

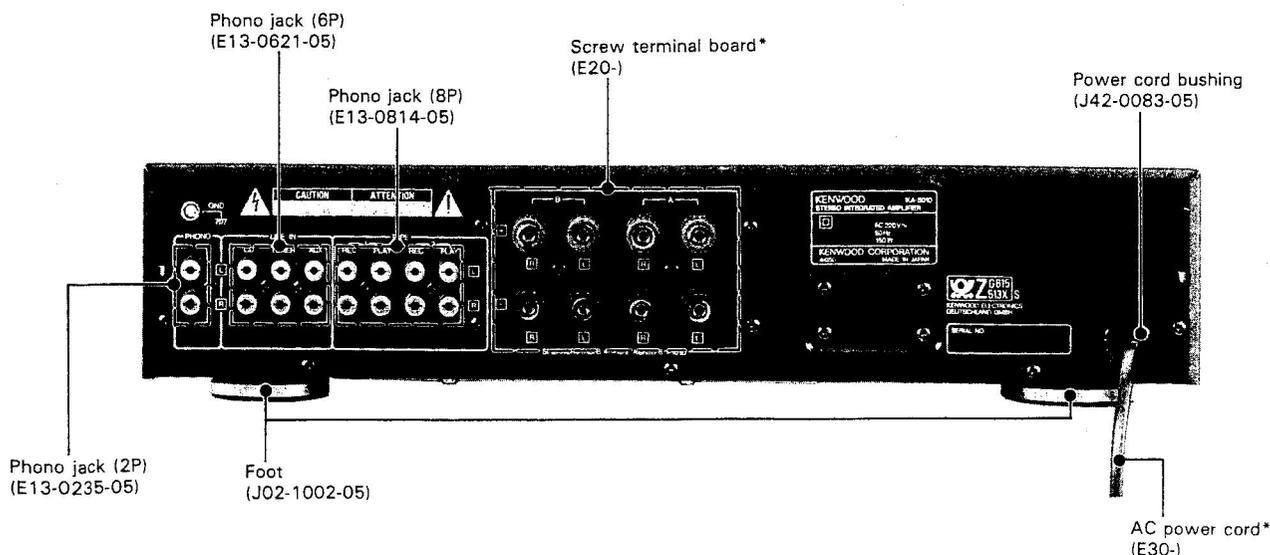
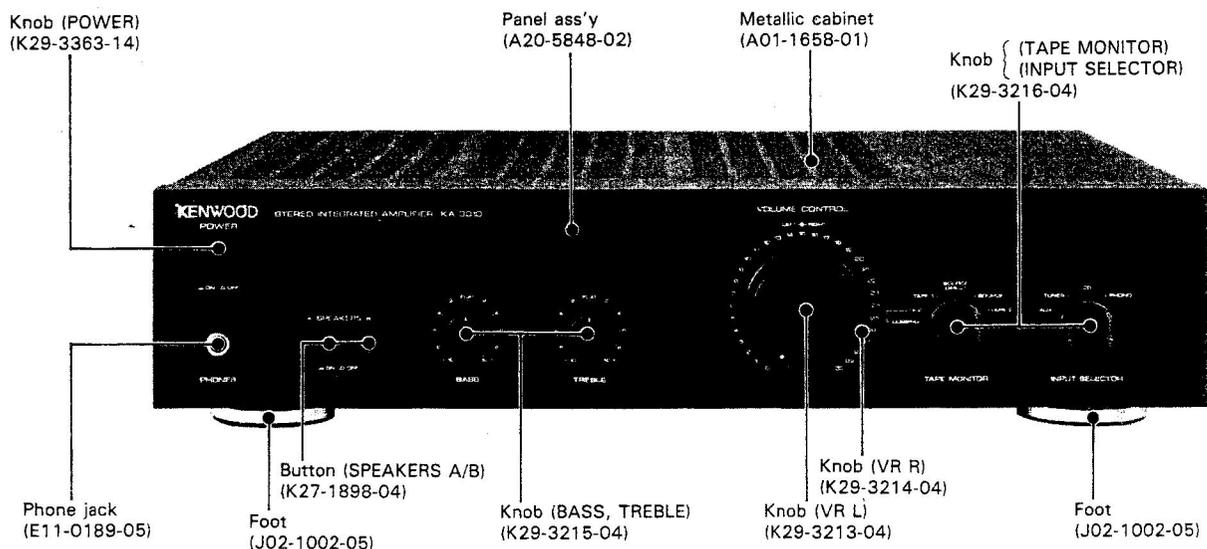
STEREO INTEGRATED AMPLIFIER

# KA-3010

## SERVICE MANUAL

# KENWOOD

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B51-3941-00(T)1740



\*Refer to parts list on page 18.

# KA-3010

## CONTENTS

|                                      |   |                       |            |
|--------------------------------------|---|-----------------------|------------|
| CIRCUIT DESCRIPTION.....             | 2 | CIRCUIT DIAGRAM ..... | 13         |
| ADJUSTMENT/REGLAGES/ABGLEICH .....   | 3 | EXPLODED VIEW .....   | 17         |
| VOLTAGE TABLES.....                  | 4 | PARTS LIST.....       | 18         |
| PC BOARD (Components side view)..... | 5 | SPECIFICATIONS .....  | Back cover |
| PC BOARD (Foil side view).....       | 9 |                       |            |

## CIRCUIT DESCRIPTION

### DESCRIPTION OF COMPONENTS

#### Audio unit (X09-2982-70)

| Component | Use/Function                                | Operation/Condition/Compatibility   |
|-----------|---|---|
| Q5, 6, 15 | Overcurrent detection circuit               |   |
| Q11       | EQ positive constant voltage circuit        |   |
| Q12       | EQ negative constant voltage circuit        |   |
| Q13, 14   | Phono shock noise protection circuit        | The fall of the -B power at power OFF is made earlier to suppress charge to C27 and C28 so that the output stability (in terms of DC) at power ON becomes higher. This circuit thereby prevents shock noise or relay malfunction. |
| IC1       | EQ circuit operation amplifier IC           |   |
| IC2       | Tone circuit operation amplifier IC         |   |
| IC3       | Protection IC                               | Operates relay by timer, overcurrent or DC detection at power ON.   |
| D1, 2     | Overcurrent detection OR circuit            |   |
| D11, 12   | Static electricity protection               |   |
| D13, 14   | EQ power constant current circuit           |   |
| D15, 16   | EQ power constant voltage circuit           |   |
| D17       | Power first-stage constant voltage circuit  |   |
| D18       | Power OFF detection rectification circuit   | Detection rectification circuit for early application of muting at power OFF  |
| D19       | LED power rectification circuit             |   |
| D20       | Power rectification circuit                 |   |
| D21       | Power first-stage first OFF power supply    |   |
| D22, 23   | Tone constant voltage circuit               |   |
| D24, 25   | Relay counterelectromotive force protection |   |
| D26       | SOURCE/DIRECT indication LED                |   |
| D27       | POWER indication LED                        |   |

## ADJUSTMENT/REGLAGES/ABGLEICH

### ADJUSTMENT

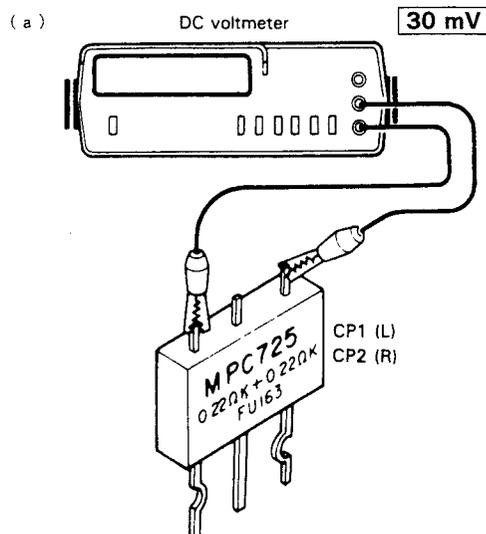
| No.  | ITEM         | INPUT SETTINGS | OUTPUT SETTINGS                                      | AMPLIFIER SETTING | ALIGNMENT POINTS       | ALIGN FOR | FIG. |
|--|--------------|----------------|--|-------------------|------------------------|-----------|------|
| Unless otherwise specified, the individual switches should be set as follows.<br>POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO |              |                |  |                   |                        |           |      |
| 1  | IDLE CURRENT | -              | Connect a DC voltmeter across CP1 (L) CP2 (R) (X09-) | VOLUME: 0         | VR1 (L) VR2 (R) (X89-) | 30mV      | (a)  |

### REGLAGE

| N°  | ITEM                    | REGLAGE DE L'ENTREE | REGLAGE DE LA SORTIE                                    | REGLAGE DE L'AMPLIFICATEUR | POINTS DE L'ALIGNMENT  | ALIGNER POUR | FIG. |
|---|-------------------------|---------------------|---|----------------------------|------------------------|--------------|------|
| Sauf en cas d'indications spéciales, régler chaque commutateur comme suit.<br>POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO |                         |                     |   |                            |                        |              |      |
| 1   | COURANT DE POLARISATION | -                   | Connecter un voltmètre de CC SUR CP1 (G) CP2 (D) (X09-) | VOLUME: 0                  | VR1 (G) VR2 (D) (X89-) | 30mV         | (a)  |

### ABGLEICH

| NR.  | GENGENSTAND   | EINGANGS-EINSTELLUNG | AUSANG-EINSTELLUNG   | VORSTÄRKER-EINSTELLUNG | ABGLEICHE-PUNKTE       | ABGLEICHEN FÜR | ABB. |
|--|---------------|----------------------|--|------------------------|------------------------|----------------|------|
| Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen.<br>POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO |               |                      |  |                        |                        |                |      |
| 1  | LEERLAUFSTROM | -                    | Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen. (X09-) | VOLUME: 0              | VR1 (L) VR2 (R) (X89-) | 30mV           | (a)  |



# KA-3010

## VOLTAGE TABLES

### KA-3010

#### Q1

|   |     |
|---|-----|
| E | —   |
| C | 46V |
| B | —   |

#### Q2

|   |      |
|---|------|
| E | 0V   |
| C | 46V  |
| B | 0.6V |

#### Q3

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q4

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q5

|   |        |
|---|--------|
| E | —      |
| C | -44.5V |
| B | —      |

#### Q6

|   |       |
|---|-------|
| E | 0V    |
| C | -46V  |
| B | -0.6V |

### AUDIO UNIT (X09-2982-70)

#### Q5

|   |     |
|---|-----|
| E | 0V  |
| C | 45V |
| B | 0V  |

#### Q6

|   |     |
|---|-----|
| E | 0V  |
| C | 45V |
| B | 0V  |

#### Q11

|   |       |
|---|-------|
| E | 15.4V |
| C | —     |
| B | —     |

#### Q12

|   |        |
|---|--------|
| E | -15.4V |
| C | —      |
| B | —      |

#### Q13

|   |       |
|---|-------|
| E | 15.4V |
| C | —     |
| B | —     |

#### Q14

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q15

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### IC1

|   |        |
|---|--------|
| 1 | —      |
| 2 | —      |
| 3 | —      |
| 4 | -15.4V |
| 5 | —      |
| 6 | —      |
| 7 | —      |
| 8 | 15.4V  |

#### IC2

|   |        |
|---|--------|
| 1 | 0V     |
| 2 | 0V     |
| 3 | 0V     |
| 4 | -15.8V |
| 5 | 0V     |
| 6 | —      |
| 7 | 0V     |
| 8 | 15.8V  |

#### IC3

|   |      |
|---|------|
| 1 | 0V   |
| 2 | 0V   |
| 3 | —    |
| 4 | 2.3V |
| 5 | —    |
| 6 | 0.7V |
| 7 | 2.2V |
| 8 | 3.6V |

### MAIN AMPLIFIER UNIT (X89-1122-70)

#### Q1

|   |      |
|---|------|
| E | 0.7V |
| C | -42V |
| B | 0V   |

#### Q2

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q3

|   |      |
|---|------|
| E | 0.7V |
| C | -42V |
| B | 0V   |

#### Q4

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q5

|   |        |
|---|--------|
| E | -42.6V |
| C | 22V    |
| B | -42V   |

#### Q6

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q7

|   |        |
|---|--------|
| E | -42.6V |
| C | -1.1V  |
| B | -42V   |

#### Q8

|   |       |
|---|-------|
| E | —     |
| C | -1.2V |
| B | —     |

#### Q9

|   |       |
|---|-------|
| E | 42.3V |
| C | 1.2V  |
| B | 41.7V |

#### Q10

|   |   |
|---|---|
| E | — |
| C | — |
| B | — |

#### Q11

|   |      |
|---|------|
| E | 0.6V |
| C | 44V  |
| B | —    |

#### Q12

|   |       |
|---|-------|
| E | —     |
| C | 45.6V |
| B | —     |

#### Q13

|   |        |
|---|--------|
| E | -0.6V  |
| C | -44.5V |
| B | —      |

#### Q14

|   |        |
|---|--------|
| E | —      |
| C | -46.0V |
| B | —      |

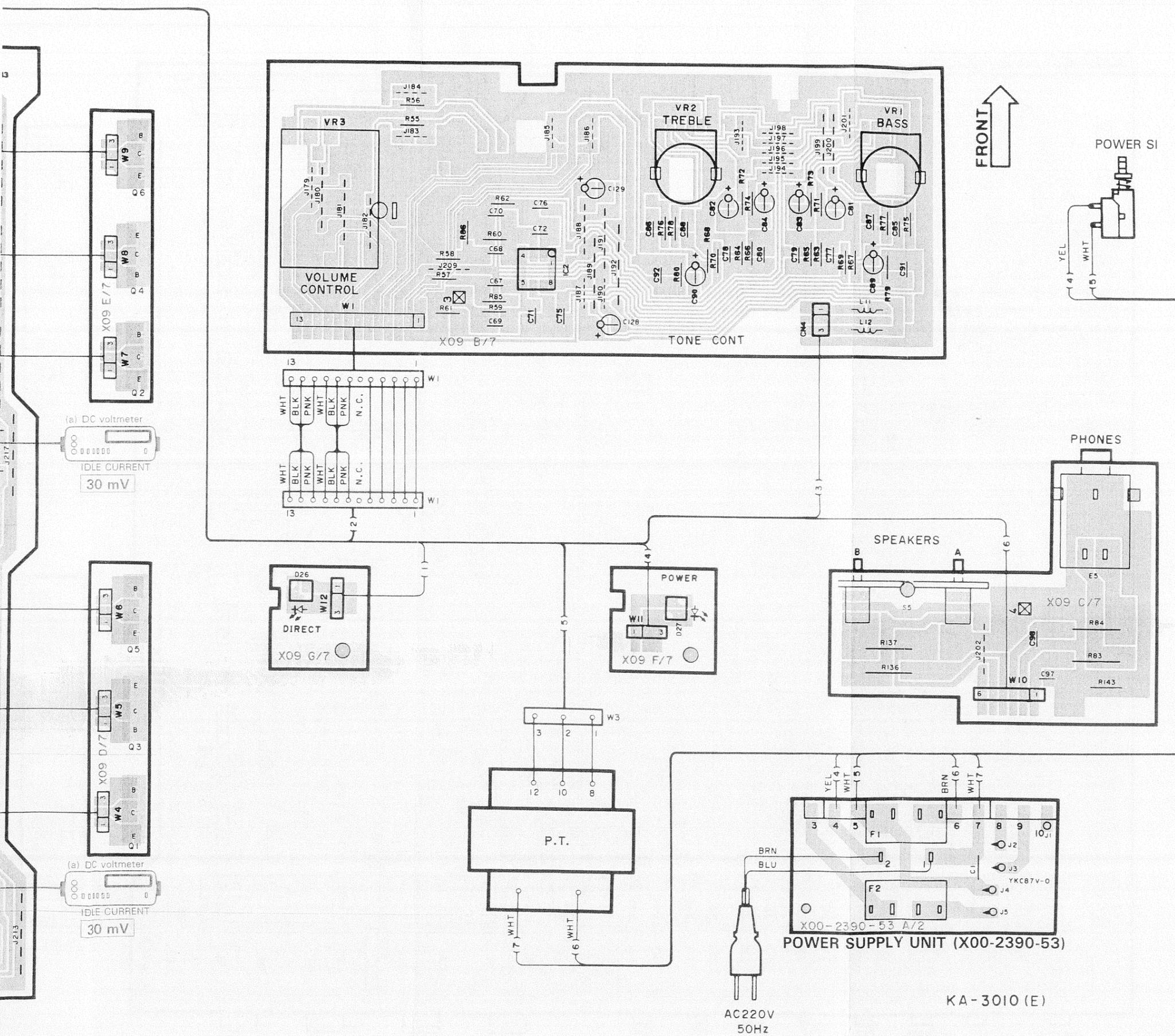
#### Q18

|   |     |
|---|-----|
| E | —   |
| C | 14V |
| B | 0V  |

#### Q19

|   |       |
|---|-------|
| E | 13.2V |
| C | 14.3V |
| B | 13.8V |





KA-3010

| Ref. No. | IC | Q | Address |
|----------|----|---|---------|
| 1        |    |   | 6J      |
| 2        |    |   | 3J      |
| 3        |    |   | 5J      |
| 4        |    |   | 2J      |
| 5        |    |   | 4J      |
| 6        |    |   | 2J      |

AUDIO UNIT (X09-2982-70)

| Ref. No. | IC | Q  | Address |
|----------|----|----|---------|
| 1        |    |    | 2D      |
| 2        |    |    | 2M      |
| 3        |    |    | 6G      |
|          |    | 5  | 4G      |
|          |    | 6  | 3G      |
|          |    | 11 | 3E      |
|          |    | 12 | 3E      |
|          |    | 13 | 3E      |
|          |    | 14 | 3E      |
|          |    | 15 | 6G      |

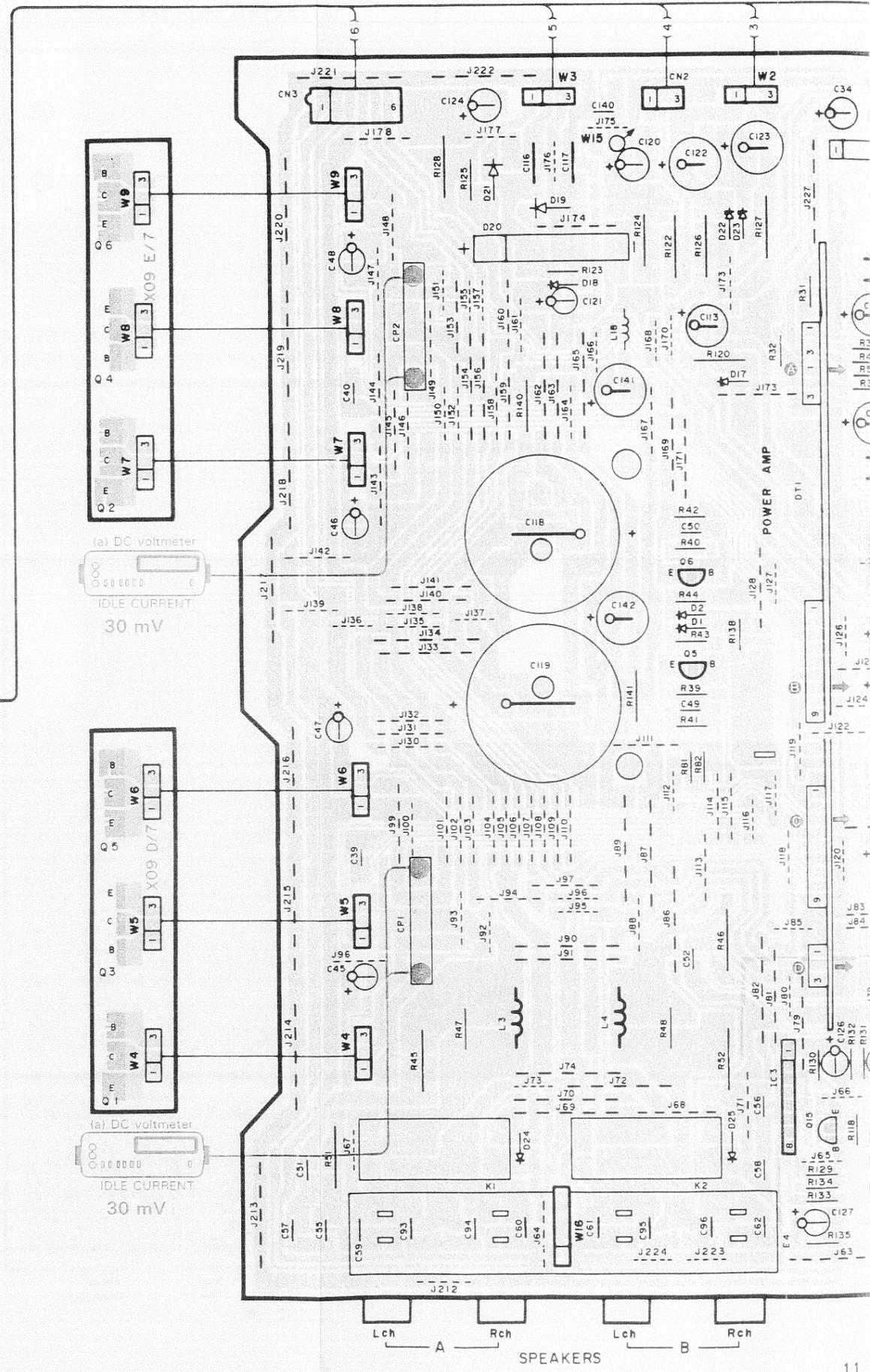
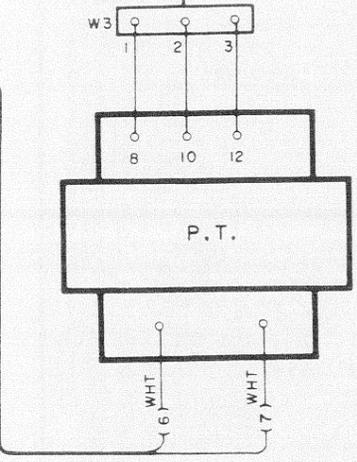
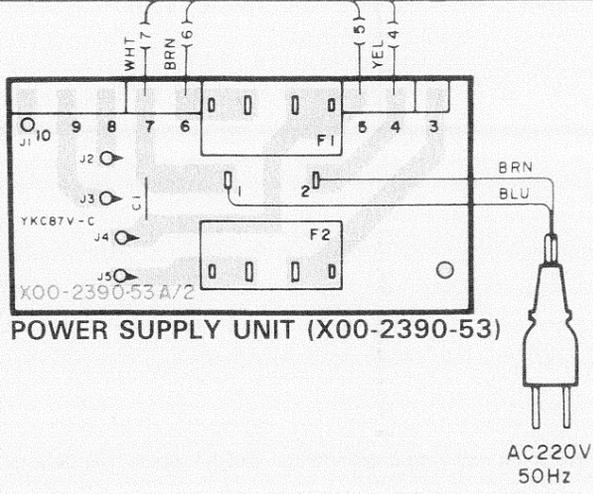
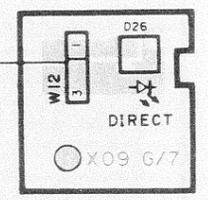
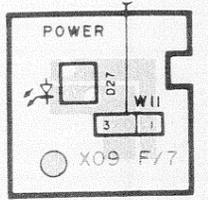
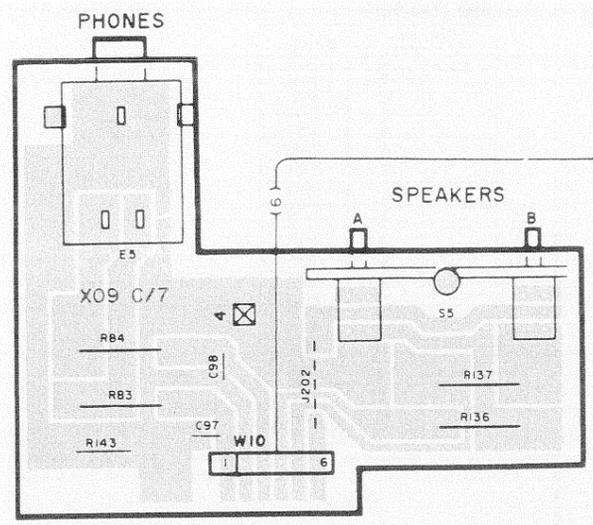
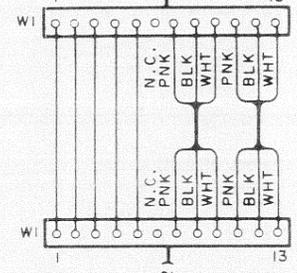
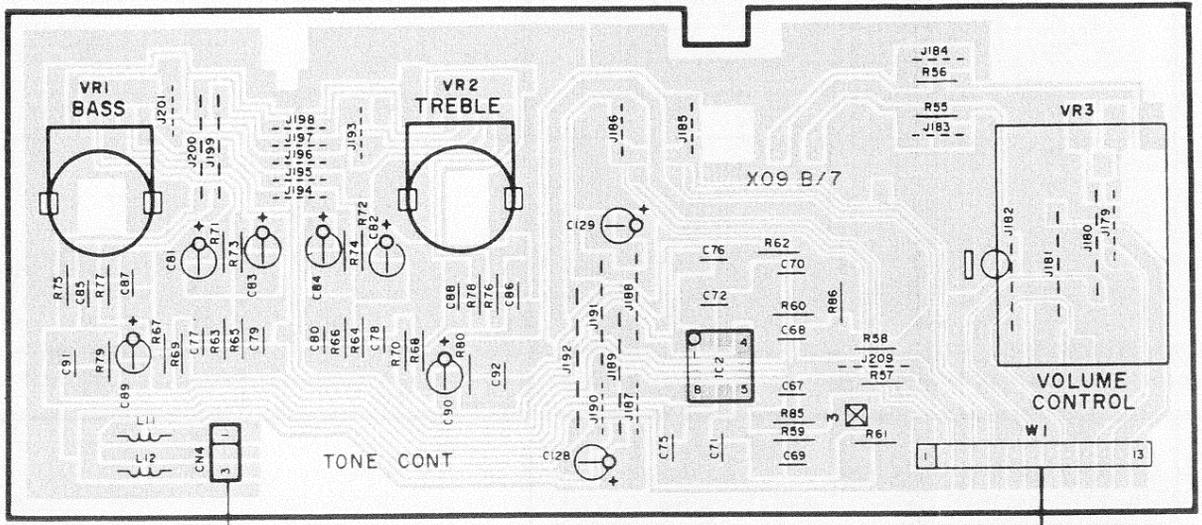
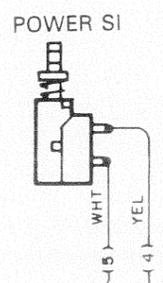
MAIN AMPLIFIER UNIT (X89-1122-70)

| Ref. No. | IC | Q | Address |
|----------|----|---|---------|
| 1        |    |   | 1B      |
| 2        |    |   | 2B      |
| 3        |    |   | 1B      |
| 4        |    |   | 2B      |
| 5        |    |   | 1A      |
| 6        |    |   | 2A      |
| 7        |    |   | 1A      |
| 8        |    |   | 2A      |
| 9        |    |   | 6A      |
| 10       |    |   | 4A      |
| 11       |    |   | 5B      |
| 12       |    |   | 4B      |
| 13       |    |   | 5B      |
| 14       |    |   | 4B      |
| 18       |    |   | 3B      |
| 19       |    |   | 3C      |

KA-3010 (E)

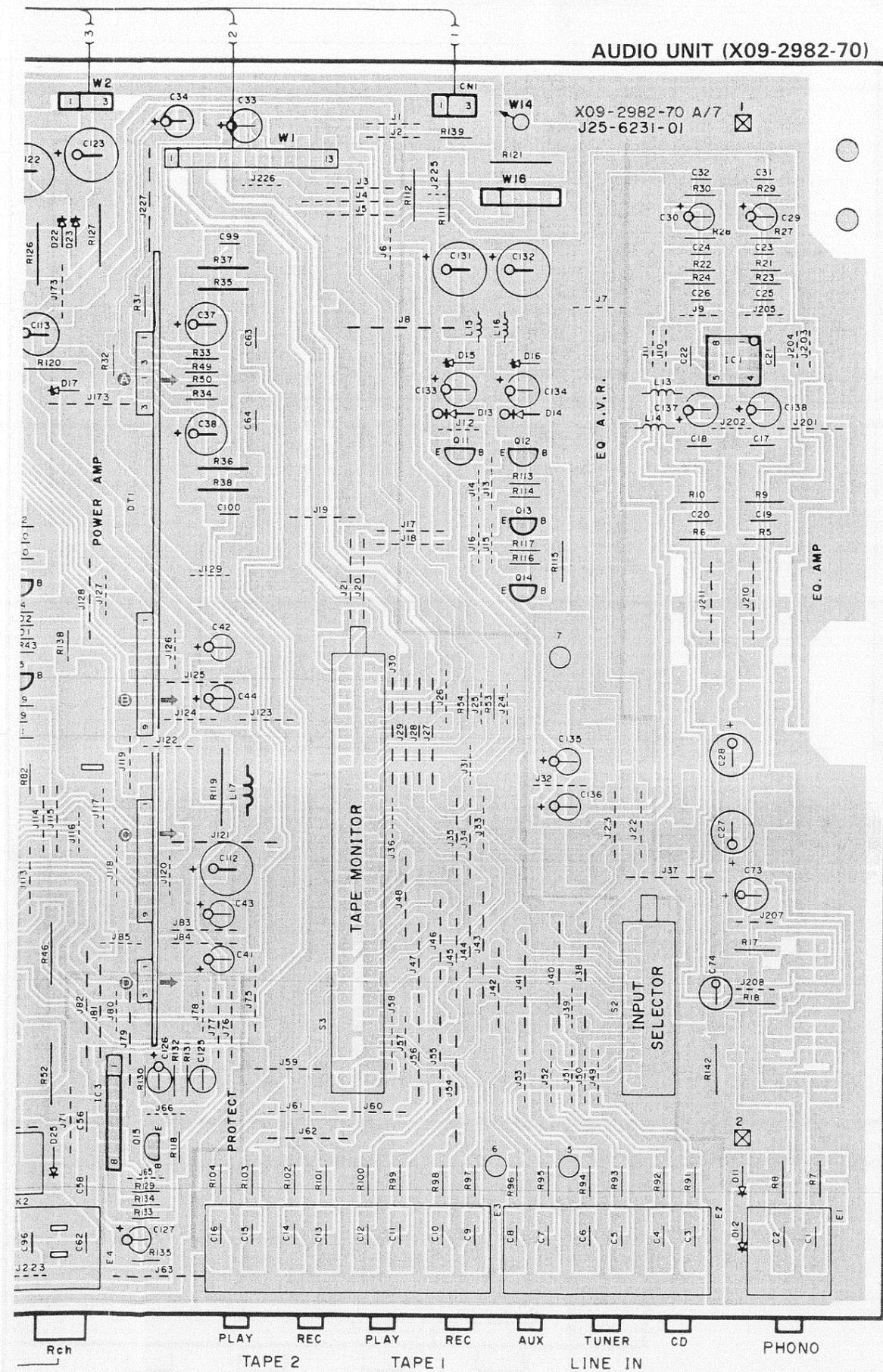
Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Foil side view)

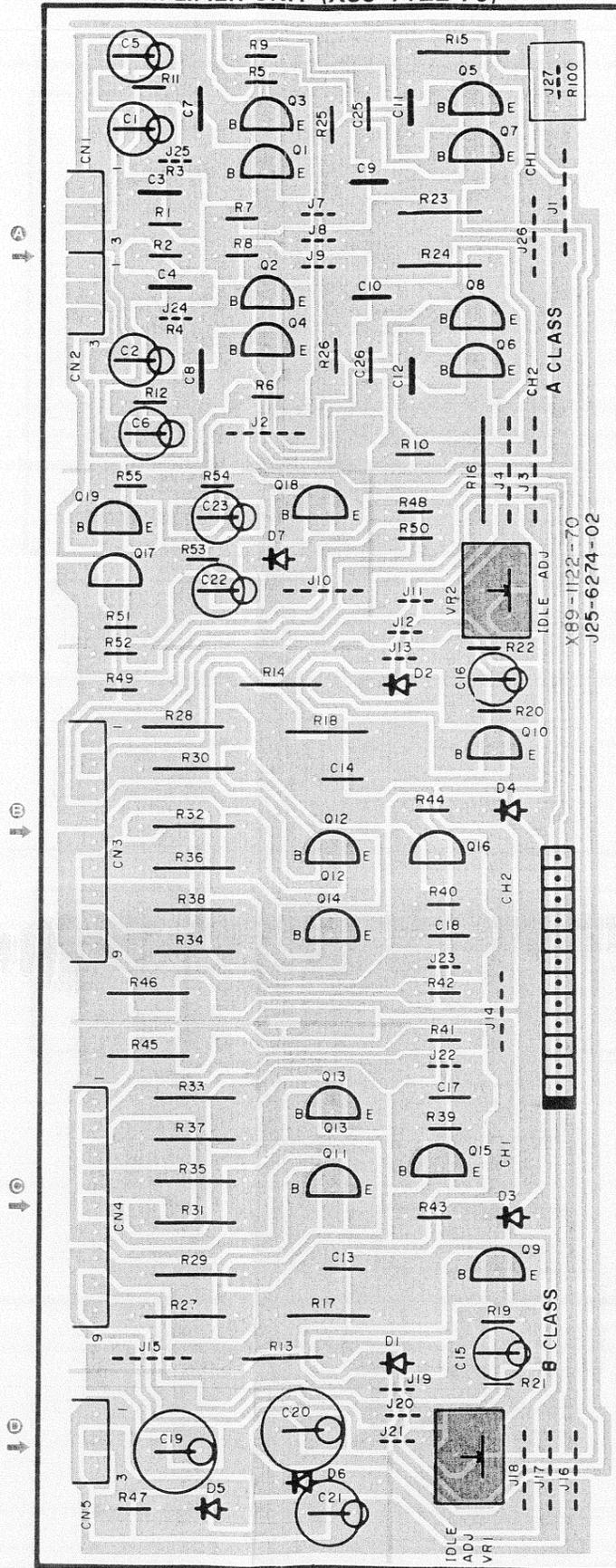


1  
2  
3  
4  
5  
6  
7

AUDIO UNIT (X09-2982-70)



MAIN AMPLIFIER UNIT (X89-1122-70)



KA-3010

| Ref. No. | IC | Q | Address |
|----------|----|---|---------|
| 1        |    |   | 6Z      |
| 2        |    |   | 3Z      |
| 3        |    |   | 5Z      |
| 4        |    |   | 2Z      |
| 5        |    |   | 5Z      |
| 6        |    |   | 2Z      |

AUDIO UNIT (X09-2982-70)

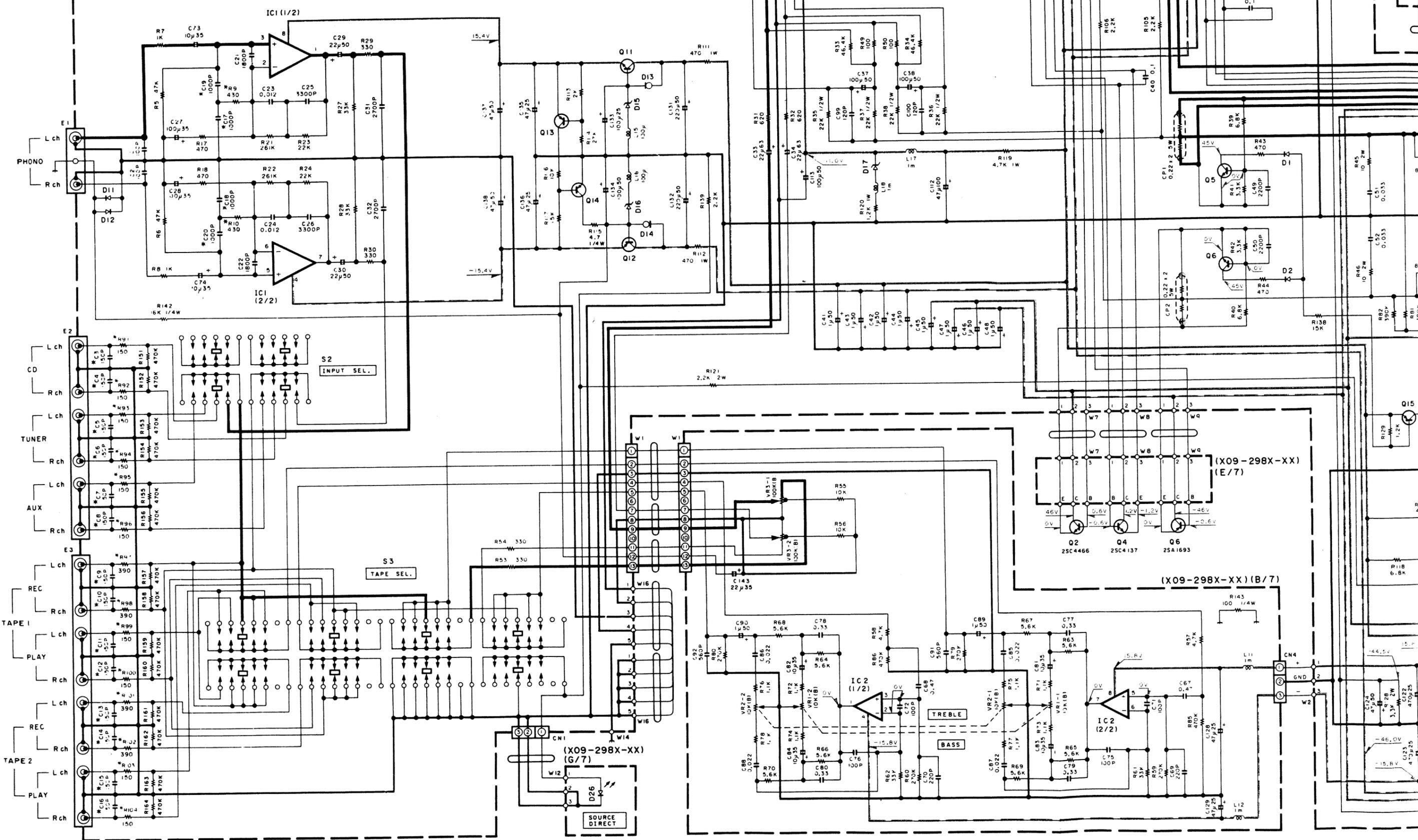
| Ref. No. | IC | Q  | Address |
|----------|----|----|---------|
| 1        |    |    | 2AF     |
| 2        |    |    | 2X      |
| 3        |    |    | 6AC     |
|          |    | 5  | 4AC     |
|          |    | 6  | 3AC     |
|          |    | 11 | 3AE     |
|          |    | 12 | 3AE     |
|          |    | 13 | 3AE     |
|          |    | 14 | 3AE     |
|          |    | 15 | 6AC     |

MAIN AMPLIFIER UNIT (X89-1122-70)

| Ref. No. | IC | Q | Address |
|----------|----|---|---------|
| 1        |    |   | 1AH     |
| 2        |    |   | 2AH     |
| 3        |    |   | 1AH     |
| 4        |    |   | 2AH     |
| 5        |    |   | 1AH     |
| 6        |    |   | 2AH     |
| 7        |    |   | 1AH     |
| 8        |    |   | 2AH     |
| 9        |    |   | 6AI     |
| 10       |    |   | 4AI     |
| 11       |    |   | 5AH     |
| 12       |    |   | 4AH     |
| 13       |    |   | 5AH     |
| 14       |    |   | 4AH     |
| 18       |    |   | 3AH     |
| 19       |    |   | 3AG     |

| Ref. No.    | R9, 10 | R9, 96, 99<br>100, 103, 104 | R97, 98<br>101, 102 | C3-20,<br>59-62, 93-98, 140 | W15 |
|-------------|--------|-----------------------------|---------------------|-----------------------------|-----|
| DESTINATION | 2-70   | YES                         | YES                 | YES                         | YES |
|             | 1-71   | NO                          | J                   | NO                          | NO  |

(X09-298X-XX) (A/7)

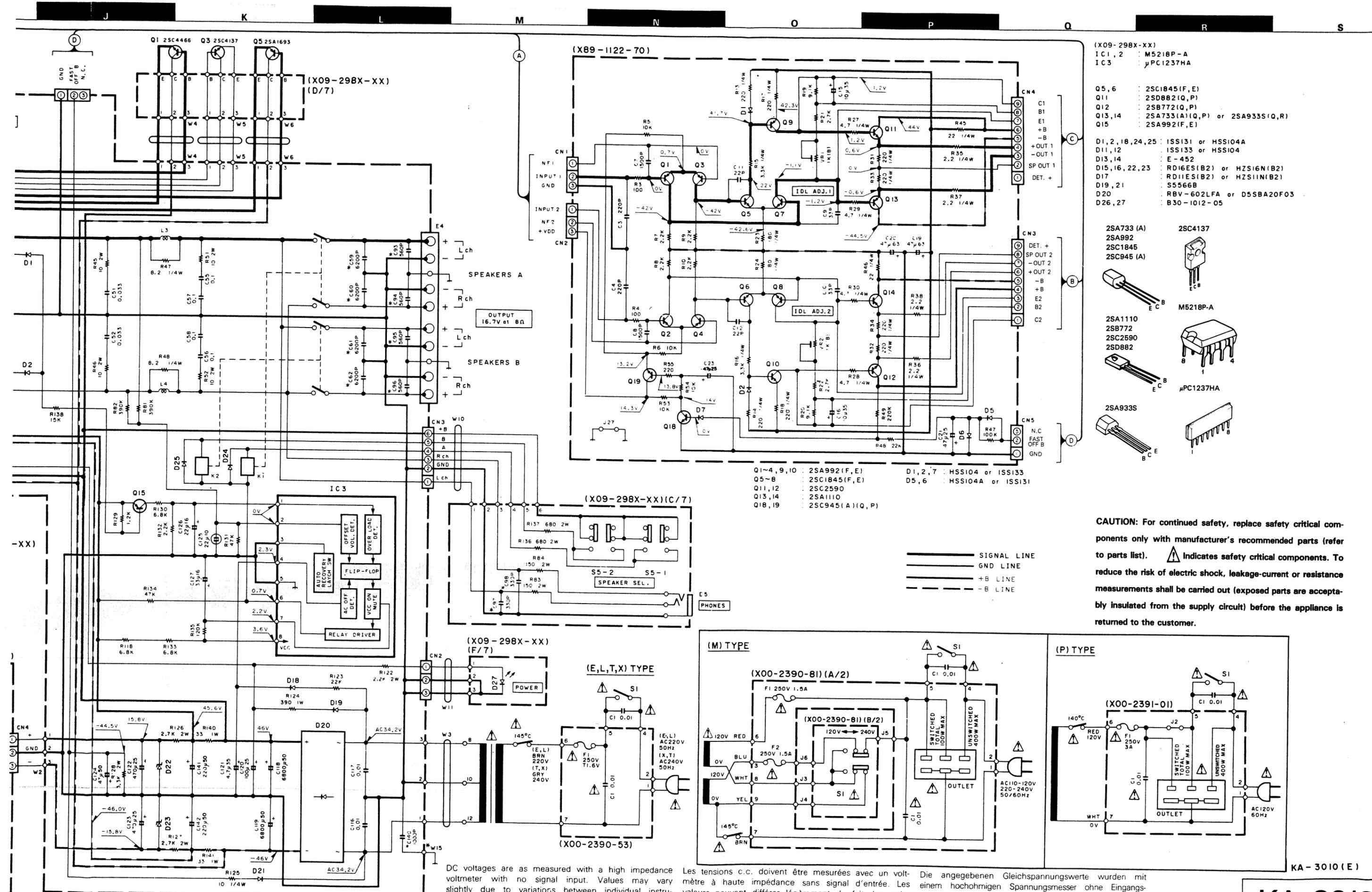


(X09-298X-XX) (E/7)

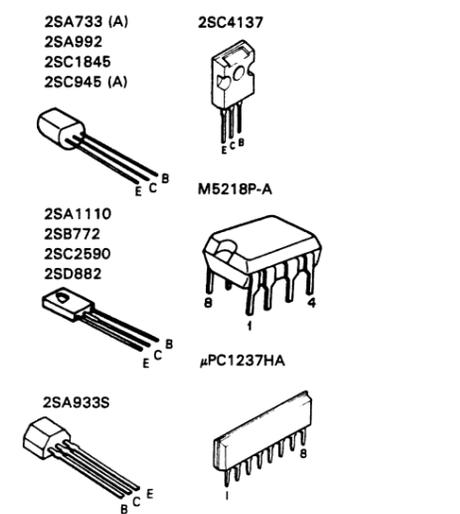
(X09-298X-XX) (B/7)

(X09-298X-XX) (G/7)

2  
3  
4  
5  
6  
7



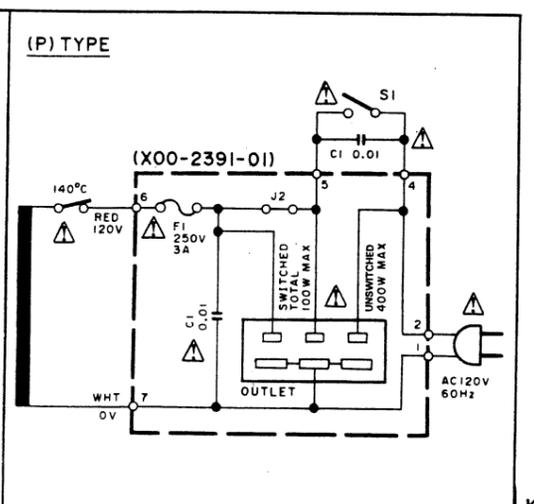
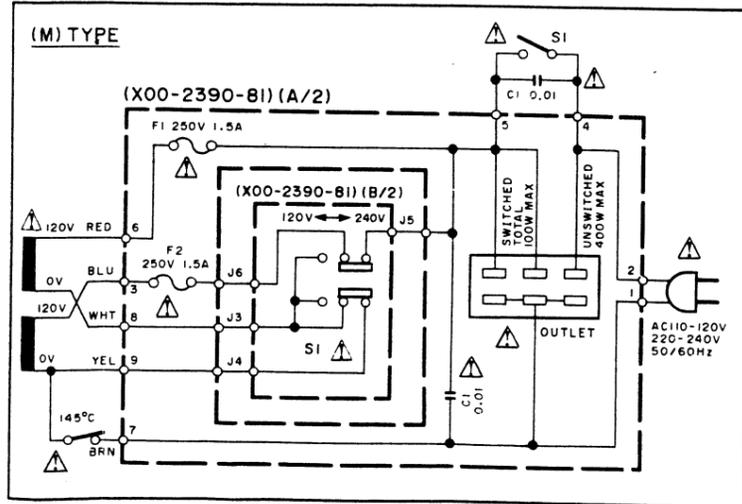
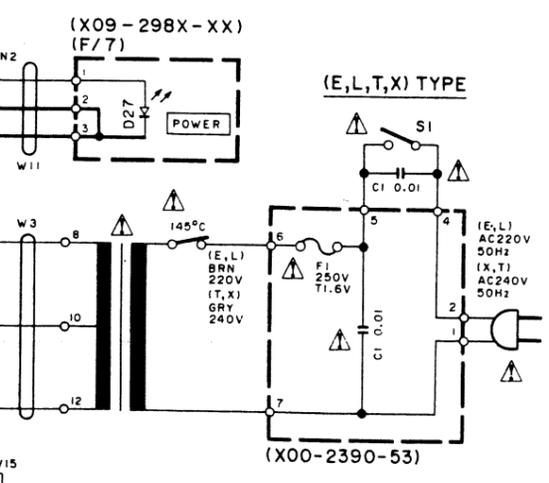
- (X09-298X-XX)  
 IC1, 2 : M5218P-A  
 IC3 :  $\mu$ PC1237HA
- Q5, 6 : 2SC1845(F, E)  
 Q11 : 2SD882(Q, P)  
 Q12 : 2SB772(Q, P)  
 Q13, 14 : 2SA733(A)(Q, P) or 2SA933S(Q, R)  
 Q15 : 2SA992(F, E)
- D1, 2, 18, 24, 25 : ISS131 or HSS104A  
 D11, 12 : ISS133 or HSS104  
 D13, 14 : E-452  
 D15, 16, 22, 23 : RD16ES(B2) or HZSI6N(B2)  
 D17 : RD11ES(B2) or HZSI1N(B2)  
 D19, 21 : S5566B  
 D20 : RBV-602LFA or D5SBA20F03  
 D26, 27 : B30-1012-05



- Q1-4, 9, 10 : 2SA992(F, E)  
 Q5-8 : 2SC1845(F, E)  
 Q11, 12 : 2SC2590  
 Q13, 14 : 2SA1110  
 Q18, 19 : 2SC945(A)(Q, P)
- D1, 2, 7 : HSS104 or ISS133  
 D5, 6 : HSS104A or ISS131



**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

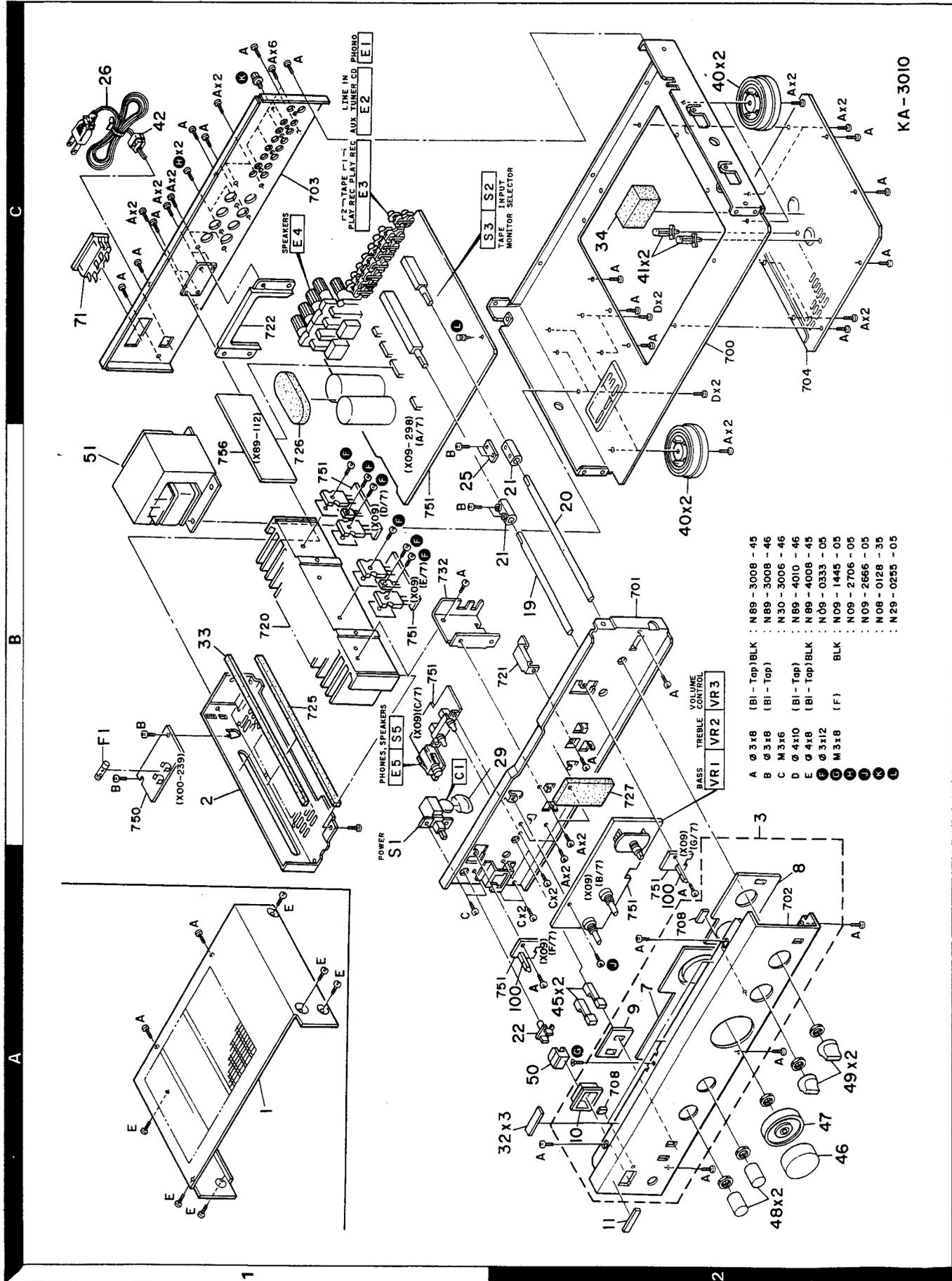
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanden die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

Y08-3782-70

# KA-3010

## EXPLODED VIEW



- |   |        |                |                  |
|---|--------|----------------|------------------|
| A | Ø 3x8  | (BI - Top) BLK | N 89 - 3008 - 45 |
| B | Ø 3x8  | (BI - Top)     | N 89 - 3008 - 46 |
| C | M 3x6  |                | N 30 - 3006 - 46 |
| D | Ø 4x10 | (BI - Top)     | N 89 - 4010 - 46 |
| E | Ø 4x8  | (BI - Top) BLK | N 89 - 4008 - 45 |
| F | Ø 3x12 |                | N 09 - 0333 - 05 |
| G | M 3x8  | (F)            | N 09 - 1445 - 05 |
| H |        |                | N 09 - 2706 - 05 |
| I |        |                | N 09 - 2666 - 05 |
| J |        |                | N 08 - 0128 - 35 |
| K |        |                | N 29 - 0255 - 05 |

# KA-3010

## PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

| Ref. No.<br>参照番号 | Address<br>位置 | New<br>Parts<br>新 | Parts No.<br>部品番号 | Description<br>部品名 / 規格       | Desti-<br>nation<br>仕向 | Re-<br>marks<br>備考 |
|------------------|---------------|-------------------|-------------------|-------------------------------|------------------------|--------------------|
| <b>KA-3010</b>   |               |                   |                   |                               |                        |                    |
| 1                | 1A            |                   | A01-1658-01       | METALLIC CABINET              |                        |                    |
| 2                | 1B            |                   | A13-1204-02       | FRAME CENTRE                  |                        |                    |
| 3                | 2B            | *                 | A20-5848-02       | PANEL ASSY                    |                        |                    |
| 7                | 2A            |                   | B07-1817-03       | ESCUTCHEON (VOL)              |                        |                    |
| 8                | 2A            |                   | B07-1818-04       | ESCUTCHEON (INPUT SEL)        |                        |                    |
| 9                | 2A            |                   | B07-1819-04       | ESCUTCHEON (SP SEL)           |                        |                    |
| 10               | 2A            |                   | B07-1895-04       | ESCUTCHEON (POWER)            |                        |                    |
| 11               | 2A            |                   | B43-0287-04       | KENWOOD BADGE                 |                        |                    |
| -                |               |                   | B46-0096-13       | WARRANTY CARD                 | X                      |                    |
| -                |               |                   | B46-0121-03       | WARRANTY CARD                 | P                      |                    |
| -                |               |                   | B46-0122-13       | WARRANTY CARD                 | EL                     |                    |
| -                |               |                   | B46-0143-03       | WARRANTY CARD                 | T                      |                    |
| -                |               | *                 | B50-9760-00       | INSTRUCTION MANUAL (ENG)      |                        |                    |
| -                |               | *                 | B50-9761-00       | INSTRUCTION MANUAL (FRE)      | ELMXP                  |                    |
| -                |               | *                 | B50-9762-00       | INSTRUCTION MANUAL (G/D/I)    | EL                     |                    |
| -                |               | *                 | B50-9763-00       | INSTRUCTION MANUAL (SP)       | M                      |                    |
| -                |               |                   | B58-0803-13       | CAUTION CARD                  | E                      |                    |
| △ C1             | 1B            |                   | C91-0023-05       | CERAMIC 0.01UF AC250V         | M                      |                    |
| △ C1             | 1B            |                   | C91-0647-05       | CERAMIC 0.01UF P              | ELXTP                  |                    |
| 19               | 2B            |                   | D21-1445-04       | EXTENSION SHAFT (S-DIRECT)    |                        |                    |
| 20               | 2B            |                   | D21-1446-04       | EXTENSION SHAFT (TAPE SEL)    |                        |                    |
| 21               | 2B            |                   | D22-0063-04       | SHAFT COUPLING                |                        |                    |
| 22               | 2A            | *                 | D21-1448-14       | EXTENSION SHAFT (POWER)       |                        |                    |
| 25               | 1B            |                   | E29-0320-04       | LEAD PLATE                    |                        |                    |
| △ 26             | 1C            |                   | E30-0459-05       | AC POWER CORD                 | EL                     |                    |
| △ 26             | 1C            |                   | E30-0812-05       | AC POWER CORD                 | M                      |                    |
| △ 26             | 1C            |                   | E30-0974-05       | AC POWER CORD                 | P                      |                    |
| △ 26             | 1C            |                   | E30-1341-05       | AC POWER CORD                 | X                      |                    |
| △ 26             | 1C            |                   | E30-1416-05       | AC POWER CORD                 | T                      |                    |
| 29               | 2B            |                   | F29-0067-05       | INSULATING COVER              | T                      |                    |
| △ 29             | 2B            |                   | F29-0072-05       | INSULATING COVER              | ELX                    |                    |
| △ F1             | 1B            |                   | F05-1623-05       | FUSE (SEMKO) (250V T1.6A)     | ELXTP                  |                    |
| △ F1             | 1B            |                   | F06-3023-05       | FUSE (UL) (250V 3A)           | P                      |                    |
| △ F1,2           | 1B            |                   | F05-1521-05       | FUSE (250V 1.5A)              | M                      |                    |
| 32               | 2A            |                   | G11-0155-14       | SOFT TAPE (40X9X2) PANEL      |                        |                    |
| 33               | 1B            |                   | G11-1286-04       | SOFT TAPE (HEAT SINK)         |                        |                    |
| 34               | 2C            | *                 | G11-1394-04       | CUSHION                       |                        |                    |
| -                |               | *                 | H01-8581-04       | ITEM CARTON CASE              |                        |                    |
| -                |               |                   | H10-3625-12       | POLYSTYRENE FOAMED FIXTURE    |                        |                    |
| -                |               |                   | H10-3626-12       | POLYSTYRENE FOAMED FIXTURE    |                        |                    |
| -                |               |                   | H25-0225-04       | PROTECTION BAG (850X450X0.03) |                        |                    |
| -                |               |                   | H25-0232-04       | PROTECTION BAG (235X350X0.03) |                        |                    |
| 40               | 2B            |                   | J02-1002-05       | FOOT                          |                        |                    |
| 41               | 2C            |                   | J19-2536-05       | UNIT HOLDER                   |                        |                    |
| △ 42             | 1C            |                   | J42-0083-05       | POWER CORD BUSHING            |                        |                    |
| -                |               |                   | J61-0307-05       | WIRE BAND                     |                        |                    |
| 45               | 2A            |                   | K27-1898-04       | KNOB (BUTTON) SP              |                        |                    |
| 46               | 2A            |                   | K29-3213-04       | KNOB VR(L)                    |                        |                    |
| 47               | 2A            |                   | K29-3214-04       | KNOB VR(R)                    |                        |                    |
| 48               | 2A            |                   | K29-3215-04       | KNOB TONE                     |                        |                    |
| 49               | 2A            |                   | K29-3216-04       | KNOB TARE, INP                |                        |                    |

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|--|---------------|-------------------|-------------------|----------------------------|-------------------------|--------------------|
| 50                                     | 2A            |                   | K29-3363-14       | KNØB POWER                 |                         |                    |
| △ 51                                   | 1B            |                   | L01-5291-05       | POWER TRANSFORM            |                         |                    |
| △ 51                                   | 1B            |                   | L01-5292-15       | POWER TRANSFORMER          | EL                      |                    |
| △ 51                                   | 1B            |                   | L01-5295-05       | POWER TRANSFORMER          | M                       |                    |
| △ 51                                   | 1B            |                   | L01-5297-15       | POWER TRANSFORMER          | XT                      |                    |
| A                                      | 1C            |                   | N89-3008-45       | BINDING HEAD TAPTITE SCREW |                         |                    |
| B                                      | 1B            |                   | N89-3008-46       | BINDING HEAD TAPTITE SCREW |                         |                    |
| C                                      | 2A            |                   | N30-3006-46       | PAN HEAD MACHINE SCREW     |                         |                    |
| D                                      | 2C            |                   | N89-4010-46       | BINDING HEAD TAPTITE SCREW |                         |                    |
| E                                      | 1A            |                   | N89-4008-45       | BINDING HEAD TAPTITE SCREW |                         |                    |
| F                                      | 1B            |                   | N09-0333-05       | TAPPING SCREW (3X12)       |                         |                    |
| G                                      | 2A            |                   | N09-1445-05       | SET SCREW (M3X8)           |                         |                    |
| H                                      | 1C            |                   | N09-2706-05       | TAPTITE SCREW              |                         |                    |
| J                                      | 2A            |                   | N09-2666-05       | STEPPED SCREW              |                         |                    |
| K                                      | 1C            |                   | N08-0128-35       | BINDING POST (GND)         |                         |                    |
| L                                      | 1C            |                   | N29-0255-05       | PUSH RIVET                 |                         |                    |
| △ S1                                   | 1B            |                   | S40-1066-05       | PUSH SWITCH (POWER)        |                         |                    |
| △ Q1,2                                 |               | *                 | 2SC4466*5         | TRANSISTOR                 |                         |                    |
| △ Q3,4                                 |               |                   | 2SC4137           | TRANSISTOR                 |                         |                    |
| △ Q5,6                                 |               | *                 | 2SA1693*5         | TRANSISTOR                 |                         |                    |
| <b>POWER SUPPLY UNIT (X00-2390-53)</b> |               |                   |                   |                            |                         |                    |
| △ C1                                   | 1B            |                   | C91-0023-05       | CERAMIC 0.01UF AC250V      | M                       |                    |
| △ C1                                   | 1B            |                   | C91-0647-05       | CERAMIC 0.01UF P           | ELXTP                   |                    |
| △ 71                                   | 1C            | *                 | E03-0077-05       | AC OUTLET                  | M                       |                    |
| △ 71                                   | 1C            | *                 | E03-0078-05       | AC OUTLET                  | P                       |                    |
| -                                      |               |                   | J13-0041-05       | FUSE CLIP                  | MP                      |                    |
| -                                      |               |                   | J13-0054-05       | FUSE CLIP                  | ELXT                    |                    |
| △ S1                                   | 1B            |                   | S31-2126-05       | SLIDE SWITCH (POWER VOLT)  | M                       |                    |
| <b>AUDIO UNIT (X09-2982-70)</b>        |               |                   |                   |                            |                         |                    |
| D26 ,27                                |               |                   | B30-1012-05       | LED(SLP-981C-50)           |                         |                    |
| C1 ,2                                  |               |                   | CF92FV1H101K      | MF 100PF K                 |                         |                    |
| C3 -16                                 |               |                   | CF92FV1H151K      | MF 150PF K                 |                         | ET                 |
| C17 -20                                |               |                   | CF92FV1H102J      | MF 1000PF J                |                         | ET                 |
| C21 ,22                                |               |                   | C91-0102-05       | POLYSTY 1800PF J           |                         |                    |
| C23 ,24                                |               |                   | CF92FV1H123J      | MF 0.012UF J               |                         |                    |
| C25 ,26                                |               |                   | CF92FV1H332J      | MF 3300PF J                |                         |                    |
| C27 ,28                                |               |                   | CE04KW1V101M      | ELECTRO 100UF 35WV         |                         |                    |
| C29 ,30                                |               |                   | CE04KW1H220M      | ELECTRO 22UF 50WV          |                         |                    |
| C31 ,32                                |               |                   | CF92FV1H272J      | MF 2700PF J                |                         |                    |
| C33 ,34                                |               |                   | CE04KW1J220M      | ELECTRO 22UF 63WV          |                         |                    |
| C37 ,38                                |               |                   | C90-1783-05       | ELECTRO 100UF 50WV         |                         |                    |
| C39 ,40                                |               |                   | CF92FV1H104J      | MF 0.10UF J                |                         |                    |
| C41 -48                                |               |                   | CE04KW1H010M      | ELECTRO 1.0UF 50WV         |                         |                    |
| C49 ,50                                |               |                   | CK45FB1H222K      | CERAMIC 2200PF K           |                         |                    |
| C51 ,52                                |               |                   | CF92FV1H333J      | MF 0.033UF J               |                         |                    |
| C55 -58                                |               |                   | CF92FV1H104J      | MF 0.10UF J                |                         |                    |
| C59 -62                                |               |                   | CF92FV1H622J      | MF 6200PF J                |                         |                    |
| C67 ,68                                |               |                   | CF92FV1H474J      | MF 0.47UF J                |                         |                    |
| C69 ,70                                |               |                   | C91-0092-05       | POLYSTY 220PF J            |                         |                    |
| C71 ,72                                |               |                   | CF92FV1H101K      | MF 100PF K                 |                         |                    |

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| C73 ,74          |               |                   | CE04KW1V100M      | ELECTRO 10UF 35WV             |                        |                    |
| C75 ,76          |               |                   | C91-0088-05       | POLYSTY 100PF K               |                        |                    |
| C77 -80          |               |                   | CF92FV1H334J      | MF 0.33UF J                   |                        |                    |
| C81 -84          |               |                   | CE04KW1V100M      | ELECTRO 10UF 35WV             |                        |                    |
| C85 -88          |               |                   | CF92FV1H223J      | MF 0.022UF J                  |                        |                    |
| C89 ,90          |               |                   | CE04KW1H010M      | ELECTRO 1.0UF 50WV            |                        |                    |
| C91 -96          |               |                   | CK45FB1H561K      | CERAMIC 560PF K               | ET                     |                    |
| C91 ,92          |               |                   | CK45FB1H561K      | CERAMIC 560PF K               | LMXP                   |                    |
| C97 ,98          |               |                   | CC45FSL1H331J     | CERAMIC 330PF J               | ET                     |                    |
| C99 ,100         |               |                   | C91-0089-05       | POLYSTY 120PF J               |                        |                    |
| C112             |               |                   | CE04KW2A470M      | ELECTRO 47UF 100WV            |                        |                    |
| C113             |               |                   | C90-1783-05       | ELECTRO 100UF 50WV            |                        |                    |
| C116,117         |               |                   | CK45FE2H103P      | CERAMIC 0.010UF P             |                        |                    |
| C118,119         |               |                   | C90-1662-05       | ELECTRO 6800UF 50WV           | ET                     |                    |
| C118,119         |               |                   | C90-1663-05       | ELECTRO 6800UF 50WV           | LMXP                   |                    |
| C120             |               |                   | CE04KW1E101M      | ELECTRO 100UF 25WV            |                        |                    |
| C121             |               |                   | CE04KW1V4R7M      | ELECTRO 4.7UF 35WV            |                        |                    |
| C122,123         |               |                   | CE04KW1E471M      | ELECTRO 470UF 25WV            |                        |                    |
| C124             |               |                   | CE04KW1H470M      | ELECTRO 47UF 50WV             |                        |                    |
| C125             |               |                   | C90-1333-05       | NP-ELEC 22UF 10WV             |                        |                    |
| C126             |               |                   | CE04KW1C220M      | ELECTRO 22UF 16WV             |                        |                    |
| C127             |               |                   | CE04KW1C330M      | ELECTRO 33UF 16WV             |                        |                    |
| C128,129         |               |                   | CE04KW1E470M      | ELECTRO 47UF 25WV             |                        |                    |
| C131,132         |               |                   | CE04KW1H221M      | ELECTRO 220UF 50WV            |                        |                    |
| C133             |               |                   | CE04KW1E101M      | ELECTRO 100UF 25WV            |                        |                    |
| C134             |               |                   | CE04KW1H101M      | ELECTRO 100UF 50WV            |                        |                    |
| C135,136         |               |                   | CE04KW1E470M      | ELECTRO 47UF 25WV             |                        |                    |
| C137,138         |               |                   | CE04KW1H470M      | ELECTRO 47UF 50WV             |                        |                    |
| C140             |               |                   | CF92FV1H102J      | MF 1000PF J                   | ET                     |                    |
| C141,142         |               |                   | CE04KW1H221M      | ELECTRO 220UF 50WV            |                        |                    |
| C143             |               |                   | CE04KW1V220M      | ELECTRO 22UF 35WV             |                        |                    |
| E1               | 1C            |                   | E13-0235-05       | PHONE JACK (2P)               |                        |                    |
| E2               | 1C            |                   | E13-0621-05       | PHONE JACK (6P)               |                        |                    |
| E3               | 1C            |                   | E13-0814-05       | PHONE JACK (8P)               |                        |                    |
| E4               | 1C            |                   | E20-0832-05       | SCREW TERMINAL BOARD          | LMXP                   |                    |
| E4               | 1C            |                   | E20-0835-05       | SCREW TERMINAL BOARD          | ET                     |                    |
| E5               | 1B            |                   | E11-0189-05       | PHONE JACK                    |                        |                    |
| 100              | 2A            |                   | J19-2561-04       | LED HOLDER                    |                        |                    |
| L3 ,4            |               |                   | L39-0080-15       | PHASE-COMPENSATION COIL       |                        |                    |
| L11 ,12          |               |                   | L40-1021-14       | SMALL FIXED INDUCTOR(1.0MH,K) |                        |                    |
| L15 ,16          |               |                   | L40-1011-17       | SMALL FIXED INDUCTOR(100UH,K) |                        |                    |
| L17              |               |                   | L40-1021-11       | SMALL FIXED INDUCTOR(1.0MH,K) |                        |                    |
| L18              |               |                   | L40-1021-14       | SMALL FIXED INDUCTOR(1.0MH,K) |                        |                    |
| CP1 ,2           |               |                   | R90-0187-05       | MULTI-COMP 0.22X2 K 5W        |                        |                    |
| R21 ,22          |               | *                 | RN14BK2C2613FTS   | RN 261K F 1/6W                |                        |                    |
| R33 ,34          |               |                   | RN14BK2C4642FTS   | RN 46.4K F 1/6W               |                        |                    |
| R35 -38          |               |                   | R92-1729-05       | RD 22K J 1/2W                 |                        |                    |
| R45 ,46          |               |                   | RS14DB3D100JTE    | FL-PROOF RS 10 J 2W           |                        |                    |
| R47 ,48          |               | *                 | RD14AB2E6R2JTS    | FL-PROOF RD 8.2 J 1/4W        |                        |                    |
| R49 ,50          |               |                   | RN14BK2C1000FTS   | RN 100.0 F 1/6W               |                        |                    |
| R51 ,52          |               |                   | RS14DB3D100JTE    | FL-PROOF RS 10 J 2W           |                        |                    |
| R83 ,84          |               |                   | RS14DB3D151JTE    | FL-PROOF RS 150 J 2W          |                        |                    |
| R111,112         |               | *                 | RS14DB3A471JTE    | FL-PROOF RS 470 J 1W          |                        |                    |

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| R115                                     |               |                   | RD14AB2E4R7JTS    | FL-PROOF RD 4.7 J 1/4W         |                         |                    |
| R119                                     |               |                   | RS14DB3D392JTE    | FL-PROOF RS 3.9K J 2W          |                         |                    |
| R120                                     |               |                   | RS14DB3A122JTE    | FL-PROOF RS 1.2K J 1W          |                         |                    |
| R121,122                                 |               |                   | RS14DB3D222JTE    | FL-PROOF RS 2.2K J 2W          |                         |                    |
| R124                                     |               |                   | RS14DB3A391JTE    | FL-PROOF RS 390 J 1W           |                         |                    |
| R125                                     |               |                   | RD14AB2E100JTS    | FL-PROOF RD 10 J 1/4W          |                         |                    |
| R126,127                                 |               |                   | RS14DB3D272JTE    | FL-PROOF RS 2.7K J 2W          |                         |                    |
| R128                                     |               |                   | RS14DB3D332JTE    | FL-PROOF RS 3.3K J 2W          |                         |                    |
| R136,137                                 |               |                   | RS14DB3D681JTE    | FL-PROOF RS 680 J 2W           |                         |                    |
| R140,141                                 |               | *                 | RS14DB3A330JTE    | FL-PROOF RS 33 J 1W            |                         |                    |
| VR1 ,2                                   |               |                   | R06-3048-05       | POTENTIOMETER(10K B) TONE      |                         |                    |
| VR3                                      |               |                   | R19-5002-05       | POTENTIOMETER (VOL)            |                         |                    |
| K1 ,2                                    |               |                   | S51-2078-05       | MAGNETIC RELAY                 |                         |                    |
| S2                                       |               |                   | S29-4020-05       | ROTARY SWITCH (INPUT SEL)      |                         |                    |
| S3                                       |               |                   | S29-8002-05       | ROTARY SWITCH (TAPE SEL)       |                         |                    |
| S5                                       |               |                   | S42-2166-05       | MULTIPLE PUSH SWITCH(SPEAKERS) |                         |                    |
| D1 ,2                                    |               |                   | HSS104A           | DIODE                          |                         |                    |
| D1 ,2                                    |               |                   | 1SS131            | DIODE                          |                         |                    |
| D11 ,12                                  |               |                   | HSS104            | DIODE                          |                         |                    |
| D11 ,12                                  |               |                   | 1SS133            | DIODE                          |                         |                    |
| D13 ,14                                  |               |                   | E-452             | CONSTANT CURRENT DIODE         |                         |                    |
| D15 ,16                                  |               |                   | HZS16N(B2)        | ZENER DIODE                    |                         |                    |
| D15 ,16                                  |               |                   | RD16ES(B2)        | ZENER DIODE                    |                         |                    |
| D17                                      |               |                   | HZS11N(B2)        | ZENER DIODE                    |                         |                    |
| D17                                      |               |                   | RD11ES(B2)        | ZENER DIODE                    |                         |                    |
| D18                                      |               |                   | HSS104A           | DIODE                          |                         |                    |
| D18                                      |               |                   | 1SS131            | DIODE                          |                         |                    |
| D19                                      |               |                   | S5566B            | DIODE                          |                         |                    |
| D20                                      |               |                   | D5SBA20F03        | DIODE                          |                         |                    |
| D20                                      |               |                   | RBV-602LFA        | DIODE                          |                         |                    |
| D21                                      |               |                   | S5566B            | DIODE                          |                         |                    |
| D22 ,23                                  |               |                   | HZS16N(B2)        | ZENER DIODE                    |                         |                    |
| D22 ,23                                  |               |                   | RD16ES(B2)        | ZENER DIODE                    |                         |                    |
| D24 ,25                                  |               |                   | HSS104A           | DIODE                          |                         |                    |
| D24 ,25                                  |               |                   | 1SS131            | DIODE                          |                         |                    |
| IC1 ,2                                   |               |                   | M5218P-A          | IC(OP AMP X2)                  |                         |                    |
| IC3                                      |               |                   | UPC1237HA         | IC(POWER AMP)                  |                         |                    |
| Q5 ,6                                    |               |                   | 2SC1845(F,E)      | TRANSISTOR                     |                         |                    |
| Q11                                      |               |                   | 2SD882(Q,P)       | TRANSISTOR                     |                         |                    |
| Q12                                      |               |                   | 2SB772(Q,P)       | TRANSISTOR                     |                         |                    |
| Q13 ,14                                  |               |                   | 2SA733(A)(Q,P)    | TRANSISTOR                     |                         |                    |
| Q13 ,14                                  |               |                   | 2SA933S(Q,R)      | TRANSISTOR                     |                         |                    |
| Q15                                      |               |                   | 2SA992(F,E)       | TRANSISTOR                     |                         |                    |
| <b>MAIN AMPLIFIER UNIT (X89-1122-70)</b> |               |                   |                   |                                |                         |                    |
| C3 ,4                                    |               |                   | CF92FV1H221K      | MF 220PF K                     |                         |                    |
| C7 ,8                                    |               |                   | C91-0178-05       | POLYSTY 1500PF J               |                         |                    |
| C9 ,10                                   |               |                   | C91-0172-05       | POLYSTY 33PF K                 |                         |                    |
| C11 ,12                                  |               |                   | C91-0170-05       | POLYSTY 22PF K                 |                         |                    |
| C15 ,16                                  |               |                   | CE04KW1V100M      | ELECTRO 10UF 35WV              |                         |                    |
| C19                                      |               |                   | CE04KW1J470M      | ELECTRO 47UF 63WV              |                         |                    |
| C20                                      |               |                   | CE04KW1J470M      | ELECTRO 47UF 63WV              |                         |                    |
| C21 ,23                                  |               |                   | CE04KW1E470M      | ELECTRO 47UF 25WV              |                         |                    |
| R13 ,14                                  |               |                   | RD14AB2E221JTS    | FL-PROOF RD 220 J 1/4W         |                         |                    |

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| R17 ,18          |               |                   | RD14AB2E221JTS    | FL-PROOF RD 220 J 1/4W  |                        |                    |
| R23 ,24          |               |                   | RD14AB2E181JTS    | FL-PROOF RD 180 J 1/4W  |                        |                    |
| R27 -30          |               |                   | RD14AB2E4R7JTS    | FL-PROOF RD 4.7 J 1/4W  |                        |                    |
| R31 -34          |               |                   | RD14AB2E221JTS    | FL-PROOF RD 220 J 1/4W  |                        |                    |
| R35 -38          |               |                   | RD14AB2E2R2JTS    | FL-PROOF RD 2.2 J 1/4W  |                        |                    |
| R45 ,46          |               |                   | RD14AB2E220JTS    | FL-PROOF RD 22 J 1/4W   |                        |                    |
| VR1 ,2           |               |                   | R12-1070-05       | TRIMMING POT.(1K 27)    |                        |                    |
| D1 ,2            |               |                   | HSS104            | DIODE                   |                        |                    |
| D1 ,2            |               |                   | 1SS133            | DIODE                   |                        |                    |
| D5 ,6            |               |                   | HSS104A           | DIODE                   |                        |                    |
| D5 ,6            |               |                   | 1SS131            | DIODE                   |                        |                    |
| D7               |               |                   | HSS104            | DIODE                   |                        |                    |
| D7               |               |                   | 1SS133            | DIODE                   |                        |                    |
| Q1 -4            |               |                   | 2SA992(F,E)       | TRANSISTOR              |                        |                    |
| Q5 -8            |               |                   | 2SC1845(F,E)      | TRANSISTOR              |                        |                    |
| Q9 ,10           |               |                   | 2SA992(F,E)       | TRANSISTOR              |                        |                    |
| Q11 ,12          |               |                   | 2SC2590           | TRANSISTOR              |                        |                    |
| Q13 ,14          |               |                   | 2SA1110           | TRANSISTOR              |                        |                    |
| Q18 ,19          |               |                   | 2SC945(A)(Q,P)    | TRANSISTOR              |                        |                    |

E: Europe

K: USA

P: Canada

U: PX(Far East, Hawaii)

T: England

M: Other Areas

UE: AAFES(Europe)

X: Australia

L: Scandinavia

△ indicates safety critical components.

# KA-3010

## SPECIFICATIONS

### Power Output

35 watts per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion

|   |  |
|---|--|
| Maximum continuous Power Output (DIN) 1 kHz at 4 ohms .....           | 49 W + 49 W  |
| Maximum continuous Power Output (DIN) 1 kHz at 8 ohms .....           | 40 W + 40 W  |
| Maximum continuous Power Output (IEC/NF) from 63 Hz to 12,500 Hz 0.7% |  |
| Total Harmonic Distortion at 8 ohms .....                             | 38 W + 38 W  |
| Total Harmonic Distortion<br>(20 Hz-20,000 Hz, 8 ohms)                | : 0.09%  |
| (1 kHz, 8 ohms)   | : 0.01%  |
| Frequency Response  | : 10 Hz to 70 kHz/ +0 dB, -3 dB                                    |
| Phono Frequency Response  | : RIAA Standard curve $\pm 0.3$ dB (20 Hz to 20 kHz)               |
| Damping Factor  | : 250 (50 Hz)  |
| Signal to Noise Ratio   | <b>IHF'66</b> <b>IHF'78</b>  |
| PHONO (MM)  | : 72 dB, 2.5 mV                      76 dB                         |
| TUNER/CD/AUX/TAPE   | : 106 dB, 150 mV                      80 dB                        |
| Signal to Noise Ratio at Unweighted, 50 mW Output<br>(DIN)            |  |
| PHONO (MM)  | : 57 dB  |
| TUNER/CD/AUX/TAPE   | : 57 dB  |
| Input Sensitivity/Impedance   |  |
| PHONO (MM)  | : 2.5 mV/47 kohms  |
| TUNER/CD/AUX/TAPE   | : 150 mV/47 kohms  |
| Phono Maximum Input Level<br>(MM)                                     | : 145 mV, 0.09% T.H.D. at 1 kHz                                    |
| Output Level/Impedance  |  |
| TAPE REC  | : 150 mV/220 ohms  |
| Tone Control  |  |
| TREBLE  | : $\pm 10$ dB at 10 kHz  |
| BASS  | : $\pm 10$ dB at 100 Hz  |
| Phono Input Capacity  | : 150 pF   |
| <br>  |  |
| General   |  |
| Power Consumption   | : 2.5 A (Canada Models)<br>150 W (Others)                          |
| Dimensions  | : W 440 mm (17-5/16")<br>H 103 mm (4-1/16")<br>D 345 mm (13-9/16") |
| Weight (Net)  | : 6.8 kg (15.0 lb)   |

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

KENWOOD strebt ständige, Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

### Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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