

ONKYO® SERVICE MANUAL


STEREO CASSETTE TAPE DECK

MODEL TA-RW311

Black model

| | |
|-----------|---------------|
| BMD, BMDN | 120V AC, 60Hz |
| BMP | 230V AC, 50Hz |

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

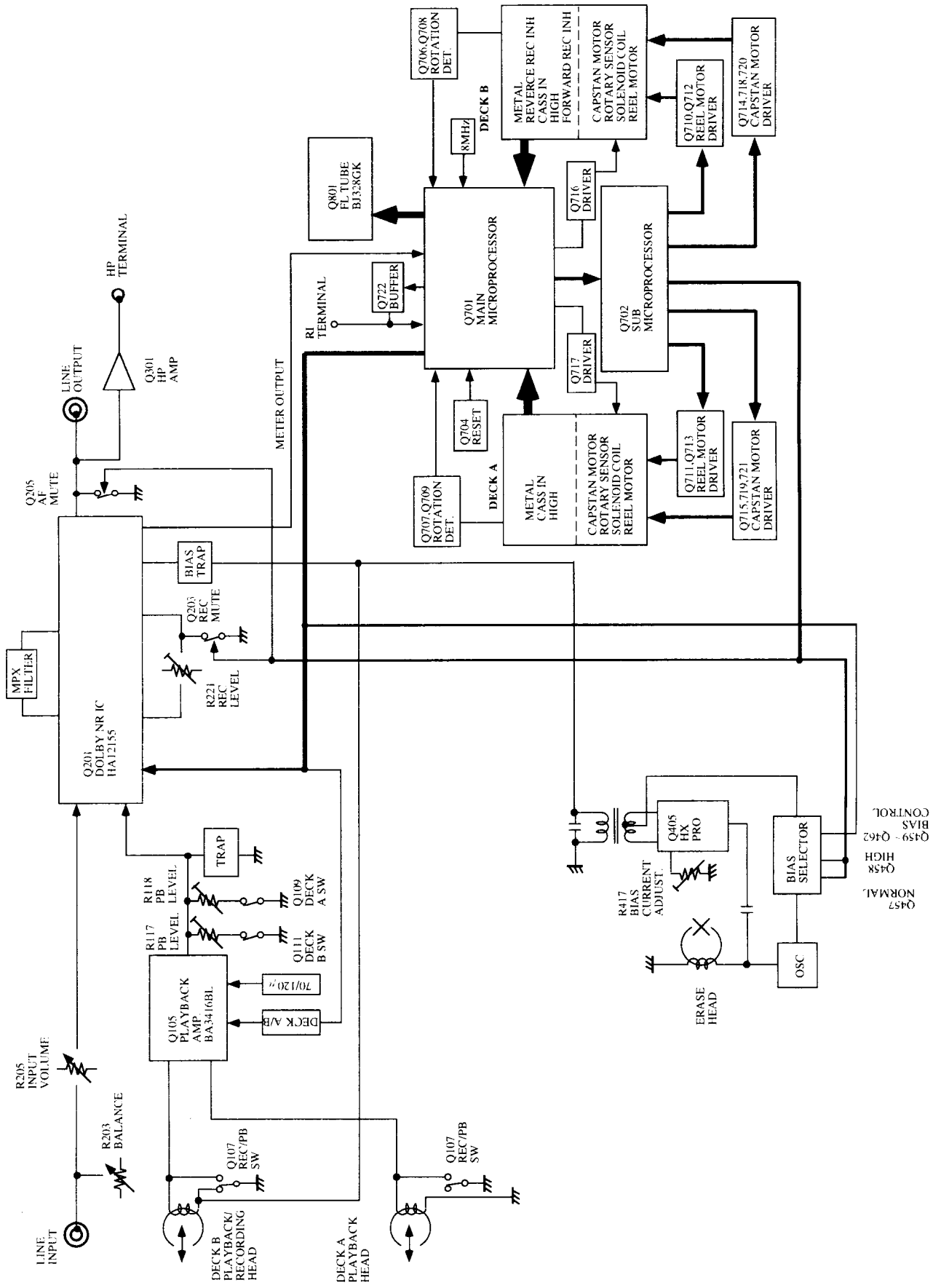
SPECIFICATIONS

- Track Format: 4-track, 2-channels
- Erase System: AC erase
- Tape Speed: 4.8 cm/sec. (1-7/8 i.p.s.)
9.6 cm/sec. (3-3/4 i.p.s.) (high-speed dubbing)
- Wow and Flutter: 0.07 % (WRMS)
- Frequency Response: 20 — 15,000 Hz (Normal)
(30 — 14,000 Hz ± 3 dB)
20 — 16,000 Hz (High)
(30 — 15,000 Hz ± 3 dB)
20 — 17,000 Hz (Metal)
(30 — 16,000 Hz ± 3 dB)
- S/N Ratio: Dolby NR off: 58 dB (metal position tape)
A noise reduction of 10 dB above 5 kHz and 5 dB at 1 kHz is possible with Dolby B NR.
A noise reduction of 20 dB at 5 kHz is possible with Dolby C NR.
- Input Jacks: Line IN: 2
Input sensitivity: 80 mV
Input impedance: 50 kohms
- Outputs: Line OUT: 2
Standard output level: 500 mV (0 dB)
Optimum load impedance: over 50 kohms
- Headphone jack: 1
Optimum load impedance: 8 to 200 ohms
- Motors: DC servo motor × 2, DC motor × 2
- Heads: REC/PB: 1
PB: 1
ERASE: 1
- Power Supply: European and Australian models: AC 230V, 50 Hz
U.S.A. and Canadian models: AC 120V, 60 Hz
Worldwide model: AC 120V and AC 220V, Switchable 50/60 Hz
- Power Consumption: 29 watts
- Dimensions: 455(W) × 120(H) × 305(D) mm (17-15/16" × 4-3/4" × 12")
- Weight: 5.9 kg. (13.0 lbs.)

Specifications and external appearance are subject to change without notice because of product improvements.

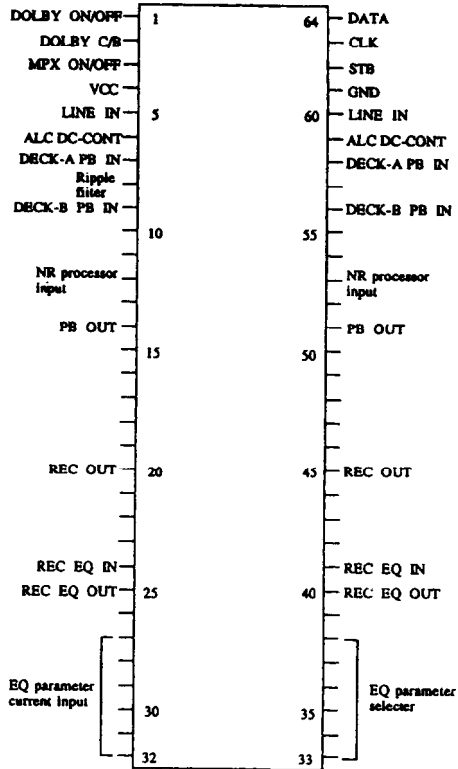


BLOCK DIAGRAM

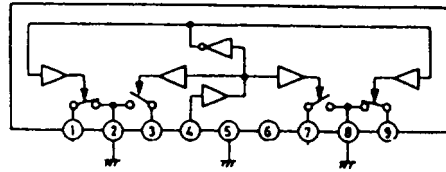


IC BLOCK DIAGRAM

HA12155NT (DOLBY NR)



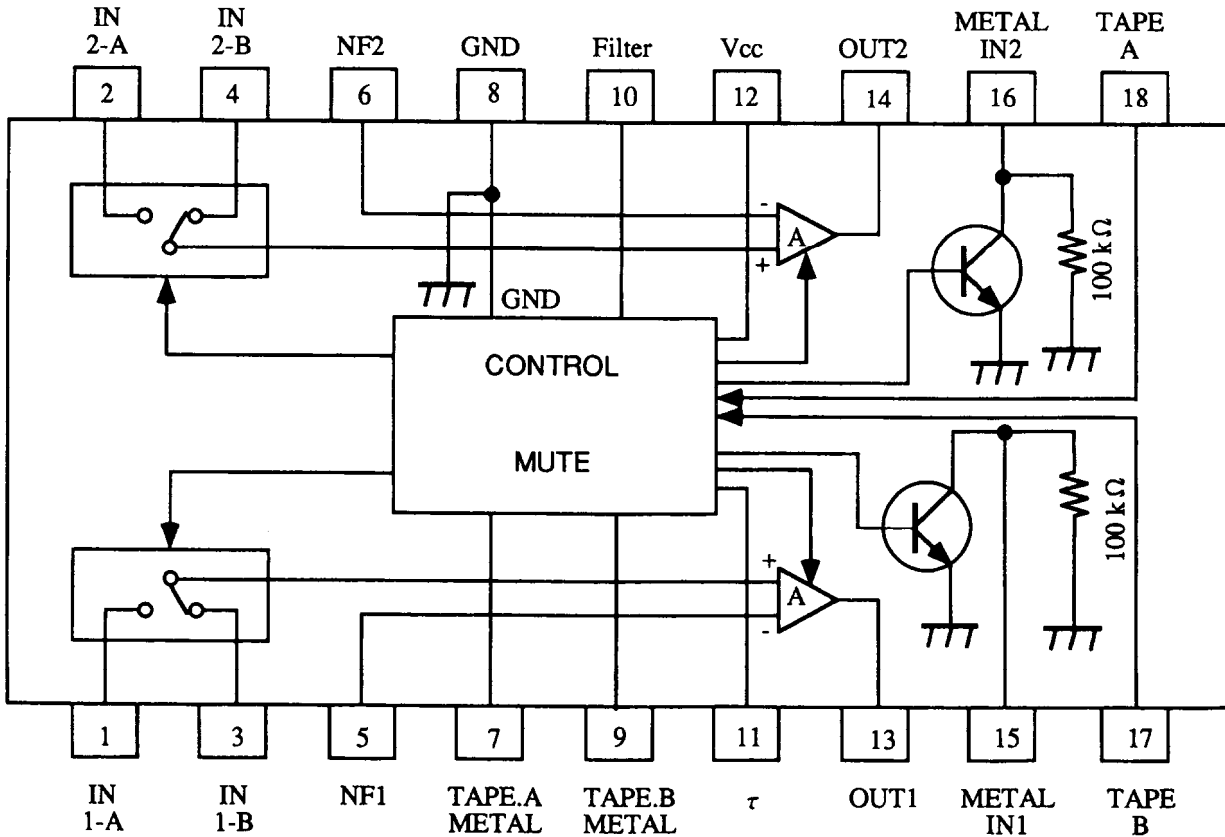
μPC1330HA (REC/PB SW)



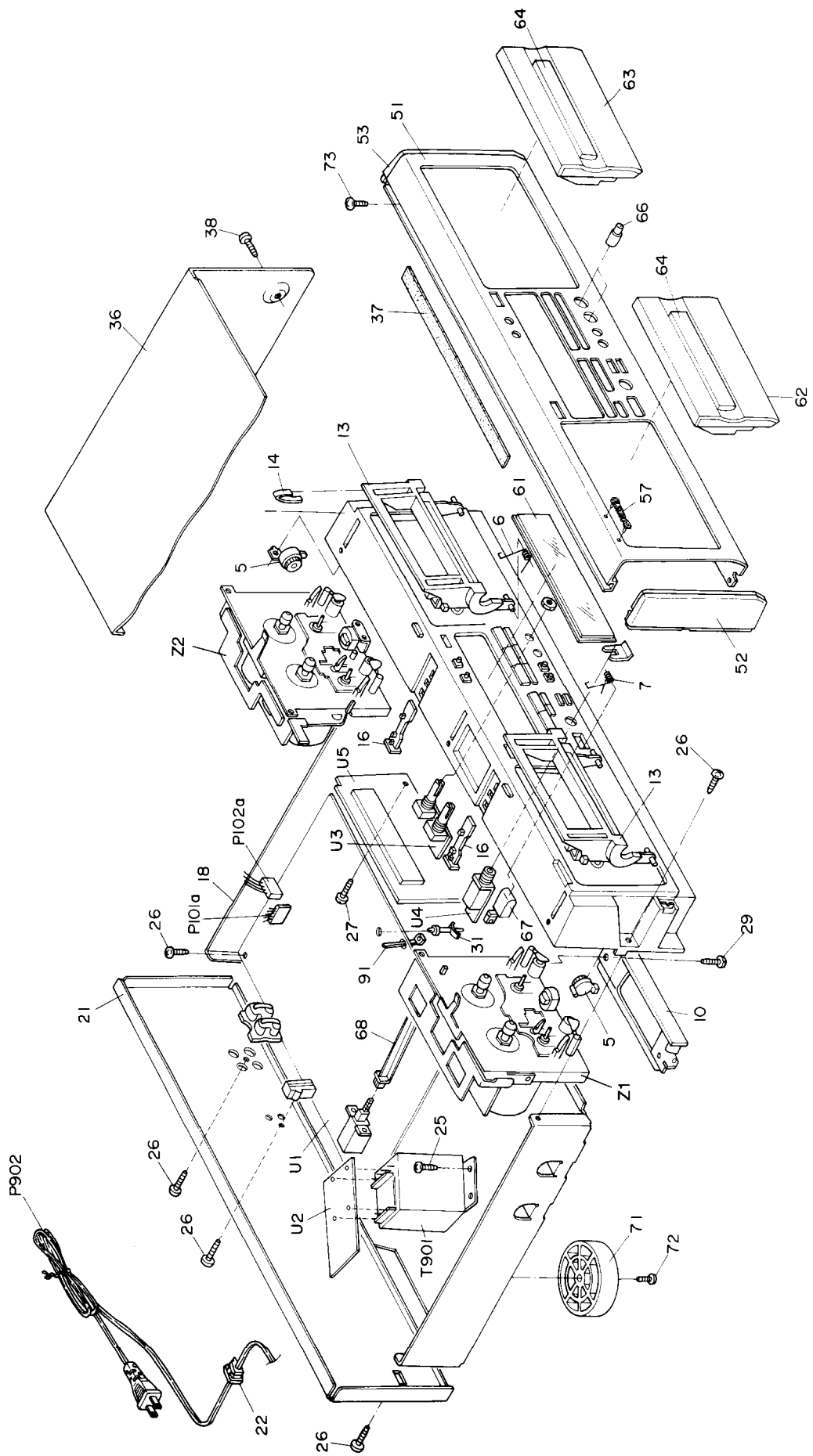
μPC1330HA

| Pin No. | Function |
|---------|-------------------|
| 1, 9 | PB. signal |
| 2 | GND |
| 3, 7 | REC signal |
| 4 | REC/PB SW control |
| 5 | GND |
| 6 | +B |
| 8 | GND |

BA3416BL (Dual Playback Preamplifier)



CHASSIS-EXPLODED VIEW



PARTS LIST

| REF.NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION |
|---------|-------------|--------------------------------|----------|---------------|--|
| 1 | 27110879Y | Front bracket ass'y | P101a | 2009990350ULY | NSAS-6P0487,Socket for deck A |
| 5 | 28400282 | Damper | P102a | 2009990315ULY | NSAS-14P0449,Socket for deck B |
| 6 | 27180476A | Spring B | P902 | 253192HIIT | △ AS-UC-6#18,Power supply cord <D> |
| 7 | 27180477A | Spring A | | 253193HIIT | △ AS-CEE,Power supply cord <P> |
| 10 | 27130741Y | Bracket F | T901 | 2301049Y | △ NPT-1223D,Power transformer <D> |
| 13 | 27301792AY | Cassette frame | | 2301050Y | △ NPT-1223P,Power transformer <P> |
| 14 | 27180435 | Spring | U1 | 1N206586-2Y | NAAR-5086-2,Main circuit pc board ass'y |
| 16 | 28324943Y | Knob,eject | U2 | 1N206587-2Y | NAPS-5087-2,Power supply pc board ass'y |
| 18 | 27100280AY | Chassis | U3 | 1N206588-2Y | NAETC-5088-2,Input level volume pc board ass'y |
| 21 | 27121982Y | Rear panel <D> | U4 | 1N206589-2Y | NAETC-5089-2,Headphone terminal pc board ass'y |
| 22 | 27122109Y | Rear panel <P> | U5 | 1N206593-2Y | NADIS-5093-2,Display circuit pc board ass'y |
| 25 | 830440089 | 4TTC+8C(BC),Self-tapping screw | W701 | 2047291512Y | NCFC-291512,Flat cable |
| 26 | 838130088 | 3TTB+8B,Self-tapping screw | Z1 | 244190Y | NDM-181,Deck mechanism ass'y |
| 27 | 833430080 | 3TTP+8P(BC),Self-tapping screw | Z2 | 244191Y | NDM-182,Deck mechanism ass'y |
| 29 | 838130088 | 3TTB+8B,Self-tapping screw | | | |
| 31 | 27190480-1Y | PCB-8L,Holder | | | |
| 36 | 28184479AY | Top cover | | | |
| 37 | 28140837 | Cushion | | | |
| 38 | 838430088 | 3TTB+8B(BC),Self-tapping screw | | | |
| 51 | 1N206121Y | Front panel ass'y | | | |
| 52 | 28125248-6Y | End cap L | | | |
| 53 | 28125249-6Y | End cap R | | | |
| 57 | 28135199 | Badge | | | |
| 61 | 28191696Y | Clear plate | | | |
| 62 | 27301853Y | Cassette lid A | | | |
| 63 | 27301853-1Y | Cassette lid B | | | |
| 64 | 28400625Y | Window | | | |
| 66 | 28323671A | Knob, Volume | | | |
| 67 | 28325053Y | Knob, Power | | | |
| 68 | 27273135BY | Joint | | | |
| 71 | 27175292 | Leg | | | |
| 72 | 838130088 | 3TTB+8B,Self-tapping screw | | | |
| 73 | 833430080 | 3TTP+8P(BC),Self-tapping screw | | | |
| 91 | 260208 | Wire tie | | | |

NOTE: <D>: 120V model only
<P>: 230V model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK **△**
ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

ADJUSTMENT PROCEDURES

PRECAUTIONS

1. Before adjustment, clean the following parts with an alcohol moistend swab.

- * record/playback head
- * erase head
- * pinch roller
- * capstan

2. Do not use magnetized screwdriver for adjustments.

3. Demagnetize record/playback head with a lead demagnetizer.

TEST EQUIPMENT/TOOLS REQUIRED:

- Audio oscillator
- Digital frequency counter
- Oscilloscope
- Attenuator
- AC voltmeter
- Non-magnetic screwdriver
- Test tapes
 - TCC-153 :10kHz, -15dB
 - MTT-111 :3kHz, -10dB
 - MTT-150 :Dolby level calibration
400Hz, tone 200nWb/m

Tape speed adjustment

Connect the digital frequency counter to the line output terminal.

Load the test tape MTT-111 into the cassette holder .

Connect the test point J285 to the ground to be unit to the adjustment mode.

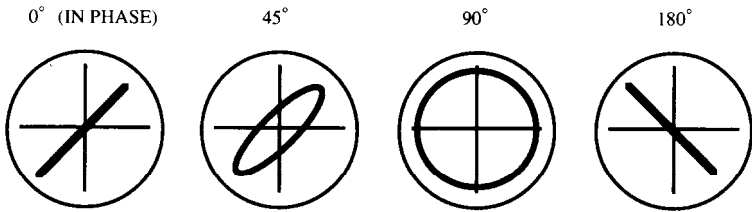
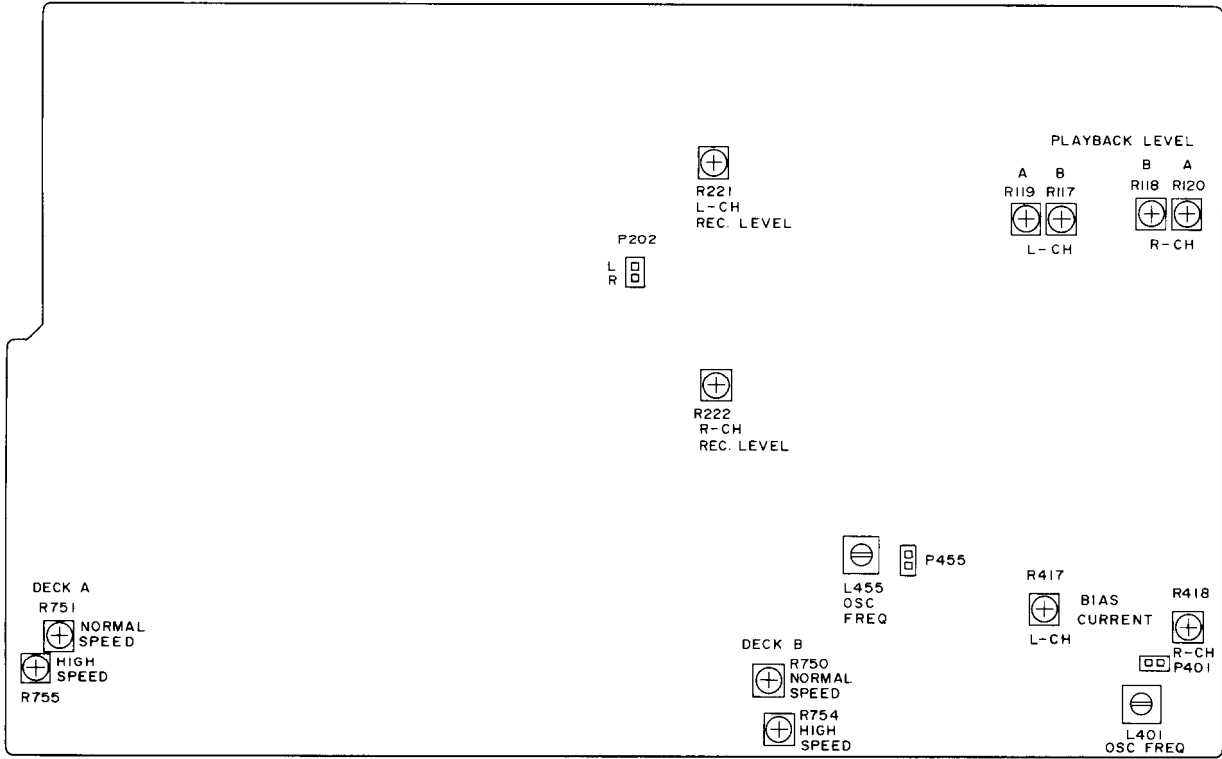
Press the forward play button twice to be unit to the high speed.

Adjust the trim resistors R755(Deck A) and R754(Deck B) so that the frequency counter reading becomes 6000Hz to 6020Hz.

Press the forward play button to be unit to the normal speed.

Adjust the trim resistors R751(Deck A) and R750(Deck B) so that the frequency counter reading becomes 3000Hz to 3010Hz.

| Item | Connection of instrument | Line input | Test tape | Mode | Output indicator | Adjustment point | Adjust for | Remarks |
|------------------|--|------------------------------|-------------------|--------------------|-------------------------------|--|---|--|
| Head azimuth | AC voltmeter and oscilloscope to output terminal | | TCC-153 | Playback | AC voltmeter and Oscilloscope | Head azimuth screw Foward:Left side Reverse:Right side | Maximum and same separation at left and right channels. | Figure 1 |
| Playback level | AC voltmeter to test point P202 | | MTT-150 | Playback | AC voltmeter | Deck A R119(Left channel) R120(Right channel) Deck B R117(Left channel) R118(Right channel) | 300mV | |
| Oscillator block | Frequency counter to test point P401 | | Metal tape XS-C90 | Stop | Frequency counter | L401 | 107 ± 2kHz | Test mode When you press the stop key, deck becomes recording mode of metal position. Test mode |
| Bias current | Figure 2 | 1kHz, -23dB and 12kHz, -23dB | UD-1 C-90 | Recording/playback | AC voltmeter | R417(Left channel) R418(Right channel) | Difference of 1kHz and 12kHz become less than 1dB. | When you press the AUTO SPACE key,recording of deck starts. Next when you press the AUTO SPACE key, rewind to recording start point and starts to playback. |
| Recording level | Figure 2 | 1kHz 350mV | UD-1 C-90 | Recording | AC voltmeter | Attenuator | 350mV | When you press the AUTO SPACE key,recording of deck starts. Next when you press the AUTO SPACE key, rewind to recording start point and starts to playback. |
| | | | | Recording/playback | AC voltmeter | R221(Left channel) R222(Right channel) | Signals of recording and playback become same level | |



Confirming phase relationship
Fig.1

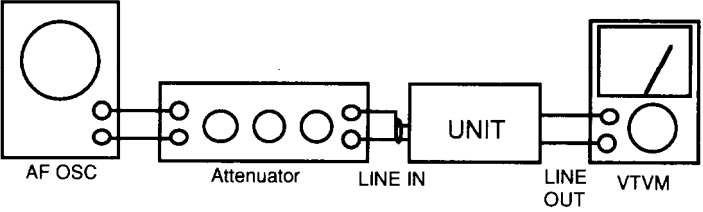


Fig. 2

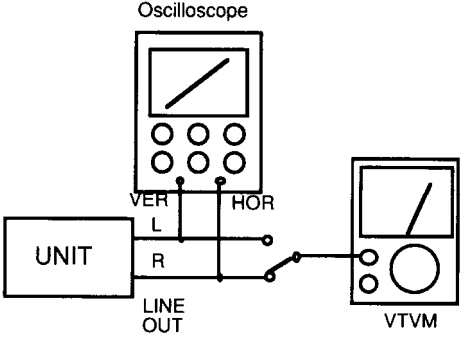
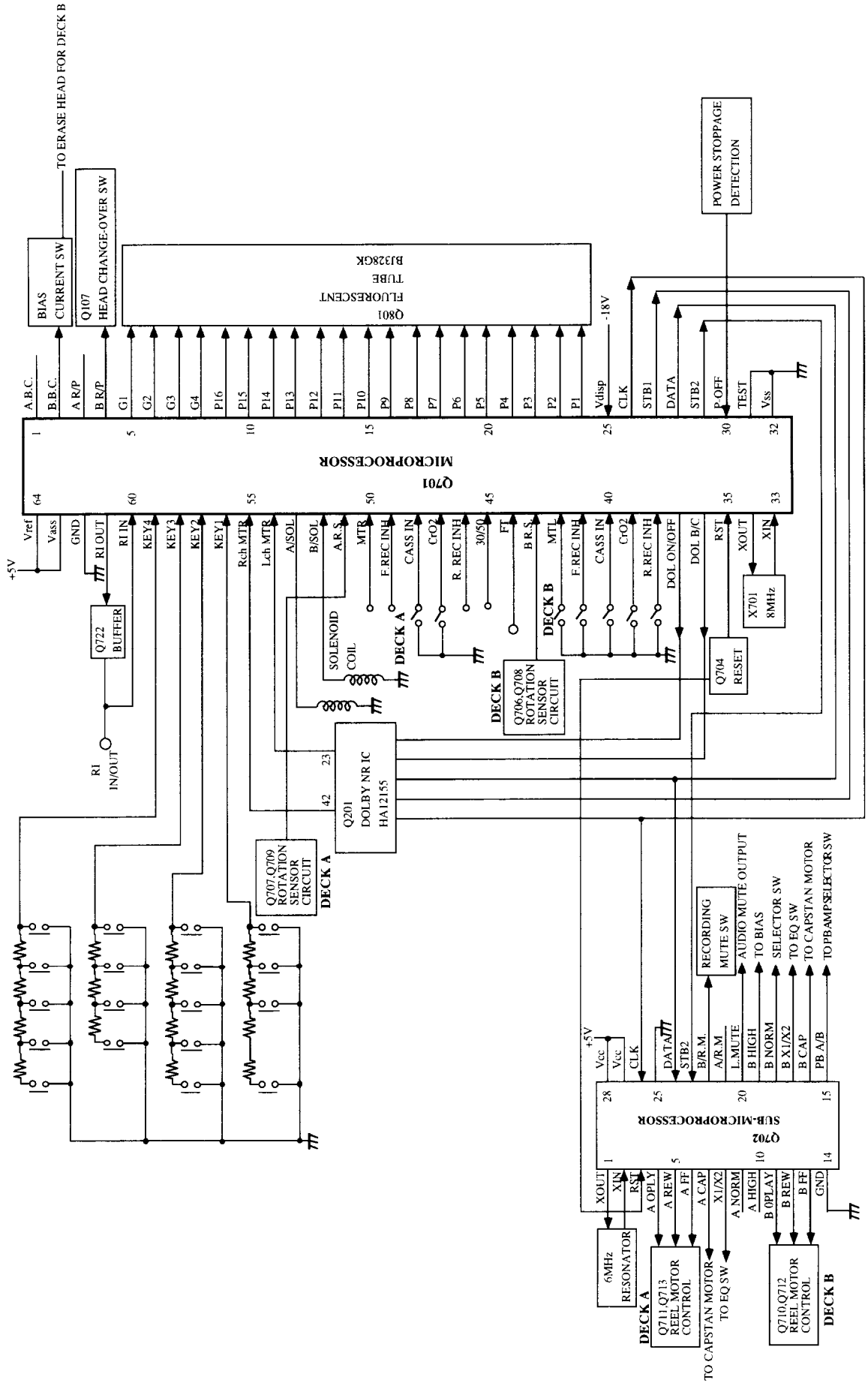


Fig.3

MICROPROCESSOR-CONNECTION DIAGRAM



MICROPROCESSOR-TERMINAL DESCRIPTIONS

MAIN MICROPROCESSOR

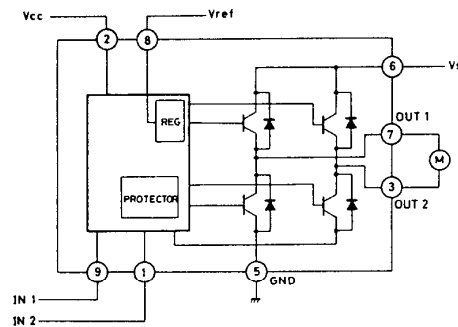
| Pin No. | Terminal | Description |
|---------|----------|---|
| 1 | A B.C. | Bias current change-over control output pin for Deck A |
| 2 | B B.C. | Bias current change-over control output pin for Deck B |
| 3 | A R/P | Recording/playback head change-over output pin for Deck A |
| 4 | B R/P | Recording/playback head change-over output pin for Deck B |
| 5 | G1 | Grid output pin |
| 6 | G2 | Grid output pin |
| 7 | G3 | Grid output pin |
| 8 | G4 | Grid output pin |
| 9 | P16 | Segment output pin |
| 10 | P15 | Segment output pin |
| 11 | P14 | Segment output pin |
| 12 | P13 | Segment output pin |
| 13 | P12 | Segment output pin |
| 14 | P11 | Segment output pin |
| 15 | P10 | Segment output pin |
| 16 | P9 | Segment output pin |
| 17 | P8 | Segment output pin |
| 18 | P7 | Segment output pin |
| 19 | P6 | Segment output pin |
| 20 | P5 | Segment output pin |
| 21 | P4 | Segment output pin |
| 22 | P3 | Segment output pin |
| 23 | P2 | Segment output pin |
| 24 | P1 | Segment output pin |
| 25 | Vdisp | |
| 26 | CLK | Clock output pin |
| 27 | STB1 | Strobe output pin |
| 28 | DATA | Data output pin |
| 29 | STB2 | Strobe output pin |
| 30 | P-OFF | Detection input pin for stoppage of electric current |
| 31 | TEST | Test pin |
| 32 | Vss | Power supply terminal |

| Pin No. | Terminal | Description |
|---------|------------|--|
| 33 | XIN | Ceramic resonator connection pin |
| 34 | XOUT | Ceramic resonator connection pin |
| 35 | RST | Reset input |
| 36 | DOL B/C | Dolby B/C change-over output pin |
| 37 | DOL ON/OFF | Dolby change-over output pin |
| 38 | R.REC INH | Recording inhibiting detection input pin for reverse side of Deck B. |
| 39 | CrO2 | High position detection input pin for reverse side of Deck B. |
| 40 | CASS IN | Cassette tape detection input pin for reverse side of Deck B. |
| 41 | F.REC INH | Recording inhibiting detection input pin for forward side of Deck B. |
| 42 | MTL | Metal position detection input pin for reverse side of Deck B. |
| 43 | B R.S. | Rotation detection input pin for reel stand of Deck B. |
| 44 | FT | Adjustment mode input pin |
| 45 | 30/50 | Initializing input |
| 46 | R.REC INH | Recording inhibiting detection input pin for reverse side of Deck A. |
| 47 | CrO2 | High position detection input pin for reverse side of Deck A. |
| 48 | CASS IN | Cassette tape detection input pin for reverse side of Deck A. |
| 49 | F.REC INH | Recording inhibiting detection input pin for forward side of Deck A. |
| 50 | MTL | Metal position detection input pin for reverse side of Deck A. |
| 51 | A.R.S. | Rotation detection input pin for reel stand of Deck A. |
| 52 | B/SOL | Solenoid coil drive output pin of Deck B |
| 53 | A/SOL | Solenoid coil drive output pin of Deck A |
| 54 | Lch mot | Input pin for level meter of left channel |
| 55 | Rch mot | Input pin for level meter of right channel |
| 56 | KEY1 | Operation key connection pin |
| 57 | KEY2 | Operation key connection pin |
| 58 | KEY3 | Operation key connection pin |
| 59 | KEY4 | Operation key connection pin |
| 60 | RI IN | Bus signal input pin |
| 61 | RI OUT | Bus signal output pin |
| 62 | GND | Ground terminal |
| 63 | Vass | Power supply pin |
| 64 | Vref | Power supply pin |

SUB-MICROPROCESSOR

| Pin No. | Function | Description |
|---------|----------|---|
| 1 | XOUT | Ceramic resonator connection pins |
| 2 | XIN | Connect the 6.0MHz ceramic resonator. |
| 3 | RST | System reset input pin |
| 4 | A OPLY | Reel motor control output pin for Deck A |
| 5 | A REW | Rewind control output pin for Deck A |
| 6 | A FF | Fast forward control output pin for Deck A |
| 7 | A CAP | Capstan motor control output pin for Deck A |
| 8 | A X1/X2 | Capstan motor rotation speed control output for deck A |
| 9 | A NORM | Recording equalizer and bias current selector output pin for deck A |
| 10 | A HIGH | Recording equalizer and bias current selector output pin for deck A |
| 11 | B OPLY | Reel motor control output pin for Deck B |
| 12 | B REW | Rewind control output pin for Deck B |
| 13 | B FF | Fast forward control output pin for Deck B |
| 14 | GND | Ground pin |
| 15 | PB A/B | Playback amplifier selector pin |
| 16 | B CAP | Capstan motor control output pin for Deck B |
| 17 | B X1/X2 | Capstan motor rotation speed control output for deck B |
| 18 | B NORM | Recording equalizer and bias current selector output pin for deck B |
| 19 | B HIGH | Recording equalizer and bias current selector output pin for deck B |
| 20 | L.MUTE | Audio muting control output pin |
| 21 | A/R.M.A. | Recording muting control pin for deck A |
| 22 | B/R.M. | Recording muting control pin for deck B |
| 23 | STB2 | Strobe input pin |
| 24 | DATA | Data input pin |
| 25 | | |
| 26 | CLK | Clock input pin |
| 27 | Vcc | Power supply pin |
| 28 | Vcc | Power supply pin |

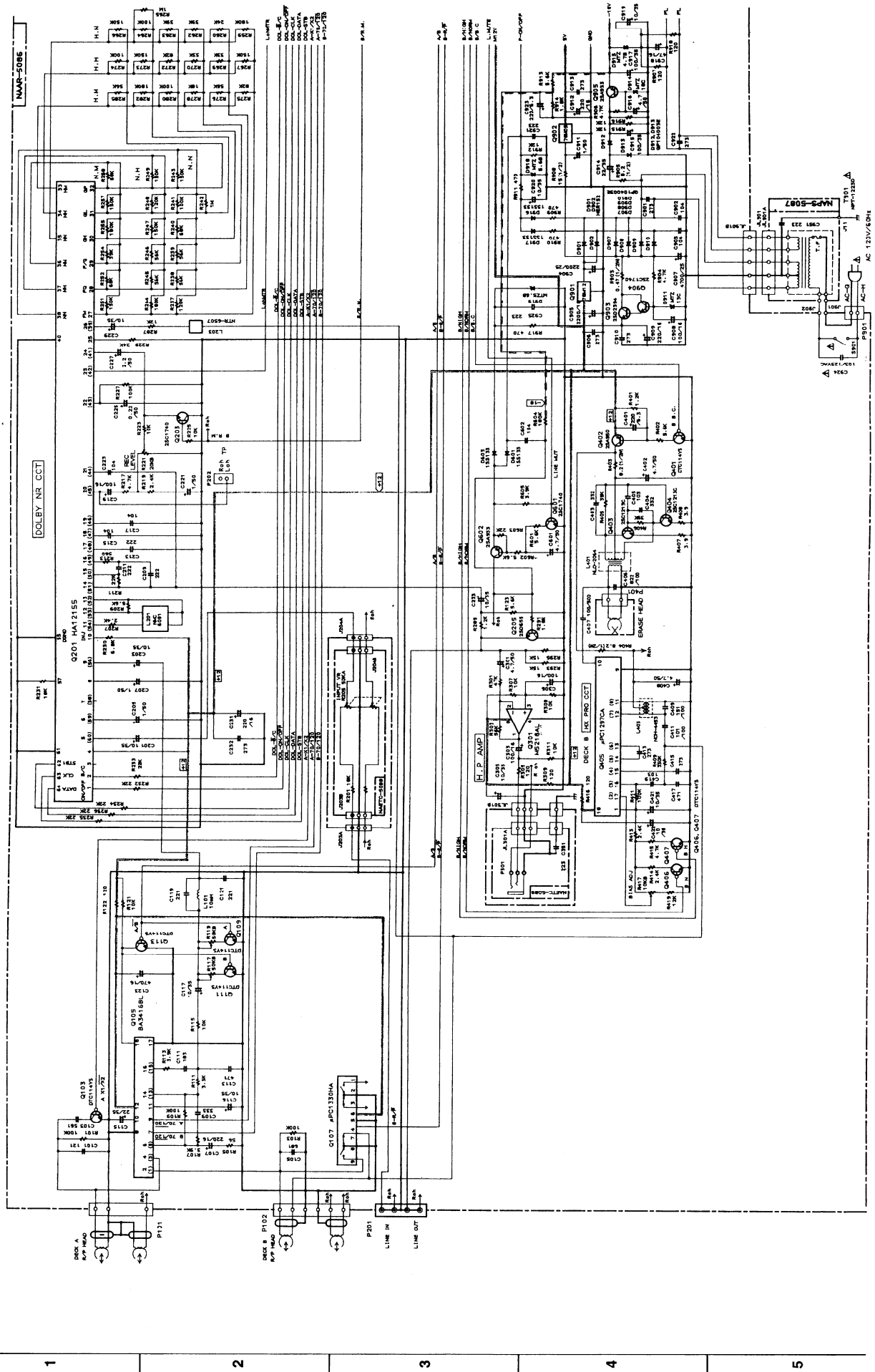
TA-7291S (MOTOR DRIVE)



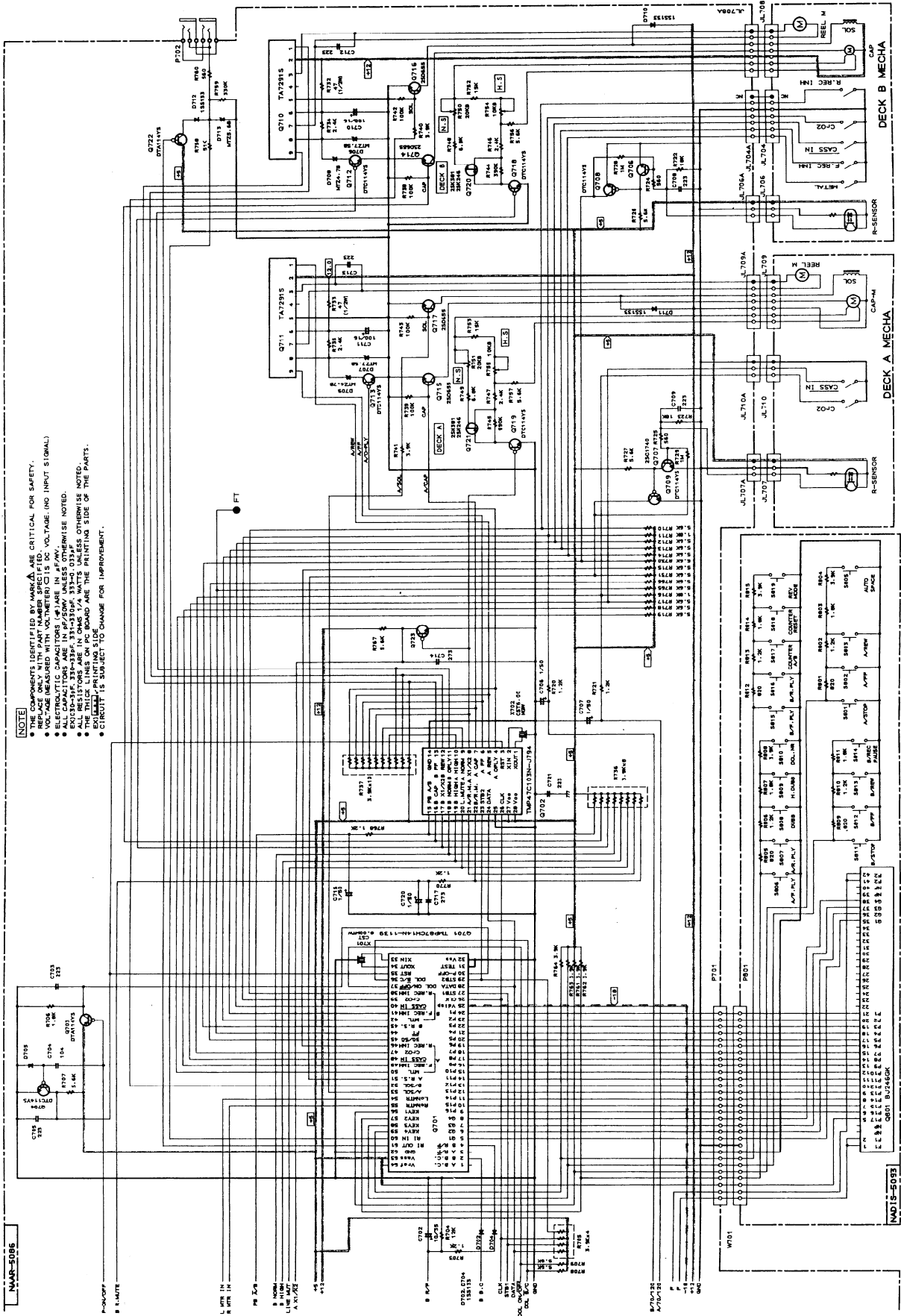
| INPUT | | OUTPUT | | MODE |
|-------|------|--------|-------|--------|
| IN 1 | IN 2 | OUT 1 | OUT 2 | |
| 0 | 0 | ∞ | ∞ | STOP |
| 1 | 0 | H | L | CW/CCW |
| 0 | 1 | L | H | CCW/CW |
| 1 | 1 | L | L | BRAKE |

A B C D E F G

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



NOTE

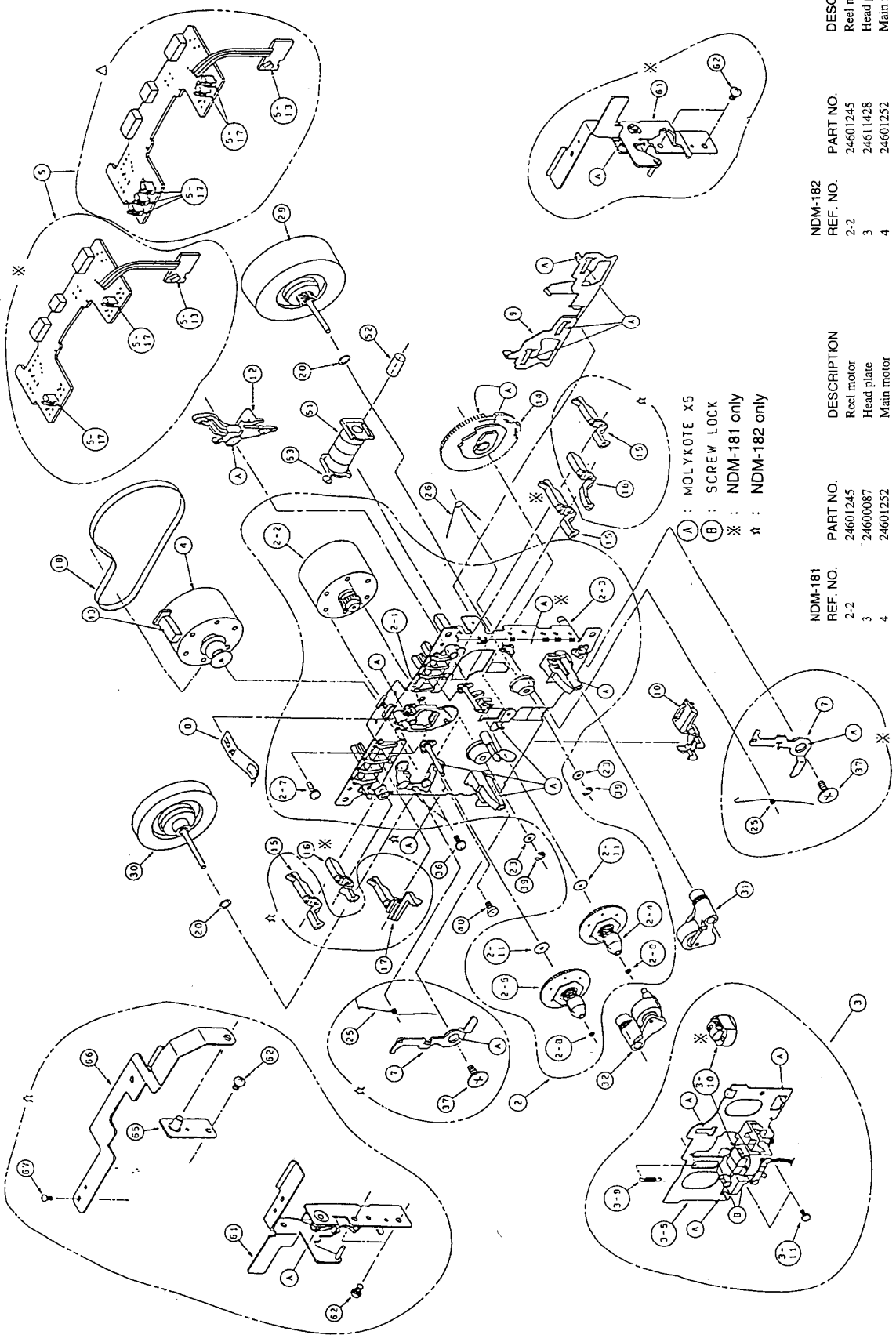
- THE COMPONENTS IDENTIFIED BY MARK **A** ARE CRITICAL FOR SAFETY.
- RESISTORS IDENTIFIED BY MARK **B** ARE CRITICAL FOR SAFETY.
- VOLTAGE MEASURED WITH VOLTMETER IS DC VOLTAGE (NO INPUT SIGNAL).
- ELECTROLYTIC CAPACITORS (E) ARE IN A.F.W.V.
- ALL CAPACITORS ARE IN P.P.F.M. UNLESS OTHERWISE NOTED.
- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED.
- ALL RESISTORS ARE IN OHMS 1/4 WATT UNLESS OTHERWISE NOTED.
- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED.
- EXAMINE PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

PRINTED CIRCUIT BOARD-PARTS LIST

| MAIN CIRCUIT NO. | PC BOARD DESCRIPTION | CIRCUIT NO. | DESCRIPTION | CIRCUIT NO. | PART NO. | DESCRIPTION |
|------------------|----------------------|-------------|-----------------|-------------|-----------|-------------------------|
| Q105 | 22240767 | D706,D707 | BA3416BL | D706,D707 | 224450752 | MITZ7.5B, Zener |
| Q107 | 22240147 | D708,D709 | E PC1330HA | D708,D709 | 224450472 | MITZ4.7B, Zener |
| Q201 | 22240544 | D710-D712 | HA12155NT | D710-D712 | 223163 | ISS133 |
| Q301 | 22240369 | D901,D902 | M5218AP | D901,D902 | 224450562 | MITZ5.6B, Zener |
| Q405 | 222959 | D907-D910 | E PC1297CA | D907-D910 | 22380031 | HER152 |
| Q701 | 22240822 | D911 | TMP87CH14N-1139 | D911 | 224451303 | GP104003E |
| Q702 | 22240823 | D912,D913 | TMP47C103N-1794 | D912,D913 | 22380035 | GP104003E |
| Q710,Q711 | 22240239 | D914 | TA7291S | D914 | 224451803 | MITZ18C, Zener |
| Q901 | 222780125MIT | D915 | 78M12 | D915 | 224470683 | MITZ16.8C, Zener |
| Q902 | 222780055NEC | D916,D917 | 78M05HF | D916,D917 | 223163 | ISS133 |
| Q103,Q104 | 221281 | D918,D919 | DTC114YS | D918,D919 | 224450562 | MITZ5.6B, Zener |
| Q109-Q113 | 221281 | L101,L102 | DTC114YS | L101,L102 | 231089 | NCH-2137, CHOKE |
| Q203,Q204 | 2213284 or | L201,L202 | 2SCI1740S-R or | L201,L202 | 233436 | NMC-6081, MPX |
| Q205,Q206 | 2213285 | L203,L204 | 2SCI1740S-S | L203,L204 | 231221 | NTR-6507, TRAP |
| Q401 | 2211705 or | L401 | 2SD655-E or | L401 | 231223Y | NLO-2064, OSC |
| Q402 | 2211706 | L403,L404 | 2SD655-F | L403,L404 | 231218 | NCH-4453, CHOKE |
| Q403,Q404 | 221281 | X701 | DTC114YS | X701 | 3010190 | CST8.00MTW, Ceramic |
| Q406,Q407 | 2211504 | X702 | 2SA950-Y | X702 | 3010149 | CST6.00MGW, Ceramic |
| Q601 | 2213284 or | C103,C104 | 2SCI1740S-R or | C103,C104 | 374725614 | 360pF±5%,50V,Plastic |
| Q706,Q707 | 2213285 | C105,C106 | 2SCI1740S-S | C105,C106 | 374726814 | 680pF±5%,50V,Plastic |
| Q602,Q905 | 2213354 or | C107,C108 | 2SA933S-R or | C107,C108 | 354742219 | 220µ F, 16V, Elect. |
| Q703,Q722 | 2213355 | C109,C110 | 2SA933S-S | C109,C110 | 374723334 | 0.033µ F±5%,50V,Plastic |
| Q704 | 221281 | C111,C112 | DTC114YS | C111,C112 | 374721834 | 0.018µ F±5%,50V,Plastic |
| Q708,Q709 | 221281 | C115 | DTC114YS | C115 | 354762209 | 22µ F, 35V, Elect. |
| Q712,Q713 | 221281 | C116-C118 | DTC114YS | C116-C118 | 354744719 | 10µ F, 35V, Elect. |
| Q714-Q717 | 2211705 or | C123 | DTC114YS | C123 | 354761009 | 470µ F, 16V, Elect. |
| Q718,Q719 | 2211706 | C201-C204 | 2SD655-E or | C201-C204 | 354761009 | 10µ F, 35V, Elect. |
| Q720,Q721 | 221281 | C205-C207 | 2SD655-F | C205-C207 | 354780109 | 1µ F, 50V, Elect. |
| Q723 | 2211945 or | C209-C214 | DTC114YS | C209-C214 | 374722224 | 2200pF±5%,50V,Plastic |
| Q903 | 2202705 or | C215-C218 | 2SK246-GR or | C215-C218 | 374721044 | 0.1µ F±5%,50V,Plastic |
| Q904 | 2202706 | C219,C220 | 2SK381-D | C219,C220 | 354741019 | 100µ F, 16V, Elect. |
| D601,D603 | 223163 | C221,C222 | DTC114YS | C221,C222 | 354780109 | 1µ F, 50V, Elect. |
| D701 | 223163 | C223,C224 | 2SD2394-E | C223,C224 | 374721044 | 0.1µ F±5%,50V,Plastic |
| D704,D705 | 223163 | C225,C226 | 2SD2394-F | C225,C226 | 354782299 | 0.22µ F, 50V, Elect. |
| | | C227,C228 | 2SCI1740S-S or | C227,C228 | 354780229 | 2.2µ F, 50V, Elect. |
| | | C229,C230 | 2SCI1740S-R | C229,C230 | 354761009 | 10µ F, 35V, Elect. |
| | | C231 | ISS133 | C231 | 354742219 | 220µ F, 16V, Elect. |
| | | C232 | ISS133 | C232 | 374722734 | 0.027µ F±5%,50V,Plastic |
| | | C233,C234 | ISS133 | C233,C234 | 354761009 | 10µ F, 35V, Elect. |
| | | C301,C302 | ISS133 | C301,C302 | 354780479 | 4.7µ F, 50V, Elect. |

NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

MECHANISM-EXPLODED VIEW



A : MOLYKOTE X5
 B : SCREW LOCK
 * : NDM-181 only
 † : NDM-182 only

| REF. NO. | PART NO. | DESCRIPTION |
|----------|----------|----------------|
| 2-2 | 24601245 | Reel motor |
| 3 | 24611428 | Head plate |
| 4 | 24601252 | Main motor |
| 5 | 24606534 | Control pcb |
| 18 | 24602551 | Main belt |
| 31 | 24602541 | Pinch roller R |
| 32 | 24602589 | Pinch roller L |

| REF. NO. | PART NO. | DESCRIPTION |
|----------|----------|----------------|
| 2-2 | 24601245 | Reel motor |
| 3 | 24600087 | Head plate |
| 4 | 24601252 | Main motor |
| 5 | 24606533 | Control pcb |
| 18 | 24602551 | Main belt |
| 31 | 24602541 | Pinch roller R |
| 32 | 24602589 | Pinch roller L |

PRINTED CIRCUIT BOARD-PARTS LIST

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|-------------|-------------|----------------------------------|
| | Capacitors | |
| C482 | 354780479 | 4.7µ F,50V,Elect. |
| C702 | 354761009 | 10µ F,35V,Elect. |
| C704 | 374721044 | 0.1µ F±5%,50V,Plastic |
| C706,C707 | 354780109 | 1µ F,50V,Elect. |
| C710,C711 | 354741019 | 100µ F,16V,Elect. |
| C715,C720 | 354780109 | 1µ F,50V,Elect. |
| C901,C906 | 374722734 | 0.027µ F±5%,50V,Plastic |
| C902,C903 | 374721044 | 0.1µ F±5%,50V,Plastic |
| C904 | 393352227 | 2200µ F,25V,Elect. |
| C905 | 393342227 | 2200µ F,16V,Elect. |
| C907 | 393354727 | 4700µ F,25V,Elect. |
| C908,C912 | 354741019 | 100µ F,16V,Elect. |
| C909 | 354742219 | 220µ F,16V,Elect. |
| C910,C913 | 374722734 | 0.027µ F±5%,50V,Plastic |
| C911 | 354780109 | 1µ F,50V,Elect. |
| C914 | 354762209 | 22µ F,35V,Elect. |
| C915,C917 | 354761019 | 100µ F,35V,Elect. |
| C916 | 354780479 | 4.7µ F,50V,Elect. |
| C918,C923 | 354744709 | 47µ F,16V,Elect. |
| C919,C920 | 354761009 | 10µ F,35V,Elect. |
| C922 | 374722734 | 0.027µ F±5%,50V,Plastic |
| C924 | 3500065A | DE7150FZ103P, AC400V/125V, IS |
| | Resistors | |
| R117-R120 | 5210265 | N06HR50KBC, Trimming |
| R221,R222 | 5210263 | N06HR20KBC, Trimming |
| R403,R404 | 453530824 | 8.2Ω±5%,1/2W,Metal |
| R417,R418 | 5210262 | N06HR10KBC, Trimming |
| R705 | 49163392404 | RM1/10IJ, 3.9K×4, Array |
| R732,R733 | 443524704 | 4Ω±5%,1/2W,Metal oxide |
| R736 | 49163392408 | RM1/10IJ, 3.9K×8, Array |
| R737 | 49163392410 | RM1/10IJ, 3.9K×10, Array |
| R750,R751 | 5210263 | N06HR20KBC, Trimming |
| R754,R755 | 5210262 | N06HR10KBC, Trimming |
| R903 | 453534794 | 0.47Ω±5%,1/2W,Metal |
| R905 | 453530824 | 8.2Ω±5%,1/2W,Metal |
| R908 | 443521504 | 15Ω±5%,1/2W,Metal oxide |
| | Plugs | |
| P102 | 25055136 | NPLG-6P120 |
| P103 | 25055133 | NPLG-3P117 |
| P202 | 25055038 | NPLG-2P29 |
| P401 | 25055132 | NPLG-2P116 |
| P901 | 25055675 | NPLG-2P631 |
| | Socket | |
| P701 | 25050861 | NSCT-29P656 |

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---------------|--------------|-------------------|
| | Wire traps | |
| JL203a,JL204a | 25050267 | NSCT-3P95 |
| JL301b | 25055624 | NPLG-3P586 |
| JL901b | 25050269 | NSCT-5P97 |
| | Wire holders | |
| JL704a,JL705a | 25051101 | NSCT-7P888 |
| JL706a,JL707a | 25051097 | NSCT-3P884 |
| JL708a,JL709a | 25051101 | NSCT-7P888 |
| JL710a | 25051097 | NSCT-3P884 |
| | Terminals | |
| P201 | 25045329 | NPJ-4PDBL183 |
| P702 | 25045330 | NPJ-2PDBL184, RI" |
| | Switch | |
| S901 | 25035636 | NPS-111-L590P |

POWER SUPPLY CIRCUIT PC BOARD (NAPS-5087-2/2A)

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|-------------|----------|-------------------------|
| JL901a | 25051109 | NSCT-5P896, Wire holder |

INPUT LEVEL VOLUME PC BOARD (NAETC-5088-2)

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|-------------|----------|-------------------------|
| | Resistor | |
| R205,R206 | 5104346Y | N09RGL50KA15F, Variable |

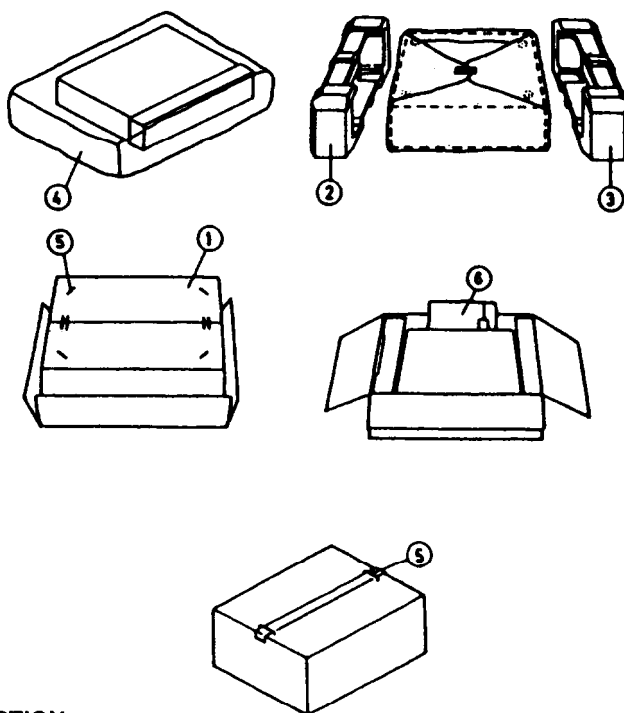
HEADPHONE TERMINAL PC BOARD (NAETC-5089-2)

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|-------------|----------|-------------------------|
| P301 | 25045255 | YKB21-5009, Jack |
| JL301a | 25051087 | NSCT-3P874, Wire holder |

DISPLAY CIRCUIT PC BOARD (NADIS-5093-2)

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|-------------|-----------|--------------------|
| | FL tube | |
| Q801 | 212137 | BJ328GK |
| | Switches | |
| S801-S803 | 25035652 | NPS-111-S604, P SW |
| S804-S819 | 25035652 | NPS-111-S604, P SW |
| | Socket | |
| P801 | 25050893 | NSCT-29P688 |
| | Holder | |
| | 27190939Y | FL |

PACKING VIEW



| REF.NO. | PART NO. | DESCRIPTION |
|---------|---------------------|-----------------------------|
| 1 | 29052818Y | Carton box |
| 2 | 29091636-1BY | Pad L |
| 3 | 29091637-1BY | Pad R |
| 4 | 29100034-1Y | 650×850mm, Styren bag |
| 5 | 282301 | Staple |
| 6 | Accessory bag ass'y | |
| | 29342035Y | Instruction manual, English |
| | 29342147Y | Instruction manual U6 <P> |
| | 29342117Y | Instruction manual U3 <C> |
| | 2010244Y | Connection cord |
| | 29100097-1Y | 350×250mm, Styren bag |
| | 29365019B | Warranty card <N> |
| | 29358002K | Service station list <N> |
| | 29361773Y | Label UPC <N> |
| | 29361759Y | Label CUL <N/C> |

NOTE: <P>: 230V model only
 <N>: U.S.A. model only
 <C>: Canadian model only

ONKYO CORPORATION

Sales Planning & Promotion Dept.: 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572, JAPAN
 Tel: 0720-31-8111 Fax: 0720-33-5222

ONKYO U.S.A. CORPORATION

200 Williams Drive, Ramsey, N.J. 07446, U.S.A.
 Tel: 201-825-7950 Fax: 201-825-8150

ONKYO DEUTSCHLAND GMBH ELECTRONICS

Industriestrasse 18-20, 82110 Germering, GERMANY
 Tel: 089 84 93 20 Fax: 089 84 93 226

ONKYO FRANCE

Immeuble Le Diamant, Domaine Technologique de Saclay, 4 Rue René Razel,
 91892 SACLAY, FRANCE Tel: (1) 69 33 14 00 Fax: (1) 69 41 35 84