

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier MODEL A-9711



Black, Silver and Golden models

| | |
|-------------|---------------------------|
| BUD | 120V AC, 60Hz |
| BUP/SUP/GUP | 230V AC, 50Hz |
| BUW/GUW | 120V/220-230V AC, 50/60Hz |

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ 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.

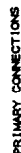
TABLE OF CONTENTS

| | |
|--|----|
| Specifications | 2 |
| Service Safety Precautions | 3 |
| Block Diagram | 4 |
| Adjustment Procedures | 5 |
| Microprocessor Connection Diagram | 6 |
| Terminal Description | 7 |
| Chassis Exploded View Parts List | 8 |
| Chassis Exploded View | 9 |
| Printed Circuit Board View From Bottom Side | 11 |
| IC Block Diagrams | 16 |
| Schematic Diagrams | 17 |
| Printed Circuit Board Parts List | 25 |
| Packing Parts List | 28 |



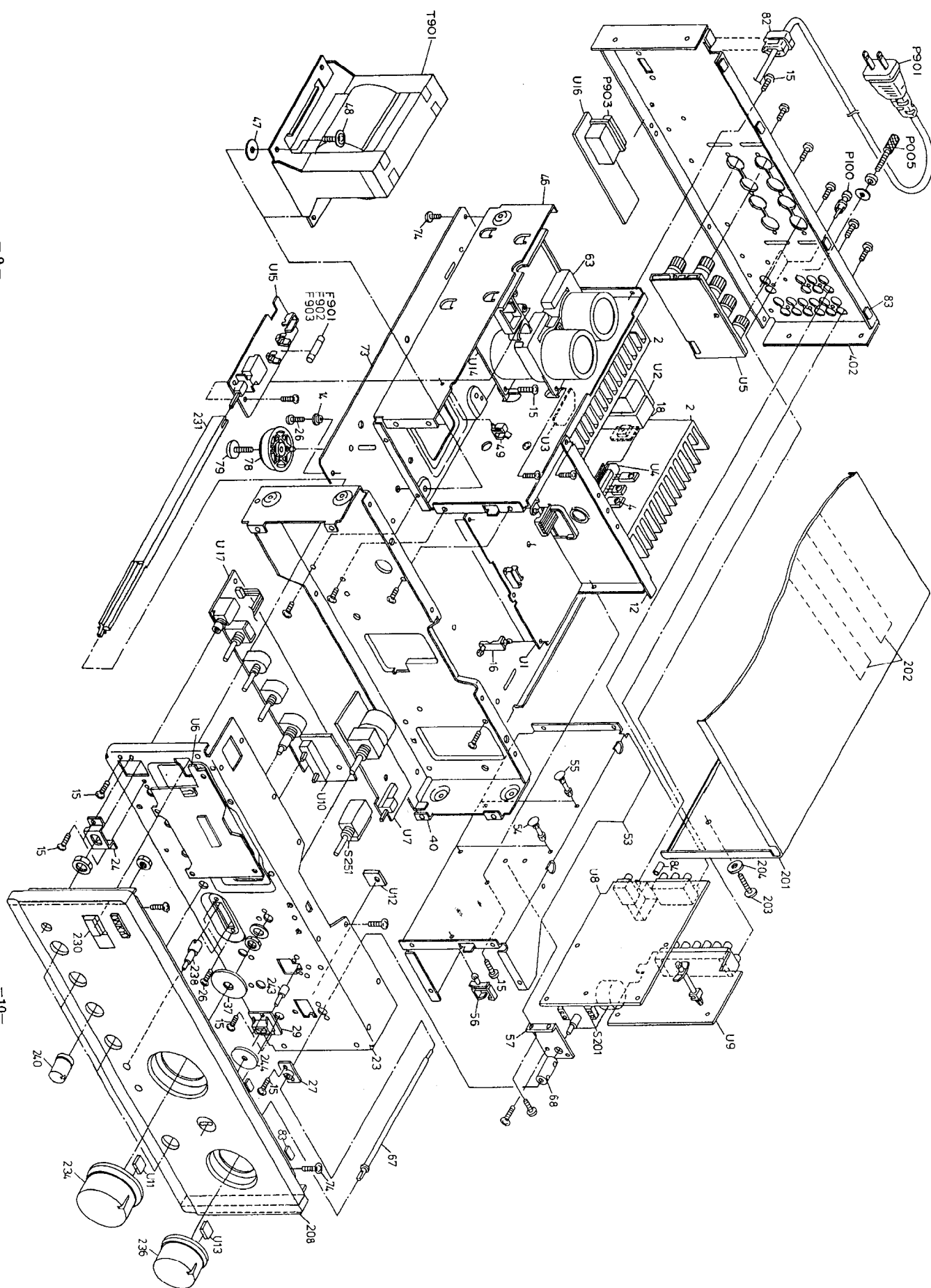
(120V model version) (2/2)

NOTE





CHASSIS EXPLODED VIEW




SPECIFICATIONS

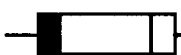
| | |
|---------------------------------------|---|
| Power Output: | 80 watts per channel, min. RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.06% Total harmonic distortion. 140 watts per channel, RMS, at 4 ohms, both channels driven at 1 kHz, with no more than 1% Total harmonic distortion. (DIN) |
| Dynamic Power: | 235 watts at 2 ohms 160 watts at 4 ohms 100 watts at 8 ohms |
| Total Harmonic Distortion: | 0.06% at rated power 0.06% at 1 watt output |
| Intermodulation Distortion: | 0.06% at rated power |
| Damping Factor: | 120 at 8 ohms (1 kHz) |
| Input Sensitivity / Impedance: | U.S.A. & Canadian model: PHONO (MM) 3 mV / 47 kohms PHONO (MC) 300 μ V / 100 ohms CD, TUNER, LINE, TAPE-PLAY (TONE) 300 mV / 25 kohms CD, TUNER, LINE, TAPE-PLAY (SOURCE) 300 mV / 25 kohms |
| Output Level / Impedance: | TAPE-REC 300 mV / 1.5 kohms (PHONO) |
| Phono Overload | MM: 1 kHz / 10 kHz at 0.05% THD |
| (U.S.A. & Canadian model): | 100 mV / 480 mV MC: 1 kHz / 10 kHz at 0.1 % THD 10 mV / 48 mV |
| Frequency Response: | CD, TUNER, LINE, TAPE-PLAY (SOURCE) 2 Hz — 50 kHz (+0, -1 dB) PHONO (MM) (RIAA Deviation) (U.S.A. & Canadian model): ± 0.3 dB, 20 Hz — 20 kHz |
| Tone Control (Vol -22 dB): | TREBLE (Turnover: 7 kHz) ± 10 dB at 20 kHz BASS (Turnover: 200 Hz) +15 / -6 dB at 20 Hz |
| High Cut Filter: | TREBLE min. 6 kHz (6 dB / oct.) |
| Attenuator: | -20 dB |
| Muting (remote control): | $-\infty$ |
| Signal to Noise Ratio (IHF-A): | U.S.A. & Canadian model: PHONO (MM) 5 mV input 84 dB PHONO (MC) 0.5 mV input 69 dB CD, TUNER, LINE, TAPE-PLAY (TONE) 110 dB CD, TUNER, LINE, TAPE-PLAY (SOURCE) 114 dB |
| Power Supply: | European & U.K. & Australian models AC 230 V, 50 Hz U.S.A. & Canadian models AC 120 V, 60 Hz Worldwide models AC 120 V and AC 220-230 V switchable, 60 / 50 Hz |
| Dimensions (W \times H \times D): | 435 \times 164 \times 428 mm 17-1/8" \times 6-7/16" \times 16-7/8" |
| Weight: | 14.9 kg, 32.8 lbs. |

Specifications and features are subject to change without notice.

SERVICE SAFETY PRECAUTIONS

1. Replacing the fuses

 This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est a rapide.

Pour une protection permanents, n'utiliser que des fusibles de meme type.

Ce dernier est indique la qu le present symbol est appose.

| Circuit No. | Part No. | Description |
|-------------|----------|----------------------------|
| F901 | 252153 | 6.3A-TSC, <D><W> |
| F902 | 252076 | 3.15A-SE-EAK <P><T> <W> |
| F903 | 252070 | 1A-SE-EAK <P><T> |

2. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer.

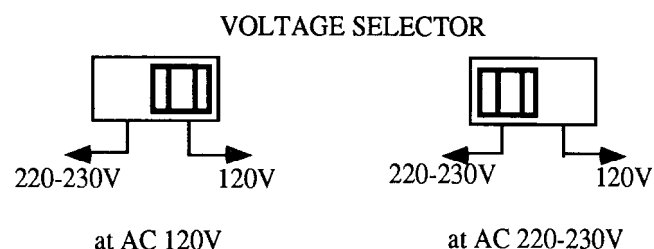
Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

Specifications : 3.3Mohm \pm 10% at 500V.

3. Voltage Selector (Rear Panel)

Worldwide models are equipped with a voltage selector to conform to local power supplied.

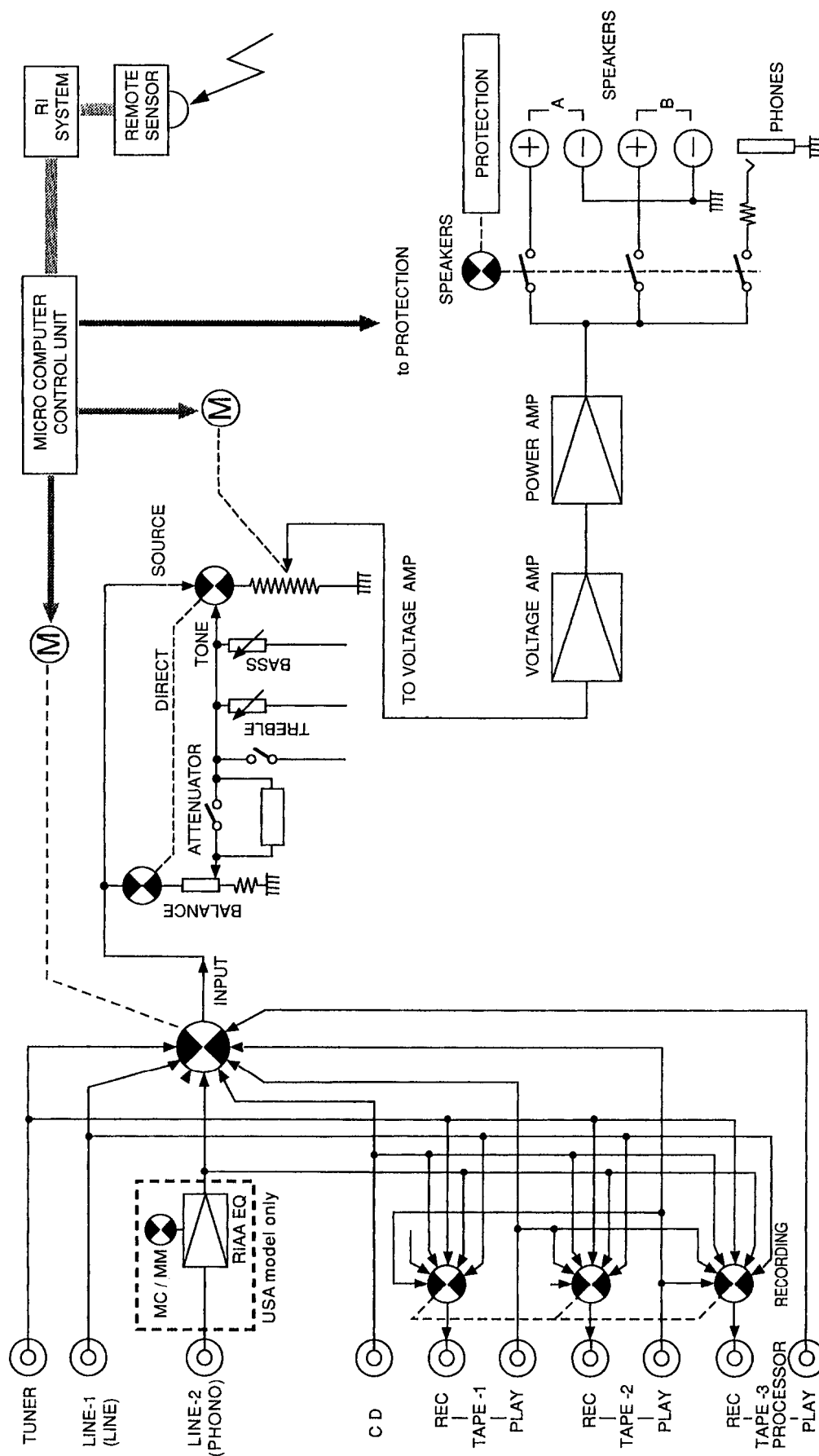
Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit. Models without a voltage selector can only be used in area where the power supply is the same as that of the unit.



Setting the voltage selector

1. Determine the proper for voltage for your area : 220-230V or 120V.
2. If the preset voltage is not proper for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220-230V), which-ever is proper.

BLOCK DIAGRAM



ADJUSTMENT PROCEDURES

Adjustments and Checking the Protection Circuitry

1. Preparations

- 1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
- 2) Set up the unit as follows.
 - (1) No load
 - (2) No signal
 - (3) Volume turned all the way down
 - (4) Speaker switch OFF
 - (5) Power switch OFF

Note) Check the following points before making adjustments

- (1) The power switch should be OFF.
- (2) The interior of the unit should not be warm.

2. Idling current adjustment

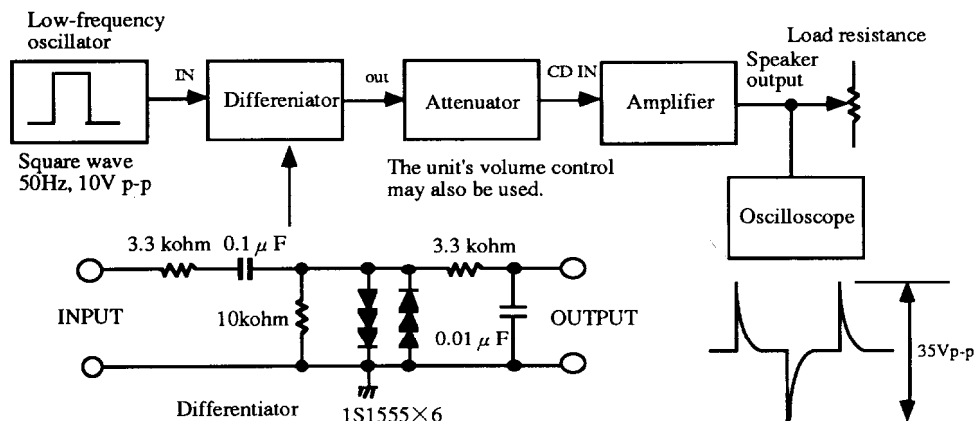
- 1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
 - (1) Adjust R617(R618) so that the voltage at test point VCT-ID on the NAAF-5629 circuit board is $6.5\text{mV} \pm 2\text{mV}$.

NOTE) Semi-fixed resistors enclosed in parentheses () are for the right channel.

3. Check of operation of protection circuitry

- 1) Check of operation of protection relay.
 - (1) Confirm that the relay turns ON approximately 5 seconds after the power switch is turned ON.
 - (2) The relay should turn OFF approximately 0.5 seconds after the power switch is turned OFF.
- 2) Check of DC detection
 - (1) Turn the power on with no load.
 - (2) After the speaker relay turns ON, apply DC +1~1.5V to the CD input terminals. Confirm that the relay turns OFF.
 - (3) Confirm that operation is the same as (2) above when an input of DC -1~-1.5V is applied.
- 3) Confirmation of current detection operation
 - (1) Signal input from the circuit illustrated below with no load.
 - (2) Confirm that the speaker relay does not turn OFF even when a 2 ohm load is connected when a peak value of 35Vp-p is output.
 - (3) Next, confirm that when a 1 ohm load is connected the speaker relay switches OFF and ON a couple of times and then stays OFF.

Note) The period before that relay stays OFF should not last for more than 10 second. Relay OFF status can be canceled by switching the power OFF.





TERMINAL DESCRIPTION

Q701:HD404314B56S

| Pin No. | CODE | FUNCTION | I/O | DESCRIPTION | | | | | | | | | | | | | | | |
|-----------|-----------|----------|-----|--|-----------|--------|----------|------|---|---|--------|---|---|----------|---|---|-----------|---|---|
| 1 | PA1/Vdisp | | --- | Not used. To be connected with GND. | | | | | | | | | | | | | | | |
| 2 | R00/SCK | SEL DOWN | OUT | <div>UP/DOWN Output terminal for Input selector.</div> <table><tr><td>OPERATION</td><td>SEL UP</td><td>SEL DOWN</td></tr><tr><td>STOP</td><td>H</td><td>H</td></tr><tr><td>UP</td><td>H</td><td>L</td></tr><tr><td>DOWN</td><td>L</td><td>H</td></tr></table> | OPERATION | SEL UP | SEL DOWN | STOP | H | H | UP | H | L | DOWN | L | H | | | |
| OPERATION | SEL UP | SEL DOWN | | | | | | | | | | | | | | | | | |
| STOP | H | H | | | | | | | | | | | | | | | | | |
| UP | H | L | | | | | | | | | | | | | | | | | |
| DOWN | L | H | | | | | | | | | | | | | | | | | |
| 3 | R01/SI | SEL UP | | | | | | | | | | | | | | | | | |
| 4 | R02/SO | CE | --- | | | | | | | | | | | | | | | | |
| 5 | R03/TOC | INP MUT | OUT | Muting output terminal. Active "H". | | | | | | | | | | | | | | | |
| 6 | TEST | TEST | --- | Shipment Test. To be connected with GND. | | | | | | | | | | | | | | | |
| 7 | RESET | RESET | IN | Input terminal for Reset signal. Active "L". | | | | | | | | | | | | | | | |
| 8 | OSC1 | Xtal | --- | Terminal for connecting with Ceramic oscillator (4.0MHz) | | | | | | | | | | | | | | | |
| 9 | OSC2 | Xtal | --- | | | | | | | | | | | | | | | | |
| 10 | GND | GND | --- | Ground terminal. | | | | | | | | | | | | | | | |
| 11 | AVss | AVss | --- | Ground terminal of A/D converter. | | | | | | | | | | | | | | | |
| 12 | R30/AN0 | SEL KEY | IN | Input terminal for when changing over Input Selector. Through A/D conversion, the selector will be detector on its right or left rotation. | | | | | | | | | | | | | | | |
| 13 | R31/AN1 | CODE 2 | IN | Code input terminal for detecting position of input switch of Motor driver. | | | | | | | | | | | | | | | |
| 14 | R32/AN2 | CODE 1 | IN | Cord input terminal for detecting position of input switch of Motor driver. | | | | | | | | | | | | | | | |
| 15 | R33/AN3 | EXP/JPN | IN | Input terminal for change-over between Japan model and Export model. | | | | | | | | | | | | | | | |
| 16 | R40/AN4 | MODE | IN | Input terminal for initialization to change over operation mode. | | | | | | | | | | | | | | | |
| 17 | R41/AN5 | PROTECT | IN | Input terminal for detecting protect operation. | | | | | | | | | | | | | | | |
| 18 | R42/AN6 | SYS OUT | OUT | Output terminal for System Code. | | | | | | | | | | | | | | | |
| 19 | R43/AN7 | SYS IN | IN | Input terminal for System Code. | | | | | | | | | | | | | | | |
| 20 | AVcc | AVcc | | Analog reference voltage for A/D conversion. | | | | | | | | | | | | | | | |
| 21 | Vss | Vss | --- | Power (+5V) terminal. | | | | | | | | | | | | | | | |
| 22 | D0/INTO | P OFF | IN | Input terminal for Detecting Power suspension. However, "L" 100 μ S or under shall be ignored. | | | | | | | | | | | | | | | |
| 23 | D1/INT1 | REM IN | IN | Remote control signal input terminal. | | | | | | | | | | | | | | | |
| 24 | D2/EVENB | RELAY | OUT | Output terminal for controlling relay. "H" when ON. | | | | | | | | | | | | | | | |
| 25 | D3/BUZZ | PLAYER | | Not used. | | | | | | | | | | | | | | | |
| 26 | D4/STOPC | | --- | Not used. | | | | | | | | | | | | | | | |
| 27 | D5 | | | | | | | | | | | | | | | | | | |
| 28 | D6 | | | | | | | | | | | | | | | | | | |
| 29 | D7 | | | | | | | | | | | | | | | | | | |
| 30 | D8 | | | | | | | | | | | | | | | | | | |
| 31 | R80 | | | | | | | | | | | | | | | | | | |
| 32 | R81 | | | | | | | | | | | | | | | | | | |
| 33 | R82 | VOL DOWN | OUT | <div>UP/DOWN output terminal for Volume. Active "H".</div> <table><tr><td>OPERATION</td><td>VOL UP</td><td>VOL DOWN</td></tr><tr><td>STOP</td><td>H</td><td>H</td></tr><tr><td>VOL UP</td><td>H</td><td>L</td></tr><tr><td>VOL DOWN</td><td>L</td><td>H</td></tr><tr><td>POWER OFF</td><td>L</td><td>L</td></tr></table> <div>POWER ON</div> | OPERATION | VOL UP | VOL DOWN | STOP | H | H | VOL UP | H | L | VOL DOWN | L | H | POWER OFF | L | L |
| OPERATION | VOL UP | VOL DOWN | | | | | | | | | | | | | | | | | |
| STOP | H | H | | | | | | | | | | | | | | | | | |
| VOL UP | H | L | | | | | | | | | | | | | | | | | |
| VOL DOWN | L | H | | | | | | | | | | | | | | | | | |
| POWER OFF | L | L | | | | | | | | | | | | | | | | | |
| 34 | R83 | VOL UP | | | | | | | | | | | | | | | | | |
| 35 | R10 | | | Not used. | | | | | | | | | | | | | | | |
| 36 | R11 | | | | | | | | | | | | | | | | | | |
| 37 | R12 | | | | | | | | | | | | | | | | | | |
| 38 | R13 | | | | | | | | | | | | | | | | | | |
| 39 | R20 | | | | | | | | | | | | | | | | | | |
| 40 | R21 | | --- | | | | | | | | | | | | | | | | |
| 41 | R22 | POW LED | --- | Output terminal for Power LED. | | | | | | | | | | | | | | | |
| 42 | R23 | MUTING | OUT | Output terminal for Audio muting LED, Remote control. | | | | | | | | | | | | | | | |

CHASSIS EXPLODED VIEW PARTS LIST

| REF.NO. | PART NO. | DESCRIPTION | REF.NO. | PART NO. | DESCRIPTION |
|---------|-------------|---------------------------------------|---------|-------------|---|
| 2 | 27160361 | Heat sink | Q617 | 2202514 or | * 2SA1695-Y or |
| 4 | 801433 | Self-tapping screw 3SMS8W.SW+14B(BC) | | 2202516 | * 2SA1695-P Power transistor |
| 8 | 838430167 | Self-tapping screw 3TTB+16S(BC) | Q618 | 2202514 or | * 2SA1695-Y or |
| 12 | 27130756B | Bracket (FH) | | 2202516 | * 2SA1695-P Power transistor |
| 14 | 800529 | Bushing | Q619 | 2202524 or | * 2SC4468-Y or |
| 15 | 838130088 | Self-tapping screw 3TTB+8B | | 2202526 | * 2SC4468-P Power transistor |
| 16 | 27190966 | Holder (PC) | Q620 | 2202524 or | * 2SC4468-Y or |
| 18 | 27130757 | Bracket (RH) | | 2202526 | * 2SC4468-P Power transistor |
| 23 | 27110889-2 | Front bracket | F901 | 252153 | △ 6.3A-TSC, Fuse <D><W> |
| 24 | 27141649 | Retainer (HP) | F902 | 252076 | △ 3.15A-SE-EAK, Fuse <P><T><W> |
| 26 | 838430107 | Self-tapping screw 3TTB+10S(BC) | F903 | 252070 | △ 1A-SE-EAK, Fuse <P><T> |
| 27 | 27267871-1 | Guide (SEL) | P005 | 25060151 | Terminal (GND) |
| 29 | 27267897B | Guide (D) | P901 | 253192HIT | △ AS-UC-6#18, AC Cord <D> |
| 40 | 27130758B | Bracket (SHLD) | | 253193HIT | △ AS-CEE, AC Cord <P><T> |
| 46 | 27130759A | Bracket (PT) | | 253198HIT | △ AS-BS, AC Cord <PB> |
| 47 | 27270307 | Spacer (PT) t=2 | | 253233KAW | △ AS-CEE-2, AC Cord <W> |
| 48 | 830440109 | Self-tapping screw 4TTC+10C(BC) | S251a | 25030384B | NRSF-106-30BU, Rotary Switch (Recording) |
| 49 | 27190964-1 | Holder (PT) | T901 | 2301157 | △ NPT-1256D, Power Trans. <D> |
| 53 | 27130760A | Bracket (R) | | 2301158 | △ NPT-1256P, Power Trans. <P><T> |
| 54 | 27190266 | Holder, KGLS-12RF | | 2301159 | △ NPT-1256DG, Power Trans <W> |
| 55 | 27190965 | Holder, KGPS-12RF | | 25055018 | △ CV-K-1, CV PLUG |
| 56 | 27300833 | Clamp, WS-2NS | U1 | 1A632528-2A | NAAF-5628-2A, Main circuit pc board ass'y <D> |
| 57 | 27141648 | Retainer (INP) | | 1A632528-2B | NAAF-5628-2B, Main circuit pc board ass'y <P><T> |
| 63 | 27190971B | Holder (CH) | | 1A632528-2C | NAAF-5628-2C, Main circuit pc board ass'y <W> |
| 67 | 27260336 | Shaft (SEL)AS | U2 | 1A632529-2A | NAAF-5629-2A, Power amp. pc board ass'y <D> |
| 68 | 27273156A | Joint (SEL) | | 1A632529-2B | NAAF-5629-2B, Power amp. pc board ass'y <P><T> |
| 73 | 27170306 | Bottom Board | | 1A632529-2C | NAAF-5629-2C, Power amp. pc board ass'y <W> |
| 74 | 801525 | Self-tapping screw 3TTB+8B(BC) | U3 | 1A632530-2A | NAETC-5630-2A, Driver L pc board ass'y <D> |
| 78 | 27175308A | Leg ass'y | | 1A632530-2B | NAETC-5630-2B, Driver L pc board ass'y <P><T> |
| 79 | 837440169 | Self-tapping screw 4ITT+16C(BC) | | 1A632530-2C | NAETC-5630-2C, Driver L pc board ass'y <W> |
| 82 | 27300750 | △ Cord Bushing #2271 | U4 | 1A632530-2A | NAETC-5630-2A, Driver R pc board ass'y <D> |
| 83 | 28141288 | Cushion t=0.5x10x15 | | 1A632530-2B | NAETC-5630-2B, Driver R pc board ass'y <P><T> |
| 84 | 28325274 | Knob (PUSH) <D> | | 1A632530-2C | NAETC-5630-2C, Driver R pc board ass'y <W> |
| | 28325184A | Knob (PUSH) <G> | U5 | 1A632531-2A | NAETC-5631-2A, Speaker terminal pc board ass'y <D> |
| 201 | 28184631A | Top Cover | | 1A632531-2B | NAETC-5631-2B, Speaker terminal pc board ass'y <P><T> |
| | 28184638A | Top Cover <S> | | 1A632531-2C | NAETC-5631-2C, Speaker terminal pc board ass'y <W> |
| | 28184630A | Top Cover <G> | U6 | 1A632533-2A | NADG-5633-2A, Micro computer pc board ass'y <D> |
| 202 | 28140695 | Cushion | | 1A632533-2B | NADG-5633-2B, Micro computer pc board ass'y <P><T> |
| 203 | 838440089 | Self-tapping screw 4TTB+8C(BC) | | 1A632533-2C | NADG-5633-2C, Micro computer pc board ass'y <W> |
| | 838240089 | Self-tapping screw 4TTB+8C(NI) <S><G> | U7 | 1A632534-2A | NAAF-5634-2A, Volume pc board ass'y <D> |
| 204 | 28170044A | Bushing (COV) | | 1A632534-2B | NAAF-5634-2B, Volume pc board ass'y <P><T> |
| 208 | 1A633121UP | Front Panel ass'y <S> <P> | | 1A632534-2C | NAAF-5634-2C, Volume pc board ass'y <W> |
| | 1A632121UDN | Front Panel ass'y <D> | U8 | 1A632535-2A | NAAF-5635-2A, Equalizer amp pc board ass'y <D> |
| | 1A632121UP | Front Panel ass'y <P><W><T> | | 1A632535-2B | NAAF-5635-2B, Equalizer amp pc board ass'y <P><T> |
| | 1A634121 | Front Panel ass'y <G> <W> | | 1A632535-2C | NAAF-5635-2C, Equalizer amp pc board ass'y <W> |
| 230 | 28325264 | Knob (POW)AS | U9 | 1A632536-2A | NASW-5636-2A, Recording pc board ass'y <D> |
| | 28325265 | Knob (POW)AS <S> | | 1A632536-2B | NASW-5636-2B, Recording pc board ass'y <P><T> |
| | 28325238 | Knob (POW)AS <G> | | 1A632536-2C | NASW-5636-2C, Recording pc board ass'y <W> |
| 231 | 27273160 | Joint (POW) | U10 | 1A632537-2A | NASW-5637-2A, Mode/attenuator pc board ass'y <D> |
| 234 | 28325268 | Knob (VOL)AS | | 1A632537-2B | NASW-5637-2B, Mode/attenuator pc board ass'y <P><T> |
| | 28325269 | Knob (VOL)AS <S> | | 1A632537-2C | NASW-5637-2C, Mode/attenuator pc board ass'y <W> |
| | 28325240 | Knob (VOL)AS <G> | U11 | 1A632538-2A | NADIS-5638-2A, Volume indicator pc board ass'y <D> |
| 236 | 28325270 | Knob (SEL)AS | | 1A632538-2B | NADIS-5638-2B, Volume indicator pc board ass'y <P><T> |
| | 28325271 | Knob (SEL)AS <S> | | 1A632538-2C | NADIS-5638-2C, Volume indicator pc board ass'y <W> |
| | 28325241 | Knob (SEL)AS <G> | U12 | 1A632543-2A | NADIS-5643-2A, Connection pc board ass'y <D> |
| 238 | 28325274 | Knob (PUSH) | | 1A632543-2B | NADIS-5643-2B, Connection pc board ass'y <P><T> |
| | 28325275 | Knob (PUSH) <S> | | 1A632543-2C | NADIS-5643-2C, Connection pc board ass'y <W> |
| | 28325184A | Knob (PUSH) <G> | U13 | 1A632544-2A | NADIS-5644-2A, Input indicator pc board ass'y <D> |
| 240 | 28325278 | Knob (TONE)AS | | 1A632544-2B | NADIS-5644-2B, Input indicator pc board ass'y <P><T> |
| | 28325279 | Knob (TONE)AS <S> | | 1A632544-2C | NADIS-5644-2C, Input indicator pc board ass'y <W> |
| | 28325185B | Knob (TONE)AS <G> | U14 | 1A632539-2A | NAPS-5639-2A, Power supply pc board ass'y <D> |
| 243 | 28325193 | Knob (D) | | 1A632539-2B | NAPS-5639-2B, Power supply pc board ass'y <P><T> |
| 244 | 28141314 | Cushion (D) | | 1A632539-2C | NAPS-5639-2C, Power supply pc board ass'y <W> |
| 402 | 27122167A | Rear Panel <D> | U15 | 1A632540-2A | NASW-5640-2A, Power switch pc board ass'y <D> |
| | 27122170A | Rear Panel <G> <W> | | 1A632540-2B | NASW-5640-2B, Power switch pc board ass'y <P><T> |
| | 27122168A | Rear Panel <S> <P><T> | | 1A632540-2C | NASW-5640-2C, Power switch pc board ass'y <W> |
| Q613 | 2202514 or | * 2SA1695-Y or | U16 | 1A632541-2A | NAETC-5641-2A, AC outlet pc board ass'y <D> |
| | 2202516 | * 2SA1695-P Power transistor | | 1A632541-2B | NAETC-5641-2B, AC outlet pc board ass'y <P><T> |
| Q614 | 2202514 or | * 2SA1695-Y or | | 1A632541-2C | NAETC-5641-2C, AC outlet pc board ass'y <W> |
| | 2202516 | * 2SA1695-P Power transistor | U17 | 1A632542-2A | NAAF-5642-2A, Direct pc board ass'y <D> |
| Q615 | 2202524 or | * 2SC4468-Y or | | 1A632542-2B | NAAF-5642-2B, Direct pc board ass'y <P><T> |
| | 2202526 | * 2SC4468-P Power transistor | | 1A632542-2C | NAAF-5642-2C, Direct pc board ass'y <W> |
| Q616 | 2202524 or | * 2SC4468-Y or | | | |
| | 2202526 | * 2SC4468-P Power transistor | | | |

NOTE: <S> Silver Color version
 Black Color version
 <G> Gold Color version
 <D> U.S.A. and Canada model
 <C> Canada model
 <P> 230V model
 <W> Worldwide model
 <T> Taiwanene model

PRINTED CIRCUIT BOARD PARTS LIST

U-1 Main circuit pc board (NAAF-5628-2)

CIRCUIT NO. PART NO. DESCRIPTION

| | | |
|-------------|-------------------------------------|--|
| | IC | |
| Q571,Q572 | 222570 | NJM4560D-X |
| | Transistors | |
| Q501,Q502 | 2212805 or 2212806 or 2212807 | 2SK389-GR or 2SK389-BL or 2SK389-V |
| Q503-Q508 | 2211732 or 2211733 | 2SC1845-F or 2SC1845-E |
| Q509,Q510 | 2211255 | 2SC1815-GR |
| Q511-Q516 | 2211455 | 2SA1015-GR |
| Q517,Q518 | 2213334 | 2SK373-Y |
| Q519-Q524 | 2211792 or 2211793 | 2SA992-F or 2SA992-E |
| Q525,Q526 | 2211732 or 2211733 | 2SC1845-F or 2SC1845-E |
| Q527-Q530 | 2211634 | 2SC2229-Y |
| Q531-Q534 | 2211354 | 2SA949-Y |
| Q971,Q972 | 2211945 | 2SK246-GR |
| Q973 | 2211255 | 2SC1815-GR |
| Q974 | 2211455 | 2SA1015-GR |
| Q975 | 2215173 | 2SB647A-C |
| Q976 | 2215163 | 2SD667A-C |
| | Diodes | |
| D971,D972 | 224472204 | MTZJ22D, Zener |
| | Capacitors | |
| C501,C502 | 374721515 | ECQ-B50V, 151K, Plastic <D> |
| C503, C504 | 374721515 | ECQ-B50V, 151K, Plastic <D> |
| C507,C508 | 393044707 | CE04W16V, 47M, Elect. |
| C553,C554 | 374721024 | ECQ-B50V, 102J, Plastic <D> |
| C577-C580 | 393081007 | CE04W50V, 10M, Elect. |
| C581-C584 | 393354717 | CE04W25V, 470M, Elect. |
| C591-C594 | 393374717 | CE04W63V, 470M, Elect. |
| C971,C972 | 393374717 | CE04W63V, 470M, Elect. |
| C973,C974 | 393364707 | CE04W35V, 47M, Elect. |
| | Resistors | |
| R527,R528 | 443522234 | RS1/2WBJ, 22K, Metal oxide film |
| R529-R534 | 443528214 | RS1/2WBJ, 820, Metal oxide film |
| R535,R536 | 443522714 | RS1/2WBJ, 270, Metal oxide film |
| R537-R540 | 443525604 | RS1/2WBJ, 56, Metal oxide film |
| R541,R542 | 443528214 | RS1/2WBJ, 820, Metal oxide film |
| R543,R544 | 443528224 | RS1/2WBJ, 8.2K, Metal oxide film |
| R545,R546 | 443522714 | RS1/2WBJ, 270, Metal oxide film |
| R547-R550 | 443525604 | RS1/2WBJ, 56, Metal oxide film |
| R591-R594 | 453630564 | RNU1WCJ, 5.6, Metal |
| R971,R972 | 443525614 | RS1/2WBJ, 560, Metal oxide film |
| R973,R974 | 443526814 | RS1/2WBJ, 680, Metal oxide film |
| | Plugs | |
| P231a | 25055135 | NPLG-5P119 |
| P321a | 25055138 | NPLG-8P122 |
| P503a | 25055715 | NPLG-3P671 |
| P504a | 25055100 | NPLG-3P84 |
| P505 | 25055879 | NPLG-10P835 |
| | Sockets | |
| P505a | 25051566 | NSCT-10P1353 |
| P591a,P591b | 25051110 | NSCT-6P897 |
| | Terminal | |
| P506 | 25060061 | 1P-5 |
| | Socket AS | |
| P191 | 2009990373 | NSAS-6P0510 <D> |

U-2 Power amp. circuit pc board (NAAF-5629-2)

CIRCUIT NO. PART NO. DESCRIPTION

| | | |
|-------------|----------------------------------|--|
| | Transistors | |
| Q603-Q606 | 2212654 | 2SC3421-Y |
| Q607,Q608 | 2212644 | 2SA1358-Y |
| Q621,Q622 | 2211792 or 2211793 | 2SA992-F or 2SA992-E |
| Q851,Q852 | 2211732 or 2211733 | 2SC1845-F or 2SC1845-E |
| | Diodes | |
| D851-D853 | 223163 or 223205 or 223222 | 1SS133 or 1SS270A or WG713A |
| D855 | 224470512 | MTZJ5.1B, Zener |
| | Coils | |
| L601-L604 | 5597-45502 | |
| | Capacitors | |
| C601,C602 | 393042217 | CE04W16V, 220M, Elect. |
| C603,C604 | 374791044 | ECQ-V63V, 104J, Plastic |
| C605,C606 | 393054707 | CE04W25V, 47M, Elect. |
| C607,C608 | 374791044 | ECQ-V63V, 104J, Plastic |
| C621,C622 | 374732234 | ECQ-V100V, 223J, Plastic |
| C637,C638 | 374734734 | ECQ-V100V, 473J, Plastic |
| C651-C654 | 393391007 | CE04W100V, 10M, Elect. |
| C681-C684 | 374721024 | ECQ-B50V, 102J, Plastic <P><T> |
| C851 | 393322217 | CE04W6.3V, 220M, Elect. |
| C855 | 393380477 | CE04W50V, 4.7M, Elect. |
| C857,C858 | 374721044 | ECQ-V50V, 104J, Plastic |
| | Resistors | |
| R617,R618 | 5210255 | N06HR, 200BC, Trim |
| R621-R624 | 443521504 | RS1/2WBJ, 15, Metal oxide film |
| R625-R628 | 443521014 | RS1/2WBJ, 100, Metal oxide film |
| R633-R636 | 443523304 | RS1/2WBJ, 33, Metal oxide film |
| R637-R640 | 443521004 | RS1/2WBJ, 10, Metal oxide film |
| R641-R644 | 453532294 | RNU1/2WCJ, 0.22, Metal |
| R651-R658 | 4000145 | MPC78-2WK-0.1, Metal plate |
| R683,R684 | 452830474 | RNU3WCJ, 4.7, Metal |
| R691,R692 | 443623914 | RS1WBJ, 390, Metal oxide film |
| | Plugs | |
| P621,P622 | 25055038 | NPLG-2P29 |
| P631,P632 | 25055872 | NPLG-8P828 |
| JL871b | 25055630 | NPLG-9P592 |
| | Socket | |
| P631a | 25051559 | NSCT-8P1346 |
| | Socket ass'y | |
| P503 | 2009990387 | NSAS-6P0524 |
| P504 | 2009990388 | NSAS-6P0525 |
| P753,P754 | 2009990370 | NSAS-6P0507 |
| | Relays | |
| RL851,RL852 | 25065275 | NRL-2P5A-DC12-038 |
| RL853 | 25065469 | NRL-2P1A-DC12-078 |
| | | |
| | | 27160357 Heat Sink, (S3) |
| | | 838430107 3TTB+10S(BC), Self-tapping screw |

U-3,4 Driver L/R pc board (NAETC-5630-2)

CIRCUIT NO. PART NO. DESCRIPTION

| Transistors | | |
|-------------|------------|----------------|
| Q601 | 2212864 | 2SC3419-Y |
| Q609 | 2202684 or | * 2SA1859-Y or |
| | 2202683 | * 2SA1859-O |
| Q611 | 2202694 or | * 2SC4883-Y or |
| | 2202693 | * 2SC4883-O |

U-5 Speaker terminal pc. board (NAETC-5631-2)

CIRCUIT NO. PART NO. DESCRIPTION

| Terminal | | |
|----------|----------|-------------|
| P651 | 25060134 | NTM8PDMN063 |

U-6 Micro Computer pc board (NAAF-5633-2)

CIRCUIT NO. PART NO. DESCRIPTION

| ICs | | |
|------|----------|--------------|
| Q351 | 22240239 | TA7291S |
| Q701 | 22240996 | HD404314B56S |
| Q704 | 222951 | M51943BS |
| Q711 | 22240358 | LB1638 |

| Transistors | | |
|-------------|----------|----------|
| Q702 | 2213510T | DTA114ES |
| Q703 | 2213290T | DTC114ES |

| Diodes | | |
|--------|--------------|--------------------|
| D351 | 22380046T or | AM01Z or |
| | 22380035T | GP104003E |
| D703 | 223163T or | 1SS133 or |
| | 223205T or | 1SS270A or |
| | 223222T | WG713A |
| D704 | 224470562T | MTZJ5.6B, Zener |
| D705 | 223163T or | 1SS133 or |
| | 223205T | 1SS270A |
| D872 | 225324D or | SEL6910A-D, LED or |
| | 225324C | SEL6910A-C, LED |

| Remote Sensor | | |
|---------------|-----------|----------------------------------|
| Q751 | 241302 or | PIC-12043, TH2, Remote sensor or |
| | 24130012 | TFMS5380B, Remote sensor |

| Coils | | |
|-----------|--------|-------------|
| L701-L704 | 230905 | BL02RN1-R62 |

| Capacitors | | |
|------------|------------|-------------------------|
| C702 | 375524744T | MMT-50V, 474J, Plastic |
| C708 | 353744709T | CE04W16V, 47M, Elect. |
| C716 | 374724744S | ECQ-V50V, 474J, Plastic |
| C801 | 374724734T | ECQ-V50V, 473J, Plastic |
| C873 | 374724734T | ECQ-V50V, 473J, Plastic |

| Plug | | |
|-------|----------|------------|
| P802a | 25055183 | NPLG-2P167 |

| Resonator | | |
|-----------|----------|--------------------------|
| X701 | 3010150T | CST4.00MGW, Ceramic lock |
| | 27300833 | WS-2NS, Clamp |
| | 27190470 | KGLS-18S, Holder |

U-7 Volume pc board (NAAF-5634-2)

CIRCUIT NO. PART NO. DESCRIPTION

| Coils | | |
|-----------|--------|-------------|
| L707,L708 | 230905 | BL02RN1-R62 |

CIRCUIT NO. PART NO. DESCRIPTION

| Resistor | | |
|----------|---------|-----------------------------------|
| R321 | 5104329 | N16RGM50KBT25F, Variable (Volume) |

| Switch | | |
|--------|----------|----------------------------------|
| S321 | 25040076 | NLS-162-915-L049, Lever (Direct) |

| Socket AS | | |
|-----------|------------|--------------|
| P321 | 2009990377 | NSAS-16P0514 |

| Plug | | |
|--------|----------|------------------------|
| JL321b | 25055632 | NPLG-11P594, Wire trap |

U-8 Equalizer pc board (NAAF-5635-2)

CIRCUIT NO. PART NO. DESCRIPTION

| Transistors | | |
|-------------|-------------|-----------------|
| Q101-Q104 | 2212185T or | * 2SK170-GR or |
| | 2212186T | * 2SK170-BL <D> |
| Q109 | 22240191 | NJM4565D-D <D> |
| Q191 | 222780153 | 78L15 <D> |
| Q192 | 222790153 | 79L15 <D> |
| L705,L706 | 230905 | BL02RN1-R62 |

| Capacitors | | |
|------------|------------|--------------------------------|
| C101-C104 | 374721015T | ECQ-B50V, 101K, Plastic <D> |
| C105,C106 | 374722224T | ECQ-B50V, 222J, Plastic <D> |
| C107,C108 | 393354717T | CE04W25V, 470M, Elect. <D> |
| C109,C110 | 391654717S | CE04W25V, 470M, Elect. <D> |
| C111,C112 | 374724724T | ECQ-B50V, 472J, Plastic <D> |
| C113,C114 | 374721015T | ECQ-B50V, 101K, Plastic <D> |
| C115,C116 | 374721524T | ECQ-B50V, 152J, Plastic <D> |
| C117,C118 | 391680227T | CE04W50V, 2.2M, Elect. <D> |
| C119,C120 | 374722224T | ECQ-B50V, 222J, Plastic <D> |
| C191,C192 | 393351027S | CE04W25V, 1000M, Elect. <D> |
| C195,C196 | 393344717T | CE04W16V, 470M, Elect. <D> |
| C201-C208 | 374721015T | ECQ-B50V, 101K, Plastic <P><T> |

| Resistors | | |
|-----------|------------|------------------------------------|
| R191,R192 | 443523304T | RS1/2WBJ, 33, Metal oxide film <D> |

| Switches | | |
|----------|----------|------------------------------------|
| S101 | 25035672 | NPS-142-L625, Push (Cart. Sel) <D> |
| S201 | 25030389 | NRSM-337-20BA, Rotary (Input) |

| Jacks | | |
|-------|----------|---------------------------------|
| P101 | 25045398 | NPJ-2PDWH223 (Phono) <D> |
| P202 | 25045469 | NPJ-4PDBL287 (Line, Tuner) |
| P203 | 25045398 | NPJ-2PDWH223 (Line-2) <P><T><W> |
| P211 | 25045311 | NPJ-2PDBL168 |
| P851 | 25045330 | NPJ-2PDBL184 |

| Socket AS | | |
|-----------|------------|--------------|
| P231 | 2009990409 | NSAS-10P0551 |

| Plug | | |
|-------|----------|----------------|
| P191a | 25055234 | NPLG-3P218 <D> |

U-9 Recording pc board (NASW-5636-2)

CIRCUIT NO. PART NO. DESCRIPTION

| Capacitors | | |
|------------|------------|--------------------------------|
| C251,C252 | 374721015T | ECQ-B50V, 101K, Plastic <P><T> |
| C255,C256 | 374721015T | ECQ-B50V, 101K, Plastic <P><T> |
| C259,C260 | 374721015T | ECQ-B50V, 101K, Plastic <P><T> |

| Switch | | |
|--------|----------|------------------------------|
| S251 | 25065398 | NSS-66150, Slide (Recording) |

CIRCUIT NO. PART NO. DESCRIPTION

Jacks
P251-P253 25045469 NPJ-4PDBL287 (Tape-1,2,3)

U-10 Mode/Attenuator pc board (NCSW-5637-2)
CIRCUIT NO. PART NO. DESCRIPTION

Switches
S401,S402 25035591 NPS-222-L553, Push (Mode, Attenuator)

Socket
P401a 25051232 NSCT-7P1022

U-11 Volume Indicator pc board (NADIS-5638-2)
CIRCUIT NO. PART NO. DESCRIPTION

Diode
D801 225324D or 225324C SEL6910A-D, LED or SEL6910A-C, LED

Socket AS
P801 2009990408 NSAS-4P0545

U-12 Connection pc board (NADIS-5643-2)
CIRCUIT NO. PART NO. DESCRIPTION

Capacitor
C802 374724734T ECQ-V50V, 473J, Plastic

U-13 Input Indicator pc board (NADIS-5644-2)
CIRCUIT NO. PART NO. DESCRIPTION

Diode
D802 225324D or 225324C SEL6910A-D, LED or SEL6910A-C, LED

Socket AS
P802 2009990384 NSAS-4P0521

U-14 Power Supply pc board (NAPS-5639-2)
CIRCUIT NO. PART NO. DESCRIPTION

ICs
Q901,Q902 222780055 78M05HF

Diodes
D921 22380270F Δ D5FB60
D922,D923 223208F 6A2
D931-D934 22380046T or Δ AM01Z or 22380035T GP104003E

Coil
L901 231069A NCH-1119, CHOKE COIL

Capacitors
C921,C922 3500193 CE62W63V, 12000M, Elect.
C923,C924 374503345S ME93M125V, 334K, Plastic
C926 374501055S ME93M125V, 105K, Plastic
C931,C932 374722235T ECQ-B50V, 223K, Plastic
C933 393343327S CE04W16V, 3300M, Elect.
C934-C937 374722234T ECQ-B50V, 223J, Plastic

Resistors
R921 443525604T RS1/2WBJ, 56, Metal oxide film
R941 453530104T RNU1/2WCJ, 1, Metal
R942 443521024T RS1/2WBJ, 1K, Metal oxide film

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

CIRCUIT NO. PART NO. DESCRIPTION

Plugs
P921 25055167 NPLG-4P151
P931 25055165 NPLG-2P149

27160145-1 Heat sink, RAD-51
838430107 Self-tapping screw 3TTB+10S(BC)
27301856 RG-416231, Bus bar

U-15 Power Switch pc board (NASW-5640-2)
CIRCUIT NO. PART NO. DESCRIPTION

Capacitors
C901 3500191 Δ DE7150F103M, IS
C903 3500163 Δ WY2472M, CMCFOK, IS
C904 3500163 Δ WY2472M, CMCFOK, IS <P><T><W>

Switch
S901 25035550 Δ NPS-121-L512P, Push (Power)

Plugs
P901 25055675 Δ NPLG-2P631 <D><P><T><W>
P902 25055166 NPLG-3P150 <D>
25055168 NPLG-5P152 <P><T><W>

Fuse holders
F901a 25050065 YSH403T, Fus holder <D><W>
F902a 25050065 YSH403T, Fush holder <P><T><W>
F903a 25050065 YSH403T, Fuse holder<P><T>
P905 25065425 Terminal,GND

U-16 AC Outlet pc board (NAETC-5641-2)
CIRCUIT NO. PART NO. DESCRIPTION

Switch
S904 25065437 Δ NSS-22157P, Slide <T>

Socket AS
P922 2009990371A NSAS-12P0508

Sockets
P903 25051571 Δ NSCT-2P1358, AC Outlet <D>
P903 25051572 Δ NSCT-2P1359, AC Outlet <P><T><W>

U-17 Direct pc board (NAAF-5642-2)
CIRCUIT NO. PART NO. DESCRIPTION

Transistor
Q871 2211164T 2SC2120-Y

Capacitors
C331,C332 374721524T ECQ-B50V, 152J, Plastic
C333,C334 374721534T ECQ-B50V, 153J, Plastic
C335,C336 374721544T ECQ-V50V, 154J, Plastic
C337,C338 374722234T ECQ-B50V, 223J, Plastic

Resistors
R331 5142018 N16RGMCM250K MN30F, Variable (Balance)
R332 5142019 N16RGMCM100K30F, Variable (Treble)
R333 5144019 N16RQMC70K 88K30F, Variable (Bass)

Switch
S871 25030380 NRSF-125-30YW-S, Rotary (SP, Sel)

Plugs
JL781b 25055627 NPLG-6P589, Wire trap
P401 25055703 NPLG-7P659
P871 25045337 HLJ4317-01-3120, Jack (H.P.)

NOTE: <S> Silver Color version <C> Canada model
 Black Color version <P> 230V model
<G> Gold Color version <W> Worldwide model
<D> U.S.A. and Canada model <T> Taiwanene model

PACKING PARTS LIST

| REF. NO. | PART NO. | DESCRIPTION |
|---------------------|--------------|---|
| 601 | 29052957 | Carton Box |
| | 29052958 | Carton Box <S> |
| | 29052959 | Carton Box <G> |
| 603 | 29091425E | Pad (L) |
| 604 | 29091426F | Pad (R) |
| 607 | 261504 | Paper Tape W=30 |
| 613 | 29100035A | Poly Bag |
| 614 | 282301 | Staple |
| 615 | 29110071 | PP Tape |
| 617 | 29360404 | SN Sheet |
| Accessory bag ass'y | | |
| | 29100097-1AY | Poly Bag |
| | 29365019BY | Warnty Card <D> |
| | 29355133A | Insert Sheet (DBP) <S> <P> |
| | 29358002KY | SS List <D> |
| | 29361931 | UPC Label <D> |
| | 3010054 | Battery UM-3 |
| | 24140312 | Remote Control ass'y, RC-312S <D> |
| | 24140314 | Remote Control ass'y, RC-314S <P><T><W> |
| | 29342259A | Instruction Manual, E <P><D><T><W> |
| | 29342260 | Instruction Manual, U6 <P><C> |
| | 29342262 | Instruction Manual, T <W><T> |

NOTE: <S> Silver Color version
 Black Color version
 <G> Gold Color version
 <D> U.S.A. and Canada model
 <C> Canada model
 <P> 230V model
 <W> Worldwide model
 <T> Taiwanene model

ONKYO CORPORATION

International Sales Div. : 31 Sankyo-bld. 3-8-5, Asakusabashi, Taito-ku, TOKYO 111, JAPAN
 TEL : 03-5820-5865 FAX : 03-5820-5869

ONKYO U.S.A. CORPORATION
 200 Williams Drive, Ramsey, N.J. 07446, U.S.A.
 TEL : 201-825-7950 FAX : 201-825-8150

ONKYO EUROPE ELECTRONICS GmbH
 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 Rene Razel, 91892 SACLAY, FRANCE
 TEL : (1) 69 33 14 00 FAX : (1) 69 41 35 84