# TEAC

# PD-H570

## Compact Disc Player

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### NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components.
  They must be replaced with identical components- refer to the appropriate parts list and ensure exact replacement.

# CONTENTS

# Specifications

Laser System : 3-beam laser
Digital Filter : 8-times oversampling
Frequency Response : 20-20,000Hz(±2dB)
Error Correction Method :
    Cross Interleave Reed-Solomon code
S/N Ratio : More than 96dB
    (IHF "A" Filter used)
T.H.D : Less than 0.015% (1kHz)
Output Voltage : 2V RMS
Power requirements : 230V, 50Hz

Power Consumption : 9.6W
Dimensions (W×H×D) : 285×131×327mm
Weight : 5.2kg

**Standard accessories**
Remote control cord · · · · · · · · · · · · · · · · · · · ·1
Signal cord · · · · · · · · · · · · · · · · · · · · · · · · · · ·1

\* Improvements may result in specification or
  feature changes without notice.

# IC PIN FUNCTION
## CXD2529Q (Digital Signal Processor)

| No. | SYMBOL | I/O | | DESCRIPTION |
|-----|--------|-----|---|-------------|
| 1 | VDD | — | — | Power supply (+5V). |
| 2 | VSS | — | — | GND. |
| 3 | LMUT | O | 1, 0 | Left-channel zero detection flag. |
| 4 | RMUT | O | 1, 0 | Right-channel zero detection flag. |
| 5 | TES2 | O | 1, 0 | TEST output pin; normally open. |
| 6 | CKOUT | O | 1, 0 | Master clock frequency-divider output. Selects and outputs XTAI×1, × 1/2, × 1/4 or low only. |
| 7 | SQCK | I | | SQSO readout clock input. |
| 8 | SQSO | O | 1, 0 | Sub Q 80-bit serial output. |
| 9 | SENS | O | 1, 0 | SENS output to CPU. |
| 10 | DATA | I | | Serial data input from CPU. |
| 11 | XLAT | I | | Latch input from CPU. Serial data is latched at the falling edge. |
| 12 | CLOK | I | | Serial data transfer clock input from CPU. |
| 13 | SEIN | I | | SENS input from SSP. |
| 14 | CNIN | I | | Track jump count signal input. |
| 15 | DATO | O | 1, 0 | Serial data output to SSP. |
| 16 | XLTO | O | 1, 0 | Serial data latch output to SSP. Latched at the falling edge. |
| 17 | CLKO | O | 1, 0 | Serial data transfer clock output to SSP. |
| 18 | SPOA | I | | Microcomputer extended interface (input A). |
| 19 | SPOB | I | | Microcomputer extended interface (input B). |
| 20 | SPOC | I | | Microcomputer extended interface (input C). |
| 21 | SPOD | I | | Microcomputer extended interface (input D). |
| 22 | XLON | O | 1, 0 | Microcomputer extended interface (output). |
| 23 | FOK | I | | Focus OK input. Used for SENS output and the servo auto sequencer. |
| 24 | VDD | — | — | Power supply (+5V). |
| 25 | VSS | — | — | GND. |
| 26 | MON | O | 1, 0 | Spindle motor on/off control output. |
| 27 | MDP | O | 1, Z, 0 | Spindle motor servo control. |
| 28 | MDS | O | 1, Z, 0 | Spindle motor servo control. |
| 29 | LOCK | O | 1, 0 | GFS is sampled at 460Hz; when GFS is high, this pin outputs a high signal. If GFS is low eight consecutive samples, this pin outputs low. |
| 30 | PWMI | I | | Spindle motor external control input. |
| 31 | TES0 | I | | TEST pin; normally GND. |
| 32 | TES1 | I | | TEST pin; normally GND. |
| 33 | VPCO2 | O | 1, Z, 0 | Wide-band EFM PLL charge pump output. Turned on/off by FCSW of address E. |
| 34 | VPCO1 | O | 1, Z, 0 | Charge pump output for wide-band EFM PLL. |
| 35 | VCKI | I | | VCO2 oscillation input for the wide-band EFM PLL. |
| 36 | V16M | O | 1, 0 | VCO2 oscillation output for the wide-band EFM PLL. |
| 37 | VCTL | I | | VCO2 control voltage input for the wide- band EFM PLL. |
| 38 | PCO | O | 1, Z, 0 | Master PLL charge pump output. |
| 39 | FILO | I | Analog | Master PLL (slave=digital PLL) filter output. |
| 40 | FILI | I | | Master PLL filter input. |
| 41 | AVSS | — | — | Analog GND. |
| 42 | CLTV | I | | Master VCO control voltage input. |
| 43 | AVDD | — | — | Analog power supply (+5V) |
| 44 | RF | I | | EFM signal input. |
| 45 | BIAS | I | | Constant current input of the asymmetry circuit. |
| 46 | ASYI | I | | Asymmetry comparator voltage input. |
| 47 | ASYO | O | 1, 0 | EFM full-swing output (low = VSS, high = VDD) |
| 48 | ASYE | I | | Low: asymmetry circuit off; high: asymmetry circuit on. |
| 49 | WDCK | O | 1, 0 | D/A interface. Word clock f = 2fs |
| 50 | LRCK | O | 1, 0 | D/A interface. LR clock output f = fs |
| 51 | LRCKI | I | | LR clock input. |

| No. | SYMBOL | I/O | | DESCRIPTION |
|-----|--------|-----|---|-------------|
| 52 | PCMD | O | 1, 0 | D/A interface. Serial data output (two's complement, MSB first). |
| 53 | PCMDI | I | | D/A interface. Serial data input (two's complement, MSB first). |
| 54 | BCK | O | 1, 0 | D/A interface. Bit clock output. |
| 55 | BCKI | I | | D/A interface. Bit clock input. |
| 56 | Vss | — | — | GND. |
| 57 | VDD | — | — | Power supply (+5V). |
| 58 | GTOP | O | 1, 0 | GTOP output. |
| 59 | XUGF | O | 1, 0 | XUGF output. |
| 60 | XPCK | O | 1, 0 | XPLCK output. |
| 61 | GFS | O | 1, 0 | GFS output. |
| 62 | RFCK | O | 1, 0 | RFCK output. |
| 63 | C2PO | O | 1, 0 | C2PO output. |
| 64 | XROF | O | 1, 0 | XRAOF output. |
| 65 | MNT3 | O | 1, 0 | MNT3 output. |
| 66 | MNT1 | O | 1, 0 | MNT1 output. |
| 67 | MNT0 | O | 1, 0 | MNT0 output. |
| 68 | XTSL | I | | Crystal selector input. Low: 16.9344MHz; high: 33.8688MHz. |
| 69 | FSTT | O | 1, 0 | 2/3 frequency-divider output for Pins 89 and 90. |
| 70 | C4M | O | 1, 0 | 4.2336MHz output. 1/4 frequency-divided VCKI output in CAV-W mode. |
| 71 | DOUT | O | 1, 0 | Digital Out output. |
| 72 | EMPH | O | 1, 0 | Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis. |
| 73 | EMPHI | I | | Inputs a high signal when de-emphasis is on, and a low signal when de-emphasis is off. |
| 74 | WFCK | O | 1, 0 | WFCK output. |
| 75 | SCOR | O | 1, 0 | Outputs a high signal when either subcode sync S0 or S1 is detected. |
| 76 | SBSO | O | 1, 0 | Sub P to W serial output. |
| 77 | EXCK | I | | SBSO readout clock input. |
| 78 | Vss | — | — | GND. |
| 79 | VDD | — | — | Power supply (+5V). |
| 80 | SYSM | I | | Mute input. Active when high. |
| 81 | NC | | | |
| 82 | AVss | — | — | Analog GND. |
| 83 | AVDD | — | — | Analog power supply (+5V). |
| 84 | AOUT1 | O | | Left-channel analog output. |
| 85 | AIN1 | I | | Left-channel operational amplifier input. |
| 86 | LOUT1 | O | | Left-channel LINE output. |
| 87 | AVss | — | — | Analog GND. |
| 88 | XVDD | | | Power supply for master clock. |
| 89 | XTAI | I | | Crystal oscillation circuit input. Input the external master clock via this pin. |
| 90 | XTAO | O | | Crystal oscillation circuit output. |
| 91 | XVss | | | GND for master clock. |
| 92 | AVss | — | — | Analog GND. |
| 93 | LOUT2 | O | | Right-channel LINE output. |
| 94 | AIN2 | I | | Right-channel operational amplifier input. |
| 95 | AOUT2 | O | | Right-channel analog output. |
| 96 | AVDD | — | — | Analog power supply (+5V). |
| 97 | AVss | — | — | Analog GND. |
| 98 | NC | | | |
| 99 | NC | | | |
| 100 | XRST | I | | System reset. Reset when low. |

Notes)
- PCMD is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window released)
- XUGF is the negative pulse for the frame sync derived from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge of XPLCK and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived with the crystal accuracy. This signal has a cycle of 136$\mu$s (during normal-speed).
- C2PO represents the data error status.
- XRAOF is generated when the 16K RAM exceeds the $\pm$4F jitter margin.

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Pin labels (top): CNIN (14), SEIN (13), FOK (23), CLTV (42), PCO (38), FILI (40), FILO (39), XPCK (60), BIAS (45), ASYE (48), ASYO (47), ASYI (46), RF (44), C4M (70), FSTT (69)

Left side pins:
- DATO (15)
- XLTO (16)
- CLKO (17)
- SENS (9)
- DATA (10)
- XLAT (11)
- CLOK (12)
- SPOA~D (18~21)
- XLON (22)
- SCOR (75)
- SBSO (76)
- EXCK (77)
- SQSO (8)
- SQCK (7)
- MON (26)
- MDP (27)
- MDS (28)
- LOCK (29)
- XROF (64)
- PWMI (30)
- DOUT (71)
- LOUT2 (93)
- AIN2 (94)
- AOUT2 (95)
- LOUT1 (86)
- AIN1 (85)
- AOUT1 (84)

Right side pins:
- XTSL (68)
- VPCO1 (34)
- VPCO2 (33)
- VCKI (35)
- V16M (36)
- VCTL (37)
- GTOP (58)
- XUGF (59)
- GFS (61)
- EMPH (72)
- WFCK (74)
- MNT3 (65)
- MNT1 (66)
- MNT0 (67)
- TES0 (31)
- RFCK (62)
- C2PO (63)
- WDCK (49)
- LRCK (50)
- PCMD (52)
- BCK (54)
- EMPHI (73)
- LRCKI (51)
- PCMDI (53)
- BCKI (55)
- SYSM (80)

Bottom pins: CKOUT (6), XTAO (90), XTAI (89), LMUT (3), RMUT (4)

Blocks:
- Servo Auto Sequencer
- Digital PLL
- Asymmetry Corrector
- Clock Generator
- CPU Interface
- Sub Code Processor
- EFM demodurator
- OSC
- 16K RAM
- Error Corrector
- Digital CLV
- Digital OUT
- D./A Interface
- 3rd-Order Noise Shaper
- PWM
- PWM
- Over Sampling Digital Filter
- Serial-in Interface
- Timing Logic

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# CXA1992BR (RF AMP+Servo signal processor)

| No. | SYMBOL | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | FEO | O | Focus error amplifier output. Connected internally to the window comparator input for bias adjustment. |
| 2 | FEI | I | Focus error input. |
| 3 | FDFCT | I | Capacitor connection pin for defect time constant. |
| 4 | FGD | I | Ground this pin through a capacitor for cutting the focus servo high-frequency gain. |
| 5 | FLB | I | External time constant setting pin for boosting the focus servo low-frequency. |
| 6 | FE- O | O | Focus drive output. |
| 13 | TA- O | O | Tracking drive output. |
| 16 | SL- O | O | Sled drive output. |
| 7 | FE-M | I | Focus amplifier inverted input. |
| 8 | SRCH | I | External time constant setting pin for generating focus search waveform. |
| 9 | TGU | I | External time constant setting pin for switching tracking high-frequency gain. |
| 10 | TG2 | I | External time constant setting pin for switching tracking high-frequency gain. |
| 11 | FSET | I | Peak frequency setting pin for focus and tracking phase compensation amplifier. |
| 12 | TA-M | I | Tracking amplifier inverted input. |
| 14 | SL-P | I | Sled amplifier non-inverted input. |
| 15 | SL-M | I | Sled amplifier inverted input. |
| 17 | ISET | I | Connect an external capacitance to set the current which determines the Focus search, Track jump, and Sled kick heights. |
| 18 | Vcc | I | Positive power supply. |
| 19 | LOCK | I | The sled overrun prevention circuit operates when this pin is Low. (no pull-up resistance) |
| 20 | CLK | I | Serial data transfer clock input from CPU. (no pull-up resistance) |
| 22 | DATA | I | Serial data input from CPU. (no pull-up resistance) |
| 21 | XLT | I | Latch input from CPU. (no pull-up resistance) |
| 23 | XRST | I | Reset input ; resets at Low. (no pull-up resistance) |
| 24 | C. OUT | O | Track number count signal output. |
| 25 | SENS1 | O | Outputs FZC, DFCT1, TZC, BALH, TGH, FOH, ATSC, and others according to the command from CPU. |
| 26 | SENS2 | O | Outputs DFCT2, MIRR, BALL, TGL, FOL, and others according to the command from the CPU. |
| 27 | FOK | O | Focus OK comparator output. |
| 28 | CC2 | I | Input for the defect bottom hold output with capacitance coupled. |
| 29 | CC1 | O | Defect bottom hold output. Connected internally to the interruption comparator input. |
| 30 | CB | I | Connection pin for defect bottom hold capacitor. |
| 31 | CP | I | Connection pin for MIRR hold capacitor. MIRR comparator non-inverted input. |
| 32 | RF- I | I | Input for the RF summing amplifier output with capacitance coupled. |
| 33 | RF- O | O | RF summing amplifier output. Eyepattern check point. |
| 34 | RF- M | I | RF summing amplifier inverted input. The RF amplifier gain is determined by the resistance connected between this pin and RFO pin. |
| 35 | RFTC | I | External time constant setting pin during RF level control. |
| 36 | LD | O | APC amplifier output. |
| 37 | PD | I | APC amplifier input. |
| 38 | PD1 | I | RE I-V amplifier inverted input. |
| 39 | PD2 | I | Connect these pins to the photo diode A+C and B+D pins. |
| 40 | FE- BIAS | I | Bias adjustment of focus error amplifier. Leave this pin open for automatic adjustment. |
| 41 | F | I | F I-V and EI -V amplifier inverted input. |
| 42 | E | I | Connect these pins to photo diodes F and E. |
| 43 | EI | — | I-V amplifier E gain adjustment. (When not using automatic balance adjustment) |
| 44 | VEE | — | Negative power supply. |
| 45 | TEO | O | Tracking error amplifier output. E-F signal is output. |
| 46 | LPFI | I | Comparator input for balance adjustment. (input from TEO through LPF) |
| 47 | TEI | I | Tracking error input. |
| 50 | TDFCT | I | Capacitor connection pin for defect time constant. |
| 48 | ATSC | I | Window comparator input for ATSC detection. |
| 49 | TZC | I | Tracking zero-cross comparator input. |
| 51 | VC | O | (Vcc+Vee)/2 direct voltage output. |
| 52 | FZC | I | Focus zero-cross comparator input. |

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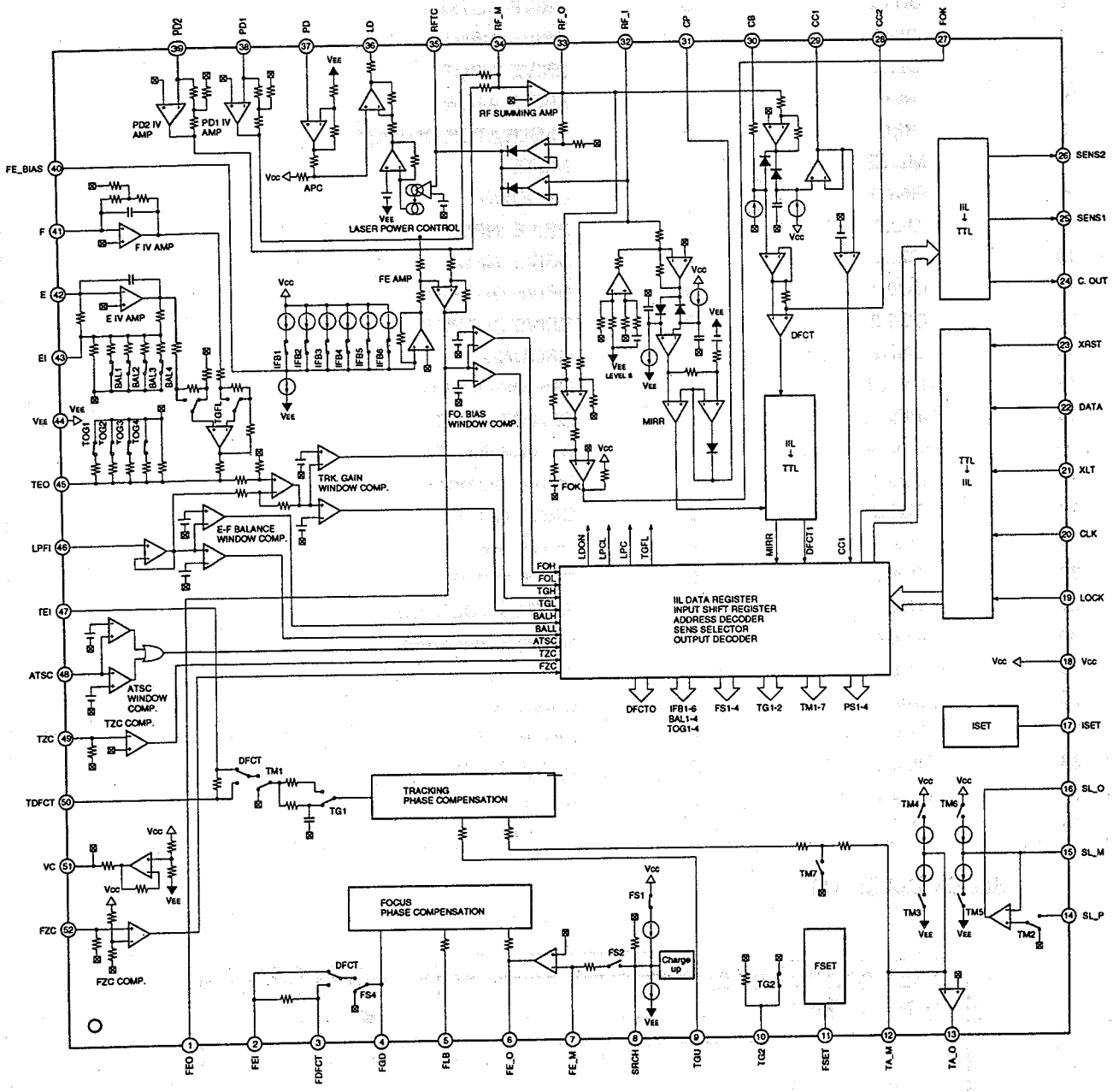
# KA9258D (Motor Driver)

| No. | SYSTEM | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | DO1.1 | O | DRIVE OUTPUT |
| 2 | DO1.2 | O | DRIVE OUTPUT |
| 3 | DI1.1 | I | DRIVE INPUT |
| 4 | DI1.2 | I | DRIVE INPUT |
| 5 | REG | | REGULATOR |
| 6 | REO | O | REGULATOR OUTPUT |
| 7 | MUTE | | MUTE |
| 8 | GND1 | | GROUND |
| 9 | DI2.1 | I | DRIVE INPUT |
| 10 | DI2.2 | I | DRIVE INPUT |
| 11 | DO2.1 | O | DRIVE OUTPUT |
| 12 | DO2.2 | O | DRIVE OUTPUT |
| 13 | GND2 | | GROUND |
| 14 | OPOUT | O | OPAMP OUTPUT |
| 15 | OPIN (-) | I | OPAMP INPUT(-) |
| 16 | OPIN (+) | I | OPAMP INPUT(+) |
| 17 | DO3.1 | O | DRIVE OUTPUT |
| 18 | DO3.2 | O | DRIVE OUTPUT |
| 19 | DI3.1 | I | DRIVE INPUT |
| 20 | DI3.2 | I | DRIVE INPUT |
| 21 | VCC1 | | SUPPLY VOLTAGE |
| 22 | VCC2 | | SUPPLY VOLTAGE |
| 23 | VREF | | 2.5V BIAS VOLTAGE |
| 24 | DI4.1 | I | DRIVE INPUT |
| 25 | DI4.2 | I | DRIVE INPUT |
| 26 | DO4.1 | O | DRIVE OUTPUT |
| 27 | DO4.2 | O | DRIVE OUTPUT |
| 28 | GND 3 | | GROUND |

BLOCK DIAGRAM
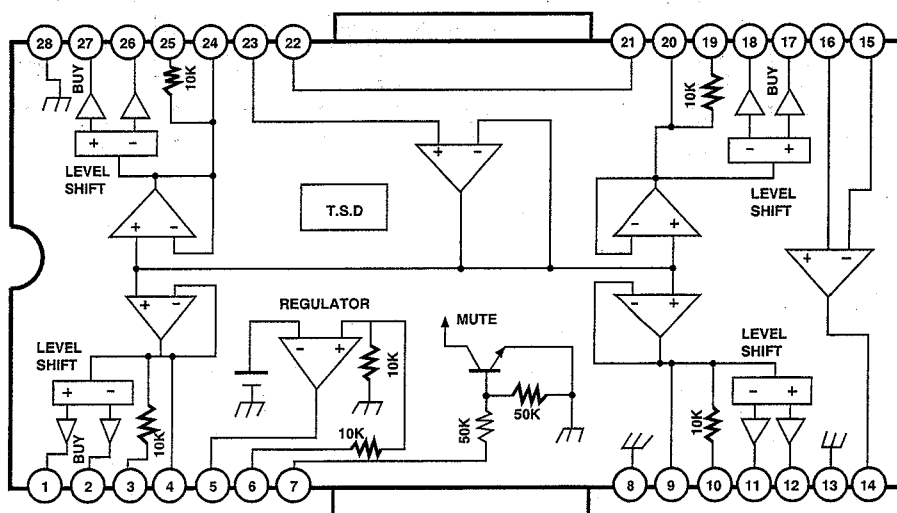
# MECHA SENSOR

| No. | SENSOR NAME | KIND | DESCRIPTION |
|-----|-------------|------|-------------|
| 1 | OPEN | MECHANICAL SW | "L" when the tray has opened. |
| 2 | STORE | MECHANICAL SW | "L" when the tray is closed and the carriage is in the stocker. |
| 3 | T. CLOSE | MECHANICAL SW | "L" when the tray is closed. |
| 4 | POS1 | MECHANICAL SW | Sensor detecting the position of Pick-up Mecha. |
| 5 | POS2 | MECHANICAL SW | |
| 6 | POS3 | MECHANICAL SW | |
| 7 | H. POS | MECHANICAL SW | "L" when the stocker is inhome position. |
| 8 | CENTER | PHOTO INTERRUPTER | "L" when the tray is in Center position. (Pick-up cna be moved upward and downward). At this moment, the tray is to be closed. If T. CLOSE is in the condition of H, Center is not operational. |
| 9 | D. CNT | PHOTO INTERRUPTER | Sensor detecting the disc position of the stocker "L" when the carriage enters inward from the outside. |
| 10 | D. DET | PHOTO REFLECTOR | Sensor detecting ith existence of disc detectable when the tray is in Center Position. "L" when a disc exits. |

# MOTOR DRIVER (BA6208)

| OPEN | CLOSE | OPERATING |
|------|-------|-----------|
| H | H | MOTOR STOP (BREAK) |
| H | L | TRAY OPEN |
| L | H | TRAY CLOSE |
| L | L | MOTOR STOP |

| ST. UP | ST. DOWN | OPERATING |
|--------|----------|-----------|
| H | H | MOTOR STOP (BREAK) |
| H | L | STORKER UP |
| L | H | STORKER DOWN |
| L | L | MOTOR STOP |

MICRO CONTROLER

CENTER

D. CNT

D. DET

OPEN
CLOSE

MOTOR DRIVE

M

OPEN SW
STORE SW
CLOSE SW

PICK UP
MECHA
POSITION
SW

HOME
POSITION
SW

OPEN
STORE
T. CLOSE
POS1
POS2
POS3
H. POS

ST. UP
ST. DOWN

MOTOR DRIVE

M

10
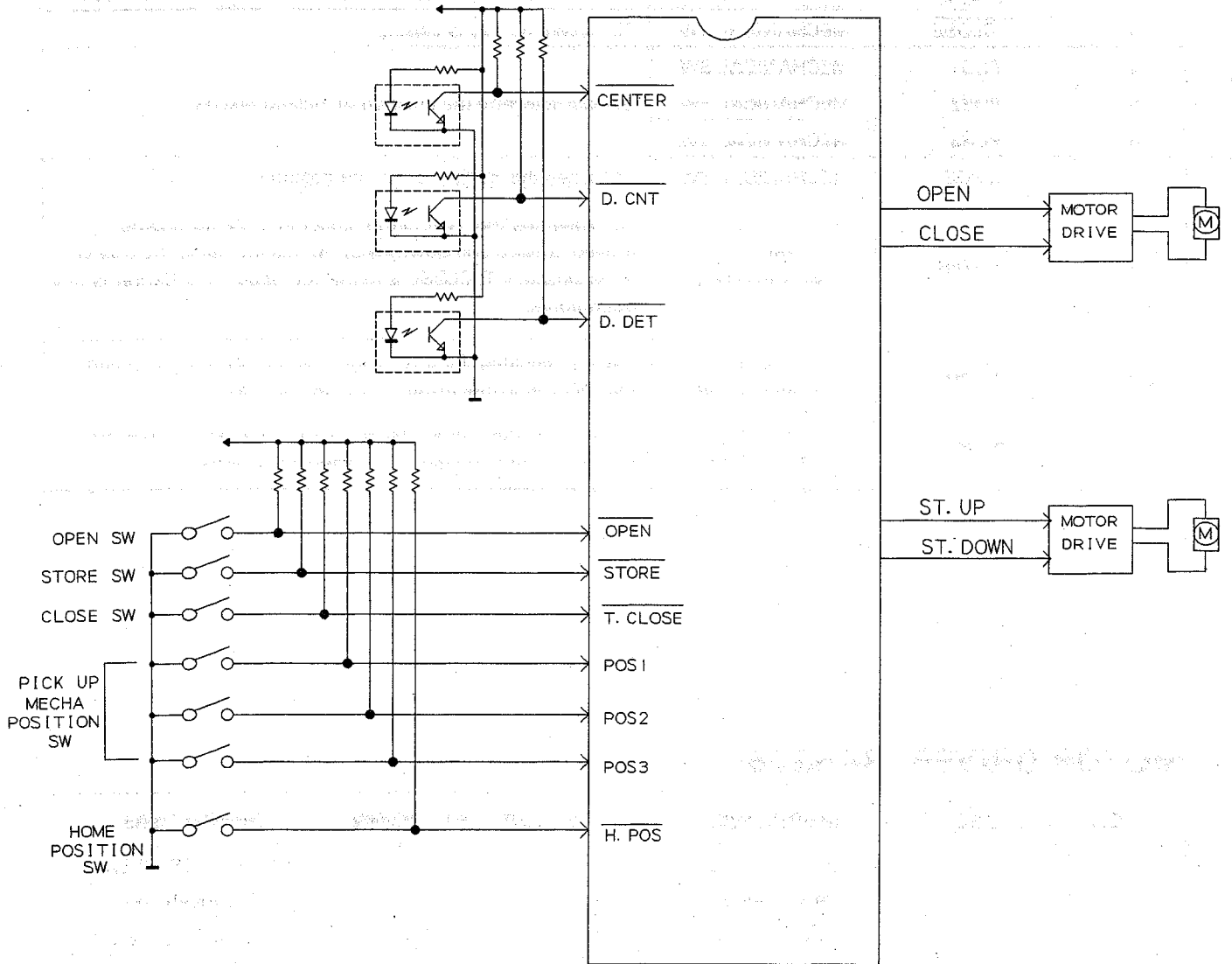
# IC BVIANAM1233C (μ-COM, TMP87PM78F)

| NO. | NAME | I/O | DESCRIPTION |
|-----|------|-----|-------------|
| 1 | VDD | - | +5V POWER SUPPLY PIN |
| 2 | FRONT | O | MECHANISM OPEN CONTROL PIN |
| 3 | REAR | O | MECHANISM COLSE CONTROL PIN |
| 4 | ST. UP | O | MECHANISM DISC CHANGE CONTROL PIN |
| 5 | ST. DOWN | O | MECHANISM DISC CHANGE CONTROL PIN |
| 6 | POWER | O | SYSTEM POWER ON/OFF PIN |
| 7 | REMOTE SELEC. | I | REMOTE SELECTOR SWITCH CHEAK PIN |
| 8 | TEST | I | OPTION (HIGH=AKAI) |
| 9 | NC | - | |
| 10 | SQCK | O | SUBCODE-Q DATA CLOCK PIN |
| 11 | SQSO | I | SUBCODE-Q DATA SERIAL PIN |
| 12 | NC | - | |
| 13 | SCOR | I | SUBCODE SYNC SIGNAL (S0+S1) PIN |
| 14 | POS 1 | I | POSITION 1 INPUT |
| 15 | POS 2 | I | POSITION 2 INPUT |
| 16 | POS 3 | I | POSITION 3 INPUT |
| 17 | D. DET | I | DISC DETECTER INPUT |
| 18 | H. POS | I | HOME POSITION INPUT |
| 19 | T. CLOSE | I | CLOSE SWITCH INPUT |
| 20 | OPEN SW | I | OPEN SWITCH INPUT |
| 21 | D. CNT | I | DISC COUNT INPUT |
| 22 | VSS | - | GND |
| 23 | VASS | - | ANALOG GND |
| 24 | VRFF | - | +5V POWER SUPPLY PIN |
| 25 | VDD | - | +5V POWER SUPPLY PIN |
| 26 | DISC CHEAK | I | DISC CHEAK ERROR CONTROL PIN |
| 27 | NC | - | |
| 28 | STORE | I | STORE SWITCH INPUT |
| 29 | CENTER | I | CENTER SENSOR INPUT |
| 30 | VSS | - | GND |
| 31 | XIN | I | SYSTEM COLCK OSCILLATION CRYSTAL INTERFACE PIN |
| 32 | XOUT | O | SYSTEM COLCK OSCILLATION CRYSTAL INTERFACE PIN |
| 33 | RESET INPUT | I | SYSTEM RESET PIN |
| 34 | REMOTE IN | I | REMOCON DATA INPUT PIN |
| 35 | BUS IN | I | REMOCON DATA INPUT PIN |
| 36 | BUS OUT | O | REMOCON DATA OUTPUT PIN |
| 37 | SENS2 | I | SSP STATUS INPUT PIN |
| 38 | SENS | I | DSP STATUS INPUT PIN |
| 39 | COUT | I | TRACK COUNT INPUT PIN |
| 40 | MUTE | O | AUDIO MUTE PIN |
| 41 | CLOCK | O | CLOCK PIN |
| 42 | XLAT | O | LATCH PIN |
| 43 | DATA | I | DATA OUTPUT PIN |
| 44 | F. OK | I | FOCOS OK INPUT PIN |

| NO. | NAME | I/O | DESCRIPTION |
|---|---|---|---|
| 45 | GFS | I | FRAME SYNC STAUTS PIN |
| 46 | DSP RESET | O | SYSTEM RESET FROM DSP PIN |
| 47 | POWER S.W | O | F.I.P FILAMENT POWER ON/OFF PIN |
| 48 | JOG A | O | SKIP DIAL CONTROL PIN |
| 49 | JOG B | O | SKIP DIAL CONTROL PIN |
| 50 | -30V | - | FIP VOLTAGE SUPPLY PIN |
| 51 | STANDBY LED | O | STANDBY LED ON/OFF PIN |
| 52~58 | NC | - | |
| 59 | KS_5 | O | KEY SCAN OUTPUT PIN |
| 60 | KS_4 | O | KEY SCAN OUTPUT PIN |
| 61 | KS_3 | O | KEY SCAN OUTPUT PIN |
| 62 | KS_2 | O | KEY SCAN OUTPUT PIN |
| 63 | KS_1 | O | KEY SCAN OUTPUT PIN |
| 64~66 | NC | - | |
| 67 | P1 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 68 | P2 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 69 | P3 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 70 | P4 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 71 | P5 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 72 | P6 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 73 | P7 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 74 | P8 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 75 | P9 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 76 | P10 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 77 | P11 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 78 | P12 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 79 | P13 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 80 | P14 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 81 | P15 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 82 | P16 | O | FIP SEGMENT SIGNAL OUTPUT PIN |
| 83 | G1 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 84 | G2 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 85 | G3 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 86 | G4 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 87 | G5 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 88 | G6 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 89 | G7 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 90 | G8 | O | FIP TIMING SIGNAL OUTPUT PIN |
| 91~93 | NC | - | |
| 94 | KI_5 | I | KEY SCAN INPUT PIN |
| 95 | KI_4 | I | KEY SCAN INPUT PIN |
| 96 | KI_3 | I | KEY SCAN INPUT PIN |
| 97 | KI_2 | I | KEY SCAN INPUT PIN |
| 98 | KI_1 | I | KEY SCAN INPUT PIN |
| 99 | P17 | O | KEY SCAN OUTPUT PIN |
| 100 | NC | - | |

# WIRING DIAGRAM

**MECHANISM BLOCK**

BJDTCD-MB7

**MAIN PCB**

KUP11079-1

**POWER PCB**

KUP11079-2

**FRONT PCB**

KUP11079-3

CN22

## BN13 / CN17 side

| | | | | |
|---|---|---|---|---|
| SLED− | 6 | 6 | SLED− | |
| SLED+ | 5 | 5 | SLED+ | |
| GND | 4 | 4 | GND | BN13 |
| INNER S/W | 2 | 2 | INNER S/W | |
| SPINDLE+ | 3 | 3 | SPINDLE+ | |
| SPINDLE− | 1 | 1 | SPINDLE− | |

| | | | | |
|---|---|---|---|---|
| OPEN | 4 | 4 | OPEN | |
| CLOSE | 3 | 3 | CLOSE | BN14 |
| ST.UP | 2 | 2 | ST.UP | |
| ST.DOWN | 1 | 1 | ST.DOWN | |

| | | | | |
|---|---|---|---|---|
| B+D | 5 | 5 | B+D | |
| A+C | 4 | 4 | A+C | BN15 |
| COM | 3 | 3 | COM | |
| E | 2 | 2 | E | |
| F | 1 | 1 | F | |

| | | | | |
|---|---|---|---|---|
| FOCUS+ | 8 | 8 | FOCUS+ | |
| TRACKING+ | 7 | 7 | TRACKING+ | |
| TRACKING− | 6 | 6 | TRACKING− | |
| FOCUS− | 5 | 5 | FOCUS− | BN12 |
| VR | 4 | 4 | VR | |
| MP | 3 | 3 | MP | |
| COM | 2 | 2 | COM | |
| LD | 1 | 1 | LD | |

## CN17 / BN17

| | | | | |
|---|---|---|---|---|
| GND | 1 | 1 | GND | |
| +8VM | 2 | 2 | +8VM | |
| S+5V | 3 | 3 | S+5V | |
| +8V | 4 | 4 | +8V | |
| GND | 5 | 5 | GND | |
| +8V | 6 | 6 | +8V | BN17 |
| GND | 7 | 7 | GND | |
| −8V | 8 | 8 | −8V | |
| −33V | 9 | 9 | −33V | |
| FILAMENT | 10 | 10 | FILAMENT | |
| FILAMENT | 11 | 11 | FILAMENT | |

## CN11 / BN11

| | | | |
|---|---|---|---|
| SENS2 | 1 | 1 | SENS2 |
| C.OUT | 2 | 2 | C.OUT |
| CLOK | 3 | 3 | CLOK |
| XLAT | 4 | 4 | XLAT |
| DATA | 5 | 5 | DATA |
| FOK | 6 | 6 | FOK |
| SENS | 7 | 7 | SENS |
| SQSO | 8 | 8 | SQSO |
| SQCK | 9 | 9 | SQCK |
| GND | 10 | 10 | GND |
| RMCO | 11 | 11 | RMCO |

## CN18 / BN18

REMO SEL, DSP-RESET, POWER SW, FRONT, REAR, ST.UP, ST.DOWN — 1 2 3 4 5 6 7

## CN19 / BN19

MUTE, GFS, SCOR, GND, S+5V, −33V, FILAMENT, FILAMENT, FLT SW — 1 2 3 4 5 6 7 8 9

## Mechanism block connector

| 1 | D.DET |
|---|---|
| 2 | POS2 |
| 3 | POS3 |
| 4 | POS1 |
| 5 | H.POS |
| 6 | CLOSE |
| 7 | OPEN |
| 8 | D.CNT |
| 9 | +5 |
| 10 | CENTER |
| 11 | STORE |
| 12 | COM |

| 2 | GND |
|---|---|
| 1 | E_SW |

## BN20

| 2 | GND |
|---|---|
| 1 | E_SW |

## BN21

| 1 | D.DET |
|---|---|
| 2 | POS2 |
| 3 | POS3 |
| 4 | POS1 |
| 5 | H.POS |
| 6 | CLOSE |
| 7 | OPEN |
| 8 | D.CNT |
| 9 | +5 |
| 10 | CENTER |
| 11 | STORE |
| 12 | COM |

13

14

# BLOCK DIAGRAM

# SCHEMATIC DIAGRAM
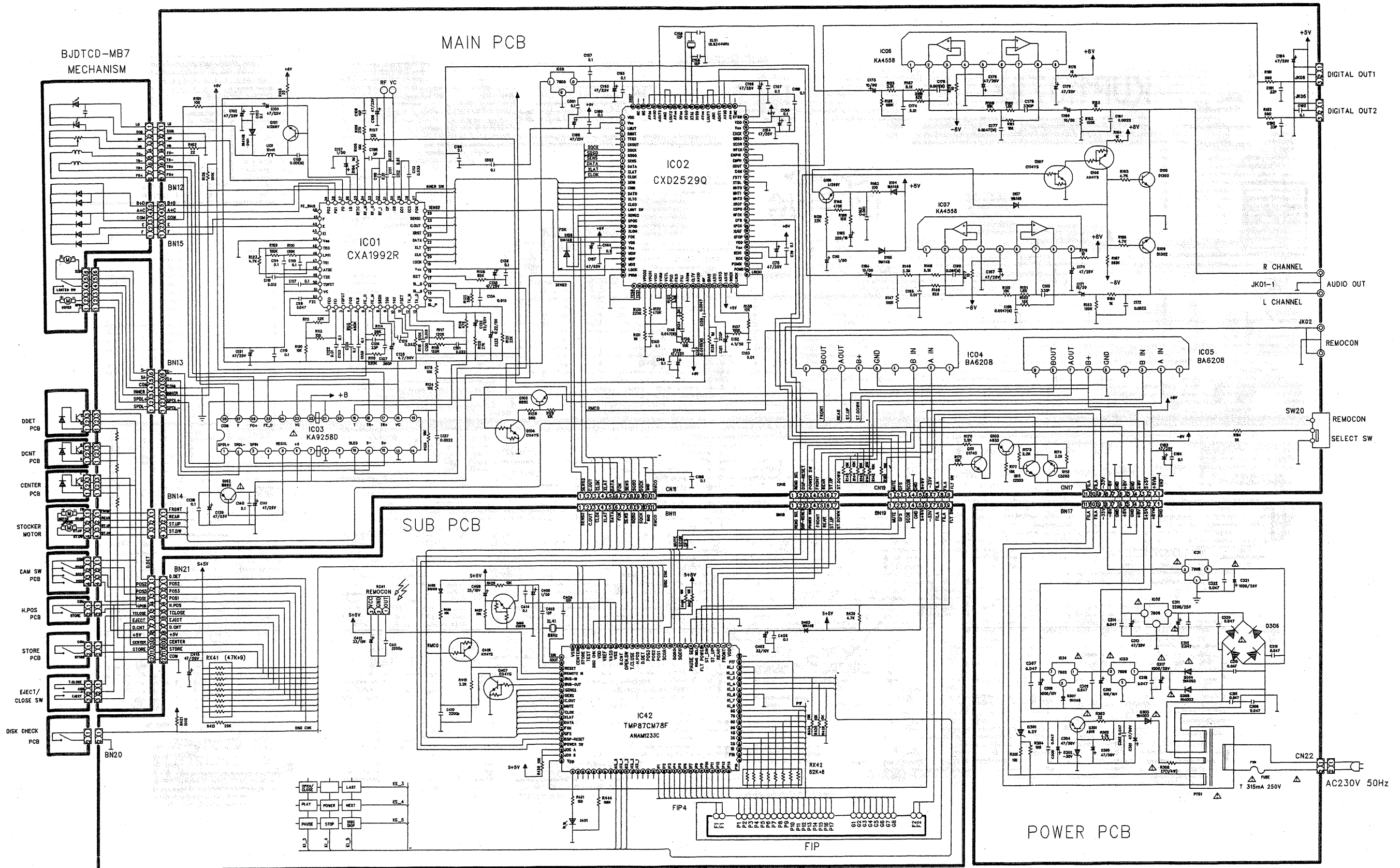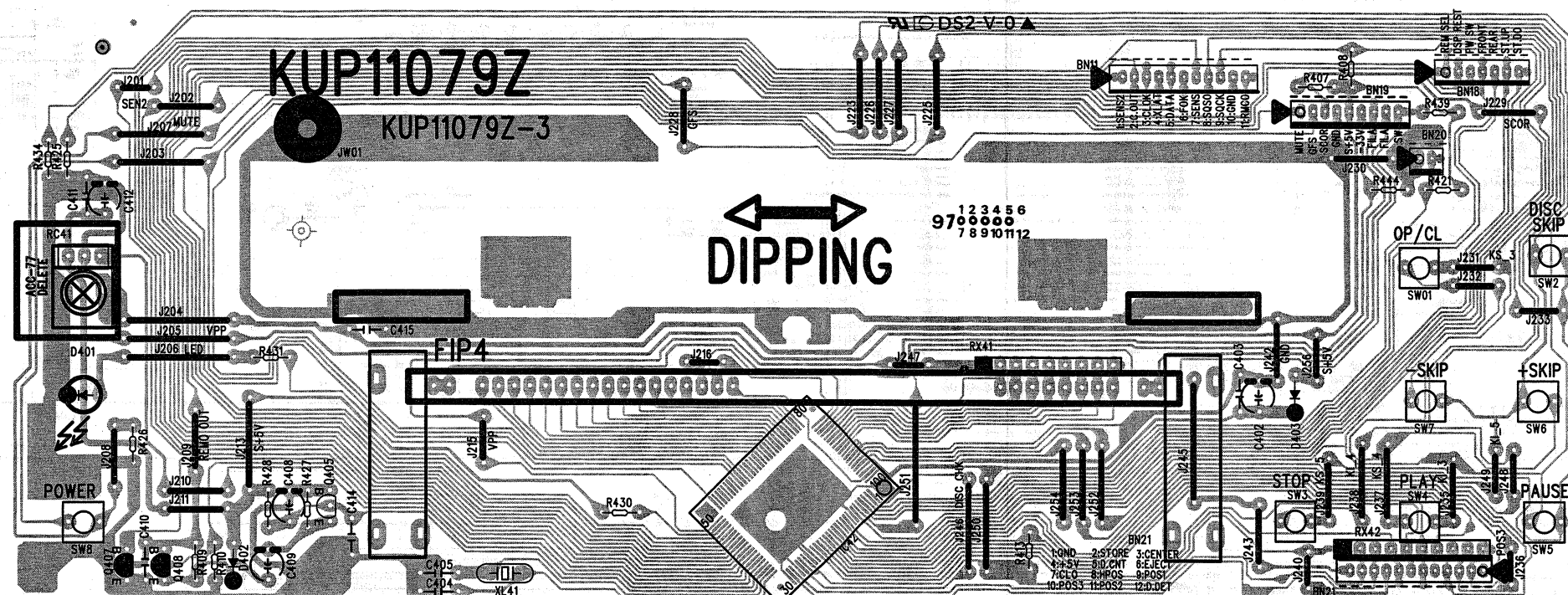
# PRINTED CIRCUIT BOARDS

**KUP11079Z**

KUP11079Z-3

DIPPING

KUP11079Z-2

KUP11079Z-1
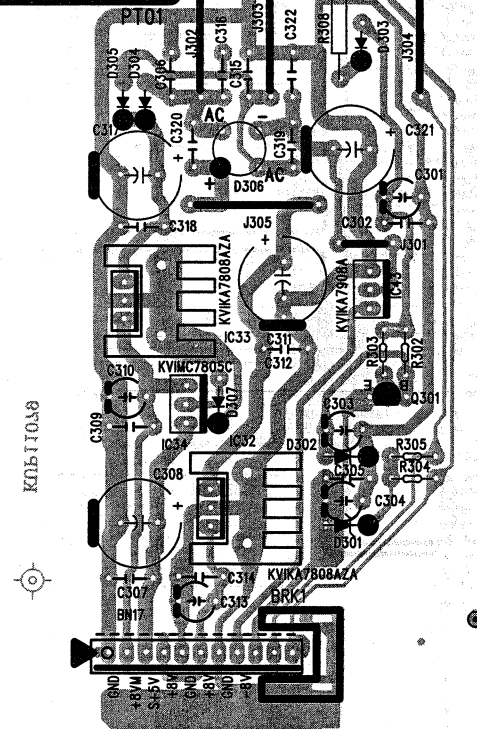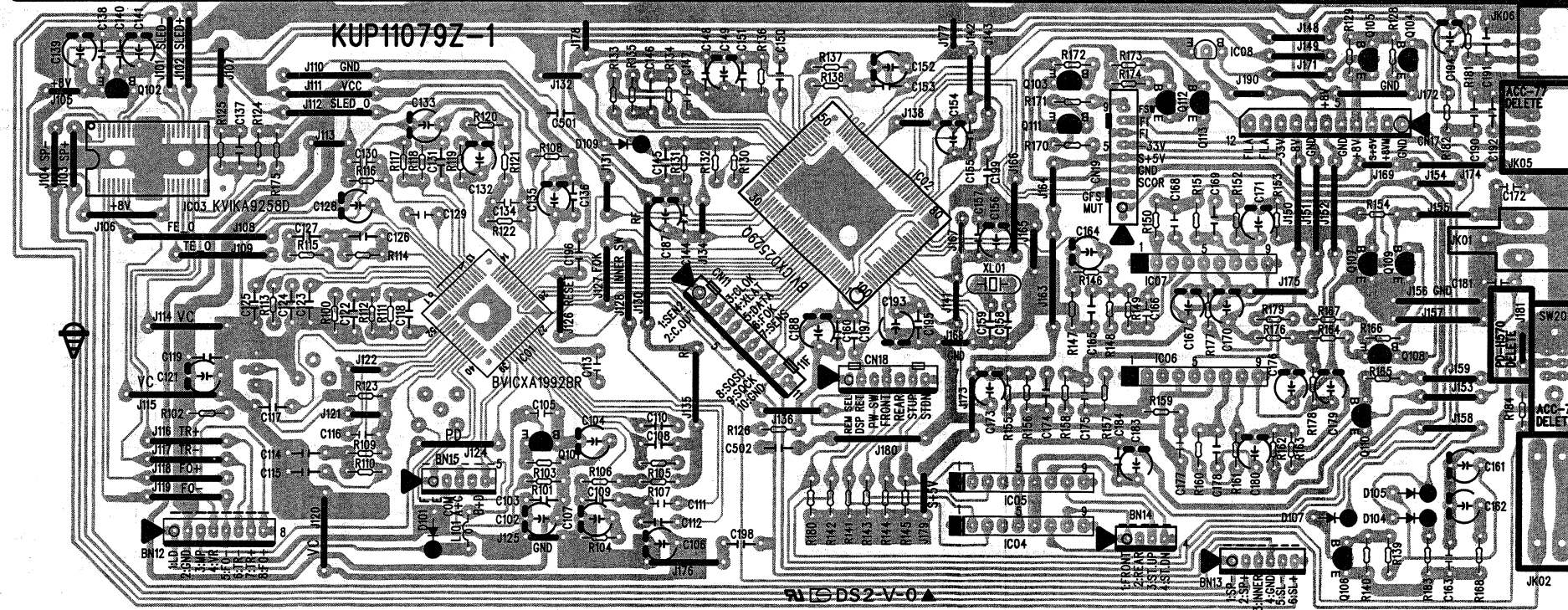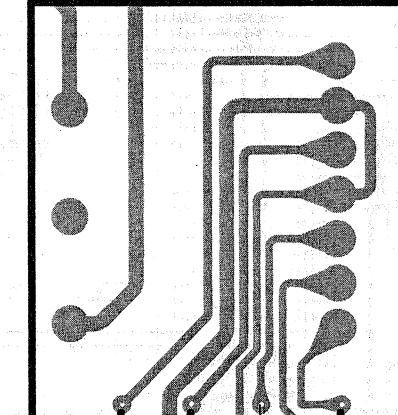
# MECHANISM ASS'Y

| NO | PARTS NAME | DRAWING NO. | PARTS CODE |
|----|------------|-------------|------------|
| 78 | CLAMPER HI | | A87G046 |
| 79 | TOP COVER | | A87G422 |
| 80 | MAGNET 17x27x5 | | A82G057 |
| 81 | CLAMPER LO | | A87G045 |
| 82 | ASSIST ARM | | A87P456 |
| 83 | STOCKER AS SA | | A87A241 |
| 84 | CARRIAGE-N | | A3G004A |
| 85 | SIDE CHASSIS L | | A3G007A |
| | | | |
| 87 | TRAY HOLDER L | | A87G123 |
| 88 | PINION ASS'Y | | A87A242 |
| 89 | TRAY HOLDER R | | A3G009A |
| 90 | MECHA B STOPPER | | A87P462 |
| 91 | MSS-10L2-1 | | S01V158 |
| 92 | CORD CLAMPER 3B40 | | M01N034 |
| 93 | SSS-13 | | S01V160 |
| | | | |
| 95 | MAIN CHASSIS SECTION | | A87A243 |
| 96 | STC GUIDE PIN | | A3H002A |
| 97 | OVER DISC SW PCB | | A87P037 |
| 98 | SW-112 | | S01W175 |
| 99 | S28-PH-K-S | | A82G222 |
| | | | |
| 105-6 | STORE SW PCB | | A87P352-6 |
| 105-7 | OP/CL SW PCB | | A87P352-7 |
| 107 | MECHA SP AV2 | | A87S008 |
| 108 | NYLON BAND | | M01N122 |
| | | | |
| 200 | M2.6x6BIND P-TIGHT | | B26P006 |
| 210 | M2x5BIND P-TIGHT | | B20PK05 |
| 213 | M2.6x8BIND B-TIGHT | | B26B008 |
| 220 | M2.6x11 BIND B-TIGHT | | B26B011 |
| 221 | M2.6x10 BIND B-TIGHT | | B26B010 |
| 225 | M2.6x5PAN S-TIGHT | | M26TK05 |



PICK UP MECHA UNIT SECTION

MAIN CHASSIS SECTION
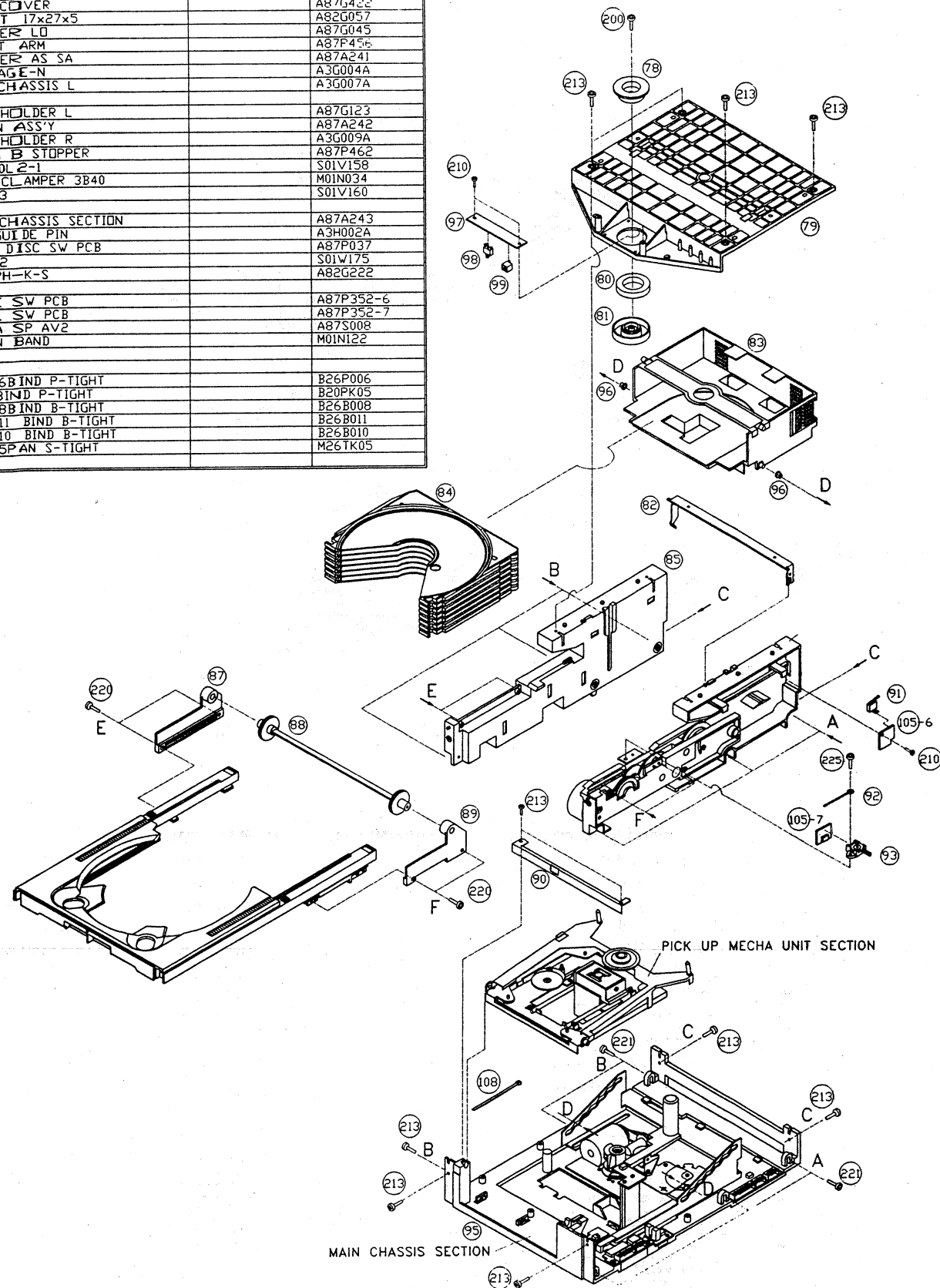
# TCD-MB7TAN

## 1. MAIN CHASSIS SECTION
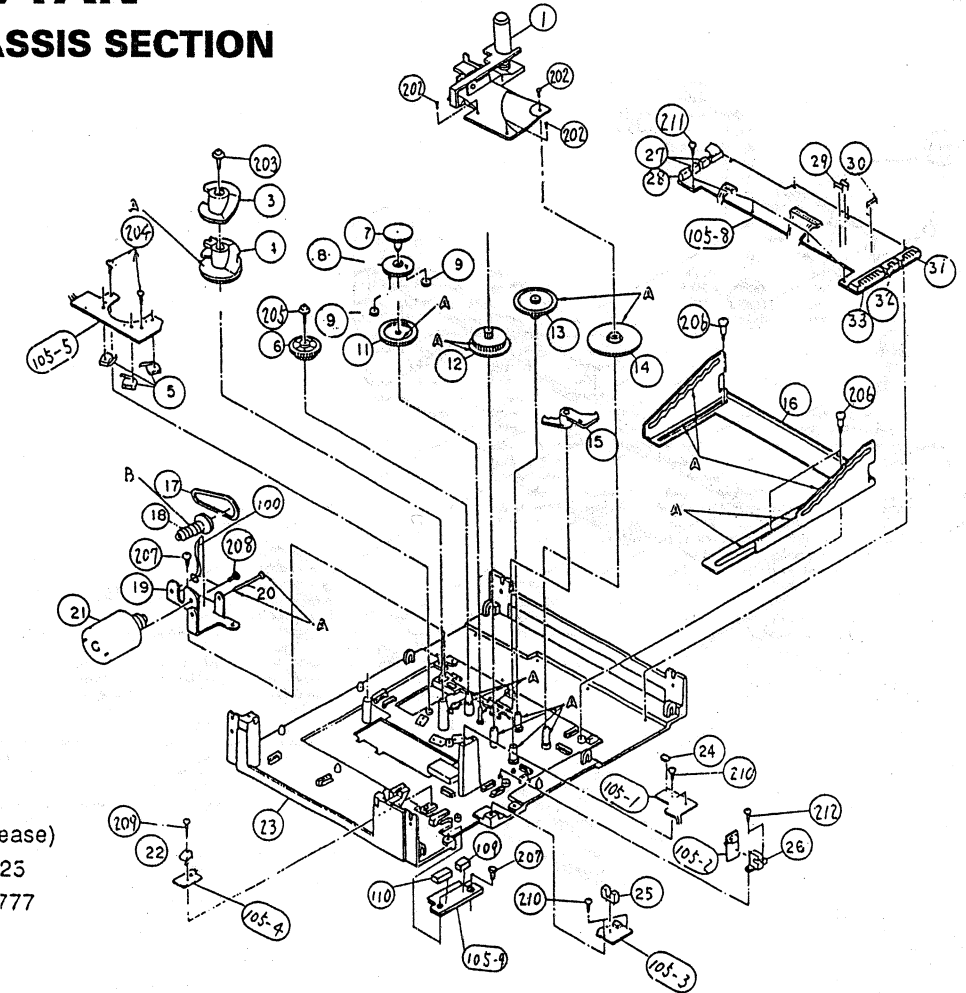


Lubricant (Grease)
A: FLOIL G423
B: FLOIL FL777

| No. | PARTS NAME | DRAWING NO. | PARTS CODE | No. | PARTS NAME | DRAWING NO. | PARTS CODE |
|-----|------------|-------------|------------|-----|------------|-------------|------------|
| 1 | DISC LOCK ARM AS | | A3A117A | 25 | GP1S52V | | E01L548 |
| 2 | | | | 26 | GS1S51V | | E01L547 |
| 3 | ME UD CAM TOP-N | | A87G421 | 27 | B2B-PH-K-S | | A81G605 |
| 4 | MECHA UD CAM-K | | A87G427 | 28 | B3B-PH-K-S | | A81G372 |
| 5 | MSS-10R2-16 | | S01W159 | 29 | CR270-6 | | C01R270 |
| 6 | ID-ST-GEAR | | A87G033 | 30 | CR330-6 | | C01R330 |
| 7 | D1-ST-GEAR | | A3G141A | 31 | S6B-PH-K-S | | A81G028 |
| 8 | D2-ST-GEAR | | A3G142A | 32 | S4B-PH-K-S | | A82G223 |
| 9 | D3-ST-GEAR | | A3G143A | 33 | S12B-PH-K-S | | A82G237 |
| | | | | | | | |
| 11 | D5-ST-GEAR | | A87G040 | 100 | WIRE WITH LUG B | | A87G261 |
| 12 | LOCK IDLER | | A87G041 | 105 | MAIN PCB N | | A3P005A |
| 13 | D7M-ST-GEAR | | A87G035 | 105-1 | GP2S40 PCB | | |
| 14 | D6P-ST-GEAR | | A87G394 | 105-2 | GP1S51V PCB | | |
| 15 | CHANGE ARM | | A87G420 | 105-3 | GP1S52V PCB | | |
| 16 | STOCKER CAM | | A3P001A | 105-4 | HOPS PCB | | |
| 17 | BELT T-C | | A87G014 | 105-5 | CAM PCB | | |
| 18 | ST-WORM-GEAR | | A87G032 | 105-6 | STORE SW PCB | | |
| 19 | MOTOR BRACKET | | A87P001 | 105-7 | OP/CL SW PCB | | |
| 20 | WORM SHAFT | | A87H062 | 105-8 | MAIN PCB | | |
| 21 | STOCKER MOTOR AS | | A87A228 | 105-9 | PV PCB | | |
| 22 | MSS-10R2-17 | | S01Y163 | 109 | S5B-PH-K-S | | A82G253 |
| 23 | MAIN CHASSIS AS | | A3A001A | 110 | S8B-PH-K-S | | A81G030 |
| 24 | GP2S40 | | E01L546 | | | | |

## 2. SIDE CHASSIS R SECTION



Lubricant (Grease)

Ⓐ: FLOIL G425

| No. | PARTS NAME | DRAWING NO. | PARTS CODE |
|-----|------------|-------------|------------|
| 34 | CHANGE PLATE AS | | A871062 |
| 35 | CARRIAGE OPENNER | | A3G078A |
| 36 | CHANGE GEAR | | A87G023 |
| 37 | SW-BRACKET | | A87P010 |
| 38 | LOADING MOTOR AS | | A87A227 |
| 39 | SIDE CHASSIS R AS | | A3A002A |
| 40 | S-P-GEAR | | A87G010 |
| 41 | BELT C-S | | A87G015 |
| 42 | SIDE IDLER | | A87G020 |
| 43 | S-F-GEAR | | A3G136A |
| 44 | S-I-GEAR | | A87G009 |
| 45 | S-M-GEAR | | A87G007 |
| 46 | TRAY STOPPER | | A87A298 |
| 47 | TRACE ARM N AS | | A87A238 |
| 48 | GEAR HOLDER | | A87G423 |
| 101 | WIRE WITH LUG | | A87G257 |

## 3. PICK UP MECHA UNIT SECTION
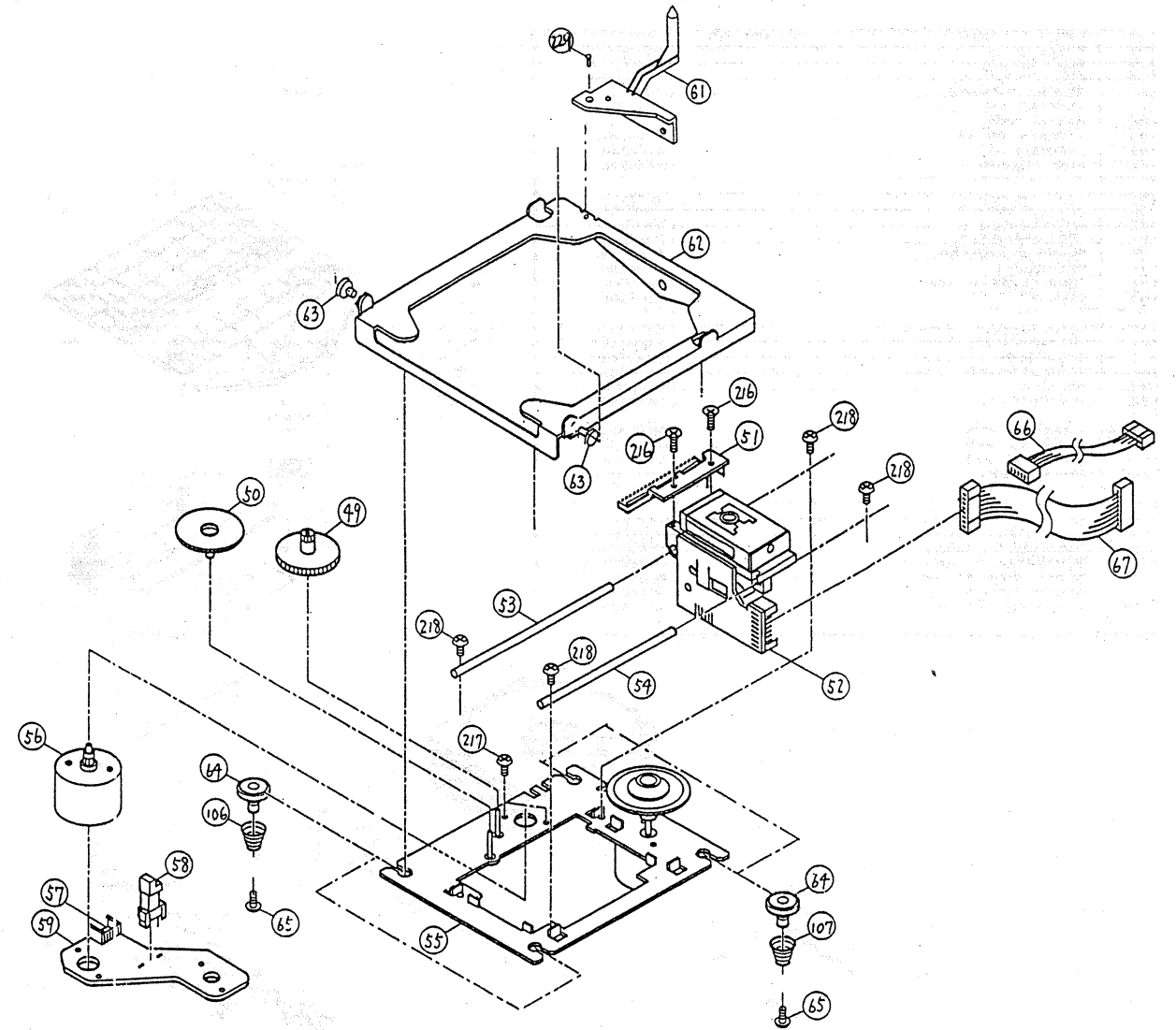


| No. | PARTS NAME | DRAWING NO. | PARTS CODE | |
|-----|------------|-------------|------------|---|
| 49 | GEAR MIDDLE | | A90G038 | (1EA2511A06300) |
| 50 | GEAR POWER | | A90G040 | (1EA2511A06500) |
| 51 | PLATE RACK | | A3G096A | (1EA2731A01400) |
| 52 | PICK UP SF91PO | | A90G110 | (14926435) |
| 53 | GUIDE BAR B | | A3H018A | (1EA2362A00400) |
| 54 | GUIDE BAR A | | A3H019A | (14127519890000) |
| 55 | DISC MOTOR AS | | A3A113A | |
| 56 | FEED MOTOR AS | | A3A114A | |
| 57 | S6B-PH-K-S | | A81G028 | |
| 58 | LEAF SW BSW -333A | | S01W128 | (1EA4S13A00800) |
| 59 | MOTOR PCB 90VI-M | | A90P073 | (1EA4B10A53501) |
| | | | | |
| 61 | MECHA BASE PIN | | A3G139A | |
| 62 | SUS CHASSIS AS | | A3A118A | |
| 63 | ST2-4-4 WG | | A3H052A | |
| 64 | MECHA SUS AW B | | A3G175A | |
| 65 | M2-3-9 AW | | A3H001A | |
| 66 | CNW-W5P | | A87G359 | |
| 67 | CNW-W8P | | A87G358 | |
| 106 | MECHA SP R | | A3S010A | |
| 107 | MECHA SP F | | A3S009A | |

# 4. TRAY SECTION
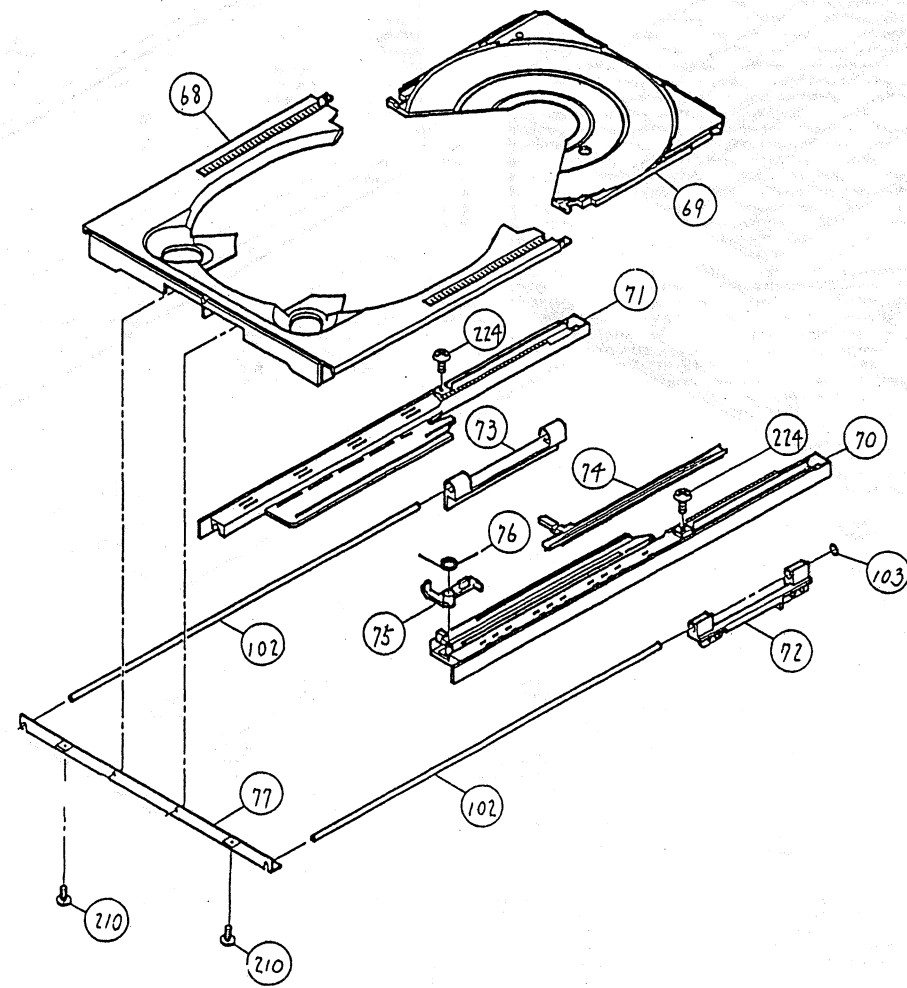


| No. | PARTS NAME | DRAWING NO. | PARTS CODE |
|-----|------------|-------------|------------|
| 68 | TRAY TOP | | A3G015A |
| 69 | CARRIAGE S | | A3G086A |
| 70 | TRAY R | | A87G017 |
| 71 | TRAY L | | A3G090A |
| 72 | TRAY GUIDE R | | A87G006 |
| 73 | TRAY GUIDE L | | A87G008 |
| 74 | SHUTTLE | | A3G135A |
| 75 | SHUTTLE LOCK | | A87G021 |
| 76 | SHUTTLE LOCK SP | | A87S001 |
| 77 | TRAY PLATE | | A3P032A |
| 102 | TR-G-SHAFT-N | | A87H061 |
| 103 | STOP RUBBER | | A87G207 |
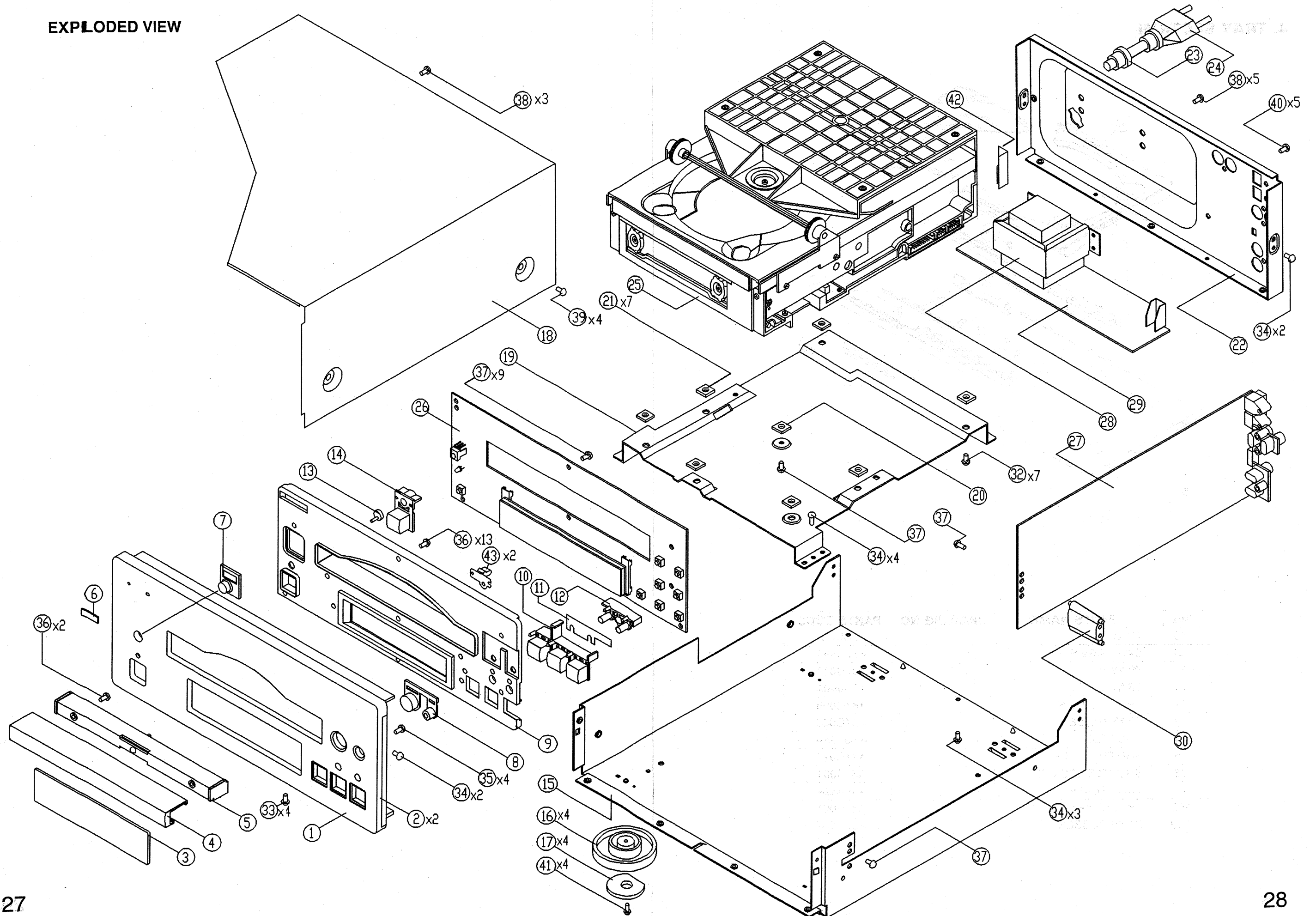
## EXPLODED VIEW PARTS LIST

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | 9A06882000 | AL PANEL | |
| 2 | 9A06677600 | SIDE BAR | |
| 3 | 9A06240500 | FIP WINDOW | |
| 4 | 9A06881400 | ORNAMENT, DOOR | |
| 5 | 9A06881100 | BASE, DOOR | |
| 6 | 9A06224200 | BADGE, TEAC | |
| 7 | 9A06227600 | SENSOR, WINDOW | |
| 8 | 9A06880900 | KNOB, TACT | |
| 9 | 9A06881300 | PANEL, MOLD | |
| 10 | 9A06227600 | SENSOR, WINDOW | |
| 11 | 9A06880900 | KNOB, TACT | |
| 12 | 9A06239700 | KNOB, TACT | |
| 13 | 9A06227400 | INDICATOR, POWER | |
| 14 | 9A06314500 | KNOB, POWER | |
| 15 | 9A06883000 | BOTTOM CHASSIS | |
| 16 | 9A06315500 | FOOT | |
| 17 | 9A06229300 | CUSHION, FOOT | |
| 18 | 9A06881800 | CABINET, TOP | |
| 19 | 9A06883100 | PLATE, BOTTOM | |
| 21 | 9A06229400 | RUBBER, MECHA | |
| 22 | 9A06881900 | PANEL, REAR | |
| 23 | 9A01376900 | BUSHING, AC CORD HEYCO(SR- | |
| 25 | 9A05277900 | MECHANISM ASS'Y | |
| 26 | 9A06883300 | PCB, FRONT | |
| 27 | 9A06882400 | MAIN PCB | |
| 28 | 9A06882400 | POWER PCB | |
| 29 | 9A06830600 | TRANS, POWER | |
| 30 | 9A05989700 | SUPPORT, PCB | |
| 32 | 9A06881500 | SCREW, SPECIAL | |
| 33 | 9A01397400 | SCREW, KTS3+8J | |
| 34 | 9A01532600 | SCREW KTB3+6J | |
| 35 | 9A06229000 | SCREW, SPECIAL | |
| 36 | 9A06316300 | SCREW, KTB3+6F | |
| 37 | 9A01377400 | SCREW, KTB3+10G | |
| 38 | 9A01377200 | SCREW, KTB3+8JFZ | |
| 39 | 9A05984300 | SCREW, KTB4+6FFZ | |
| 40 | 9A01377300 | SCREW, KTB3+10GFZ | |
| 41 | 9A05339200 | SCREW, KTW3+8J | |
| 42 | 9A06882300 | BRACKET, MECHA | |
| 43 | 9A06882100 | EARTH, PLATE | |

# ELECTRICAL PARTS LIST

| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|---|---|---|---|---|---|
| D101, D104 | 9A01390500 | DIODE, 1N4148MT | Q104 | 9A05196500 | TR, DTC114YST |
| D105, D107 | 9A01390500 | DIODE, 1N4148MT | Q105 | 9A05219100 | TR, 2SB892T |
| D109 | 9A01390500 | DIODE, 1N4148MT | Q106 | 9A05895900 | TR, KTA1266YT |
| D301 | 9A06236200 | DIODE, ZENER MTZJ6.2BT | Q107 | 9A05196500 | TR, DTC114YST |
| D302 | 9A06317000 | DIODE MTZJ30BT | Q108 | 9A05196400 | TR, DTA114YST |
| D303, D304 | 9A05194600 | DIODE, 1N4003SRT | Q109, Q110 | 9A05197500 | TR, KTD1302T |
| D305 | 9A05194600 | DIODE, 1N4003SRT | Q111 | 9A05939500 | TR, 2SC1740SR |
| D306 | 9A05987000 | DIODE, BRIDGE WO2GF | Q112, Q113 | 9A05197400 | TR, KTC3203YT |
| D307 | 9A01390500 | DIODE, 1N4148MT | Q301 | 9A05196700 | TR, KSA916-Y-SHTA |
| D401 | 9A05195000 | LED, RED SLR342VCF02 | Q405, Q407 | 9A05196500 | TR, DTC114YST |
| D402, D403 | 9A01390500 | DIODE, 1N4148MT | Q408 | 9A05196400 | TR, DTA114YST |
| F101 | 9A06868100 | FUSE 2C0315TLE | | | |
| FIP4 | 9A06238900 | F.I.P FIP8DRM7 | R308 | 9A06317800 | RES, FUSE |
| | | | RC41 | 9A06882900 | SENSOR, REMOCON |
| IC01 | 9A06867800 | IC, SSP CXA1992BR | SW01~SW08 | 9A04882500 | SW, TACT SKHV10910A |
| IC02 | 9A06867900 | IC, DSP CXD2529Q | SW20 | 9A06675300 | SWITCH SLIDE |
| IC03 | 9405218500 | IC, KA9258D | XL01 | 9A05193100 | CRYSTAL, 16934A120C |
| IC04, IC05 | 9A05880700 | IC, BA6208 MC-D200 | XL41 | 9A05193000 | CRYSTAL, 08000E160C |
| IC06, IC07 | 9A05195800 | IC, MC4558S | | | |
| IC08 | 9A06883400 | IC, KA78L05AZTA | | | |
| IC32, IC33 | 9A06244800 | IC ASS'Y | | | |
| IC34 | 9A05341500 | IC, KA7805-ABTU | | | |
| IC42 | 9A06816800 | IC, (U-COM) TMP87CM78F-6662 | | | |
| IC43 | 9A06883500 | IC, KA7908-ABTU | | | |
| | | | | | |
| JK01 | 9A06869700 | JACK, BOARD | | | |
| JK02 | 9A06242200 | JACK, BOARD | | | |
| JK05, JK06 | 9A06239100 | MODULE, OPTICAL | | | |
| L101 | 9A05356900 | COIL, AXAIL 10UH, K | | | |
| PT01 | 9A06830600 | TRANS, POWER | | | |
| Q101 | 9A05895900 | TR, KTA1266YT | | | |
| Q102 | 9A05219100 | TR, 2SB892T | | | |
| Q103 | 9A05911600 | TR, 2SA933SR | | | |