

TEAC

SERVICE MANUAL

A-H400

Integrated Stereo Amplifier

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- \triangle Parts marked with this sign are safety critical components. They must be replaced with identical components- refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[J]: JAPAN [US]: U.S.A. [C]: CANADA
[E]: EUROPE [UK]: U.K. [GE]: GENERAL EXPORT

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Specifications

AMP Section

| | |
|------------------------------|---|
| Power output | : 40W + 40W (8Ω, 1kHz, 0.3%) |
| Total harmonic distortion | : 0.05% (40W, 1kHz, 8Ω) |
| S/N Ratio (input Short) | |
| Phono | : 65dB (IHF-A) |
| CD, Tuner, Aux, Tape | : 90dB (IHF-A) |
| Input Sensitivity/ Impedance | |
| Phono(MM) | : 2.5mV/47KΩ |
| CD, Tuner, Aux, Tape | : 200mV/47KΩ |
| Maximum Input level | |
| Phono | : 45mV |
| CD, Tuner, Aux, Tape | : 4.5V |
| Channel Separation | : 56dB (Input Short) (1kHz, 1W, B.P.F) |
| Residual noise | : 0.6mV |
| Frequency response | : 5Hz to 85kHz |
| Tone control | |
| Bass | : ± 10dB (100Hz) |
| Treble | : ± 10dB (10KHz) |
| Required speaker impedance | : 8Ω to 16Ω |

General

| | |
|--------------------|----------------------|
| Power Requirements | : 230V AC, 50Hz[EUR] |
| Power Consumption | : 100W[EUR] |
| Dimensions (W×H×D) | : 285×131×352mm |
| Weight(net) | : 6kg |

Standard accessories

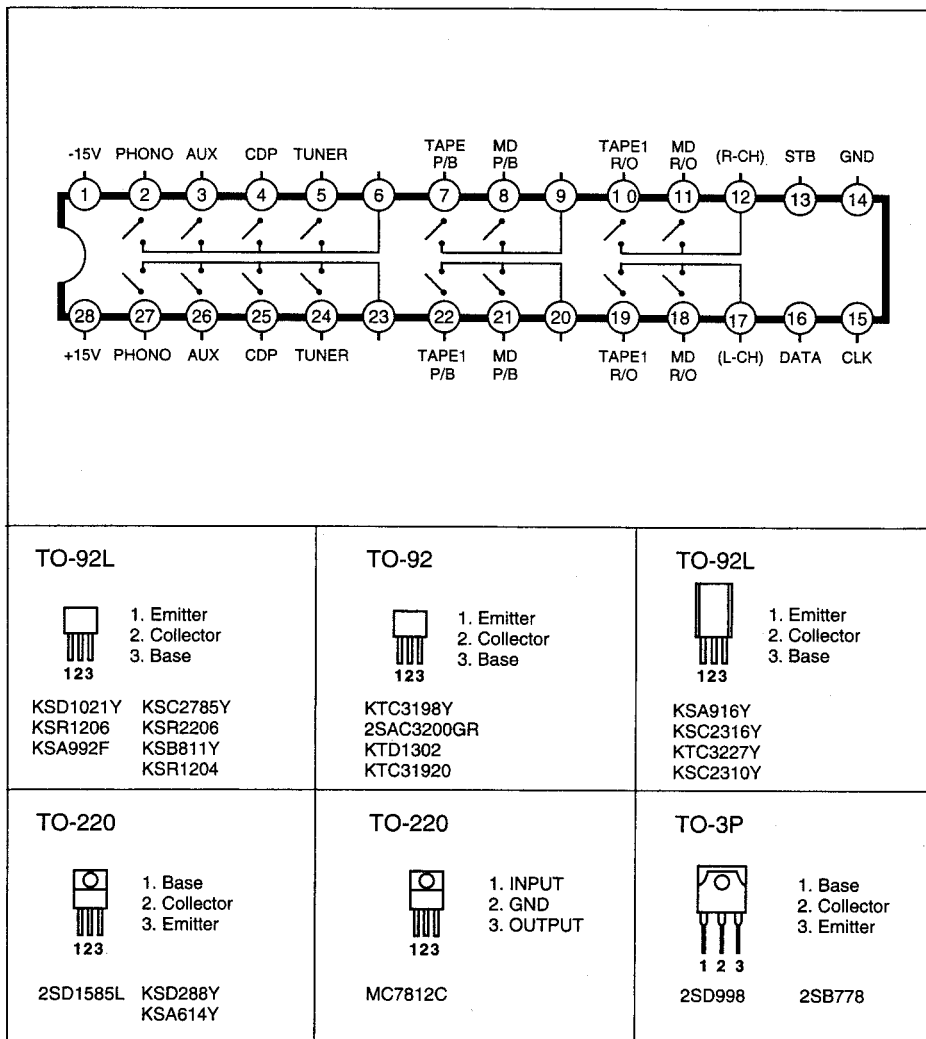
| | |
|---------------------|-----|
| Remote Control unit | : 1 |
| Operator's manual | : 1 |

- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.

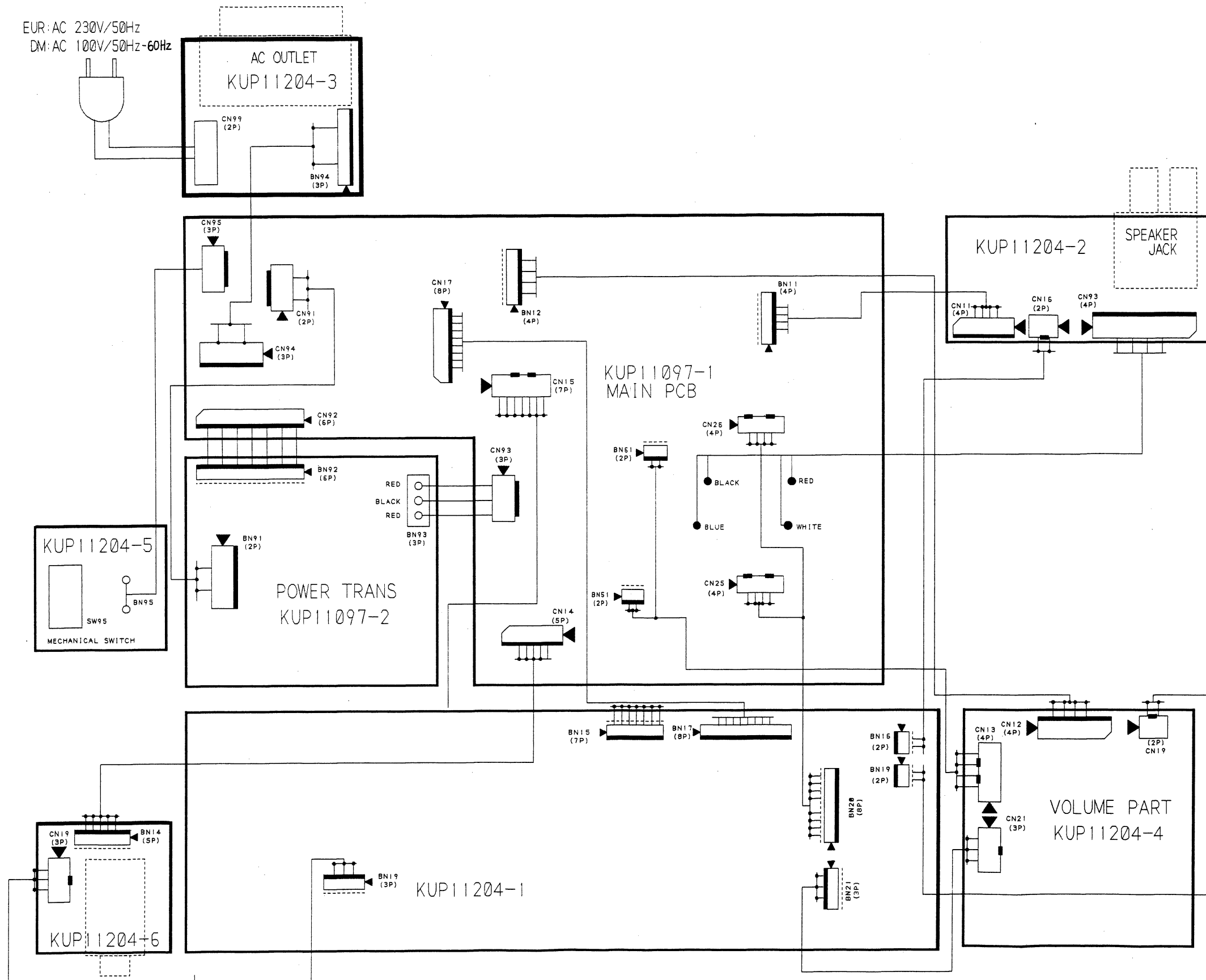
IC FUNCTION (MI-COM BVIANAM 1243M, BVITMP78PM78F)

| PIN NO. | SYMBOL | I/O | DESCRIPTION |
|---------|-----------------|-----|-------------------------------------|
| 1 | Vdd | I | +5V |
| 2 | NC | | No Connection |
| 3 | Func, Mute | O | Function Mute ON/OFF Output |
| 4 | NC | | No Connection |
| 5 | Tuner-Nute | O | Tuner Mute Output |
| 6 | Stereo/Mono | O | Stereo/Mono Switching Output |
| 7~9 | Func, Indicator | O | Function LED Drive Data Output |
| 10 | NC | | No Connection |
| 11 | RDS-DATA | I | RDS DATA Output |
| 12 | FM-L | I | FM/AM Switching Output |
| 13 | RDS-CLK | I | RDS CLOCK input |
| 14 | Stereo-IN | I | Stereo Display input |
| 15 | Tuned-IN | I | Tuned Display input |
| 16 | Protect-IN | I | Protection input |
| 17~21 | Key Input | I | Resistor Divide Key Control Input |
| 22 | Vss | | GND |
| 23 | Vass | | GND |
| 24 | Varef | | Vdd(+5) |
| 25 | Vdd | | +5V |
| 26 | Back-up | I | Backup Mode Control |
| 27 | Vss | | GND |
| 28~29 | Func. Up/Down | I | Function UP/DOWN Input |
| 30 | Vss | | GND |
| 31 | XIN | I | Crystal element Connection Terminal |
| 32 | XOUT | O | Crystal element Connection Terminal |
| 33 | RESET | I | RESET Input |
| 34 | Remote-In | I | Remote Control Input |
| 35 | BUS OUT | O | System Control Output |
| 36 | BUS IN | I | System Control Signal Input |
| 37 | SPK ON/OFF | O | Speaker ON/OFF Output |
| 38 | NC | | NO Connection |
| 39 | -20dB Mute | O | -20dB Mute Output |
| 40 | NC | | No Connection |
| 41 | PLL CE | O | PLL Serial Chip Enable Output |
| 42 | PLL DATA | O | PLL Serial Data Output |
| 43 | PLL CLK | O | PLL Serial CLOCK Output |
| 44 | Option | O | Amp/Receiver Option |
| 45 | NC | | No Connectio |
| 46 | STB | O | Function IC Signal Output |
| 47 | DATA | O | Function IC Signal Output |
| 48 | CLK | O | Function IC Signal Output |
| 49 | NC | | No Connection |
| 50 | Vkk | | FIP Voltage Output |
| 51~61 | FIP GRID | O | FIP GRID Output |
| 62~82 | FIP ANODE | O | FIP ANODE Output |
| 83~85 | Option | O | Region Option |
| 86 | Option | O | Display Option |
| 87 | RDS | O | RDS ON/OFF Option |
| 88 | Model Option | O | Model Option |
| 89 | Standby | O | Standby/Direct Option Output |
| 90 | VOL UP | O | VOL UP |
| 91 | VOL DOWN | O | VOL DOWN |
| 92 | VOL LED | O | VOL LED Display |
| 93 | Power ON/OFF | O | Power ON/OFF Output |
| 94 | Standby LED | O | Standby LED ON/OFF Ouput |
| 95~100 | NC | | No Connection |

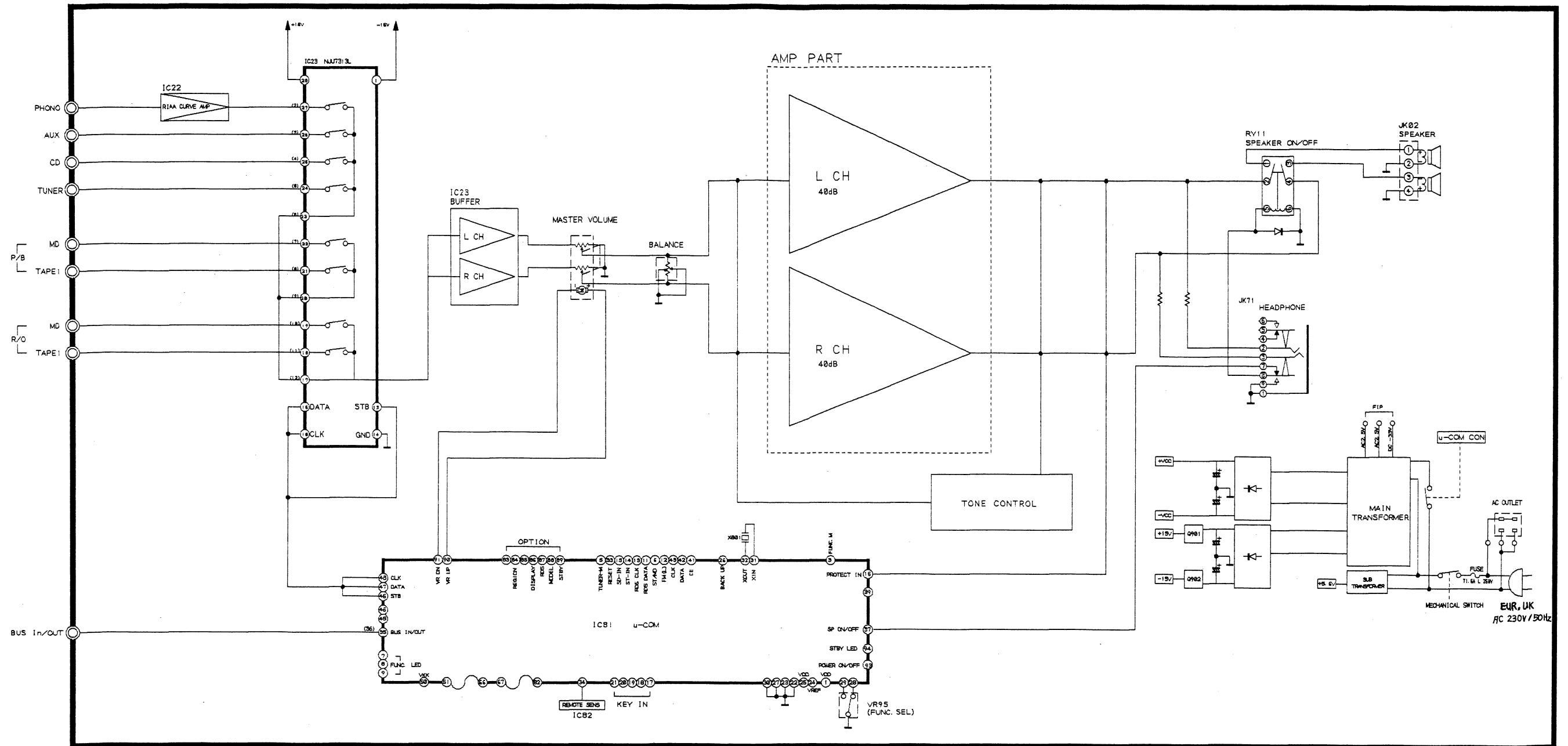
IC BLOCK DIAGRAM



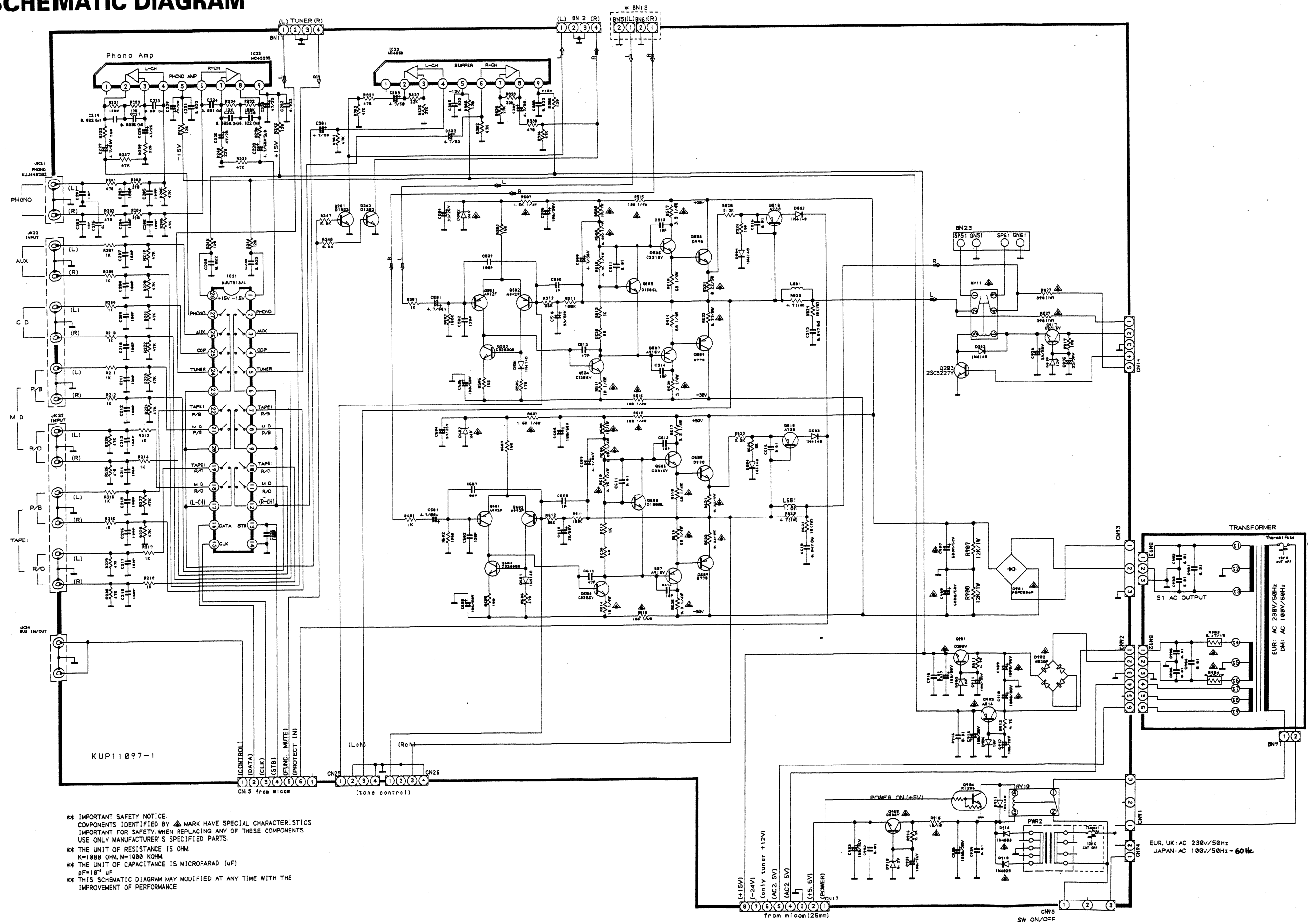
WIRING DIAGRAM



BLOCK DIAGRAM



SCHEMATIC DIAGRAM



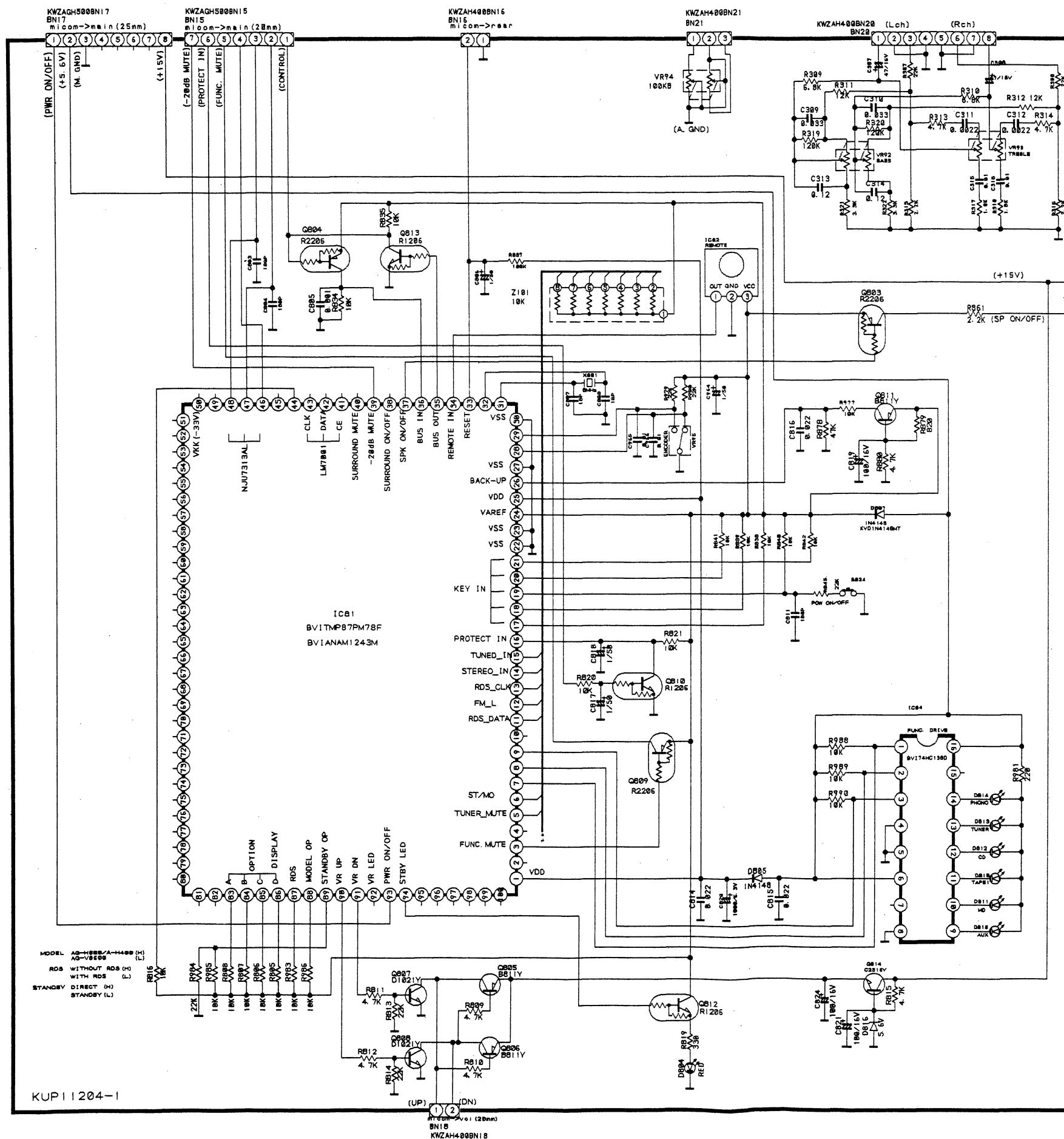
** IMPORTANT SAFETY NOTICE.
COMPONENTS IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.

** THE UNIT OF RESISTANCE IS OHM.
K=1000 OHM, M=1000 KOHM.

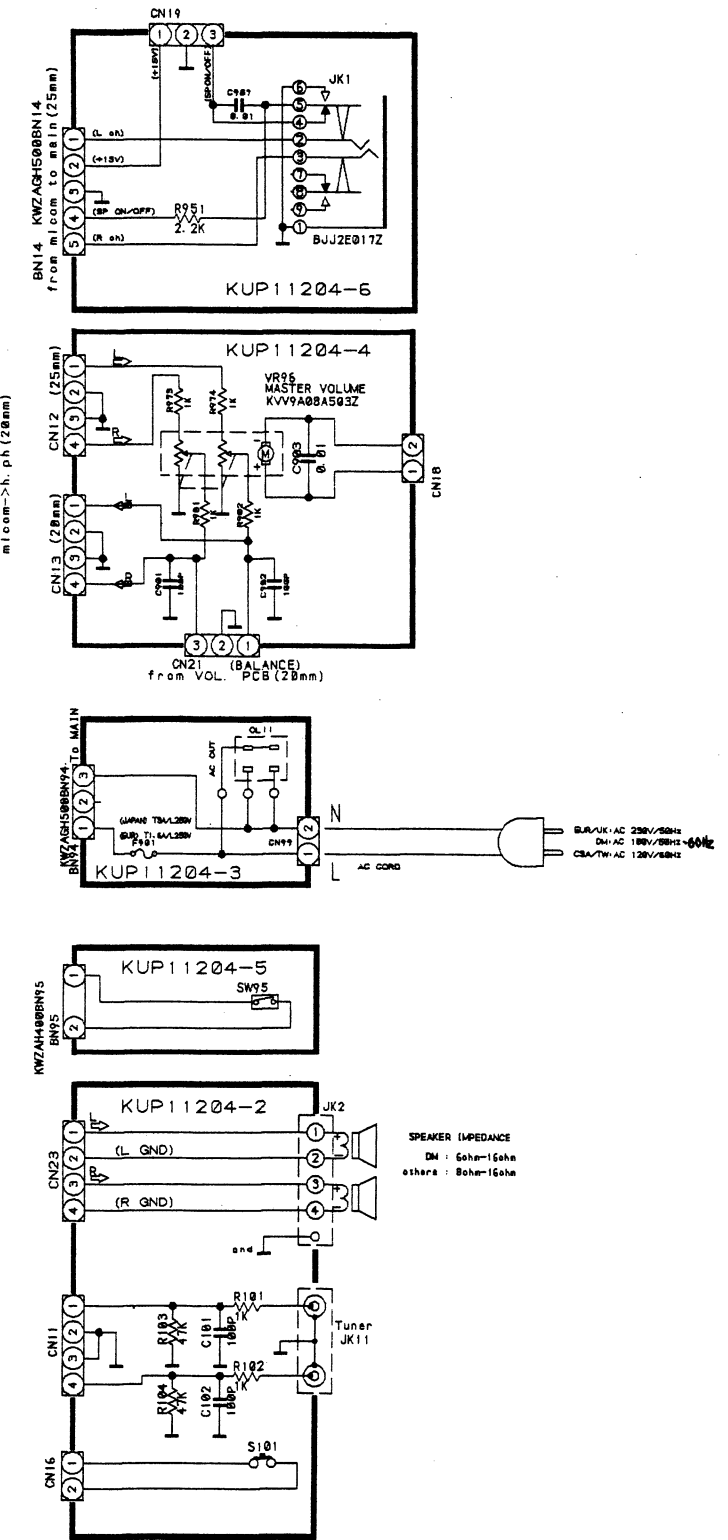
** THE UNIT OF CAPACITANCE IS MICROFARAD (μ F)
 μ F=10⁻⁶ F

** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE

EUR, UK: AC 230V/50Hz
JAPAN: AC 100V/50Hz - 60Hz



KUP11204-1



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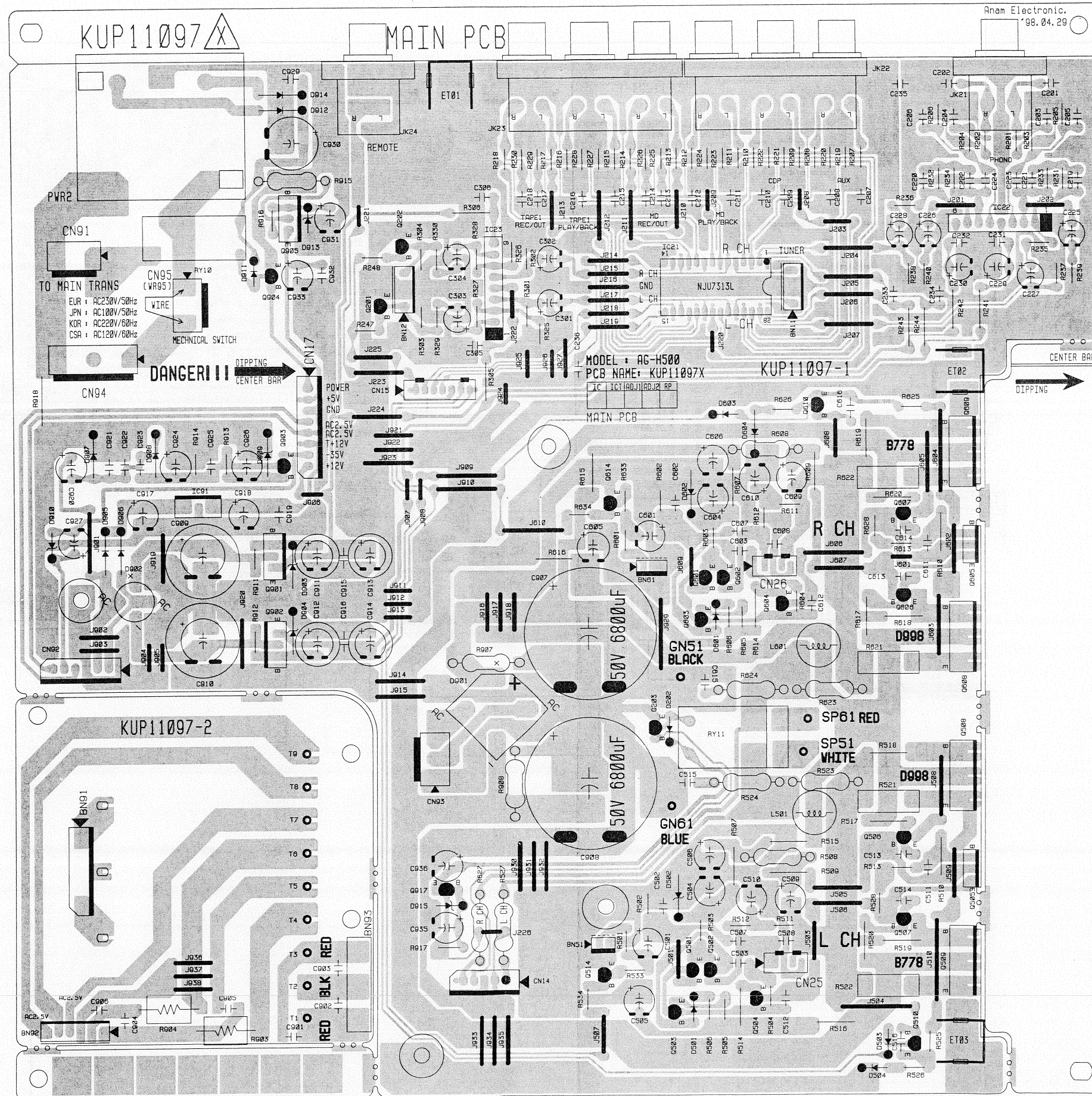
* THE UNIT OF RESISTANCE IS OHM, K=1000 OHM, M=1000 KOHM.

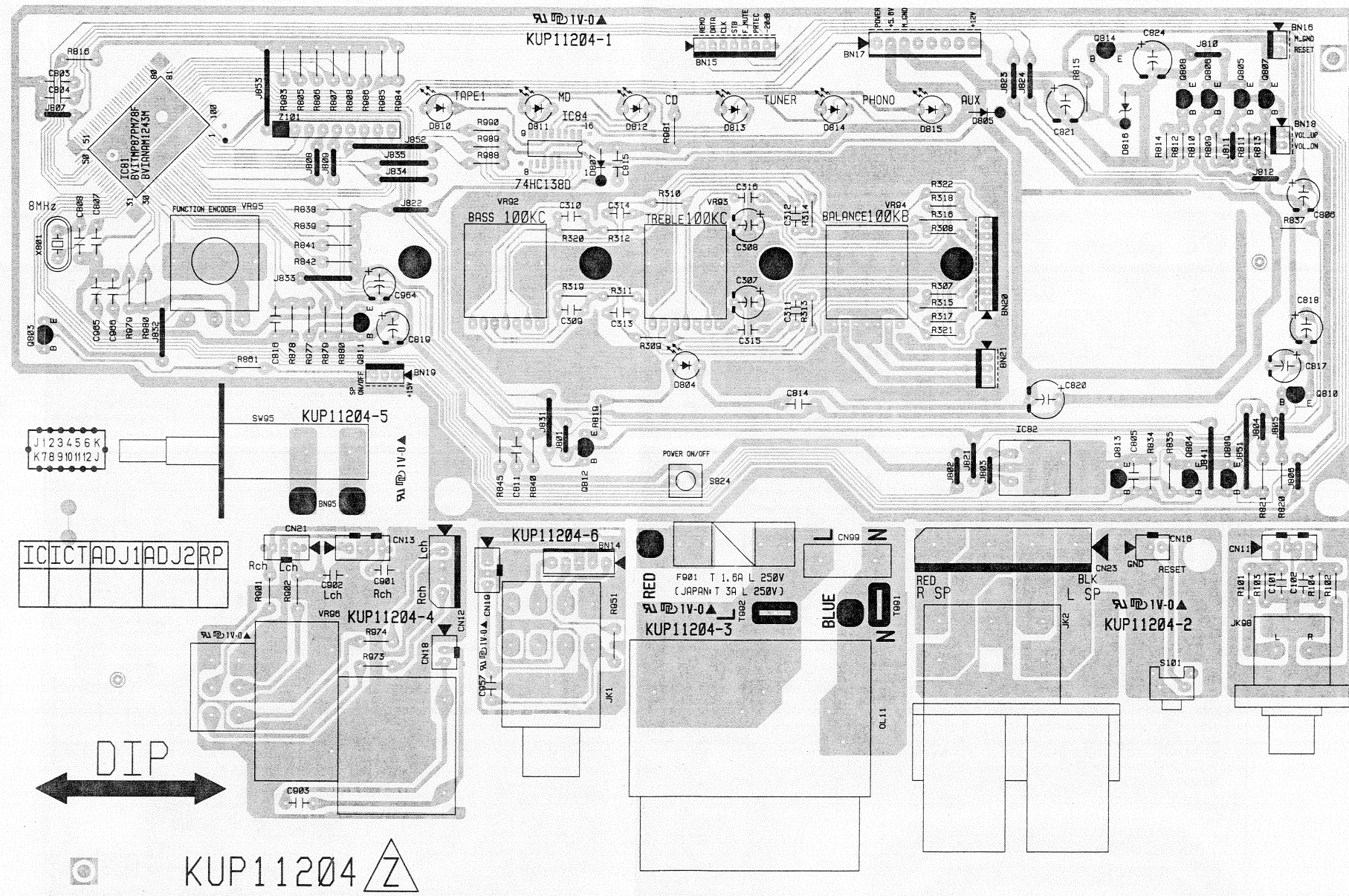
* THE CAPACITANCE IS MICROFARAD P=PICO FARAD

* THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE.

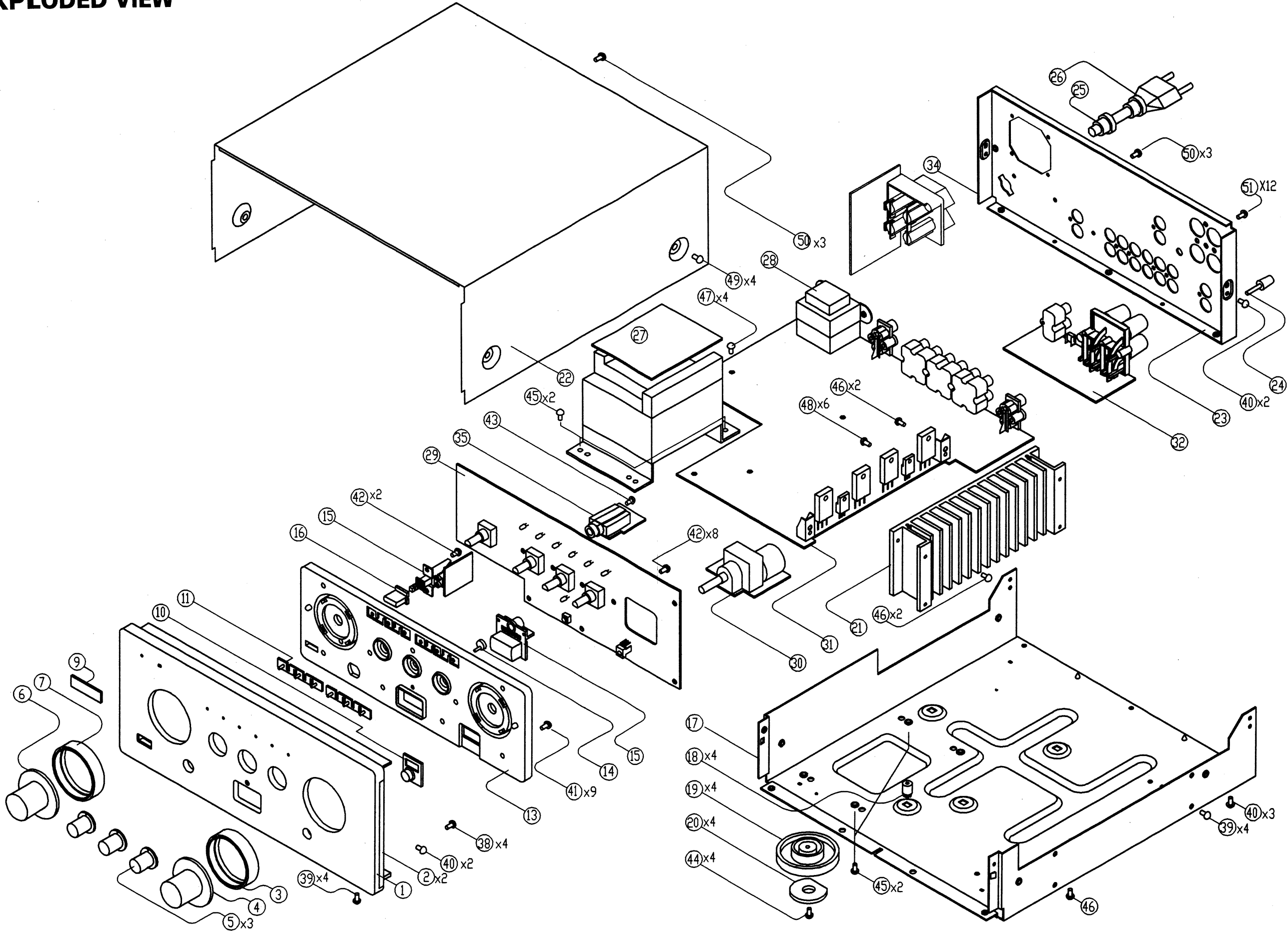
* ALL VOLTAGE ARE MEASURED WITH GROUND.
DC VALUES WITH NO SIGNAL
AC RMS

PRINTED CIRCUIT BOARDS





EXPLODED VIEW



EXPLODED VIEW

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|--------------|---------------------------|--------------|
| 1 | 9A07341900 | PANEL , AL | KKM1A078ZC11 |
| 2 | 9A06677600 | SIDE BAR | KKM1A062C11 |
| 3 | 9A06697200 | HOUSING,VOLUME A4-96-2578 | KGX1A240C12 |
| 4 | 9A06905800 | VOLUME CAP ASS'Y | KGX1A238XA |
| 5 | 9A06228400 | VOLUME CAP ASS'Y (C) | KGX1A218ZA |
| 6 | 9A06905900 | VOLUME CAP ASS'Y | KGX1A238YA |
| 7 | 9A06906200 | HOUSING,VOLUME | KGX2A240C12 |
| 8 | | VACANT | |
| 9 | 9A06224200 | BADGE,TEAC | BGB1A047 |
| 10 | 9A06863500 | WINDOW,SENSOR | KGU2A155 |
| 11 | 9A06905500 | INDICATOR | KGL1A134 |
| 12 | 9A06904600 | KNOB, TACT | KBT1A485ZK64 |
| 13 | 9A07341400 | PANEL , MOLD | KGW1A243ZK64 |
| 14 | 9A07301300 | INDICATOR,POWER | KGL2A120 |
| 15 | 9A07341200 | KNOB , TACT | KBT1A599ZK64 |
| 16 | 9A07341100 | KNOB , POWER | KBC1A113ZK64 |
| 17 | 9A06908600 | CHASSIS , BOTTOM | KUA1A156 |
| 18 | 9A06229100 | MOUNT , PCB A4-92-1728 | KHE1A023 |
| 19 | 9A06315500 | FOOT | KKL1A047ZK63 |
| 20 | 9A06229300 | CUSHION , FOOT | KHG1A039Z |
| 21 | 9A06907500 | SINK , HEAT | KMY1A125 |
| 22 | 9A06678600 | TOP CABINET | KKC1B082S21 |
| 23 | 9A07341800 | PANEL , REAR | KKF5A151RK59 |
| 24 | 9A05917200 | GROUND TERMINAL | KMA2A001 |
| 25 | △ 9A01376900 | BUSHING,AC CORD HEYCO(SR- | KHR129 |
| 26 | △ 9A05328100 | CORD,POWER | KJA2B019Z |
| 27 | △ 9A06907200 | TRANS , POWER | KLT5S001ZE |
| 28 | 9A06675500 | TRANS SUB | KLT5J024ZE |
| 29 | | FRONT PCB | |
| 30 | 9A06237000 | VOLUME, MOTOR RK6312MC282 | KVV9A08A503Z |
| 31 | 9A07342000 | MAIN PCB ASS'Y | KOP11097G |
| 32 | | HEADPHONE PCB | |
| 33 | | VACANT | |
| 34 | | OUTLET PCB | |
| 35 | | HEADPHONE PCB | |
| 36 | | VACANT | |
| 37 | | VACANT | |
| 38 | 9A06229000 | SCREW , SPECIAL | KHD1A016 |
| 39 | 9A01397400 | SCREW KTS3+8J | KTS3+8J |
| 40 | 9A01532600 | SCREW KTB3+6J | KTB3+6J |
| 41 | 9A06234700 | SCREW KTW3+6F | KTW3+6F |
| 42 | 9A01377400 | SCREW,KTB3+10G | KTB3+10G |
| 43 | 9A01377400 | SCREW,KTB3+10G | KTB3+10G |
| 44 | 9A05339200 | SCREW KTW3+8J | KTW3+8J |
| 45 | 9A01477800 | SCREW,KTB4+8F | KTB4+8F |
| 46 | 9A01535800 | SCREW,KTB3+8J | KTB3+8J |
| 47 | 9A06679700 | SCREW,KTB3+14J | KTB3+14J |
| 48 | 9A01377500 | SCREW,KTB3+12J | KTB3+12J |
| 49 | 9A05984300 | SCREW,KTB4+6FFZ | KTB4+6FFZ |
| 50 | 9A01377200 | SCREW KTB3+8JFZ | KTB3+8JFZ |
| 51 | 9A01377300 | SCREW,KTB3+10GFZ | KTB3+10GFZ |
| △ | 9A05353400 | FUSE,F1.6A | KBA2C1600TLE |

INCLUDED ACCESSORIES

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|------------|--------------------------------|---------------|
| | 9A07124800 | OWNER'S MANUAL E/F/G//S A-H400 | KQX1A479Z |
| | 9A07322200 | SUPPLEMENTE (E/F/G//S) A-H500I | KQE1A113Z |
| | 9A07364020 | REMOCON XMTR ASS'Y (RC-711) | KARTAH500IEUR |

■ Resistor and Capacitor

Notes : · Part numbers are indicated for most mechanical parts.
 Please use this part number for parts order.
IMPORTANT SAFETY NOTICE.
 Components identified by △ mark have special characteristics important for safety.
 When replacing any of these components, use only manufacture's specified parts.
 · The unit of resistance is OHM(Ω)
 K=1000(Ω), M=1000(KΩ)
 · The unit of capacitance is MICROFARAD(μF).
 P=10⁻⁶μF

■ Numbering System of Resistor

Example

| | | | | |
|------|---------|-------|-----------|-------|
| KRD | 25 | F | J | 101 |
| Type | Wattage | Shape | Tolerance | Value |

| Resistor Type | Wattage | Tolerance |
|-------------------|---------|-----------|
| KRD:Carbon | 20:1/5W | F:± 1% |
| KRG: Metal Oxide | 25:1/4W | J:± 5% |
| | 50:1/2W | K:± 10% |
| | 1:1W | |
| KRF: Metal Cement | 2:2W | |
| | 3:3W | |

■ Numbering System of Capacitor

Example

| | | | | |
|------|---------|-------|-----------|-------------|
| KCKT | 1H | 101 | K | B |
| Type | Voltage | Value | Tolerance | Peculiarity |

| Capacitor Type | Voltage | | Tolerance |
|---------------------|-----------|------------|----------------|
| | ECEA Type | Other | |
| KCB: Ceramic | OJ:6.3V | 1H:50V DC | C:± 0.25pF |
| KCC: Ceramic | 1A:10V | 1:125V DC | G:± 2% |
| KCK: Ceramic | 1C:16V | KC:400V AC | J:± 5% |
| KCFR: Semiconductor | 1E:25V | | K:± 10% |
| KCQI: Polyester | 1H:50V | | Z: + 80%, -20% |
| KCQP: Polypropylene | 1V:35V | | |
| KCQS: Polystyrol | | | |

MAIN PCB ASS'Y

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|--------------|---------------------------|---------------|
| | 9A07342000 | MAIN PCB ASS'Y | KOP11097G |
| | 9A07342500 | PCB , MAIN | KUP11097X |
| C907.908 | △ 9A06905000 | CAP , ELECT | KCET50VAH682N |
| C909.910 | △ 9A06904900 | ELECT,CAP(1000UF/35V AHS) | KCEA1VAHS102E |
| C930 | △ 9A06226700 | CE, 1000UF H 25V DC | KCEA1EH102E |
| D202.501 | 9A01390500 | DIODE,1N4148MT | KVD1N4148MT |
| D502.602 | △ 9A06256300 | DIODE , ZENER UZ24BMT | KVDU24BMT |
| D503.504 | 9A01390500 | DIODE,1N4148MT | KVD1N4148MT |
| D601.603 | 9A01390500 | DIODE,1N4148MT | KVD1N4148MT |
| D604 | 9A01390600 | DIODE,1N4148T | KVD1N4148T |
| D901 | △ 9A05353100 | DIODE , BRIDGE PBPC604F | BVDPBPC604F |
| D902 | △ 9A05987000 | DIODE,BRIDGE W02GF | BVDW02GF |
| D903.904 | △ 9A05970800 | DIODE,UZ16BMT | KVDU216BMT |
| D911 | 9A01390500 | DIODE,1N4148MT | KVD1N4148MT |
| D912.914 | 9A05194700 | DIODE,1N4003ST | KVD1N4003ST |
| D913 | △ 9A06236200 | DIODE,ZENER MTZJ6.2BT | KVDMTZJ6.2BT |
| D915 | △ 9A05359600 | DIODE,ZENER MTZJ12BT | KVDMTZJ12BT |
| IC21 | 9A06761700 | IC, NJU7313L | BVINJU7313L |
| IC22.23 | 9A05195800 | IC,MC4558S | KVIMC4558S |
| JK21 | 9A06906500 | JACK , INPUT | KJJ4N028Z |
| JK22.23 | 9A06674900 | JACK,BOARD 4R014Z | KJJ4R014Z |
| JK24 | 9A06906600 | JACK , REMOTER | KJJ4N030Z |
| L501.601 | 9A04875100 | COIL, | KLEYK1R8KA |
| PW2 | △ 9A06675500 | TRANS SUB | KLT5J024ZE |
| Q201.202 | 9A05197500 | TR,KTD1302T | KVTKTD1302T |
| Q203 | 9A05196900 | TR,KSR1206TA | KVTKSR1206T |
| Q203 | 9A05939600 | TR.,KTC3227Y | KVTKTC3227YT |
| Q501.502 | 9A05341600 | TR,KSA992-FTA | KVTKSA992FT |
| Q503.603 | 9A06236700 | TR,KTC3200GRT | KVTKTC3200GRT |
| Q504.604 | 9A07363800 | TR,KSC2310YT | KVTKSC2310YT |
| Q505.605 | 9A05977200 | TR.,2SD1585 | BVT2SD1585L |
| Q506.606 | 9A05196800 | TR,KSC2316-Y-SHTA | KVTKSC2316YT |
| Q507.607 | 9A05196700 | TR,KSA916-Y-SHTA | KVTKSA916YT |
| Q508.608 | 9A05359800 | TR, KTD9980 | KVTKTD9980 |
| Q509.609 | 9A05359700 | TR, KTB7780 | KVTKTB7780 |
| Q510.610 | 9A01387400 | TR,KSA733CYT | KVTKSA733CYT |
| Q601.602 | 9A05341600 | TR,KSA992-FTA | KVTKSA992FT |
| Q901.905 | △ 9A01388300 | TR,KSD288-Y-AB | KVTKSD288Y |
| Q902 | △ 9A01388400 | TR,KSA614-Y | KVTKSA614Y |
| Q904 | 9A05196900 | TR,KSR1206TA | KVTKSR1206T |
| Q917 | 9A05196800 | TR,KSC2316-Y-SHTA | KVTKSC2316YT |
| R508.608 | △ 9A06908200 | RES , METAL OXIDE FILM | KRG1ANJ102H |
| R521.522 | △ 9A05896300 | R,0.22-OHM,5W | KRF5EKR22H |
| R523.623 | △ 9A05896400 | R,4.7-OHM,1W | KRG1ANJ4R7H |
| R524.624 | △ 9A05338000 | R,METAL OXIDE FILM 1W 10 | KRG1ANJ100H |
| R527.627 | △ 9A05338200 | R,METAL OXIDE FILM 1W 390 | KRG1ANJ391H |
| R621.622 | △ 9A05896300 | R,0.22-OHM,5W | KRF5EKR22H |
| R903.904 | △ 9A05897200 | RES,FUSE 0.47-OHM,1W | KRQ1CJR47 |
| R907.908 | △ 9A06908300 | RES , METAL OXIDE FILM | KRG1ANJ123H |
| R915 | △ 9A05338000 | R,METAL OXIDE FILM 1W 10 | KRG1ANJ100H |
| RY10 | △ 9A05987100 | RELAY HR-CR7-DC12V | KSL1A007ZE |
| RY11 | △ 9A04879000 | RELAY,OSA-SS-212DM3 | BSL4A004ZU |

SUB PCB ASS'Y

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|----------|--------------|---------------------------|-----------------|
| | 9A07342100 | SUB PCB ASS'Y | KOP11204B |
| | 9A07342600 | PCB , SUB | KUP11204Z |
| D804 | 9A05195000 | LED,RED SLR342VCF02 | KVD342VCF02T085 |
| D805.807 | 9A01390500 | DIODE,1N4148MT | KVD1N4148MT |
| D810-815 | 9A05890300 | LED,YELLOW SLR342YCF02 | KVD342YCF02T085 |
| D816 | 9A06765300 | DIODE,MTZJ5.6BT | KVDMTZJ5.6BT |
| F901 | 9A05328200 | HOLDER,FUSE KJCF5S | KJCF5S |
| IC81 | 9A06786000 | IC, TMP87PM78F | BVITMP87PM78F |
| IC82 | 9A06757900 | IC,PNA4612M00HB | BRVPNA4612M00HB |
| IC84 | 9A06904500 | IC, 74HC138D | BVI74HC138D |
| JK01 | 9A05316900 | JACK HTJ064-05BG | BJJ2E017Z |
| JK02 | 9A06677000 | TERMINAL SP | KJJ5P011Z |
| JK11 | 9A07363700 | JACK,BOARD | KJJ4N045Z |
| OL11 | △ 9A05895700 | OUTLET,AC | BJJ7A003Z |
| Q803.804 | 9A03745200 | TR,KSR2206TA | KVTKSR2206T |
| Q805.806 | 9A03747300 | TR,KSB811-YTA | KVTKSB811YT |
| Q807.808 | 9A03811700 | TR,KSD1021-YTA | KVTKSD1021YT |
| Q809 | 9A03745200 | TR,KSR2206TA | KVTKSR2206T |
| Q810 | 9A05196900 | TR,KSR1206TA | KVTKSR1206T |
| Q811 | 9A03747300 | TR,KSB811-YTA | KVTKSB811YT |
| Q812.813 | 9A05196900 | TR,KSR1206TA | KVTKSR1206T |
| Q814 | 9A05196800 | TR,KSC2316-Y-SHTA | KVTKSC2316YT |
| S101 | 9A04882400 | SW,TACT | KST1A010Z |
| S824 | 9A06671200 | SW.TACT EVQ21505R | BST1A014ZT |
| SW95 | △ 9A06784700 | SW, PUSH (MOMS) | KSH1A001ZV |
| VR92.93 | 9A06673000 | RES,VARIABLE | BVV2X02C104Y |
| VR94 | 9A06673100 | RES,VARIABLE 03B104Y | BVV2X03B104Y |
| VR95 | 9A06224700 | VR , ENCODOR EC16B1210 | BSR2A006Z |
| VR96 | 9A06237000 | VOLUME, MOTOR RK6312MC282 | KVV9A08A503Z |
| X801 | 9A05193000 | CRYSTAL, 08000E160C | KOX08000E160C |
| Z101 | 9A05337900 | R,NETWORK SN8X103J | KRGSN8X103J |