

# ONKYO® SERVICE MANUAL

## STEREO CASSETTE TAPE DECK


### MODEL TA-RW544



Black model

|     |                       |
|-----|-----------------------|
| BMD | 120V AC, 60Hz         |
| BMP | 230V AC, 50Hz         |
| BMW | 120V/220V AC, 50/60Hz |

#### 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.

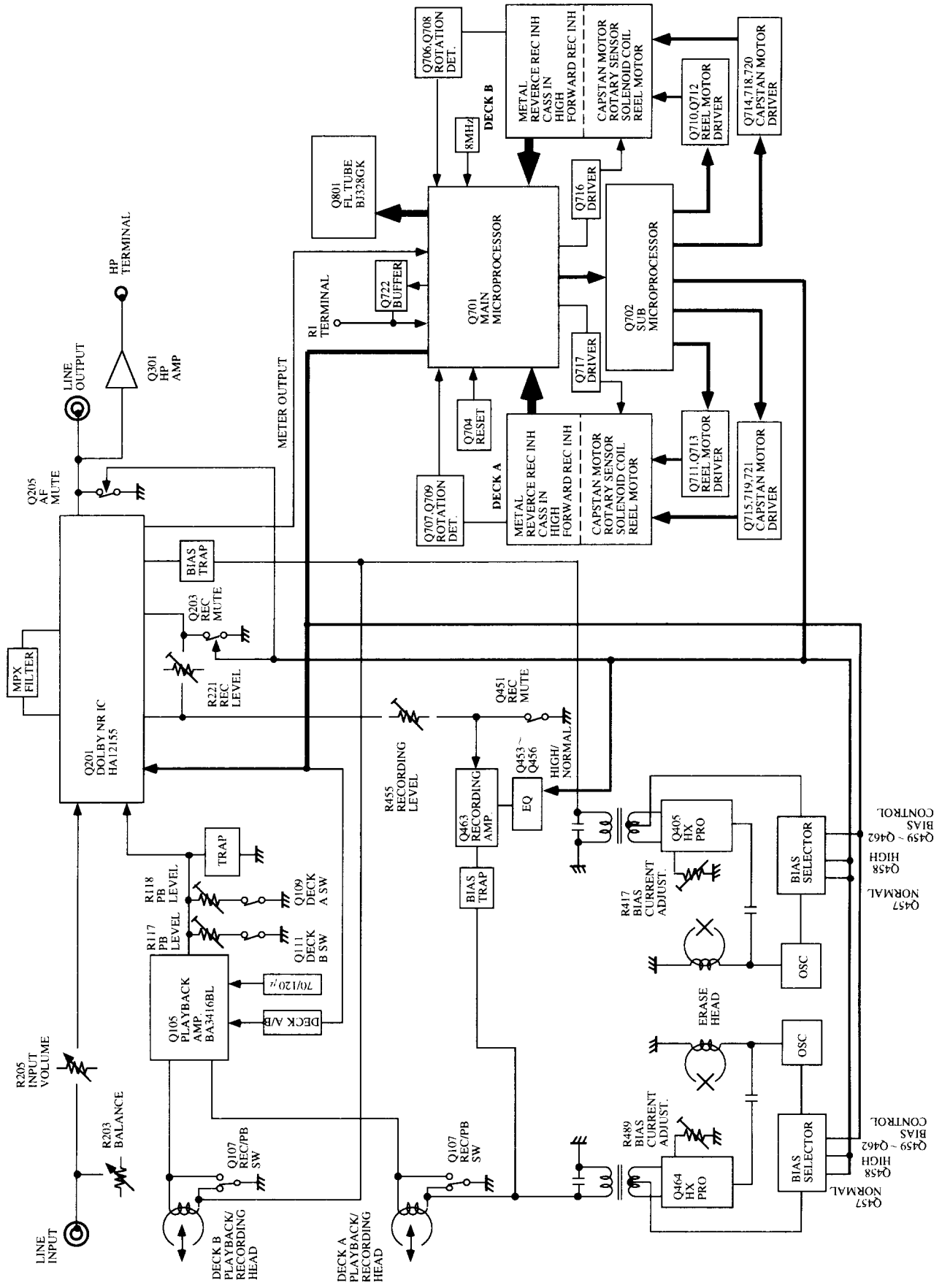


## SPECIFICATIONS

|                     |  |
|---------------------|--|
| Track Format:       | 4-track, 2-channels  |
| Erasure System:     | AC erase   |
| Tape Speed:         | 4.8 cm/sec. (1-7/8 i.p.s.)<br>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)<br>30 — 14,000 Hz ± 3 dB<br>20 — 16,000 Hz (High)<br>30 — 15,000 Hz ± 3 dB<br>20 — 17,000 Hz (Metal)<br>30 — 16,000 Hz ± 3 dB  |
| S/N Ratio:          | Dolby NR off: 58 dB (metal position tape)<br>A noise reduction of 10 dB above 5 kHz and 5 dB at 1 kHz is possible with Dolby B NR.<br>A noise reduction of 20 dB at 5 kHz is possible with Dolby C NR. |
| Input Jacks:        | Line IN: 2<br>Input sensitivity: 80 mV<br>Input impedance: 50 kohms  |
| Outputs:            | Line OUT: 2<br>Standard output level: 500 mV (0 dB)<br>Optimum load impedance: over 50 kohms   |
| Headphone jack:     | 1<br>Optimum load impedance: 8 to 200 ohms   |
| Motors:             | DC servo motor × 2, DC motor × 2   |
| Heads:              | REC/PB: 1<br>PB: 1<br>ERASE: 1   |
| Power Supply:       | European and Australian models:<br>AC 230V, 50 Hz<br>U.S.A. and Canadian models:<br>AC 120V, 60 Hz<br>Worldwide model:<br>AC 120V and AC 220V,<br>Switchable 50/60 Hz                                  |
| Power Consumption:  | 31 watts   |
| Dimensions:         | 435(W) × 121(H) × 305(D) mm<br>(17-1/8" × 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**





# PARTS LIST

| REF.NO. | PART NO.    | DESCRIPTION                    | REF.NO. | PART NO.      | DESCRIPTION  |
|---------|-------------|--------------------------------|---------|---------------|--|
| 1       | 27110953Y   | Front bracket                  | P101a   | 2009990349ULY | NSAS-14P0486,Socket  |
| 5       | 28400282    | Damper                         | P102a   | 2009990315ULY | NSAS-14P0449,Socket  |
| 7       | 27180477A   | Spring A                       | P902    | 253192HIT     | AS-UC-6#18,Power supply cord <D>                           |
| 10      | 27130741AY  | Bracket F                      |         | 253193HIT     | AS-CEE,Power supply cord <P/W/T>                           |
| 13      | 28400463B   | Cassette frame                 | T901    | 2301049Y      | NPT-1223D,Power transformer <D>                            |
| 14      | 27180435    | Spring                         |         | 2301050Y      | NPT-1223P,Power transformer <P>                            |
| 16      | 28324943Y   | Knob,eject                     |         | 2301051Y      | NPT-1223DG,Power transformer <W>                           |
| 18      | 27100322Y   | Chassis                        | U1      | 1N261586-4AY  | NAAR-5086-4A,Main circuit pc board ass'y <except W>        |
| 21      | 27122270AY  | Rear panel <D>                 |         | 1N261586-4BY  | NAAR-5086-4B,Main circuit pc board ass'y <W>               |
|         | 27122271AY  | Rear panel <P>                 | U2      | 1N261587-4AY  | NAPS-5087-4A,Power supply pc board ass'y <except W>        |
|         | 27122272AY  | Rear panel <W>                 |         | 1N261587-4BY  | NAPS-5087-4B,Power supply pc board ass'y <W>               |
|         | 27122289AY  | Rear panel <T>                 | U3      | 1N261588-4AY  | NAETC-5088-4A,Input level volume pc board ass'y <except W> |
| 22      | 27300750    | Cord bushing                   |         | 1N261588-4BY  | NAETC-5088-4B,Input level volume pc board ass'y <W>        |
| 25      | 830440089   | 4TTC+8C(BC),Self-tapping screw | U4      | 1N261589-4AY  | NAETC-5089-4A,Headphone terminal pc board ass'y <except W> |
| 26      | 838130088   | 3TTB+8B,Self-tapping screw     |         | 1N261589-4BY  | NAETC-5089-4B,Headphone terminal pc board ass'y <W>        |
| 27      | 833430088   | 3TTB+8B(BC),Self-tapping screw | U5      | 1N261593-4Y   | NADIS-5093-4,Display circuit pc board ass'y                |
| 29      | 838130088   | 3TTB+8B,Self-tapping screw     | U6      | 1N261594-4Y   | NAAF-5094-4,Recording amplifier pc board ass'y             |
| 31      | 27190480-1Y | PCB-8L,Holder                  | U7      | 1N261590-4BY  | NASW-5090-4B,Voltage selector switch pc board ass'y <W>    |
| 36      | 28184664Y   | Top cover                      | W701    | 2047291512Y   | NCFC-291512,Flat cable                                     |
| 38      | 838430088   | 3TTB+8B(BC),Self-tapping screw | Z1,Z2   | 244197Y       | NDM-188,Deck mechanism ass'y                               |
| 51      | 27211866Y   | Front panel                    |         |               |  |
| 57      | 28135244Y   | Badge                          |         |               |  |
| 61      | 28191754Y   | Clear plate                    |         |               |  |
| 62      | 27301907Y   | Cassette lid A                 |         |               |  |
| 63      | 27301908Y   | Cassette lid B                 |         |               |  |
| 64      | 28191695Y   | Clear plate                    |         |               |  |
| 65      | 27301850Y   | Cassette lid,base              |         |               |  |
| 66      | 28323671A   | Knob, Volume                   |         |               |  |
| 67      | 28325453Y   | Knob, Power                    |         |               |  |
| 68      | 27273135BY  | Joint                          |         |               |  |
| 71      | 27175316AY  | Leg                            |         |               |  |
| 71a     | 28141332Y   | Cushion,for leg                |         |               |  |
| 72      | 838130088   | 3TTB+8B,Self-tapping screw     |         |               |  |
| 73      | 835430068   | 3TTF+6B(BC),Self-tapping screw |         |               |  |
| 91      | 260208      | Wire tic                       |         |               |  |

NOTE: <D>: L20V model only  
 <P>: 230V model only  
 <W>: Worldwide model only  
 <T>: Taiwanese model only

**NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ 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 liead 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.

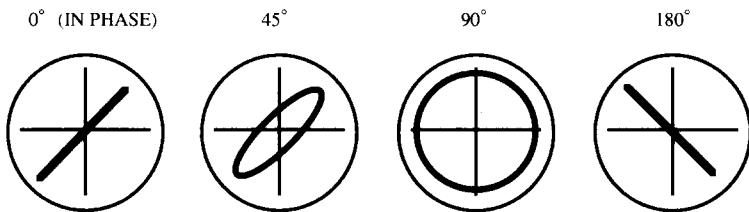
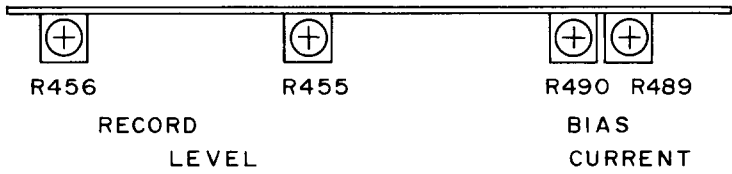
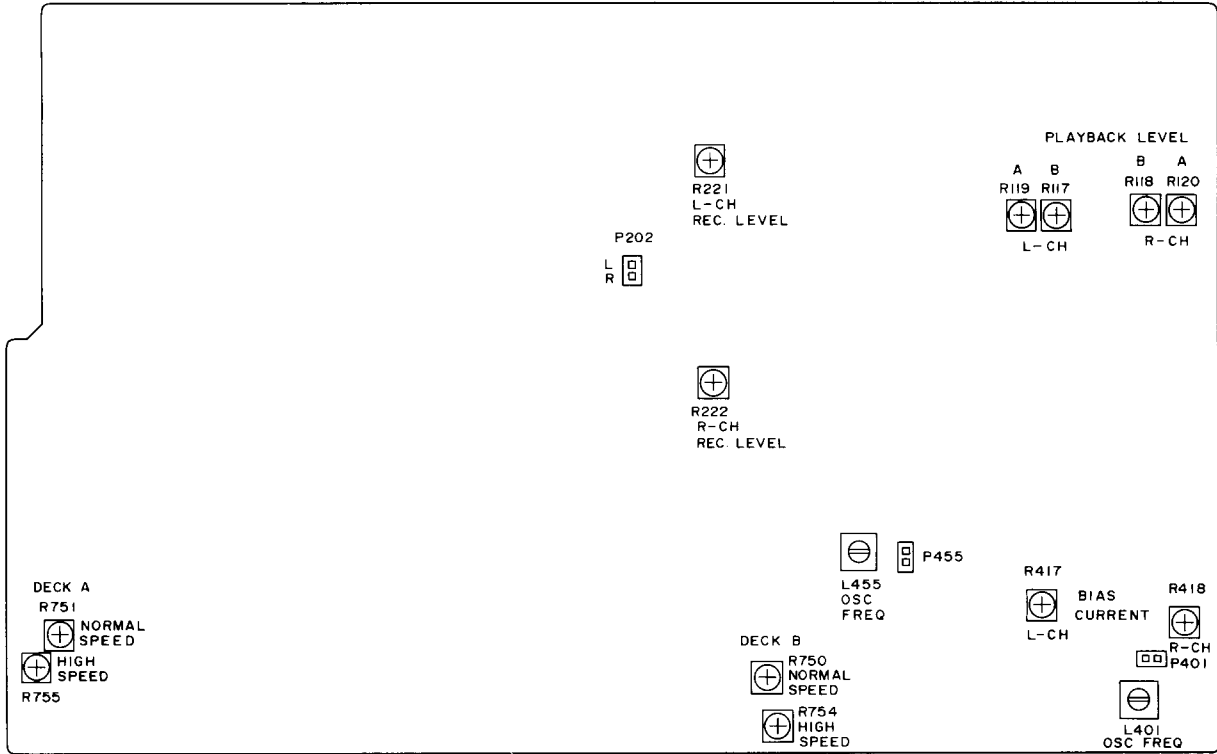
Press the forward play button twice to be unit to the high speed.

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<br>Foward:Left side<br>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<br>R119(Left channel)<br>R120(Right channel)<br>Deck B<br>R117(Left channel)<br>R118(Right channel) | 300mV   |  |
| Oscillator block | Frequency counter to test point P455             |                              | Metal tape XS-C90 | Stop               | Frequency counter             | L455   | 107 ± 2kHz  | Test mode<br>When you press the stop key, deck becomes recording mode of metal position.<br>Test mode  |
|                  | Frequency counter to test point P401             |                              |                   | Stop               | Frequency counter             | L401   | 107 ± 2kHz  |  |
| Bias current     | Figure 2   | 1kHz, -23dB and 12kHz, -23dB | UD-1 C-90         | Recording/playback | AC voltmeter                  | R489(Left channel)<br>R490(Right channel)  | Difference of 1kHz and 12kHz become less than 1dB.      | When you press the AUTO SPACE key,recording of deck starts.<br>Next when you press the AUTO SPACE key, rewind to recording start point and starts to playback. |
|                  |  |                              |                   | Recording/playback | AC voltmeter                  | R417(Left channel)<br>R418(Right channel)  |   |  |
| 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.<br>Next when you press the AUTO SPACE key, rewind to recording start point and starts to playback. |
|                  |  |                              |                   | Recording/playback | AC voltmeter                  | R455(Left channel)<br>R456(Right channel)  | Signals of recording and playback become same level     |  |
|                  |  |                              |                   | Recording/playback | AC voltmeter                  | R221(Left channel)<br>R222(Right channel)  |   |  |



Confirming phase relationship  
Fig.1

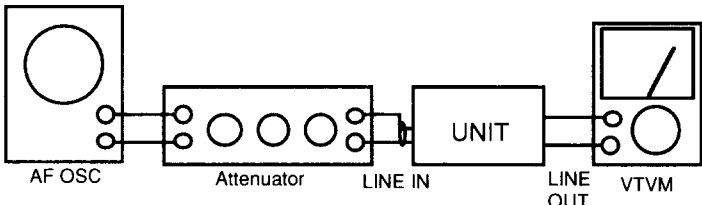


Fig. 2

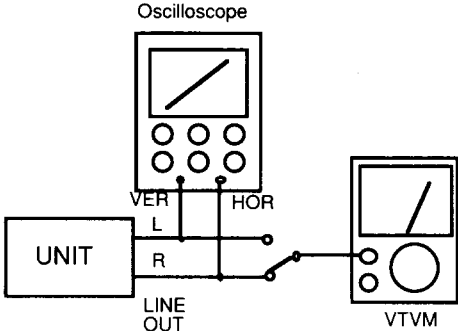
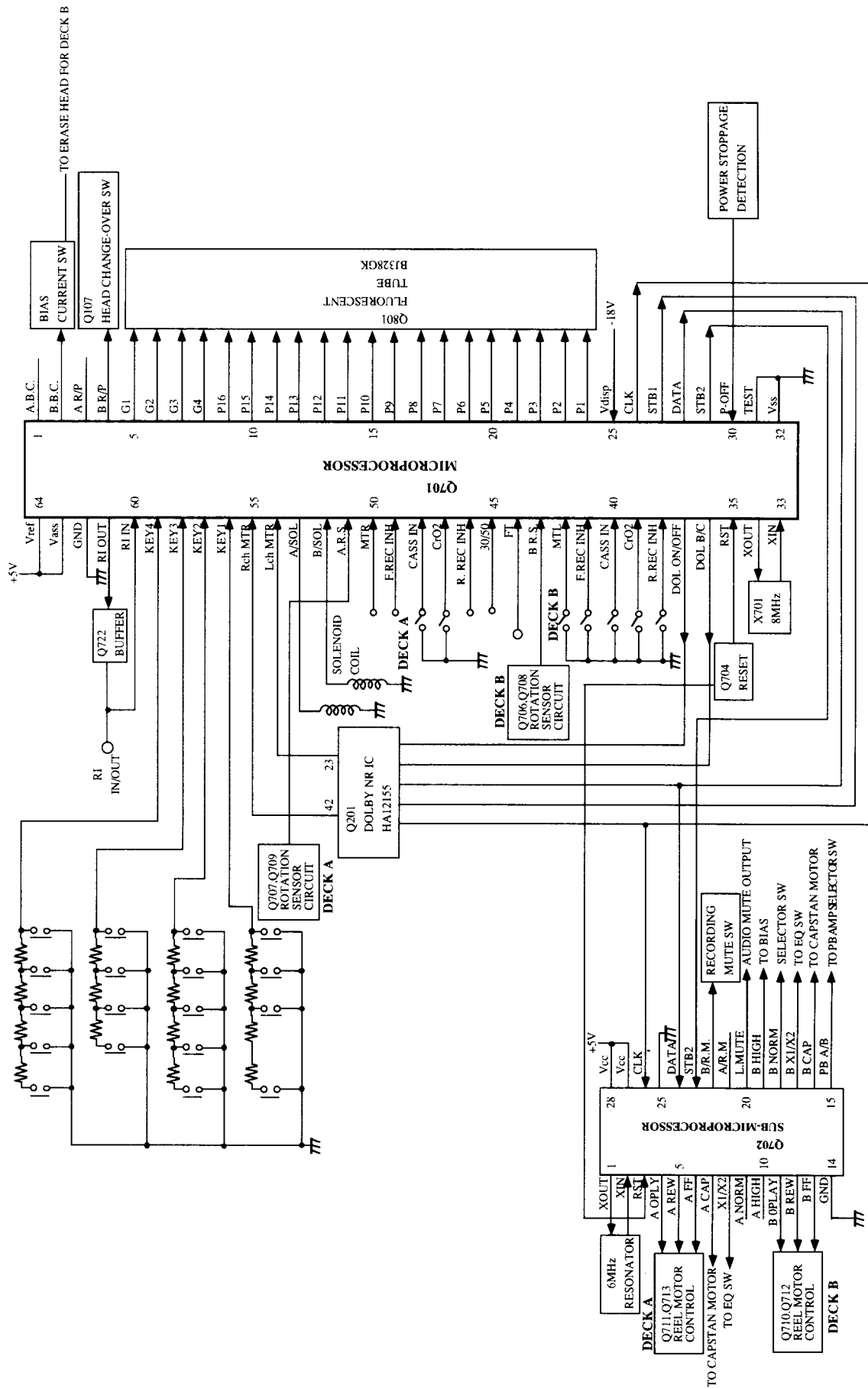


Fig.3

# MICROPROCESSOR-CONNECTION DIAGRAM



# MICROPROCESSOR-TERMINAL DESCRIPTIONS

## MAIN MICROPROCESSOR

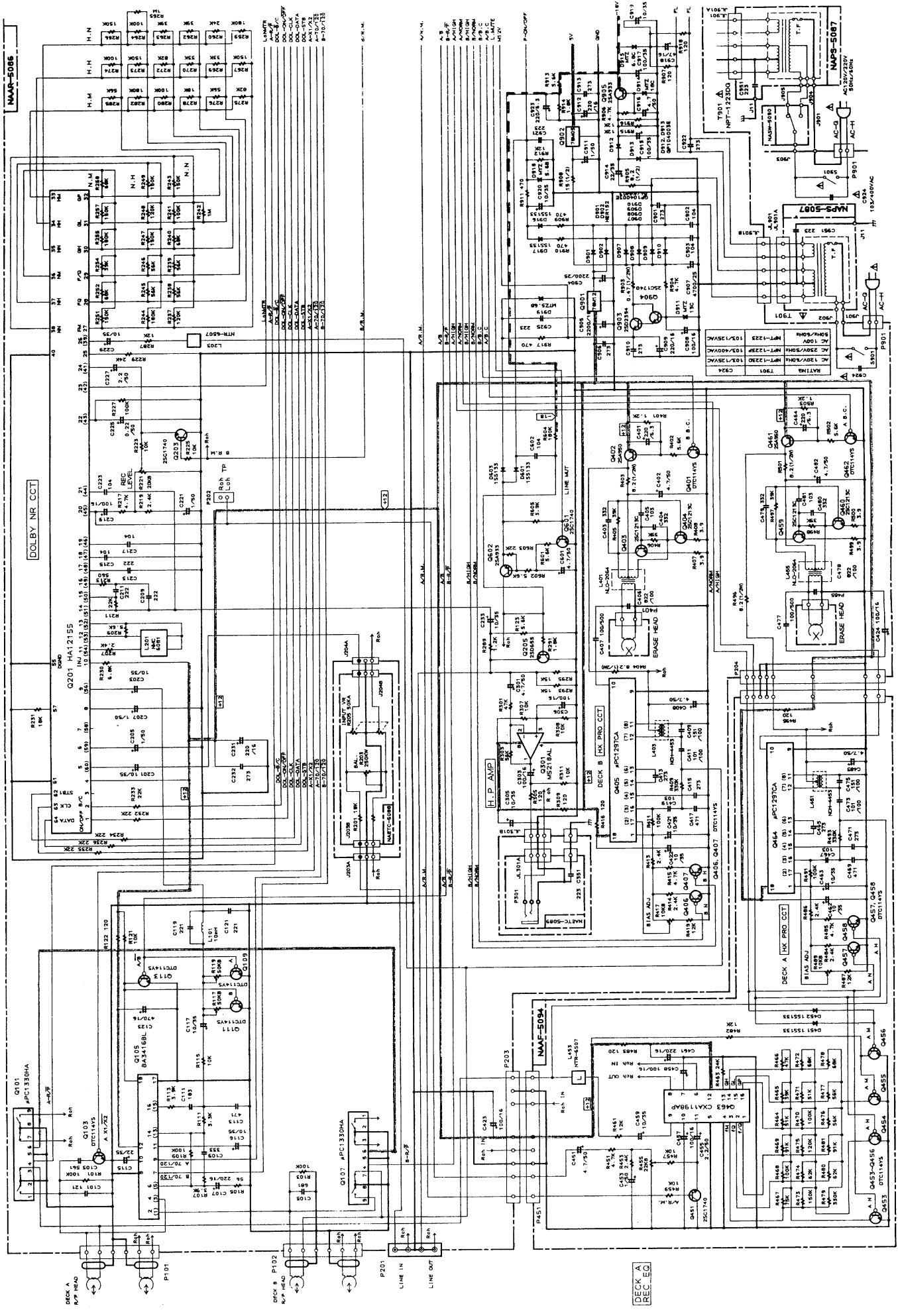
| Pin No. | Terminal | Description   |
|---------|----------|---|
| 1       | A B.C.   | Bias current change-over control output pin for Deck A    |
| 2       | B B.C.   | Bias current change-over control output pin for Deck B    |
| 3       | A R/P    | Recording/playback head change-over output pin 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   |



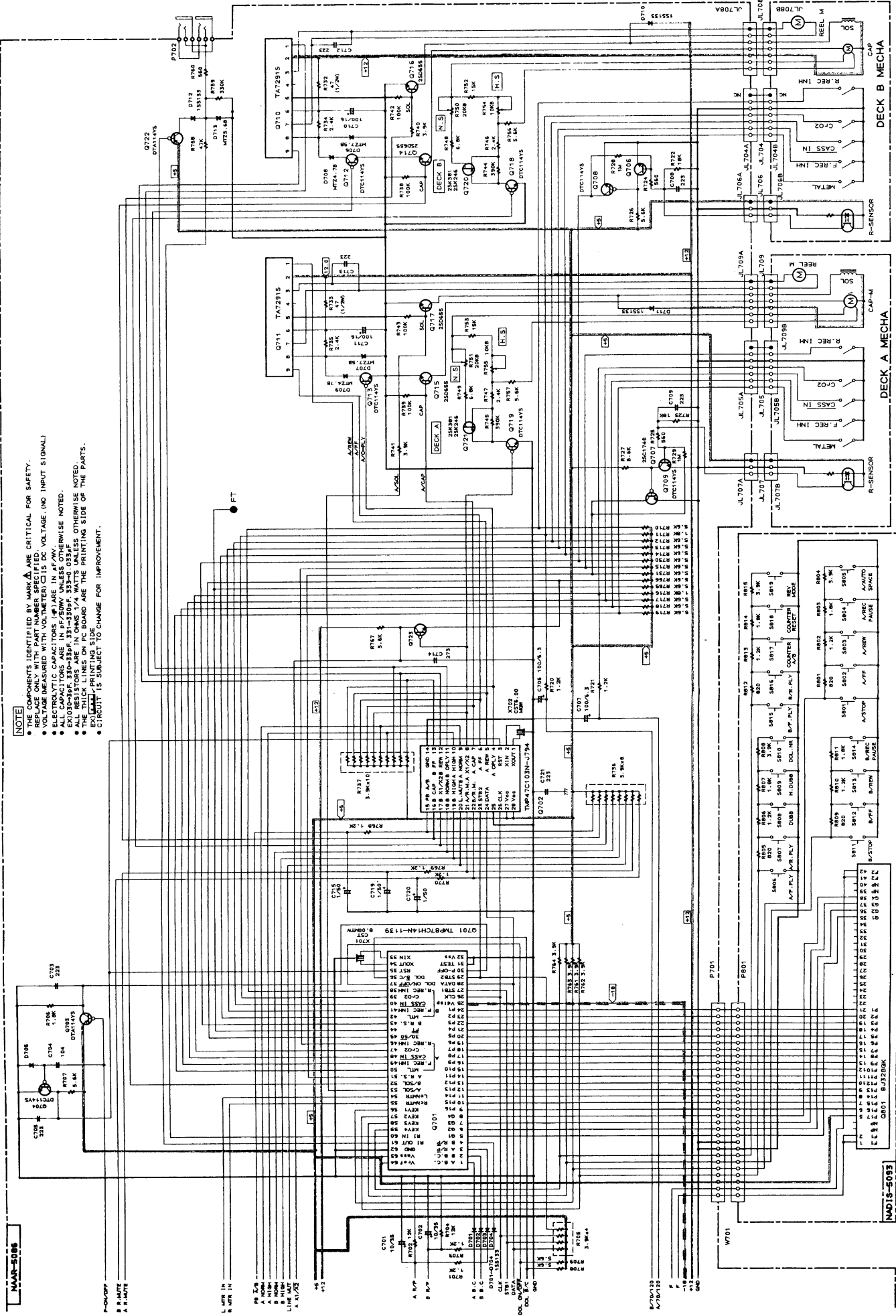
SCHEMATIC DIAGRAM

A B C D E F G



A B C D E F G

# SCHEMATIC DIAGRAM




# PRINTED CIRCUIT BOARD-PARTS LIST

## MAIN CIRCUIT PC BOARD (NAAR-5086-4)

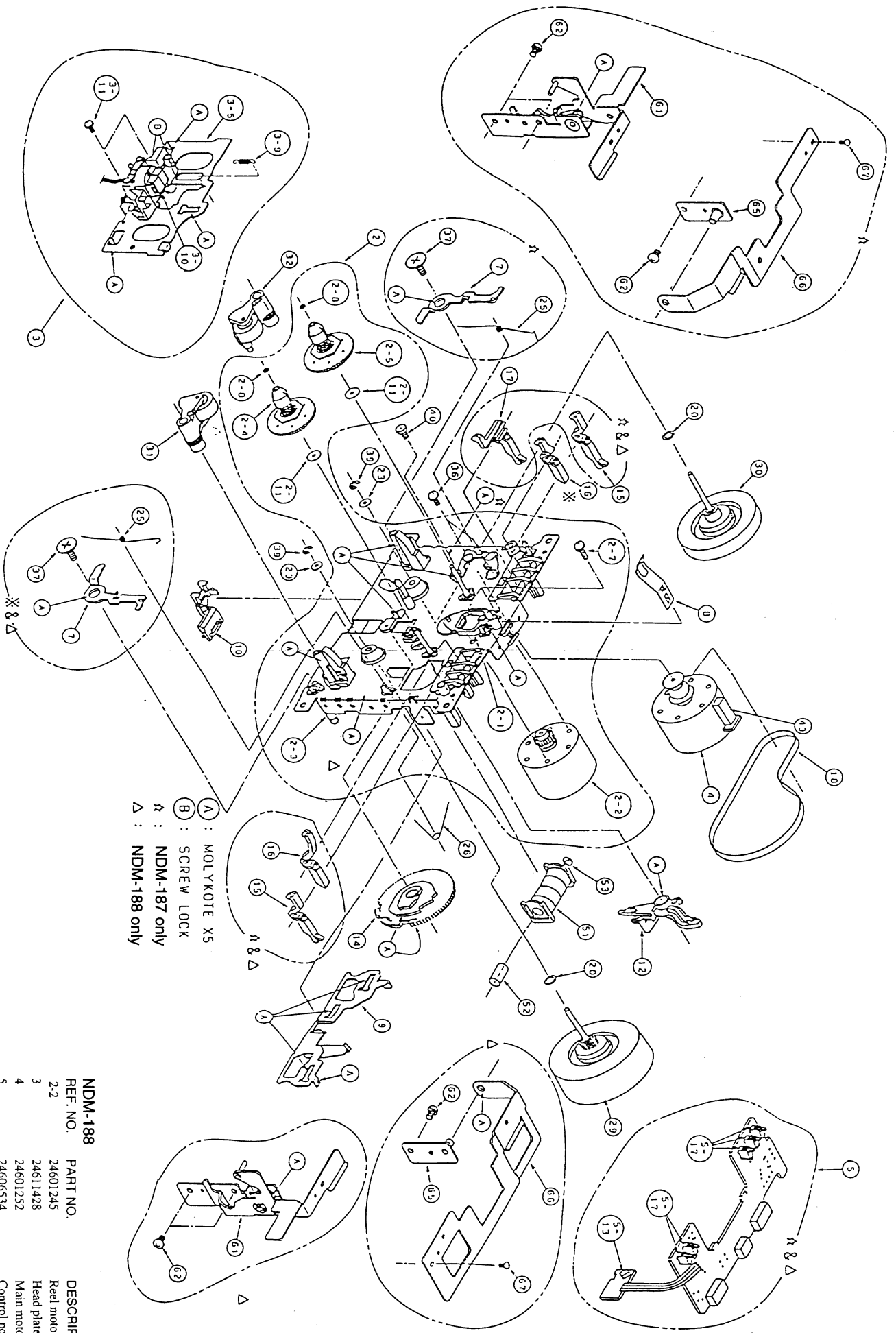
| CIRCUIT NO. | PART NO.     | DESCRIPTION     | CIRCUIT NO. | PART NO.  | DESCRIPTION             |
|-------------|--------------|-----------------|-------------|-----------|-------------------------|
|             |              |                 |             |           | Diodes                  |
|             |              |                 | D914        | 224451803 | MTZ18C, Zener           |
|             |              |                 | D915        | 224470683 | MTZJ6.8C, Zener         |
| Q101,Q107   | 22240147     | μ PC1330HA      | D916,D917   | 223163    | 1SS133                  |
| Q105        | 22240767     | BA3416BL        | D918,D919   | 224450562 | MTZ5.6B, Zener          |
| Q201        | 22240544     | HA12155NT       |             |           | Coils                   |
| Q301        | 22240369     | M5218AP         | L101,L102   | 231089    | NCH-2137, CHOKE         |
| Q405        | 222959       | μ PC1297CA      | L201,L202   | 233436    | NMC-6081, MPX           |
| Q701        | 22240822     | TMP87CH14N-1139 | L203,L204   | 231221    | NTR-6507, TRAP          |
| Q702        | 22240823     | TMP47C103N-J794 | L401        | 231223Y   | NLO-2064, OSC           |
| Q710,Q711   | 22240239     | TA7291S         | L403,L404   | 231218    | NCH-4453, CHOKE         |
| Q901        | 222780125MIT | 78M12           | L455        | 231223Y   | NLO-2064, OSC           |
| Q902        | 222780055NEC | 78M05HF         |             |           | Resonators              |
|             |              | Transistors     | X701        | 3010190   | CST8.00MTW, Ceramic     |
| Q103,Q104   | 221281       | DTC114YS        | X702        | 3010149   | CST6.00MGW, Ceramic     |
| Q109-Q113   | 221281       | DTC114YS        |             |           | Capacitors              |
| Q203,Q204   | 2213284 or   | 2SC1740S-R or   | C103,C104   | 374725614 | 560pF±5%,50V,Plastic    |
|             | 2213285      | 2SC1740S-S      | C105,C106   | 374726814 | 680pF±5%,50V,Plastic    |
| Q205,Q206   | 2211705 or   | 2SD655-E or     | C107,C108   | 354742219 | 220μ F,16V,Elect.       |
|             | 2211706      | 2SD655-F        | C109,C110   | 374723334 | 0.033μ F±5%,50V,Plastic |
| Q401        | 221281       | DTC114YS        | C111,C112   | 374721834 | 0.018μ F±5%,50V,Plastic |
| Q402,Q461   | 2211504      | 2SA950-Y        | C115        | 354762209 | 22μ F,35V,Elect.        |
| Q403,Q404   | 2201883      | 2SC1213-C       | C116-C118   | 354761009 | 10μ F,35V,Elect.        |
| Q406,Q407   | 221281       | DTC114YS        | C123        | 354744719 | 470μ F,16V,Elect.       |
| Q459,Q460   | 2201883      | 2SC1213-C       | C201-C204   | 354761009 | 10μ F,35V,Elect.        |
| Q462        | 221281       | DTC114YS        | C205-C207   | 354780109 | 1μ F,50V,Elect.         |
| Q601        | 2213284 or   | 2SC1740S-R or   | C209-C214   | 374722224 | 2200pF±5%,50V,Plastic   |
| Q706,Q707   | 2213285      | 2SC1740S-S      | C215-C218   | 374721044 | 0.1μ F±5%,50V,Plastic   |
| Q602,Q905   | 2213354 or   | 2SA933S-R or    | C219,C220   | 354741019 | 100μ F,16V,Elect.       |
|             | 2213355      | 2SA933S-S       | C221,C222   | 354780109 | 1É F,50V,Elect.         |
| Q703,Q722   | 2213090      | DTA114YS        | C223,C224   | 374721044 | 0.1μ F±5%,50V,Plastic   |
| Q704        | 221281       | DTC114YS        | C225,C226   | 354782299 | 0.22μ F,50V,Elect.      |
| Q708,Q709   | 221281       | DTC114YS        | C227,C228   | 354780229 | 2.2μ F,50V,Elect.       |
| Q712,Q713   | 221281       | DTC114YS        | C229,C230   | 354761009 | 10μ F,35V,Elect.        |
| Q714-Q717   | 2211705 or   | 2SD655-E or     | C231        | 354742219 | 220μ F,16V,Elect.       |
|             | 2211706      | 2SD655-F        | C232        | 374722734 | 0.027μ F±5%,50V,Plastic |
| Q718,Q719   | 221281       | DTC114YS        | C233,C234   | 354761009 | 10μ F,35V,Elect.        |
| Q720,Q721   | 2211945 or   | 2SK246-GR or    | C301,C302   | 354780479 | 4.7μ F,50V,Elect.       |
|             | 2212304      | 2SK381-D        | C303,C304   | 354741019 | 100μ F,16V,Elect.       |
| Q723        | 221281       | DTC114YS        | C305        | 354761009 | 10μ F,35V,Elect.        |
| Q903        | 2202705 or   | 2SD2394-E       | C306        | 354741019 | 100μ F,16V,Elect.       |
|             | 2202706      | 2SD2394-F       | C401        | 354722219 | 220μ F,6.3V,Elect.      |
| Q904        | 2213285 or   | 2SC1740S-S or   | C402        | 354780479 | 4.7μ F,50V,Elect.       |
|             | 2213284      | 2SC1740S-R      | C403,C404   | 374723324 | 3300pF±5%,50V,Plastic   |
|             |              | Diodes          | C405        | 374721034 | 0.01É F±5%,50V,Plastic  |
| D601,D603   | 223163       | 1SS133          | C406,C478   | 370138224 | 8200pF±5%,100V,Plastic  |
| D701-D705   | 223163       | 1SS133          | C408        | 354780479 | 4.7μ F,50V,Elect.       |
| D706,D707   | 224450752    | MTZ7.5B, Zener  | C409,C410   | 370131514 | 150pF±5%,100V,Plastic   |
| D708,D709   | 224450472    | MTZ4.7B, Zener  | C411,C412   | 370131014 | 100pF±5%,100V,Plastic   |
| D710-D712   | 223163       | 1SS133          | C413-C416   | 374722734 | 0.027μ F±5%,50V,Plastic |
| D713        | 224450562    | MTZ5.6B, Zener  | C417,C418   | 374724714 | 470pF±5%,50V,Plastic    |
| D901,D902   | 22380031     | HER152          | C419,C420   | 374721034 | 0.01μ F±5%,50V,Plastic  |
| D907-D910   | 22380035     | GP104003E       | C421,C422   | 354761009 | 10μ F,35V,Elect.        |
| D911        | 224451303    | MTZ13C, Zener   | C423,C424   | 354741019 | 100μ F,16V,Elect.       |
| D912,D913   | 22380035     | GP104003E       |             |           |                         |

| <b>CIRCUIT NO.</b> | <b>PART NO.</b> | <b>DESCRIPTION</b>            |
|--------------------|-----------------|-------------------------------|
|                    | Capacitors      |                               |
| C464               | 354722219       | 220μ F,6.3V,Elect.            |
| C479,C480          | 374723324       | 3300pF±5%,50V,Plastic         |
| C481               | 374721034       | 0.01μ F±5%,50V,Plastic        |
| C482,C601          | 354780479       | 4.7μ F,50V,Elect.             |
| C701,C702          | 354761009       | 10μ F,35V,Elect.              |
| C704,C602          | 374721044       | 0.1μ F±5%,50V,Plastic         |
| C706,C707          | 354721019       | 100μ F,6.3V,Elect.            |
| C710,C711          | 354741019       | 100μ F,16V,Elect.             |
| C715               | 354780109       | 1μ F,50V,Elect.               |
| C719,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               | 3500191         | DE7150FZ103M, AC400V/125V, IS |

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

MECHANISM-EXPLODED VIEW

TA-RW544



- (A) : MOLYKOTE X5
- (B) : SCREW LOCK
- R : NDM-187 only
- L : NDM-188 only
- Δ : NDM-188 only
- \* & Δ

| 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 |

# PRINTED CIRCUIT BOARD-PARTS LIST

| CIRCUIT NO. | PART NO.    | DESCRIPTION              |
|-------------|-------------|--------------------------|
|             | 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     |
| R496,R501   | 453530824   | 8.2Ω±5%,1/2W,Metal       |
| R705        | 49163392404 | RM1/10IJ, 3.9K×4, Array  |
| R732,R733   | 443524704   | 47Ω±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     |
| R905        | 453530824   | 8.2Ω±5%,1/2W,Metal       |
| R908        | 443521504   | 15Ω±5%,1/2W,Metal oxide  |

|           |          |            |
|-----------|----------|------------|
|           | Plugs    |            |
| P101,P102 | 25055136 | NPLG-6P120 |
| P202      | 25055038 | NPLG-2P29  |
| P203,P204 | 25055678 | NPLG-8P634 |
| P401,P455 | 25055132 | NPLG-2P116 |
| P901      | 25055675 | NPLG-2P631 |

|      |          |             |
|------|----------|-------------|
|      | Socket   |             |
| P701 | 25050861 | NSCT-29P656 |

|               |            |            |
|---------------|------------|------------|
|               | 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 |

|      |           |                  |
|------|-----------|------------------|
|      | Terminals |                  |
| P201 | 25045329  | NPJ-4PDBL183     |
| P702 | 25045330  | NPJ-2PDBL184, RI |

|      |          |               |
|------|----------|---------------|
|      | Switch   |               |
| S901 | 25035636 | NPS-111-L590P |

### POWER SUPPLY CIRCUIT PC BOARD (NAPS-5087-4)

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

### INPUT LEVEL VOLUME PC BOARD (NAETC-5088-4)

| CIRCUIT NO. | PART NO.  | DESCRIPTION              |
|-------------|-----------|--------------------------|
|             | Resistors |                          |
| R203        | 5104345Y  | N09RLC250KW15F, Variable |
| R205,R206   | 5104346Y  | N09RGL50KA15F, Variable  |

### HEADPHONE TERMINAL PC BOARD (NAETC-5089-4)

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

### VOLTAGE SELECTOR SWITCH PC BOARD(NASW-5090-4)

| CIRCUIT NO. | PART NO. | DESCRIPTION             |
|-------------|----------|-------------------------|
| S902        | 25065437 | NSS-22157P,Slide switch |

### DISPLAY CIRCUIT PC BOARD (NADIS-5093-4)

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

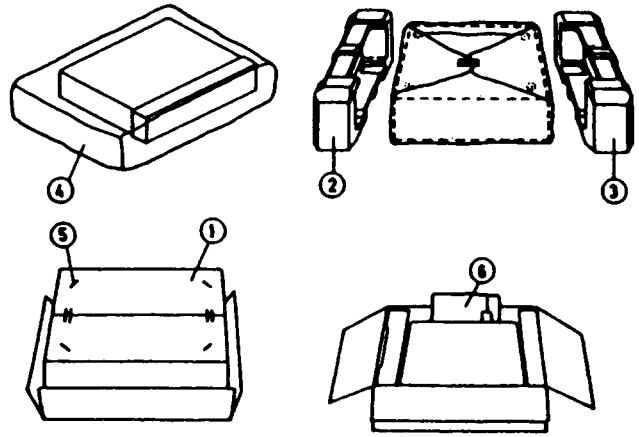
### RECORDING AMPLIFIER PC BOARD (NAAF-5094-4)

| CIRCUIT NO. | PART NO.           | DESCRIPTION              |
|-------------|--------------------|--------------------------|
|             | Transistors        |                          |
| Q451,Q452   | 2213285 or 2213284 | 2SC1740S-S or 2SC1740S-R |
| Q453-Q458   | 221281             | DTC114YS                 |
|             | ICs                |                          |
| Q463        | 22240267           | CXA1198A                 |
| Q464        | 222959             | MPC1297CA                |
|             | Diodes             |                          |
| D451,D452   | 223163             | 1SS133                   |
|             | Coils              |                          |
| L451,L452   | 231218             | NCH-4453, Choke          |
| L453,L454   | 231221             | NTR-6507, Trap           |
|             | Capacitors         |                          |
| C451,C452   | 354780479          | 4,7μ F,50V,Elect.        |
| C453,C454   | 354780109          | 1μ F,50V,Elect.          |
| C455,C456   | 354780229          | 2.2μ F,50V,Elect.        |
| C457,C458   | 354741019          | 100μ F,16V,Elect.        |
| C459,C460   | 354761009          | 10μ F,35V,Elect.         |
| C461        | 354742219          | 220μ F,16V,Elect.        |
| C462,C463   | 354761009          | 10μ F,35V,Elect.         |
| C465,C466   | 374722734          | 0.027μ F±5%,50V,Plastic  |
| C467,C468   | 374721034          | 0.01μ F±5%,50V,Plastic   |
| C469,C470   | 374724714          | 470pF±5%,50V,Plastic     |
| C471,C472   | 374722734          | 0.027μ F±5%,50V,Plastic  |
| C473,C474   | 370131014          | 100pF±5%,100V,Plastic    |
| C475,C476   | 370131514          | 150pF±5%,100V,Plastic    |
| C483        | 354780479          | 4.7μ F,50V,Elect.        |

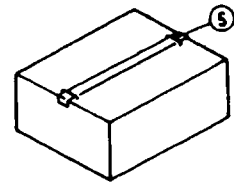
|           |           |                      |
|-----------|-----------|----------------------|
|           | Resistors |                      |
| R455,R456 | 5210294   | N06HR22KBE, Trimming |
| R489,R490 | 5210292   | N06HR10KBE, Trimming |

|           |          |                    |
|-----------|----------|--------------------|
|           | Sockets  |                    |
| P451,P452 | 25051127 | NSCT-8P914, Socket |

**PACKING VIEW**



| REF.NO. | PART NO.                   | DESCRIPTION                      |
|---------|----------------------------|----------------------------------|
| 1       | 29053110Y                  | Carton box                       |
| 2       | 29091636-1CY               | Pad L                            |
| 3       | 29091637-1CY               | Pad R                            |
| 4       | 29100034-1AY               | 650×850mm, Styren bag            |
| 5       | 282301                     | Staples                          |
| 6       | <b>Accessory bag ass'y</b> |                                  |
|         | 29342382Y                  | Instruction manual, E            |
|         | 29342383Y                  | Instruction manual U3 (FSI) <P>  |
|         | 29342384Y                  | Instruction manual U3 (GDSW) <P> |
|         | 29342385Y                  | Instruction manual T <W/T>       |
|         | 2010244Y                   | Connection cord                  |
|         | 29100097-1AY               | 350×250mm, Styren bag            |
|         | 29365019B                  | Warranty card <D>                |
|         | 29358002K                  | Service station list <D>         |
|         | 29362001Y                  | Label UPC <D>                    |
|         | 29361786Y                  | Label <W/T>                      |
|         | 25055040                   | CV-K-2, Conversion plug <W>      |



NOTE: <D>:120V model only  
 <P>:230V model only  
 <W>:Worldwide model only  
 <T>:Taiwanese model only

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