | P11/REB        | I/O | FL segment output P11, DECK2 side-B record OK switch data input.            |
| 51      | P10/FM-WIDE    | I/O | FL segment output P10, FM wide mode data input to diode.                    |
| 52      | P1/AM-ST       | I/O | FL segment output P1, AM stereo mode data input to diode.                   |
| 53      | P2             | O   | FL segment output P2.                                                       |

| P i n N o. | P i n N a m e           | I / O | D e s c r i p t i o n                                         |
|------------|-------------------------|-------|---------------------------------------------------------------|
| 5 4        | P 3 / L W               | I / O | FL segment output P3, LW mode data input to diode.            |
| 5 5        | P 4 / S W               | I / O | FL segment output P4, SW mode data input to diode.            |
| 5 6        | P 5 / B B E             | I / O | FL segment output P5, BBE mode data input to diode.           |
| 5 7        | P 6                     | O     | FL segment output P6.                                         |
| 5 8        | P 7                     | O     | FL segment output P7.                                         |
| 5 9        | P 8                     | O     | FL segment output P8.                                         |
| 6 0        | P 9                     | O     | FL segment output P9.                                         |
| 6 1        | O - C L O S E           | O     | CD tray close data output.                                    |
| 6 2        | O - O P E N             | O     | CD tray open data output.                                     |
| 6 3        | O - D I / R             | O     | CD turntable reverse rotation output.                         |
| 6 4        | O - D I / F             | O     | CD turntable forward rotation output.                         |
| 6 5        | O - P O W E R           | O     | System power supply $\overline{ON}$ /OFF output.              |
| 6 6        | —                       | —     | Not used.                                                     |
| 6 7        | O - S O L 2             | O     | DECK solenoid output.                                         |
| 6 8        | O - M O T O R           | O     | DECK motor output.                                            |
| 6 9        | O - K E Y . S C A N     | O     | Switch scan timing output.                                    |
| 7 0        | O - F / S T B           | O     | Front shift register (IC401~403), data latch strobe output.   |
| 7 1        | O - F / C L K           | O     | Front shift register (IC401~403), data transfer clock output. |
| 7 2        | O - F / D A T A         | O     | Front shift register (IC401~403), data output.                |
| 7 3        | V S S 2                 | —     | GND.                                                          |
| 7 4        | O - D S P / C E         | O     | Not used.                                                     |
| 7 5        | O - C D / D A T A       | O     | CD IC control data output.                                    |
| 7 6        | O - C D / X L T         | O     | CD IC control data latch output.                              |
| 7 7        | O - C D / C L K         | O     | CD IC control data transfer clock output.                     |
| 7 8        | I - C D / S Q . D A T A | O     | CD SUB-Q data input.                                          |
| 7 9        | O - C D / S Q . C L K   | O     | Clock output for CD SUB-Q input data.                         |
| 8 0        | O - M U T E             | O     | System mute output.                                           |

# IC,CXD2518Q

| P i n No. | P i n Name | I/O | D e s c r i p t i o n                                                                            |
|-----------|------------|-----|--------------------------------------------------------------------------------------------------|
| 1         | SCOR       | O   | 1H when the subcode sync S0 or S1 is detected.                                                   |
| 2         | SBSO       | O   | SUBP~W serial output.                                                                            |
| 3         | EXCK       | I   | Clock input for SBSO read out.                                                                   |
| 4         | SQSO       | O   | SUBQ 80-bit serial output.                                                                       |
| 5         | SQCK       | I   | Clock input for SQSO read out.                                                                   |
| 6         | MUTE       | I   | H to mute. L to cancel. (Connected to GND.)                                                      |
| 7         | SENS       | O   | SENS signal output to CPU (IC201).                                                               |
| 8         | XRST       | I   | System reset. L to reset.                                                                        |
| 9         | DATA       | I   | Serial data input from CPU (IC201).                                                              |
| 10        | XLAT       | I   | Latch input from CPU (IC201). Latching serial data at fall down.                                 |
| 11        | CLOK       | I   | Clock input from CPU (IC201) to transfer serial data.                                            |
| 12        | VSS        | —   | GND.                                                                                             |
| 13        | SEIN       | I   | SENS input from SSP (CX1782BQ).                                                                  |
| 14        | CNIN       | I   | Numbers of track jump are counted and input.                                                     |
| 15        | DATO       | O   | Serial data output to SSP (CX1782BQ).                                                            |
| 16        | XLTO       | O   | Serial data latched output to SSP (CX1782BQ). Latched at fall down edge.                         |
| 17        | CLKO       | O   | Clock input from SSP (CX1782BQ) to transfer serial data.                                         |
| 18        | TEST2      | I   | TEST. (Connected to +5V)                                                                         |
| 19~21     | SPOB~D     | I   | Input from INSIDE LIMIT switch (SW1).                                                            |
| 22        | XLON       | O   | LC7870E mute control output.                                                                     |
| 23        | FOK        | I   | Focus OK input pin. Used for SENS output and servo auto sequencer.                               |
| 24        | MON        | O   | Spindle motor ON/OFF control output.                                                             |
| 25        | MDP        | O   | Spindle motor servo control output.                                                              |
| 26        | MDS        | O   | Spindle motor servo control output. (Not used)                                                   |
| 27        | LOCK       | O   | GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times. |
| 28        | TEST1      | I   | TEST. (Connected to GND)                                                                         |
| 29        | FILO       | O   | Filter output to master PLL. (slave=digital PLL)                                                 |
| 30        | FILI       | I   | Filter input to master PLL.                                                                      |
| 31        | PCO        | O   | Charge-pump output to master PLL.                                                                |
| 32        | VDD        | —   | Power supply input. (+5V)                                                                        |
| 33        | AVSS1      | —   | GND.                                                                                             |
| 34        | CLTV       | I   | VCO control voltage input to master PLL.                                                         |
| 35        | AVDD1      | —   | Power supply input. (+5V)                                                                        |
| 36        | RF         | I   | EFM signal input.                                                                                |
| 37        | BIAS       | I   | Constant current input to asymmetry correction circuit.                                          |
| 38        | ASYI       | I   | Compare voltage input to asymmetry correction circuit.                                           |
| 39        | ASYO       | O   | EFM full swing output. (L=VSS, H=VDD)                                                            |
| 40        | ASYE       | I   | L: asymmetry correction OFF. H: asymmetry correction ON (connected to +5V)                       |
| 41        | WDCK       | O   | D/A interface, word clock (2Fs) for 48-bit slot. (Not used)                                      |
| 42        | LRCK       | O   | D/A interface, LR clock (Fs) for 48-bit slot.                                                    |

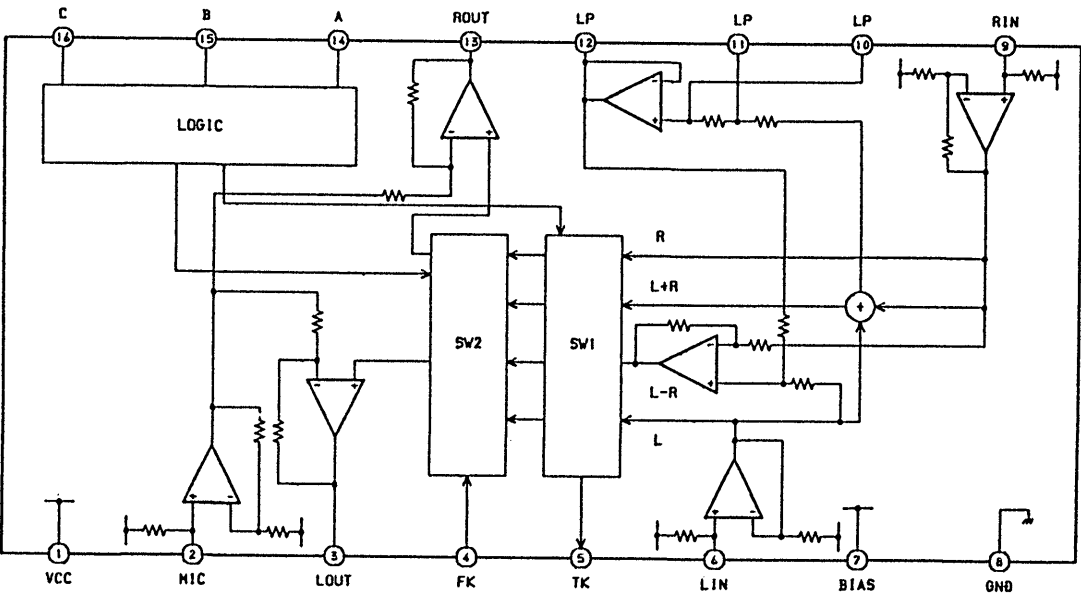
| P i n N o . | P i n N a m e | I / O | D e s c r i p t i o n                                                               |
|-------------|---------------|-------|-------------------------------------------------------------------------------------|
| 4 3         | L R C K I     | I     | LR clock input to DAC. (48-bit slot)                                                |
| 4 4         | P C M D       | O     | D/A interface, serial data. (2's complement, MSB first)                             |
| 4 5         | P C M D I     | I     | Audio data input to DAC. (48-bit slot)                                              |
| 4 6         | B C K         | O     | D/A interface, bit clock.                                                           |
| 4 7         | B C K I       | I     | Bit clock input to DAC. (48-bit slot)                                               |
| 4 8         | G T O P       | O     | GTOP output. (Not used)                                                             |
| 4 9         | X U G F       | O     | XUFG output. (Not used)                                                             |
| 5 0         | X P C K       | O     | XPCLK output. (Not used)                                                            |
| 5 1         | G F S         | O     | GFS output. (Not used)                                                              |
| 5 2         | R F C K       | O     | RFCK output. (Not used)                                                             |
| 5 3         | V S S         | —     | GND.                                                                                |
| 5 4         | C 2 P O       | O     | C2PO output. (Not used)                                                             |
| 5 5         | X R O F       | O     | XRAOF output. (Not used)                                                            |
| 5 6         | M N T 3       | O     | MNT3 output. (Not used)                                                             |
| 5 7         | M N T 1       | O     | MNT1 output. (Not used)                                                             |
| 5 8         | M N T 0       | O     | MNT0 output. (Not used)                                                             |
| 5 9         | F S T T       | O     | Pins-73 and -74 divided-by 2/3 output. (Not used)                                   |
| 6 0         | C 4 M         | O     | 4.2336MHz output. (Not used)                                                        |
| 6 1         | D O U T       | O     | Digital Out connector output signal.                                                |
| 6 2         | E M P H       | O     | H when the playback disc has emphasis. L when it does not.                          |
| 6 3         | E M P H I     | I     | DAC emphasis ON/OFF. H when ON. L when OFF                                          |
| 6 4         | W F C K       | O     | WFCK (WRITE FRAME CLOCK) output.                                                    |
| 6 5         | Z E R O L     | O     | No sound data detection output. H (L-ch) when no sound data is detected. (Not used) |
| 6 6         | Z E R O R     | O     | No sound data detection output. H (R-ch) when no sound data is detected. (Not used) |
| 6 7         | D T S I       | I     | TEST for DAC. (Connected to GND)                                                    |
| 6 8         | V D D         | —     | Power supply input. (+5V)                                                           |
| 6 9         | L P W M       | O     | L-ch PWM output. (normal polarity)                                                  |
| 7 0         | N L P W M     | O     | L-ch PWM output. (reversed polarity)                                                |
| 7 1         | A V D D 2     | —     | Power supply input to L-ch PWM driver. (Connected to +5V)                           |
| 7 2         | A V D D 3     | —     | Power supply input to X'tal. (Connected to +5V)                                     |
| 7 3         | X T A I       | I     | X'tal input to 33.8688MHz oscillator circuit.                                       |
| 7 4         | X T A O       | O     | 33.8688MHz X'tal oscillator circuit output.                                         |
| 7 5         | A V S S 1     | —     | Power supply input to X'tal. (Connected GND)                                        |
| 7 6         | A V S S 2     | —     | Power supply input to PWM driver. (Connected to GND)                                |
| 7 7         | N R P W M     | O     | R-ch PWM output. (reversed phase)                                                   |
| 7 8         | R P W M       | O     | R-ch PWM output. (normal phase)                                                     |
| 7 9         | D T S 2       | I     | TEST-2 for DAC. (Connected GND)                                                     |
| 8 0         | D T S 3       | I     | TEST-3 for DAC. (Connected GND)                                                     |

# IC,CXA1782BQ

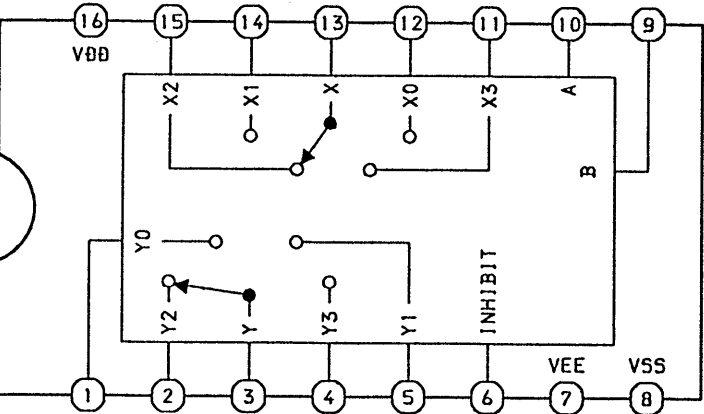
| P i n N o . | P i n N a m e | I / O | D e s c r i p t i o n                                                                                                      |
|-------------|---------------|-------|----------------------------------------------------------------------------------------------------------------------------|
| 1           | F E O         | O     | Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.                            |
| 2           | F E I         | I     | Focus error input pin.                                                                                                     |
| 3           | F D F C T     | I     | Capacitor connection pin for time constant used when there is defect.                                                      |
| 4           | F G D         | I     | Corrects the focus servo high frequency gain.                                                                              |
| 5           | F L B         | I     | This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.          |
| 6           | F E O         | O     | Focus drive output.                                                                                                        |
| 7           | F E M         | I     | Focus amplifier inverted input pin.                                                                                        |
| 8           | S R C H       | I     | This is a pin where the time constant is externally connected to generate the focus search waveform.                       |
| 9           | T G U         | I     | This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain. |
| 1 0         | T G 2         | I     | This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.           |
| 1 1         | F S E T       | I     | Pin for setting peak of the phase compensator of the focus tracking.                                                       |
| 1 2         | T A M         | I     | Tracking amplifier inverted input pin.                                                                                     |
| 1 3         | T A O         | O     | Tracking drive output.                                                                                                     |
| 1 4         | S L P         | I     | Sled amplifier non-inverted input pin.                                                                                     |
| 1 5         | S L M         | I     | Sled amplifier inverted input pin.                                                                                         |
| 1 6         | S L O         | O     | Sled drive output.                                                                                                         |

| P i n N o . | P i n N a m e | I / O | D e s c r i p t i o n                                                                                                           |
|-------------|---------------|-------|---------------------------------------------------------------------------------------------------------------------------------|
| 1 7         | I S E T       | I     | The current which determines height of the focus search, track jump and sled kick is input.                                     |
| 1 8         | V C C         | —     | + 5 V power supply pin.                                                                                                         |
| 1 9         | C L K         | I     | Serial data transfer clock input from CPU (CXD2518Q).                                                                           |
| 2 0         | X L T         | I     | Latch input from CPU (CXD2518Q).                                                                                                |
| 2 1         | D A T A       | I     | Serial data input from CPU (CXD2518Q).                                                                                          |
| 2 2         | X R S T       | I     | Reset input pin. Reset at L.                                                                                                    |
| 2 3         | C O U T       | O     | Signal output to count the number of tracks.                                                                                    |
| 2 4         | S E N S       | O     | FZC, DFCT, TZC, Gain or BAL is output depending on the command from CPU (CXD2518Q).                                             |
| 2 5         | F O K         | O     | Output pin of the focus OK comparator.                                                                                          |
| 2 6         | C C 2         | O     | Input pin where the DEFECT bottom hold output is capacitance coupled.                                                           |
| 2 7         | C C 1         | I     | DEFECT bottom hold output pin.                                                                                                  |
| 2 8         | C B           | I     | This is a pin where the DEFECT bottom hold capacitor is connected.                                                              |
| 2 9         | C P           | I     | This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.                      |
| 3 0         | R F I         | I     | Input pin where the RF summing amplifier output is capacitance coupled.                                                         |
| 3 1         | R F O         | O     | RF summing amplifier output pin. (TP1)                                                                                          |
| 3 2         | R F M         | I     | RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin. |
| 3 3         | L D           | O     | APC amplifier output pin.                                                                                                       |
| 3 4         | P H D         | I     | APC amplifier input pin.                                                                                                        |
| 3 5 ~ 3 6   | P H D 1 ~ 2   | I     | RF I-V amplifier inverted input pin.<br>These pins are connected to the A+C and B+D pins of the optical pickup.                 |
| 3 7         | B I A S       | I     | Bias adjustment pin of the non-inverted side of the focus error amplifier.                                                      |
| 3 8 ~ 3 9   | F ~ E         | I     | F and E IV amplifier non-inverted input pins.<br>These pins are connected to the F and E of the optical pickup.                 |
| 4 0         | E I           | —     | Gain adjustment pin of the I-V amplifier E.                                                                                     |
| 4 1         | V E E         | —     | GND connection pin                                                                                                              |
| 4 2         | T E O         | O     | Tracking error amplifier output pin. E-F signal is output.                                                                      |
| 4 3         | L P F I       | I     | BAL adjustment comparator input pin. (Not used.)                                                                                |
| 4 4         | T E I         | I     | Tracking error input pin.                                                                                                       |
| 4 5         | A T S C       | I     | Window comparator input pin for detecting ATSC.                                                                                 |
| 4 6         | T Z C         | I     | Tracking zero-cross comparator input pin.                                                                                       |
| 4 7         | T D F C T     | I     | Capacitor connection pin for the time constant used when there is defect.                                                       |
| 4 8         | V C           | O     | DC voltage output pin of VREF. (VDD/2)                                                                                          |

IC BLOCK DIAGRAM  
IC,BA3837



IC,TC4052

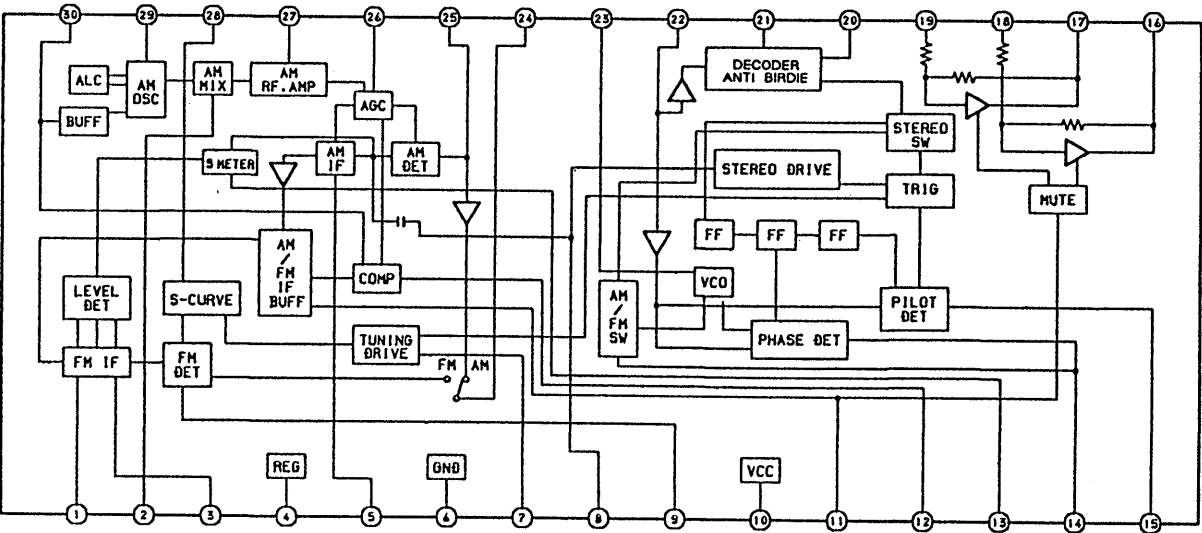


TRUTH TABLE

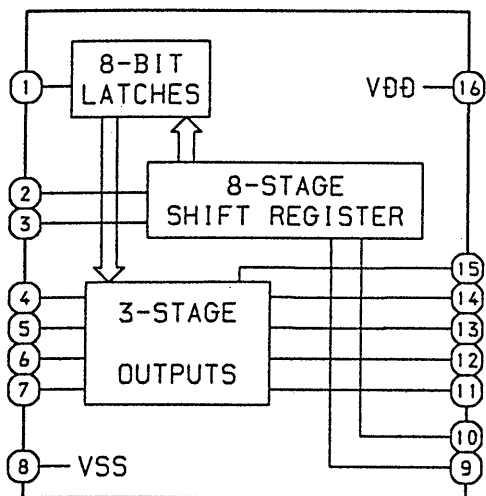
| CONTROL INPUTS |   |   | ON SWITCH |    |
|----------------|---|---|-----------|----|
| INHIBIT        | B | A | Y0        | X0 |
| L              | L | L | Y0        | X0 |
| L              | L | H | Y1        | X1 |
| L              | H | L | Y2        | X2 |
| L              | H | H | Y3        | X3 |
| H              | X | X | —         | —  |

L:LOW LEVEL  
H:HIGH LEVEL  
X:IRRELEVANT

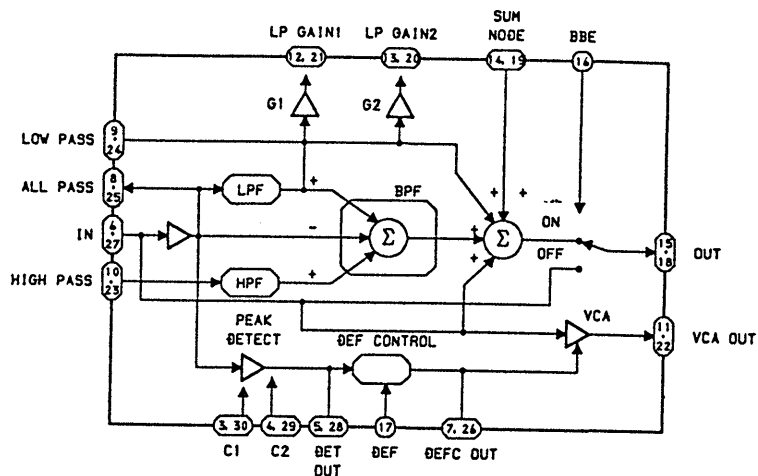
IC,LA1836



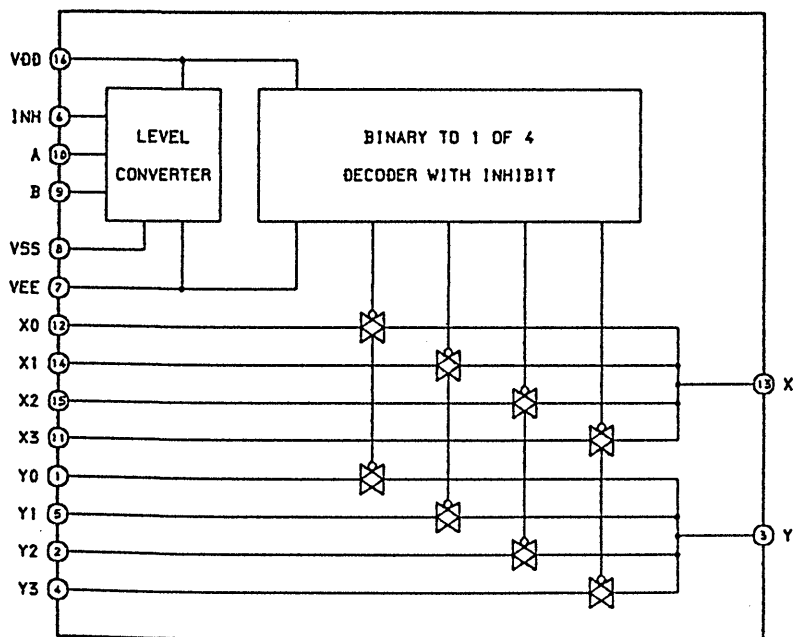
# IC,TC4094B



# IC,XR - 1071CP



# IC,BU4052B

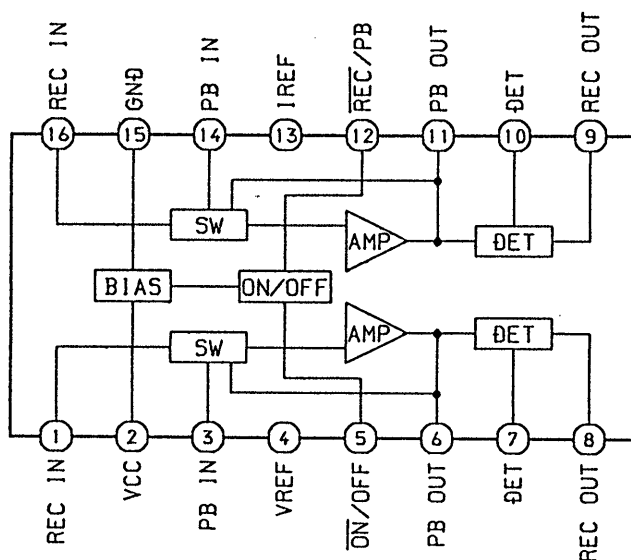


# TRUTH TABLE

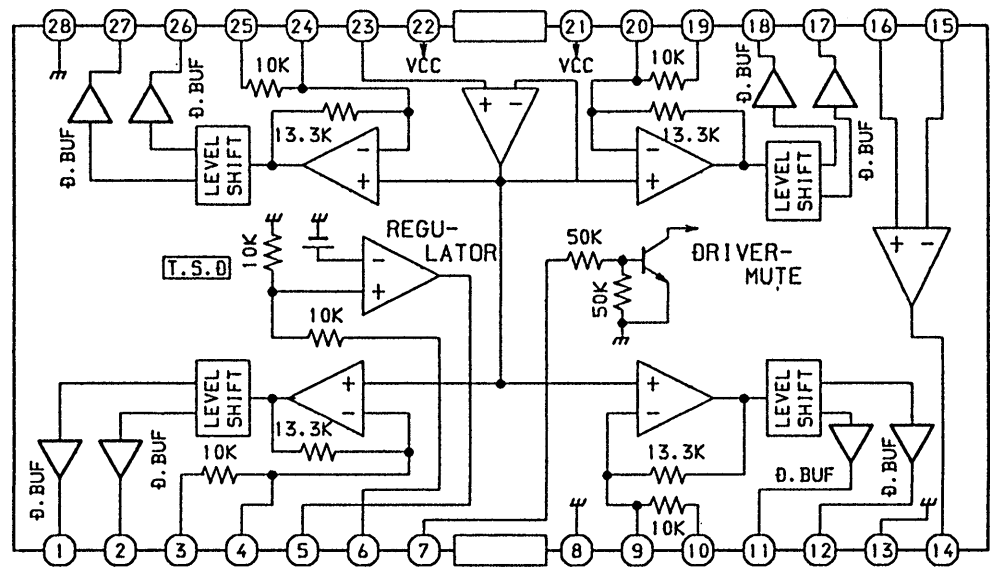
| INHIBIT | A | B | DN SWITCH |
|---------|---|---|-----------|
| L       | L | L | X0 Y0     |
| L       | H | L | X1 Y1     |
| L       | L | H | X2 Y2     |
| L       | H | H | X3 Y3     |
| H       | X | X | NONE      |

X: DON'T CARE.

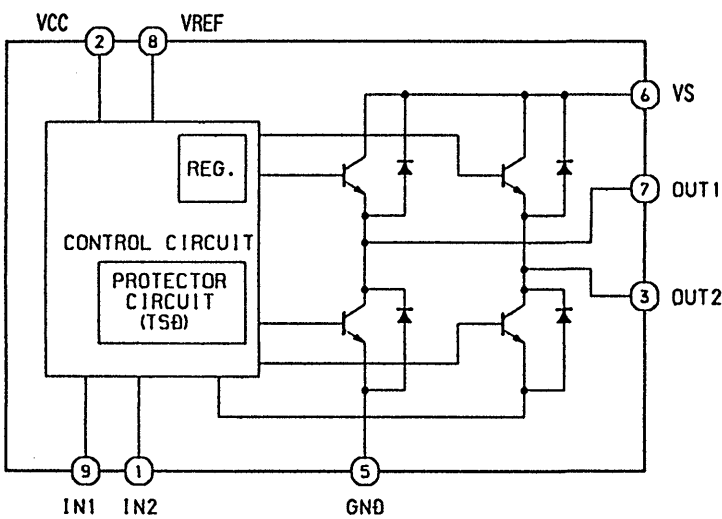
# IC,HA12134A



IC,BA6397FP



IC,TA7291

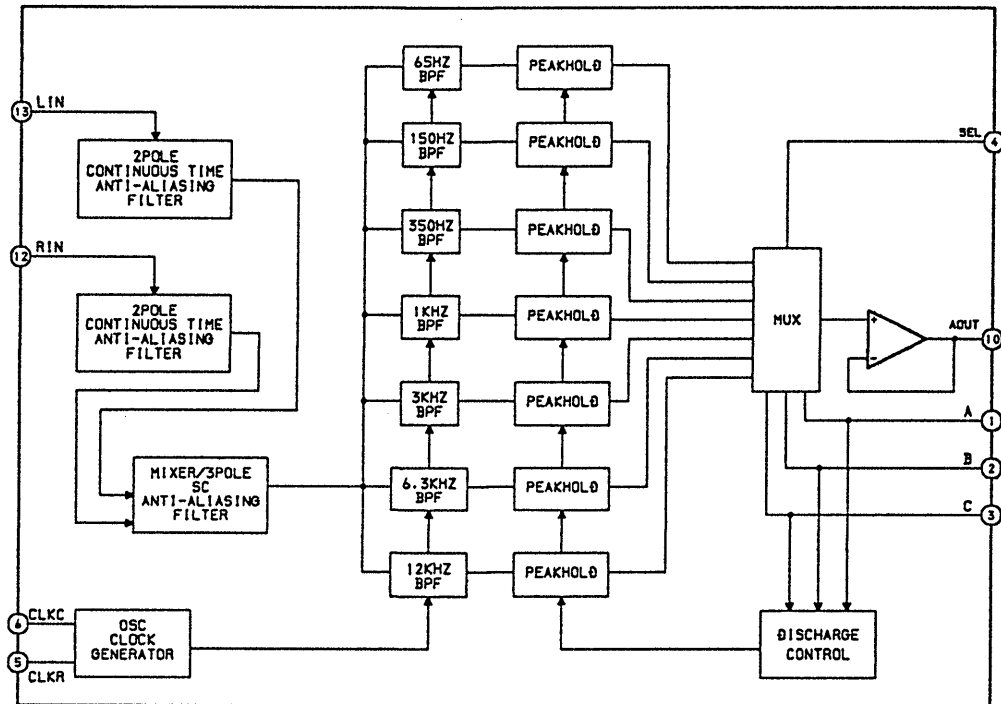


TRUTH TABLE

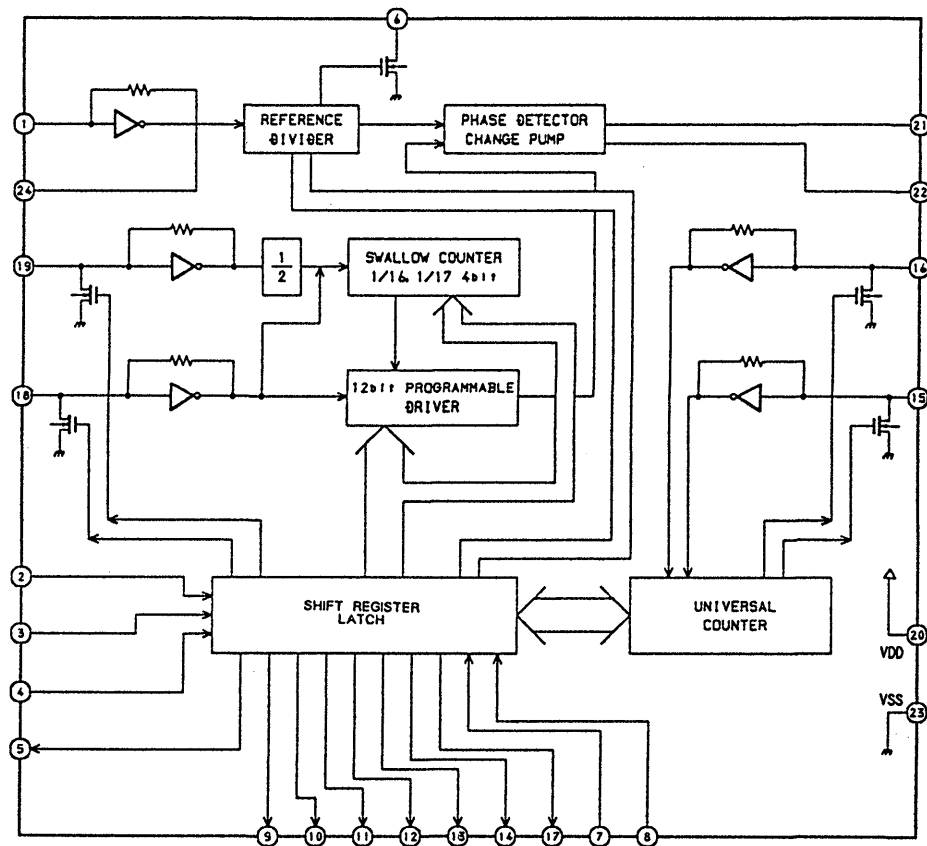
| INPUT |     | OUTPUT   |          | MODE  |
|-------|-----|----------|----------|-------|
| IN1   | IN2 | OUT1     | OUT2     |       |
| 0     | 0   | $\infty$ | $\infty$ | STOP  |
| 1     | 0   | H        | L        | CW    |
| 0     | 1   | L        | H        | CCW   |
| 1     | 1   | L        | L        | BRAKE |

$\infty$  : HI IMPEDANCE  
NOTE : INPUT "H" ACTIVE

IC,XR1090



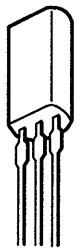
IC,LC7218



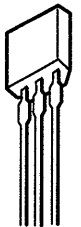
TRANSISTOR ILLUSTRATION



ECB



SGD



ECB



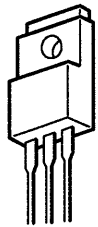
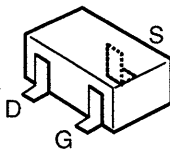
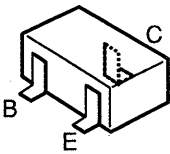
DGS

2SA952    2SC3266  
2SA1015    2SC3331  
2SA1296    2SD655  
2SA1318    KTA1266  
2SC1815    KTC3198

2SK246

DTA114YS

2SK365



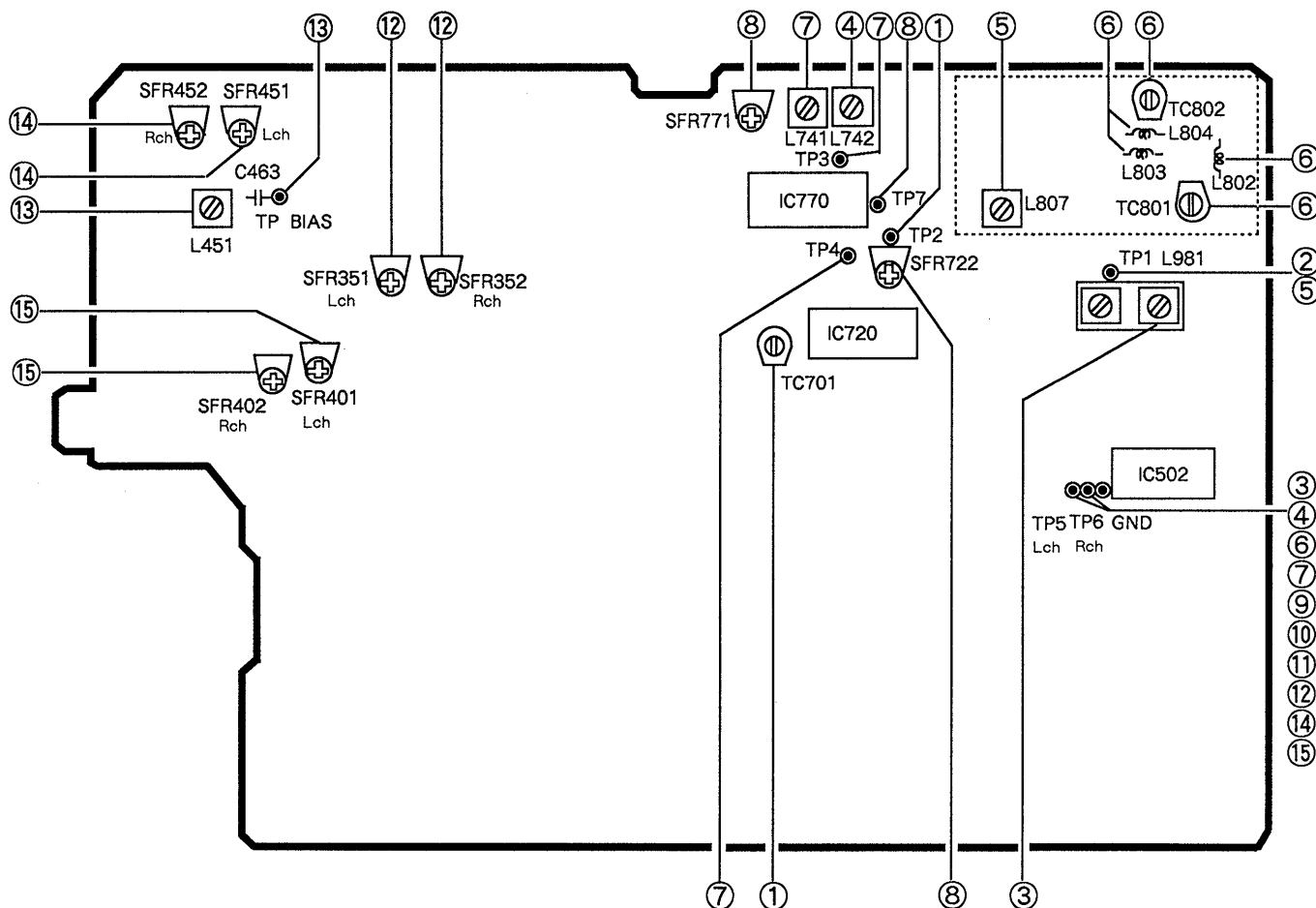
2SA1162    DTA144EK  
2SC2712    DTA144WK  
2SC2714    DTC114EK  
2SC3326    DTC114YK  
DTA114TK    DTC143XK  
DTA143EK    DTC144EK

2SK302

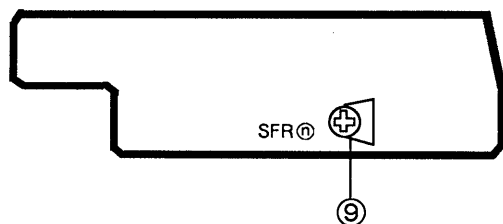
2SB1370

# ELECTRICAL ADJUSTMENT

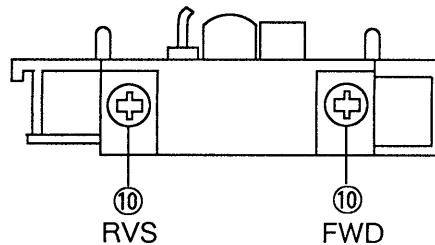
## A MAIN C.B



## P DECK C.B



## DECK R/P/E HEAD



## TUNER SECTION

### 1. Clock Frequency Adjustment

Settings : • Test point : TP2 (CLK IC770 pin30)  
• Adjustment location : TC701

Method : Set to MW 1602kHz and adjust TC701 so that the test point becomes 2052kHz  $\pm$  0.01kHz.

### 2. AM VT Check

Settings : • Test point : TP1 (VT)

Method : Set to MW 1602kHz and check that the test point is 6.3  $\pm$  1.0V.

### 3. AM Tracking Adjustment

Settings : • Test point : TP5, TP6

• Adjustment location : L981

Method : Set to MW 999kHz and adjust L981 that the test point becomes maximum.

### 4. AM IF Adjustment

Settings : • Test point : TP5, TP6

L742..... 450kHz

## 5. FM VT Adjustment

Settings : • Test point : TP1 (VT)

• Adjustment location : L807

Method : Set to FM 87.5MHz and adjust L807 so that the test point becomes  $1.7V \pm 0.05V$ .

## 6. FM Tracking Adjustment

Settings : • Test point : TP5,TP6

TC801,TC802 ..... 108MHz

L802,L804,L803 ..... 87.5MHz

## 7. DC Balance/MONO Distortion Adjustment

Settings : • Test point : TP3,TP4 (DC balance)

TP5,TP6 (Distortion)

• Adjustment location : L741

• Input level : 54dB

Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes  $0V \pm 0.04V$ .

Next check that the distortion is less than 1.3%.

## 8. Auto stop Level Adjustment

FM

Settings : • Test point : TP7

• Adjustment location : SFR722

• Input level : 18dB

Method : Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

AM

Settings : • Test point : TP7

• Adjustment location : SFR771

• Input level : 55dB

Method : Set to AM 999kHz and adjust voltage low (about 0.01V) by SFR771. After that voltage high (about 7.0V) out by 2dB down.

## TAPE SECTION

## 9. Tape Speed Adjustment

Settings : • Test tape : TTA-100

• Test point : TP5,TP6

• Adjustment location : SFR@

Method : Play back the test tape by DECK and adjust SFR@ so that the frequency counter reads  $3000Hz \pm 5Hz$ .

## 10. Head Azimuth Adjustment

Settings : • Test tape : TTA-310

• Test point : TP5,TP6

• Adjustment location : Head azimuth adjustment screw

Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

## 11. PB Frequency Response Check

Settings : • Test tape : TTA-310

• Test point : TP5,TP6

Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal is with respect to that of the 315Hz signal is  $\pm 2dB$ .

## 12. PB Sensitivity Adjustment

Settings : • Test tape : TTA-200

• Test point : TP5,TP6

• Adjustment location :

SFR351 (Lch)

SFR352 (Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 300mV.

## 13. BIAS OSC Adjustment

Settings : • Test tape : TTA-601

• Test point : TP BIAS

• Adjustment location : L451

Method : Set to the REC mode: Adjust L451, so that the frequency counter of the test point reads  $85kHz \pm 1kHz$ .

## 14. REC/PB Frequency Response Adjustment

Settings : • Test tape : TTA-601

• Test point : TP5,TP6

• Input signal : 1kHz/10kHz (LINE IN)

• Adjustment location : SFR451 (Lch)

SFR452 (Rch)

Method : Apply a 1kHz signal and REC mode.

Then adjust OSC attenuator so that the output level at the TP5,TP6 is 21mV.

Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal becomes  $0dB \pm 0.5dB$  with respect to that of the 1kHz signal.

## 15.REC/PB Sensitivity Adjustment

Settings : • Test tape : TTA-601  
(TTA - 600)  
• Test point : TP5,TP6  
• Input signal : 1kHz (LINE IN)  
• Adjustment location :SFR401 (Lch)  
SFR402 (Rch)

Method : Apply a 1kHz signal and REC mode.  
Then adjust OSC attenuator so that the  
output level at the TP5,TP6 is 21mV.  
Record and play back the 1kHz signal  
and adjust SFRs so that the output  
becomes  $21\text{mV} \pm 0.5\text{dB}$ .

## PRACTICAL SERVICE FIGURE

### TUNER SECTION

#### < FM SECTION >

IHF Sensitivity :  $4\text{dB} \pm 6\text{dB}$  (87.5MHz)  
(THD 3%)  $2\text{dB} \pm 6\text{dB}$  (98.0MHz)  
 $2\text{dB} \pm 6\text{dB}$  (108.0MHz)  
S/N 50dB Quieting sensitivity :  
 $35\text{dB} \pm 5\text{dB}$   
(87.5/98.0/108.0MHz)  
Signal to noise ratio : More than 64dB (98.0MHz)  
Distortion : Less than 1.2% (98.0MHz)  
Intermediate frequency : 10.7MHz

#### < AM SECTION >

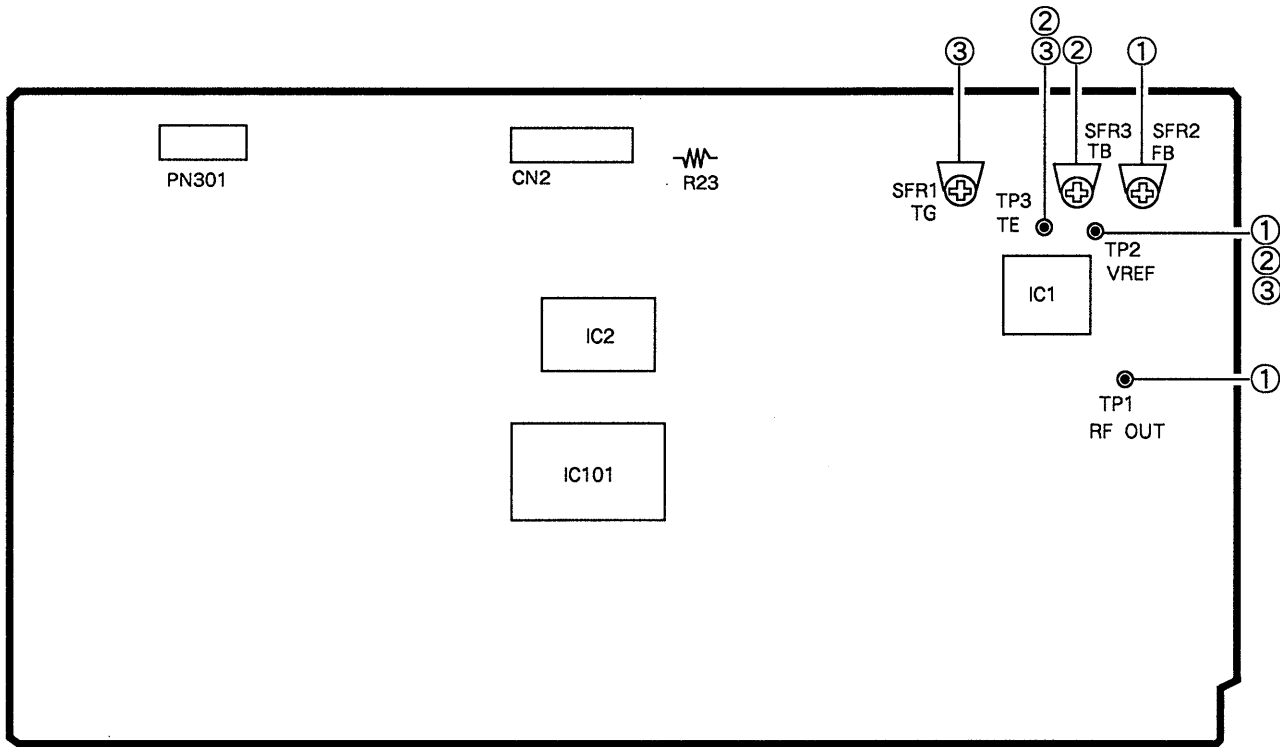
Sensitivity :  $55\text{dB} \pm 7\text{dB}$  (603kHz)  
(S/N 20dB)  $53\text{dB} \pm 6\text{dB}$  (999kHz)  
 $53\text{dB} \pm 6\text{dB}$  (1404kHz)  
Distortion : Less than 1.5% (999kHz)  
Intermediate frequency : 450kHz

### TAPE SECTION

Tape speed :  $3000\text{Hz} \pm 1.5\%$   
Wow & flutter : Less than 0.35% (R.M.S)  
Take-up torque : 30~55g-cm (FWD, REV)  
F.F torque : 75~180g-cm  
Rew torque : 75~180g-cm  
Back tension : 2~7g-cm  
PB Output level :  $2.8\text{V} \pm 1.5\text{dB}$  (SP OUT)  
REC/PB Output level :  $2.0\text{V} \pm 2.0\text{dB}$  (SP OUT)  
Distortion (REC/PB) : Less than 2% (NORM)  
Noise level (PB) : Less than 200mV (DOLBY  
NR OFF NORM, Vol MAX.)  
Noise level (REC/PB) : Less than 35mV (DOLBY NR  
OFF NORM, SP OUT 2V)  
Crosstalk : More than 60dB (1kHz, 0VU)  
Erasing ratio : More than 60dB (125Hz)  
Channel separation : More than 40dB (1kHz, 0VU)  
REC bias frequency : 85kHz  
Test tape : NORMAL TTA - 601/600

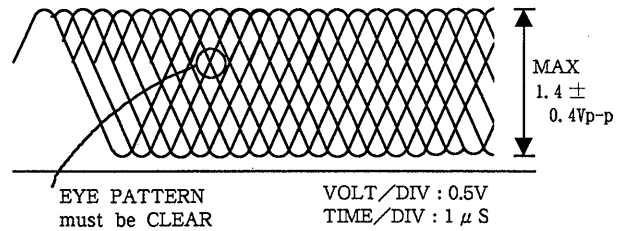
## ADJUSTMENT

C 3CD C.B

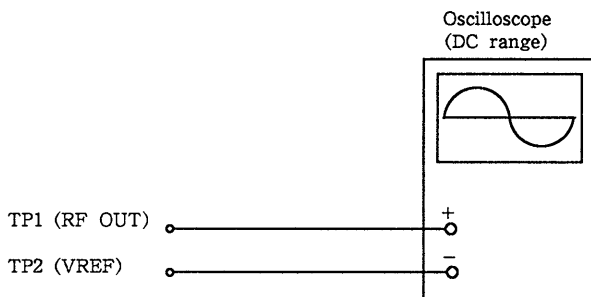


Note : Connect a probe (10 : 1) of the osilloscope or the frequency counter to a test point.

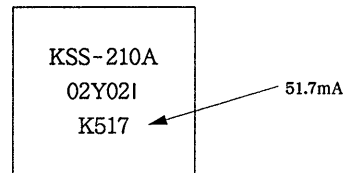
1. Focus Bias Adjustment  
Make the focus bias adjustment when replacing and repairing the optical block.



Note : The current of the laser signal can be checked with the voltages on both sides of R23 (10 Ω). The difference for the specified value shown on the level must be within ± 6.0mA.

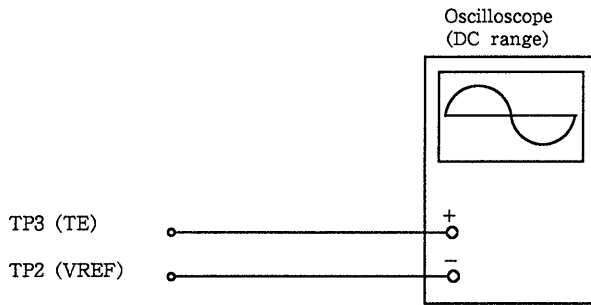


- 1) Connect an oscilloscope to the test points TP1 (RF OUT) and TP2 (VREF).
- 2) Turn on the power switch.
- 3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
- 4) Adjust SFR2 so that RF signal of the test point TP1 (RF OUT) is MAX and CLEARREST.

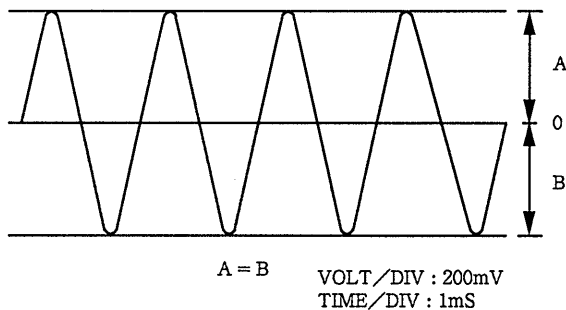


$$\text{Laser current } I_{op} = \frac{\text{Voltage across R23}}{10 \Omega}$$

## 2. TRACKING Balance Adjustment



- 1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
- 2) Turn on the power switch.
- 3) Insert the test disc TCD-782 (YEDS-18) and press the PLAY button.
- 4) Connect the intermediate point of SFR1 to TP2 (VREF).
- 5) Adjust SFR3 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
- 6) After the adjustment is completed, remove the connected lead wires from the terminals.



## 3. TRACKING Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

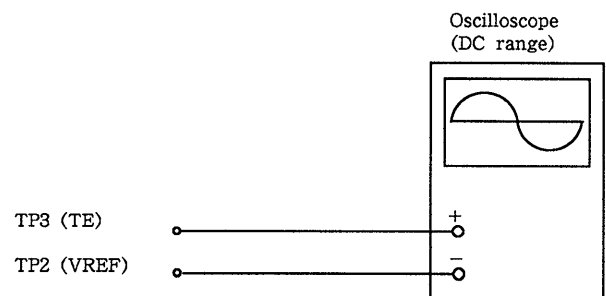
| Symptoms                                                                                                                                   | Gain | (Focus)     | Tracking    |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|-------------|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

The following is simple adjustment method.

— Simple adjustment —

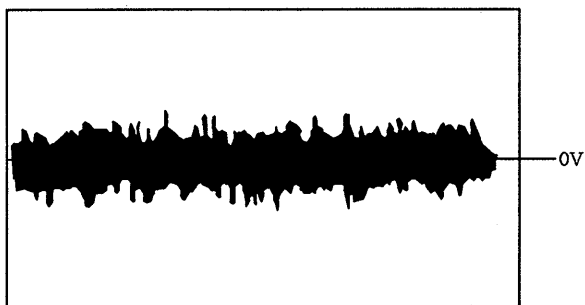
Note : Since exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

## Procedure



- 1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
- 2) Insert the test disc TCD-782 (YEDS-18) and play back the second composition.
- 3) Connect an oscilloscope to TP3 (TE) of the 3CD C.B

- 4) Adjust SFR1 so that the waveform appears as shown in the figure below.(tracking gain adjustment)

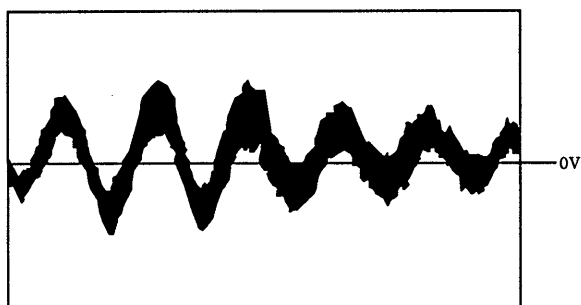


VOLT/DIV : 50mV  
TIME/DIV : 1mS

● Incorrect example

Low tracking gain

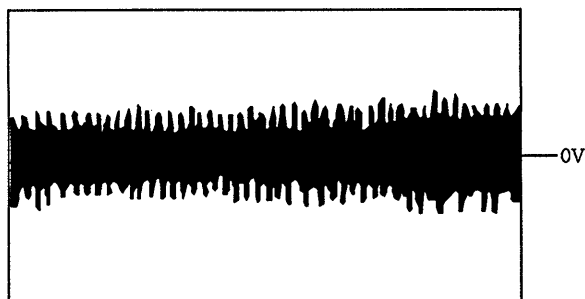
(The fundamental wave appears as compared with the waveform adjusted)



VOLT/DIV : 50mV  
TIME/DIV : 1mS

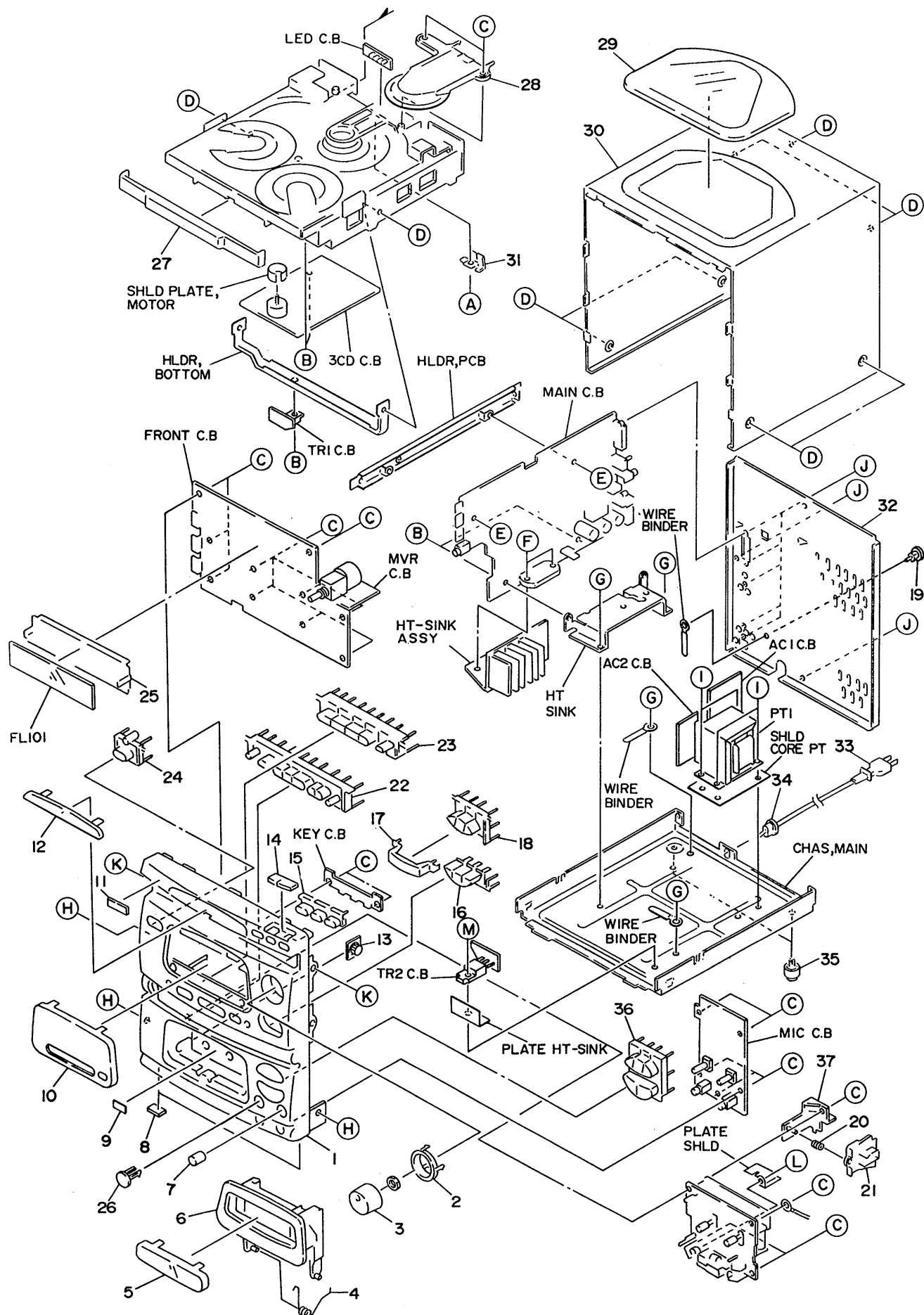
High tracking gain

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



VOLT/DIV : 50mV  
TIME/DIV : 1mS

# MECHANICAL EXPLODED VIEW 1/2

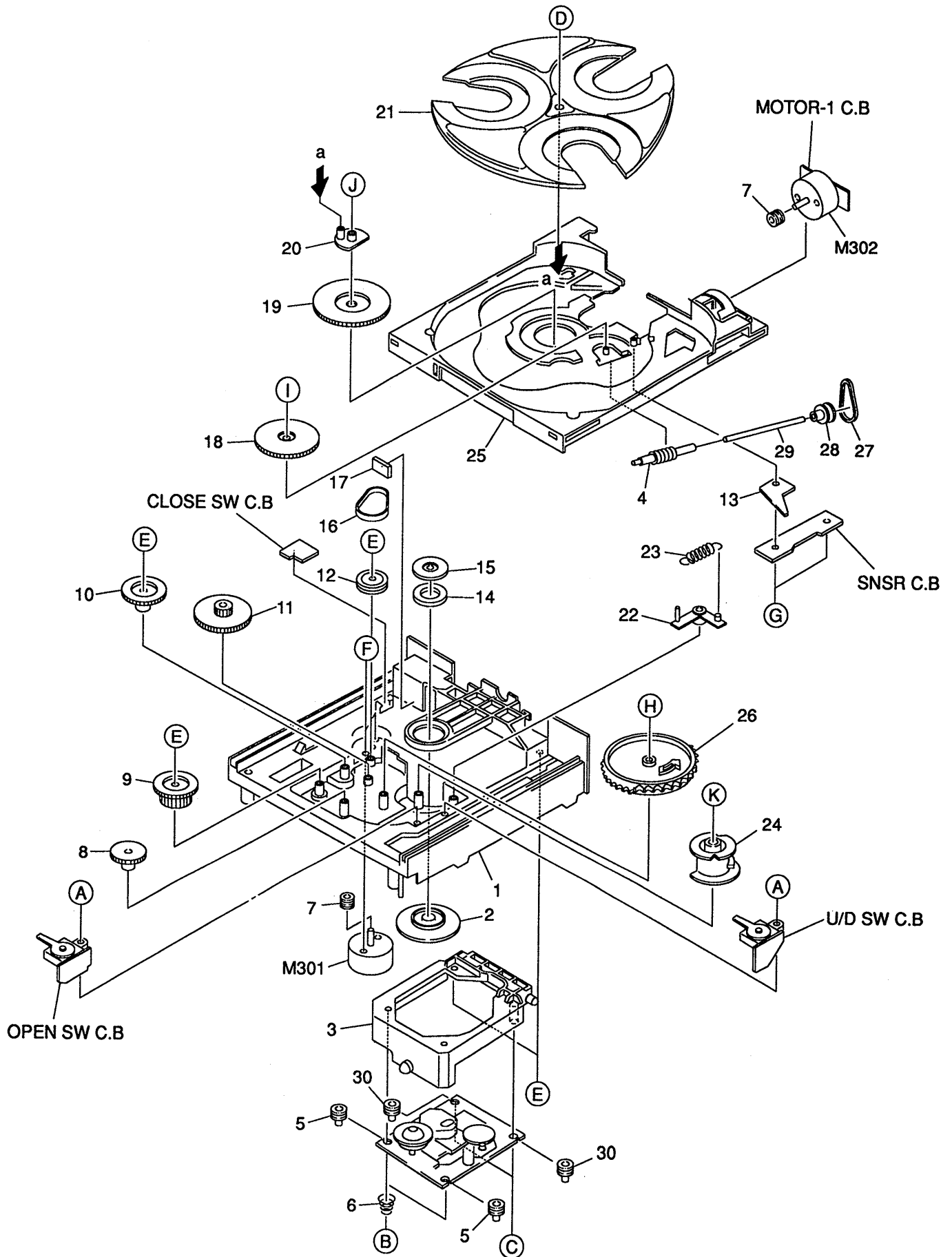


# MECHANICAL PARTS LIST 1/2

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION            | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION           |
|---------|----------------|------------|------------------------|---------|----------------|------------|-----------------------|
| 1       | 83-NFJ-002-010 |            | CAB, FR E              | 26      | 83-NFJ-019-010 |            | DUMMY, KNOB           |
| 2       | 83-NF8-014-010 |            | RING, VOL              | 27      | 83-NFJ-103-010 |            | PANEL, TRAY N K       |
| 3       | 82-NF7-010-010 |            | KNOB, VOL              | 28      | 83-NF5-023-010 |            | IND, CD               |
| 4       | 82-NF5-218-010 |            | SRT-T, EJECT 1 SIN     | 29      | 83-NF5-021-010 |            | WINDOW, TOP           |
| 5       | 83-NF8-005-010 |            | WINDOW, CASS           | 30      | 83-NF8-054-010 |            | CAB, STEEL S T        |
| 6       | 83-NF8-052-010 |            | BOX, CASS K            | 31      | 83-NF5-034-010 |            | IND, CD2              |
| 7       | 82-NK7-006-010 |            | KNOB, VOL ECHO         | 32      | 83-NFJ-081-010 |            | PANEL, REAR N-GBNM    |
| 8       | 80-VT1-202-010 |            | FELT, 12.5-15.5-2      | △ 33    | 87-050-081-010 |            | AC CORD ASSY, G       |
| 9       | 81-532-080-010 |            | LBL, CASS-COMPT        | 34      | 87-085-185-010 |            | BUSHING, AC CORD E    |
| 10      | 83-NFJ-021-010 |            | WINDOW, DISPLAY        | 35      | 87-085-221-010 |            | FOOT, H 13.5          |
| 11      | 82-NE6-067-010 |            | BADGE AIWA 30N         | 36      | 83-NFJ-006-010 |            | KEY, KARAOKE B        |
| 12      | 83-NF8-004-010 |            | WINDOW, CD             | 37      | 82-NF5-226-010 |            | HLDR, LOCK 1N         |
| 13      | 87-063-165-010 |            | OIL-DMPR 150           | A       | 87-741-094-410 |            | UT2+3-6               |
| 14      | 83-NF8-007-010 |            | KEY, OPEN              | B       | 87-067-579-010 |            | BVT2+3-8 W/O SLOT     |
| 15      | 83-NF8-008-010 |            | KEY, DISC              | C       | 87-067-703-010 |            | BVT2+3-10 W/O SLOT    |
| 16      | 83-NF8-012-010 |            | KEY, GEO               | D       | 87-067-641-010 |            | UTT2+3-8 W/O SLOT BLK |
| 17      | 83-NFJ-018-010 |            | DUMMY, GEO             | E       | 87-067-633-010 |            | BVT2+3-8 W/CONVEX     |
| 18      | 83-NFJ-016-010 |            | KEY, T-BASS A          | F       | 87-067-698-010 |            | BVT2+3-18 W/O SLOT    |
| 19      | 87-084-077-010 |            | NYLON RIVET DIA3.5-4.5 | G       | 87-067-688-010 |            | BVTT+3-6              |
| 20      | 82-NF5-228-010 |            | SPR-C, LOCK            | H       | 87-591-094-410 |            | Q1T+3-6 GOLD          |
| 21      | 82-NF5-229-010 |            | PLATE, LOCK            | I       | 87-078-019-010 |            | S-SCREW, IT+4-6       |
| 22      | 83-NF8-011-110 |            | KEY, PLAY              | J       | 87-067-660-010 |            | BVT2+3-8W/O SLOT BLK  |
| 23      | 83-NF8-010-010 |            | KEY, FUN               | K       | 87-721-097-410 |            | QT2+3-12 GLD          |
| 24      | 83-NF8-009-010 |            | KEY, POWER             | L       | 87-571-032-410 |            | VIT+2-3               |
| 25      | 82-NF5-212-010 |            | GUIDE, FL              | M       | 87-067-689-010 |            | BVTT+3-8              |

# MECHANICAL EXPLODED VIEW 2/2

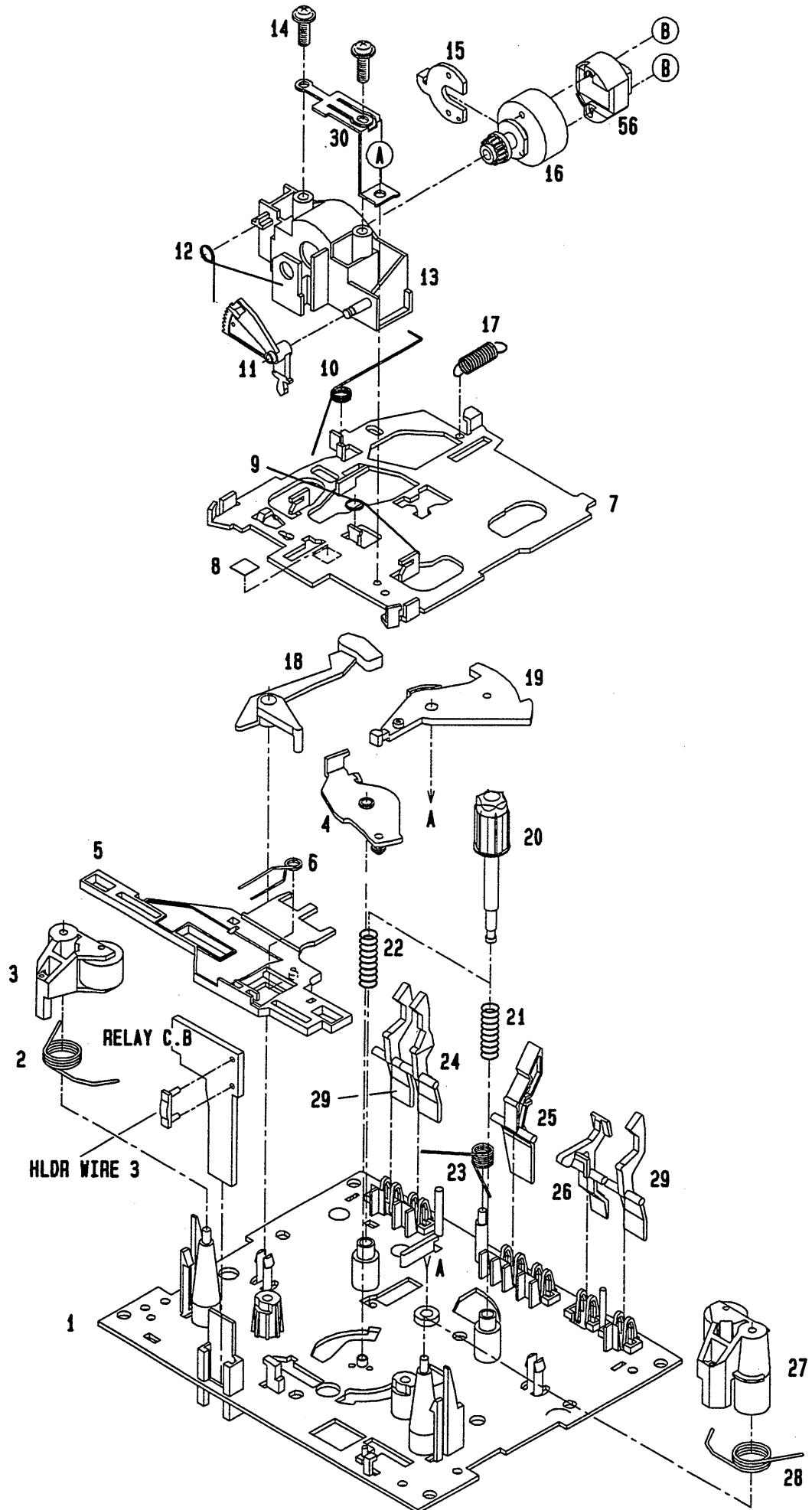


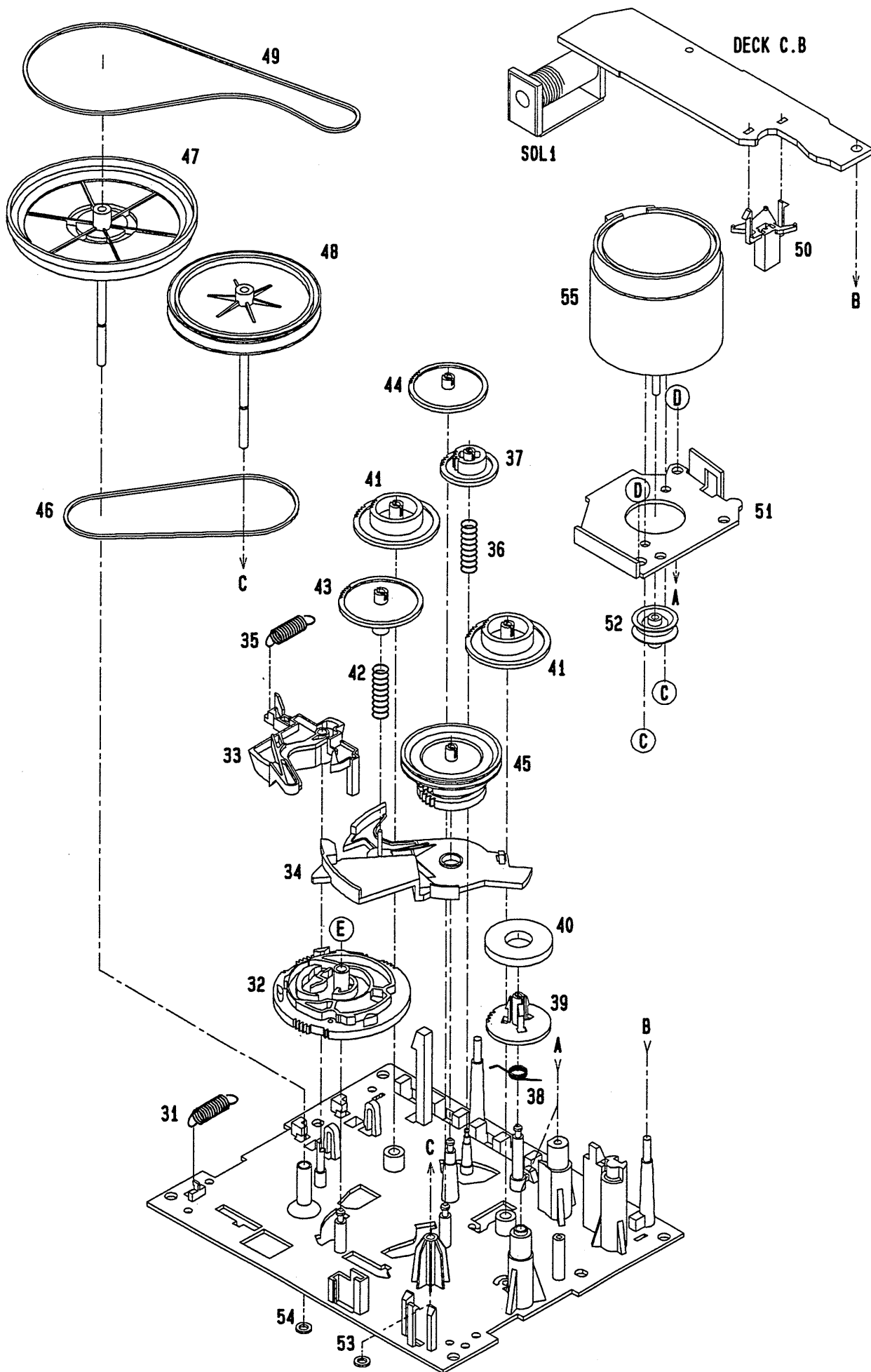
# MECHANICAL PARTS LIST 2/2

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION          |
|---------|----------------|------------|----------------------|
| 1       | 81-ZG1-268-110 |            | CHAS, MECHA V NO3    |
| 2       | 81-ZG1-277-110 |            | HLD, MAGNET N        |
| 3       | 81-ZG1-253-510 |            | HLD, MECH MK2        |
| 4       | 81-ZG1-276-110 |            | WORM GEAR, TT NO2    |
| 5       | 81-ZG1-230-010 |            | G-CUSH, MECH         |
| 6       | 81-ZG1-231-110 |            | SPR-C, MECH          |
| 7       | 81-ZG1-212-010 |            | PULLY, LOAD MO       |
| 8       | 81-ZG1-250-010 |            | GEAR, TRAY RELAY MK2 |
| 9       | 81-ZG1-019-010 |            | GEAR TRAY B YEL      |
| 10      | 81-ZG1-018-010 |            | GEAR TRAY A YEL      |
| 11      | 81-ZG1-017-010 |            | GEAR RELAY RED       |
| 12      | 81-ZG1-014-010 |            | PULLY, RELAY YEL     |
| 13      | 81-ZG1-240-010 |            | SPR-P, WORM          |
| 14      | 87-036-326-010 |            | MAGNET, CLAMPER 93   |
| 15      | 81-ZG1-285-010 |            | PLATE, MAGNET N      |
| 16      | 81-ZG1-232-010 |            | BELT, TRAY           |
| 17      | 81-ZG1-238-110 |            | CUSH, TRAY IN        |
| 18      | 81-ZG1-222-010 |            | WORM WHEEL, TT       |
| 19      | 81-ZG1-202-010 |            | GEAR, MAIN           |
| 20      | 81-ZG1-252-010 |            | LEVER, TT MK2        |
| 21      | 81-ZG1-008-210 |            | TURNTALE, NO 2       |
| 22      | 81-ZG1-020-010 |            | PLATE, CAM BGE       |
| 23      | 81-ZG1-262-010 |            | SPR-E CAM S          |
| 24      | 81-ZG1-016-010 |            | GEAR, MECHA BGE      |
| 25      | 81-ZG1-011-310 |            | TRAY, MK2            |

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION           |
|---------|----------------|------------|-----------------------|
| 26      | 81-ZG1-015-010 |            | GEAR, TRAY BLU        |
| 27      | 81-ZG1-233-110 |            | BELT, TT              |
| 28      | 81-ZG1-236-010 |            | PULLY, TT MO          |
| 29      | 81-ZG1-260-010 |            | SHAFT, WORM S         |
| 30      | 80-CD3-214-010 |            | CUSH CD A             |
| A       | 81-653-215-010 |            | SPECIAL SCREW VT2     |
| B       | 81-ZG1-254-010 |            | S-SCREW, MECH HLD     |
| C       | 81-ZG1-271-010 |            | S-SCREW, MECH REAR    |
| D       | 81-ZG1-239-010 |            | S-SCREW, TT           |
| E       | 87-067-945-110 |            | VFT2+3-12 F10         |
| F       | 87-251-071-410 |            | U+2. 6-4              |
| G       | 87-067-579-010 |            | BVT 2+3-8 W/O SLOT    |
| H       | 81-ZG1-264-010 |            | S-SCREW, CAM          |
| I       | 87-761-095-410 |            | VFT2+3-8W/O SLOT GOLD |
| J       | 87-078-029-010 |            | VFT2+3-13(F8)         |
| K       | 87-078-061-010 |            | VFT2+3-20DIA10, GLD   |

# TAPE MECHANISM EXPLODED VIEW 1/1

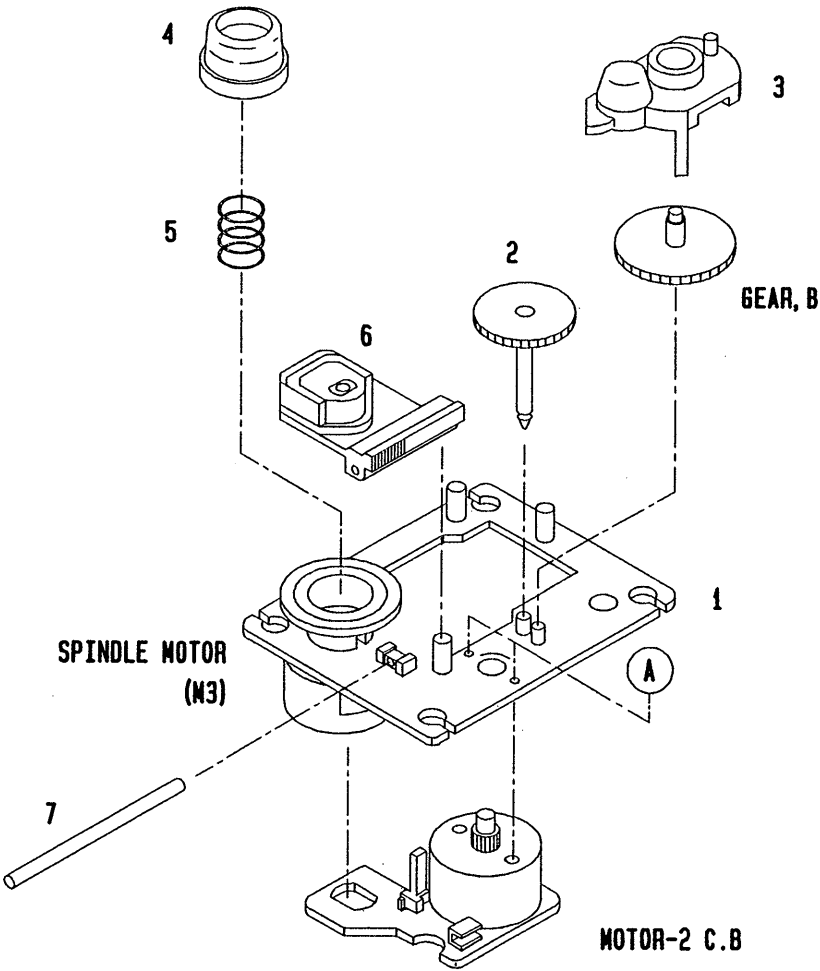




# TAPE MECHANISM PARTS LIST 1/1

| REF. NO | PART NO.       | カリ<br>NO. | DESCRIPTION       | REF. NO | PART NO.       | カリ<br>NO. | DESCRIPTION                |
|---------|----------------|-----------|-------------------|---------|----------------|-----------|----------------------------|
| 1       | 82-ZM1-299-010 |           | CHAS ASSY, R      | 36      | 82-ZM1-277-010 |           | SPR-C, PLAY                |
| 2       | 82-ZM1-258-010 |           | SPR-T, PINCH L    | 37      | 82-ZM1-223-010 |           | GEAR, PLAY                 |
| 3       | 82-ZM1-248-110 |           | LVR ASSY, PINCH L | 38      | 82-ZM1-256-110 |           | SPR-T, FR                  |
| 4       | 82-ZM1-295-210 |           | PLATE ASSY, LINK  | 39      | 82-ZM1-220-110 |           | GEAR, IDLER                |
| 5       | 82-ZM1-266-010 |           | LVR, DIR          | 40      | 80-ZM6-217-010 |           | RING MAGNET 2              |
| 6       | 82-ZM1-214-010 |           | SPR-T, DIR        | 41      | 82-ZM1-216-210 |           | GEAR, REEL                 |
| 7       | 82-ZM1-206-210 |           | CHAS, HEAD        | 42      | 82-ZM1-276-010 |           | SPR-C, FR                  |
| 8       | 87-078-014-010 |           | SH, 5-5-0.05      | 43      | 82-ZM1-225-010 |           | GEAR, FR                   |
| 9       | 82-ZM1-269-010 |           | SPR-T, BRG        | 44      | 82-ZM1-226-010 |           | GEAR, REW                  |
| 10      | 82-ZM1-219-010 |           | SPR-T, LINK       | 45      | 82-ZM1-228-210 |           | SLIP DISK ASSY             |
| 11      | 82-ZM1-210-010 |           | GEAR, H T         | 46      | 82-ZM1-261-110 |           | BELT, FR                   |
| 12      | 82-ZM1-213-010 |           | SPR-T, HEAD       | 47      | 82-ZM1-237-210 |           | FLY-WHL ASSY, R            |
| 13      | 82-ZM1-207-010 |           | GUIDE, TAPE       | 48      | 82-ZM1-234-110 |           | FLY-WHL ASSY, L            |
| 14      | 82-ZM1-283-310 |           | S-SCREW, AZIMUTH  | 49      | 82-ZM1-260-010 |           | BELT, MAIN                 |
| 15      | 82-ZM1-209-010 |           | PLATE, HEAD       | 50      | 82-ZM1-245-210 |           | HLD, IC                    |
| 16      | 82-ZM1-208-010 |           | HLD, HEAD         | 51      | 82-ZM1-246-010 |           | HLD, MOTOR                 |
| 17      | 82-ZM1-218-010 |           | SPR-E, HB         | 52      | 82-ZM1-247-010 |           | PULLEY, MOTOR              |
| 18      | 82-ZM1-263-110 |           | LVR, EJECT        | 53      | 82-ZM1-288-010 |           | SH, 1.63-3.2-0.5 SLT       |
| 19      | 82-ZM1-222-010 |           | LVR, PLAY         | 54      | 80-ZM6-243-010 |           | SH, 1.75-3.6-0.5 SLT       |
| 20      | 82-ZM1-217-110 |           | REEL TABLE        | 55      | 87-045-348-010 |           | MOT, SHW 2L 70(M1)         |
| 21      | 82-ZM1-244-110 |           | SPR-C, BT         | 56      | 87-046-399-010 |           | HEAD, RPH YK56R-BS409(RPH) |
| 22      | 82-ZM1-285-110 |           | SPR-C, BT L       | A       | 87-585-036-410 |           | UT+2-8                     |
| 23      | 82-ZM1-257-010 |           | SPR-T, CAS        | B       | 80-ZM6-207-010 |           | V+1.6-7                    |
| 24      | 82-ZM1-241-110 |           | LVR, MC           | C       | 87-251-070-410 |           | U+2.6-3                    |
| 25      | 82-ZM1-242-010 |           | LVR, CAS          | D       | 87-741-073-410 |           | UT2+2.6-6 GLD              |
| 26      | 82-ZM1-243-010 |           | LVR, STOP         | E       | 87-067-932-010 |           | PW, 2.15-6.8-0.5 SLT       |
| 27      | 82-ZM1-253-110 |           | LVR ASSY, PINCH R |         |                |           |                            |
| 28      | 82-ZM1-259-010 |           | SPR-T, PINCH R    |         |                |           |                            |
| 29      | 82-ZM1-240-110 |           | LVR, REC          |         |                |           |                            |
| 30      | 82-ZM1-298-010 |           | SPR-P, EARTH      |         |                |           |                            |
| 31      | 82-ZM1-255-110 |           | SPR-E, LVR DIR    |         |                |           |                            |
| 32      | 82-ZM1-221-110 |           | GEAR, CAM         |         |                |           |                            |
| 33      | 82-ZM1-227-110 |           | LVR, TRIG         |         |                |           |                            |
| 34      | 82-ZM1-224-110 |           | LVR, FR           |         |                |           |                            |
| 35      | 82-ZM1-305-010 |           | SPR-E, TRIG 2     |         |                |           |                            |

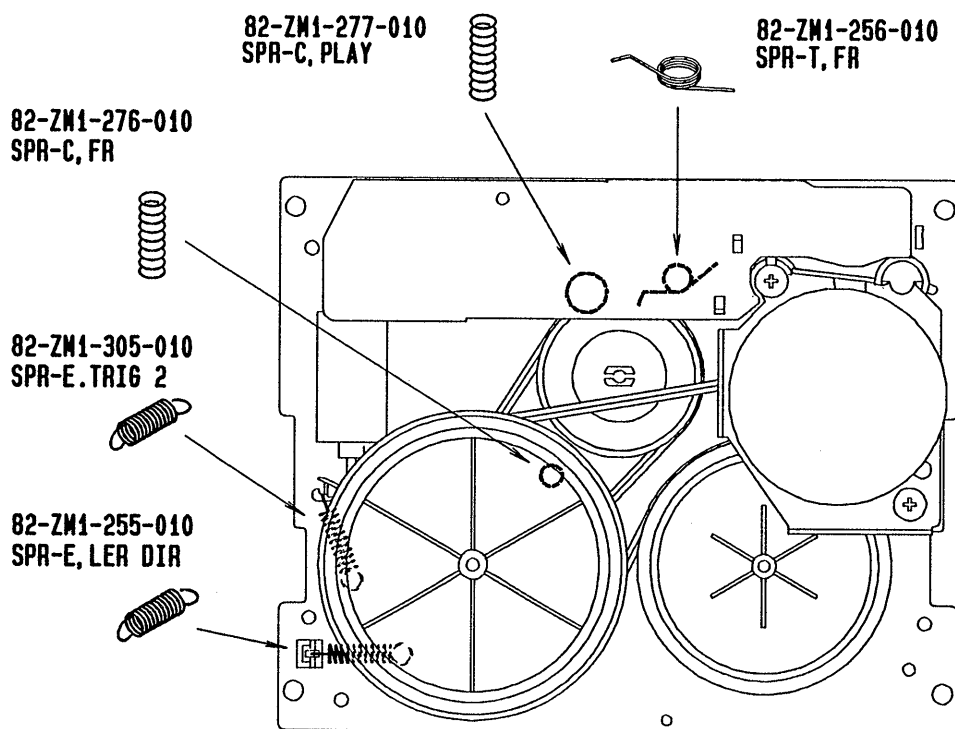
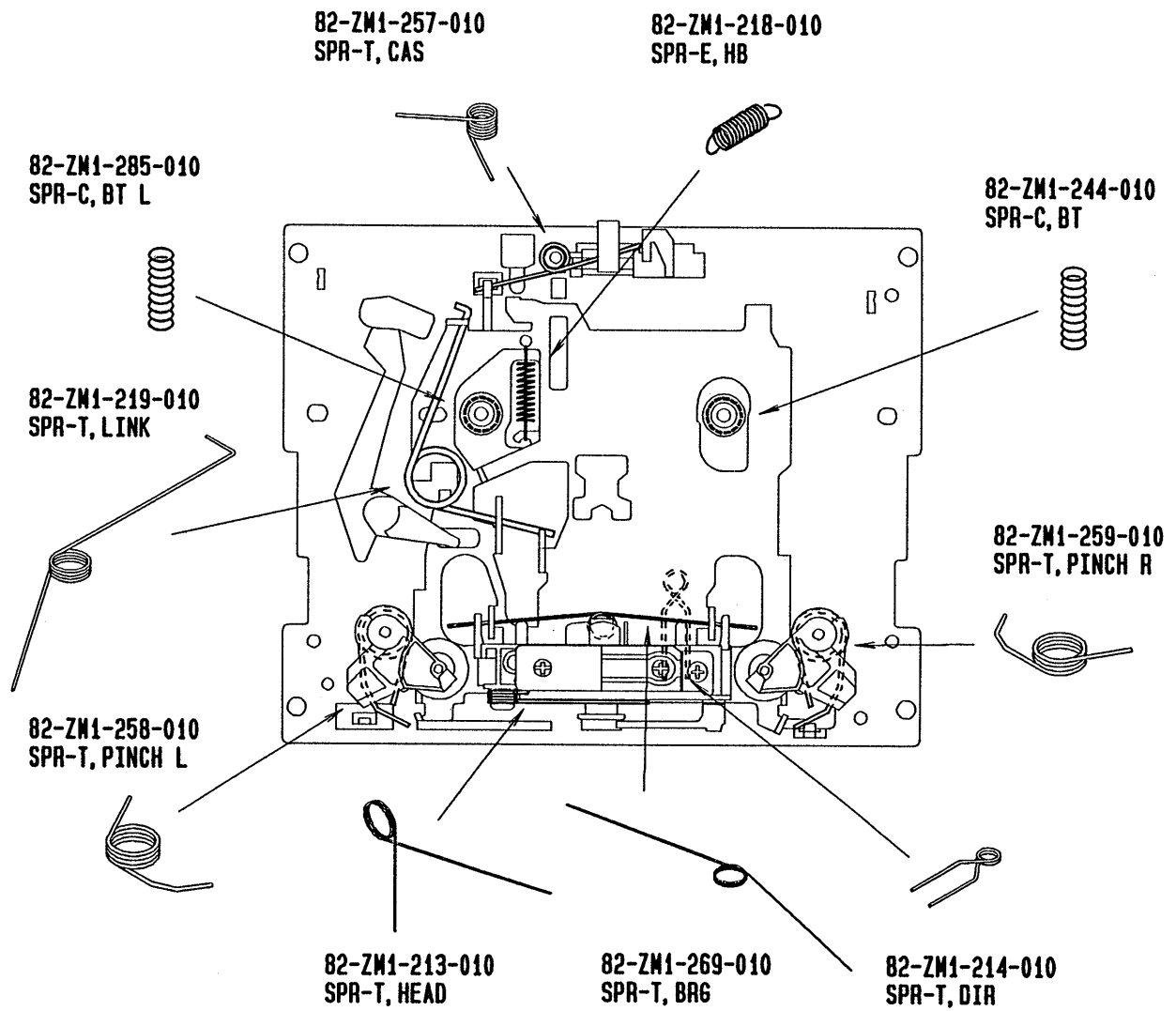
CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION             | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION              |
|---------|----------------|------------|-------------------------|---------|----------------|------------|--------------------------|
| 1       | 9X-262-513-310 |            | T. T CHASS ASSY W/MOTOR | 6       | 98-848-127-110 |            | OPTICAL PICK UP KSS-210A |
| 2       | 92-625-188-020 |            | GEAR (A)                | 7       | 94-917-565-010 |            | SHAFT SLED               |
| 3       | 92-625-544-010 |            | COVER                   | A       | 87-261-032-210 |            | V+2-3                    |
| 4       | 92-625-187-010 |            | RING CENTER             |         |                |            |                          |
| 5       | 92-625-191-010 |            | SPRING COMPRESSION      |         |                |            |                          |

# SPRING APPLICATION POSITION



■ SPEAKER LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION      |
|---------|----------------|------------|------------------|
| 1       | 82-MSE-610-010 |            | CERAMIC          |
| 2       | 83-NS8-001-010 |            | PANEL FR. R      |
| 3       | 83-NS8-002-010 |            | PANEL FR. L      |
| 4       | 83-NS8-007-010 |            | GRILL FRAME ASSY |
| 5       | 83-NS8-009-010 |            | DIAPHRAGM        |
| 6       | 83-NS8-604-010 |            | SPEAKER TWEETER  |
| 7       | 83-096-614-010 |            | SPEAKER CORD     |

## ■ ACCESSORIES/PACKAGE LIST

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO.       | カソリ<br>NO. | DESCRIPTION     |
|---------|----------------|------------|-----------------|
| 1       | 87-006-225-010 |            | AM LOOP ANT NC2 |
| 2       | 87-043-115-010 |            | ANT, FEEDER FM  |
| 3       | 83-NFJ-908-010 |            | IB, ESC-G(S)    |
| 4       | 83-NFJ-030-010 |            | RC, RC-TN400 EX |

## REFERENCE NAME LIST

### ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME     |
|-------------|--------------------|
| ANT         | ANTENNAS           |
| C-          | CHIP               |
| C-CAP       | CAP, CHIP          |
| C-CAP TN    | CAP, CHIP TANTALUM |
| C-COIL      | COIL, CHIP         |
| C-DI        | DIODE, CHIP        |
| C-DIODE     | DIODE, CHIP        |
| C-FET       | FET, CHIP          |
| C-FOTR      | FILTER, CHIP       |
| C-JACK      | JACK, CHIP         |
| C-LED       | LED, CHIP          |
| C-RES       | RES, CHIP          |
| C-SFR       | SFR, CHIP          |
| C-SLIDE SW  | SLIDE SWITCH, CHIP |
| C-SW        | SWITCH, CHIP       |
| C-TR        | TRANSISTOR, CHIP   |
| C-VR        | VOLUME, CHIP       |
| C-ZENER     | ZENER, CHIP        |
| CAP, CER    | CAP, CERA-SOL      |
| CAP, E      | CAP, ELECT         |
| CAP, M/F    | CAP, FILM          |
| CAP, TC     | CAP, CERA-SOL      |
| CAP, TC-U   | CAP, CERA-SOL SS   |
| CAP, TN     | CAP, TANTALUM      |
| CERA FIL    | FILTER, CERAMIC    |
| CF          | FILTER, CERAMIC    |
| DL          | DELAY LINE         |
| E/CAP       | CAP, ELECT         |
| FILT        | FILTER             |
| FLTR        | FILTER             |
| FUSE RES    | RES, FUSE          |
| MOT         | MOTOR              |
| P-DIODE     | PHOTO DIODE        |
| P-SNSR      | PHOTO SENSER       |
| P-TR        | PHOTO TRANSISTOR   |
| POLY VARI   | VARIABLE CAPACITOR |
| PPCAP       | CAP, PP            |
| PT          | POWER TRANSFORMER  |
| PTR, RES    | PTR, MELF          |
| RC          | REMOTE CONTROLLER  |
| RES NF      | RES, NON-FLAMMABLE |
| RESO        | RESONATOR          |
| SHLD        | SHIELD             |
| SOL         | SOLENOID           |
| SPKR        | SPEAKER            |
| SW, LVR     | SWITCH, LEVER      |
| SW, RTRY    | SWITCH, ROTARY     |
| SW, SL      | SWITCH, SLIDE      |
| TC CAP      | CAP, SERA-SOL      |
| THMS        | THERMISTOR         |
| TR          | TRANSISTOR         |
| TRIMMER     | CAP, TRIMMER       |
| TUN-CAP     | VARIABLE CAPACITOR |
| VIB, CER    | RESONATOR, CERAMIC |
| VIB, XTAL   | RESONATOR, CRYSTAL |
| VR          | VOLUME             |
| ZENER       | DIODE, ZENER       |
| サージサプレッサ    | SERGESUPPRESSOR    |
| セラコン        | CAP,CERA           |

### MECHANICAL SECTION

| DESCRIPTION    | REFERENCE NAME      |
|----------------|---------------------|
| ADHESHIVE      | SHEET ADHESHIVE     |
| AZ             | AZIMUTH             |
| BAR-ANT        | BAR-ANTENNA         |
| BAT            | BATTERY             |
| BATT           | BATTERY             |
| BRG            | BEARING             |
| BTN            | BUTTON              |
| CAB            | CABINET             |
| CASS           | CASSETTE            |
| CHAS           | CHASSIS             |
| CLR            | COLLAR              |
| CONT           | CONTROL             |
| CRSR           | CURSOR              |
| CU             | CUSHION             |
| CUSH           | CUSHION             |
| DIR            | DIRECTION           |
| DUBB           | DUBBING             |
| FL             | FRONT LOADING       |
| FLY-WHL        | FLYWHEEL            |
| FR             | FRONT               |
| FUN            | FUNCTION            |
| G-CU           | G-CUSHION           |
| HDL            | HANDOL              |
| HIMERON        | CLOTH               |
| HINGE, BAT     | HINGE, BATTERY      |
| HLDR           | HOLDER              |
| HT-SINK        | HEAT SINK           |
| IB             | INSTRUCTION BOOKLET |
| IDLE           | IDLER               |
| IND, L-R       | INDICATOR, L-R      |
| KEY, CONT      | KEY, CONTROL        |
| KEY, PRGM      | KEY, PROGRAM        |
| KNOB, SL       | KNOB, SLIDE         |
| LBL            | LABEL               |
| LID, BATT      | LID, BATTERY        |
| LID, CASS      | LID, CASSETTE       |
| LVR            | LEVER               |
| P-SP           | P-SPRING            |
| PANEL, CONT    | PANEL, CONTROL      |
| PANEL, FR      | PANEL, FRONT        |
| PRGM           | PROGRAM             |
| PULLY, LOAD MO | PULLY, LOAD MOTOR   |
| RBN            | RIBBON              |
| S-             | SPECIAL             |
| SEG            | SEGMENT             |
| SH             | SHEET               |
| SHLD-SH        | SHIELD-SHEET        |
| SL             | SLIDE               |
| SP             | SPRING              |
| SP-SCREW       | SPECIAL-SCREW       |
| SPACER, BAT    | SPACER, BATTERY     |
| SPR            | SPRING              |
| SPR-P          | P-SPRING            |
| SPR-PC-PUSH    | P-SPRING, C-PUSH    |
| T-SP           | T-SPRING            |
| TERM           | TERMINAL            |
| TRIG           | TRIGGER             |
| TUN            | TUNING              |
| VOL            | VOLUME              |
| W              | WASHER              |
| WHL            | WHEEL               |
| WORM-WHL       | WORM-WHEEL          |
| ジグアーム          | ARM,SHAFT           |
| ジグガイド          | GUIDE,SHAFT         |
| ストラップ          | STRAP               |
| トクナベ           | S-SCRW              |
| ヒンジ            | HINGE               |
| ヒンジビス          | S-SCRW              |
| ビスセレート         | SCRW,SERRART        |

| サービス技術ニュース |      |
|------------|------|
| 番 号        | 連絡内容 |
| G - -      |      |
| G - -      |      |
| G - -      |      |

**アイワ株式会社**  
**AIWA CO.,LTD.**

931196, 750038

Tokyo Japan