

# INTEGRATED AV SURROUND AMPLIFIER

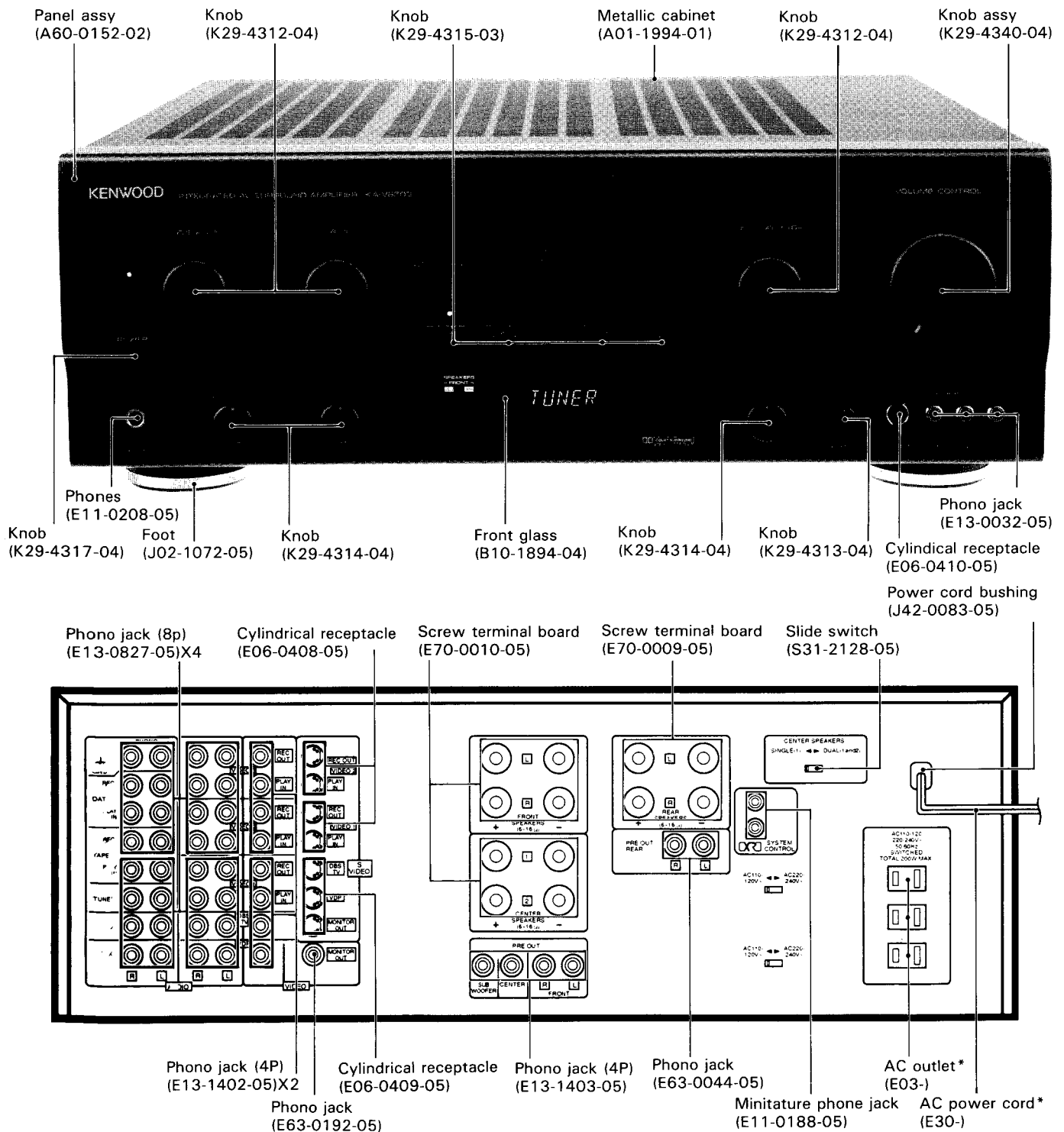
# KA-V8500

# SERVICE MANUAL

# KENWOOD

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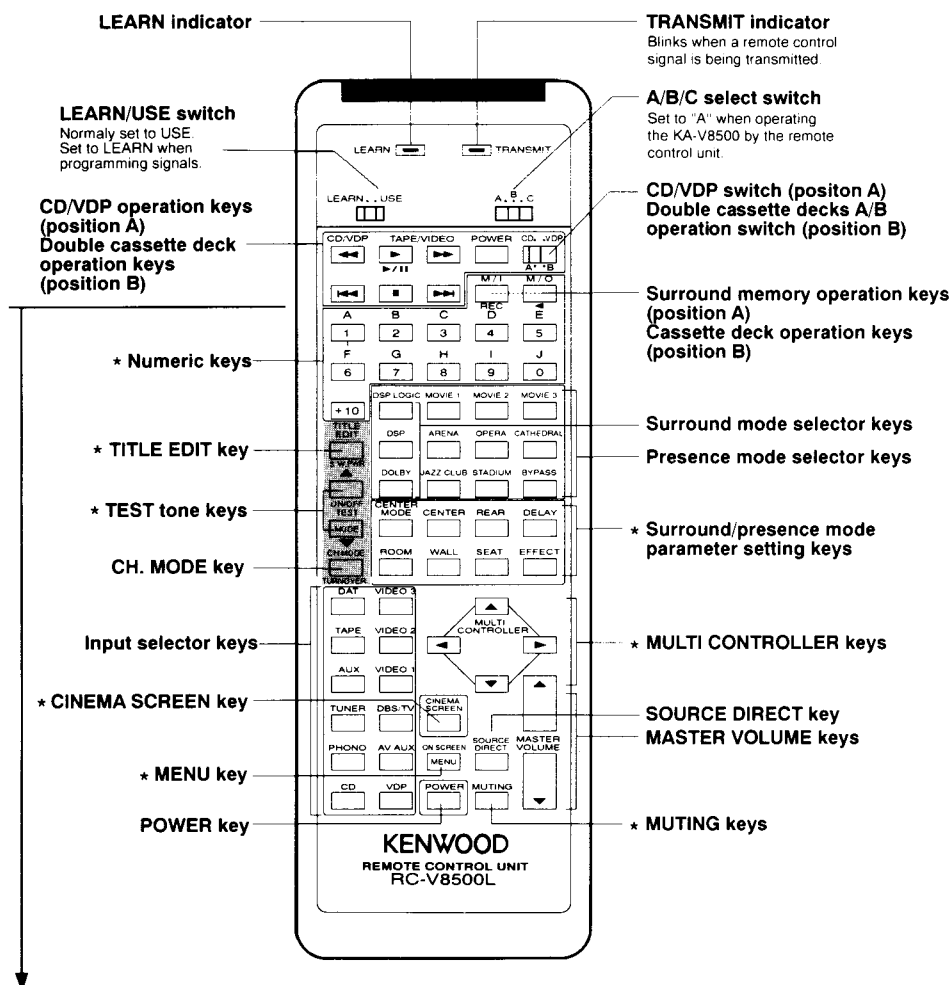
\*Refer to parts list on page 57.

# KA-V8500

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## REMOTE CONTROL UNIT



### KA-V8500 operation keys

These keys have the same functions as the keys on the KA-V8500 main unit.  
The keys marked \* are provided only on the remote control unit.

- The super woofers SW-07, 700, SW-09, 900 can be operated with the shaded keys (Position B)

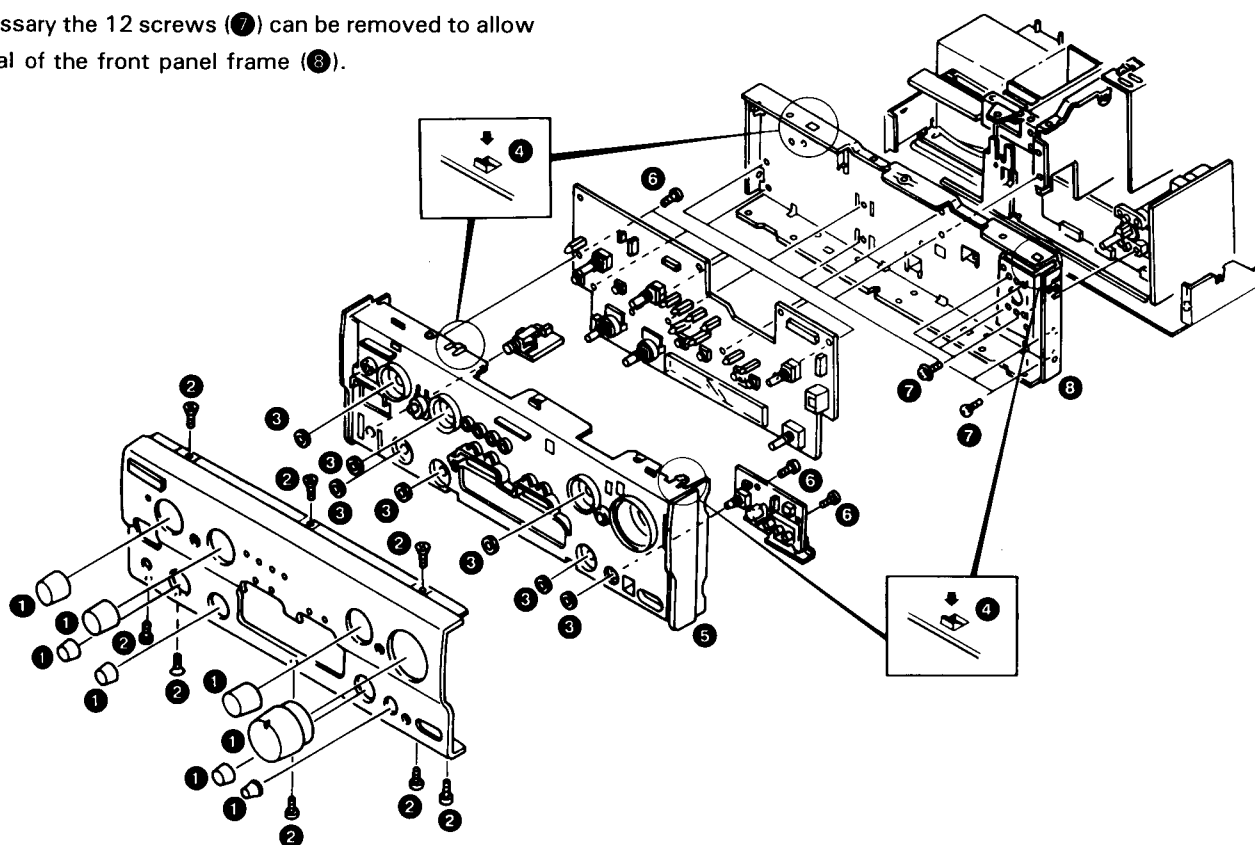
## DISASSEMBLY FOR REPAIR

### How to disassemble the for repairs

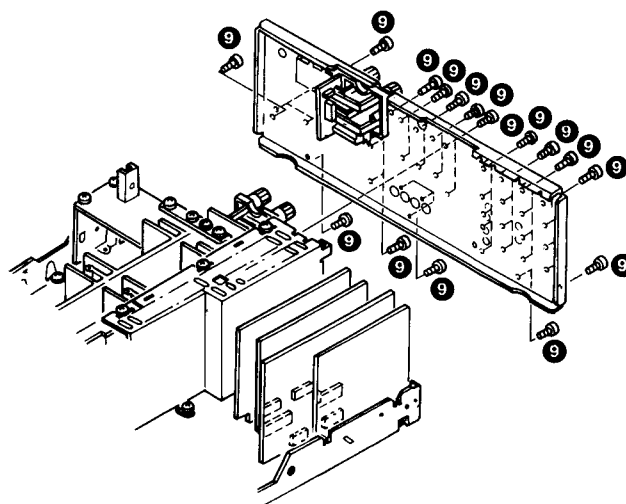
First remove the case.

#### How to remove the panels

1. Remove the 8 knobs (1).
2. Remove the 8 screws (2) and lift off the front panel.
3. Remove the 7 nuts (3), push down the two tabs on top (4) and remove the sub panel assembly (5).
4. Remove the 10 screws (6) and lift off the control unit.
5. If necessary the 12 screws (7) can be removed to allow removal of the front panel frame (8).



6. Remove the 37 screws (9) and lift off the rear panel.

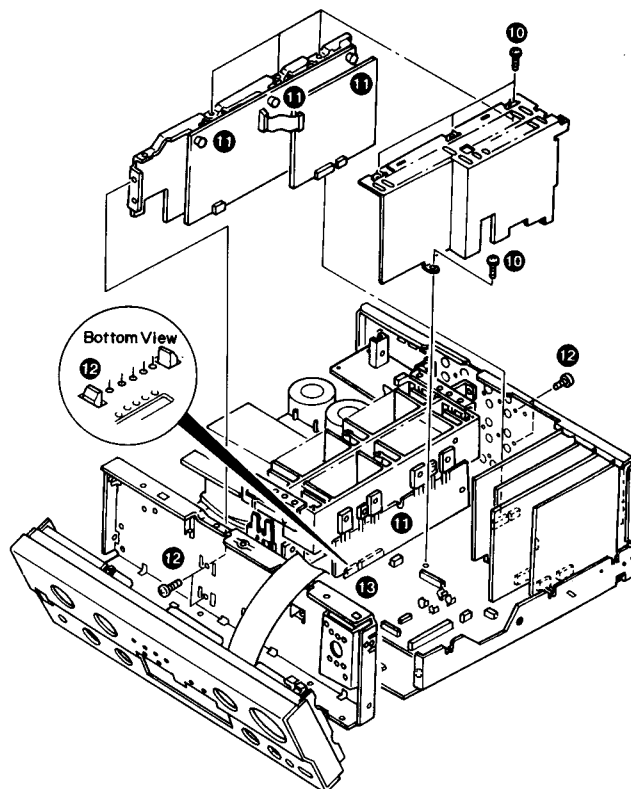


# KA-V8500

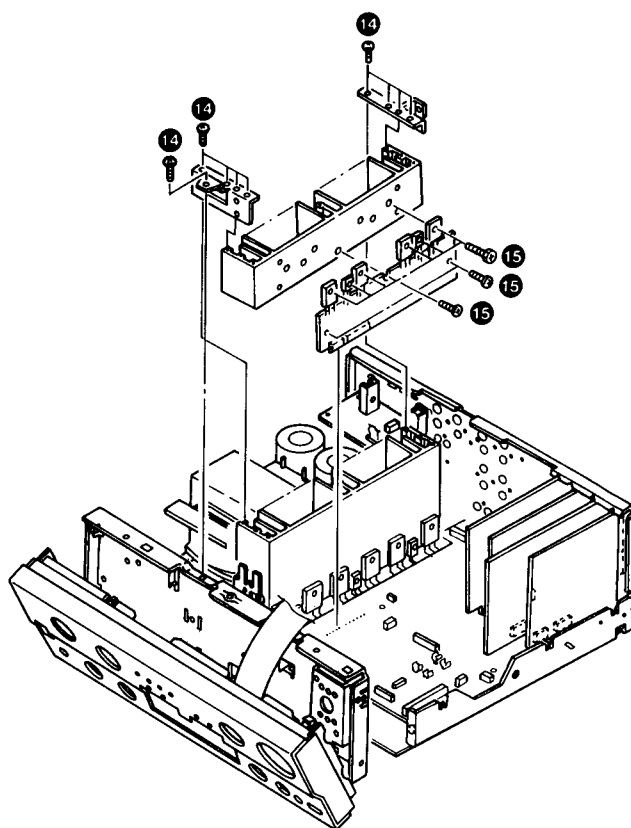
## DISASSEMBLY FOR REPAIR

### How to remove the surround unit

1. Remove the sub panel assembly (5) according to the instructions for removing the panels. (In this case it is not necessary to remove the knobs).
2. Remove the 4 screws (9) and lift off the shield cover.
3. Remove the 3 push rivets (11) and pull up the X08 A/6 and B/6.
4. Remove the 4 screws (12) and lift off the front side of the center frame. (At this point you can check the rear amplifier's power unit.)
5. Turn over the set, remove the bottom panel's 9 screws and lift off the bottom panel.
6. From the bottom side, remove the soldering of the X08 E/6 connector CN12 (13).

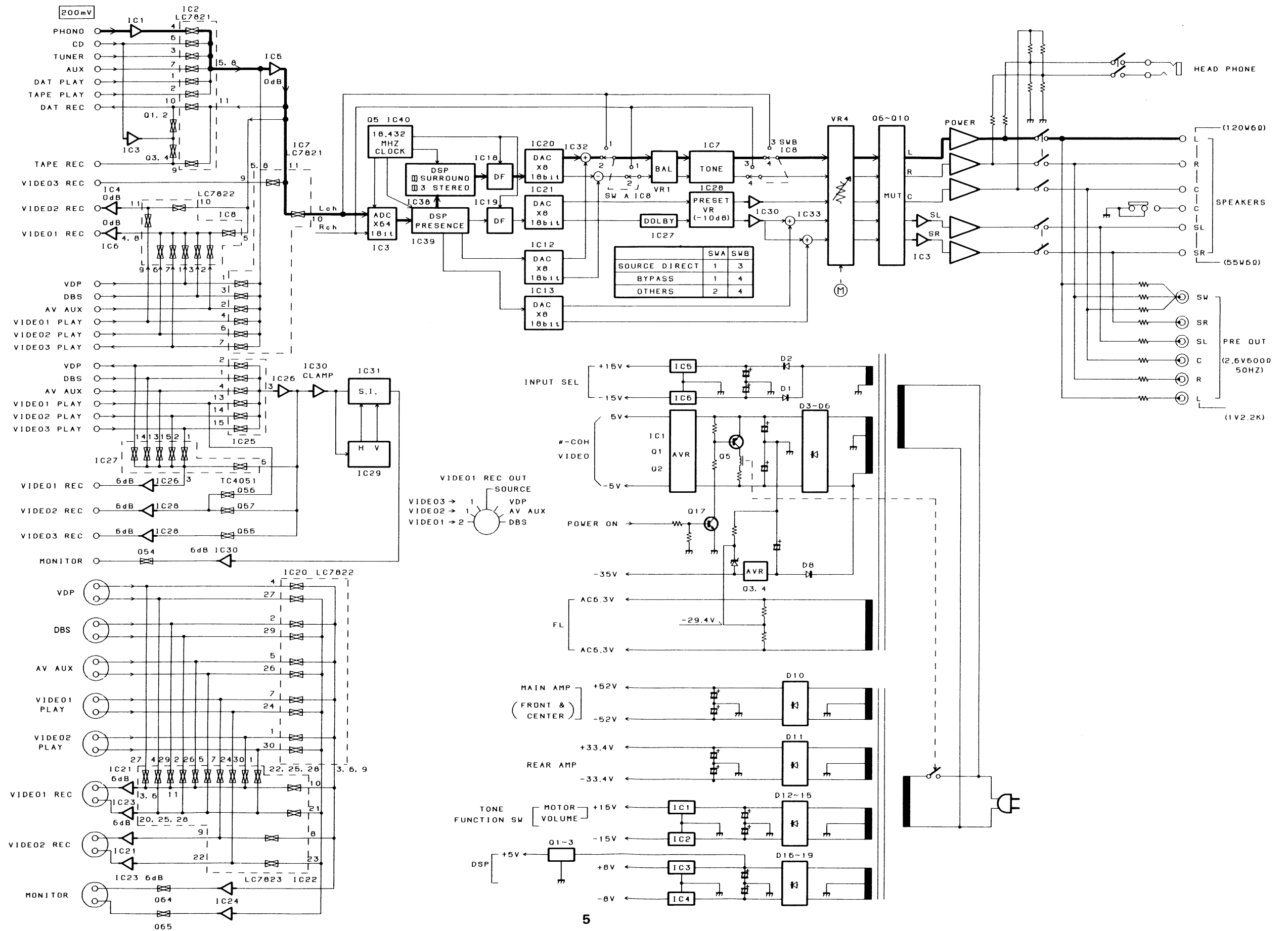


7. Turn over the set again (5, 6., upright it) remove the 9 screws (14) and lift off the heat sink and the X08 E/6. (At this point you can check the final transistors.)
8. If necessary the 9 screws (15) can be removed to allow removal of the X08 E/6.



# KA-V8500 KA-V8500

## BLOCK DIAGRAM



KA-V8500

CIRCUIT DESCRIPTION

Outline

(1) Features

1. Input selectors

- Audio : six circuits  
AV : six circuits  
S inputs : five circuits  
S outputs : three circuits

2. TV on screen function

3. FL display

4. Surround user memory

5. Mode: Dolby Surround ProLogic, Dolby 3 stereo, DSP, DSP logic

6. Dolby Surround ProLogic (Normal, Wide, Phantom)

7. Dolby 3 stereo (Normal, Wide)

8. DSP, Presence mode during use of DSP logic  
... Movie Theater1, Movie Theater2, Movie Theater3, Arena, Opera House, Cathedral, Jazz Club, Stadium

9. Delay time : 0-80ms (during use of DSP logic)  
15-30ms (during use of Dolby Surround ProLogic)

- 1ms step delay time
10. Remote controller compatibility
11. Serial input/output . . . Asynchronous serial communications
12. Source direct
13. Video1 independent rec selector (with V1>V2 dubbing-position), CD Rec
14. Title input
15. Function backup
16. Audio injection function
17. Cinema screen function (only during use of DSP or DSP logic)
18. Speakers CH mode selector switch (only during use of DSP or DSP logic)  
DSP . . . 2ch, 3ch (L-C-R) 4ch (L-R-S), 5ch (L-C-R-S)
19. Parameters (only during use of DSP or DSP logic)  
... Room size, Wall (frequency), Seat position, Effect level

Parameter Setting Range

|                                      |           | Parameters |            |               |              | Cinema screen | Delay time | Senter level | Rear level |
|--------------------------------------|-----------|------------|------------|---------------|--------------|---------------|------------|--------------|------------|
|                                      |           | Room size  | Wall       | Seat position | Effect level |               |            |              |            |
|                                      |           | 50 steps   | 1kHz steps | 5 steps       | 5 steps      |               | 1ms steps  | 1dB steps    | 1 dB steps |
| D<br>S<br>P                          | MOVIE 1   | 50         | 1kHz       | 5             | 0            | OFF           | —          | 0dB          | 0dB        |
|                                      | MOVIE 2   |            |            |               |              | 1             |            |              |            |
|                                      | MOVIE 3   |            |            |               |              | 2             |            |              |            |
|                                      | ARENA     | 200        | 16kHz      | 100           | 100          | 3             |            | -30dB        | -30dB      |
|                                      | OPERA     |            |            |               |              |               |            |              |            |
|                                      | CATHEDRAL |            |            |               |              |               |            |              |            |
| D<br>S<br>P<br>L<br>O<br>G<br>I<br>C | JAZZ CULB | 200        | 16kHz      | 100           | 100          | 3             |            | -30dB        | -30dB      |
|                                      | STADIUM   |            |            |               |              |               |            |              |            |
|                                      | MOVIE 1   |            |            |               |              | OFF           |            |              |            |
|                                      | MOVIE 2   | 50         | 1kHz       | 5             | 0            | 1             |            | 0dB          | 0dB        |
|                                      | MOVIE 3   |            |            |               |              | 2             |            |              |            |
|                                      | ARENA     |            |            |               |              | 3             |            |              |            |
| D<br>O<br>L<br>B<br>Y                | OPERA     | 200        | 16kHz      | 100           | 100          | 3             |            | -30dB        | -30dB      |
|                                      | CATHEDRAL |            |            |               |              |               |            |              |            |
|                                      | JAZZ CLUB |            |            |               |              |               |            |              |            |
|                                      | STADIUM   |            |            |               |              |               |            |              |            |
|                                      | PRO LOGIC | —          | —          | —             | —            | —             | 15ms       | 0dB          | 0dB        |
|                                      |           |            |            |               |              |               | 30ms       | -30dB        | -30dB      |
| D<br>O<br>L<br>B<br>Y                | 3STEREO   | —          | —          | —             | —            | —             | —          | 0dB          | —          |
|                                      |           |            |            |               |              |               |            | -30dB        | —          |

KA-V8500

CIRCUIT DESCRIPTION

1.Initial states

1. INPUT SELECTOR

- AUDIO : TUNER  
VISUAL : None

2. MODE

BYPASS

3. PRO LOGIC/3 STEREO

: PRO LOGIC

4. CENTER MODE

- PRO LOGIC : NORMAL  
3 STEREO : NORMAL

5. REAR,CENTER LEVEL

: -10dB

6. SOURCE DIRECT

: OFF

7. SPEAKER

: ON

8. POWER

: OFF

9. ON SCREEN DISPLAY

: ON

(INFORMATION)

10. SURROUND USER MEMORY

- PRO LOGIC (NORMAL)  
REAR LEVEL -10dB  
CENTER LEVEL -10dB  
DELAY TIME 20ms

11. CH MODE

:5 CH(L,C,R,S)

12. DELAY TIME

- PRO LOGIC : 20ms  
DSP LOGIC : 20ms

13. USER MEMORY NUMBER

: NOT ON (A~J)

14. AUDIO INJECTION

: OFF

2, Test mode

2 – 1 Initialization

IN : Hold down the power key , and plug the power cable into an outlet.

Description : When the items are set as in described 1, "Initial states", the EEPROM is cleared.

Note : If only the backup of a microprocessor fails, the EEPROM may not need to be cleared, but if the EEPROM is replaced, initialization is mandatory. If initialization is not carried out, the input selector, user memory title, and user memory will be incorrect.

2 – 2 Test mode

IN : Hold down the CD REC key, and plug the power cable intom an outlet.

OUT : Disconnect the power cable from the outlet, or switch the power off and then back on in any mode except the all – indicator – on mode. Even if the power is switched on in the all – indicators – on mode, the test mode remains unchanged.

Description :

I ) When the test mode is entered, all the indicators of the fluorescent display light. The indicators can be turned off

by switching the power off and then back on, or by handling the ROTARY. ENCODER of input.

II ) In the test mode, the following items are different from in the normal mode.

◇Rear, center volume

→ Only two points, MIN and MAX

◇Delay time

→ PRO LOGIC : Only three points, 15, 21, and 30 ms

→ DSP LOGIC : Only three points, 0 , 40 , and 80 ms

◇Effect Level

Only three points -- 0, 50, 100

◇Seat Position

Only two points -- 5, 100

◇Test Tone

The Test Tome output position is automatically changed every two seconds.

◇DSP Through Mode

During Test Mode if "Cathedral" is selected in DSP Mode or DSP Logic Mode, DSP Through Mode (a mode exclusively for Test Mode) is entered.

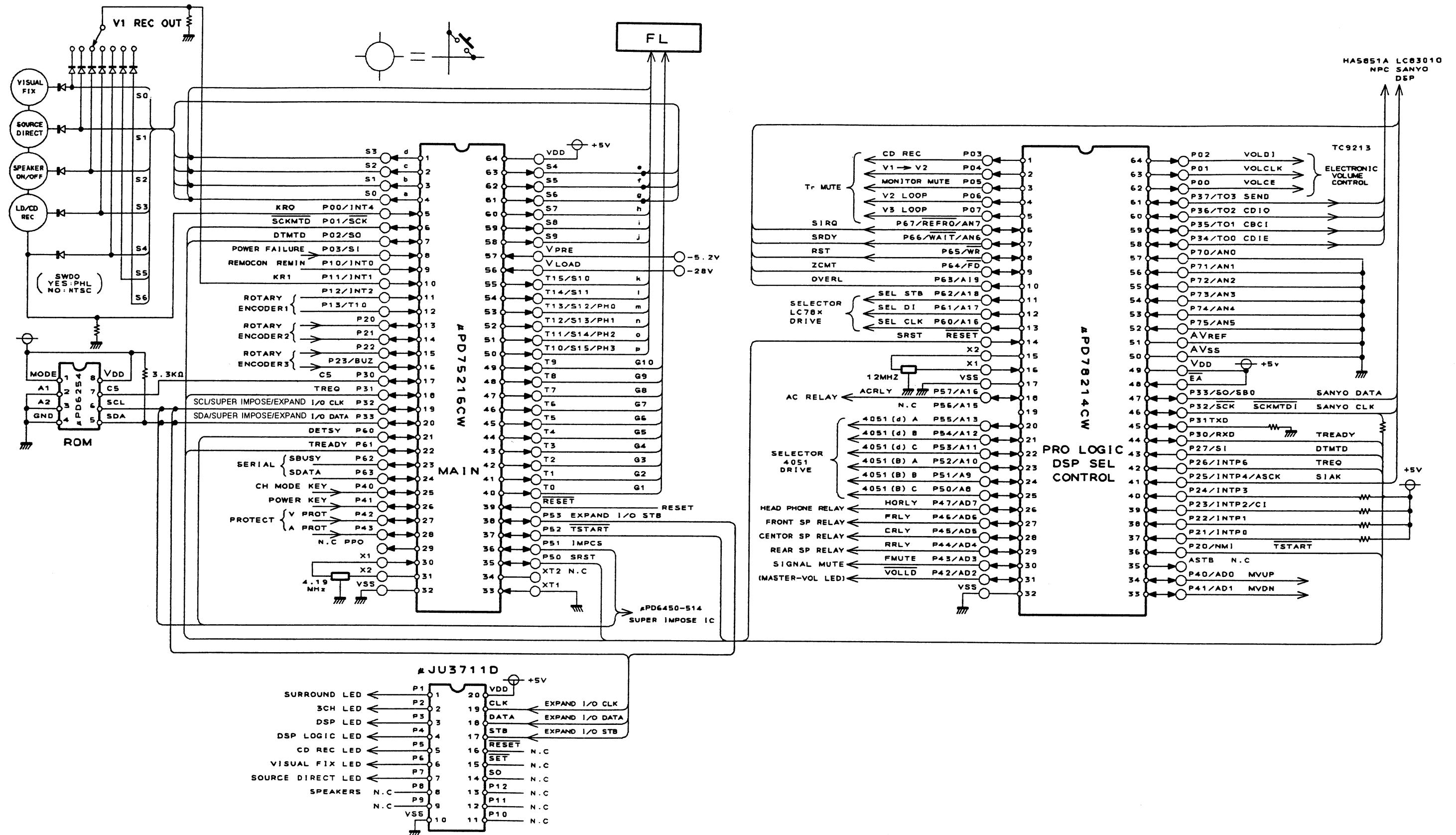
DSP parameter initial values

| Ambience mode  | ROOM SIZE | WALL  | SEAT | EFFECT |
|----------------|-----------|-------|------|--------|
| MOVIE THEATER1 | 100       | 10kHz | 50   | 60     |
| MOVIE THEATER2 | 100       | 10kHz | 50   | 60     |
| MOVIE THEATER3 | 100       | 7kHz  | 50   | 60     |
| JAZZ CLUB      | 100       | 10kHz | 50   | 80     |
| STADIUM        | 100       | 5kHz  | 50   | 80     |
| ARENA          | 100       | 7kHz  | 50   | 60     |
| OPERA HOUSE    | 100       | 7kHz  | 50   | 80     |
| CATHEDRAL      | 100       | 16kHz | 50   | 80     |

# KA-V8500 KA-V8500

## CIRCUIT DESCRIPTION

Microprocessor ( $\mu$  PD75216ACW-C60'  $\mu$  PD78214CW-E5, NJU3711D)



## KA-V8500

## CIRCUIT DESCRIPTION

μ PD75216ACW-C60 (MAIN) Pin Description

| Pin No. | Pin Name | I/O | Name                              | Description                                                                                                         |
|---------|----------|-----|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 1       | S3       | O   | Segment d                         | FL segment signal                                                                                                   |
| 2       | S2       | O   | Segment c                         | FL segment signal                                                                                                   |
| 3       | S1       | O   | Segment b                         | FL segment signal                                                                                                   |
| 4       | S0       | O   | Segment a                         | FL segment signal                                                                                                   |
| 5       | P00/INT4 | I   | KR0                               | Key Return 0                                                                                                        |
| 6       | P01/SCK  | I/O | SCKMTD                            | Main --> Sub microprocessor communications serial clock output                                                      |
| 7       | P02/S0   | I/O | DTMTD                             | Main --> Sub microprocessor communications serial data output                                                       |
| 8       | P03/SI   | I   | PCE                               | Power failure detection output (0: power failure)                                                                   |
| 9       | P10/INT0 | I   | REMIN                             | Remote controller input (interrupt)                                                                                 |
| 10      | P11/INT1 | I   | KR1                               | Key Return 1                                                                                                        |
| 11      | P12/INT2 | I   | ROTRY1                            | Rotary encoder input1 (Input Selector)                                                                              |
| 12      | P13/TI0  | I   | ROTRY2                            | Rotary encoder input2 (Input Selector)                                                                              |
| 13      | P20      | I   | ROTRY3                            | Rotary encoder input3 (Mode Selector)                                                                               |
| 14      | P21      | I   | ROTRY4                            | Rotary encoder input4 (Mode Selector)                                                                               |
| 15      | P22      | I   | ROTRY5                            | Rotary encoder input5 (Presence Selector)                                                                           |
| 16      | P23/BUZ  | I   | ROTRY6                            | Rotary encoder input6 (Presence Selector)                                                                           |
| 17      | P30      | I   | EEPDI                             | EEPROM serial data input                                                                                            |
| 18      | P31      | O   | TREQ                              | Main --> Sub microprocessor communications control signal (request signal)                                          |
| 19      | P32      | O   | EEPCLK(SCL) /<br>IMPCLK / EXIOCLK | EEPROM/superimpose/expansion I/O shared use<br>Superimpose external/internal synchronization detection (H:internal) |
| 20      | P33      | O   | EEPDO(SDA) /<br>IMPSI / EXIODO    | Serial clock output<br>EEPROM/superimpose/expansion I/O shared use                                                  |
| 21      | P60      | I   | DETSY                             | Serial data output                                                                                                  |
| 22      | P61      | I   | TREADY                            | Main --> Sub microprocessor communications control signal (ready signal)                                            |
| 23      | P62      | I/O | SBUSY                             | External serial communications busy signal                                                                          |
| 24      | P63      | I/O | SDATA                             | External serial communications data signal                                                                          |
| 25      | P40      | I   | KRSPM                             | CH mode key (independent key) Key Return                                                                            |
| 26      | P41      | I   | KRPOW                             | Power mode key (independent key) Key Return                                                                         |
| 27      | P42      | I   | PROTECT                           | Protection detection (H: protection on)                                                                             |
| 28      | P43      | I   | IMPBSY                            | Superimpose busy signal input                                                                                       |
| 29      | PP0      | O   | SRST                              | SUB microprocessor reset signal detect                                                                              |
| 30      | X1       | —   | —                                 | Microprocessor system clock oscillation pin                                                                         |
| 31      | X2       | —   | —                                 | Microprocessor system clock oscillation pin                                                                         |
| 32      | Vss      | —   | —                                 | GND                                                                                                                 |

## KA-V8500

## CIRCUIT DESCRIPTION

μ PD75216ACW-C60 (MAIN) Pin Description

| Pin No. | Pin Nomenclature | I/O | Name      | Description                                                              |
|---------|------------------|-----|-----------|--------------------------------------------------------------------------|
| 33      | XT1              | —   | —         | Microprocessor sub clock oscillation pin (unused)                        |
| 34      | XT2              | —   | —         | Microprocessor sub clock oscillation pin (unused)                        |
| 35      | P50              | O   | EEPCS     | EEPROM CS & Reset output                                                 |
| 36      | P51              | O   | IMPCS     | Superimpose chip select signal output                                    |
| 37      | P52              | O   | TSTART    | Main --> Sub microprocessor communications control signal (start signal) |
| 38      | P53              | O   | EXIOSTB   | Expansion I/O (NJU3711) strobe signal                                    |
| 39      | RESET            |     | —         | Reset input                                                              |
| 40      | T0               | O   | G1        | FL digit signal                                                          |
| 41      | T1               | O   | G2        | FL digit signal                                                          |
| 42      | T2               | O   | G3        | FL digit signal                                                          |
| 43      | T3               | O   | G4        | FL digit signal                                                          |
| 44      | T4               | O   | G5        | FL digit signal                                                          |
| 45      | T5               | O   | G6        | FL digit signal                                                          |
| 46      | T6               | O   | G7        | FL digit signal                                                          |
| 47      | T7               | O   | G8        | FL digit signal                                                          |
| 48      | T8               | O   | G9        | FL digit signal                                                          |
| 49      | T9               | O   | G10       | FL digit signal                                                          |
| 50      | T10/S15          | O   | Segment g | FL digit signal                                                          |
| 51      | T11/S14          | O   | Segment h | FL digit signal                                                          |
| 52      | T12/S13          | O   | Segment i | FL digit signal                                                          |
| 53      | T13/S12          | O   | Segment i | FL digit signal                                                          |
| 54      | T14/S11          | O   | Segment k | FL digit signal                                                          |
| 55      | T15/S10          | O   | Segment l | FL digit signal                                                          |
| 56      | V load           | —   | —         | -31.8V                                                                   |
| 57      | V pre            | —   | —         | -4.1V                                                                    |
| 58      | S9               | O   | Segment m | FL digit signal                                                          |
| 59      | S8               | O   | Segment n | FL digit signal                                                          |
| 60      | S7               | O   | Segment o | FL digit signal                                                          |
| 61      | S6               | O   | Segment p | FL digit signal                                                          |
| 62      | S5               | O   | Segment f | FL digit signal                                                          |
| 63      | S4               | O   | Segment e | FL digit signal                                                          |
| 64      | Vdd              | O   | —         | +5.0V                                                                    |

## CIRCUIT DESCRIPTION

**Data communications format between main microprocessor and DSP micro-processor**

\* Master microprocessor  $\mu$  PD75216ACW-C60

\* Slave microprocessor  $\mu$  PD78214CW-E25

(1) Communications method: clock synchronization(LSBlead)

(2) Data bit no.  $8 \times n$  bit variable length

(3) Serial clock: Clock provided from master microprocessor

Clock pulse width =  $7.6 \mu\text{S}$

(4) Data composition

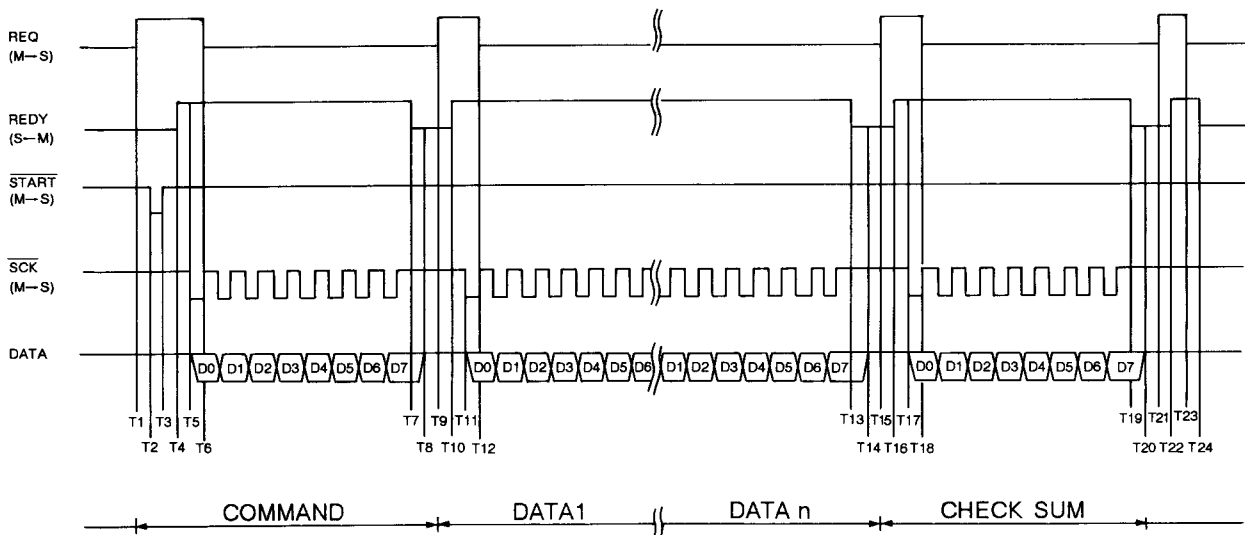
| Command | Data 1 | Data 2 |  | Data n | Check sum |
|---------|--------|--------|--|--------|-----------|
|---------|--------|--------|--|--------|-----------|

Address    0            1            2                                  n            n+1

•  $n = 0 \sim 11$

• The check sum is the aggregate lower 8 bits of the data from the command to datan.

(5) Time chart



## CIRCUIT DESCRIPTION

μPD78214CW-E25 (sub microprocessor) pin description

| Pin No. | Pin Name | I/O | Name   | Description                                         |
|---------|----------|-----|--------|-----------------------------------------------------|
| 1       | P03      | O   | MCDREC | CD REC mute (L = mute on)                           |
| 2       | P04      | O   | MV1V2  | VIDEO1 ► VIDEO2 mute (H = mute on)                  |
| 3       | P05      | O   | MMUTE  | Monitor mute (H = mute on)                          |
| 4       | P06      | O   | MV2LOP | VIDEO2 loop prohibit mute (H = mute on)             |
| 5       | P07      | O   | MV3LOP | VIDEO3 loop prohibit mute (H = mute on)             |
| 6       | P67      | O   | OVERL  | Sanyo DSP auxiliary pin (unused)                    |
| 7       | P66      | O   | SRDY   | Sanyo DSP mailbox communications complete signal    |
| 8       | P65      | O   | CBCI   | NPC clock                                           |
| 9       | P64      | O   | RST    | Sanyo DSP reset signal                              |
| 10      | P63      | O   | SIRQ   | Sanyo DSP request signal                            |
| 11      | P62      | O   | SELSTB | Audio/video selector (LC78**) chip enable           |
| 12      | P61      | O   | SELDI  | Audio/video selector (LC78**) data                  |
| 13      | P60      | O   | SELCLK | Audio/video selector (LC78**) clock                 |
| 14      | RESET    | I   | —      | Master CPU ► slave CPU chip reset                   |
| 15      | X2       | —   | —      | System clock oscillation crystal (12MHz) connection |
| 16      | X1       | I   | —      | System clock oscillation crystal (12MHz) connection |
| 17      | Vss      | —   | —      | GND                                                 |
| 18      | P57      | O   | ACRLY  | Main unit power on/off relay                        |
| 19      | P56      | O   | SDBYCE | Source direct/bypass selector switch chip enable    |
| 20      | P55      | O   | I4051A | Input selector control wire A (TC4051)              |
| 21      | P54      | O   | I4051B | Input selector control wire B (TC4051)              |
| 22      | P53      | O   | I4051C | Input selector control wire C (TC4051)              |
| 23      | P52      | O   | R4051A | Rec selector control wire A (TC4051)                |
| 24      | P51      | O   | R4051B | Rec selector control wire B (TC4051)                |
| 25      | P50      | O   | R4051C | Rec selector control wire C (TC4051)                |
| 26      | P47      | O   | SRLY   | Rear speaker relay (H = sound produced)             |
| 27      | P46      | O   | HDRLY  | Headphone relay (H = sound produced)                |
| 28      | P45      | O   | FRLY   | Front speaker relay (H = sound produced)            |
| 29      | P44      | O   | CRLY   | Center speaker relay (H = sound produced)           |
| 30      | P43      | O   | ANMUT  | Audio mute (H = mute on)                            |
| 31      | P42      | O   | VOLLD  | Electrical volume LED (L = illuminated)             |
| 32      | Vss      | —   | —      | GND                                                 |
| 33      | P41      | O   | MVDN   | Electrical volume down (H = motor actuates)         |
| 34      | P40      | O   | MVUP   | Electrical volume up (H = motor actuates)           |
| 35      | ASTB     | O   | —      | (Unused) address latch timing output                |
| 36      | P20/NM1  | I   | TSTART | Master CPU ► slave CPU start signal                 |
| 37      | P21      | I   | —      | (Unused) Pull up                                    |
| 38      | P22      | I   | —      | (Unused) Pull up                                    |
| 39      | P23      | I   | —      | (Unused) Pull up                                    |
| 40      | P24      | I   | —      | (Unused) Pull up                                    |
| 41      | P25      | I   | SIKA   | Sanyo DSP ► slave CPU acknowledge signal            |
| 42      | P26      | I   | TREQ   | Master CPU ► slave CPU request signal               |
| 43      | P27/SI   | I   | DTMTD  | Master CPU ► slave CPU data                         |
| 44      | P30      | I   | TREADY | Master CPU ◄ slave CPU ready signal                 |
| 45      | P31      | O   | CDIO   | NPC IC data                                         |
| 46      | SCK      | I/O | SCKMTD | SCKMTD or Sanyo DSP clock                           |
| 47      | P33/SO   | O   | SANYDT | Sanyo DSP data                                      |

## CIRCUIT DESCRIPTION

| Pin No. | Pin Name | I/O | Name   | Description                            |
|---------|----------|-----|--------|----------------------------------------|
| 48      | EA       | I   | —      | (unused) used at high level            |
| 49      | Vdd      | —   | —      | Positive power supply                  |
| 50      | Avss     | —   | —      | (Unused) A/D converter GND             |
| 51      | AVref    | —   | —      | (Unused) A/D converter                 |
| 52      | P75/AN5  | I   | —      | (Unused) pull down                     |
| 53      | P74/AN4  | I   | —      | (Not Used) Pull down                   |
| 54      | P73/AN3  | I   | —      | (Not Used) Pull down                   |
| 55      | P72/AN2  | I   | —      | (Not Used) Pull down                   |
| 56      | P71/AN1  | I   | —      | (Not Used) Pull down                   |
| 57      | P70/AN0  | I   | —      | (Not Used) Pull down                   |
| 58      | P34/T00  | O   | CDIE   | NPC chip enable                        |
| 59      | P35/T01  | O   | SEND   | NPC input/output control               |
| 60      | P36/T02  | O   | NPCRST | NPC reset (H=reset)                    |
| 61      | P37/T03  | O   | DMUTE  | Sanyo DSP mute                         |
| 62      | P00      | O   | VOLCE  | Electronic volume (TC9213) chip enable |
| 63      | P01      | O   | VOLCLK | Electronic volume (TC9213) clock       |
| 64      | P02      | O   | VOLDI  | Electronic volume (TC9213) data        |

## NJU3711D (I/O PORT)

| Pin No. | Pin Name | I/O | Name        | Description                |
|---------|----------|-----|-------------|----------------------------|
| 1       | P3       | O   | DSPLED      | DSP LED output             |
| 2       | P4       | O   | DSPLOGICLED | DSP logic LED output       |
| 3       | P5       | O   | CDRECLED    | CD REC LED output          |
| 4       | V ss     | —   | —           | GND                        |
| 5       | P6       | O   | AUDIOINJLED | Audio injection LED output |
| 6       | P7       | O   | SDLED       | Source direct LED output   |
| 7       | P8       | O   | SPLED       | Speakers on/off LED output |
| 8       | DATA     | I   | —           | Serial data input pin      |
| 9       | CLK      | I   | —           | Clock signal input pin     |
| 10      | STB      | I   | —           | Strobe signal input pin    |
| 11      | CLR      | I   | —           | Clear signal input pin     |
| 12      | P1       | O   | PROLLED     | Dolby ProLogic LED output  |
| 13      | P2       | O   | D3STLED     | Dolby 3 stereo LED output  |
| 14      | V dd     | —   | —           | + 5.0 V                    |

# KA-V8500

## CIRCUIT DESCRIPTION

DSP exclusively for digital signal processor (SM5851AF)

### 1. Introduction

This LSI is a DSP exclusively for digital signal processing in Dolby ProLogic Surround systems. Beginning with an active matrix circuit, this LSI includes the main signal processing logic for Dolby ProLogic Surround Decoders. Accordingly, by combining this LSI with an A-D/D-A converter IC, digital I/F receiver IC, distorted Dolby Bdcoder IC, digital delay DRAM and a master volume control, it is possible to put together a precision Dolby Prologic Surround decoder system.

Also, as an added function, in combination with DRAM this LSI enables a variety of ambience presence playback functions besides Dolby ProLogic Surround. Furthermore, the flexible interface facilitates integration into a wide range of systems.

### 2. Salient characteristics

#### 2-1. Functions Dolby ProLogic Surround Decoder Related

##### Functions

- (1) Active Matrix
  - \* Bandwidth limiting tertiary IIR type BPF
  - \* Absolute value circuit
  - \* Linear / LOG conversion circuit
  - \* Threshold switch
  - \* Polarity splitter
  - \* LOG / linear conversion circuit
  - \* Converting network
- (2) Center channel mode control
  - \* Selection among the normal, phantom or off modes
  - \* Wide mode addition
- (3) 3 stereo logic mode
  - \* 3-channel mode without use of surround speakers
- (4) Auto balance
  - \* Input signal level auto balance function
  - \* Auto / through switch
- (5) Noise sequencer
  - \* Built-in noise sequencer for calibration
  - \* Noise average output level is set -11 dB lower than the output Dolby standard level (-18dB)
- (6) S channel functions
  - \* Digital delay (DRAM) interface
  - \* Bandwidth limiting secondary IIR type LPF

#### 2-2. Ambience playback function

- (1) Dual mode selection -- effects, simulation
- (2) Delay time controllable through microprocessor
- (3) Ambience 2-channel (SL, SR) output

#### 2-3. Stereo playback functions

- (1) Stereo playback mode (may be used as a digital deemphasis filter)

#### 2-4. Input/output interface

- (1) Two serial data input circuits
    - \* Three-line input from digital I/F receiver: 1 circuit
    - \* A/D converter regulation clock output and data input: 1 circuit
    - \* Format
      - 16 bit; two's complement; MSB format
      - L/R channel pair
  - (2) Two serial data output modes
    - \* 4-circuit serial output mode
      - L/R exchange, C/MONO exchange, C (SL) /S (SR) exchange, LMON/RMON exchange output
    - \* 3-circuit serial output mode
      - C (SL)/L/S(SR)/R exchange, LMON/C/RMON/MONO exchange, LMON/C(SL)/RMON/S(SR) exchange
    - \* 2 types of sample/hold controlsignaloutputs(SH1,SH2)
    - \* Format
      - 16/18 bit selectable
      - Two's complement; MSB format
  - (3) Microprocessor interface
    - \* 4-wire type serial data input / output
    - \* Asynchronous input/output vis-a-vis system clock possible
  - (4) Digital delay (DRAM) interface
    - \* 256K DRAM (64K x 4 bit composition) direct interface
    - \* Four types of delay time control
- 2-5 Sampling frequency (fs)
- (1) Accommodates three sampling frequencies -- 48kHz, 44.1kHz, 32kHz
  - (2) Each filter coefficient automatically selectable from the selected fs
  - (3) During A/D converter input selection, fixed at fs=48kHz

#### 2-6. System clock

- (1) System clock frequency: 384fs
- (2) DSP master mode: 384fs and X'tal frequency or clock input
- (3) DSP slave mode: 384fs input

#### 2-7. Deemphasis function

- (1) Digital deemphasis filter on/off switching

#### 2-8. Dolby standard level

- (1) The input signal is Dolby standard level: -15dB (however, 16 bit full scale is 0dB)
- (2) The output signal at the L/R ch is Dolby standard level: -18dB  
The output signal at the C/S ch is Dolby standard level: -15dB  
(however, this is because the C/S ch is reduced -3dB during encoding)

#### 2-9. Level/meter graphic output

- \* Overflow display output (16 bit full scale -0.068dB, or greater)
- \* Dolby level display output (16 bit full scale -15dB, or greater)

## CIRCUIT DESCRIPTION

2-10. Package -- 64 pin QFP (evaluation-use 64-pin DIP)

2-11. Power supply voltage -- 5V single power supply

2-12. Structure -- Morigate CMOS

### Test Mode

#### (1) Digital through test mode (TEST4)

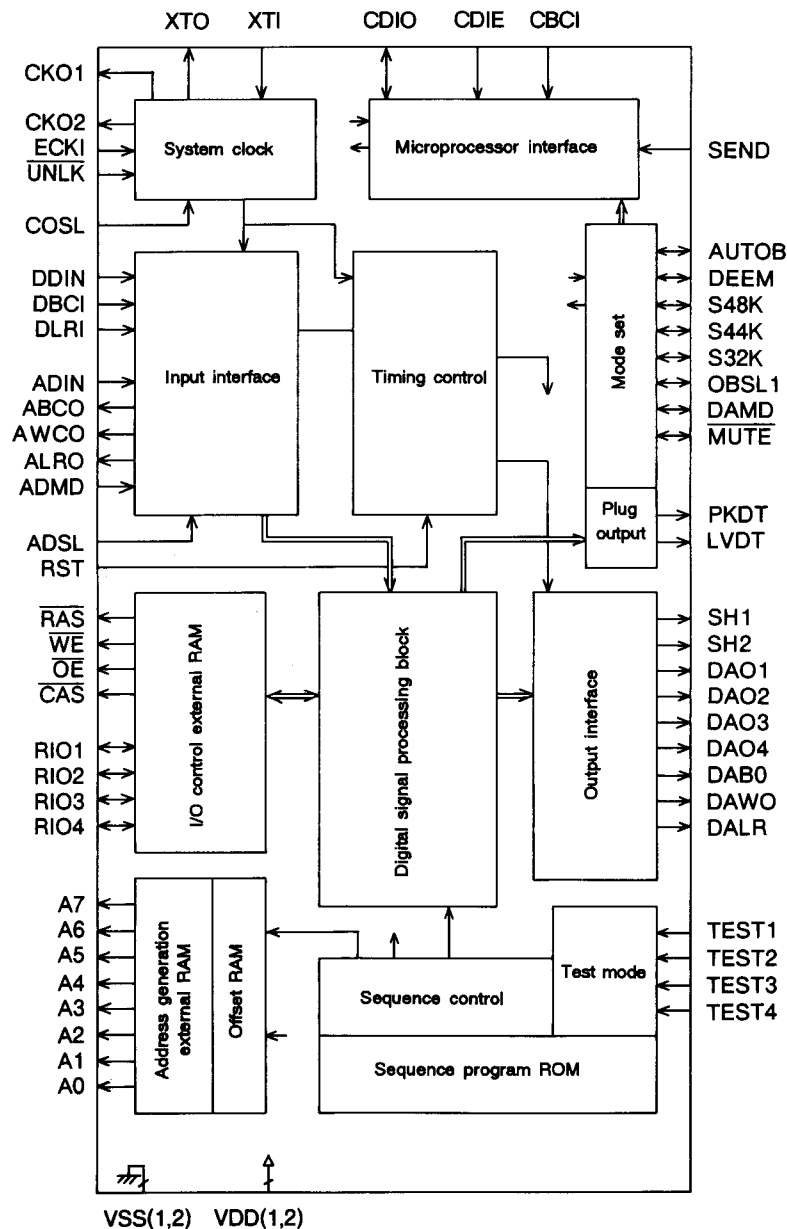
This mode is for evaluation of the DAC system. By making the TEST4 pin 'L' the following input data LMON, RMON are output on the L, R, C, S, SL, SR, LMON, RMON and MONO output channels.

Table 8-11-1 Digital through test mode output data allocation

| Output ch   | L    | R    | C    | S    | SL   | SR   | LMON | RMON | MONO |
|-------------|------|------|------|------|------|------|------|------|------|
| Output data | LMON | RMON | LMON | RMON | LMON | RMON | LMON | RMON | RMON |

when in this mode, the digital deemphasis function operates but the auto balance function does not. Also, LVDT and PKDT are not output.

### 3. Block diagram



## CIRCUIT DESCRIPTION

## 5. Pin functions

| Pin number | Pin nomenclature         | IO | Pin function                                                                                                  | Test output |
|------------|--------------------------|----|---------------------------------------------------------------------------------------------------------------|-------------|
| 1          | XTI                      | I  | X'tal oscillation input pin (oscillation frequency: 384fs)                                                    |             |
| 2          | XTO                      | O  | X'tal oscillation input pin                                                                                   |             |
| 3          | CKO1                     | O  | Master clock output1 (clock frequency: 384 fs or 192 fs)                                                      |             |
| 4          | CKO2                     | O  | Master clock output1 (clock frequency: 128 fs)                                                                |             |
| 5          | ECKI                     | Ip | D-I/F external master clock input (clock frequency: 384 fs)                                                   |             |
| 6          | $\overline{\text{UNLK}}$ | Ip | D-I/F VCO unlock flag ( $\overline{\text{UNLK}}$ = 'L': VCO unlock; $\overline{\text{UNLK}}$ = 'H': VCO lock) |             |
| 7          | COSL                     | Ip | CKO1 frequency switching (COSL = 'L': 192 fs; COSL = 'H': 384 fs)                                             |             |
| 8          | VSSI                     | —  | GND pin 1 (0V)                                                                                                |             |
| 9          | DDIN                     | Ip | Serial data input from the digital I/F                                                                        |             |
| 10         | DBCI                     | Ip | Bit clock input from the digital I/F                                                                          |             |
| 11         | DLRI                     | Ip | LR clock input from the digital I/F                                                                           |             |
| 12         | ADSL                     | Ip | Digital audio signal input selection (ADSL = 'L': D-I/F; ADSL = 'H': ADC)                                     |             |
| 13         | ADIN                     | Ip | Serial data input from ADC                                                                                    |             |
| 14         | ABCO                     | O  | Bit clock output for ADC control                                                                              |             |
| 15         | AWCO                     | O  | Word clock output for ADC control                                                                             |             |
| 16         | ALRO                     | O  | fs rate clock output from ADC                                                                                 |             |
| 17         | ADMD                     | Ip | ADC mode control (ABCO selection) (ADMD = 'H': 32fs; ADMD = 'L': 64fs)                                        |             |
| 18         | VDD2                     | —  | Power supply voltage 2 (5.0V)                                                                                 |             |
| 19         | A7                       | O  | External digital delay DRAM address output (bit 7)                                                            |             |
| 20         | A4                       | O  | External digital delay DRAM address output (bit 4)                                                            |             |
| 21         | A3                       | O  | External digital delay DRAM address output (bit 3)                                                            |             |
| 22         | A5                       | O  | External digital delay DRAM address output (bit 5)                                                            |             |
| 23         | A2                       | O  | External digital delay DRAM address output (bit 2)                                                            |             |
| 24         | A6                       | O  | External digital delay DRAM address output (bit 6)                                                            |             |
| 25         | A1                       | O  | External digital delay DRAM address output (bit 1)                                                            |             |
| 26         | $\overline{\text{RAS}}$  | O  | External digital delay DRAM low address strobe output                                                         |             |
| 27         | A0                       | O  | External digital delay DRAM address output (bit 0)                                                            |             |
| 28         | $\overline{\text{WE}}$   | O  | External digital delay DRAM write enable output                                                               |             |
| 29         | RIO3                     | IO | External digital delay DRAM data input/output (bit 3)                                                         |             |
| 30         | RIO2                     | IO | External digital delay DRAM data input/output (bit 2)                                                         |             |
| 31         | $\overline{\text{CAS}}$  | O  | External digital delay DRAM column address strobe output                                                      |             |
| 32         | RIO1                     | IO | External digital delay DRAM data input/output (bit 1)                                                         |             |
| 33         | RIO4                     | IO | External digital delay DRAM data input/output (bit 4)                                                         |             |
| 34         | $\overline{\text{OE}}$   | O  | External digital delay DRAM output enable output                                                              |             |

## CIRCUIT DESCRIPTION

| Pin No. | Pin Nomenclature | I/O | Pin Function                                                                                  | Test output |
|---------|------------------|-----|-----------------------------------------------------------------------------------------------|-------------|
| 46      | TEST1            | Ip  | Test pin 1                                                                                    |             |
| 47      | TEST2            | Ip  | Test pin 2                                                                                    |             |
| 48      | TEST3            | Ip  | Test pin 3                                                                                    |             |
| 49      | TEST4            | Ip  | Test pin 4                                                                                    |             |
| 50      | DAMD             | IO  | DAC output mode control input<br>(DAMD = 'L': 3-circuit output; DAMD = 'H': 3-circuit output) | T009        |
| 51      | OBSL             | IO  | DAO1 – DAO4 output bit length setting<br>(OBSL = 'L': 18 bit; OBSL = 'H': 16 bit)             | T010        |
| 52      | S32K             | IO  | fs = 32kHz select (S32K = 'L': unselected; S32K = 'H': selected)                              | T011        |
| 53      | S44K             | IO  | fs = 44.1kHz select (S44K = 'L': unselected; S44K = 'H': selected)                            | T012        |
| 54      | S48K             | IO  | fs = 48kHz select (S48K = 'L': unselected; S48K = 'H': selected)                              | T013        |
| 55      | DEEM             | IO  | Deemphasis filter on/off control input<br>(DEEM = 'L': OFF; DEEM = 'H': ON)                   | T014        |
| 56      | AUTO             | IO  | Auto balance on/off control input<br>(AUTOB = 'L': OFF; AUTOB = 'H': ON)                      | T015        |
| 57      | MUTE             | IO  | Output data mute control input<br>(MUTE = 'L': mute on; MUTE = 'H': mute off)                 | T016        |
| 58      | RST              | I   | System reset input (RST = 'L': normal operation; RST = 'H': reset)                            |             |
| 59      | CDIO             | IO  | Microprocessor control serial data input/output                                               |             |
| 60      | CDIE             | Ip  | Microprocessor control input data latch enable input                                          |             |
| 61      | CBCI             | Ip  | Microprocessor control bit clock input                                                        |             |
| 62      | SEND             | Ip  | Microprocessor control input/output control<br>(SEND = 'L': receive; SEND = 'H': send)        |             |
| 63      | PKDT             | O   | Input signal peak level detection flag                                                        |             |
| 64      | LVDT             | O   | Input signal Dolby level optimum setting flag                                                 |             |

(I/O definition) I = input pin (without pull-up condenser)

Ip = input pin (with pull-up condenser)

O = Output pin

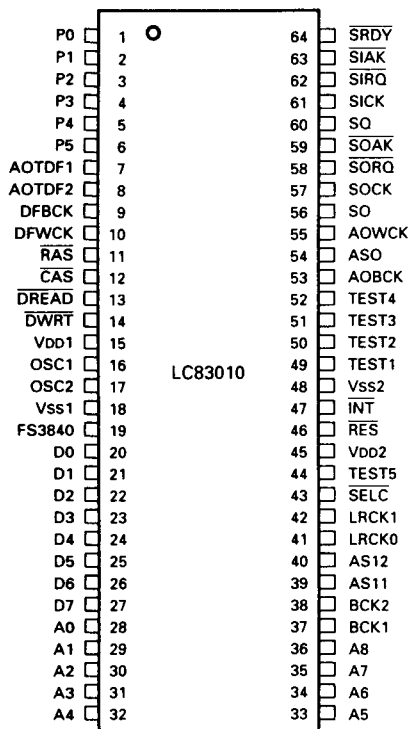
I/O = pin for both input and output (with pull-up condenser during input)

# KA-V8500

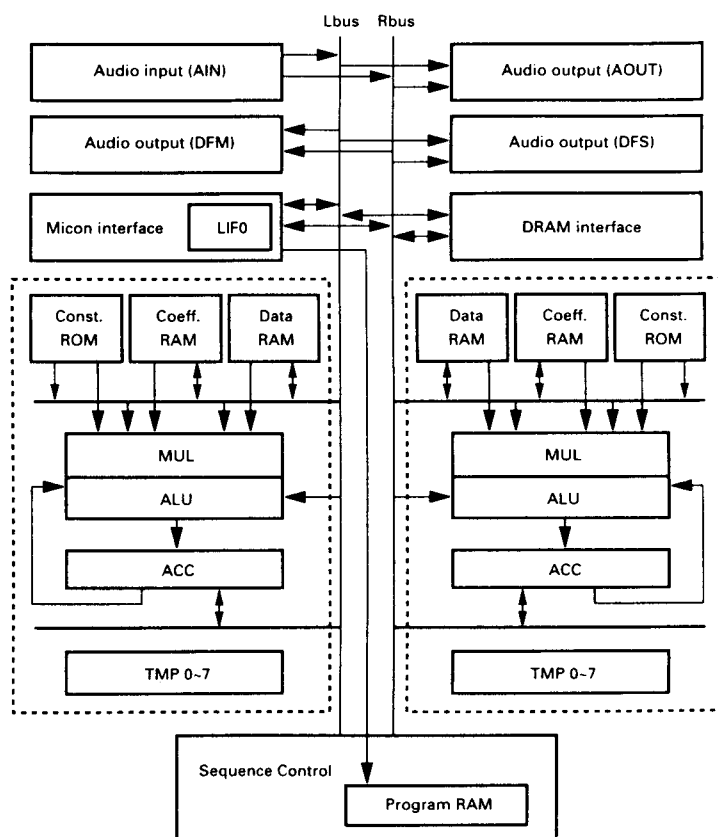
## CIRCUIT DESCRIPTION

DSP IC [LC83010] (IC16 : X08)

Terminal Connection Diagram (Top View)



Block Diagram



## CIRCUIT DESCRIPTION

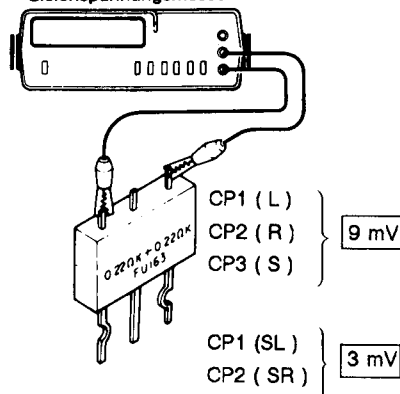
## Terminal Description [LC83010]

| Pin No. | Pin name   | I/O | Description                                                                                                                                                        |                       |
|---------|------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1       | P0         | I   | Digital mute - High: mute; Low: unmute during DSP program                                                                                                          |                       |
| 2       | P1         | I   | Soft muting - High during DSP program: Soft mute with time constant of 1 ms; Low: Unmute                                                                           |                       |
| 3       | P2         | O   | Overflow detection If the input data from the A/D converter becomes the maximum positive or negative value a low signal is output, held for 100 ms, and goes high. |                       |
| 4       | P3         | I   | Phase shifter control The phase shifter is turned on and off during 3-channel sound field program. Low: on; High; off. Always used with "LOW".                     |                       |
| 5       | P4         | I   | Direct sound add control Control whether direct sound is added in the DSP during sound field program. High: Add; Low: Do not add. Always used with "LOW".          |                       |
| 6       | P5         | I/O | General input/output port No used (open)                                                                                                                           |                       |
| 7       | AOTDF2     | O   | Audio data output 1 C ch and S ch data is output during Dolby pro logic and 4-ch sound field. If 3 stereo and 3-CH are set, only C ch data is output.              |                       |
| 8       | AOTDF2     | O   | Audio data output 2 Decoded L/R data is output for Dolby. The L/R sound field signal is output for sound field.                                                    |                       |
| 9       | DFBCK      | O   | Bit clock for AOTDF 1 and 2 48 fs bit clock is output.                                                                                                             |                       |
| 10      | DFWCK      | O   | Word clock for AOTDF 1 and 2 No used                                                                                                                               |                       |
| 11      | RAS        | O   | For row address strobe DRAM access control                                                                                                                         |                       |
| 12      | CAS        | O   | For column address strobe DRAM access control                                                                                                                      |                       |
| 13      | DREAD      | O   | DRAM read control signal                                                                                                                                           |                       |
| 14      | DWRT       | O   | DRAM write control signal                                                                                                                                          |                       |
| 15, 45  | VDD1, 2    | I   | Power supply pin                                                                                                                                                   |                       |
| 18, 48  | VSS1, 2    |     | GND pin                                                                                                                                                            |                       |
| 16      | OSC1       | I   | Crystal oscillator pin                                                                                                                                             |                       |
| 17      | OSC2       | O   | Crystal oscillator pin                                                                                                                                             |                       |
| 19      | FS3840     | O   | 384fs output pin                                                                                                                                                   |                       |
| 20 ~ 27 | D0 ~ D7    | I/O | DRAM data I/O pin                                                                                                                                                  |                       |
| 28 ~ 36 | A0 ~ A8    | O   | DRAM address output pin (A8 is no used)                                                                                                                            |                       |
| 37      | BCK1       | I   | No used                                                                                                                                                            |                       |
| 38      | BCK2       | O   | Bit clock output pin 32fs bit clock output for A/D                                                                                                                 |                       |
| 39      | ASI1       | I   | No used                                                                                                                                                            |                       |
| 40      | ASI2       | I   | Audio data input pin 2 Data input from A/D                                                                                                                         |                       |
| 41      | LRCKO      | O   | L/R clock output pin                                                                                                                                               |                       |
| 42      | LRCKI      | I   | No used                                                                                                                                                            |                       |
| 43      | SELC       | I   | Self oscillation and external clock input switching                                                                                                                |                       |
| 44      | TEST 5     | O   | Test pin Used by open                                                                                                                                              |                       |
| 46      | RES        | I   | Reset pin                                                                                                                                                          |                       |
| 47      | INT        | I   | No used                                                                                                                                                            |                       |
| 49 ~ 52 | TEST 1 ~ 4 | I   | Test pin Connected to GND                                                                                                                                          |                       |
| 53      | AOBCK      | O   | No used                                                                                                                                                            |                       |
| 54      | ASO        | O   | Audio data output (overflow detection)                                                                                                                             |                       |
| 55 ~ 59 | A0WCK etc. |     | No used                                                                                                                                                            |                       |
| 60      | SI         | I   | Serial data input from μ-com                                                                                                                                       | DSP ↔ μ-com interface |
| 61      | SICK       | I   | Serial clock input of SI input                                                                                                                                     |                       |
| 62      | SIRQ       | I   | SI request signal input                                                                                                                                            |                       |
| 63      | SIACK      | O   | Output signal to indicate that the SI serial communication is executing                                                                                            |                       |
| 64      | SRDY       | I   | Input signal to indicate that the mail box communication is finished                                                                                               |                       |

## ADJUSTMENT

| No.                                                                                                                                                             | ITEM                                         | IMPUT SETTINGS                                                                     | OUT PUT SETTINGS                                                 | AMPLIFIER SETTINGS                                                                                                                                                                                                                         | ALIGNMENT POINTS              | ALIGN FOR          | FIG. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------|------|
| Unless you have some special reason otherwise, please use the following settings for each switch:<br>POWER: ON    SPEAKER: B    REC OUT: OFF    SELECTOR: PHONO |                                              |                                                                                    |                                                                  |                                                                                                                                                                                                                                            |                               |                    |      |
| 1                                                                                                                                                               | MAIN AMP<br>Idle<br>current<br>(XO9-349)     | —                                                                                  | Connect a DC<br>voltmeter to<br>CP 1 (L)<br>CP 2 (R)<br>CP 3 (C) | VOLUME: 0                                                                                                                                                                                                                                  | VR1 (L)<br>VR2 (R)<br>VR3 (C) | 9 mV               | (a)  |
| 2                                                                                                                                                               | REAR AMP<br>Idle<br>current<br>(XO8-249 E/6) | —                                                                                  | Connect a DC<br>Voltmeter to<br>CP 1 (SL)<br>CP 2 (SR)           | VOLUME: 0                                                                                                                                                                                                                                  | VR 1 (SL)<br>VR 2 (SR)        | 3 mV               | (a)  |
| 3                                                                                                                                                               | Distortion<br>adjustment<br>(XO8-249 A/6)    | L & R channels<br>are 1 kHz 25 mV<br>rms at the pin<br>jack input (tuner<br>input) | + 40 dB or<br>greater AMP and<br>THD meter from<br>IC17 1 pin    | Plug into the out-<br>let while pressing<br>the CD REC key<br>and enter the<br>DSP CATHE-<br>DRAL mode.<br><br>(Always wait 10<br>minutes after tur-<br>ning on the<br>power and then<br>turn on the<br>power again<br>before doing this.) | VR4                           | Minimum distortion |      |
| 4                                                                                                                                                               | Distortion<br>adjustment<br>(XO8-249 A/6)    | L & R channels<br>are 1 kHz 25 mV<br>rms at the pin<br>jack input (tuner<br>input) | + 40 dB or<br>greater AMP and<br>THD meter from<br>IC16 1 pin    |                                                                                                                                                                                                                                            | VR5                           | Minimum distortion |      |
| 5                                                                                                                                                               | Distortion<br>adjustment<br>(XO8-249 A/6)    | L & R channels<br>are 1 kHz 25 mV<br>rms at the pin<br>jack input (tuner<br>input) | + 40 dB or<br>greater AMP and<br>THD meter from<br>IC15 1 pin    |                                                                                                                                                                                                                                            | VR6                           | Minimum distortion |      |
| 6                                                                                                                                                               | Distortion<br>adjustment<br>(XO8-249 A/6)    | L & R channels<br>are 1 kHz 25 mV<br>rms at the pin<br>jack input (tuner<br>input) | + 40 dB or<br>greater AMP and<br>THD meter from<br>IC14 1 pin    |                                                                                                                                                                                                                                            | VR7                           | Minimum distortion |      |
| 7                                                                                                                                                               | S/N<br>(XO8-249 A/6)                         | Short with the<br>pin jack input<br>(tuner input)                                  | Noise meter with<br>the center spea-<br>ker output               | In pro logic nor-<br>mal mode, turn<br>the master VR to<br>MAX.                                                                                                                                                                            | VR3                           | Minimum noise      |      |

(a) DC voltmeter  
Voltmètre de CC  
Gleichspannungsmesser



KA-V8500

REGLAGE

| N°                                                                                                                                                                                             | ITEM                                                  | REGLAGE DE L'ENTREE                                                                   | REGLAGE DE LA SORTIE                                       | REGLAGE DE L'AMPLIFICATEUR                                                                                                                                                                                              | POINTS DE L'ALIGNMENT         | ALIGNER POUR       | FIG. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------|------|
| A moins d'avoir des raisons spéciales pour le contraire, nous vous prions d'utiliser les réglages suivants pour chaque commande:<br>POWER: ON    SPEAKER: B    REC OUT: OFF    SELECTOR: PHONO |                                                       |                                                                                       |                                                            |                                                                                                                                                                                                                         |                               |                    |      |
| 1                                                                                                                                                                                              | Courant d'attente d'amplicateur principal (XO9-349)   | —                                                                                     | Connecter un voltmètre de CC à CP 1 (L) CP 2 (R) CP 3 (C)  | VOLUME: 0                                                                                                                                                                                                               | VR1 (L)<br>VR2 (R)<br>VR3 (C) | 9 mV               | (a)  |
| 2                                                                                                                                                                                              | Courant d'attente d'amplicateur arrière (XO8-249 E/6) | —                                                                                     | Connecter un voltmètre de CC à CP 1 (SL) CP 2 (SR)         | VOLUME: 0                                                                                                                                                                                                               | VR 1 (SL)<br>VR 2 (SR)        | 3 mV               | (a)  |
| 3                                                                                                                                                                                              | Ajustement de distorsion (XO8-249 A/6)                | Les canaux G et D sont 1 kHz 25 mV rms à l'entrée de prise à broche (entrée de tuner) | + 40 dV ou plus compteur AMP et THD de IC17 1 broche       | Brancher dans la sortie tout en appuyant sur la touche CD REC et passe dans le mode DSP CATHEDRAL.<br><br>Toujours attendre 10 minutes après avoir mis sous tension, puis remettre sous tension avant d'effectuer cela. | VR4                           | Distorsion minimum |      |
| 4                                                                                                                                                                                              | Ajustement de distorsion (XO8-249 A/6)                | Les canaux G et D sont 1 kHz 25 mV rms à l'entrée de prise à broche (entrée de tuner) | + 40 dV ou plus compteur AMP et THD de IC16 1 broche       |                                                                                                                                                                                                                         | VR5                           | Distorsion minimum |      |
| 5                                                                                                                                                                                              | Ajustement de distorsion (XO8-249 A/6)                | Les canaux G et D sont 1 kHz 25 mV rms à l'entrée de prise à broche (entrée de tuner) | + 40 dV ou plus compteur AMP et THD de IC15 1 broche       |                                                                                                                                                                                                                         | VR6                           | Distorsion minimum |      |
| 6                                                                                                                                                                                              | Ajustement de distorsion (XO8-249 A/6)                | Les canaux G et D sont 1 kHz 25 mV rms à l'entrée de prise à broche (entrée de tuner) | + 40 dV ou plus compteur AMP et THD de IC14 1 broche       |                                                                                                                                                                                                                         | VR7                           | Distorsion minimum |      |
| 7                                                                                                                                                                                              | S/N (XO8-249 A/6)                                     | Court-circuiter avec l'entrée de prise à broche (entrée de tuner)                     | Indicateur de bruit avec la sortie de haut-parleur central | Dans le mode normal pro logique, tourner le VR principal sur MAX.                                                                                                                                                       | VR3                           | Bruit minimum      |      |

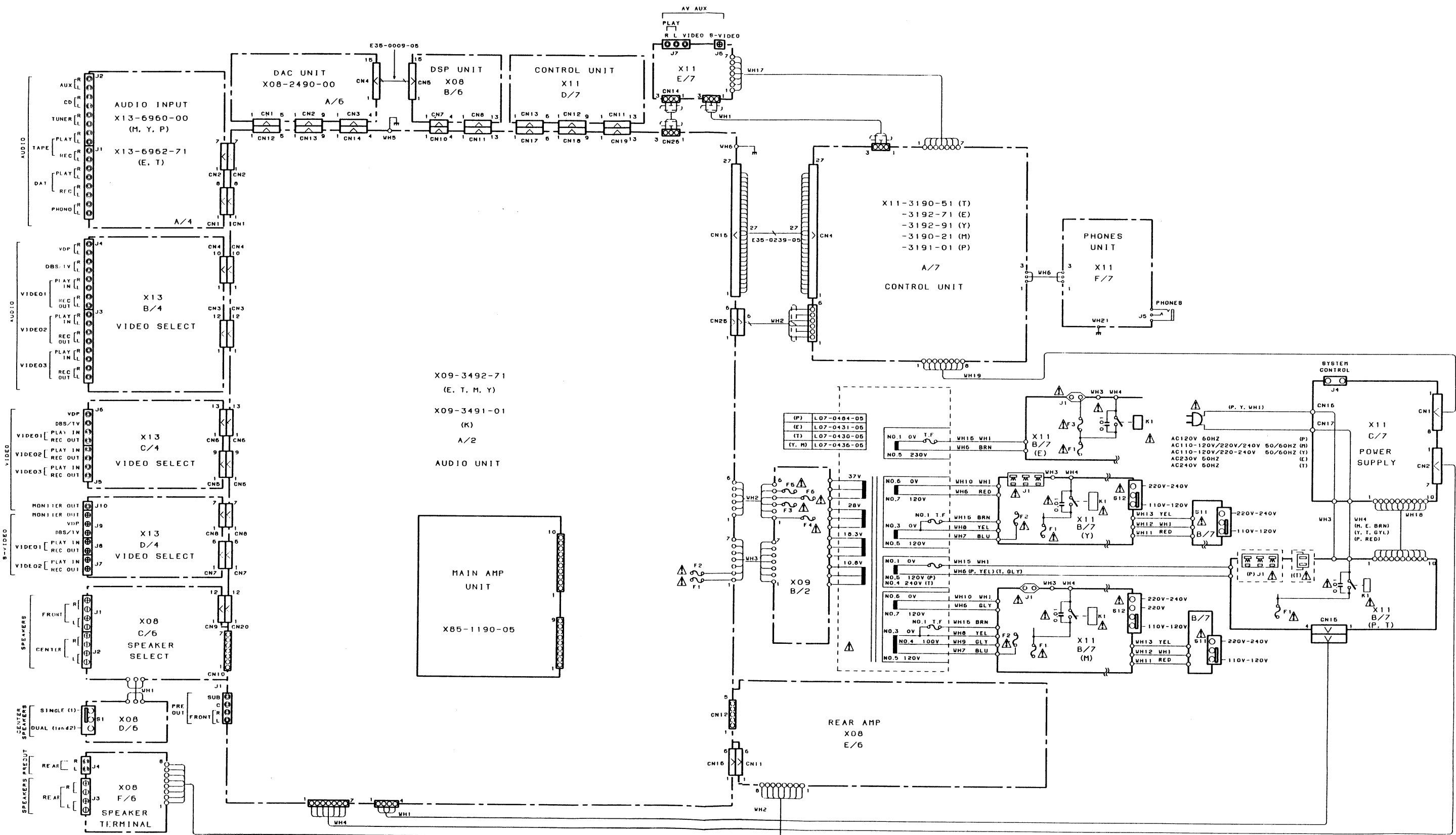
KA-V8500

ABGLEICH

| NR.                                                                                                                                                                           | GENGENSTAND                                        | EINGANGS-EINSTELLUNG                                                                        | AUSANG-EINSTELLUNG                                                     | VORSTÄRKER-EINSTELLUNG                                                                                                      | ABGLEICHE-PUNKTE                 | ABGLEICHEN FÜR        | ABB. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------|------|
| Stellen Sie die Schalter bitte wie folgt ein, sofern kein besonderer Grund für eine andere Einstellung besteht:<br>POWER: ON    SPEAKER: B    REC OUT: OFF    SELECTOR: PHONO |                                                    |                                                                                             |                                                                        |                                                                                                                             |                                  |                       |      |
| 1                                                                                                                                                                             | Haupt-Verstärker-Leerlaufstrom (XO9-349)           | —                                                                                           | Einen Gleichspannungsmesser an CP 1 (L) CP 2 (R) CP 3 (C) anschließen. | VOLUME: 0                                                                                                                   | VR1 (L)<br>VR2 (R)<br>VR3 (C)    | 9 mV                  | (a)  |
| 2                                                                                                                                                                             | Rückverstärker-Leerlaufstrom arrière (XO8-249 E/6) | —                                                                                           | Einen Gleichspannungsmesser an CP 1 (L) CP 2 (R) CP 3 (C) anschließen. | VOLUME: 0                                                                                                                   | VR 1 (L)<br>VR 2 (R)<br>VR 3 (C) | 3 mV                  | (a)  |
| 3                                                                                                                                                                             | Verzerrungseinstellung (XO8-249 A/6)               | Linker und rechter Kanal sind bei Stiftbuchseneingang (Tuner-Eingang) 1 kHz, 25 mV effektiv | + 40 dB oder höher, AMP-und THD-Meter von IC17 1-Pin                   | In Steckdose einschieben, während die CD REC-Taste gedrückt wird, und auf DSP CATHEDRAL-Modus schalten                      | VR4                              | Minimale Verzerrungen |      |
| 4                                                                                                                                                                             | Verzerrungseinstellung (XO8-249 A/6)               | Linker und rechter Kanal sind bei Stiftbuchseneingang (Tuner-Eingang) 1 kHz, 25 mV effektiv | + 40 dB oder höher, AMP-und THD-Meter von IC16 1-Pin                   |                                                                                                                             | VR5                              | Minimale Verzerrungen |      |
| 5                                                                                                                                                                             | Verzerrungseinstellung (XO8-249 A/6)               | Linker und rechter Kanal sind bei Stiftbuchseneingang (Tuner-Eingang) 1 kHz, 25 mV effektiv | + 40 dB oder höher, AMP-und THD-Meter von IC15 1-Pin                   |                                                                                                                             | VR6                              | Minimale Verzerrungen |      |
| 6                                                                                                                                                                             | Verzerrungseinstellung (XO8-249 A/6)               | Linker und rechter Kanal sind bei Stiftbuchseneingang (Tuner-Eingang) 1 kHz, 25 mV effektiv | + 40 dB oder höher, AMP-und THD-Meter von IC14 1-Pin                   | Nach dem Einschalten stets 10 Minuten warten und dann den Strom erneut einschalten, bevor dieser Schritt durchgeführt wird. | VR7                              | Minimale Verzerrungen |      |
| 7                                                                                                                                                                             | S/N (XO8-249 A/6)                                  | Mit Stiftbuchse-neingang (Tuner-Eingang) kurzschließen                                      | Fremdspannungsmesser mit Mittellautsprecherausgang                     |                                                                                                                             | VR3                              | Minimales Rauschen    |      |

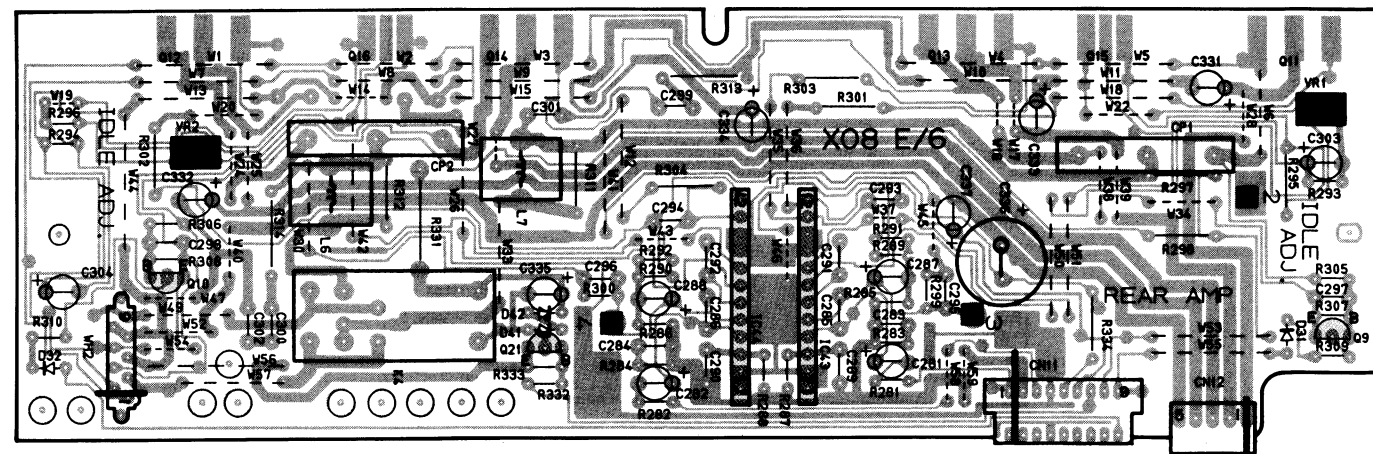
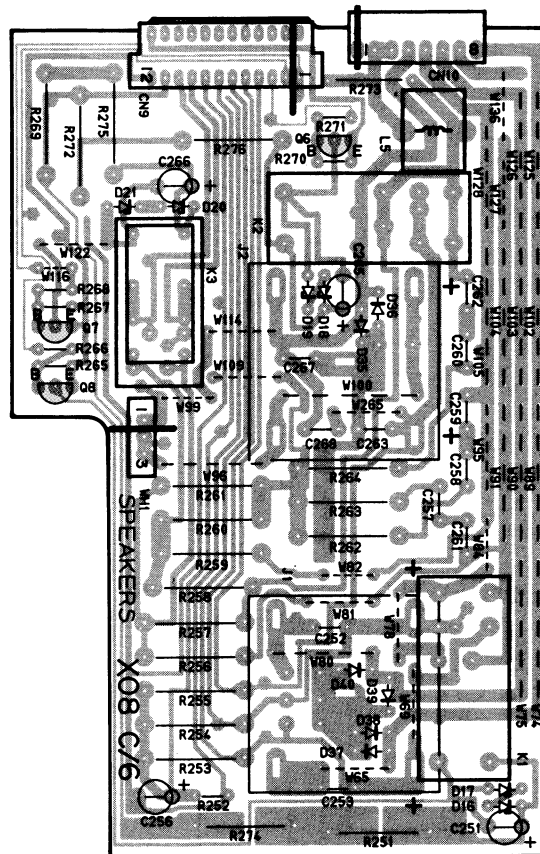
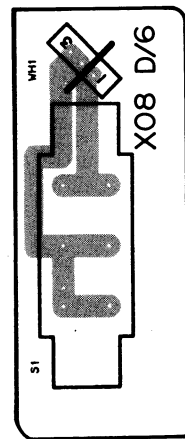
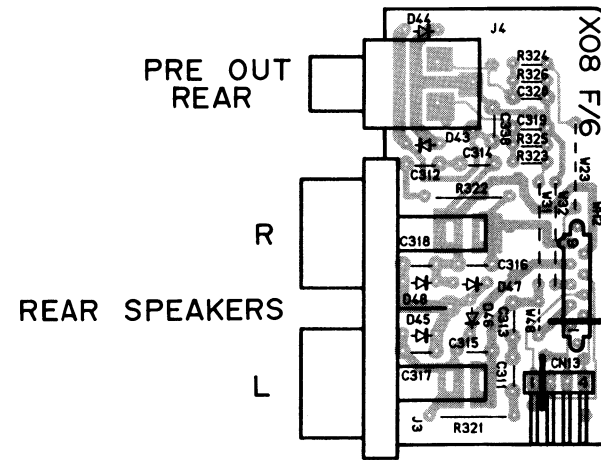
# KA-V8500 KA-V8500

## WIRING DIAGRAM



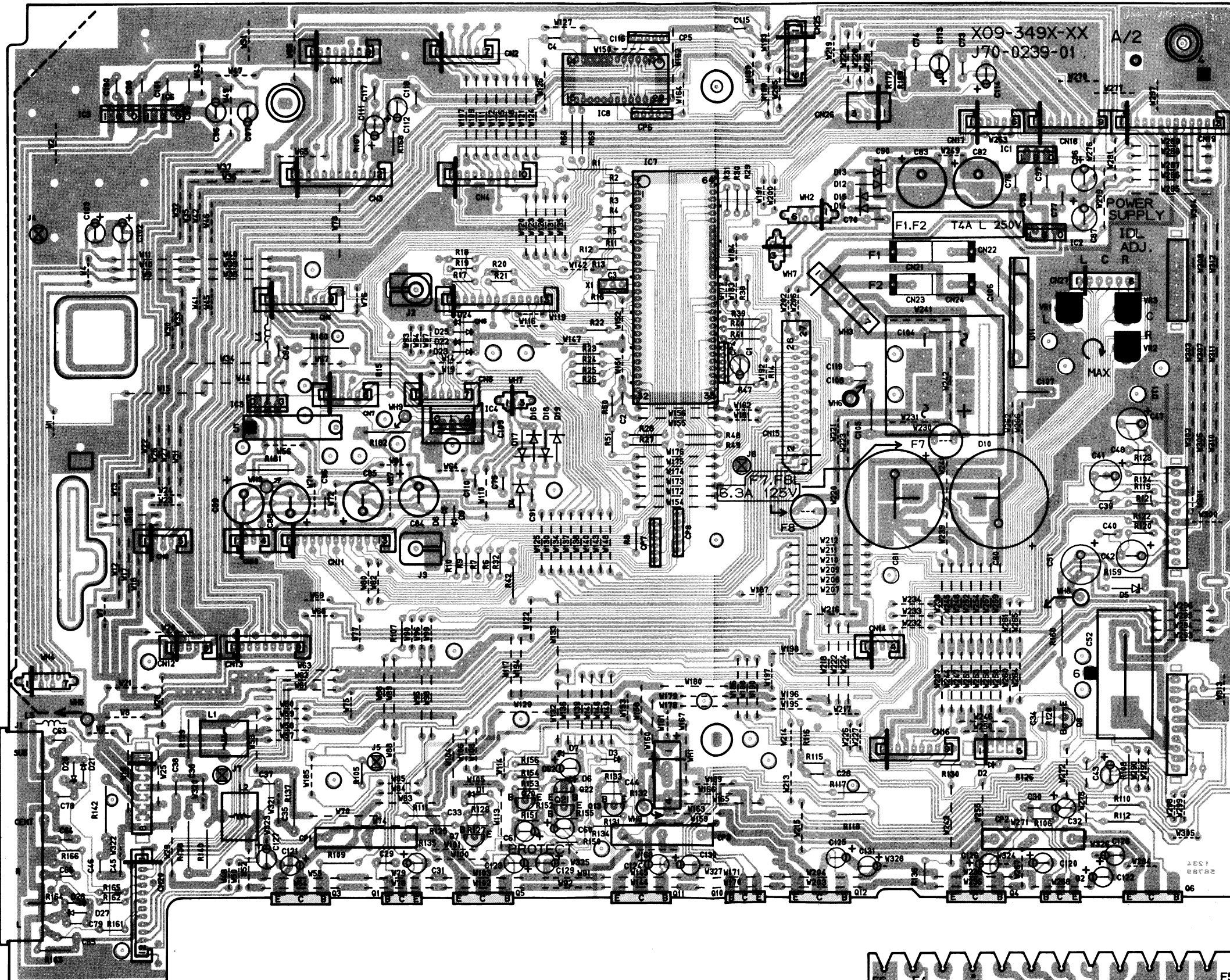
# PC BOARD

SURROUND UNIT(X08-2490-00)

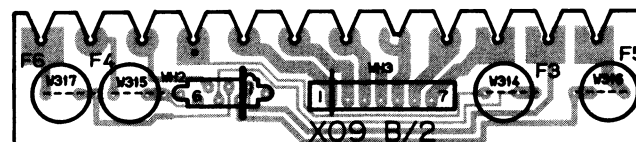
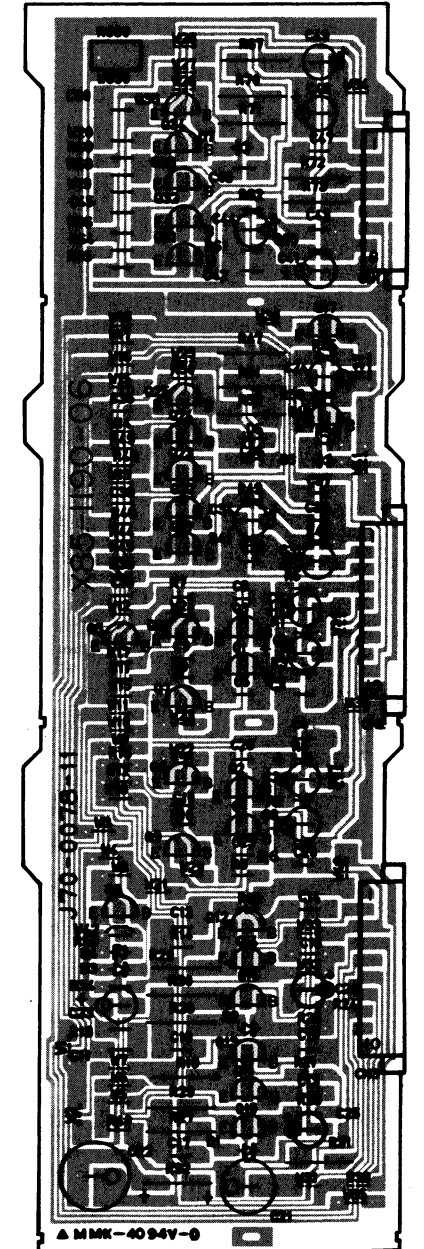


# PC BOARD

AUDIO UNIT(X09-349X-XX)



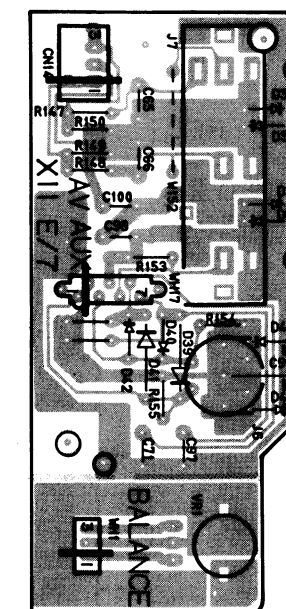
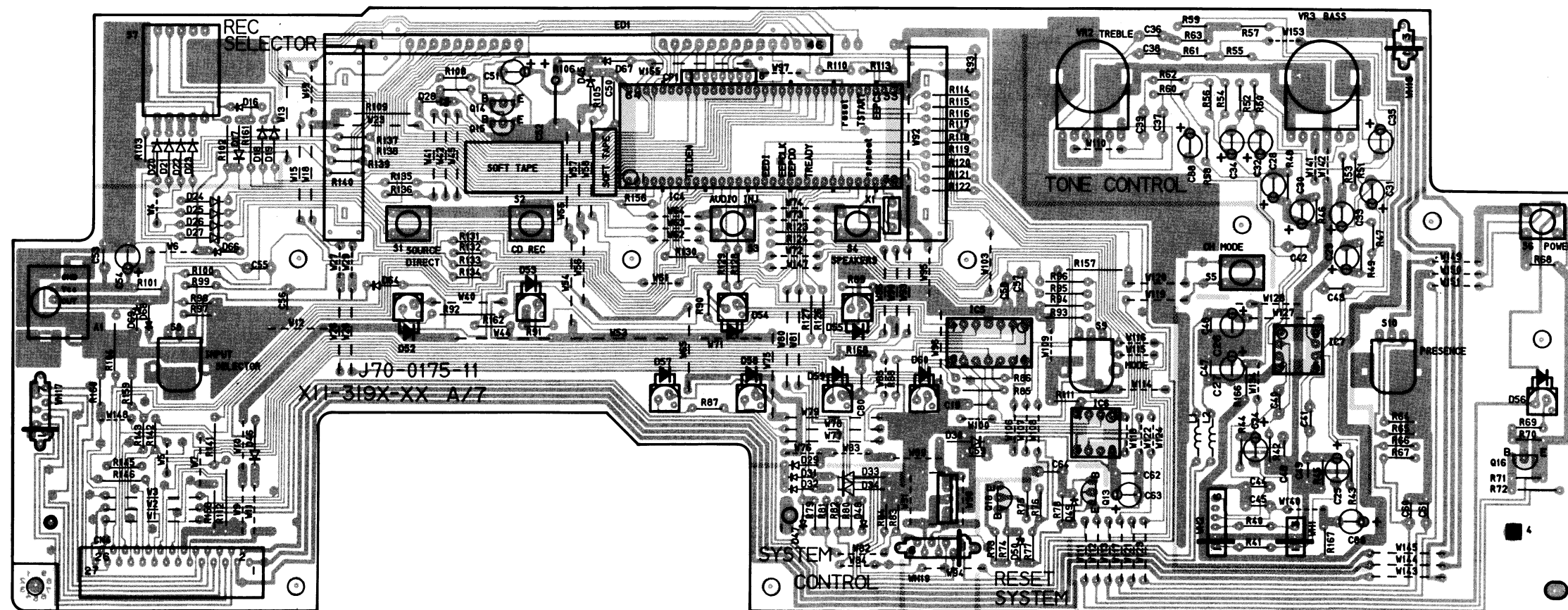
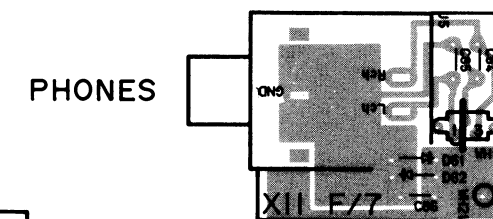
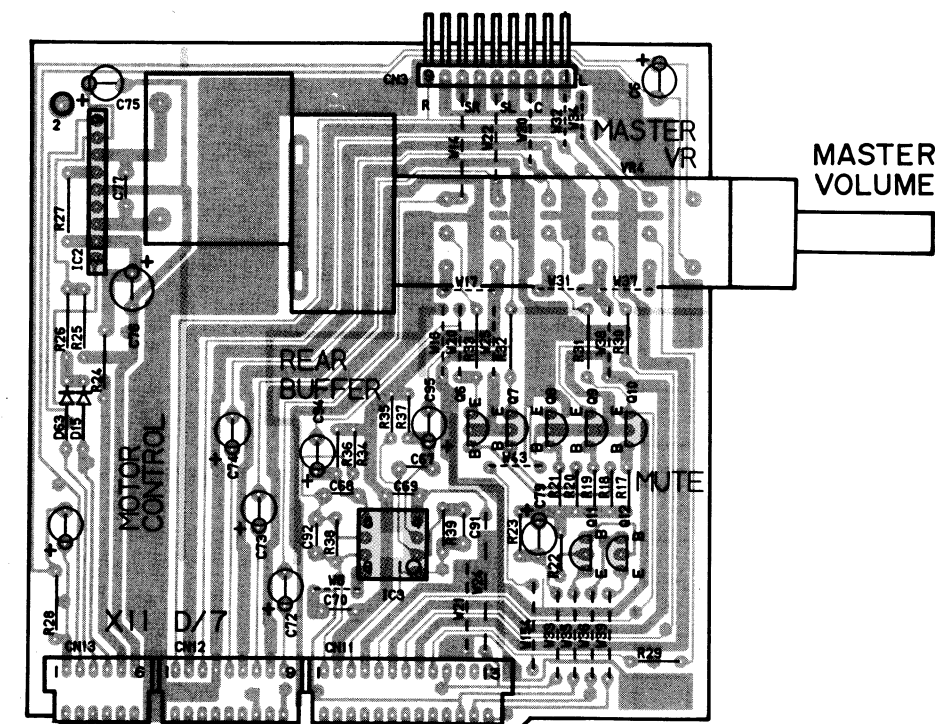
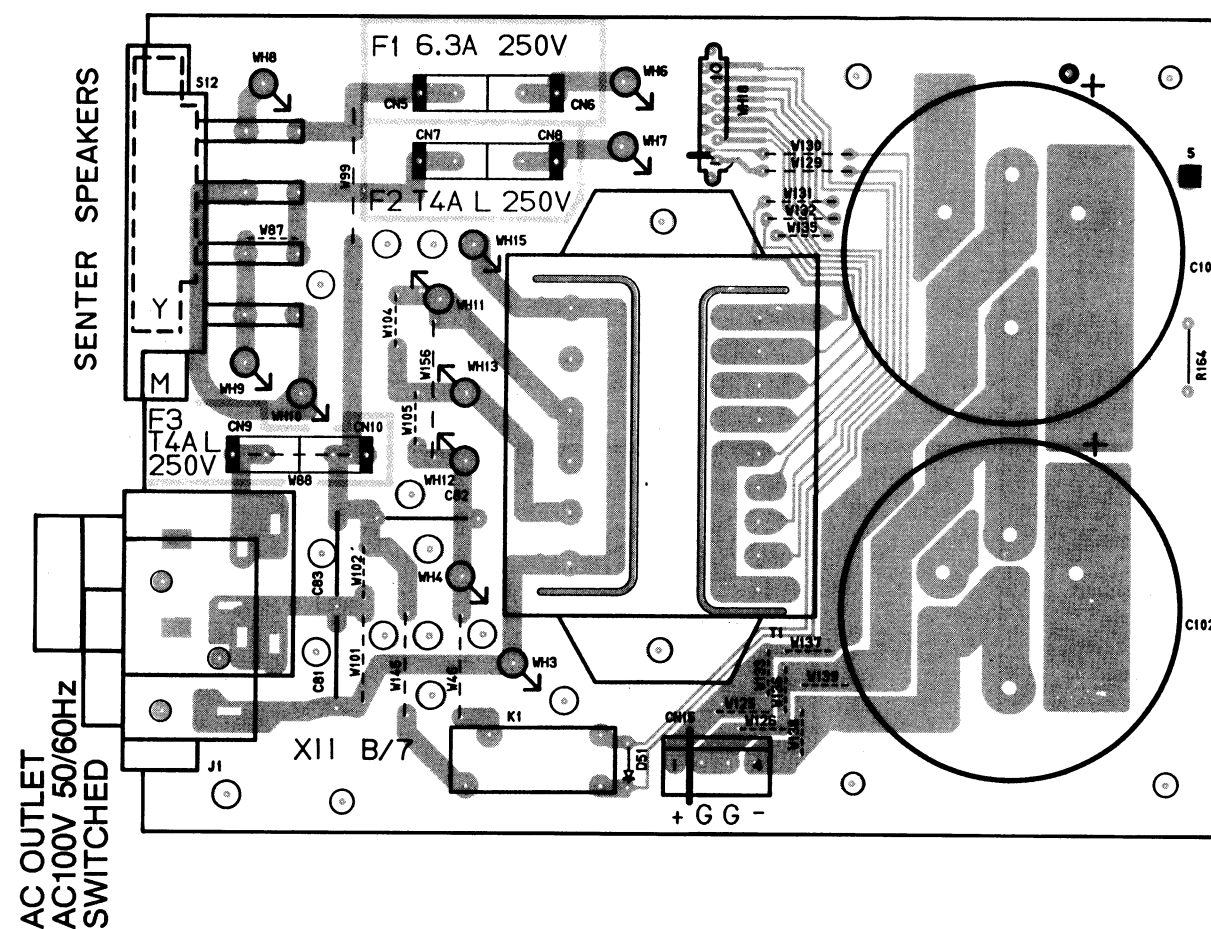
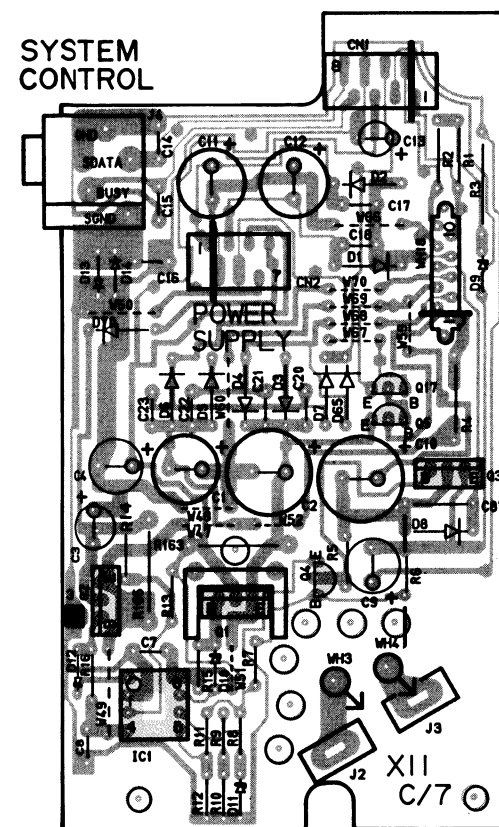
MAIN AMPLIFIER UNIT  
(X85-1190-06)



SUB  
CENTER  
R  
FRONT  
L

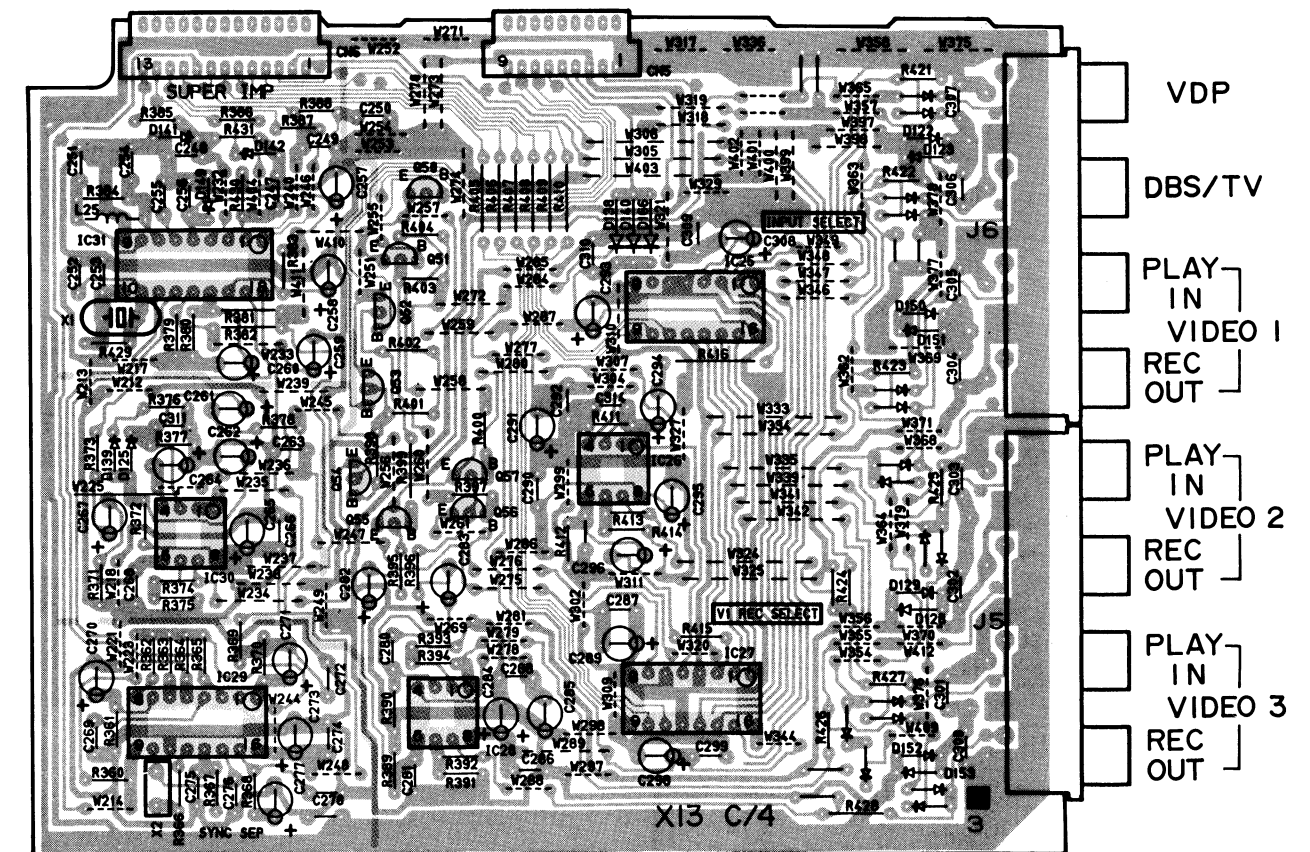
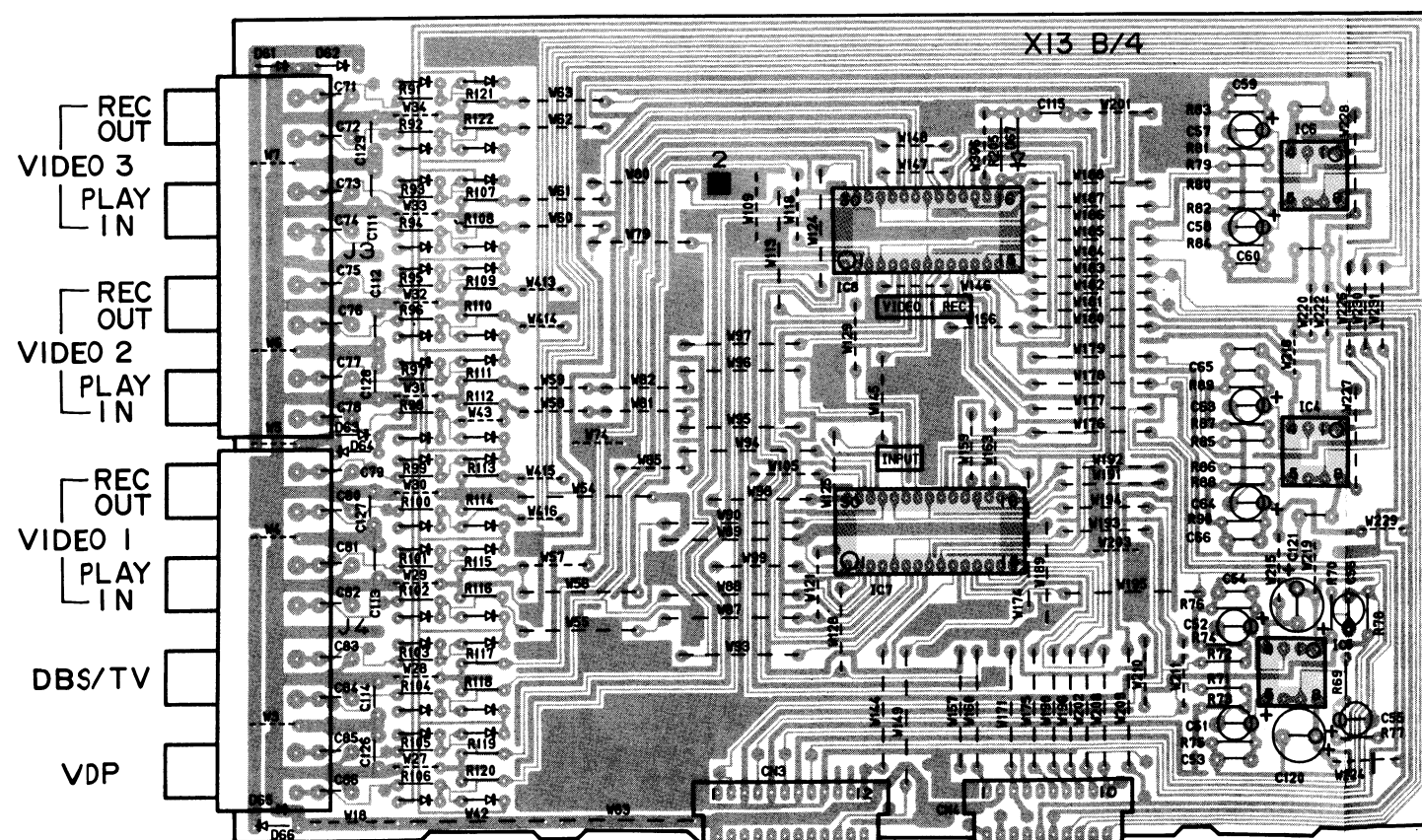
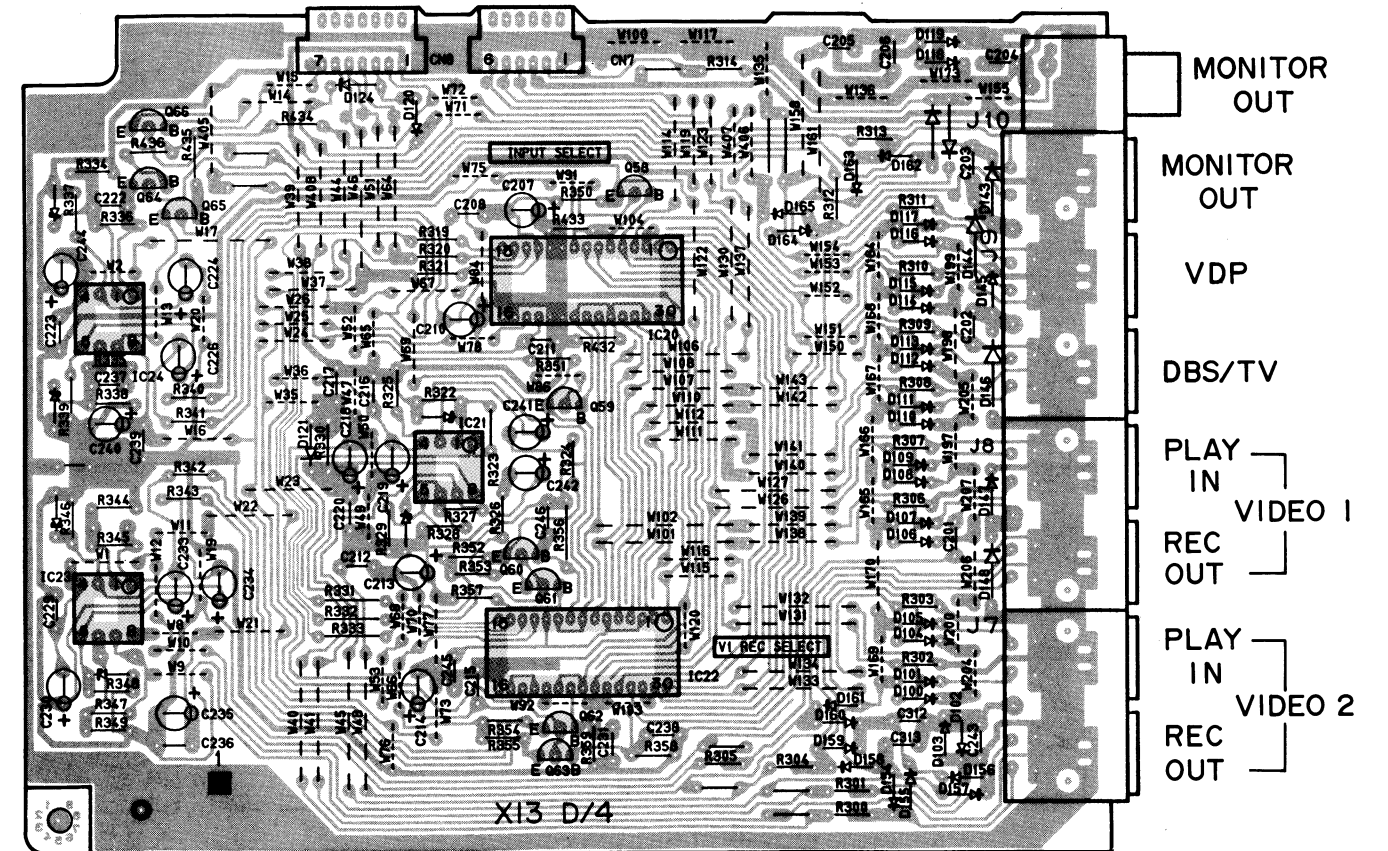
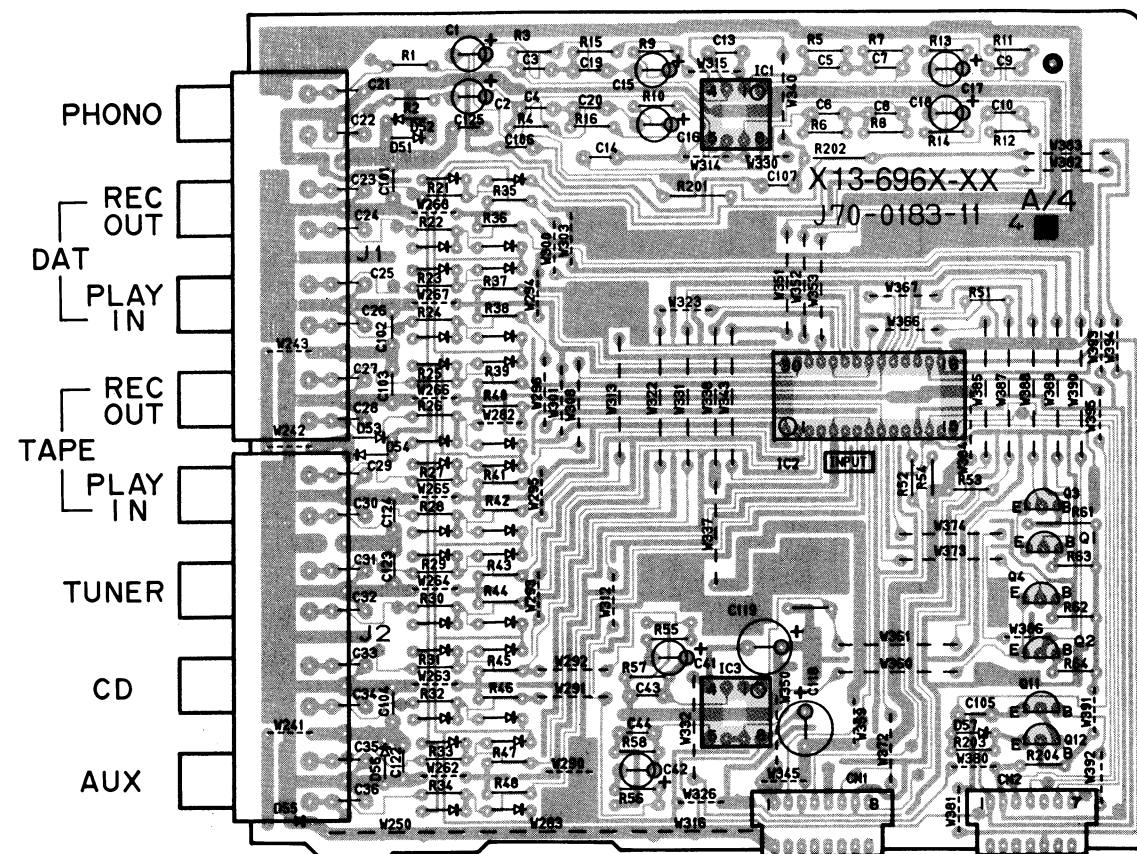
## PC BOARD

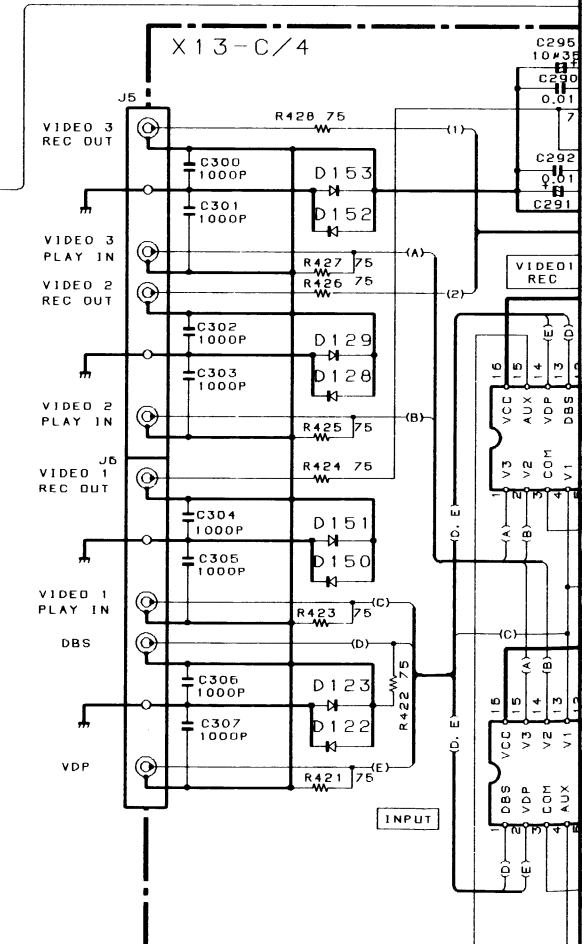
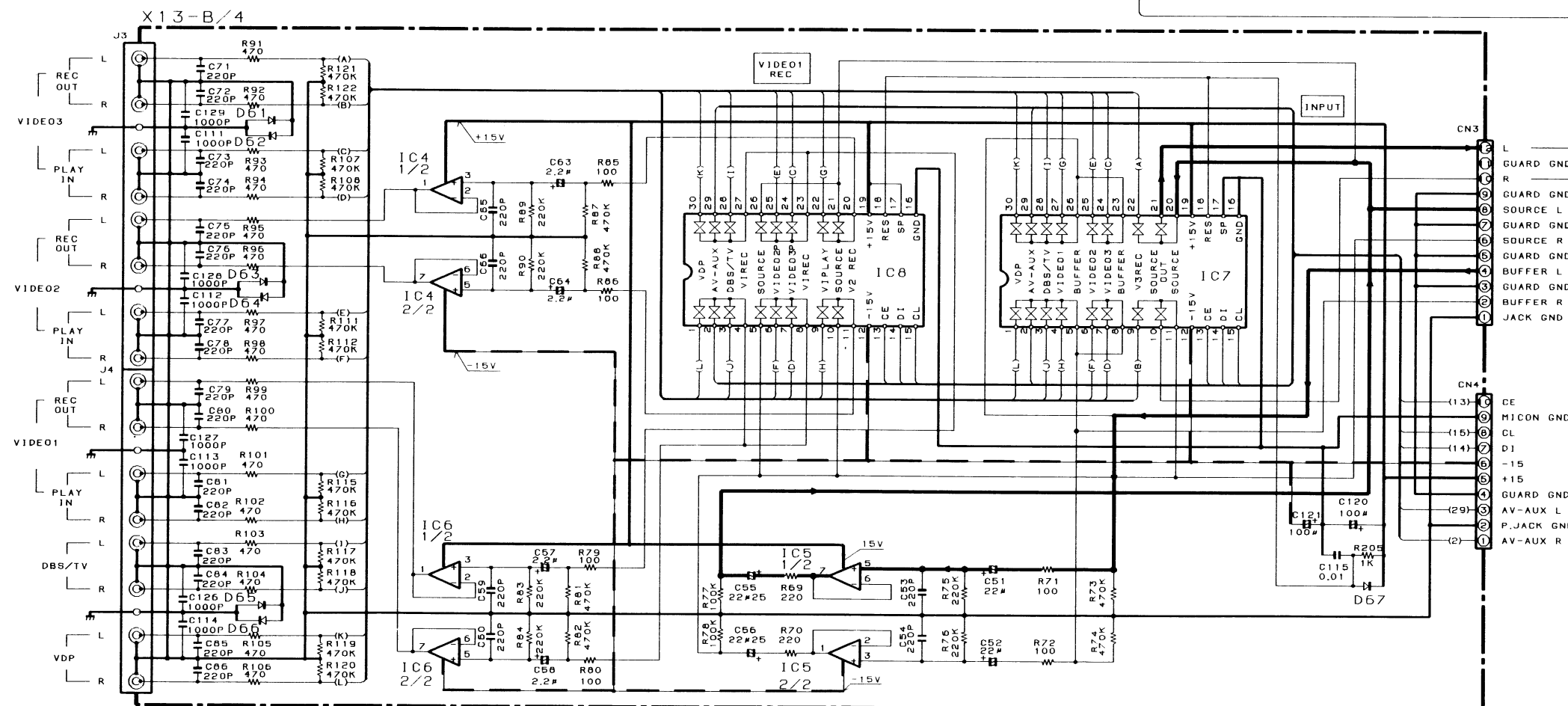
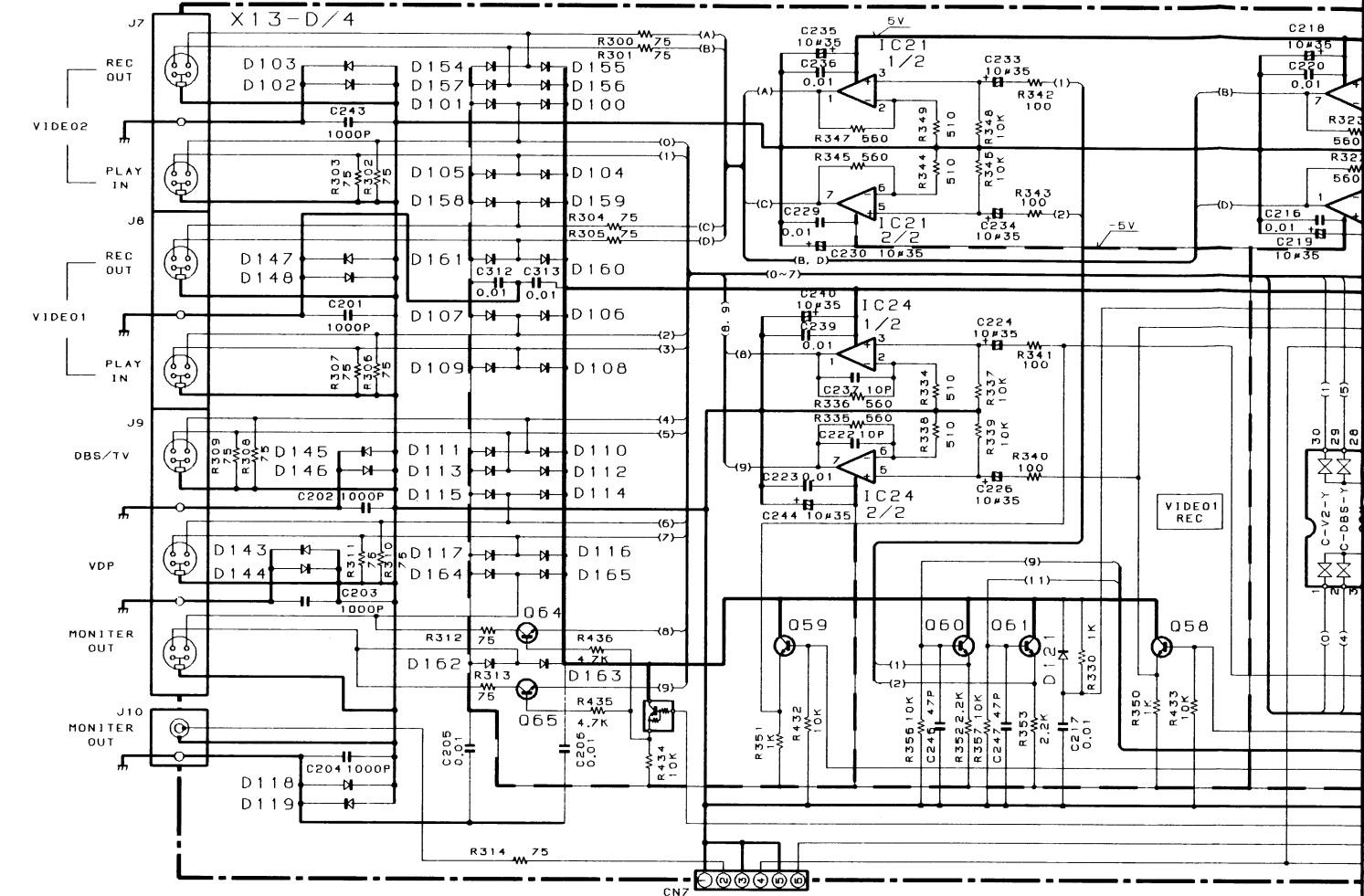
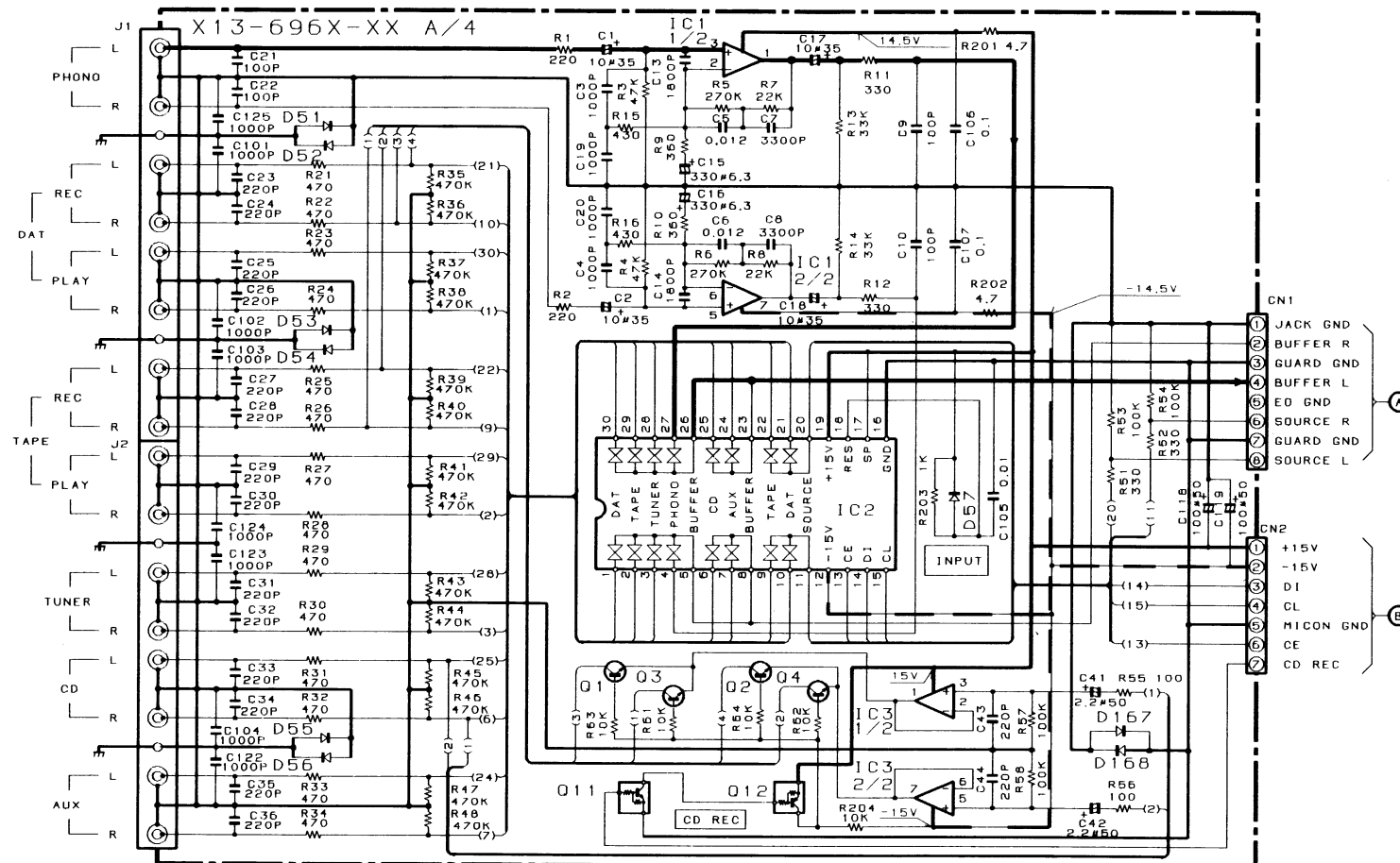
## CONTROL UNIT ( X11-319X-XX )

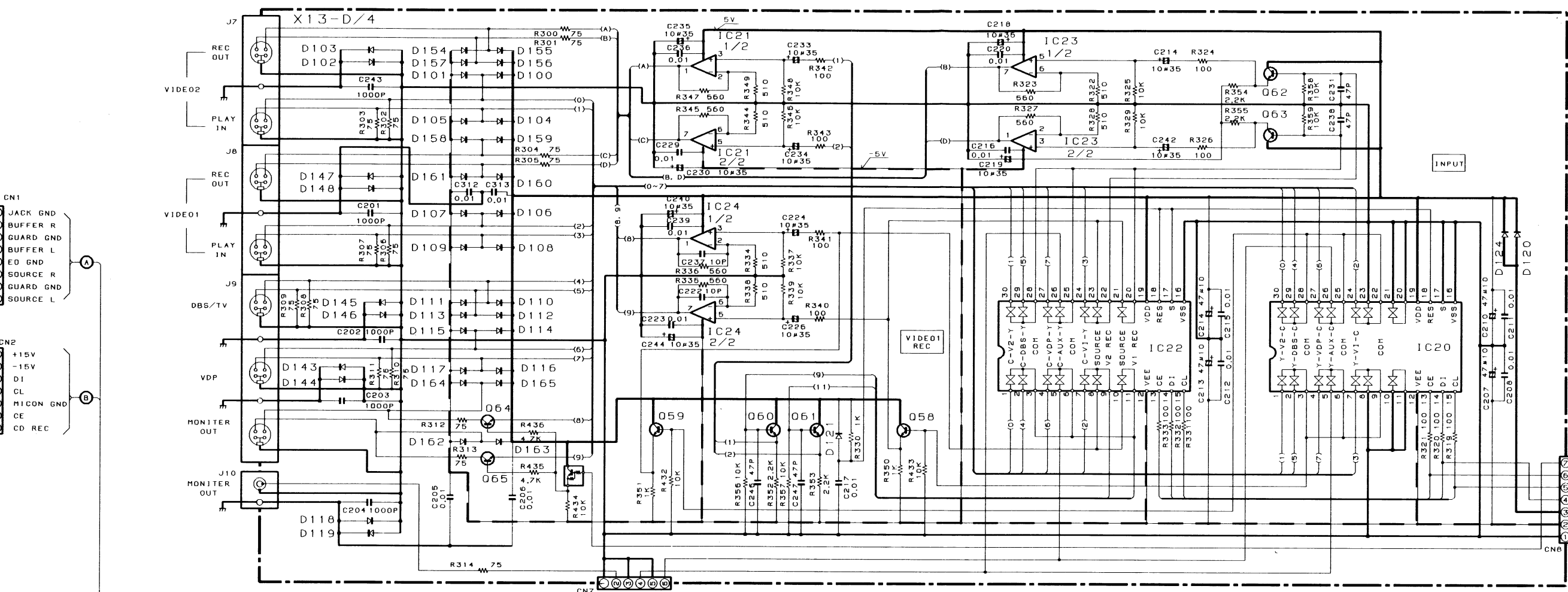


# PC BOARD

## ACCESSORY UNIT(X13-696X-XX)





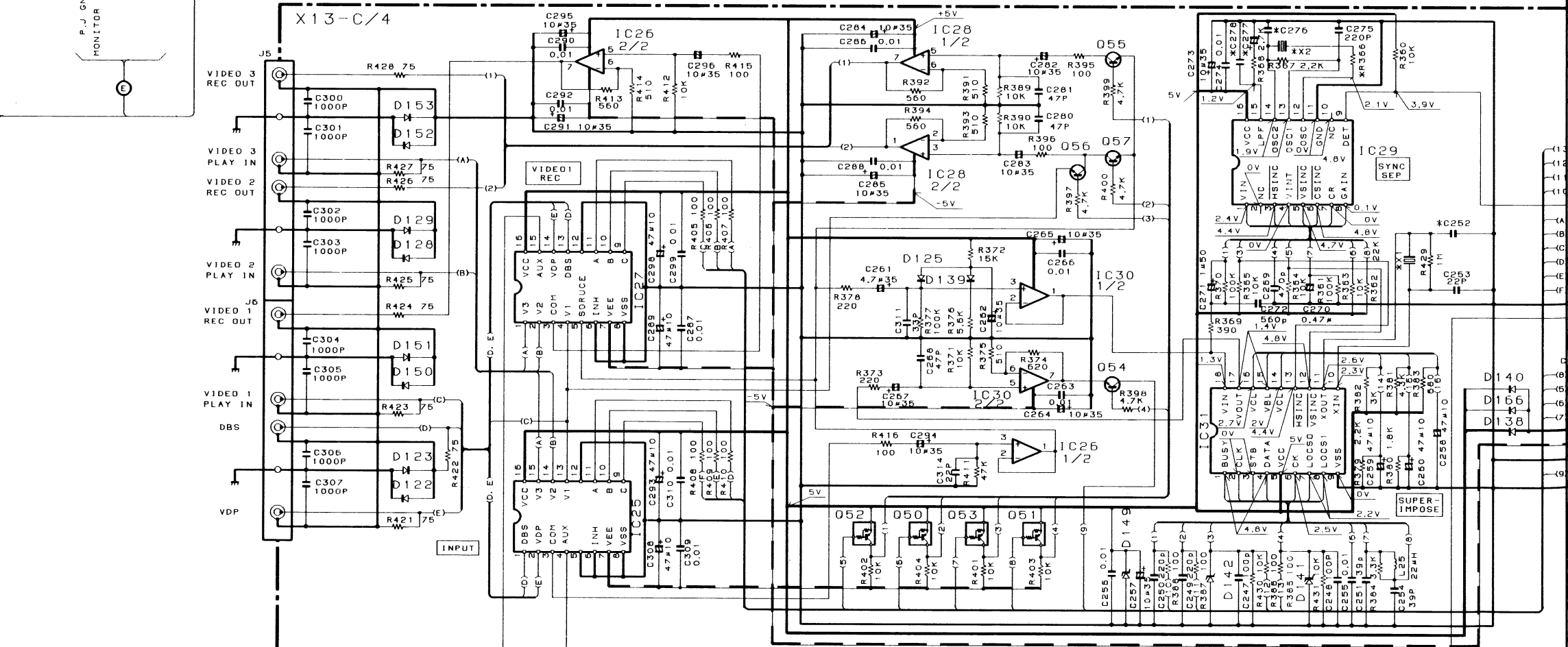
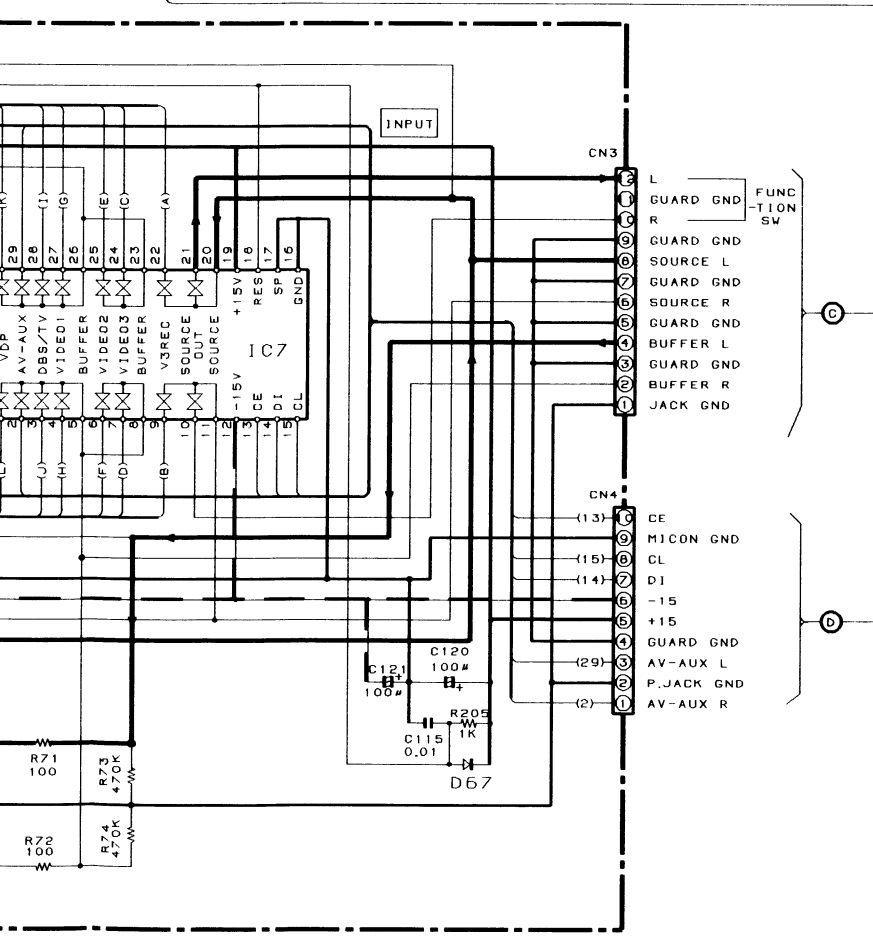


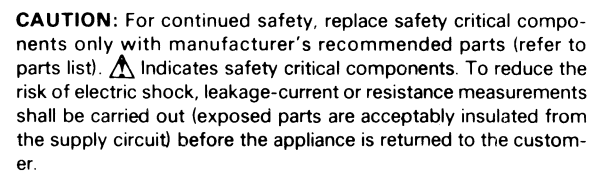
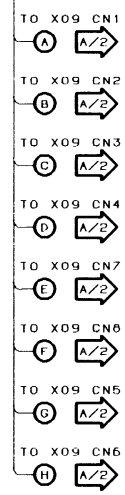
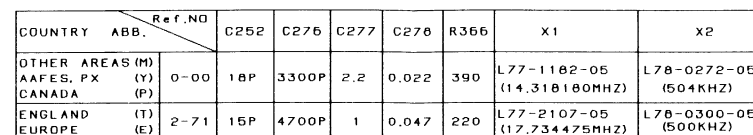
D51-57, 61-67 : 1SS133 or HSS104  
 100-125, 128, 129 : 1SS133 or HSS104  
 138-140, 143-148 : 1SS133 or HSS104  
 150-158 : 1SS133 or HSS104  
 D141, 142, 149 : RD5.1ES (B) or HZS5.1N (B)

01-4, 54-57, 64, 65 : 2SC2876 (B)  
 011 : DTC124ES or UN4212  
 012, 50-53, 66 : DTA124ES or UN4112  
 058-63 : 2SC3311A (Q, R) or 2SC2440

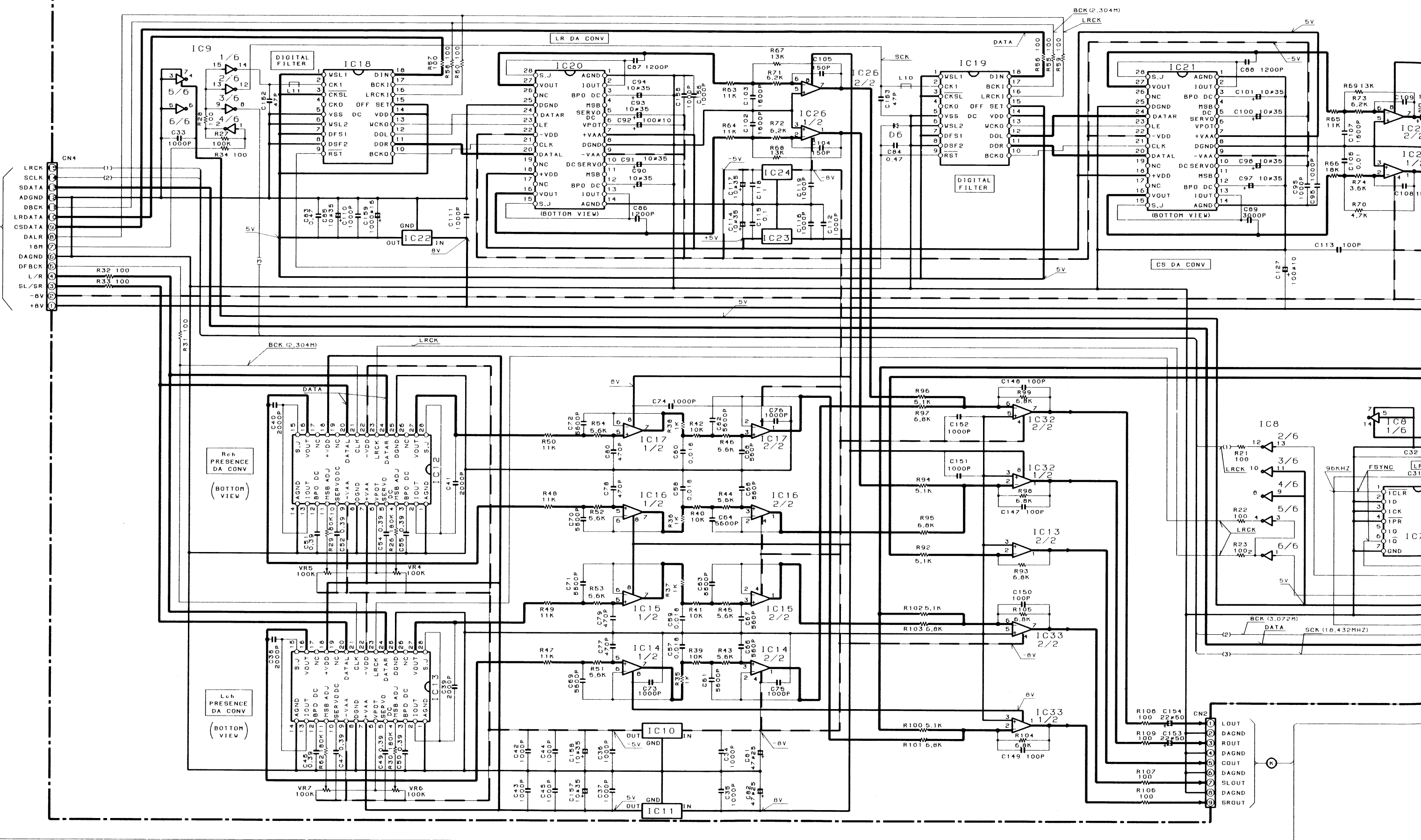
IC1 : UP4570C-A  
 IC2, 7 : LC7821N  
 IC3-6 : NJM4556D or NJM4560D  
 IC8 : LC7823N  
 IC20, 22 : LC7823N  
 IC21, 23, 24, 26 : MC14577AP  
 28, 30 : TC4051BP  
 IC25, 27 : MM1057XD  
 IC31 : UPD6450X-514

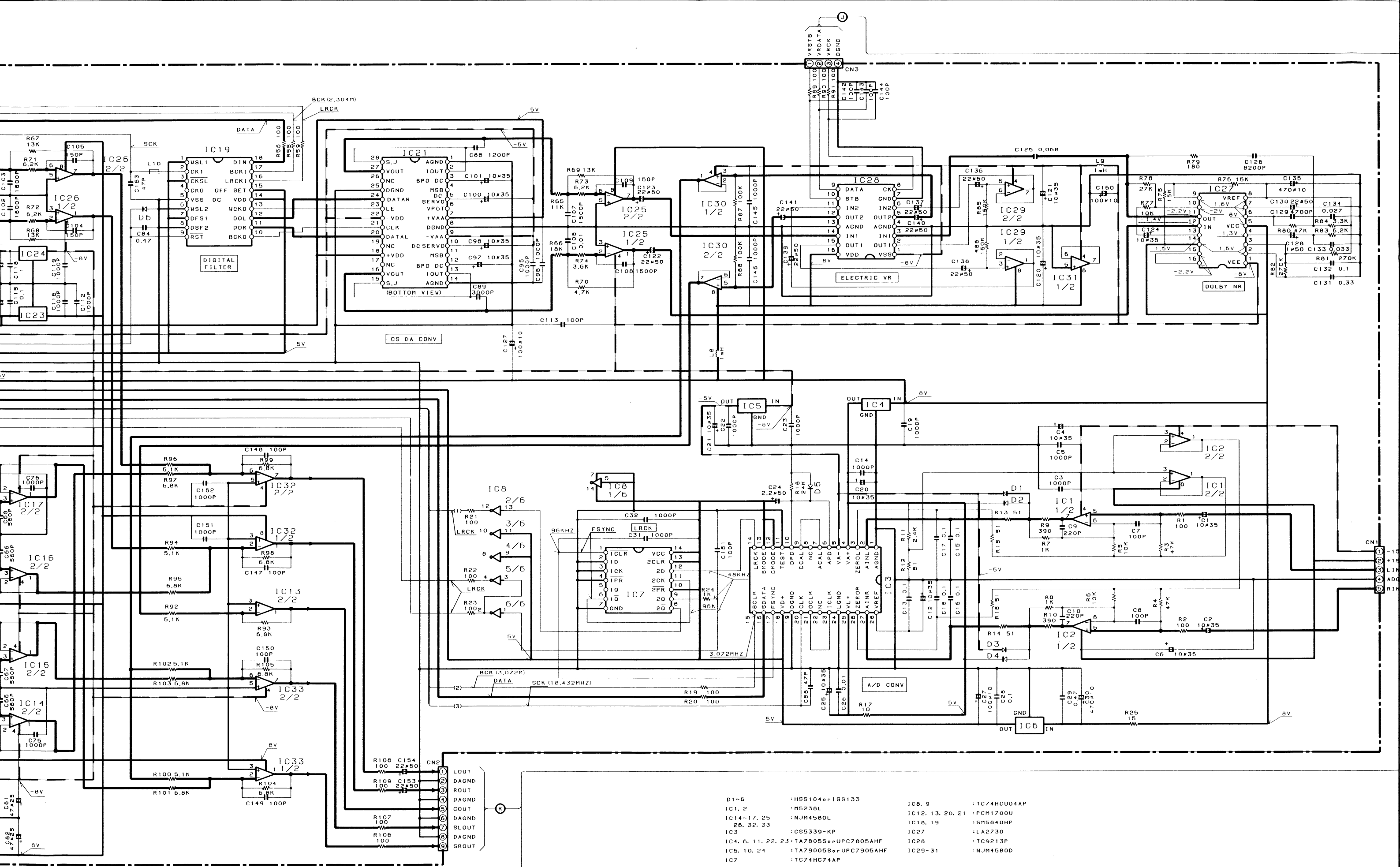
| COUNTRY         | ABB. | Ref. NO. | C252 | C276  | C277 | C278  | R366 |
|-----------------|------|----------|------|-------|------|-------|------|
| OTHER AREAS (M) |      | 0-00     | 18P  | 3300P | 2.2  | 0.022 | 390  |
| AAAF, PX        | (F)  |          |      |       |      |       | L77  |
| CANADA          | (F)  |          |      |       |      |       | (14) |
| ENGLAND         | (T)  | 2-71     | 15P  | 4700P | 1    | 0.047 | 220  |
| EUROPE          | (E)  |          |      |       |      |       | L77  |
|                 |      |          |      |       |      |       | (17) |

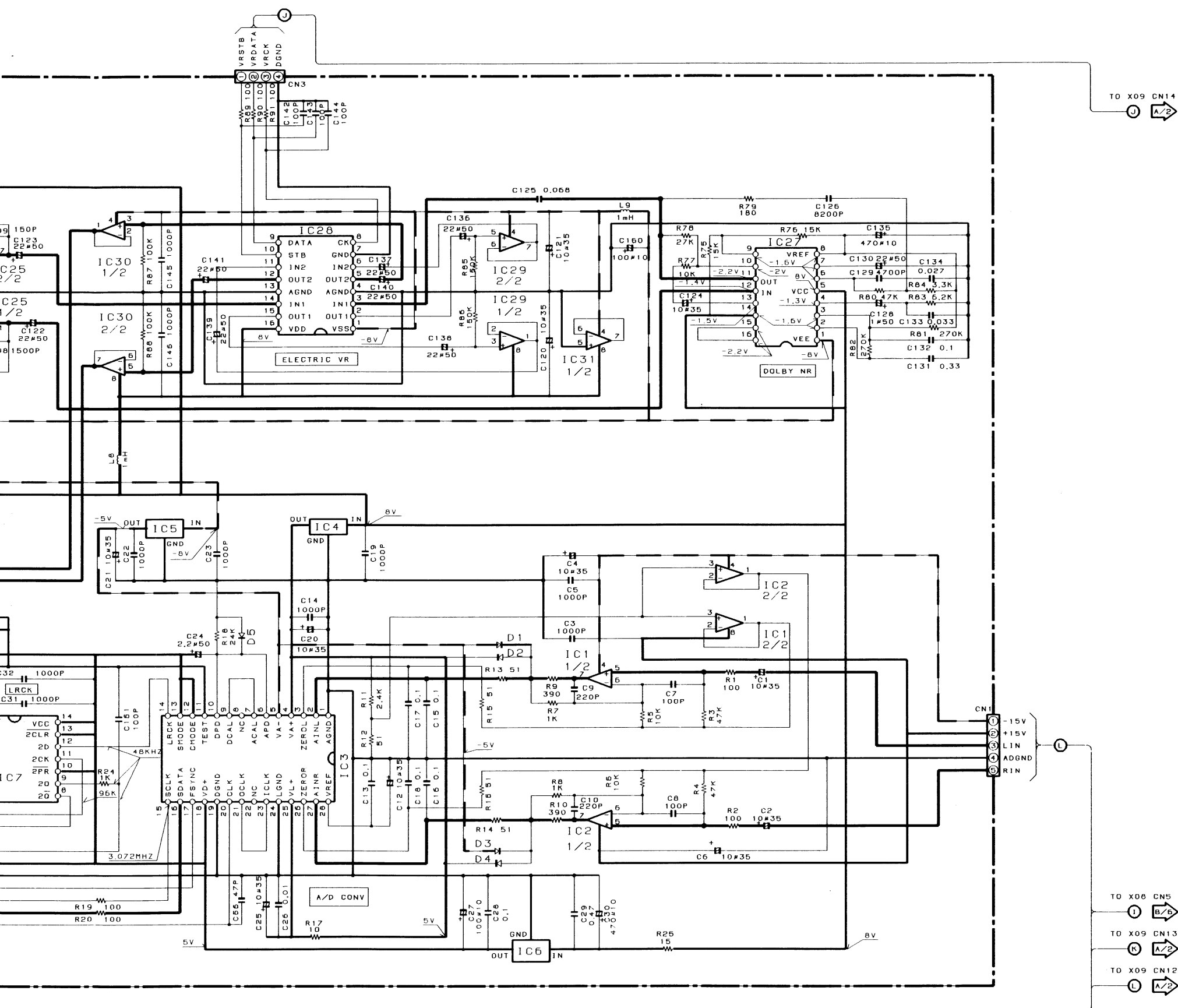




X08-2490-00 A/6







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

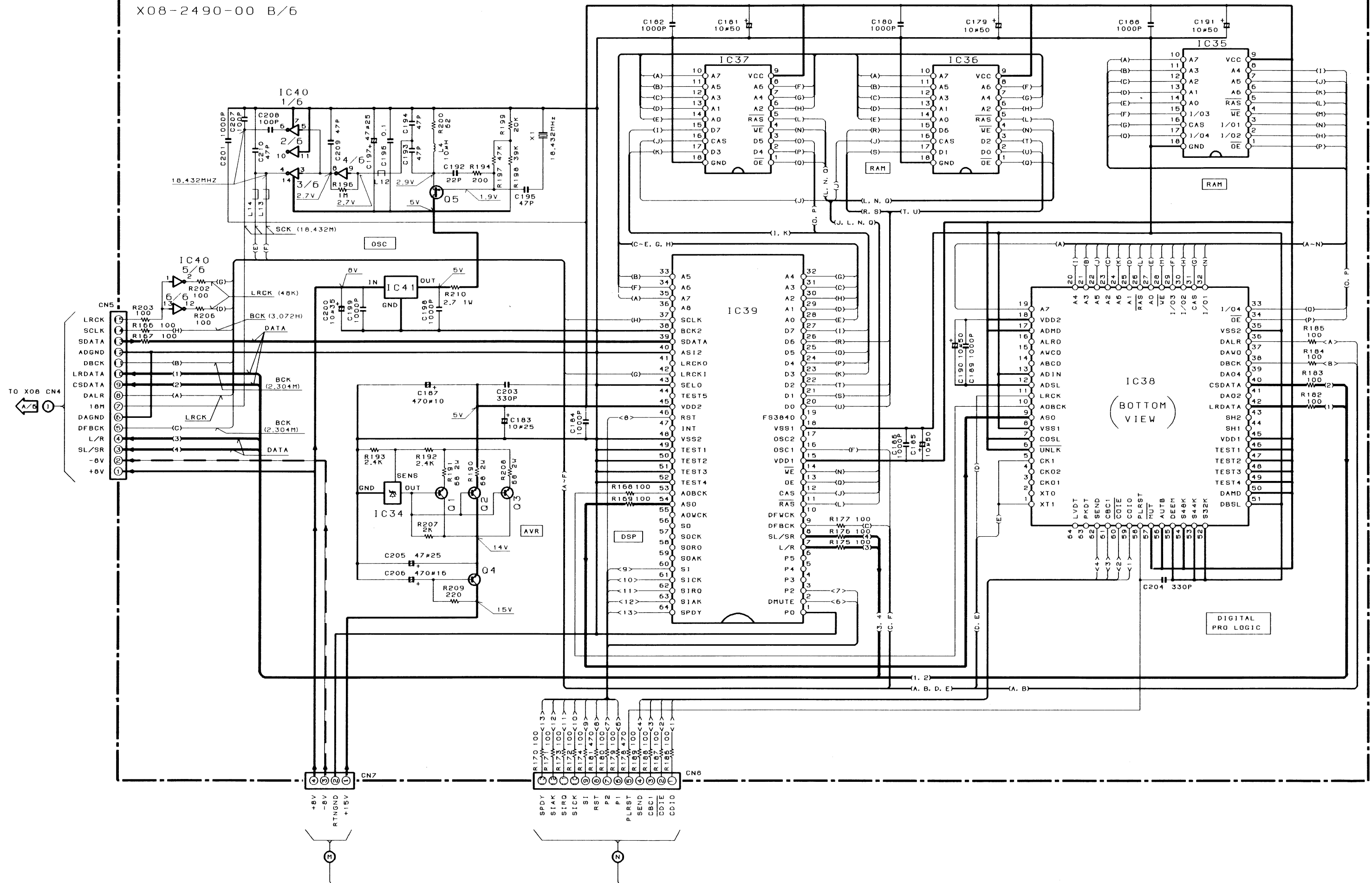
DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

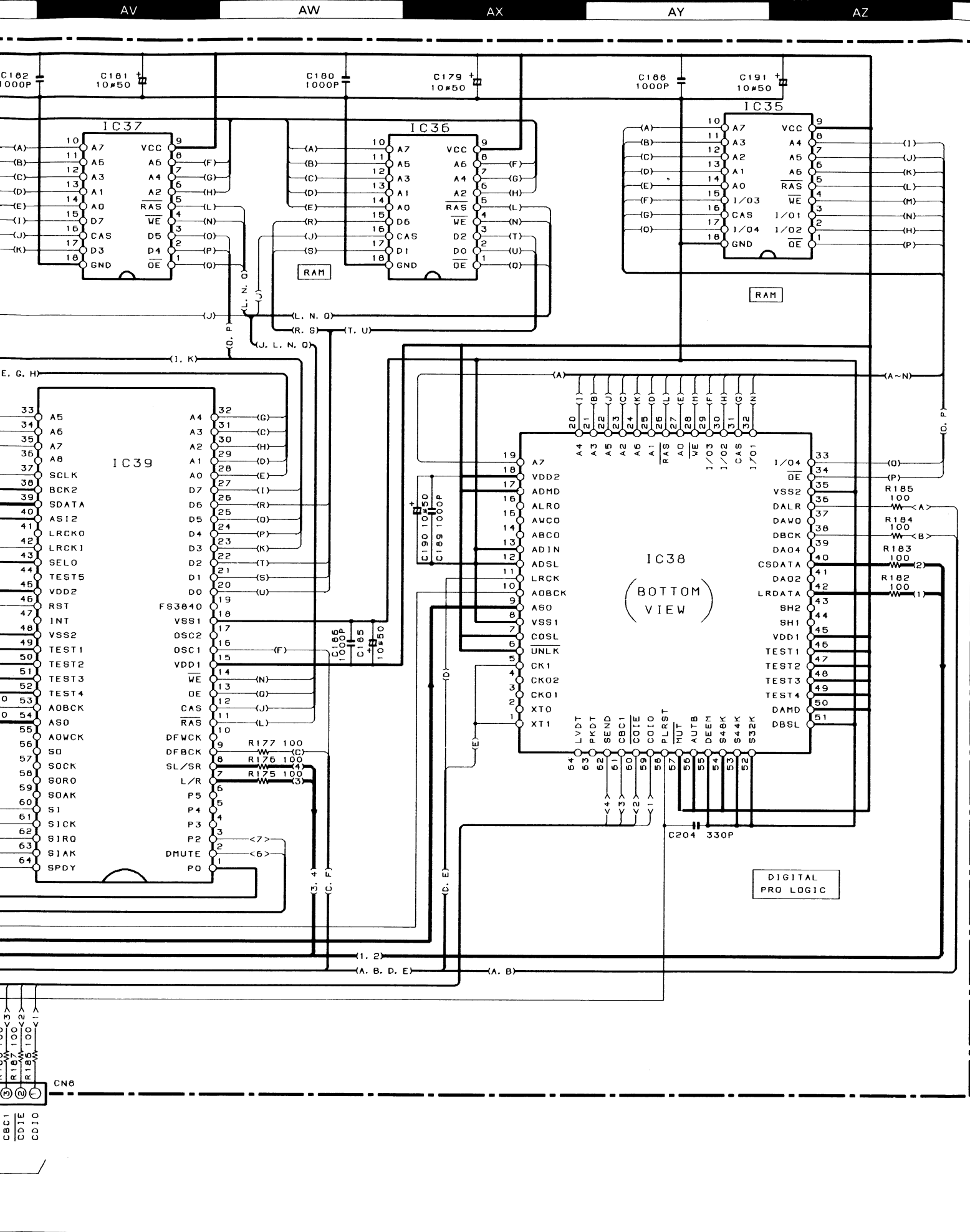
Les tensions c.c. doivent être mesurées avec un voltmètre haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

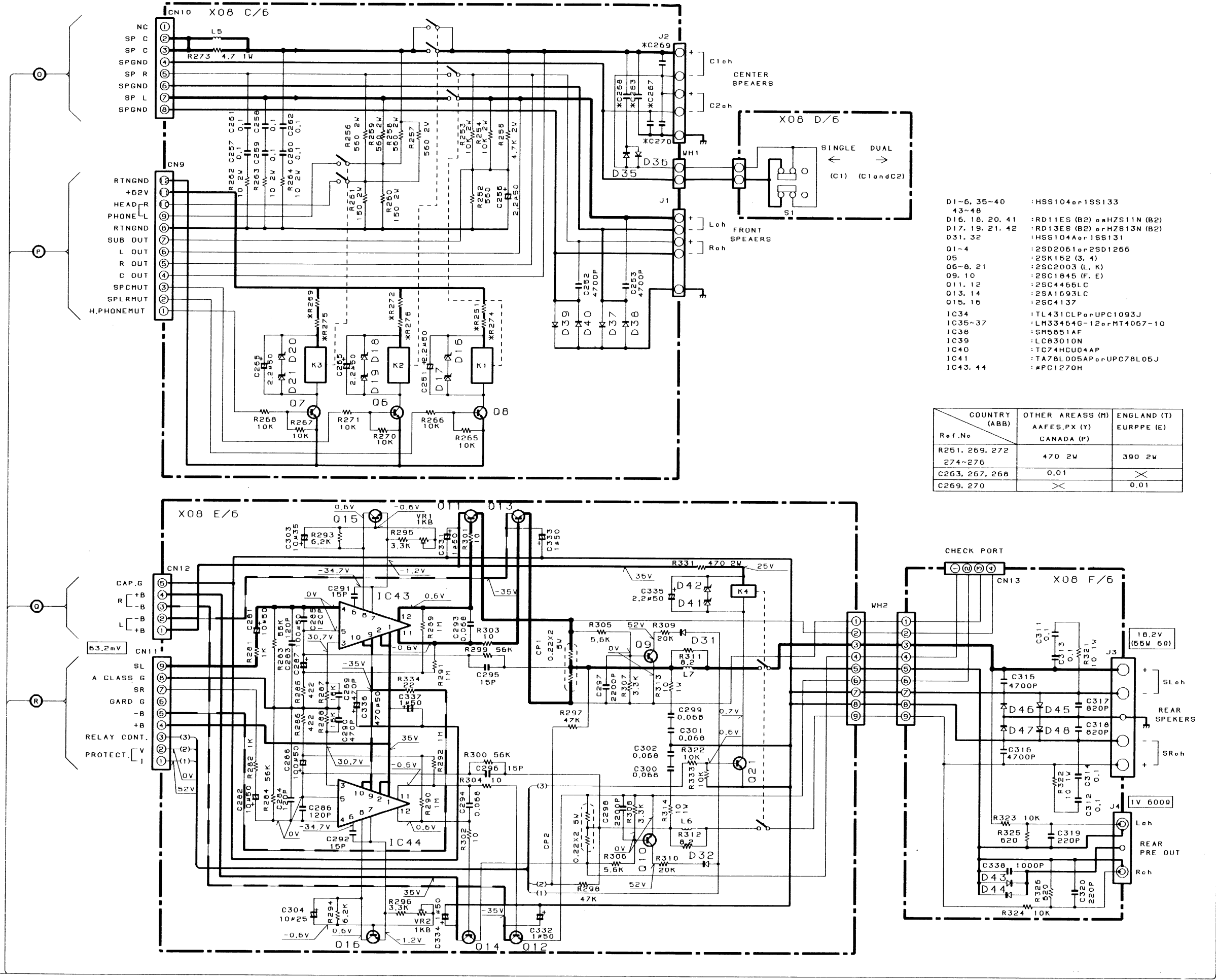
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten U. geringfügig.

|                    |                       |                 |              |
|--------------------|-----------------------|-----------------|--------------|
| D1-6               | :HSS104erISS133       | IC8-9           | :TC74HC004AP |
| IC1-2              | :MS2381               | IC12-13, 20, 21 | :PCM1700U    |
| IC4-17, 25         | :NJM4580L             | IC18-19         | :SM5040HP    |
| IC6, 32, 33        |                       | IC27            | :LA2730      |
| IC3                | :CS5339-KP            | IC28            | :TC9213P     |
| IC4, 6, 11, 22, 24 | :TA7065SerUPC7605AHF  | IC29-31         | :NJM4580D    |
| IC5, 10, 24        | :TA79005SerUPC7905AHF |                 |              |
| IC7                | :TC74HC74AP           |                 |              |

X08-2490-00 B/6







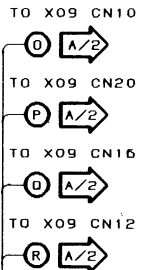
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

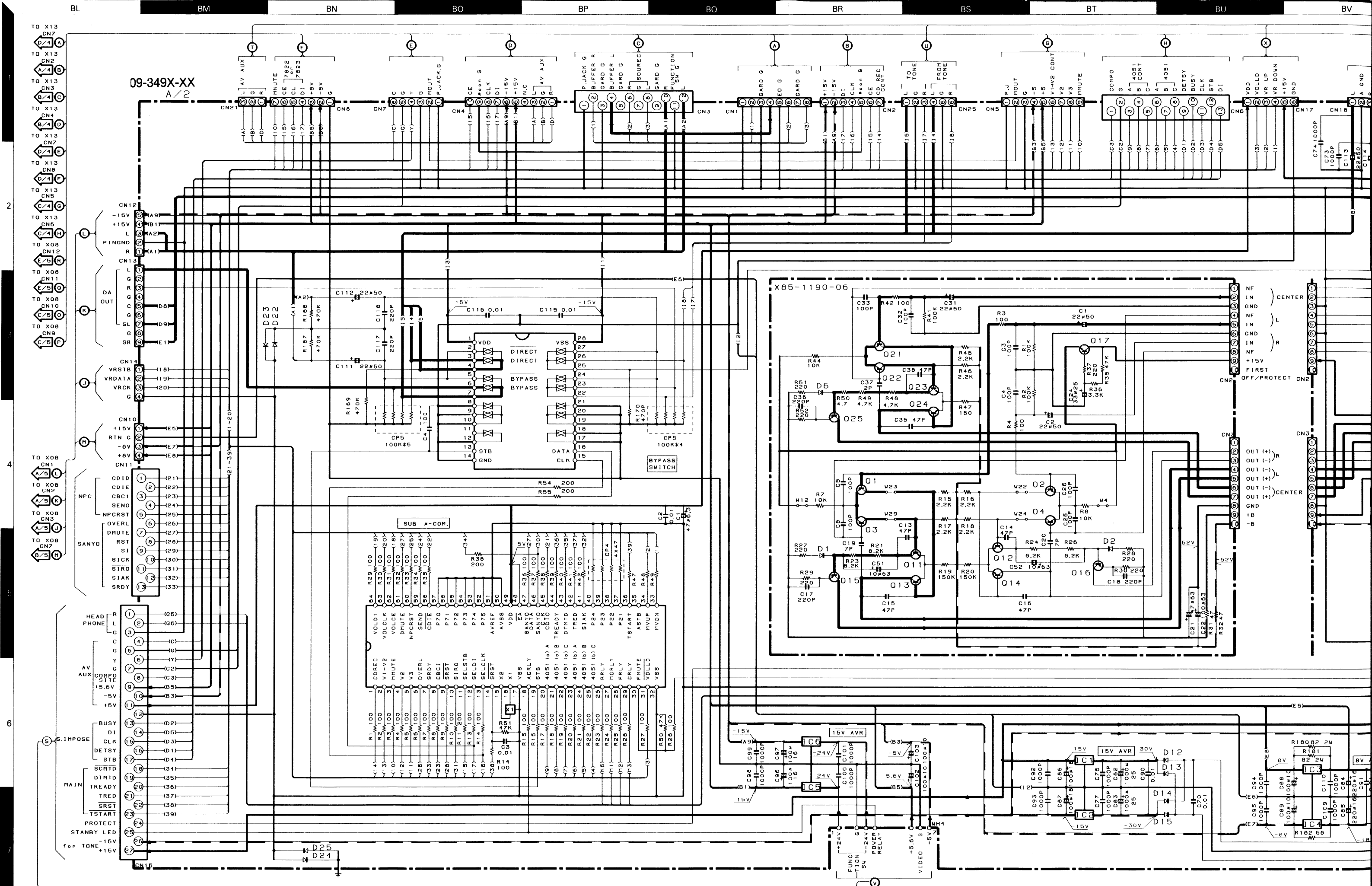
| Ref. No.       | COUNTRY (ABB) | OTHER AREAS (M) | ENGLAND (T) |
|----------------|---------------|-----------------|-------------|
|                | AAFES, PX (Y) | CANADA (P)      | EURPPE (E)  |
| R251, 269, 272 |               | 470 2W          | 390 2W      |
| 274-276        |               |                 |             |
| C263, 267, 268 |               | 0.01            | ×           |
| C269, 270      |               | ×               | 0.01        |

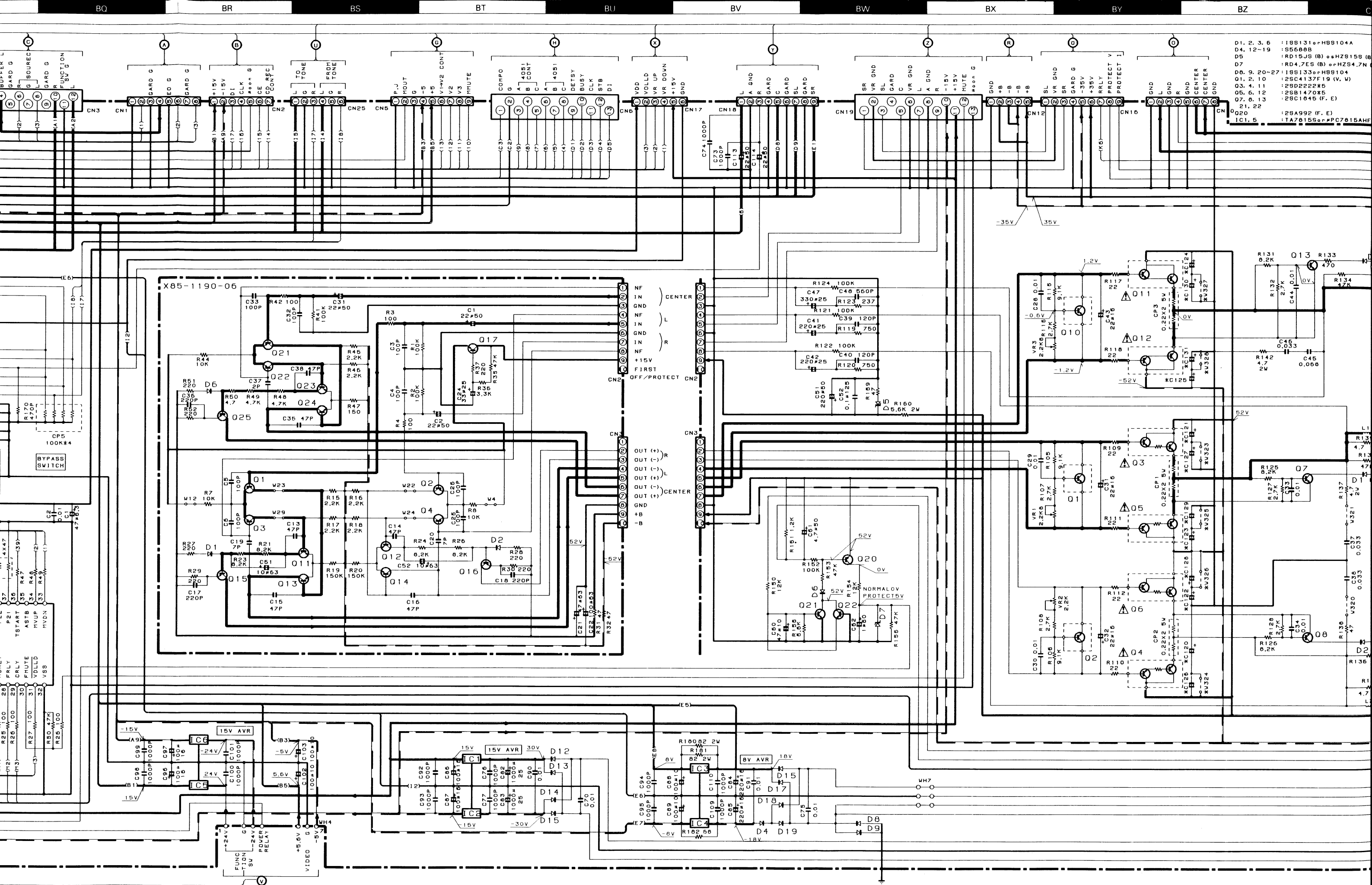
DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

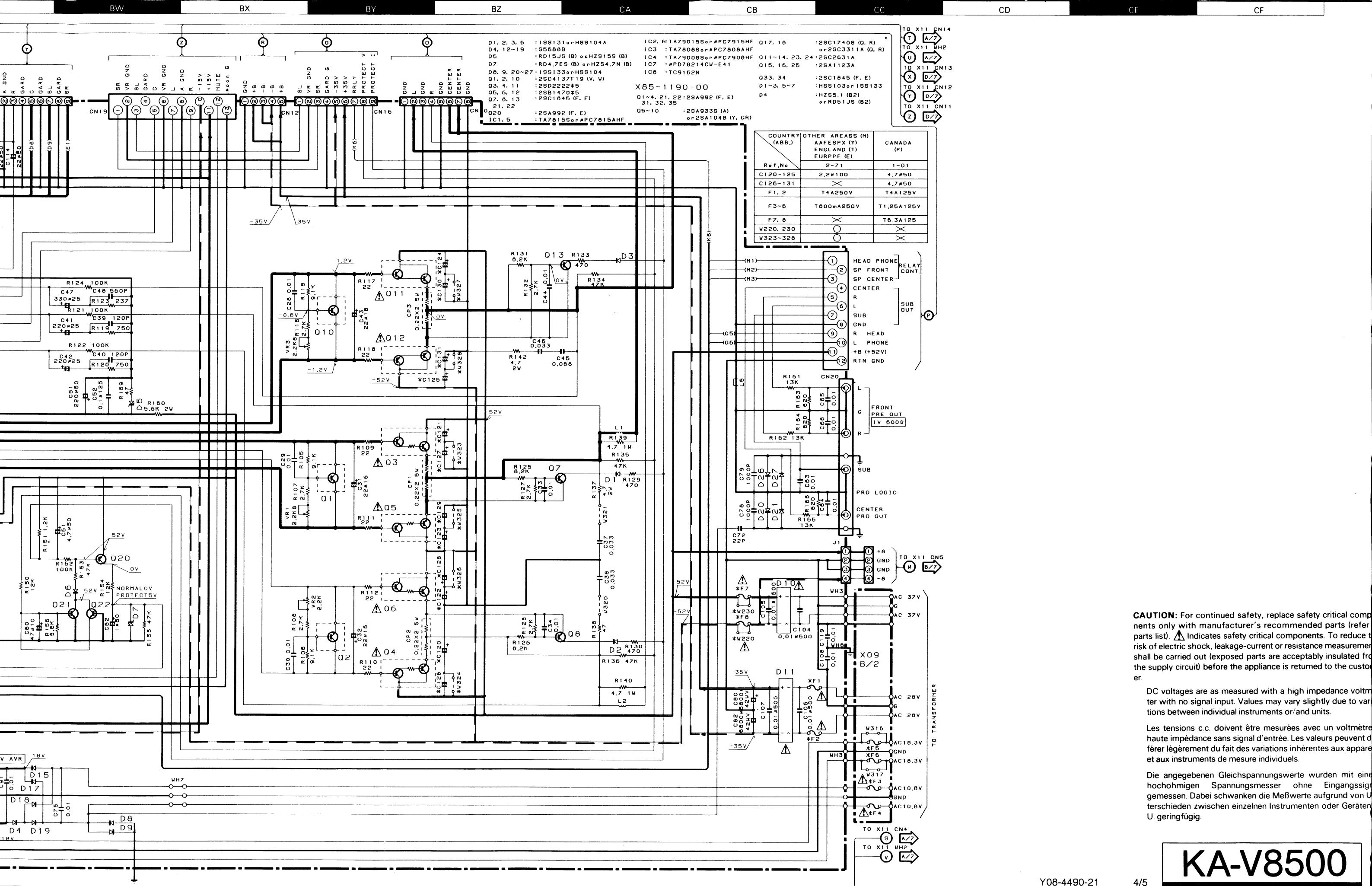
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Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

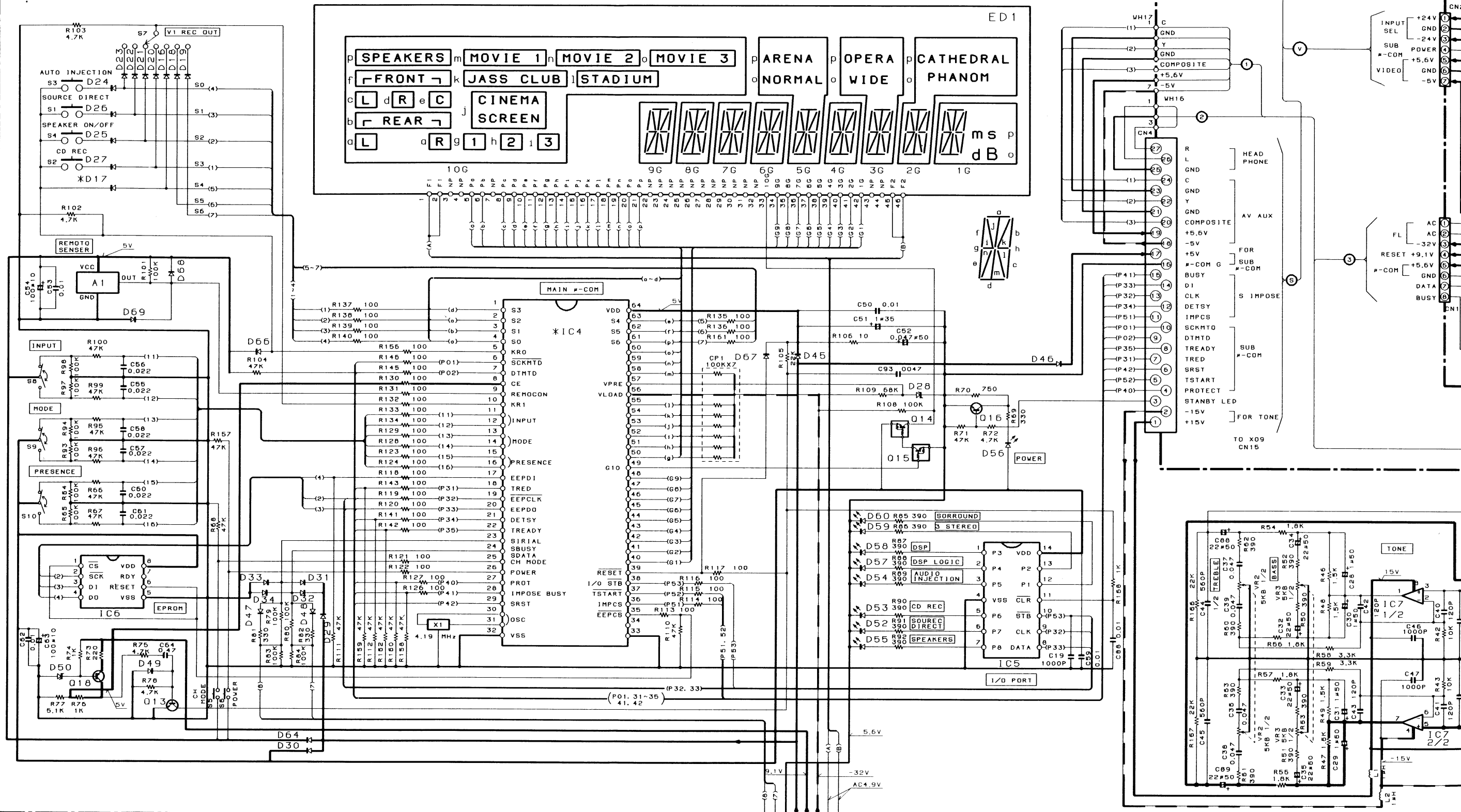








X11-319X-XX A/7

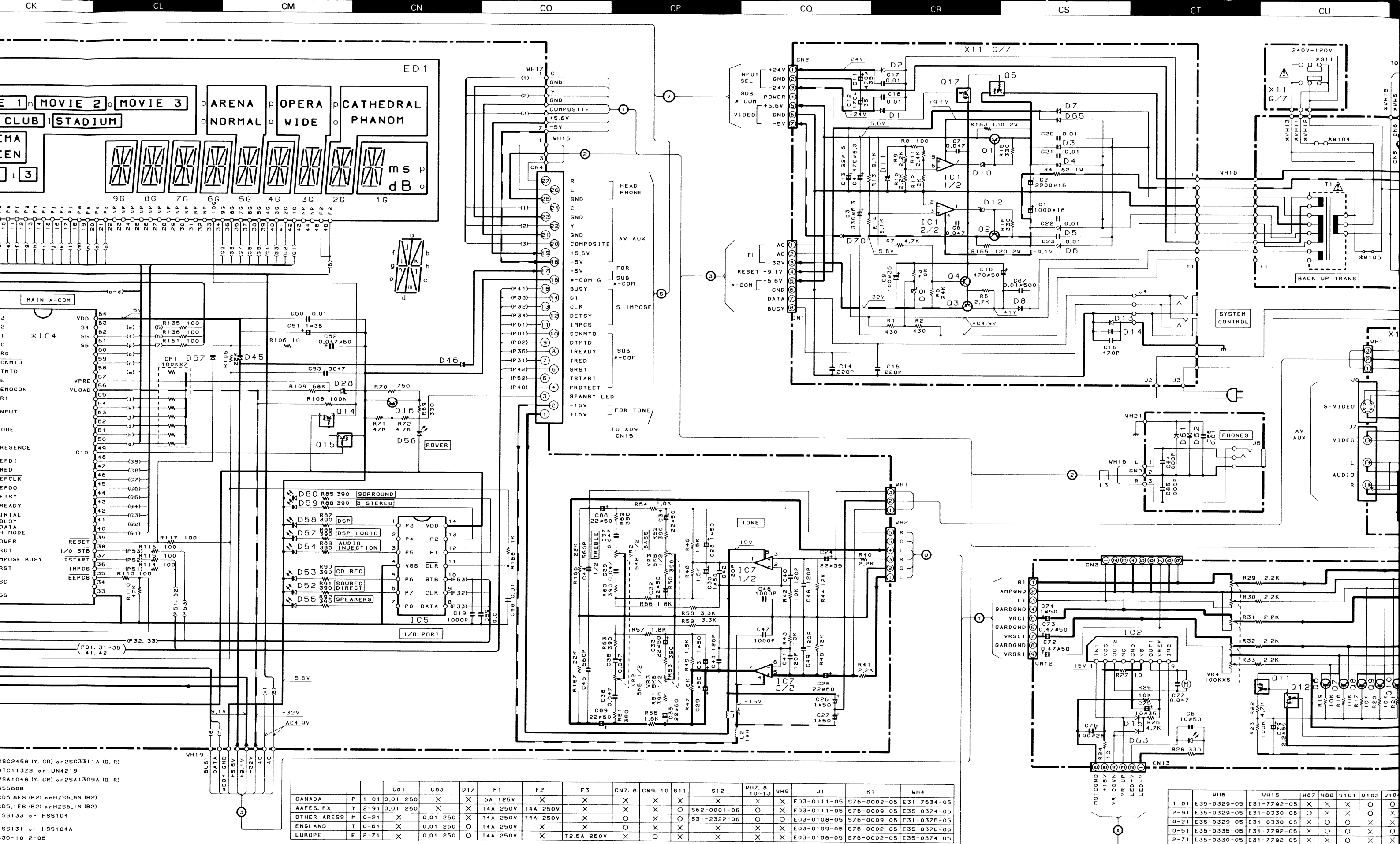


IC1 : NJM4558D  
IC2 : TAB409S  
IC3.7 : NJM4558D-D or NJM4558D-A  
IC4 : #PD75216ACW-C60 or C69  
IC5 : NJU3711D  
IC6 : #M6M80041P

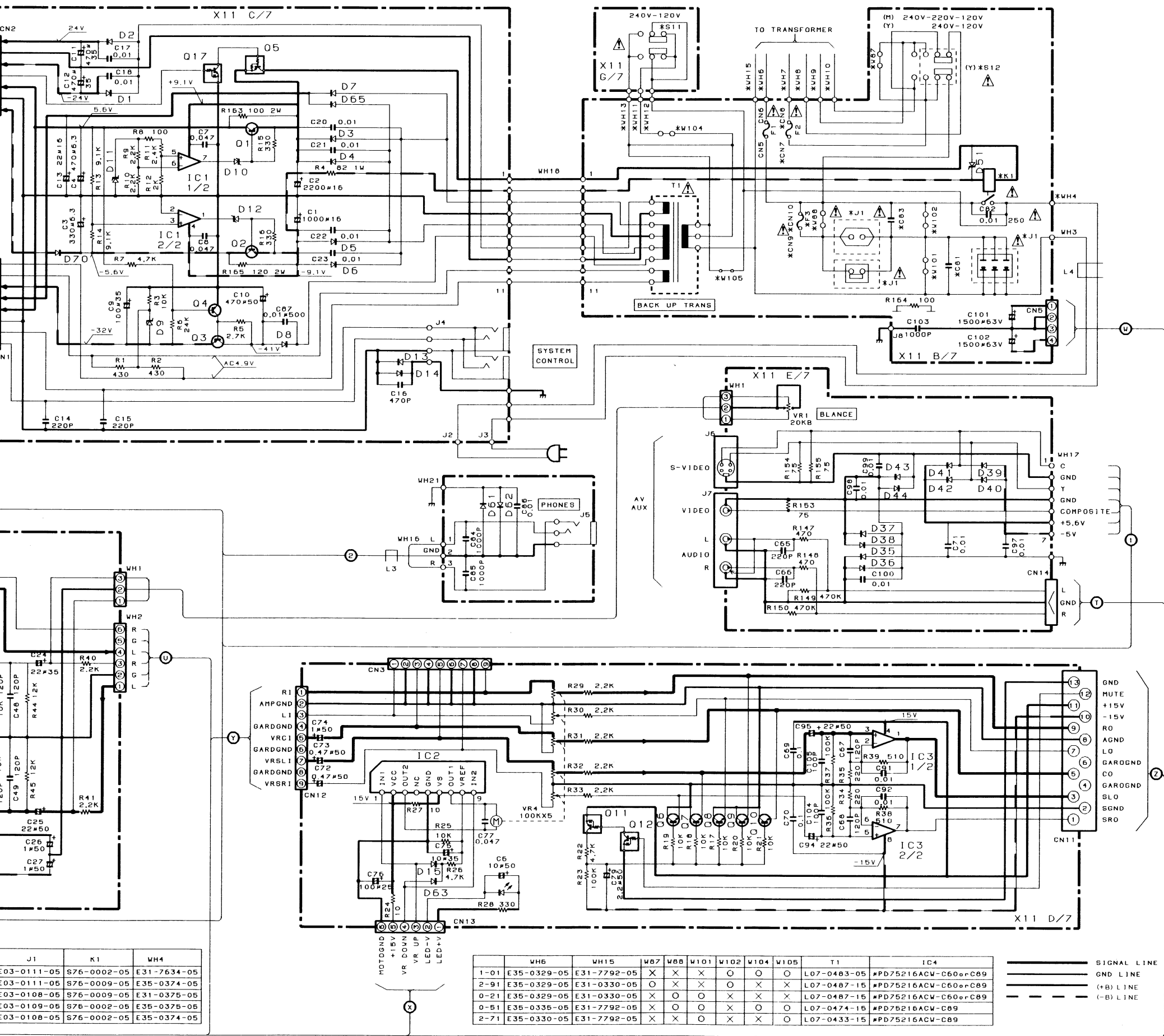
Q1.3 : 25B1370 (E, F, G)  
Q2 : 2SD2061 (E, F, G)  
Q4 : 2SA954 (L, K)  
Q5.14 : DTA113ZS or UN4119  
Q6-10 : 2SC2078 (B)  
Q11 : DTA124ES or UN4112  
Q12.15 : DTC124ES or UN4212

Q13.16 : 2SC2458 (Y, GR) or 2SC3311A (Q, R)  
Q17 : DTC113ZS or UN4219  
Q18 : 2SA1048 (Y, GR) or 2SA1309A (Q, R)  
D1-8, 65, 70 : S5688B  
D9 : RD6.8ES (B2) or HZS5.8N (B2)  
D10.12, 28, 50 : RD5.1ES (B2) or HZS5.1N (B2)  
D13-27, 29-49 : 1SS133 or HSS104  
D1-64, 66-69 :  
D51 : 1SS131 or HSS104A  
D52-60 : B30-1012-05

|             |   | C01  | C03      | D17      | F1 | F2       | F3       | CN7.6      | CN9.10 | S11 | S12         | WH7.8 | WH9 |     |
|-------------|---|------|----------|----------|----|----------|----------|------------|--------|-----|-------------|-------|-----|-----|
| CANADA      | P | 1-01 | 0.01 250 | X        | X  | 6A 125V  | X        | X          | X      | X   | X           | X     | X   | E03 |
| AAFES:PX    | Y | 2-91 | 0.01 250 | X        | X  | T4A 250V | T4A 250V | X          | X      | O   | S62-0001-05 | O     | X   | E03 |
| OTHER ARESS | M | 0-21 | X        | 0.01 250 | X  | T4A 250V | T4A 250V | X          | O      | X   | S31-2322-05 | O     | O   | E03 |
| ENGLAND     | T | 0-51 | X        | 0.01 250 | O  | T4A 250V | X        | X          | O      | X   | X           | X     | X   | E03 |
| EUROPE      | E | 2-71 | X        | 0.01 250 | O  | T4A 250V | X        | T2.5A 250V | X      | O   | X           | X     | X   | E03 |



|             |   |      | C01      | C03      | D17 | F1       | F2       | F3         | CN7. 8 | CN9. 10 | S11 | S12         | WH7. 8<br>10-13 | WH9 | J1          | K1          | WH4         |
|-------------|---|------|----------|----------|-----|----------|----------|------------|--------|---------|-----|-------------|-----------------|-----|-------------|-------------|-------------|
| CANADA      | P | 1-01 | 0.01 250 | X        | X   | 6A 125V  | X        | X          | X      | X       | X   | X           | X               | X   | E03-0111-05 | S76-0002-05 | E31-7634-05 |
| AAFES. PX   | Y | 2-91 | 0.01 250 | X        | X   | 14A 250V | 14A 250V | X          | X      | X       | O   | S62-0001-05 | O               | X   | E03-0111-05 | S76-0009-05 | E35-0374-05 |
| OTHER ARESS | M | 0-21 | X        | 0.01 250 | X   | 14A 250V | 14A 250V | X          | O      | X       | O   | S31-2322-05 | O               | X   | E03-0108-05 | S76-0009-05 | E31-0375-05 |
| ENGLAND     | T | 0-51 | X        | 0.01 250 | O   | 14A 250V | X        | X          | O      | X       | X   | X           | X               | X   | E03-0109-05 | S76-0002-05 | E35-0375-05 |
| EUROPE      | E | 2-71 | X        | 0.01 250 | O   | 14A 250V | X        | T2.5A 250V | X      | O       | X   | X           | X               | X   | E03-0108-05 | S76-0002-05 | E35-0374-05 |



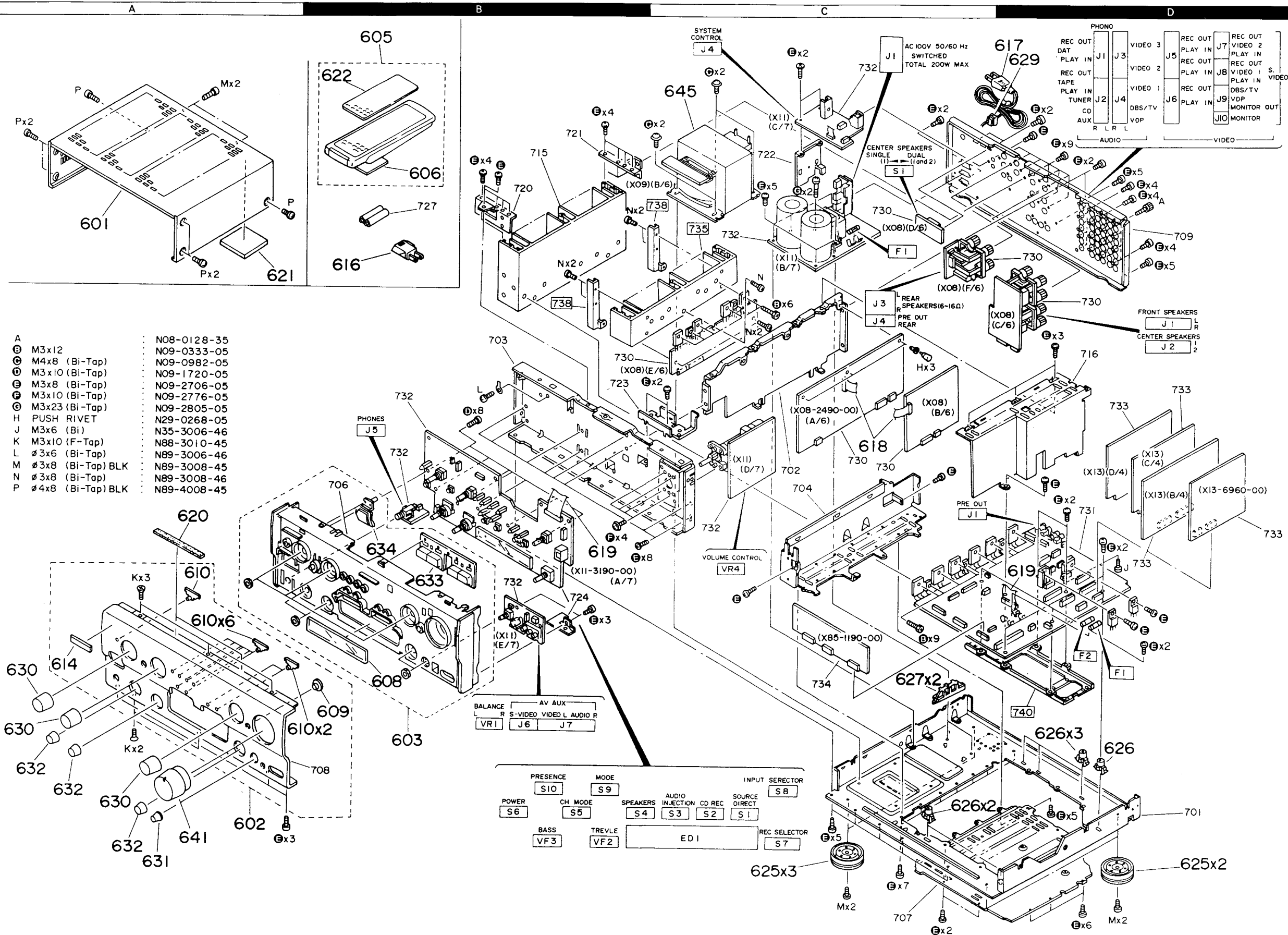
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# KA-V8500



**Parts with the exploded numbers larger than 700 are not supplied.**

✱ New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

| No.1     |         |               |                                   |                     | No.2                        |         |                 |                            |                     |
|----------|---------|---------------|-----------------------------------|---------------------|-----------------------------|---------|-----------------|----------------------------|---------------------|
| Ref. No. | Address | Parts No.     | Description                       | Desti- nation marks | Ref. No.                    | Address | Parts No.       | Description                | Desti- nation marks |
| 参照番号     | 位置      | 部品番号          | 部品名 / 規格                          | 仕向備考                | 参照番号                        | 位置      | 部品番号            | 部品名 / 規格                   | 仕向備考                |
| KA-V8500 |         |               |                                   |                     |                             |         |                 |                            |                     |
| 601      | 1A      | * A01-1994-01 | METALLIC CABINET                  |                     | 645                         | 1C      | * L07-0488-05   | POWER TRANSFORMER          | Y                   |
| 602      | 3A      | * A60-0152-02 | PANEL ASSY                        |                     | -                           |         | * L92-0035-05   | FERRITE CORE               |                     |
| 603      | 3B      | * A22-1529-12 | SUB PANEL ASSY                    |                     | A                           | 1D      | * N08-0128-35   | BINDING POST (EARTH)       |                     |
| 605      | 1B      | * A70-0570-05 | REMOTE CONTROLLER ASSY            |                     | B                           | 2C      | * N09-0133-05   | TAPPING SCREW (3X12)       |                     |
| 606      | 1B      | * A09-0086-08 | BATTERY COVER                     |                     | C                           | 1C      | * N09-0982-05   | TAPTITE SCREW (M4X8, +TP)  |                     |
| 608      | 3B      | * B10-1894-04 | FRONT GLASS                       |                     | D                           | 2B      | * N09-1720-05   | TAPTITE SCREW (3X10)       |                     |
| 609      | 3A      | * B11-0237-14 | COLOR FILTER                      |                     | E                           | 1B      | * N09-2706-05   | TAPTITE SCREW              |                     |
| 610      | 2A, 3A  | * B12-0193-04 | INDICATOR                         |                     | F                           | 2B      | * N09-2776-05   | SEMS (TAPTITE SCREW)       |                     |
| 614      | 3A      | * B43-0287-04 | KENWOOD BADGE                     |                     | G                           | 1C      | * N09-2805-05   | TAPTITE SCREW              |                     |
| -        |         | * B46-0094-03 | WARRANTY CARD                     |                     | H                           | 2C      | * N29-0268-05   | PUSH RIVET                 |                     |
| -        |         | * B46-0095-03 | WARRANTY CARD                     |                     | I                           | 3A      | * N89-3006-46   | BINDING HEAD TAPTITE SCREW |                     |
| -        |         | * B46-0121-13 | WARRANTY CARD                     |                     | M                           | 1A, 3D  | * N89-3008-45   | BINDING HEAD TAPTITE SCREW |                     |
| -        |         | * B46-0122-23 | WARRANTY CARD                     |                     | P                           | 1A      | * N89-4008-45   | BINDING HEAD TAPTITE SCREW |                     |
| -        |         | * B46-0143-13 | WARRANTY CARD                     |                     | SURROUND UNIT (X08-2490-00) |         |                 |                            |                     |
| -        |         | * B58-0513-04 | CAUTION CARD (PRESET220-240)      |                     | C1                          | 1, 2    | * C90-1794-05   | ELECTRØ                    |                     |
| -        |         | * B60-0649-00 | INSTRUCTION MANUAL(ENGLISH)       |                     | C3                          |         | * CK45FB1H102K  | CERAMIC                    |                     |
| -        |         | * B60-0651-00 | INSTRUCTION MANUAL(OUT, ITA)      |                     | C4                          |         | * CE04KW1V100M  | ELECTRØ                    |                     |
| -        |         | * B60-0658-00 | INSTRUCTION MANUAL(GER, FRN)      |                     | C5                          |         | * CK45FB1H102K  | CERAMIC                    |                     |
| -        |         | * B60-0659-00 | INSTRUCTION MANUAL(SPA, CHI)      |                     | C6                          |         | * CE04KW1V100M  | ELECTRØ                    |                     |
| -        |         | * E03-0115-05 | AC PLUG ADAPTER                   |                     | C7                          | 8       | * CF92FV1H101K  | MF                         |                     |
| 616      | 1B      | * E30-0459-05 | AC POWER CORD                     |                     | C9                          | 10      | * CF92FV1H221K  | MF                         |                     |
| 617      | 1D      | * E30-0685-05 | AC POWER CORD                     |                     | C12                         |         | * CE04KW1V100M  | ELECTRØ                    |                     |
| 617      | 1D      | * E30-0974-05 | AC POWER CORD                     |                     | C13                         |         | * CF92FV1H104J  | MF                         |                     |
| 617      | 1D      | * E30-1416-05 | AC POWER CORD                     |                     | C14                         |         | * CK45FB1H102K  | CERAMIC                    |                     |
| 618      | 2C      | * E35-0009-05 | FLAT CABLE 15P(X08CN4-X08CN5)     |                     | C15                         | 18      | * CF92FV1H104J  | MF                         |                     |
| 619      | 2B, 2D  | * E35-0239-05 | FLAT CABLE 27P(X09CN15-X11CN4)    |                     | C19                         |         | * CK45FB1H102K  | CERAMIC                    |                     |
| 620      | 2A      | * G11-0191-04 | SOFT TAPE (90X5X2.5)              |                     | C20                         | 21      | * CE04KW1V100M  | ELECTRØ                    |                     |
| 621      | 1A      | * G11-0109-04 | CUSHION                           |                     | C22                         | 23      | * CE04KW1V100M  | ELECTRØ                    |                     |
| 622      | 1B      | * G16-0756-08 | REMOTE CONTROL UNIT ENTRY SHEET   |                     | C24                         |         | * CE04KW1H2R2M  | ELECTRØ                    |                     |
| -        |         | * H50-0186-04 | ITEM CARTON CASE                  |                     | C25                         |         | * CE04KW1V100M  | ELECTRØ                    |                     |
| -        |         | * H10-5226-02 | POLYSTYRENE FOAMED FIXTURE L      |                     | C26                         |         | * CF92FV1H103J  | MF                         |                     |
| -        |         | * H10-5227-02 | POLYSTYRENE FOAMED FIXTURE R      |                     | C27                         |         | * CE04KW1A101M  | MF                         |                     |
| -        |         | * H25-0332-04 | PROTECTION BAG (235X450X0.03)     |                     | C28                         |         | * CF92FV1H104J  | MF                         |                     |
| -        |         | * H25-0319-04 | PROTECTION BAG (850X450X0.03)     |                     | C29                         |         | * CF92FV1H474J  | MF                         |                     |
| -        |         | * H25-0654-04 | PROTECTION BAG (0225 PRINTED)     |                     | C30                         |         | * CE04KW1A471M  | ELECTRØ                    |                     |
| -        |         | * H25-0657-04 | PROTECTION BAG (0232 PRINTED)     |                     | C31                         | 37      | * CK45FB1H102K  | CERAMIC                    |                     |
| 625      | 3C, 3D  | * J02-1072-05 | FOOT                              |                     | C38                         | 41      | * CF92FV1H202J  | MF                         |                     |
| 626      | 3C, 3D  | * J19-3179-05 | UNIT HOLDER                       |                     | C42                         | 45      | * CK45FB1H102K  | CERAMIC                    |                     |
| 627      | 3C      | * J19-3314-04 | HOLDER                            |                     | C46                         | 47      | * CF92FV1H394J  | MF                         |                     |
| 629      | 1D      | * J42-0083-05 | POWER CORD BUSHING                |                     | C49                         | 52      | * CF92FV1H394J  | MF                         |                     |
| -        |         | * J61-0307-05 | WIRE BAND                         |                     | C54                         | 55      | * CC45FSL1H470J | CERAMIC                    |                     |
| 630      | 3A      | * K29-4312-04 | KNØB PRESENCE, MODE, INPUT SELECT | ØR                  | C56                         |         | * CF92FV1H183J  | MF                         |                     |
| 631      | 3A      | * K29-4313-04 | KNØB BALANCE                      |                     | C61                         | 64      | * CF92FV1H562J  | MF                         |                     |
| 632      | 3A      | * K29-4314-04 | KNØB BASS, TREBLE, VIDEO REC      |                     | C65                         | 68      | * CF92FV1H562J  | MF                         |                     |
| 633      | 2B      | * K29-4315-03 | KNØB SPEAKERS, CD REC             |                     | C69                         | 72      | * CK45FB1H102K  | CERAMIC                    |                     |
| 634      | 2B      | * K29-4317-04 | KNØB POWER                        |                     | C73                         | 76      | * CF92FV1H471J  | MF                         |                     |
| 641      | 3A      | * K29-4340-04 | KNØB VOLUME CONTROL               |                     | C81                         | 82      | * CE04KW1E470M  | ELECTRØ                    |                     |
| 645      | 1C      | * L07-0430-05 | POWER TRANSFORMER                 | T                   | C83                         | 84      | * CF92FV1H474J  | MF                         |                     |
| 645      | 1C      | * L07-0431-05 | POWER TRANSFORMER                 | E                   | C85                         |         | * CE04KW1V100M  | ELECTRØ                    |                     |
| 645      | 1C      | * L07-0436-05 | POWER TRANSFORMER                 | M                   | C86                         | 86      | * CF92FV1H122J  | MF                         |                     |
| 645      | 1C      | * L07-0484-05 | POWER TRANSFORMER                 | P                   |                             |         |                 |                            |                     |

L:Scandinavia K:USA P:Canada  
Y:PX(Far East, Hawaii) T:England E:Europe  
Y:AAFE(S:Europe) X:Australia M:Other Areas  
△ indicates safety critical components

✱ New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

| No.2                        |         |                 |             |                     | No.3     |         |                 |             |                     |
|-----------------------------|---------|-----------------|-------------|---------------------|----------|---------|-----------------|-------------|---------------------|
| Ref. No.                    | Address | Parts No.       | Description | Desti- nation marks | Ref. No. | Address | Parts No.       | Description | Desti- nation marks |
| 参照番号                        | 位置      | 部品番号            | 部品名 / 規格    | 仕向備考                | 参照番号     | 位置      | 部品番号            | 部品名 / 規格    | 仕向備考                |
| SURROUND UNIT (X08-2490-00) |         |                 |             |                     |          |         |                 |             |                     |
| C1                          | 1, 2    | * C90-1794-05   | ELECTRØ     |                     | C89      | 91      | * CF92FV1H302J  | MF          |                     |
| C3                          |         | * CK45FB1H102K  | CERAMIC     |                     | C90      | 91      | * CE04KW1V100M  | ELECTRØ     |                     |
| C4                          |         | * CE04KW1V100M  | ELECTRØ     |                     | C92      | 94      | * CE04KW1A101M  | ELECTRØ     |                     |
| C5                          |         | * CK45FB1H102K  | CERAMIC     |                     | C93      | 94      | * CE04KW1V100M  | ELECTRØ     |                     |
| C6                          |         | * CE04KW1V100M  | ELECTRØ     |                     | C95      | 96      | * CK45FB1H102K  | CERAMIC     |                     |
| C7                          | 8       | * CF92FV1H101K  | MF          |                     | C97      | 98      | * CE04KW1V100M  | ELECTRØ     |                     |
| C9                          | 10      | * CF92FV1H221K  | MF          |                     | C100     | 101     | * CF92FV1H122J  | MF          |                     |
| C12                         |         | * CE04KW1V100M  | ELECTRØ     |                     | C102     | 103     | * CF92FV1H122J  | MF          |                     |
| C13                         |         | * CF92FV1H104J  | MF          |                     | C104     | 105     | * CF92FV1H131K  | MF          |                     |
| C14                         |         | * CK45FB1H102K  | CERAMIC     |                     | C106     |         | * CF92FV1H103J  | MF          |                     |
| C15                         | 18      | * CF92FV1H104J  | MF          |                     | C107     |         | * CF92FV1H162J  | MF          |                     |
| C19                         |         | * CK45FB1H102K  | CERAMIC     |                     | C108     |         | * CF92FV1H152J  | MF          |                     |
| C20                         | 21      | * CE04KW1V100M  | ELECTRØ     |                     | C109     |         | * CF92FV1H151K  | MF          |                     |
| C22                         | 23      | * CE04KW1V100M  | ELECTRØ     |                     | C110     | 113     | * CK45FB1H102K  | CERAMIC     |                     |
| C24                         |         | * CE04KW1H2R2M  | ELECTRØ     |                     | C114     |         | * CE04KW1V100M  | ELECTRØ     |                     |
| C25                         |         | * CE04KW1V100M  | ELECTRØ     |                     | C115     | 116     | * CK45FB1H102K  | CERAMIC     |                     |
| C26                         |         | * CF92FV1H103J  | MF          |                     | C117     |         | * CE04KW1V100M  | ELECTRØ     |                     |
| C27                         |         | * CE04KW1A101M  | MF          |                     | C118     | 119     | * CK45FB1H102K  | CERAMIC     |                     |
| C28                         |         | * CF92FV1H104J  | MF          |                     | C120     | 121     | * CE04KW1V100M  | ELECTRØ     |                     |
| C29                         |         | * CF92FV1H474J  | MF          |                     | C122     | 123     | * CE04KW1H220M  | ELECTRØ     |                     |
| C30                         |         | * CE04KW1A471M  | ELECTRØ     |                     | C124     |         | * CE04KW1V100M  | ELECTRØ     |                     |
| C31                         | 37      | * CK45FB1H102K  | CERAMIC     |                     | C125     |         | * CF92FV1H683J  | MF          |                     |
| C38                         | 41      | * CF92FV1H202J  | MF          |                     | C126     |         | * CF92FV1H822J  | MF          |                     |
| C42                         | 45      | * CK45FB1H102K  | CERAMIC     |                     | C127     |         | * CF92FV1H334J  | MF          |                     |
| C46                         | 47      | * CF92FV1H394J  | MF          |                     | C128     |         | * CE04KW1A101M  | ELECTRØ     |                     |
| C49                         | 52      | * CF92FV1H394J  | MF          |                     | C129     |         | * CE04KW1H010M  | ELECTRØ     |                     |
| C54                         | 55      | * CC45FSL1H470J | CERAMIC     |                     | C130     |         | * CE04KW1H472J  | MF          |                     |
| C56                         |         | * CF92FV1H183J  | MF          |                     | C131     |         | * CE04KW1H220M  | ELECTRØ     |                     |
| C61                         | 64      | * CF92FV1H562J  | MF          |                     | C132     |         | * CF92FV1H104J  | MF          |                     |
| C65                         | 68      | * CF92FV1H562J  | MF          |                     | C133     |         | * CF92FV1H333J  | MF          |                     |
| C69                         | 72      | * CK45FB1H102K  | CERAMIC     |                     | C134     |         | * CF92FV1H273J  | MF          |                     |
| C73                         | 76      | * CF92FV1H471J  | MF          |                     | C135     |         | * CE04KW1A471M  | ELECTRØ     |                     |
| C81                         | 82      | * CE04KW1E470M  | ELECTRØ     |                     | C136     | 141     | * CE04KW1H220M  | ELECTRØ     |                     |
| C83                         | 84      | * CF92FV1H474J  | MF          |                     | C142     | 144     | * CC45FSL1H101J | CERAMIC     |                     |
| C85                         |         | * CE04KW1V100M  | ELECTRØ     |                     | C145     | 146     | * CK45FB1H102K  | CERAMIC     |                     |
| C86                         | 86      | * CF92FV1H122J  | MF          |                     | C147     | 150     | * CF92FV1H101K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C151     | 152     | * CK45FB1H102K  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C153     | 154     | * CE04KW1H220M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C155     | 156     | * CK45FB1H102K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C157     | 158     | * CE04KW1V100M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C159     |         | * CE04KW1C102M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C160     |         | * CE04KW1A101M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C161     |         | * CC45FSL1H101J | CERAMIC     |                     |
|                             |         |                 |             |                     | C162     | 163     | * CE04KW1H470J  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C179     |         | * CE04KW1H220M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C180     |         | * CK45FB1H102K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C181     |         | * CE04KW1H220M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C182     |         | * CK45FB1H102K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C183     |         | * CE04KW1H220M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C184     |         | * CK45FB1H102K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C185     |         | * CE04KW1H220M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C186     |         | * CK45FB1H102K  | CERAMIC     |                     |
|                             |         |                 |             |                     | C187     | 189     | * CE04KW1A471M  | ELECTRØ     |                     |
|                             |         |                 |             |                     | C190     | 191     | * CE04KW1H220M  | ELECTRØ     |                     |

L:Scandinavia K:USA P:Canada  
Y:PX(Far East, Hawaii) T:England E:Europe  
Y:AAFE(S:Europe) X:Australia M:Other Areas  
△ indicates safety critical components

## PARTS LIST

## SURROUND UNIT

| Unit No     | Destination   |
|-------------|---------------|
| X08-2490-00 | M, Y, T, E, P |

## AUDIO UNIT

|             |            |
|-------------|------------|
| X09-3491-01 | P          |
| X09-3492-71 | M, Y, T, E |

## CONTROL UNIT

|             |   |
|-------------|---|
| X11-3190-21 | M |
| X11-3190-51 | T |
| X11-3192-01 | P |
| X11-3192-71 | E |
| X11-3192-91 | Y |

## ACCESSORY UNIT

|             |         |
|-------------|---------|
| X13-6960-00 | M, Y, P |
| X13-6962-71 | T, E    |

## MAIN AMPLIFIER UNIT

|             |               |
|-------------|---------------|
| X85-1190-06 | M, Y, T, E, P |
|-------------|---------------|

KA-V8500

KA-V8500

## PARTS LIST

△ indicates safety critical components

## PARTS LIST

No.5

| Ref. No.<br>参照番号 | Address<br>位置 | Parts No.<br>部品番号 | Description<br>部品名 / 規格       | Desti-<br>nation<br>仕向備考 |
|------------------|---------------|-------------------|-------------------------------|--------------------------|
| R210             |               | RS14K93A2R7JTE    | FL-PROOF RS 2.7               | TE                       |
| R251             |               | RS14D83D391JTE    | FL-PROOF RS 390               | MYP                      |
| R253             |               | RS14D83D471JTE    | FL-PROOF RS 470               |                          |
| R255             |               | RS14D83D103JTE    | FL-PROOF RS 10K               |                          |
| R256-259         |               | RS14D83D472JTE    | FL-PROOF RS 4.7K              |                          |
| R260-261         |               | RS14D83D561JTE    | FL-PROOF RS 560               |                          |
| R262-264         |               | RS14D83D151JTE    | FL-PROOF RS 150               |                          |
| R269             |               | RS14D83D100JTE    | FL-PROOF RS 10                |                          |
| R272             |               | RS14D83D391JTE    | FL-PROOF RS 390               | TE                       |
| R273             |               | RS14D83D471JTE    | FL-PROOF RS 470               | MYP                      |
| R274-276         |               | RS14D83D391JTE    | FL-PROOF RS 390               |                          |
| R277-278         |               | RS14D83D471JTE    | FL-PROOF RS 470               |                          |
| R285-286         |               | RS14D83D391JTE    | FL-PROOF RS 390               | TE                       |
| R301-304         |               | RS14D83A471JTE    | FL-PROOF RS 470               | MYP                      |
| R311-312         |               | RS14D83A471JTE    | FL-PROOF RS 4.7               |                          |
| R313-314         |               | RS14D83A100JTE    | FL-PROOF RS 10                | TE                       |
| R321-322         |               | RS14D83A100JTE    | FL-PROOF RS 10                | MYP                      |
| R331             |               | RS14D83D471JTE    | FL-PROOF RS 470               |                          |
| R334             |               | RS14D82E220JTS    | FL-PROOF RD 22                |                          |
| VR1-2            |               | R12-1084-05       | TRIM POT                      |                          |
| VR3-7            |               | R12-5422-05       | TRIMMING POT                  |                          |
| K1-2             |               | S51-2092-05       | MAGNETIC RELAY                |                          |
| K3               |               | S51-2090-05       | MICRO SWITCH                  |                          |
| K4               |               | S76-0005-05       | MAGNETIC RELAY                |                          |
| S1               |               | S76-0005-05       | MAGNETIC RELAY                |                          |
| S1               |               | S31-2128-05       | SLIDE SWITCH S-SPEAKER SELECT |                          |
| D1-6             |               | HSS104            | DIODE                         |                          |
| D1-6             |               | 1SS133            | DIODE                         |                          |
| D16              |               | HZS11N(B2)        | ZENER DIODE                   |                          |
| D16              |               | R011ES(B2)        | ZENER DIODE                   |                          |
| D17              |               | HZS13N(B2)        | ZENER DIODE                   |                          |
| D17              |               | R013ES(B2)        | ZENER DIODE                   |                          |
| D18              |               | HZS11N(B2)        | ZENER DIODE                   |                          |
| D18              |               | R011ES(B2)        | ZENER DIODE                   |                          |
| D19              |               | HZS13N(B2)        | ZENER DIODE                   |                          |
| D19              |               | R013ES(B2)        | ZENER DIODE                   |                          |
| D20              |               | HZS11N(B2)        | ZENER DIODE                   |                          |
| D20              |               | R011ES(B2)        | ZENER DIODE                   |                          |
| D21              |               | HZS13N(B2)        | ZENER DIODE                   |                          |
| D21              |               | R013ES(B2)        | ZENER DIODE                   |                          |
| D31-32           |               | HSS104A           | DIODE                         |                          |
| D31-32           |               | 1SS131            | DIODE                         |                          |
| D41              |               | HZS11N(B2)        | ZENER DIODE                   |                          |
| D41              |               | R011ES(B2)        | ZENER DIODE                   |                          |
| D42              |               | HZS13N(B2)        | ZENER DIODE                   |                          |
| D42              |               | R013ES(B2)        | ZENER DIODE                   |                          |
| D43-44           |               | HSS104            | DIODE                         |                          |
| D43-44           |               | 1SS133            | DIODE                         |                          |
| IC1-2            |               | M5236L            | IC(DUAL OP AMP)               |                          |
| IC3              |               | C55339-KP         | IC(A/D CONVERTER)             |                          |
| IC4              |               | TA7805S           | IC(VOLTAGE REGULATOR +5V)     |                          |

No.4

| Ref. No.<br>参照番号 | Address<br>位置 | Parts No.<br>部品番号 | Description<br>部品名 / 規格        | Desti-<br>nation<br>仕向備考 |
|------------------|---------------|-------------------|--------------------------------|--------------------------|
| C192             |               | CC45FSL1H202J     | CERAMIC                        |                          |
| C193-195         |               | CC45FSL1H470J     | 22PF J                         |                          |
| C196             |               | CF92FV1H104J      | 47PF J                         |                          |
| C197             |               | CE04KW1E470M      | 0.10UF 25WV                    |                          |
| C198, 199        |               | CK45FB1H102K      | 1000PF K                       |                          |
| C200             |               | CE04KW1V100M      | 10UF 35WV                      |                          |
| C201             |               | CE04FB1H102K      | 1000PF K                       |                          |
| C202             |               | CC45FSL1H470J     | 47PF J                         |                          |
| C203, 204        |               | CC45FSL1H331J     | 330PF J                        |                          |
| C205             |               | CE04KW1E470M      | 47UF 25WV                      |                          |
| C206             |               | CE04KW1C471M      | 470UF 16WV                     |                          |
| C208             |               | CC45FSL1H101J     | 100PF J                        |                          |
| C251             |               | CE04KW1H2R2M      | 2.2UF 50WV                     |                          |
| C252, 253        |               | CF92FV1H472J      | 4700PF J                       |                          |
| C256             |               | CE04KW1H2R2M      | 2.2UF 50WV                     |                          |
| C257-262         |               | CF92FV1H104J      | 0.10UF J                       |                          |
| C263             |               | CF92FV1H103J      | 0.010UF J                      |                          |
| C265             |               | CE04KW1H2R2M      | 2.2UF 50WV                     |                          |
| C267, 268        |               | CF92FV1H103J      | 0.010UF J                      |                          |
| C281, 282        |               | CE04KW1H100M      | 10UF 50WV                      |                          |
| C283, 284        |               | CF92FV1H121K      | 120PF K                        |                          |
| C285, 286        |               | CE04FSL1H121J     | 120PF J                        |                          |
| C287, 288        |               | CE04KW1H101M      | 100PF 50WV                     |                          |
| C289, 290        |               | CK45FB1H471K      | 470PF K                        |                          |
| C291, 292        |               | CC45FSL1H150J     | 15PF J                         |                          |
| C293, 294        |               | CF92FV1H683J      | 0.068UF J                      |                          |
| C295, 296        |               | CC45FSL1H150J     | 15PF J                         |                          |
| C297, 298        |               | CK45FB1H222K      | 2200PF K                       |                          |
| C299-302         |               | CF92FV1H683J      | 0.068UF J                      |                          |
| C303, 304        |               | CE04KW1V100M      | 10UF 35WV                      |                          |
| C311-314         |               | CF92FV1H104J      | 0.10UF J                       |                          |
| C315, 316        |               | CF92FV1H472J      | 4700PF J                       |                          |
| C317, 318        |               | CF92FV1H821J      | 820PF J                        |                          |
| C319, 320        |               | CC45FSL1H221J     | 220PF J                        |                          |
| C331-334         |               | CE04KW1H010M      | 1.0UF 50WV                     |                          |
| C335             |               | CE04KW1H2R2M      | 2.2UF 50WV                     |                          |
| C336             |               | CE04KW1H471M      | 470UF 50WV                     |                          |
| C337             |               | CE04KW1H010M      | 1.0UF 50WV                     |                          |
| C338             |               | CK45FB1H102K      | 1000PF K                       |                          |
| J1-2             |               | * E70-0010-05     | SCREW TERMINAL BOARD F-SPEAKER |                          |
| J3               |               | * E70-0009-05     | SCREW TERMINAL BOARD R-SPEAKER |                          |
| J4               |               | * E63-0044-05     | PHONE JACK                     |                          |
| L4               |               | L40-1001-17       | SMALL FIXED INDUCTOR(10UH, K)  |                          |
| L5-7             |               | L39-0085-05       | SHALL COMPENSATION COIL        |                          |
| L8-9             |               | L40-1021-14       | SMALL FIXED INDUCTOR(1.0MH, K) |                          |
| X1               |               | L77-1185-05       | CRYSTAL RESONATOR 18.432MHz    |                          |
| B                | 1C            | N09-0333-05       | TAPPING SCREW (3X12)           |                          |
| J                | 2C            | N35-3008-46       | BINDING HEAD MACHIN SCREW      |                          |
| N                | 1B, 1C        | N69-3008-46       | BINDING HEAD TAPITTE SCREW     |                          |
| CP1-2            |               | R90-0826-05       | MULTI-COMP 0.22X2 J 5W         |                          |
| R25              |               | RD14AB2E150JTS    | FL-PROOF RD 15                 |                          |
| R190, 191        |               | RS14D83D680JTE    | FL-PROOF RS 68                 |                          |
| R208             |               | RS14D83D680JTE    | FL-PROOF RS 68                 |                          |
| R209             |               | RD14AB2E221JTS    | FL-PROOF RD 220                |                          |

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LS:Scandinavia K:USA P:Canada  
 Y:PK(Far East, Hawaii) T:England E:Europe  
 Y:AAFE(S)(Europe) X:Australia M:Other Areas

△ indicates safety critical components.

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|------------------|---------------|-------------------|--------------------------------|------------------------|
| C44              |               | CF92FV1H103J      | MF                             |                        |
| C45, 46          |               | CF92FV1H683J      | J                              |                        |
| C47              |               | GE04KW1C331M      | ELECTR0                        |                        |
| C48              |               | CF92FV1H561J      | MF                             |                        |
| C51              |               | C90-1927-05       | ELECTR0                        |                        |
| C52              |               | C91-1445-05       | POLYPR0                        |                        |
| C60              |               | CE04KW1A470M      | ELECTR0                        |                        |
| C61              |               | CE04KW1H470M      | ELECTR0                        |                        |
| C62              |               | CE04KW1H010M      | ELECTR0                        |                        |
| C63 - 66         |               | CF92FV1H103J      | MF                             |                        |
| C70              |               | CF92FV1H103J      | MF                             |                        |
| C73, 74          |               | CF92FV1H102J      | MF                             |                        |
| C75              |               | CF92FV1H103J      | MF                             |                        |
| C76 - 79         |               | CF92FV1H102J      | MF                             |                        |
| C80, 81          |               | C90-1233-05       | ELECTR0                        |                        |
| C82, 83          |               | CE04KW1B102M      | ELECTR0                        |                        |
| C84, 85          |               | CE04KW1C222M      | ELECTR0                        |                        |
| C86, 87          |               | CE04KW1C101M      | ELECTR0                        |                        |
| C88, 89          |               | CE04KW1A102M      | ELECTR0                        |                        |
| C90, 91          |               | CF92FV1H103J      | MF                             |                        |
| C92 - 95         |               | CF92FV1H102J      | MF                             |                        |
| C96, 97          |               | CE04KW1C101M      | ELECTR0                        |                        |
| C98 - 101        |               | CF92FV1H102J      | MF                             |                        |
| C102, 103        |               | CE04KW1A101M      | ELECTR0                        |                        |
| C104-107         |               | CK45FE2H103P      | CERAMIC                        |                        |
| C108             |               | CF92FV1H103J      | MF                             |                        |
| C109, 110        |               | CF92FV1H102J      | MF                             |                        |
| C111-114         |               | CE04KW1H220M      | ELECTR0                        |                        |
| C115, 116        |               | CF92FV1H102J      | MF                             |                        |
| C117, 118        |               | CF92FV1H221K      | MF                             |                        |
| C119             |               | CF92FV1H103J      | MF                             |                        |
| C120-125         |               | CE04KW2A202M      | ELECTR0                        |                        |
| C120-131         |               | CE04KW1H470M      | ELECTR0                        |                        |
| J1               |               | E13-1403-05       | PHONE JACK F-PREOUT, PROLOGIC  |                        |
| F1, 2            |               | F05-4025-05       | FUSE (SENK0) (250V T4A)        | MYTE                   |
| F1, 2            |               | F05-4028-05       | FUSE (UL)                      | P                      |
| F3 - 6           |               | F53-0015-05       | FUSE (SENK0)                   | MYTE                   |
| F3 - 6           |               | F53-0031-05       | FUSE (UL)                      | P                      |
| F7, 8            |               | F53-0030-05       | FUSE (UL)                      | P                      |
| CN21-24          |               | J13-0075-05       | FUSE CLIP                      |                        |
| J4 - 7           |               | J11-0098-05       | WIRE CLAMPER                   |                        |
| L1, 2            |               | L39-0085-05       | PHASE-COMPENSATION COIL        |                        |
| L4               |               | L40-1021-14       | SMALL FIXED INDUCTOR(1.0MH, K) |                        |
| L5               |               | L92-0017-05       | PERRITE CORE                   |                        |
| X1               |               | L78-0277-05       | RESONATOR 4.19MHZ              |                        |
| J                | 20            | N35-3008-46       | BINDING HEAD MACHIN. SCREW     |                        |
| M                | 20            | N89-3008-45       | BINDING HEAD TAPITE SCREW      |                        |
| N                | 20            | N89-3008-46       | BINDING HEAD TAPITE SCREW      |                        |
| CP1 - 3          |               | R90-0187-05       | MULTI-COMP 0.22X2 K 5W         |                        |
| CP4              |               | R90-0487-05       | MULTI-COMP 47KX4 J 1/6W        |                        |
| CP5, 6           |               | R90-0482-05       | MULTI-COMP 100KX4 J 1/6W       |                        |
| CP7, 8           |               | R90-0685-05       | MULTI-COMP 100KX4 J 1/6W       |                        |
| R109, 110        |               | RD14AB2E220JTS    | FL-PROOF RD 22 J 1/4W          |                        |

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|---------------------------------------------|---------------|-------------------|------------------------------|------------------------|
| IC4                                         |               | UPC7805AHF        | IC(VOLTAGE REGULATOR)        |                        |
| IC5                                         |               | TA79005S          | IC(VOLTAGE REGULATOR) -5V    |                        |
| IC6                                         |               | TA7805S           | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC6                                         |               | UPC7805AHF        | IC(VOLTAGE REGULATOR)        |                        |
| IC7                                         |               | TC74HC74AP        | IC(DUAL D-TYPE FLIP FLOP)    |                        |
| IC8, 9                                      |               | TC74HC04AP        | IC(6 CMOS INVERTER)          |                        |
| IC10                                        |               | TA79005S          | IC(VOLTAGE REGULATOR) -5V    |                        |
| IC10                                        |               | UPC7905AHF        | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC11                                        |               | TA7805S           | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC11                                        |               | UPC7805AHF        | IC(VOLTAGE REGULATOR)        |                        |
| IC12, 13                                    |               | PCM1700U          | IC(D/A CONVERTER)            |                        |
| IC14-17                                     |               | NJM4580L          | IC(OP AMP)                   |                        |
| IC18, 19                                    |               | SN5840EP          | IC(DIGITAL FILTER)           |                        |
| IC20, 21                                    |               | PCM1700U          | IC(D/A CONVERTER)            |                        |
| IC22, 23                                    |               | TA7805S           | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC22, 23                                    |               | UPC7805AHF        | IC(VOLTAGE REGULATOR)        |                        |
| IC24                                        |               | TA79005S          | IC(VOLTAGE REGULATOR) -5V    |                        |
| IC24                                        |               | UPC7905AHF        | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC25, 26                                    |               | NJM4580L          | IC(OP AMP)                   |                        |
| IC27                                        |               | LA2730            | IC(DOUBLE SYSTEM)            |                        |
| IC28                                        |               | TC9213P           | IC(C2CH ELECTRONIC VOLUME)   |                        |
| IC29-31                                     |               | NJM4580           | IC(OP AMP X2)                |                        |
| IC32, 33                                    |               | NJM4580L          | IC(OP AMP)                   |                        |
| IC34                                        |               | TL431CLP          | IC(REGULATOR)                |                        |
| IC34                                        |               | UPC1093J          | IC(REGULATOR)                |                        |
| IC35-37                                     |               | LM3346G-12        | IC(D RAM)                    |                        |
| IC35-37                                     |               | MT4067-10         | IC(64KX4 DYNAMIC RAM)        |                        |
| IC38                                        |               | SK5851AF          | IC(DIGITAL SIGNAL PROCESSOR) |                        |
| IC39                                        |               | LC83010N          | IC(DIGITAL SIGNAL PROCESSOR) |                        |
| IC40                                        |               | TC74HC04AP        | IC(CMOS INVERTER)            |                        |
| IC41                                        |               | TA78L005AP        | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC41                                        |               | UPC78L05J         | IC(VOLTAGE REGULATOR) +5V    |                        |
| IC43, 44                                    |               | UPC1270H          | IC(POWER AMP DRIVER)         |                        |
| Q1 - 4                                      |               | 2SD1266           | TRANSISTOR                   |                        |
| Q1 - 4                                      |               | 2SD2061           | TRANSISTOR                   |                        |
| Q5                                          |               | 2SK152(3, 4)      | RET.                         |                        |
| Q6 - 8                                      |               | 2SC2003(L, K)     | TRANSISTOR                   |                        |
| Q9, 10                                      |               | 2SC1845(E, B)     | TRANSISTOR                   |                        |
| Q11, 12                                     |               | 2SC4466LC         | TRANSISTOR                   |                        |
| Q13, 14                                     |               | 2SA1693LC         | TRANSISTOR                   |                        |
| Q15, 16                                     |               | 2SC4137           | TRANSISTOR                   |                        |
| Q21                                         |               | 2SC2003(L, K)     | TRANSISTOR                   |                        |
| AUDIO UNIT (X09-3491-01:P, 2-71:M, Y, T, E) |               |                   |                              |                        |
| C1, 3                                       |               | GE04KW1A470M      | ELECTR0                      |                        |
| C2                                          |               | CK45FF1H1032      | CERAMIC                      |                        |
| C4                                          |               | CF92FV1H101K      | MF                           |                        |
| C28 - 30                                    |               | CF92FV1H103J      | MF                           |                        |
| C31, 32                                     |               | CE04KW1C220M      | ELECTR0                      |                        |
| C33, 34                                     |               | CF92FV1H103J      | MF                           |                        |
| C35 - 38                                    |               | CF92FV1H683J      | MF                           |                        |
| C39, 40                                     |               | CF92FV1H121K      | MF                           |                        |
| C41, 42                                     |               | CE04KW1E221M      | ELECTR0                      |                        |
| C43                                         |               | CE04KW1C220M      | ELECTR0                      |                        |

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Y:AAFE(S:Europe) X:Australia M:Other Areas

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No.9

| Ref. No.<br>参照番号                                         | Address<br>位置 | 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 |
|----------------------------------------------------------|---------------|-------------------|-------------------------|------------------------|--------------------|
| CONTROL UNIT (X11-3190-21:M,0-51:T,1-01:P,2-71:E,2-91:Y) |               |                   |                         |                        |                    |
| D52 ~60                                                  |               | B30-1012-05       | LED(SLP-981C-50)        |                        |                    |
| C1                                                       |               | CE04KW1C102M      | ELECTR0 1600UF 16WV     |                        |                    |
| C2                                                       |               | CE04KW1C220M      | ELECTR0 2200UF 16WV     |                        |                    |
| C3                                                       |               | CE04KW0J331M      | ELECTR0 330UF 6.3WV     |                        |                    |
| C4                                                       |               | CE04KW0J471M      | ELECTR0 470UF 6.3WV     |                        |                    |
| C6                                                       |               | CE04KW1V100M      | ELECTR0 10UF 35WV       |                        |                    |
| C7 , 8                                                   |               | CK45FF1H473Z      | CERAMIC 0.047UF Z       |                        |                    |
| C9                                                       |               | CE04KW1V101M      | ELECTR0 100UF 35WV      |                        |                    |
| C10                                                      |               | CE04KW1H471M      | ELECTR0 470UF 50WV      |                        |                    |
| C11 , 12                                                 |               | CE04KW1V471M      | ELECTR0 470UF 35WV      |                        |                    |
| C13                                                      |               | CE04KW1C220M      | ELECTR0 22UF 16WV       |                        |                    |
| C14 , 15                                                 |               | CC45FSL1H221J     | CERAMIC 220PF J         |                        |                    |
| C16                                                      |               | CK45FB1H471K      | CERAMIC 470PF K         |                        |                    |
| C17 , 18                                                 |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C19                                                      |               | CK45PB1H102K      | CERAMIC 1000PF K        |                        |                    |
| C20 ~23                                                  |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C24 , 25                                                 |               | CE04KW1H220M      | ELECTR0 22UF 50WV       |                        |                    |
| C26 ~31                                                  |               | CE04KW1H010M      | ELECTR0 1.0UF 50WV      |                        |                    |
| C32 ~35                                                  |               | CE04KW1H220M      | ELECTR0 22UF 50WV       |                        |                    |
| C36 ~39                                                  |               | CF92FV1H471J      | MF 0.047UF J            |                        |                    |
| C40 ~43                                                  |               | CF92FV1H121K      | MF 120PF K              |                        |                    |
| C44 , 45                                                 |               | CF92FV1H561J      | MF 560PF J              |                        |                    |
| C46 , 47                                                 |               | CF92FV1H102J      | MF 1000PF J             |                        |                    |
| C48 , 49                                                 |               | CF92FV1H121K      | MF 120PF K              |                        |                    |
| C50                                                      |               | C91-0769-05       | CERAMIC 0.01UF K        |                        |                    |
| C51                                                      |               | C90-3244-05       | ELECTR0 1.0UF 50WV      |                        |                    |
| C52                                                      |               | C90-1827-05       | BACKUP 0.047F 5.5WV     |                        |                    |
| C53                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C54                                                      |               | CE04KW1A101M      | ELECTR0 100UF 10WV      |                        |                    |
| C55 ~58                                                  |               | CK45FF1H223Z      | CERAMIC 0.022UF Z       |                        |                    |
| C59                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C60 , 61                                                 |               | CK45FF1H223Z      | CERAMIC 0.022UF Z       |                        |                    |
| C62                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C63                                                      |               | CE04KW1A101M      | ELECTR0 100UF 10WV      |                        |                    |
| C64                                                      |               | CF92FV1H471J      | MF 0.47UF J             |                        |                    |
| C65 , 66                                                 |               | CF92FV1H221K      | MF 220PF K              |                        |                    |
| C67 , 68                                                 |               | CC45FSL1H121J     | CERAMIC 120PF J         |                        |                    |
| C69 , 70                                                 |               | CF92FV1H104J      | MF 0.10UF J             |                        |                    |
| C71                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C72 , 73                                                 |               | CE04KW1H471M      | ELECTR0 0.47UF 50WV     |                        |                    |
| C74                                                      |               | CE04KW1H010M      | ELECTR0 1.0UF 50WV      |                        |                    |
| C75                                                      |               | CE04KW1V100M      | ELECTR0 10UF 35WV       |                        |                    |
| C76                                                      |               | CE04KW1E101M      | ELECTR0 100UF 25WV      |                        |                    |
| C77                                                      |               | CK45FF1H473Z      | CERAMIC 0.047UF Z       |                        |                    |
| C79                                                      |               | CE04KW1H222M      | ELECTR0 2.2UF 50WV      |                        |                    |
| C80                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| △ C82 , 83                                               |               | C91-1439-05       | FILM 0.01UF 250VAC      |                        |                    |
| △ C82 , 83                                               |               | C91-1443-05       | FILM 0.01UF 250VAC      |                        |                    |
| C84 , 85                                                 |               | CF92FV1H102J      | MF 1000PF J             |                        |                    |
| C86                                                      |               | CK45FF1H103Z      | CERAMIC 0.010UF Z       |                        |                    |
| C87                                                      |               | CK45FE2H103P      | CERAMIC 0.010UF P       |                        |                    |
| C88 , 89                                                 |               | CE04KW1H220M      | ELECTR0 22UF 50WV       |                        |                    |

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No.8

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|------------------|---------------|-------------------|---------------------------------|------------------------|--------------------|
| R111             |               | RD140B2E220JTS    | FL-PROOF RD 22 J 1/4W           |                        |                    |
| R112             |               | RD14AB2E220JTS    | FL-PROOF RD 22 J 1/4W           |                        |                    |
| R117 , 118       |               | RD14AB2E220JTS    | FL-PROOF RD 22 J 1/4W           |                        |                    |
| R119 , 120       |               | RN14BK2C7500FTS   | RN 750.0 F 1/6W                 |                        |                    |
| R123             |               | RN14BK2C370FTS    | RN 237.0 F 1/6W                 |                        |                    |
| R137 , 138       |               | RS140B304R7JTE    | FL-PROOF RS 4.7 J 2W            |                        |                    |
| R139 , 140       |               | RS140B304R7JTE    | FL-PROOF RS 4.7 J 2W            |                        |                    |
| R142             |               | RS140B304R7JTE    | FL-PROOF RS 4.7 J 1W            |                        |                    |
| R159             |               | RN14BK2E470FTS    | RN 47.0 F 1/4W                  |                        |                    |
| R160             |               | RS140B30562JTE    | FL-PROOF RS 5.6K J 2W           |                        |                    |
| R180-181         |               | RS140B30820JTE    | FL-PROOF RS 82 J 2W             |                        |                    |
| R182             |               | RS140B30101JTE    | FL-PROOF RS 100 J 2W            |                        |                    |
| VR1 ~3           |               | R12-1617-05       | TRIMMING POT. (470)             |                        |                    |
| D1 ~3            |               | HSS104A           | DIODE                           |                        |                    |
| D1               |               | SS131             | DIODE                           |                        |                    |
| D4               |               | SS688B            | DIODE                           |                        |                    |
| D5               |               | HZS15S(B)         | ZENER DIODE                     |                        |                    |
| D5               |               | RD15JS(B)         | ZENER DIODE                     |                        |                    |
| D6               |               | HSS104A           | DIODE                           |                        |                    |
| D6               |               | SS131             | DIODE                           |                        |                    |
| D7               |               | HZS4.7N(B)        | ZENER DIODE                     |                        |                    |
| D7               |               | RD4.7BS(B)        | ZENER DIODE                     |                        |                    |
| D8 , 9           |               | HSS104            | DIODE                           |                        |                    |
| D8 , 9           |               | SS133             | DIODE                           |                        |                    |
| D10              |               | D5FB20*1          | DIODE                           |                        |                    |
| D11              |               | D3BA20F03         | DIODE                           |                        |                    |
| D12 ~19          |               | SS688B            | DIODE                           |                        |                    |
| D20 ~27          |               | HSS104            | DIODE                           |                        |                    |
| D20 ~27          |               | SS133             | DIODE                           |                        |                    |
| IC1              |               | TA7815S           | IC(VOLTA GE REGULATOR / +15V)   |                        |                    |
| IC1              |               | UPC7815AHF        | IC(VOLTA GE REGULATOR / +15V)   |                        |                    |
| IC2              |               | UPC7915SHF        | IC(VOLTA GE REGULATOR / -15V)   |                        |                    |
| IC3              |               | TA7808S           | IC(VOLTA GE REGULATOR / -15V)   |                        |                    |
| IC3              |               | UPC7808AHF        | IC(VOLTA GE REGULATOR / +8V)    |                        |                    |
| IC4              |               | TA7900S           | IC(VOLTA GE REGULATOR)          |                        |                    |
| IC4              |               | UPC7900SHF        | IC(VOLTA GE REGULATOR)          |                        |                    |
| IC5              |               | TA7815S           | IC(VOLTA GE REGULATOR / -8V/1A) |                        |                    |
| IC5              |               | UPC7815AHF        | IC(VOLTA GE REGULATOR / +15V)   |                        |                    |
| IC6              |               | UPC7915SHF        | IC(VOLTA GE REGULATOR / -15V)   |                        |                    |
| IC7              |               | UPD78214CW-E41    | IC(MICRO PROCESSOR)             |                        |                    |
| IC8              |               | TC9162N           | IC(ANALOG SWITCH ARRAY)         |                        |                    |
| Q1 , 2           |               | 2SC4137F19(V,W)   | TRANSISTOR                      |                        |                    |
| Q3 , 4           |               | 2SD222*5          | TRANSISTOR                      |                        |                    |
| Q5 , 6           |               | 2SB1470*5         | TRANSISTOR                      |                        |                    |
| Q7 , 8           |               | 2SC1845(F,E)      | TRANSISTOR                      |                        |                    |
| Q10              |               | 2SC4137F19(V,W)   | TRANSISTOR                      |                        |                    |
| Q11              |               | 2SD222*5          | TRANSISTOR                      |                        |                    |
| Q12              |               | 2SB1470*5         | TRANSISTOR                      |                        |                    |
| Q13              |               | 2SC1845(F,E)      | TRANSISTOR                      |                        |                    |
| Q20              |               | 2SA992(F,E)       | TRANSISTOR                      |                        |                    |
| Q21 , 22         |               | 2SC1845(F,E)      | TRANSISTOR                      |                        |                    |

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## PARTS LIST

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|------------------|---------------|-------------------|----------------------------|------------------------|
| D10              |               | RDS.1ES(B2)       | ZENER DIODE                |                        |
| D11              |               | HZS5.1S(B2)       | ZENER DIODE                |                        |
| D12              |               | HZS5.1N(B2)       | ZENER DIODE                |                        |
| D13 -16          |               | HSS104            | DIODE                      | MYP                    |
| D13 -16          |               | 1SS133            | DIODE                      | TE                     |
| D13 -27          |               | HSS104            | DIODE                      | TE                     |
| D13 -27          |               | 1SS133            | DIODE                      | MYP                    |
| D18 -27          |               | 1SS133            | DIODE                      |                        |
| D28              |               | HZS5.1N(B2)       | ZENER DIODE                | MYP                    |
| D28              |               | RDS.1ES(B2)       | ZENER DIODE                |                        |
| D29 -49          |               | HSS104            | DIODE                      |                        |
| D29 -49          |               | 1SS133            | DIODE                      |                        |
| D50              |               | HZS5.1N(B2)       | ZENER DIODE                |                        |
| D50              |               | RDS.1ES(B2)       | ZENER DIODE                |                        |
| D51              |               | HSS104            | DIODE                      |                        |
| D51              |               | 1SS131            | DIODE                      |                        |
| D61 -64          |               | HSS104            | DIODE                      |                        |
| D61 -64          |               | 1SS133            | DIODE                      |                        |
| D65              |               | S5688B            | DIODE                      |                        |
| D66 -69          |               | HSS104            | DIODE                      |                        |
| D66 -69          |               | 1SS133            | DIODE                      |                        |
| D70              |               | S5688B            | DIODE                      |                        |
| ED1              |               | FT12BTM7          | FLUORESCENT INDICATOR TUBE |                        |
| IC1              |               | NJM4558D          | IC(OP AMP X2)              |                        |
| IC2              |               | TA8409S           | IC(MOTOR CONTROL)          |                        |
| IC3              |               | NJM4560D-A        | IC(OP AMPX2)               |                        |
| IC3              |               | NJM4565D-D        | IC(OP AMP X2)              |                        |
| IC4              |               | UPD75216ACH-C60   | IC(MICROPROCESSOR)         | MYP                    |
| IC4              |               | UPD75216ACH-C89   | IC(MICROPROCESSOR)         | TE                     |
| IC5              |               | UPD75216ACH-C89   | IC(MICROPROCESSOR)         | MYP                    |
| IC6              |               | NJU3711D          | IC(8BIT 1/8 EXPANDER)      |                        |
| IC6              |               | M680041P          | IC(EP ROM)                 |                        |
| IC7              |               | NJM4560D-A        | IC(OP AMPX2)               |                        |
| IC7              |               | NJM4565D-D        | IC(OP AMP X2)              |                        |
| Q1               |               | 2SB1370(E, F, G)  | TRANSISTOR                 |                        |
| Q2               |               | 2SD2061(E, F, G)  | TRANSISTOR                 |                        |
| Q3               |               | 2SB1370(E, F, G)  | TRANSISTOR                 |                        |
| Q4               |               | 2SA954(L, K)      | TRANSISTOR                 |                        |
| Q5               |               | DTA113ZS          | DIGITAL TRANSISTOR         |                        |
| Q6 -10           |               | UN4119            | TRANSISTOR                 |                        |
| Q6 -10           |               | 2SC2878(B)        | TRANSISTOR                 |                        |
| Q11              |               | DTA124ES          | DIGITAL TRANSISTOR         |                        |
| Q12              |               | UN4212            | TRANSISTOR                 |                        |
| Q13              |               | 2SC2458(Y, GR)    | TRANSISTOR                 |                        |
| Q13              |               | 2SC3311A(Q, R)    | TRANSISTOR                 |                        |
| Q14              |               | DTA113ZS          | DIGITAL TRANSISTOR         |                        |
| Q14              |               | UN4119            | TRANSISTOR                 |                        |
| Q15              |               | DTA124ES          | DIGITAL TRANSISTOR         |                        |
| Q15              |               | UN4212            | TRANSISTOR                 |                        |
| Q16              |               | 2SC2458(Y, GR)    | TRANSISTOR                 |                        |

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|------------------|---------------|-------------------|--------------------------------|------------------------|
| C91 , 92         |               | CK45FF1H103Z      | CERAMIC                        |                        |
| C93              |               | CK45FF1H473Z      | CERAMIC                        |                        |
| C94 , 95         |               | GE04KW1H220M      | ELECTRO                        |                        |
| C97 , 98         |               | CK45FF1H103Z      | CERAMIC                        |                        |
| C99              |               | C91-0769-05       | CERAMIC                        |                        |
| C100             |               | CK45FF1H103Z      | CERAMIC                        |                        |
| C101, 102        |               | C90-1954-05       | ELECTRO                        |                        |
| J1               |               | E03-0108-05       | AC OUTLET                      | MB                     |
| J1               |               | E03-0109-05       | AC OUTLET                      | T                      |
| J1               |               | E03-0111-05       | AC OUTLET                      | YP                     |
| J4               |               | E11-0188-05       | MINIATURE PHONE JACK SYNCRO    |                        |
| J5               |               | E11-0208-05       | PHONE JACK                     |                        |
| J6               |               | E06-0410-05       | CYLINDRICAL RECEPTACLE S-VIDEO |                        |
| J7               |               | E63-0032-05       | PHONE JACK VIDEO/PLAY          |                        |
| F1               |               | F05-4025-05       | FUSE (SEM0) (250V T4A)         | TE                     |
| F1               |               | F05-6029-05       | FUSE (UL)                      | P                      |
| F1 , 2           |               | F05-4025-05       | FUSE (SEM0) (250V T4A)         | MY                     |
| F3               |               | F05-2325-05       | FUSE (SEM0) (250V T2.5A)       | E                      |
| CN5 -8           |               | J11-0098-05       | WIRE CLAMPER                   | MY                     |
| CN5 , 6          |               | J13-0075-05       | FUSE CLIP                      | TEP                    |
| CN9 , 10         |               | J13-0075-05       | FUSE CLIP                      | E                      |
| L1 , 2           |               | L92-0028-05       | FERRITE CORE                   |                        |
| T1               |               | L40-1021-14       | SMALL FIXED INDUCTOR(1.0MH, K) | E                      |
| T1               |               | L07-0433-05       | POWER TRANSFORMER              | T                      |
| T1               |               | L07-0474-05       | POWER TRANSFORMER              | P                      |
| T1               |               | L07-0483-05       | POWER TRANSFORMER              |                        |
| T1               |               | L07-0487-05       | POWER TRANSFORMER              | MY                     |
| X1               |               | L78-0267-05       | RESONATOR 4.19MHz              |                        |
| J                | 28            | M35-3008-46       | BINDING HEAD MACHIN SCREW      |                        |
| CP1              |               | R90-0803-05       | MULTI-COMP                     |                        |
| R4               |               | RS14KB3A20JTE     | FL-PROOF RS 82 J 1/4W          |                        |
| R24              |               | RD14GB2E100JTS    | FL-PROOF RD 10 J 1/4W          |                        |
| R27              |               | RD14GB2E100JTS    | FL-PROOF RD 10 J 1/4W          |                        |
| R163             |               | RS14KB3D101JTE    | FL-PROOF RS 100 J 2W           |                        |
| R165             |               | RS14KB3D121JTE    | FL-PROOF RS 120 J 2W           |                        |
| VR1              |               | R05-3023-05       | POTENTIOMETER 20KB BALANCE     |                        |
| VR2 , 3          |               | R06-2026-05       | POTENTIOMETER 5KBX2 BASS TREBL |                        |
| VR4              |               | R29-5061-05       | POTENTIOMETER 100AX5 VOLUME    |                        |
| K1               |               | S76-0002-05       | MAGNETIC RELAY                 | TEP                    |
| K1               |               | S76-0009-05       | MAGNETIC RELAY                 | MY                     |
| S1               |               | S40-1044-05       | PUSH SWITCH                    |                        |
| S7               |               | S60-0011-05       | ROTARY SWITCH VIDEO/REC        |                        |
| S11              |               | S31-2128-05       | SLIDE SWITCH VOLTAGE SELECTOR  | MY                     |
| S12              |               | S31-2136-05       | SLIDE SWITCH VOLTAGE SELECTOR  | Y                      |
| S12              |               | S31-2322-05       | SLIDE SWITCH VOLTAGE SELECTOR  | M                      |
| S8 -10           |               | T99-0509-05       | ROTARY ENCODER INPUT.MODE.PRES |                        |
| D1 -8            |               | S5688B            | DIODE                          |                        |
| D9               |               | HZS6.8N(B2)       | ZENER DIODE                    |                        |
| D10              |               | RD6.8ES(B2)       | ZENER DIODE                    |                        |
| D10              |               | HZS5.1N(B2)       | ZENER DIODE                    |                        |

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## PARTS LIST

No.13

| Ref. No.<br>参照番号 | Address<br>位置 | Parts No.<br>部品番号 | Description<br>部品名 / 規格 | Desti-<br>nation<br>仕向 |
|------------------|---------------|-------------------|-------------------------|------------------------|
| C237             |               | CC45FSL1H1000     | CERAMIC                 |                        |
| C238             |               | CC45FSL1H470J     | 10PF                    | D                      |
| C239             |               | CC45FF1H103Z      | 0.010UF                 | J                      |
| C240-242         |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C243             |               | CC45FB1H102K      | 1000PF                  | K                      |
| C244             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C245, 246        |               | CC45FSL1H470J     | 47PF                    | J                      |
| C247, 248        |               | CC45FSL1H101J     | 100PF                   | J                      |
| C249, 250        |               | CC45FSL1H221J     | 220PF                   | J                      |
| C251             |               | CC45FSL1H390J     | 39PF                    | J                      |
| C252             |               | CC45FSL1H150J     | 15PF                    | J                      |
| C253             |               | CC45FSL1H180J     | 18PF                    | J                      |
| C254             |               | CC45FSL1H220J     | 22PF                    | J                      |
| C255, 256        |               | CC45FSL1H390J     | 39PF                    | J                      |
| C257             |               | CE04KW1V100M      | 0.010UF                 | Z                      |
| C258-260         |               | ELECTR0           | 10UF                    | 35WV                   |
| C261             |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C262             |               | CE04KW1V100M      | 4.7UF                   | 35WV                   |
| C263             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C264, 265        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C266             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C267             |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C268             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C269             |               | CC45FSL1H470J     | 47PF                    | J                      |
| C270             |               | CC45FSL1H471K     | 470PF                   | K                      |
| C271             |               | CE04KW1H47M       | 0.47UF                  | 50WV                   |
| C272             |               | CE04KW1H01M       | 1.0UF                   | 50WV                   |
| C273             |               | CC45FB1H541K      | 540PF                   | K                      |
| C274             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C275             |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C276             |               | CE04KW1V100M      | 220PF                   | J                      |
| C277             |               | CF92FV1H1221J     | 1200PF                  | J                      |
| C278             |               | CF92FV1H332J      | 3300PF                  | J                      |
| C280, 281        |               | CE04KW1H2R2M      | 2.2UF                   | 50WV                   |
| C282-285         |               | ELECTR0           | 1.0UF                   | 35WV                   |
| C286-288         |               | CE04KW1V010M      | 0.010UF                 | Z                      |
| C289             |               | CF92FV1H223J      | 0.022UF                 | J                      |
| C290             |               | CF92FV1H473J      | 0.047UF                 | J                      |
| C291             |               | CC45FSL1H470J     | 47PF                    | J                      |
| C292             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C293             |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C294-296         |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C297             |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C298             |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C299             |               | CC45FB1H103Z      | 0.010UF                 | Z                      |
| C300-307         |               | CC45FB1H102K      | 1000PF                  | K                      |
| C308             |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C309, 310        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C311             |               | CC45FSL1H330J     | 33PF                    | J                      |
| C312, 313        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C314             |               | CC45FSL1H220J     | 22PF                    | J                      |

No.12

| Ref. No.<br>参照番号                            | Address<br>位置 | Parts No.<br>部品番号 | Description<br>部品名 / 規格 | Desti-<br>nation<br>仕向 |
|---------------------------------------------|---------------|-------------------|-------------------------|------------------------|
| Q16                                         |               | 2SC3311A(Q,R)     | TRANSISTOR              |                        |
| Q17                                         |               | 78C11ZS           | DIGITAL TRANSISTOR      |                        |
| Q18                                         |               | UN4219            | TRANSISTOR              |                        |
| Q19                                         |               | 2SA1048(Y,GP)     | TRANSISTOR              |                        |
| Q20                                         |               | 2SA1309A(Q,R)     | TRANSISTOR              |                        |
| A1                                          |               | W02-0975-05       | ELECTRIC CIRCUIT MODULE |                        |
| ACCESSORY UNIT (X13-6960-00:M,Y,P,2-71:T,E) |               |                   |                         |                        |
| C1, 2                                       |               | CE04KW1V100M      | ELECTR0                 |                        |
| C3, 4                                       |               | CF92FV1H102J      | 100PF                   | 35WV                   |
| C5, 6                                       |               | CF92FV1H123J      | 0.012UF                 | J                      |
| C7, 8                                       |               | CF92FV1H332J      | 3300PF                  | J                      |
| C9, 10                                      |               | CF92FV1H101K      | 100PF                   | K                      |
| C13, 14                                     |               | CF92FV1H182J      | 1800PF                  | J                      |
| C15, 16                                     |               | CE04KW0J331M      | 330UF                   | 6.3WV                  |
| C17, 18                                     |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C19, 20                                     |               | CF92FV1H102J      | 100PF                   | J                      |
| C21, 22                                     |               | CC45FSL1H101J     | 100PF                   | J                      |
| C23 -36                                     |               | CC45FSL1H221J     | 220PF                   | J                      |
| C41, 42                                     |               | CE04KW1H2R2M      | 2.2UF                   | 50WV                   |
| C43, 44                                     |               | CC45FSL1H221J     | 220PF                   | J                      |
| C51, 52                                     |               | CE04KW1H220M      | 22UF                    | 50WV                   |
| C53, 54                                     |               | CF92FV1H221K      | 220PF                   | K                      |
| C55, 56                                     |               | G90-1921-05       | ELECTR0                 | 25WV                   |
| C57, 58                                     |               | CE04KW1H2R2M      | 2.2UF                   | 50WV                   |
| C59, 60                                     |               | CC45FSL1H221J     | 220PF                   | J                      |
| C63, 64                                     |               | CE04KW1H2R2M      | 2.2UF                   | 50WV                   |
| C65, 66                                     |               | CC45FSL1H221J     | 220PF                   | J                      |
| C71 -86                                     |               | CC45FSL1H221J     | 220PF                   | J                      |
| C101-104                                    |               | CC45FF1H102K      | 1000PF                  | K                      |
| C105                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C106, 107                                   |               | CF92FV1H104J      | 0.10UF                  | J                      |
| C111-114                                    |               | CC45FB1H102K      | 1000PF                  | K                      |
| C115                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C118-121                                    |               | CE04KW1H101M      | 100UF                   | 50WV                   |
| C122-129                                    |               | CC45FB1H102K      | 1000PF                  | K                      |
| C201-204                                    |               | CC45FB1H102K      | 1000PF                  | K                      |
| C205, 206                                   |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C207                                        |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C208                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C210                                        |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C211, 212                                   |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C213, 214                                   |               | CE04KW1A470M      | 47UF                    | 10WV                   |
| C215-217                                    |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C218, 219                                   |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C220                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C222                                        |               | CC45FSL1H100D     | 10PF                    | D                      |
| C223                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C224                                        |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C226                                        |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C229                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |
| C230                                        |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C231                                        |               | CC45FSL1H470J     | 47PF                    | J                      |
| C233-235                                    |               | CE04KW1V100M      | 10UF                    | 35WV                   |
| C236                                        |               | CC45FF1H103Z      | 0.010UF                 | Z                      |

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No.14

| Ref. No.<br>参照番号 | Address<br>位置 | New<br>Parts | 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 |
|------------------|---------------|--------------|-------------------|--------------------------------|------------------------|--------------------|
| J1 -4            |               |              | E13-0927-05       | PHONE JACK(8P) AUDIO           |                        |                    |
| J5 -6            |               |              | E13-1402-05       | PHONE JACK(4P) VIDEO           |                        |                    |
| J7 -8            |               |              | E06-0408-05       | CYLINDRICAL RECEPTACLE S-VIDEO |                        |                    |
| J9               |               |              | E06-0409-05       | CYLINDRICAL RECEPTACLE VDP     |                        |                    |
| J10              |               |              | E13-0192-05       | PHONE JACK(1P) MONITOR OUT     |                        |                    |
| L25              |               |              | L40-2201-17       | SMALL FIXED INDUCTOR(22UH.K)   |                        |                    |
| X1               |               | *            | L77-1182-05       | CRYSTAL RESONATOR 14.318180MHz | MYP                    |                    |
| X2               |               |              | L77-2107-05       | CRYSTAL RESONATOR 17.734475MHz | TE                     |                    |
| X1               |               |              | L78-0272-05       | RESONATOR 503.5kHz             | MYP                    |                    |
| X2               |               | *            | L78-0300-05       | RESONATOR 15.680kHz            | TE                     |                    |
| R201, 202        |               |              | RD14GB2E4R7JTS    | FL-PROOF RD 4.7 J 1/4W         |                        |                    |
| D51 -57          |               |              | HSS104            | DIODE                          |                        |                    |
| D51 -57          |               |              | LS5133            | DIODE                          |                        |                    |
| D61 -67          |               |              | HSS104            | DIODE                          |                        |                    |
| D61 -67          |               |              | LS5133            | DIODE                          |                        |                    |
| D100-125         |               |              | HSS104            | DIODE                          |                        |                    |
| D100-125         |               |              | LS5133            | DIODE                          |                        |                    |
| D128-129         |               |              | HSS104            | DIODE                          |                        |                    |
| D128-129         |               |              | LS5133            | DIODE                          |                        |                    |
| D138-140         |               |              | HSS104            | DIODE                          |                        |                    |
| D138-140         |               |              | LS5133            | DIODE                          |                        |                    |
| D141, 142        |               |              | HZ55.1N(8)        | ZENER DIODE                    |                        |                    |
| D141, 142        |               |              | RD5.1ES(8)        | ZENER DIODE                    |                        |                    |
| D143-148         |               |              | HSS104            | DIODE                          |                        |                    |
| D143-148         |               |              | LS5133            | DIODE                          |                        |                    |
| D149             |               |              | HZ55.1N(8)        | ZENER DIODE                    |                        |                    |
| D149             |               |              | RD5.1ES(8)        | ZENER DIODE                    |                        |                    |
| D150-166         |               |              | HSS104            | DIODE                          |                        |                    |
| D150-166         |               |              | LS5133            | DIODE                          |                        |                    |
| IC1              |               |              | UPC4570C-A        | IC(OP AMP X2)                  |                        |                    |
| IC2              |               |              | LC7821N           | IC(FUNCTION CONTROL SWITCH)    |                        |                    |
| IC3 -6           |               |              | NJM4560D-A        | IC(OP AMPX2)                   |                        |                    |
| IC3 -6           |               |              | NJM4565D-D        | IC(OP AMP X2)                  |                        |                    |
| IC7              |               |              | LC7821N           | IC(FUNCTION CONTROL SWITCH)    |                        |                    |
| IC8              |               |              | LC7822N           | IC(FUNCTION CONTROL SWITCH)    |                        |                    |
| IC20             |               | *            | LC7823N           | IC(FUNCTION CONTROL SWITCH)    |                        |                    |
| IC21             |               |              | MC14577A          | IC(DUAL VIDEO AMP)             |                        |                    |
| IC22             |               | *            | LC7823N           | IC(FUNCTION CONTROL SWITCH)    |                        |                    |
| IC23 24          |               |              | MC14577A          | IC(DUAL VIDEO AMP)             |                        |                    |
| IC25             |               |              | TC4051BP          | IC(8CH MPX/ DE-MPX)            |                        |                    |
| IC26             |               |              | MC14577A          | IC(DUAL VIDEO AMP)             |                        |                    |
| IC27             |               |              | TC4051BP          | IC(8CH MPX/ DE-MPX)            |                        |                    |
| IC28             |               |              | MC14577A          | IC(DUAL VIDEO AMP)             |                        |                    |
| IC29             |               | *            | MC1067V0          | IC(SYNC SEPARATION)            |                        |                    |
| IC30             |               |              | MC14577A          | IC(DUAL VIDEO AMP)             |                        |                    |
| IC31             |               | *            | UPD6450CX-514     | IC                             |                        |                    |
| Q1 -4            |               |              | 2SC2878(B)        | TRANSISTOR                     |                        |                    |
| Q11              |               |              | DTA124ES          | DIGITAL TRANSISTOR             |                        |                    |
| Q11              |               |              | UN4212            | TRANSISTOR                     |                        |                    |
| Q12              |               |              | DTA124ES          | DIGITAL TRANSISTOR             |                        |                    |
| Q12              |               |              | UN4112            | TRANSISTOR                     |                        |                    |
| Q50 -53          |               |              | DTA124ES          | DIGITAL TRANSISTOR             |                        |                    |
| Q50 -53          |               |              | UN4112            | TRANSISTOR                     |                        |                    |
| Q54 -57          |               |              | 2SC2878(B)        | TRANSISTOR                     |                        |                    |

L:Scandinavia

K:USA

P:Canada

T:England

E:Europe

X:Australia

M:Other Areas

△ indicates safety critical components.

\* New Parts

Parts without Parts No. are not supplied.

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

Teile ohne Parts No. werden nicht geliefert.

No.15

| Ref. No.<br>参照番号                  | Address<br>位置 | New<br>Parts | 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 |
|-----------------------------------|---------------|--------------|-------------------|-------------------------|------------------------|--------------------|
| Q58 -63                           |               |              | 2SC2458(Y,OR)     | TRANSISTOR              |                        |                    |
| Q58 -63                           |               |              | 2SC3511A(Q,R)     | TRANSISTOR              |                        |                    |
| Q64 -65                           |               |              | 2SC2878(B)        | DIGITAL TRANSISTOR      |                        |                    |
| Q66                               |               |              | DTA124ES          | DIGITAL TRANSISTOR      |                        |                    |
| Q66                               |               |              | UN4112            | TRANSISTOR              |                        |                    |
| MAIN AMPLIFIER UNIT (X85-1190-06) |               |              |                   |                         |                        |                    |
| C1 -2                             |               |              | CE04KW1H220M      | ELECTRO                 | 50WV                   |                    |
| C3 -6                             |               |              | CC45FSL1H101J     | CERAMIC                 | 100PF J                |                    |
| C13 -16                           |               |              | CC45FSL1H470J     | CERAMIC                 | 47PF J                 |                    |
| C17 -18                           |               |              | CC45FSL1H221J     | CERAMIC                 | 220PF J                |                    |
| C19 -20                           |               |              | CC45FSL1H070D     | CERAMIC                 | 7.0PF D                |                    |
| C21                               |               |              | CE04KW1J470M      | ELECTRO                 | 47UF 63WV              |                    |
| C22                               |               |              | CE04DW1J101M      | ELECTRO                 | 100UF 63WV             |                    |
| C24                               |               |              | CE04KW1B330M      | ELECTRO                 | 33UF 25WV              |                    |
| C25 -26                           |               |              | CC45FSL1H101J     | CERAMIC                 | 100PF J                |                    |
| C31                               |               |              | CE04KW1H220M      | ELECTRO                 | 22UF 50WV              |                    |
| C32 -33                           |               |              | CC45FSL1H101J     | CERAMIC                 | 100PF J                |                    |
| C35                               |               |              | CC45FSL1H470J     | CERAMIC                 | 47PF J                 |                    |
| C36                               |               |              | CC45FSL1H221J     | CERAMIC                 | 220PF J                |                    |
| C37                               |               |              | CC45FSL1H020C     | CERAMIC                 | 2.0PF C                |                    |
| C38                               |               |              | CC45FSL1H470J     | CERAMIC                 | 47PF J                 |                    |
| C51 -52                           |               |              | CE04KW1J100M      | ELECTRO                 | 10UF 63WV              |                    |
| R19 -20                           |               |              | RD14NB2B151J      | RD                      | 150 J 1/4W             |                    |
| R27 -30                           |               |              | RD14NB2B221J      | RD                      | 220 J 1/4W             |                    |
| R31 -32                           |               |              | RD14NB2B470J      | RD                      | 47 J 1/4W              |                    |
| R47                               |               |              | RD14NB2B151J      | RD                      | 150 J 1/4W             |                    |
| R51 -52                           |               |              | RD14NB2B221J      | RD                      | 220 J 1/4W             |                    |
| D1 -2                             |               |              | HSS104            | DIODE                   |                        |                    |
| D1 -2                             |               |              | LS5133            | DIODE                   |                        |                    |
| D6                                |               |              | HSS104            | DIODE                   |                        |                    |
| D6                                |               |              | LS5133            | DIODE                   |                        |                    |
| Q1 -4                             |               |              | 2SA992(F,E)       | TRANSISTOR              |                        |                    |
| Q11 -14                           |               |              | 2SC2631(R,S)      | TRANSISTOR              |                        |                    |
| Q15 -16                           |               |              | 2SA1123(R,S)      | TRANSISTOR              |                        |                    |
| Q17                               |               |              | 2SC1740S(Q,R)     | TRANSISTOR              |                        |                    |
| Q17                               |               |              | 2SC3311A(Q,R)     | TRANSISTOR              |                        |                    |
| Q21 -22                           |               |              | 2SA992(F,E)       | TRANSISTOR              |                        |                    |
| Q23 -24                           |               |              | 2SC2631(R,S)      | TRANSISTOR              |                        |                    |
| Q25                               |               |              | 2SA1123(R,S)      | TRANSISTOR              |                        |                    |

L:Scandinavia

K:USA

P:Canada

T:England

E:Europe

X:Australia

M:Other Areas

△ indicates safety critical components.

## SPECIFICATIONS

## (For other countries)

## AUDIO section

## STEREO MODE

## Continuous rated power output (FTC)

75 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion.

## [SURROUND MODE]

## Continuous rated power output

Front (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 65 W + 65 W  
Center (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 65 W  
Rear (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 25 W + 25 W

## Total harmonic distortion

0.08 % (20 Hz – 20 kHz, 80 W, 8 $\Omega$ )  
0.02 % (1 kHz, 80 W, 8 $\Omega$ )

## Frequency response

LINE (CD, TUNER, AUX, TAPE)

..... 5 Hz – 100 kHz, +0 dB, –3dB

PHONO 'RIAA' response ..... 20 Hz – 20 kHz,  
+0 dB, –0.3 dB

## Maximum input level

PHONO (MM).....110 mV, 0.08 % T.H.D. at 1 kHz

## Signal to noise ratio

PHONO (MM).....78 dB (IHF'66)/79 dB (IHF'78)  
LINE (CD, TUNER, AUX, TAPE)  
..... 100 dB(IHF'66)/84 dB (IHF'78)

## Input sensitivity/Impedance

PHONO (MM).....2.5 mV/ 47 k $\Omega$   
LINE (CD, TUNER, AUX, TAPE) ....200 mV/47 k $\Omega$

## Tone control

BASS .....  $\pm 10$  dB (at 100Hz)  
TREBLE .....  $\pm 10$  dB (at 10kHz)

## Output level/Impedance

TAPE REC ..... 200 mV/470  $\Omega$   
PREOUT ..... 1 V/600  $\Omega$   
Center channel preout ..... 1 V/600  $\Omega$   
Rear channel preout ..... 1 V/600  $\Omega$   
SUB WOOFER PREOUT ..... 1 V/600  $\Omega$

## VIDEO section

Television format ..... NTSC

## Input level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO 2,  
VIDEO 3)

S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
(Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO  
2)

## Output level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
Output (VDP, DBS/TV, AV AUX, MONITOR,  
VIDEO 1, VIDEO 2, VIDEO 3)  
S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
(Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
Output (VDP, DBS/TV, AV AUX, MONITOR,  
VIDEO 1, VIDEO 2)

## GENERAL

Power consumption ..... 370 W (IEC)

## AC outlet

SWITCHED ..... 200 W max.

Dimensions ..... W: 440 mm (17-5/16")  
H : 162 mm (6-3/8")  
D : 432 mm (17")

Weight (Net) ..... 16.0 kg (35.3 lb)

Note: \_\_\_\_\_

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

# KA-V8500

## SPECIFICATIONS

### (For the U.S.A. and Canada)

#### AUDIO section

##### Continuous rated power output (FTC)

80 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion.

##### [SURROUND MODE]

##### Continuous rated power output Front

70 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  1 kHz with no more than 0.2 % total harmonic distortion.

##### Center

70 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  1 kHz with no more than 0.2 % total harmonic distortion.

##### Rear

30 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  1 kHz with no more than 0.2 % total harmonic distortion.

##### Total harmonic distortion

0.08 % (20 Hz-20 kHz, 80 W, 8 $\Omega$ )  
0.02 % (1 kHz, 80 W, 8 $\Omega$ )

##### Frequency response

LINE (CD, TUNER, AUX)  
..... 5 Hz – 100 kHz, +0 dB, –3 dB

##### PHONO 'RIAA' response

..... 20 Hz – 20 kHz, +0.3 dB, –0.3 dB

##### Maximum input level

PHONO (MM) .... 110 mV, 0.08 % T.H.D. at 1 kHz

##### Signal to noise ratio

PHONO (MM) ..... 78 dB (IHF'66)/79 dB (IHF'78)  
LINE (CD, TUNER, AUX)  
..... 100 dB(IHF'66)/84 dB (IHF'78)

##### Input sensitivity/Impedance

PHONO (MM) ..... 2.5 mV/ 47 k $\Omega$   
LINE (CD, TUNER, AUX, TAPE) ... 200 mV/47 k $\Omega$

##### Tone control

BASS .....  $\pm 10$  dB (at 100Hz)  
TREBLE .....  $\pm 10$  dB (at 10kHz)

##### Output level/Impedance

TAPE REC ..... 200 mV/470  $\Omega$   
PREOUT ..... 1 V/600  $\Omega$   
Center channel preout ..... 1 V/600  $\Omega$   
Rear channel preout ..... 1 V/600  $\Omega$   
SUB WOOFER PREOUT ..... 1 V/600  $\Omega$

#### VIDEO section

Television format ..... NTSC

##### Input level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
Input (VDP, DBS/TV, AV AUX, VIDEO 1 VIDEO 2, VIDEO 3)

S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
(Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO 2)

##### Output level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
Output (VDP, DBS/TV, AV AUX, MONITOR, VIDEO 1, VIDEO 2, VIDEO 3)  
S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
(Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
Output (VDP, DBS/TV, AV AUX, MONITOR, VIDEO 1, VIDEO 2)

#### GENERAL

Power consumption ..... 4.2 A (For U.S.A. and Canada)

##### AC outlets

SWITCHED .... 3: (For the U.S.A.: Total 200 W max.)  
(For Canada: Total 200 W, 1.7A max.)

Dimensions ..... W: 440 mm (17-5/16")  
H : 162 mm (6-3/8")  
D : 432 mm (17")

Weight (Net) ..... 16.0 kg (35.3 lb)

## SPECIFICATIONS

## Specifications (For U.K. and Europe)

## AUDIO section

## Continuous rated power output (FTC)

55 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion.

(DIN) 1kHz, at 8  $\Omega$  ..... 55 W + 55W  
 at 4  $\Omega$  ..... 85 W + 85W

## (IEC/NF) From 63Hz to 12,500Hz,

0.7 % T.H.D. at 8  $\Omega$  ..... 55 W + 55W  
 at 4  $\Omega$  ..... 80 W + 80W

## [SURROUND MODE]

## Continuous rated power output (IHF'66)

Front (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 45 W + 45 W  
 Center (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 45 W  
 Rear (1kHz, 0.2 % T.H.D. at 8 $\Omega$ ). 28 W + 28 W

## Total harmonic distortion

0.08 % (20 Hz – 20 kHz, 55 W, 8 $\Omega$ )  
 0.04 % (1 kHz, 55 W, 8 $\Omega$ )

## Frequency response

LINE (CD, TUNER, AUX, TAPE)

..... 100 Hz – 100 kHz, +0 dB, –3dB

PHONO 'RIAA' response ..... 20 Hz – 20 kHz,  
 +0.3 dB, –0.3 dB

## Maximum input level

PHONO (MM) ..... 110 mV, 0.08 % T.H.D. at 1 kHz

## Signal to noise ratio

PHONO (MM) ..... 78 dB (IHF'66)/79 dB (IHF'78)  
 LINE (CD, TUNER, AUX, TAPE)

..... 100 dB (IHF'66)/84 dB (IHF'78)

PHONO (MM) ..... 59 dB (DIN, 50 mW output)  
 LINE (CD, TUNER, AUX, TAPE)

..... 61 dB (DIN, 50 mW output)

## Input sensitivity/Impedance

PHONO (MM) ..... 2.5 mV/ 47 k $\Omega$   
 LINE (CD, TUNER, AUX, TAPE) .... 200 mV/47 k $\Omega$

## Tone control

BASS .....  $\pm 10$  dB (at 100Hz)  
 TREBLE .....  $\pm 10$  dB (at 10kHz)

## Output level/Impedance

TAPE REC ..... 200 mV/470  $\Omega$   
 PREOUT ..... 1 V/600  $\Omega$   
 Center channel preout ..... 1 V/600  $\Omega$   
 Rear channel preout ..... 1 V/600  $\Omega$   
 SUB WOOFER PREOUT ..... 1 V/600  $\Omega$

## VIDEO section

Television format ..... PALL

## Input level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
 Input (VDP, DBS/TV, AV AUX, VIDEO 1 VIDEO 2,  
 VIDEO 3)

S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
 (Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
 Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO  
 2)

## Output level/Impedance

VIDEO (composite) ..... 1Vp-p/75 $\Omega$   
 Output (VDP, DBS/TV, AV AUX, MONITOR,  
 VIDEO 1, VIDEO 2, VIDEO 3)  
 S-VIDEO (Luminance signal) ..... 1Vp-p/75 $\Omega$   
 (Chrominance signal) .... 0.286Vp-p/75 $\Omega$   
 Output (VDP, DBS/TV, AV AUX, MONITOR,  
 VIDEO 1, VIDEO 2)

## GENERAL

Power consumption ..... 370 W (IEC)

## AC outlet

SWITCHED ..... 200 W max.

Dimensions ..... W: 440 mm (17-5/16")

H: 162 mm (6-3/8")

D: 432 mm (17")

Weight (Net) ..... 16.0 kg (35.3 lb)

Note:

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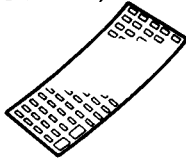
# KA-V8500

## Accessories

- Remote control unit ... 1  
(A70-0570-05)  
(A09-0086-08): Battery cover



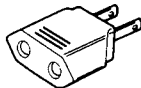
- Remote control unit entry sheet ... 1  
(G16-0756-08)



- Batteries  
(R03/UM-4/"AAA") ... 4



- AC plug adaptor ... 1  
(Except for some areas.)  
For the unit with a European AC  
plug in areas other than Europe.  
(E03-0115-05)



## Instruction manual

B60-0649-00 English  
B60-0651-00 DUT,ITA E  
B60-0658-00 GER,FRA E,P  
B60-0659-00 SPA,CHI M

## Item carton case

H50-0186-04

## Polystyren formed fixtune

H10-5226-02 L  
H10-5227-02 R

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