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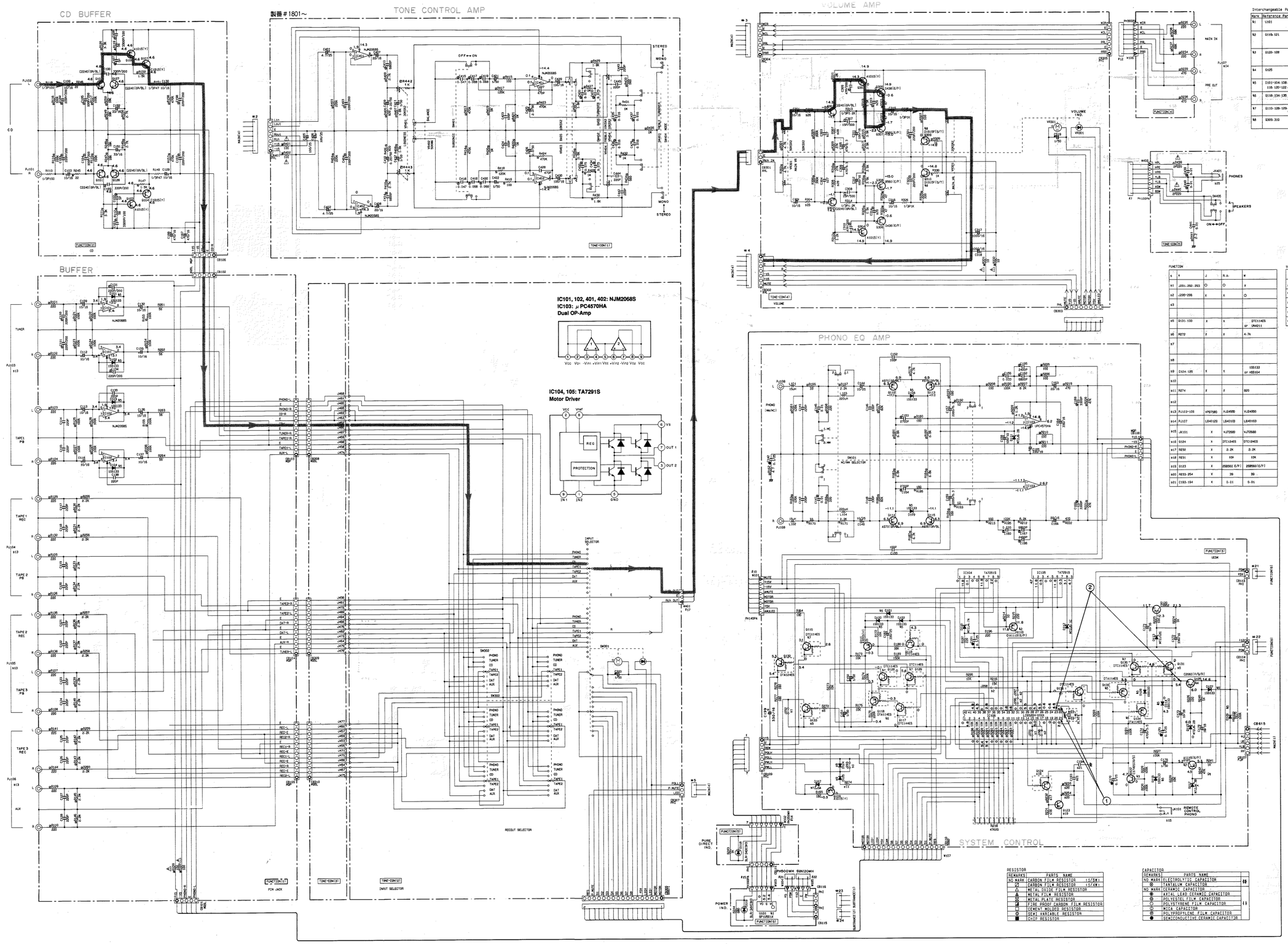
## ■ SCHEMATIC DIAGRAM (FUNCTION & TONE-CON)




Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number | Parts Name |
|---|---|---|
| M1 | Q101 | 6P1U501X<br>6P1U571X |
| M2 | Q119-121 | 2SA933S(Q/R)<br>2SA1309A(Q/R/S)<br>2SA1315(F/Y) |
| M3 | Q120-128 | 2SC1740S(R/S)<br>2SC2603(E/F)<br>2SC3311A(Q/R/S) |
| M4 | Q125 | 2SC2060(P/Q/R)<br>2SD400(E/F) |
| M5 | D101-104-108-109-114<br>115-120-122-126-128 | 1SS133<br>HSS104 |
| M6 | Q118-134-135 | DTA114ES<br>UMA111 |
| M7 | Q115-126-129-130-136 | DTC114ES<br>UMA211 |
| M8 | Q300-302 | 2SD1915(F/S/T)<br>2SC2878(A/B) |

**PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.**

2SA970 (GR, BL)
2SA1015 (Y)
2SB560 (E, F)
2SC1815 (Y)
2SC2060 (P, Q, R)
2SD400 (E, F)
2SC2240 (GR, BL)
2SD438 (E, F)

2SA1115 (E, F)
2SA933S (Q, R)
2SA1309A (Q, R, S)
2SC1740S (R, S)
2SC2603 (E, F)
2SC3311A (Q, R, S)
DTC144ES
DTA124ES
DTA114ES
UMA111
DTC114ES
UMA211
DTC124ES
2SD1915 (F) S, T
2SC2878 (A, B)

2SC3852

1SS133
HSS104TD
MTZJ3.0A
MTZJ4.3B
MTZJ4.7A
MTZJ5.1C
MTZJ6.2B
MTZJ12.0C

NJM2068S

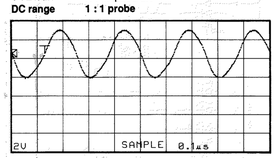
μPC4570HA
TA7291S

LC6520H

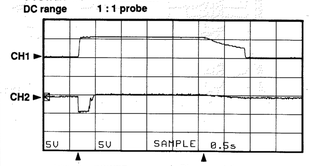
| FUNCTION | | J | S.a. | W |
|---|---|---|---|---|
| x | x | | | |
| s1 | J201-202-203 | ○ | ○ | x |
| s2 | J205-206 | x | x | ○ |
| s3 | | | | |
| s5 | D131-133 | x | x | DTC114ES or UMA211 |
| s6 | R272 | x | x | 4.7k |
| s7 | | | | |
| s8 | | | | |
| s9 | D124-125 | x | x | 1SS133 or HSS104 |
| s10 | | | | |
| s11 | R274 | x | x | 820 |
| s12 | | | | |
| s13 | PJ103-105 | VR97580 | VJ24950 | VJ24950 |
| s14 | PJ107 | LS40129 | LS40103 | LS40103 |
| s15 | JK101 | x | VJ72680 | VJ72680 |
| s16 | Q124 | x | DTC124ES | DTC124ES |
| s17 | R232 | x | 2.2k | 2.2k |
| s18 | R231 | x | 60k | 10k |
| s19 | Q123 | x | 2SB560(E/F) | 2SB560(E/F) |
| s20 | R233-254 | x | 39 | 39 |
| s21 | C193-194 | x | 0.01 | 0.01 |

| TONE-CON | | | | |
|---|---|---|---|---|
| | | J | S.a. | W |
| s25 | JK401 | VK10630 | LK30172 |
| s26 | R203<br>R204 | HS07447<br>4.7 | VL07310<br>1/2W47 |
| s27 | C203<br>C204 | VK51250<br>@220P | VK53390<br>@330P/500 |
| s28 | R207<br>R208 | HS07520<br>4.220 | VL08240<br>1/2W220 |
| s29 | C213<br>C214 | VK51260<br>@2200P | VL05380<br>@3300P/100 |

**Point ①**
**(Pin21 or Pin22 of IC106)**
**V : 2V/div H : 0.1μsec/div**
**DC range 1 : 1 probe**




**Point ②**
**(CH1 : Emitter of Q125)**
**(CH2 : Pin23 of IC106)**
**V : 5V/div H : 0.5sec/div**
**DC range 1 : 1 probe**




With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.

(This waveform is not available by pushing the power switch ON and OFF.)

**Conditions**
- FUNCTION → CD
- REC OUT → CD
- SPEAKERS → A : ON
  B : OFF
- VOLUME → minimum (−∞)

| RESISTOR REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR ±1/5W |
| ⊗ | CARBON FILM RESISTOR ±1/4W |
| △ | METAL OXIDE FILM RESISTOR |
| ▲ | METAL FILM RESISTOR |
| ⊗ | METAL PLATE RESISTOR |
| ◢ | FIRE PROOF CARBON FILM RESISTOR |
| □ | CEMENT MOLDED RESISTOR |
| ◇ | SEMI VARIABLE RESISTOR |
| ■ | CHIP RESISTOR |

| CAPACITOR REMARKS | PARTS NAME |
|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR |
| ⊗ | TANTALUM CAPACITOR |
| NO MARK | CERAMIC CAPACITOR |
| ◎ | AXIAL LEAD CERAMIC CAPACITOR |
| ◎ | POLYESTEL FILM CAPACITOR |
| ◇ | POLYSTRENE FILM CAPACITOR |
| ◇ | MICA CAPACITOR |
| ◎ | POLYPROPYLENE FILM CAPACITOR |
| ● | SEMICONDUCTIVE CERAMIC CAPACITOR |

**Selector Position Data (INPUT)**

| IC106 PIN NO. | | | | | | | | FUNCTION |
|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | PHONO |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | TUNER |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | CD |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | TAPE 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | TAPE 2 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | AUX |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | TAPE 3 |

- *All voltage are measured with a 10MΩ/V DC electric volt meter.*
- *Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
- *Schematic diagram is subject to change without notice.*

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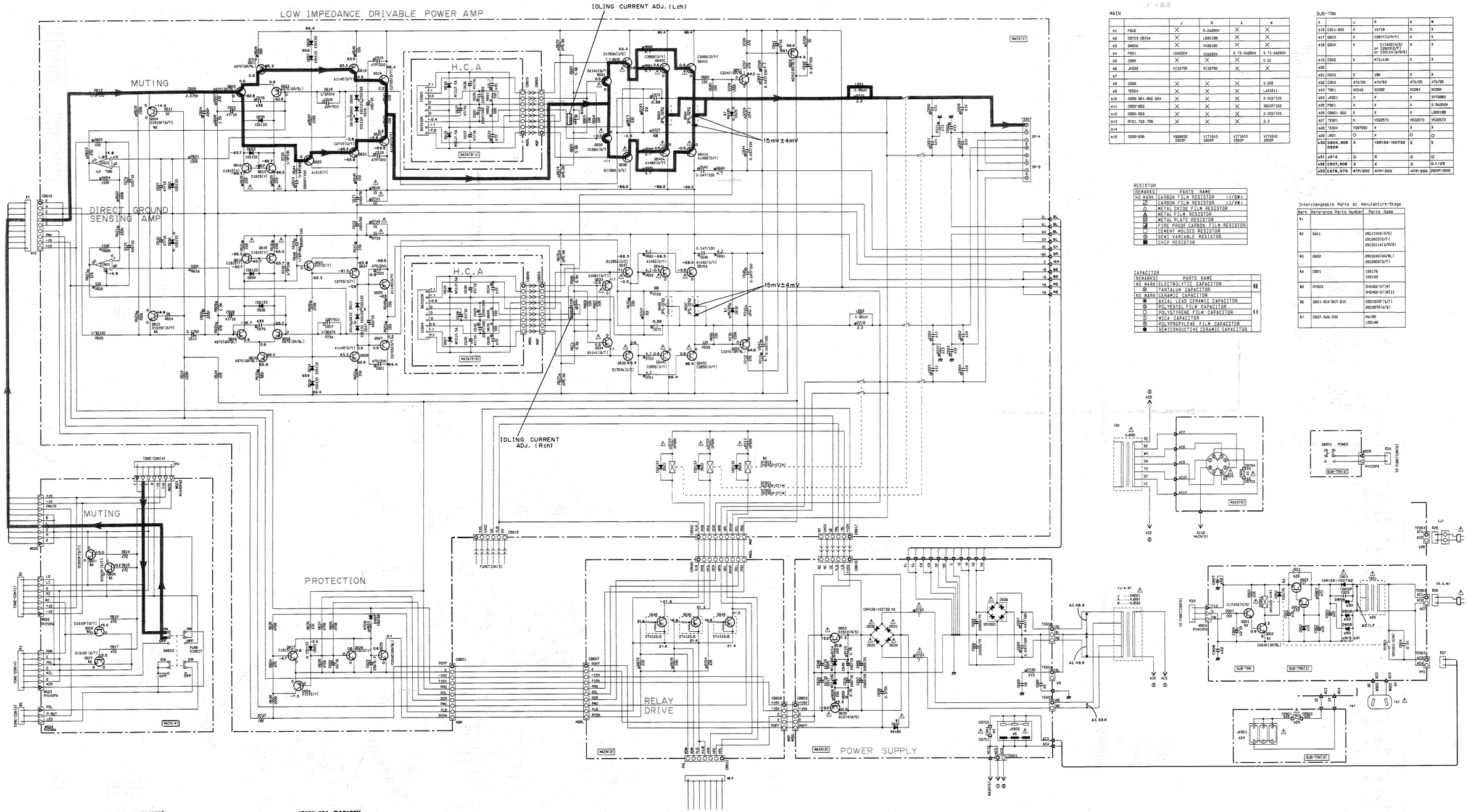
## ■ SCHEMATIC DIAGRAM (MAIN & SUB-TRANS)




MAIN

| | | J | R | A | W |
|---|---|---|---|---|---|
| s1 | F602 | × | 5.0A250V | × | × |
| s2 | CB703-CB704 | × | LB30188 | × | × |
| s3 | SW652 | × | VA36180 | × | × |
| s4 | F601 | 10A250V | 10A250V | S 75.0A250V | S 75.0A250V |
| s5 | C680 | × | × | × | 0.01 |
| s6 | JK602 | V13275D | V13275D | × | × |
| s7 | | | | | |
| s8 | C669 | × | × | × | 0.022 |
| s9 | TE604 | × | × | × | LA30211 |
| s10 | C659-661-662-664 | × | × | × | 0.012/100 |
| s11 | C650-653 | × | × | × | 3600P/100 |
| s12 | C660-663 | × | × | × | 0.022/100 |
| s13 | R721-722-725 | × | × | × | 2-2 |
| s14 | | | | | |
| s15 | C632-635 | V22223D 3300P | V17151D 3300P | V17151D 3300P | V17151D 3300P |

SUB-TRN

| s | | J | R | A | W |
|---|---|---|---|---|---|
| s16 | C901-902 | X | 10/16 | X | X |
| s17 | C903 | X | C2577(O/P/Y) | X | X |
| s18 | C904 | X | C1740S(R/S) or C2603(E/F) or C3311A(Q/R/S) | X | X |
| s19 | C902 | X | MTZJ13A | X | X |
| s20 | | | | | |
| s21 | R903 | X | 1BK | X | X |
| s22 | C903 | 470/25 | 470/63 | 470/25 | 470/25 |
| s23 | TB01 | XC542 | XC082 | XC084 | XC084 |
| s24 | JK901 | X | X | X | VP72860 |
| s25 | F901 | X | X | X | 2.5A250V |
| s26 | C901-902 | X | X | X | LB20188 |
| s27 | TE901 | X | VE22570 | VE22570 | VE22570 |
| s28 | TE904 | X | VG87990 | X | X |
| s29 | J921 | O | X | O | O |
| s30 | D904,905 D906 | X | 1SR139-100T32 | X | X |
| s31 | J913 | O | X | O | O |
| s32 | C907,908 | X | X | X | 0.1/25 |
| s33 | C678,679 | 47P/200 | 47P/200 | 47P/200 | 220P/200 |

RESISTOR

| REMARKS | PARTS NAME |
|---|---|
| NO MARK | CARBON FILM RESISTOR (1/6W) |
| ◪ | CARBON FILM RESISTOR (1/4W) |
| △ | METAL OXIDE FILM RESISTOR |
| ▲ | METAL FILM RESISTOR |
| ⊠ | METAL PLATE RESISTOR |
| ▨ | FIRE PROOF CARBON FILM RESISTOR |
| ▭ | CEMENT MOLDED RESISTOR |
| ⊘ | SEMI VARIABLE RESISTOR |
| ■ | CHIP RESISTOR |

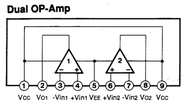
CAPACITOR

| REMARKS | PARTS NAME | |
|---|---|---|
| NO MARK | ELECTROLYTIC CAPACITOR | 耳 |
| ⊗ | TANTALUM CAPACITOR | |
| NO MARK | CERAMIC CAPACITOR | 卌 |
| ◉ | AXIAL LEAD CERAMIC CAPACITOR | |
| ◎ | POLYESTER FILM CAPACITOR | |
| ○ | POLYSTYRENE FILM CAPACITOR | |
| ◇ | MICA CAPACITOR | |
| ⊙ | POLYPROPYLENE FILM CAPACITOR | |
| ● | SEMICONDUCTIVE CERAMIC CAPACITOR | |

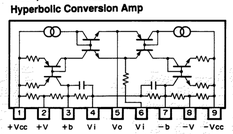
Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number | Parts Name |
|---|---|---|
| k1 | | |
| k2 | Q901 | 2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S) |
| k3 | Q902 | 2SC2240(GR/BL) 2SC2909(S/T) |
| k4 | D901 | 1SS176 1SS133 |
| k5 | RY603 | DH24G2-0T(W) DH24G2-0T(WII) |
| k6 | Q601-604-607-610 | 2SD1915F(S/T) 2SC2878T(A/B) |
| k7 | D627-629-630 | MA185 1SS146 |

IC601 : NJM4558S
Dual OP-Amp




IC603, 604 : BA3122N
Hyperbolic Conversion Amp




PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2SC1740S(R,S) 2SC2603(E,F) 2SC3311A(Q,R,S) 2SD1915(F)S,T 2SC2878(A,B) DTA123JS | 2SC2240(GR,BL) 2SC2909(S,T) 2SA970(GR,BL) 2SA1015(Y) 2SA1145(O,Y) 2SC1815(Y) 2SC2705(O,Y) | 2SC2577(O,P,Y) 2SA1492(O,Y) 2SC3856(O,Y) | 2SB1274(R,S) 2SB1186A(D,E) 2SD1913(R,S) 2SD1763A(D,E) | 2SB1141(S,T) 2SD1681(S,T) | ISS176 ISS133 ISR139-100 MA185 ISS146 MTZJ7.5A MTZJ13.0A MTZJ16.0C | S5VB20 | NJM4558S | BA3122N |

** All voltage are measured with a 10MΩ/V DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

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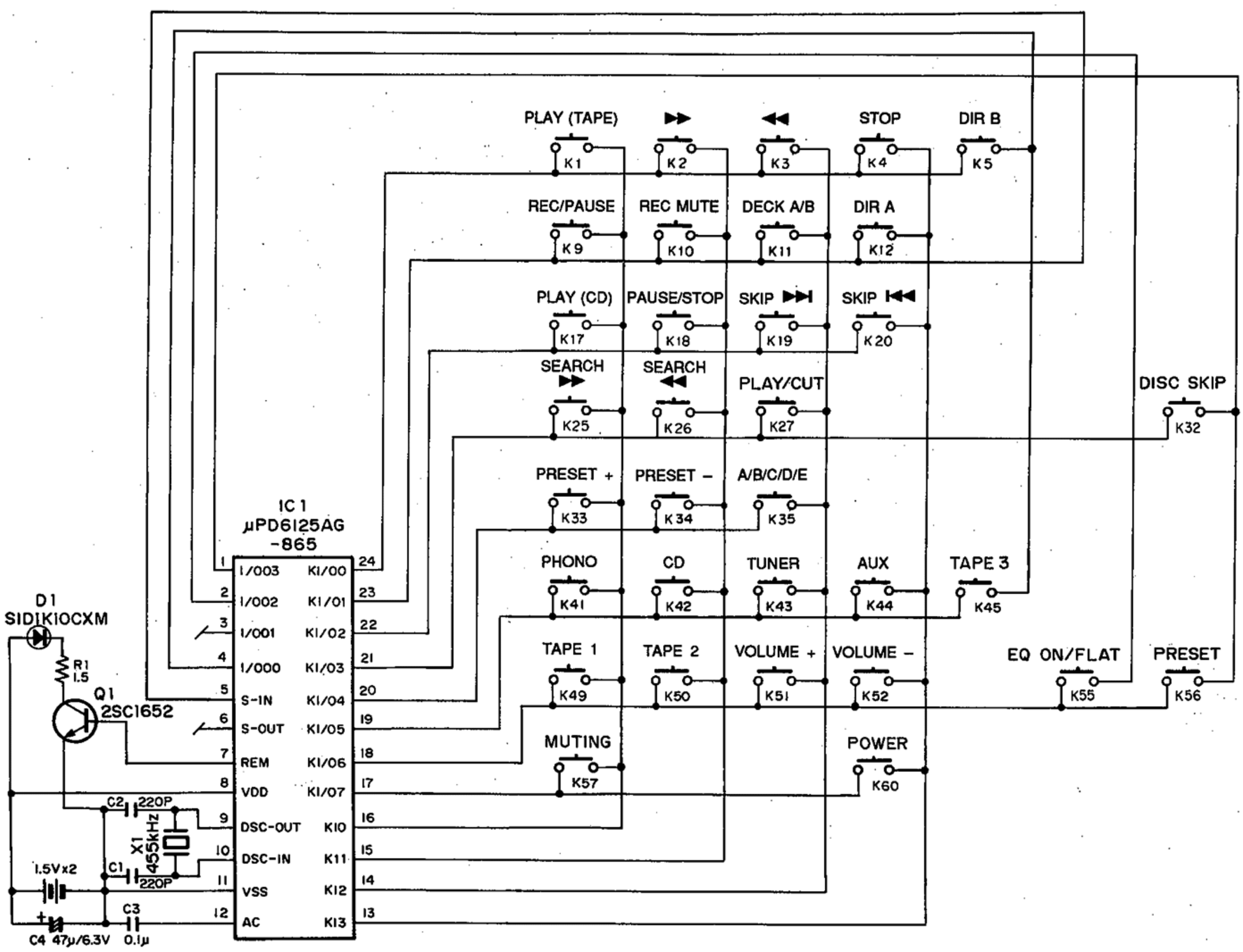
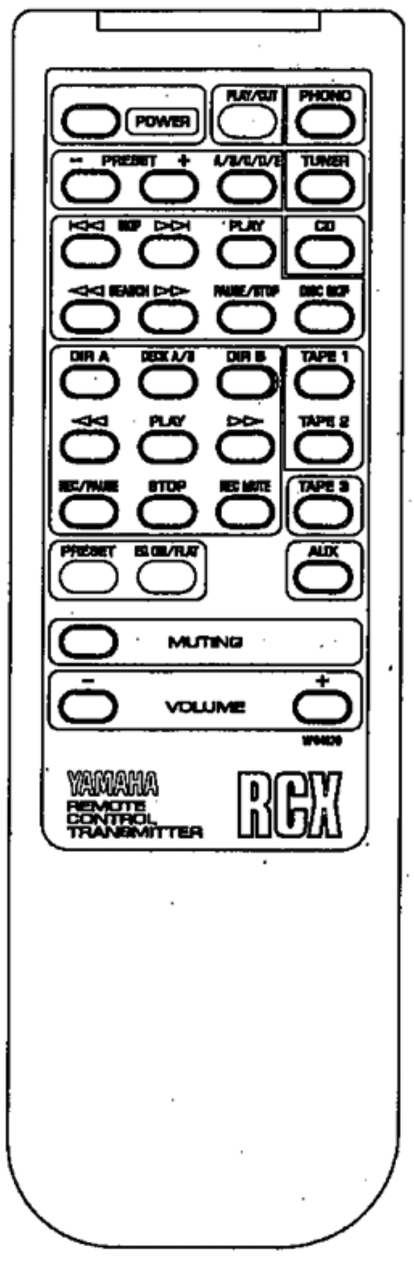
# REMOTE CONTROL TRANSMITTER

## ■ SCHEMATIC DIAGRAM




| Key No. | CUSTOM (HEX) | DATA (HEX) | FUNCTION |
|---|---|---|---|
| 1 | 7A | 00 | PLAY (TAPE) |
| 2 | 7A | 01 | ◀◀ (TAPE) |
| 3 | 7A | 02 | ▶▶ (TAPE) |
| 4 | 7A | 03 | STOP (TAPE) |
| 5 | 7A | 40 | DIR B (TAPE) |
| 9 | 7A | 04 | REC/PAUSE (TAPE) |
| 10 | 7A | 05 | REC MUTE (TAPE) |
| 11 | 7A | 06 | DECK A/B (TAPE) |
| 12 | 7A | 07 | DIR A (TAPE) |
| 17 | 7A | 08 | PLAY (CD) |
| 18 | 7A | 09 | PAUSE/STOP (CD) |
| 19 | 7A | 0A | SKIP ▶▶I (CD) |
| 20 | 7A | 0B | SKIP I◀◀ (CD) |
| 25 | 7A | 0C | SEARCH ▶▶ (CD) |
| 26 | 7A | 0D | SEARCH ◀◀ (CD) |
| 27 | 7A | 0E | PLAY/CUT (PHONO) |
| 32 | 7A | 4F | DISC SKIP (CD) |

| Key No. | CUSTOM (HEX) | DATA (HEX) | FUNCTION |
|---|---|---|---|
| 33 | 7A | 10 | PRESET + (TUNER) |
| 34 | 7A | 11 | PRESET – (TUNER) |
| 35 | 7A | 12 | A/B/C/D/E (TUNER) |
| 41 | 7A | 14 | PHONO (INPUT) |
| 42 | 7A | 15 | CD (INPUT) |
| 43 | 7A | 16 | TUNER (INPUT) |
| 44 | 7A | 17 | AUX (INPUT) |
| 45 | 7A | 54 | TAPE 3 (INPUT) |
| 49 | 7A | 18 | TAPE 1 (INPUT) |
| 50 | 7A | 19 | TAPE 2 (INPUT) |
| 51 | 7A | 1A | VOLUME + |
| 52 | 7A | 1B | VOLUME – |
| 55 | 7A | 5A | EQ ON/FLAT (EQ) |
| 56 | 7A | 5B | PRESET (EQ) |
| 57 | 7A | 1C | MUTING |
| 60 | 7A | 1F | POWER |

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