

INTEGRATED AV SURROUND AMPLIFIER

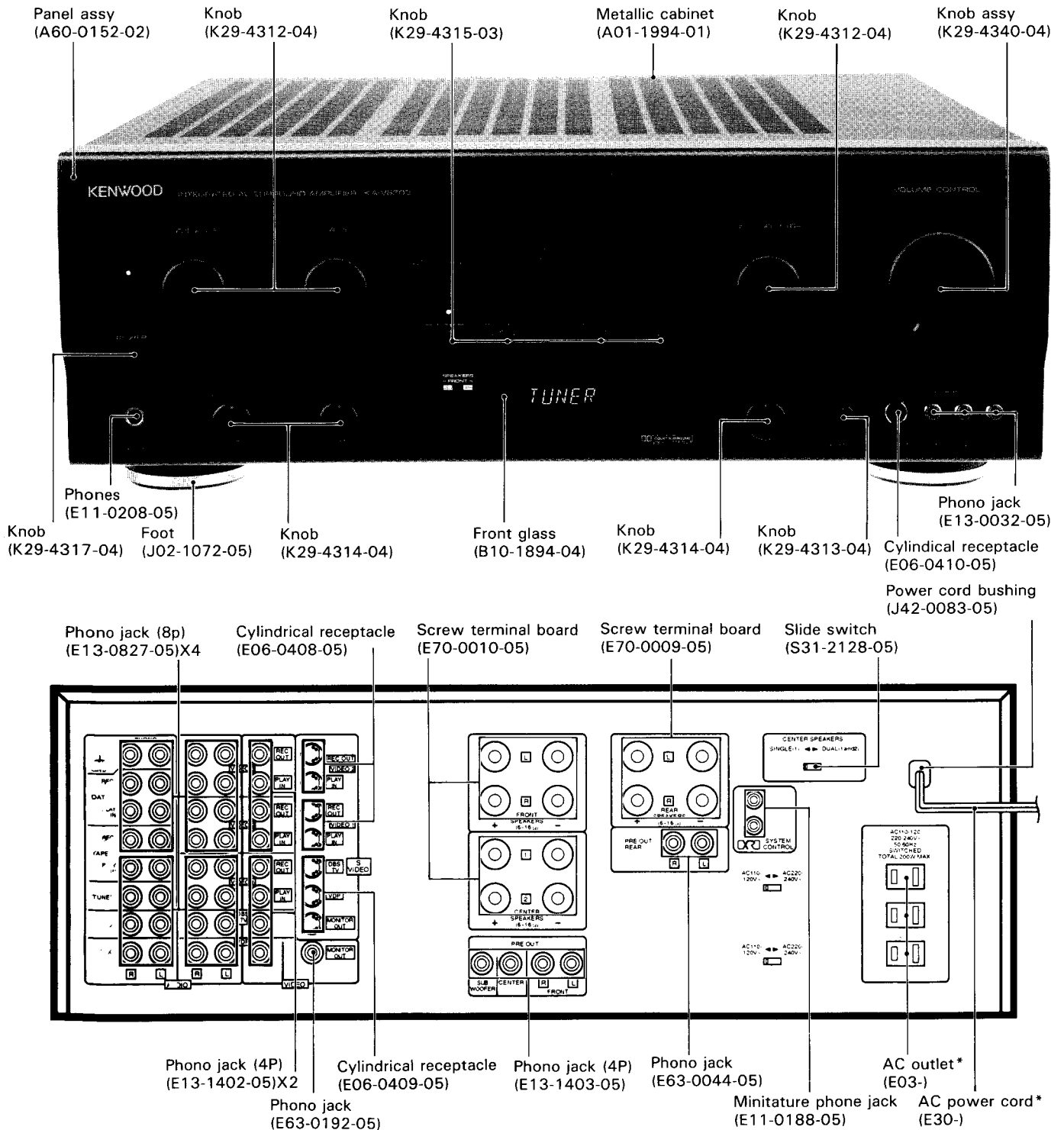
KA-V8500

SERVICE MANUAL

KENWOOD

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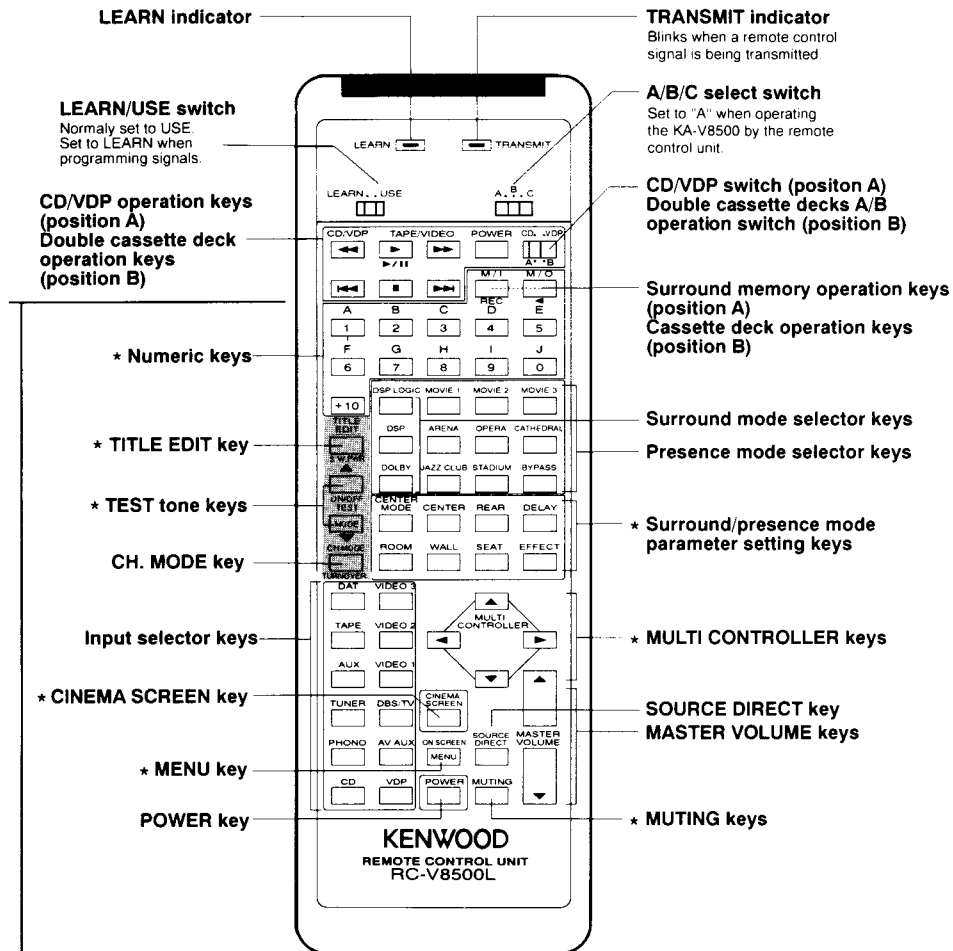
*Refer to parts list on page 57.

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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)

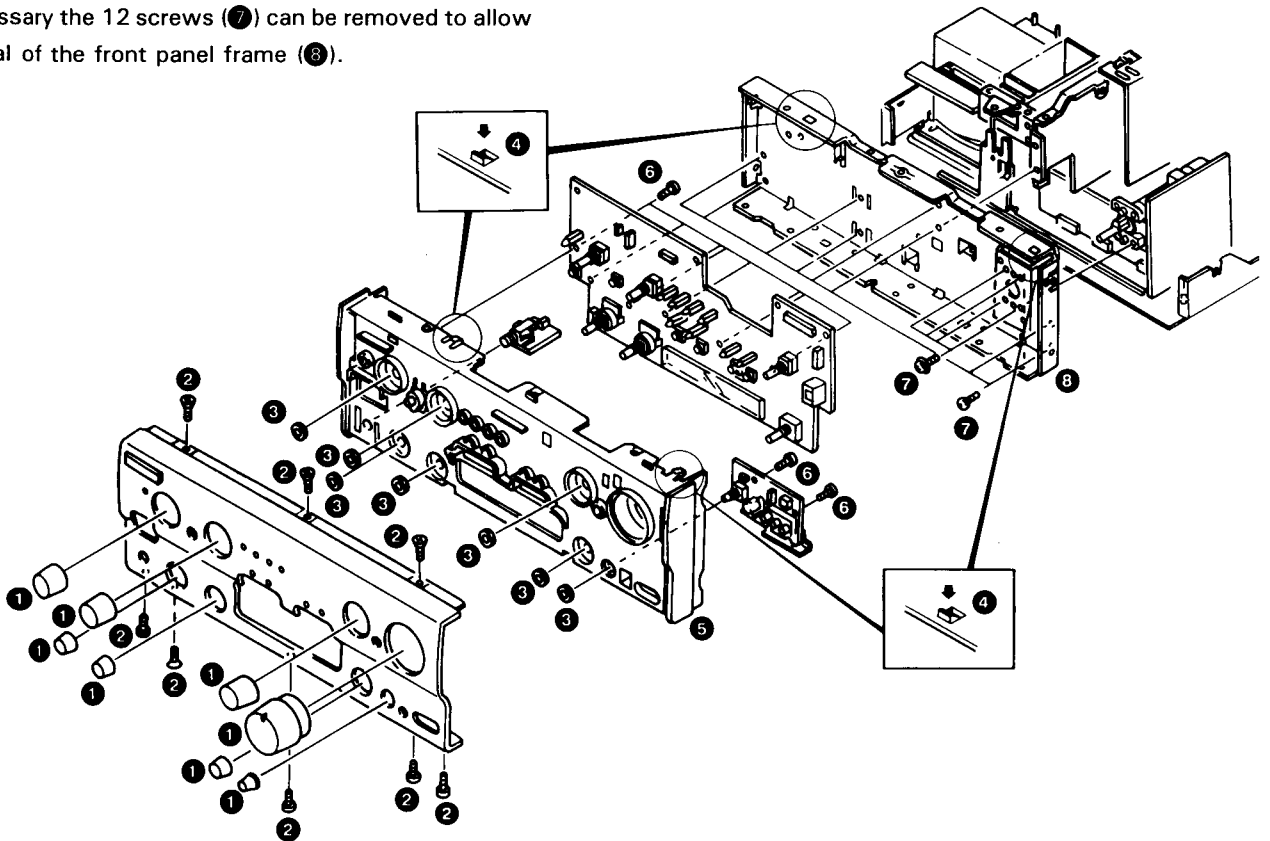
DISASSEMBLY FOR REPAIR

How to disassemble the for repairs

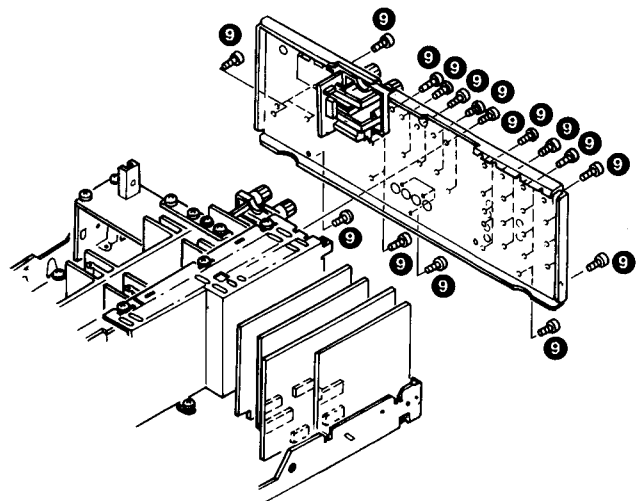
First remove the case.

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.

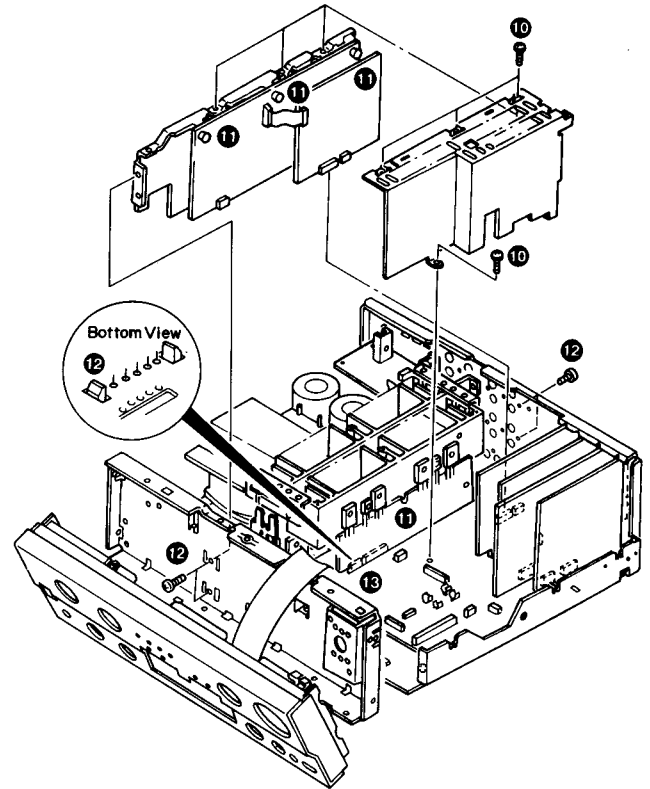


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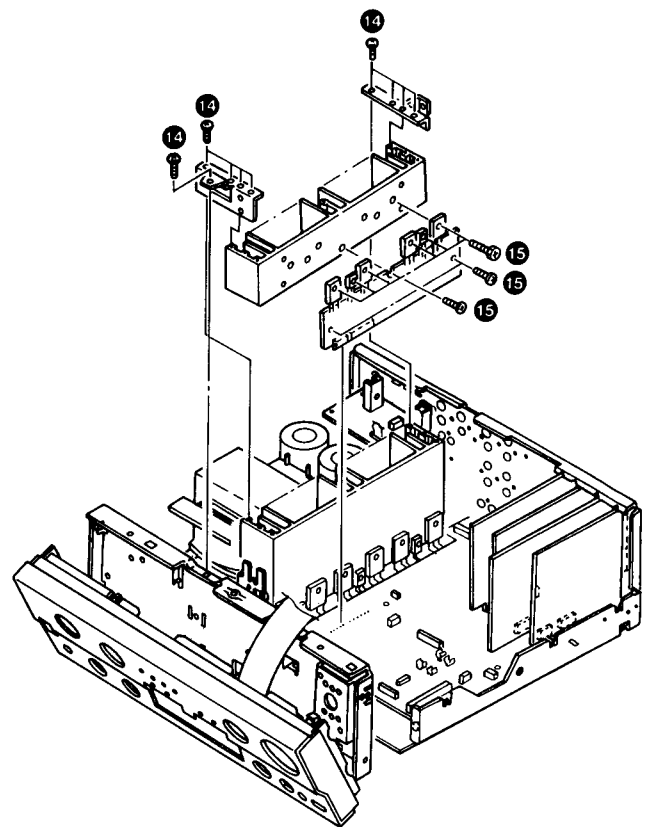
DISASSEMBLY FOR REPAIR

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).

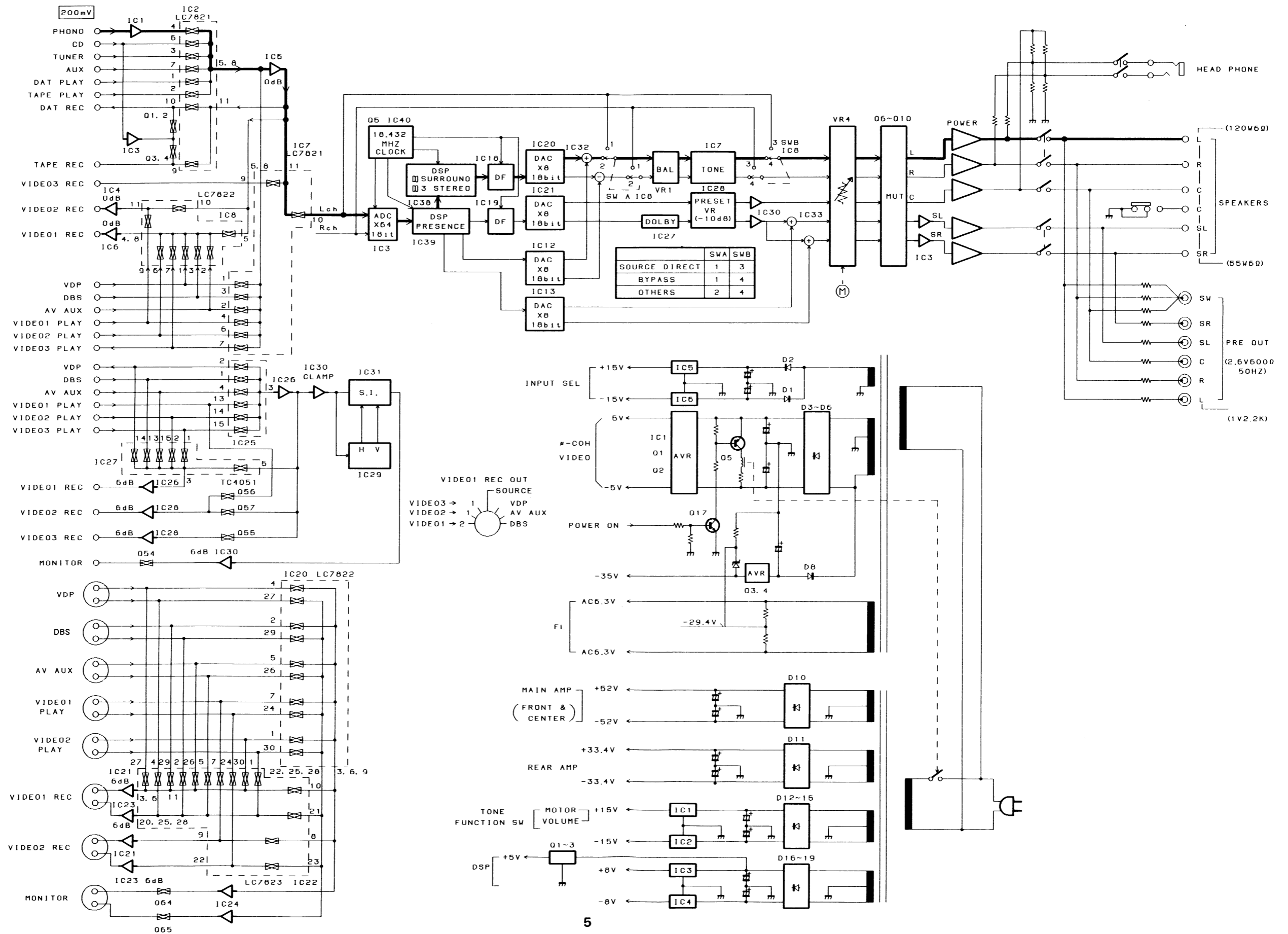


7. Turn over the set again (5, 6., upright it) remove the 9 screws (14) and lift off the heat sink and the X08 E/6.
8. If necessary the 9 screws (15) can be removed to allow removal of the X08 E/6.



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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				
D S P	MOVIE 1	50	1kHz	5	0	OFF	—	0dB	0dB
	MOVIE 2								
	MOVIE 3								
	ARENA					1			
	OPERA					2			
	CATHEDRAL					3			
JAZZ CULB	200	16kHz	100	100	-30dB	-30dB			
D S P L O G I C	MOVIE 1	50	1kHz	5	0	OFF	0ms	0dB	0dB
	MOVIE 2								
	MOVIE 3								
	ARENA					1			
	OPERA					2			
	CATHEDRAL					3			
JAZZ CLUB	200	16kHz	100	100	80ms	-30dB	-30dB		
D O L B Y	PRO LOGIC	—	—	—	—	—	15ms }	0dB }	0dB }
	3STEREO	—	—	—	—	—	30ms	-30dB	-30dB
								0dB }	—
								-30dB	

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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 (INFORMATION) : ON
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 into 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.

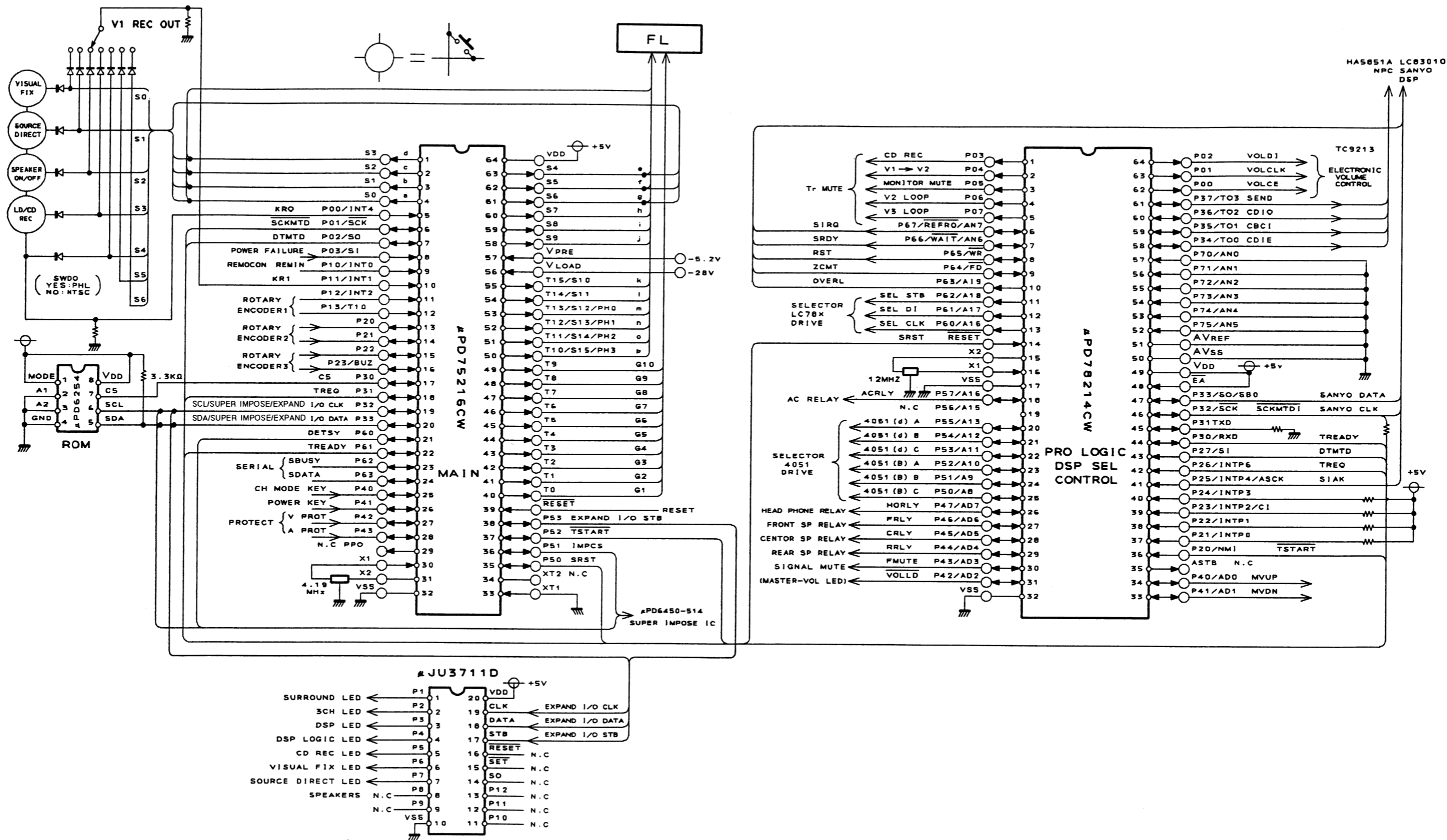
- ◇Rear, center volume
 - Only two points, MIN and MAX
- ◇Delay time
 - PRO LOGIC : Only three points, 15, 21, and 30 ms
 - DSP LOGIC : Only three points, 0, 40, and 80 ms
- ◇Effect Level
 - Only three points -- 0, 50, 100
- ◇Seat Position
 - Only two points -- 5, 100
- ◇Test Tone
 - The Test Tone output 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 (μ PD75216ACW-C60' μ PD78214CW-E5, NJU3711D)



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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) / IMPCLK / EXIOCLK	EEPROM/superimpose/expansion I/O shared use Superimpose external/internal synchronization detection (H:internal)
20	P33	O	EEPDO(SDA) / IMPSI / EXIODO	Serial clock output 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	V _{ss}	—	—	GND

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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	V _{dd}	O	—	+5.0V

CIRCUIT DESCRIPTION

Data communications format between main microprocessor and DSP micro-processor

* Master microprocessor μ PD75216ACW-C60

* Slave microprocessor μ 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

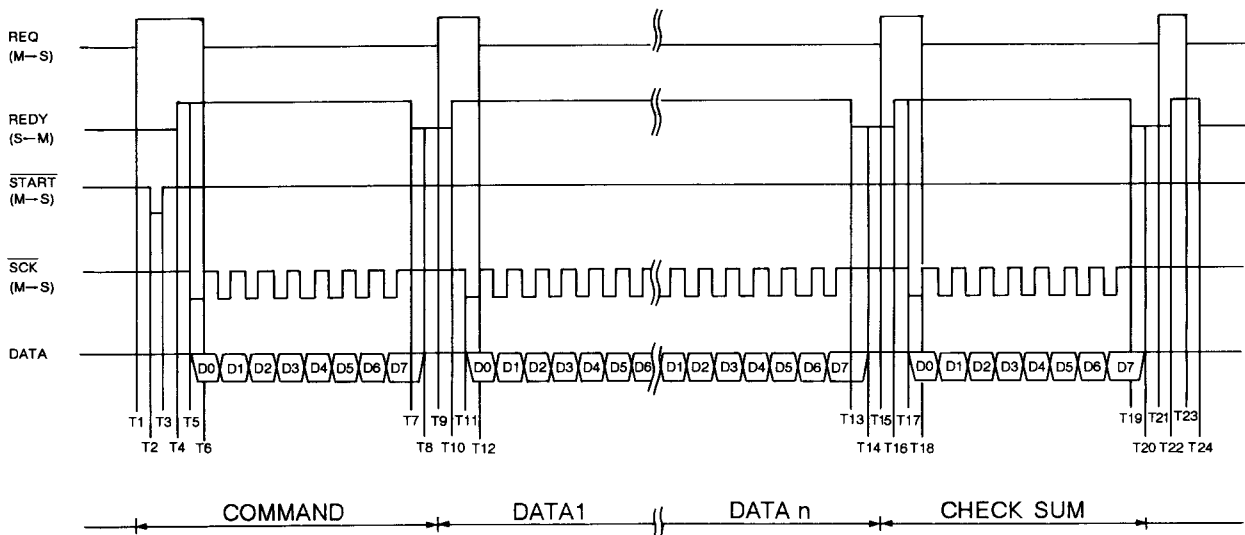
Command	Data 1	Data 2		Data n	Check sum
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Address 0 1 2 n n+1

· n = 0 ~ 11

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

(5) Time chart



KA-V8500

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	$\overline{\text{STB}}$	I	—	Strobe signal input pin
11	$\overline{\text{CLR}}$	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 control signal outputs (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

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

Test Mode

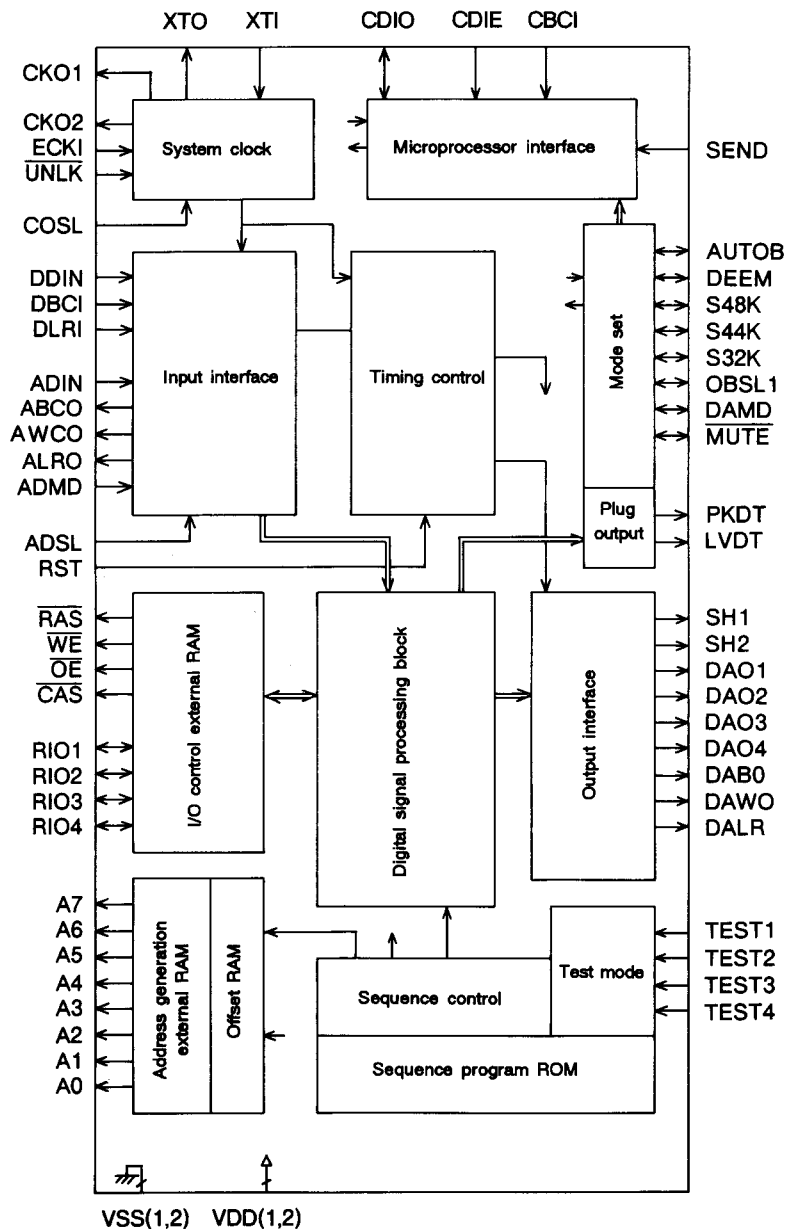
(1) Digital through test mode (TEST4)

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.

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

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

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	DBC1	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 (DAMD = 'L': 3-circuit output; DAMD = 'H': 3-circuit output)	T009
51	OBSL	IO	DAO1 – DAO4 output bit length setting (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 (DEEM = 'L': OFF; DEEM = 'H': ON)	T014
56	AUTO	IO	Auto balance on/off control input (AUTOB = 'L': OFF; AUTOB = 'H': ON)	T015
57	MUTE	IO	Output data mute control input (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 (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

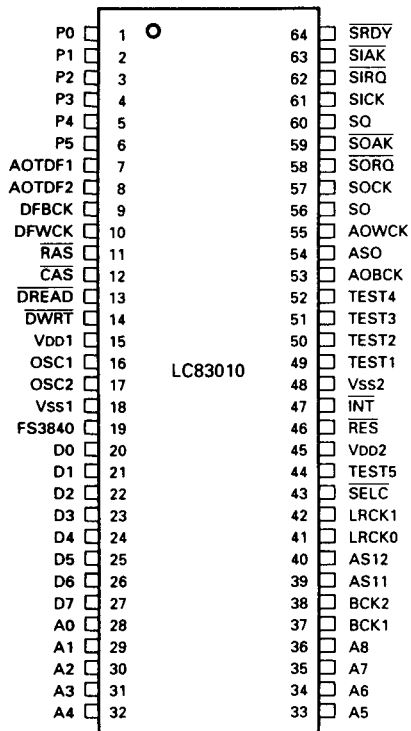
I/O = pin for both input and output (with pull-up condenser during input)

KA-V8500

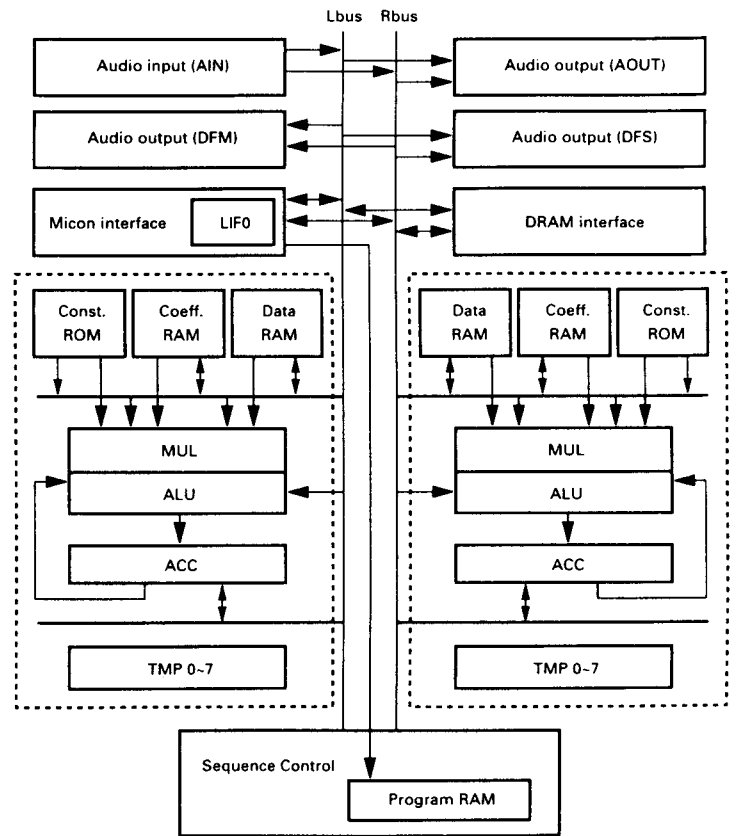
CIRCUIT DESCRIPTION

DSP IC [LC83010] (IC16 : X08)

Terminal Connection Diagram (Top View)



Block Diagram



CIRCUIT DESCRIPTION

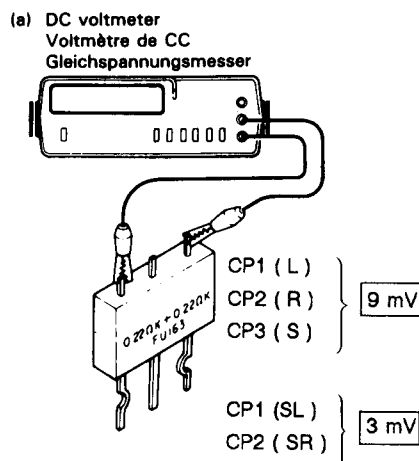
Terminal Description [LC83010]

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	$\overline{\text{RAS}}$	O	For row address strobe DRAM access control	
12	$\overline{\text{CAS}}$	O	For column address strobe DRAM access control	
13	$\overline{\text{DREAD}}$	O	DRAM read control signal	
14	$\overline{\text{DWRT}}$	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	$\overline{\text{SEL C}}$	I	Self oscillation and external clock input switching	
44	TEST 5	O	Test pin Used by open	
46	$\overline{\text{RES}}$	I	Reset pin	
47	$\overline{\text{INT}}$	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	AOWCK etc.		No used	
60	SI	I	Serial data input from μ -com	DSP \leftrightarrow μ -com interface
61	SICK	I	Serial clock input of SI input	
62	$\overline{\text{SI RQ}}$	I	SI request signal input	
63	SI AK	O	Output signal to indicate that the SI serial communication is executing	
64	$\overline{\text{SRDY}}$	I	Input signal to indicate that the mail box communication is finished	

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ADJUSTMENT

No.	ITEM	IMP UT 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: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	MAIN AMP Idle current (XO9-349)	—	Connect a DC voltmeter to CP 1 (L) CP 2 (R) CP 3 (C)	VOLUME: 0	VR1 (L) VR2 (R) VR3 (C)	9 mV	(a)
2	REAR AMP Idle current (XO8-249 E/6)	—	Connect a DC Voltmeter to CP 1 (SL) CP 2 (SR)	VOLUME: 0	VR 1 (SL) VR 2 (SR)	3 mV	(a)
3	Distortion adjustment (XO8-249 A/6)	L & R channels are 1 kHz 25 mV rms at the pin jack input (tuner input)	+ 40 dB or greater AMP and THD meter from IC17 1 pin	Plug into the outlet while pressing the CD REC key and enter the DSP CATHE-DRAL mode. Always wait 10 minutes after turning on the power and then turn on the power again before doing this.	VR4	Minimum distortion	
4	Distortion adjustment (XO8-249 A/6)	L & R channels are 1 kHz 25 mV rms at the pin jack input (tuner input)	+ 40 dB or greater AMP and THD meter from IC16 1 pin		VR5	Minimum distortion	
5	Distortion adjustment (XO8-249 A/6)	L & R channels are 1 kHz 25 mV rms at the pin jack input (tuner input)	+ 40 dB or greater AMP and THD meter from IC15 1 pin		VR6	Minimum distortion	
6	Distortion adjustment (XO8-249 A/6)	L & R channels are 1 kHz 25 mV rms at the pin jack input (tuner input)	+ 40 dB or greater AMP and THD meter from IC14 1 pin		VR7	Minimum distortion	
7	S/N (XO8-249 A/6)	Short with the pin jack input (tuner input)	Noise meter with the center speaker output	In pro logic normal mode, turn the master VR to MAX.	VR3	Minimum noise	



KA-V8500

REGLAGE

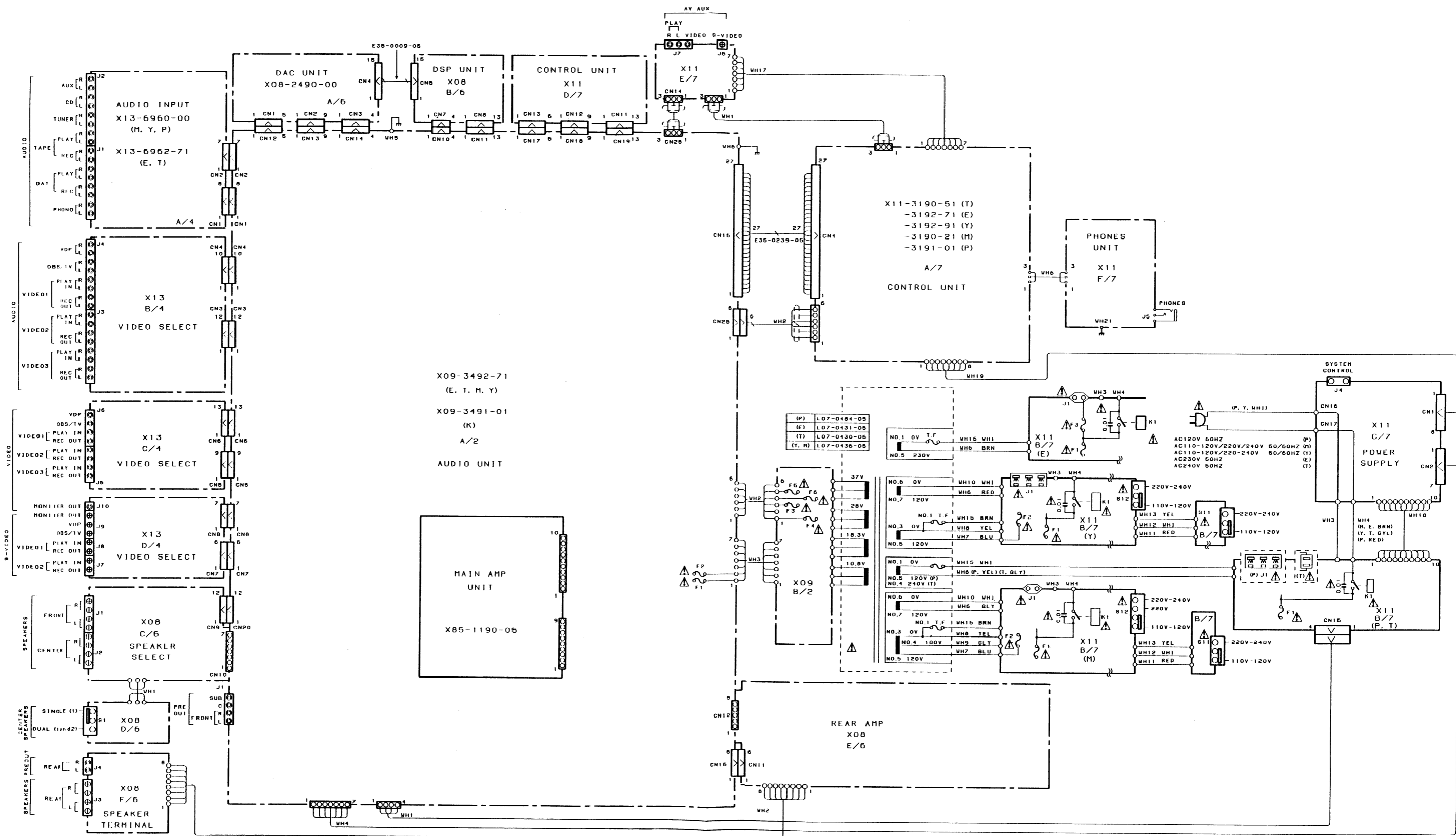
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINTS DE L'ALIGNMENT	ALIGNER POUR	FIG.
A moins d'avoir des raisons spéciales pour le contraire, nous vous prions d'utiliser les réglages suivants pour chaque commande: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
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) VR2 (R) 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) 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. 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		VR3	Bruit minimum	

KA-V8500

ABGLEICH

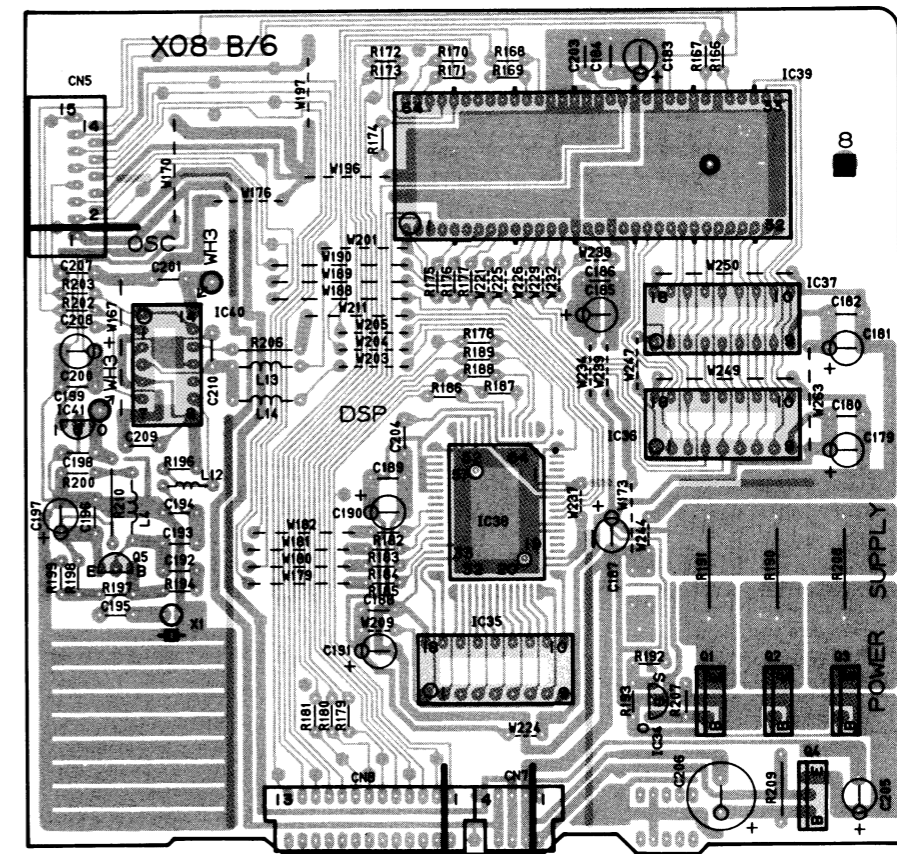
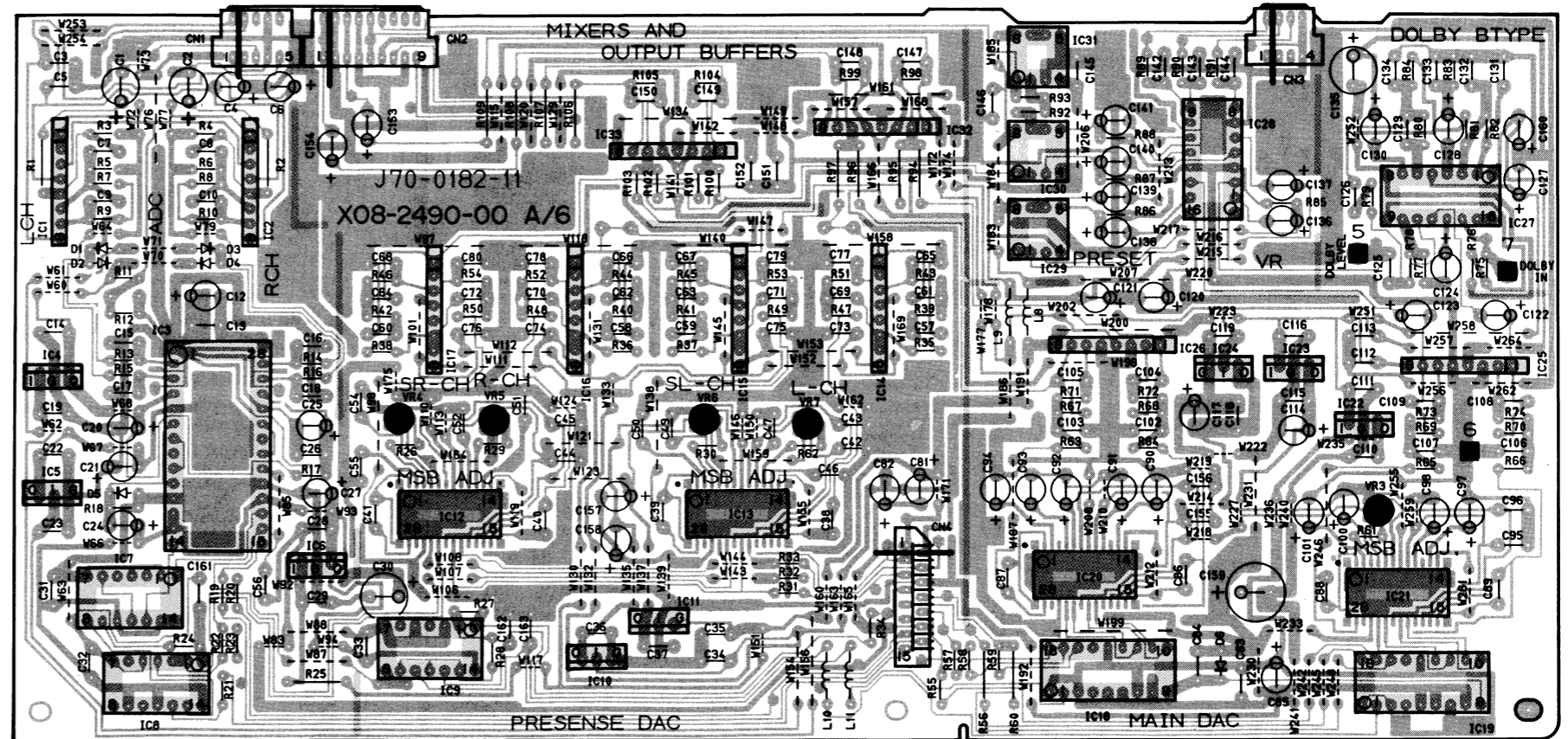
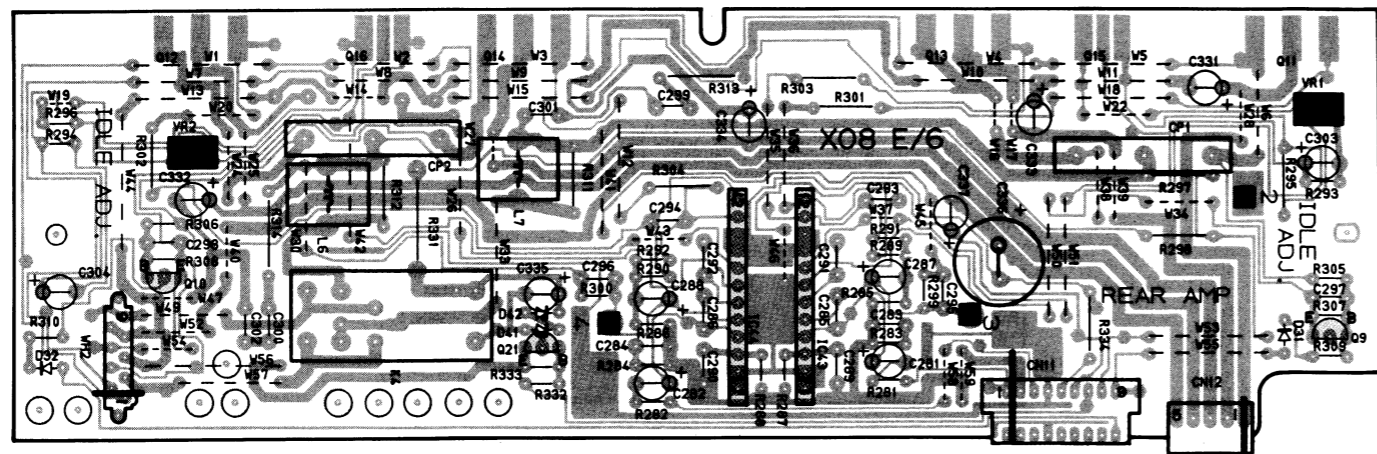
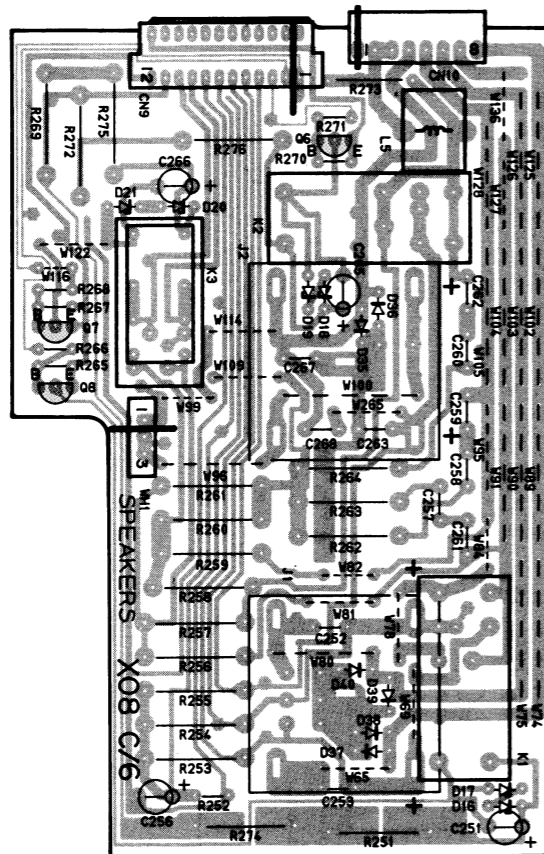
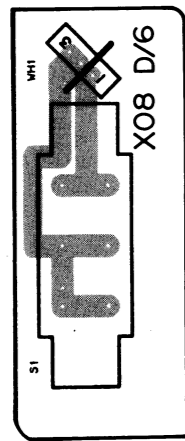
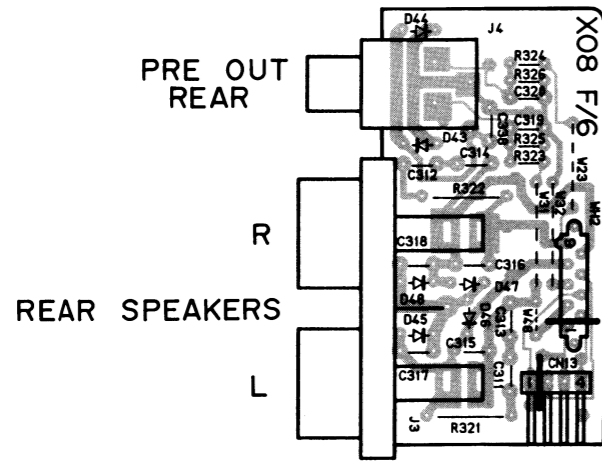
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSANGS-EINSTELLUNG	VORSTÄRKER-EINSTELLUNG	ABGLEICHE-PUNKTE	ABGLEICHEN FÜR	ABB.
Stellen Sie die Schalter bitte wie folgt ein, sofern kein besonderer Grund für eine andere Einstellung besteht: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	Haupt-Verstärker-Leerlaufstrom (XO9-349)	—	Einen Gleichspannungsmesser an CP 1 (L) CP 2 (R) CP 3 (C) anschließen.	VOLUME: 0	VR1 (L) VR2 (R) 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) VR 2 (R) VR 3 (C)	3 mV	(a)
3	Verzerrungseinstellung (XO8-249 A/6)	Linker und rechter Kanal sind bei Stiftbuchseingang (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 Nach dem Einschalten stets 10 Minuten warten und dann den Strom erneut einschalten, bevor dieser Schritt durchgeführt wird.	VR4	Minimale Verzerrungen	
4	Verzerrungseinstellung (XO8-249 A/6)	Linker und rechter Kanal sind bei Stiftbuchseingang (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 Stiftbuchseingang (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 Stiftbuchseingang (Tuner-Eingang) 1 kHz, 25 mV effektiv	+ 40 dB oder höher, AMP- und THD-Meter von IC14 1-Pin		VR7	Minimale Verzerrungen	
7	S/N (XO8-249 A/6)	Mit Stiftbuchseingang (Tuner-Eingang) kurzschließen	Fremdspannungsmesser mit Mittellautsprecher Ausgang		VR3	Minimales Rauschen	

KA-V8500 KA-V8500 WIRING DIAGRAM



PC BOARD

SURROUND UNIT(X08-2490-00)



PC BOARD

AUDIO UNIT(X09-349X-XX)

2

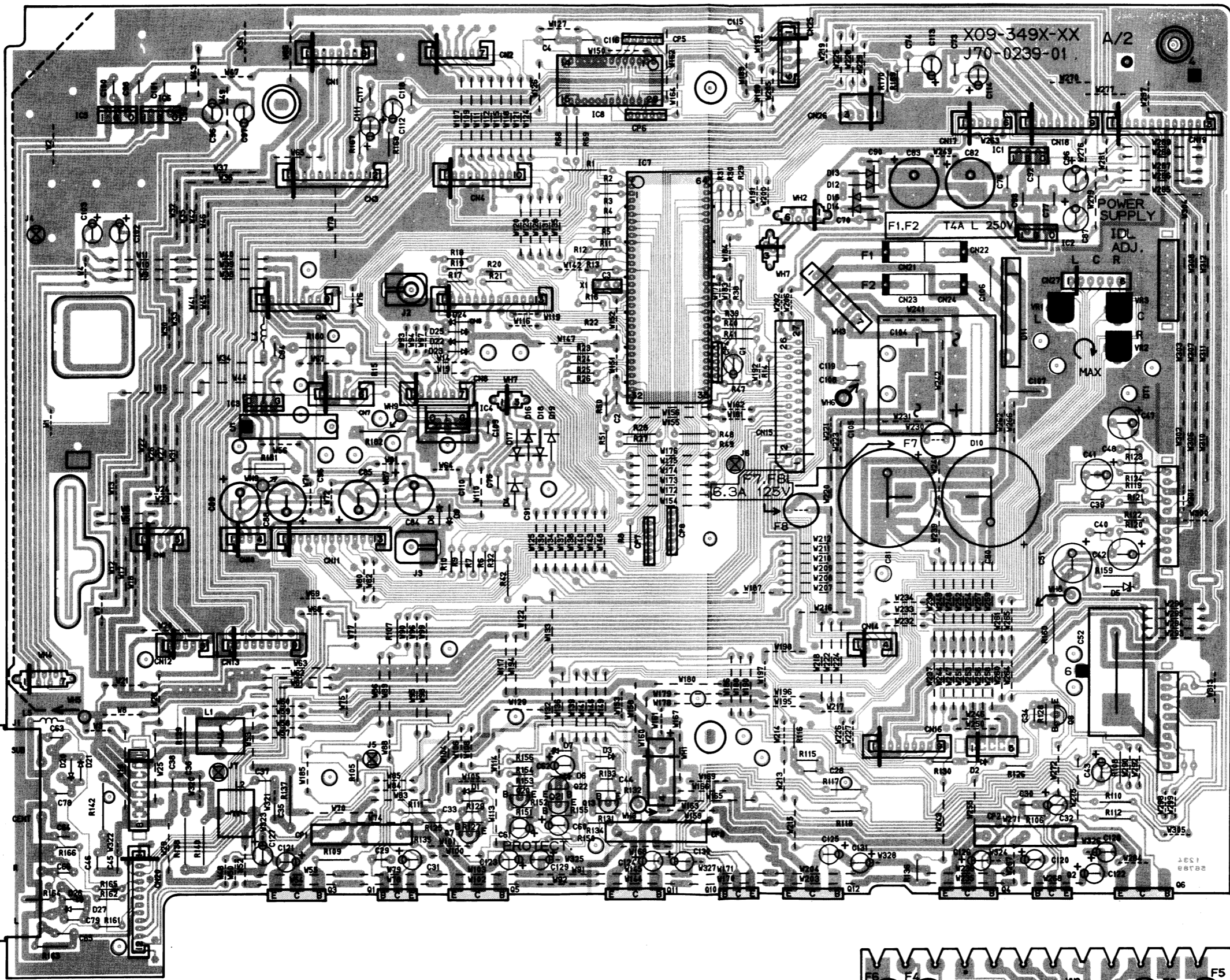
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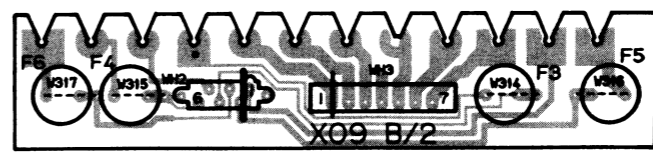
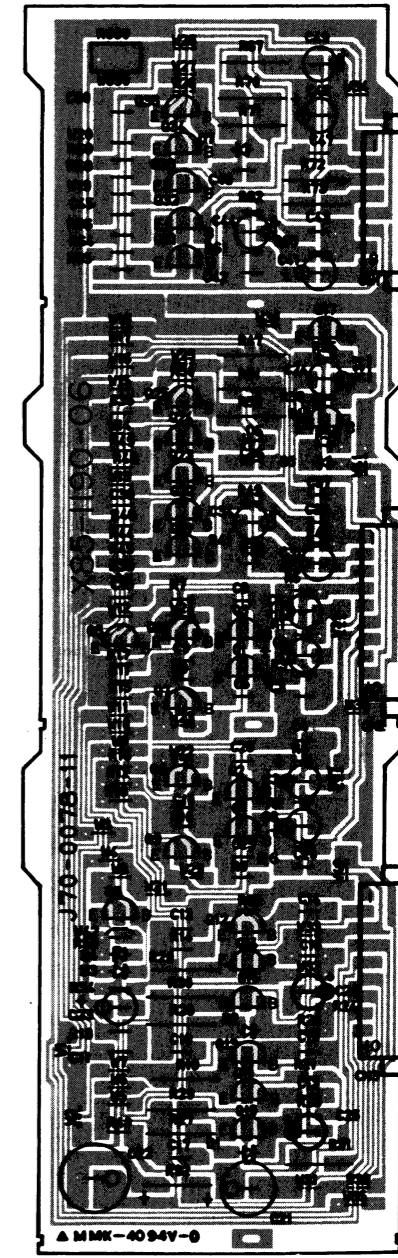
5

6

SUB
CENTER
R
FRONT
L

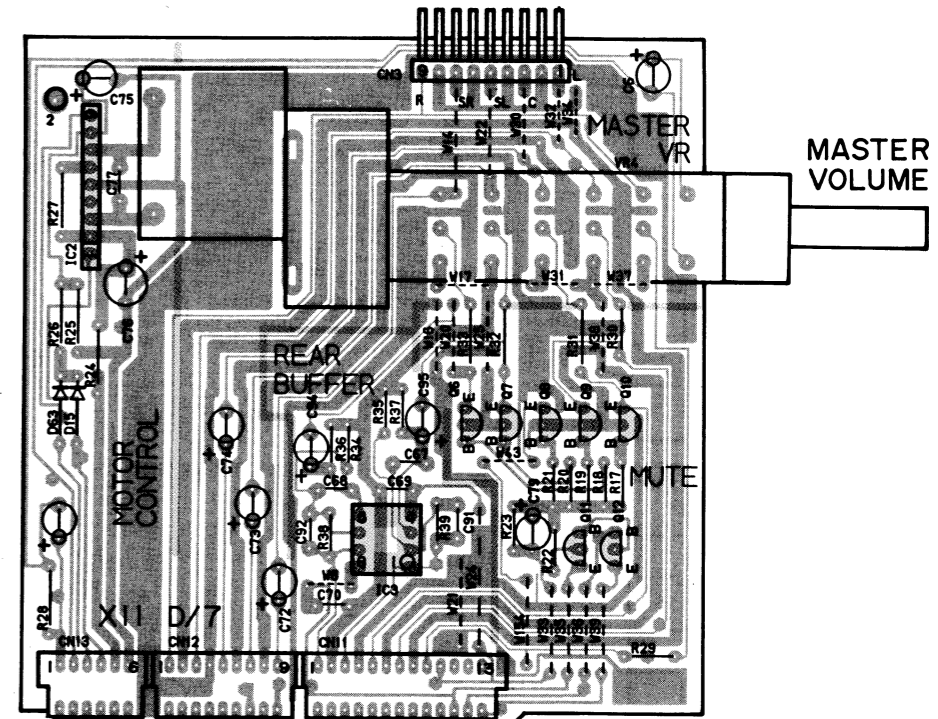
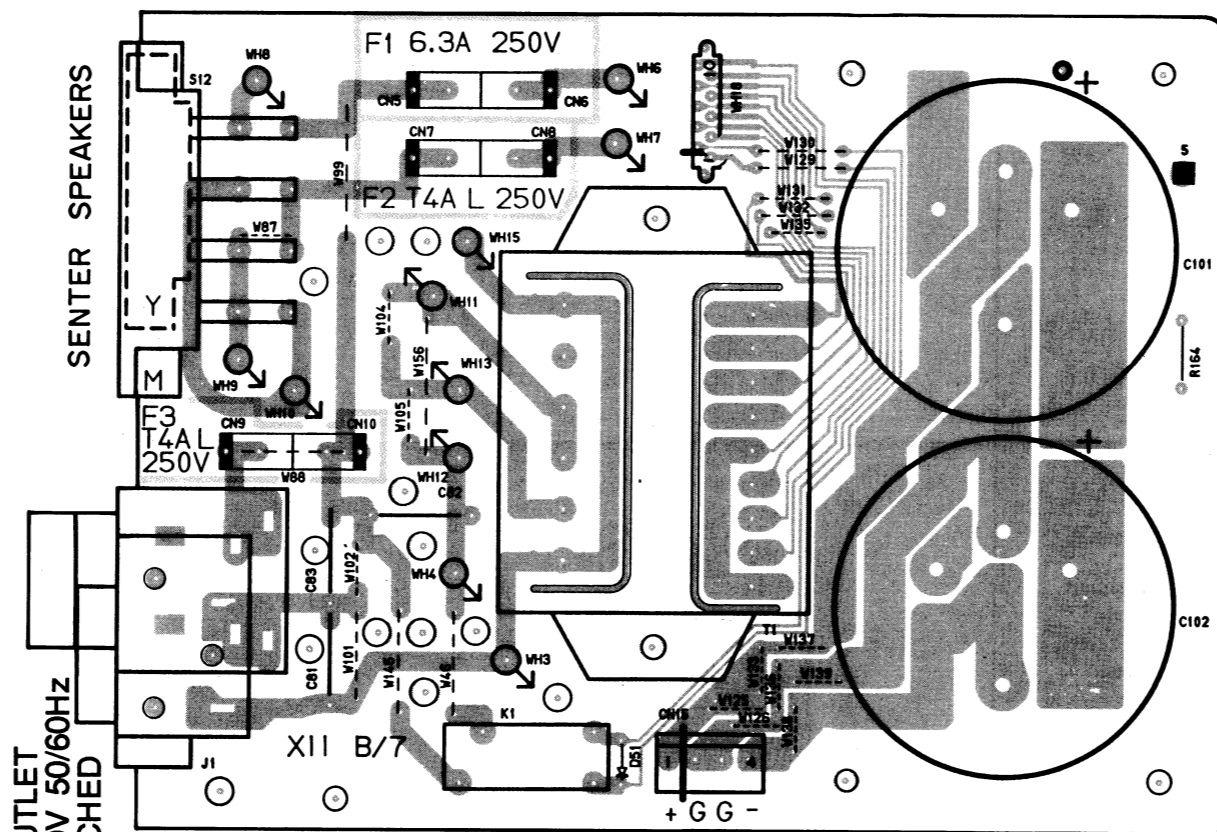
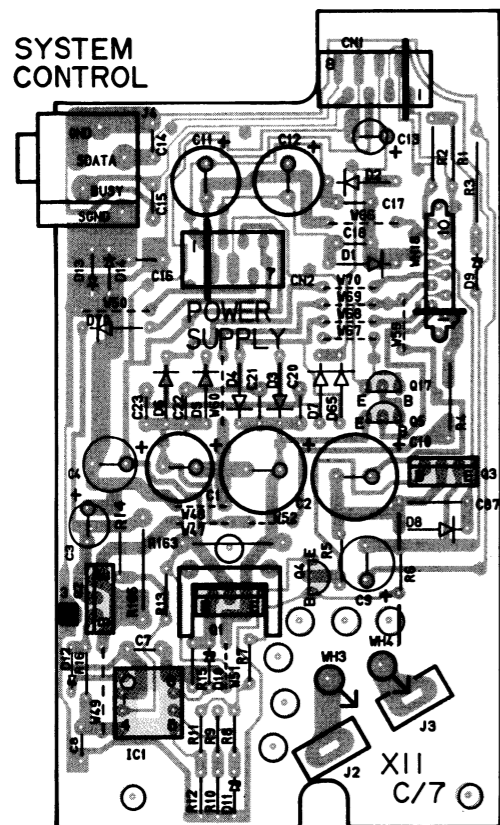


MAIN AMPLIFIER UNIT
(X85-1190-06)



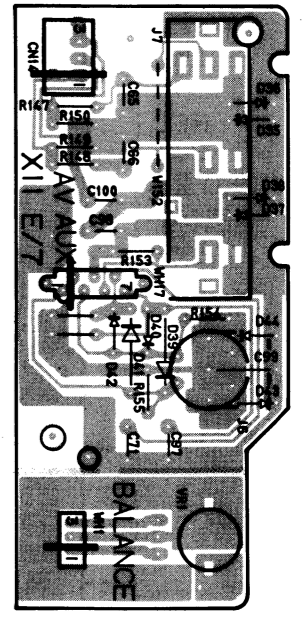
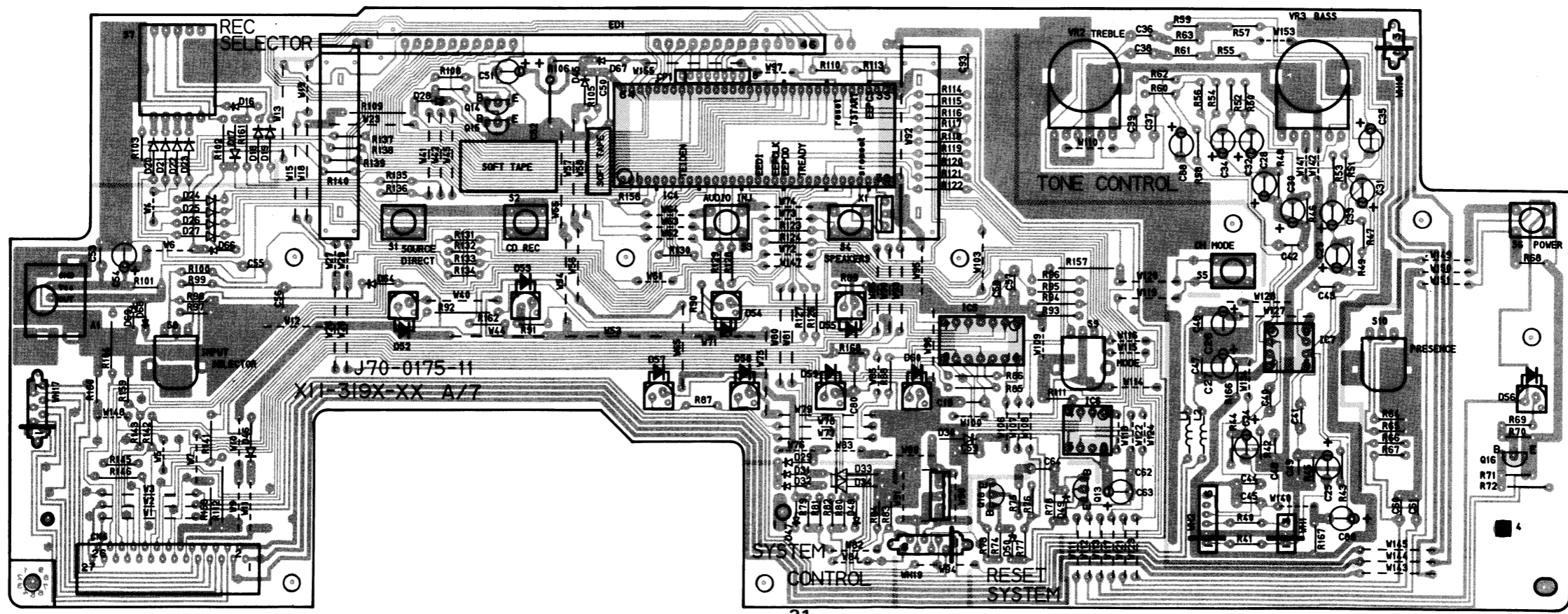
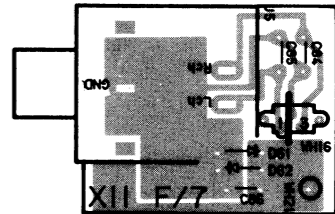
PC BOARD

CONTROL UNIT (X11-319X-XX)



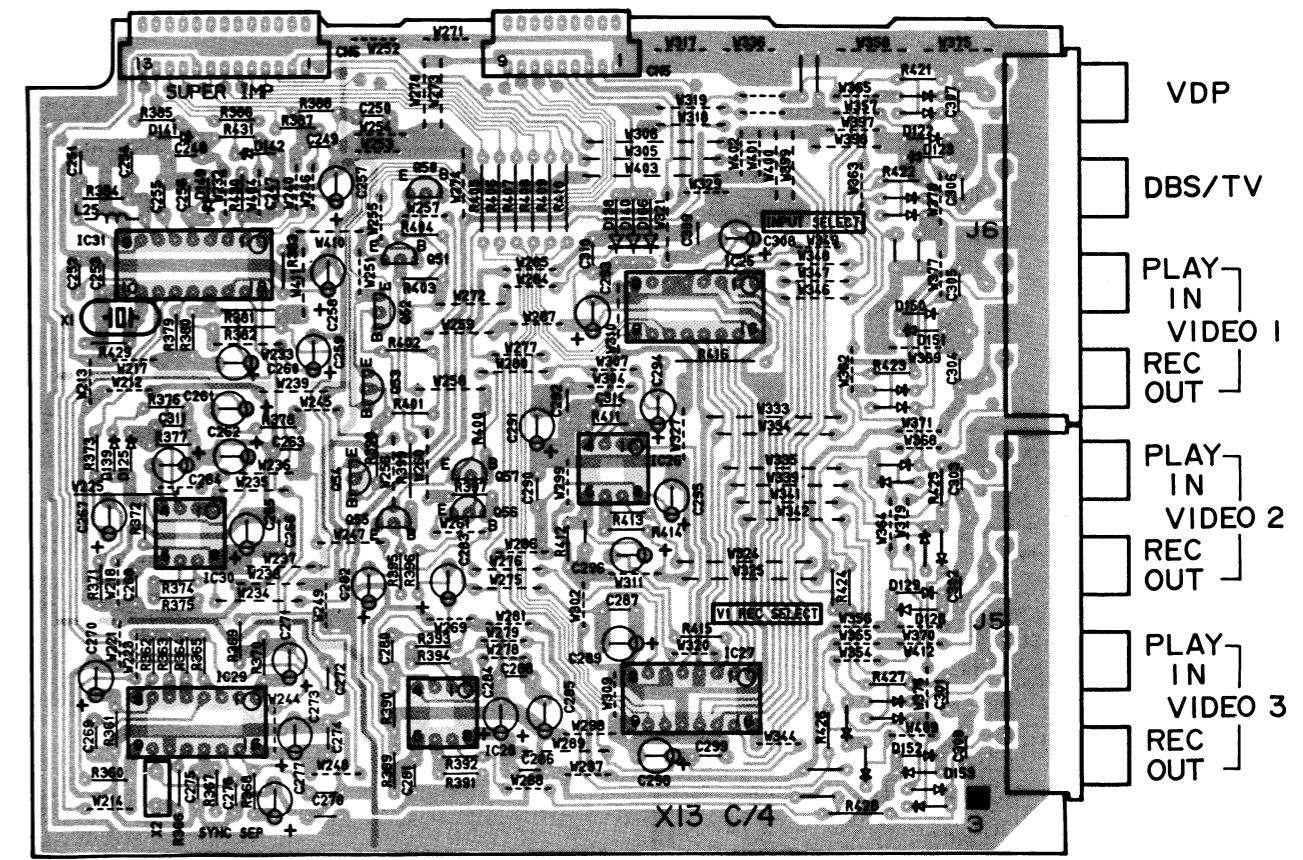
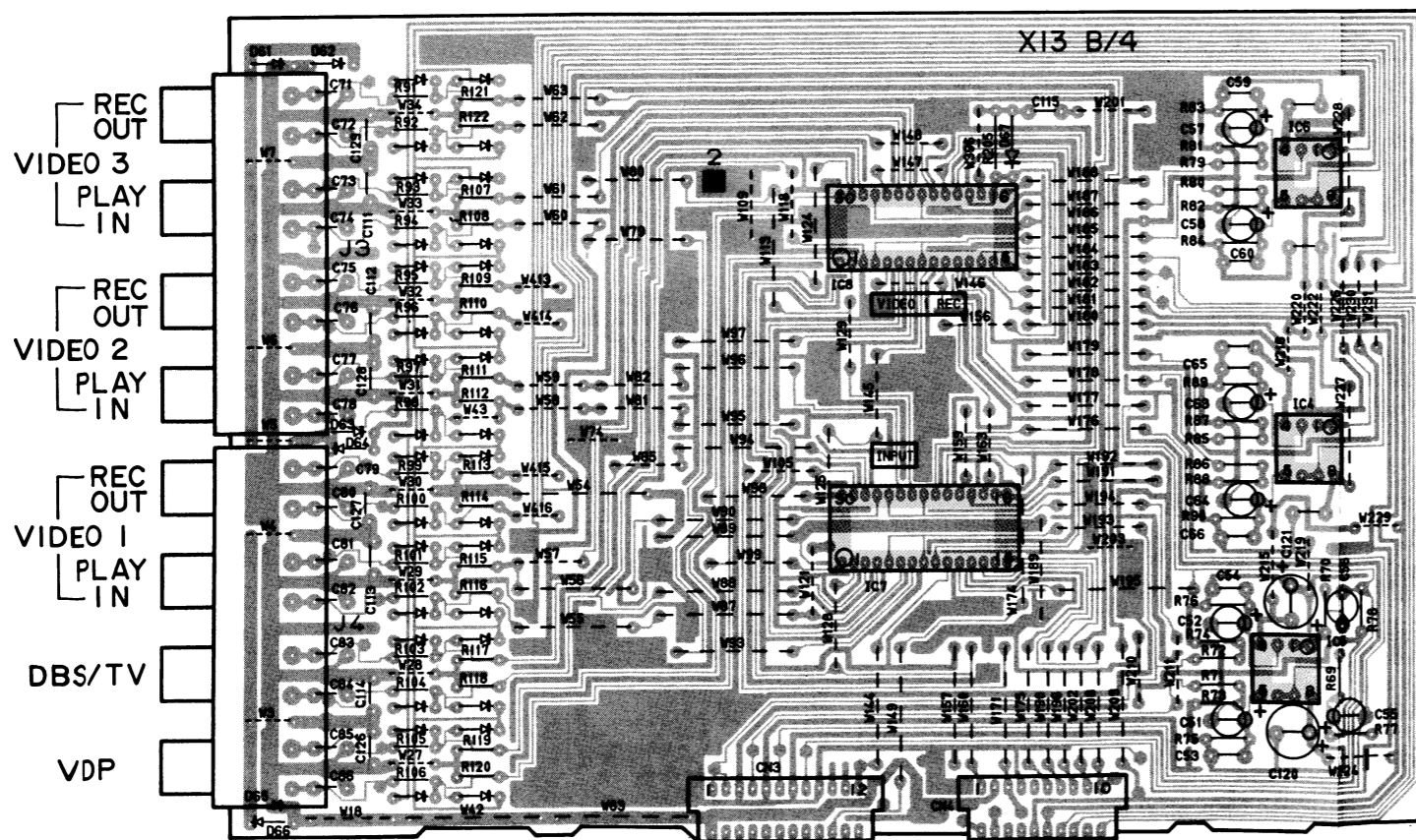
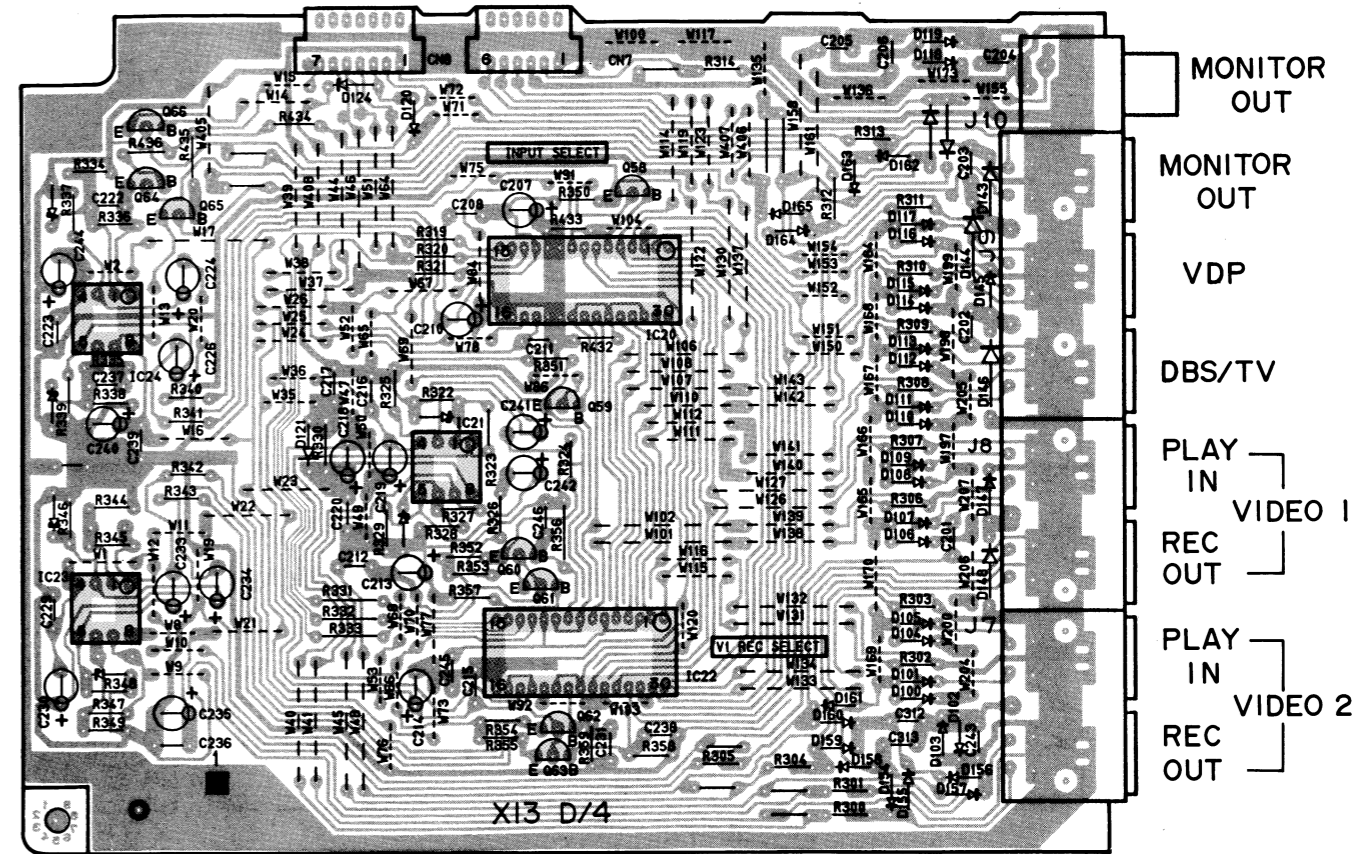
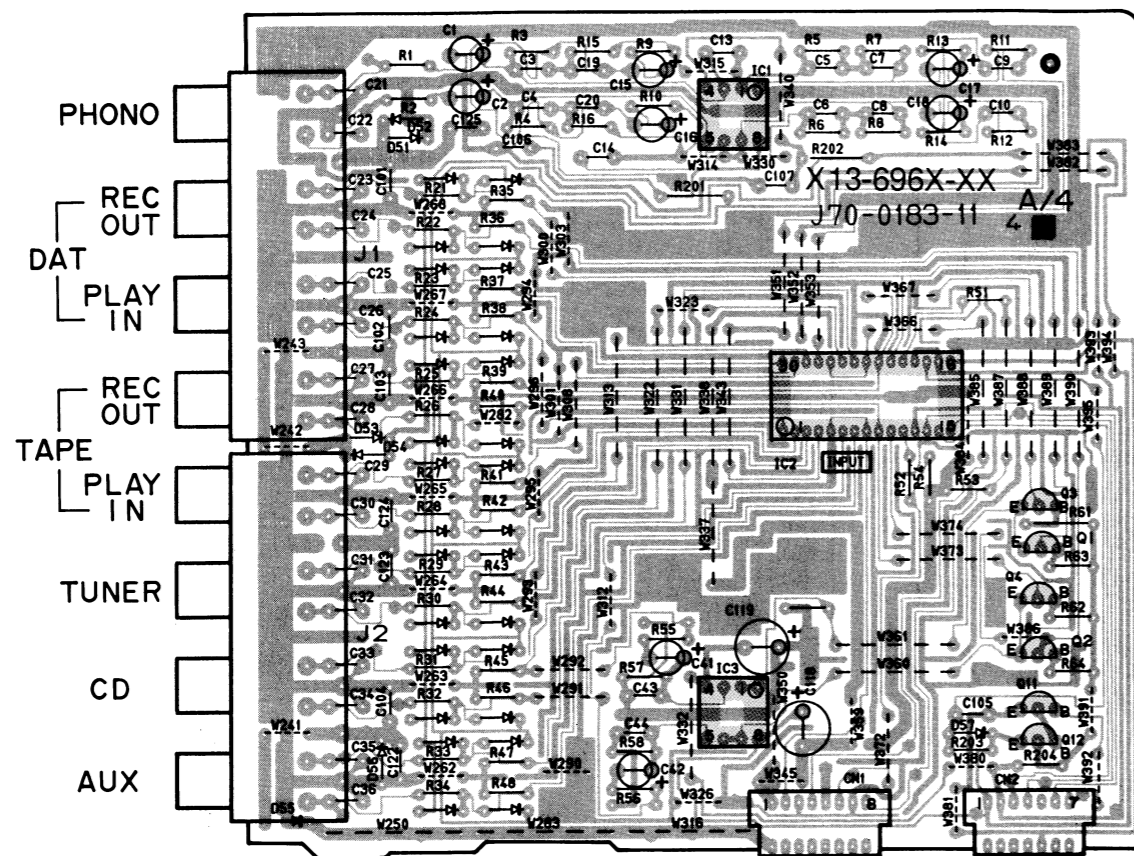
AC OUTLET
AC 100V 50/60HZ
SWITCHED

PHONES



PC BOARD

ACCESSORY UNIT(X13-696X-XX)



2

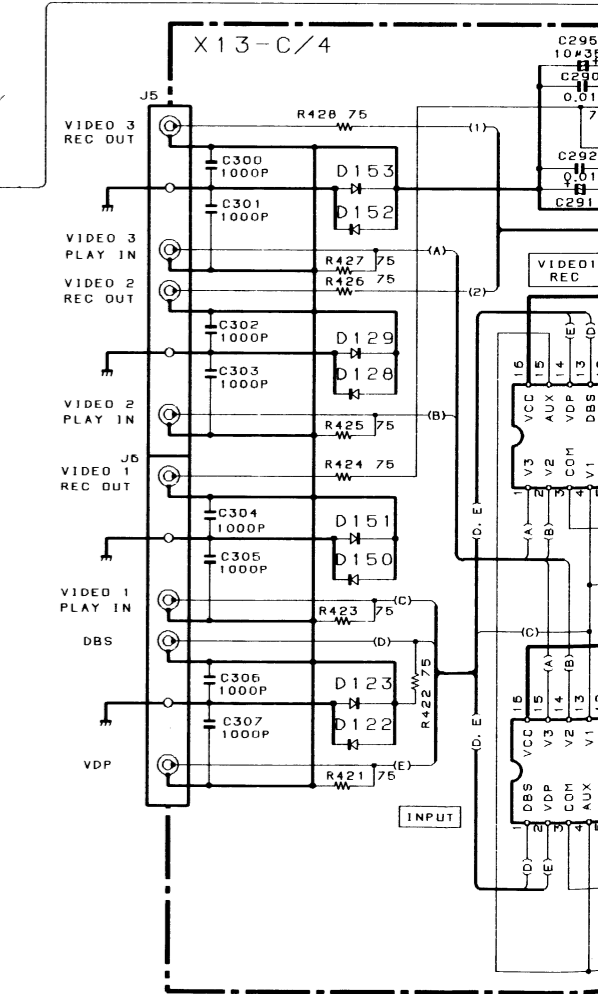
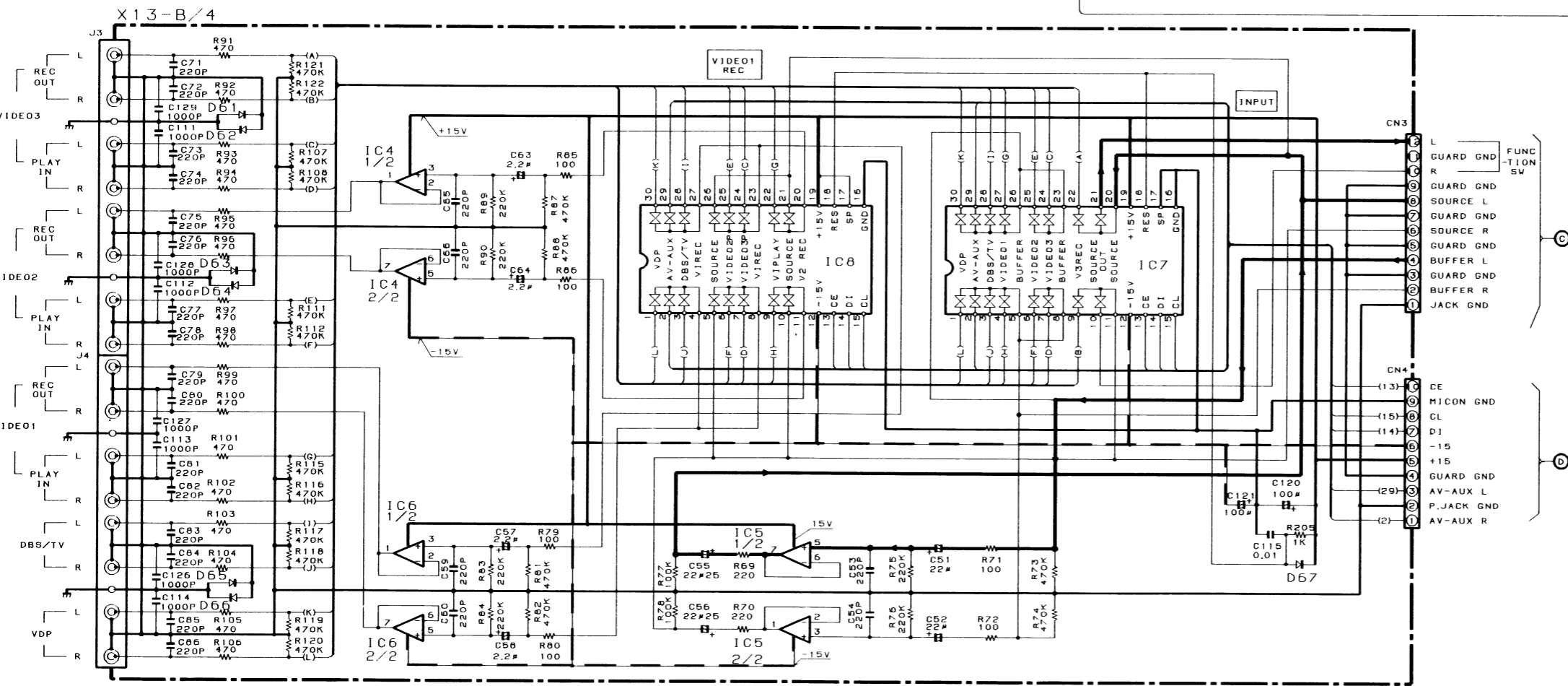
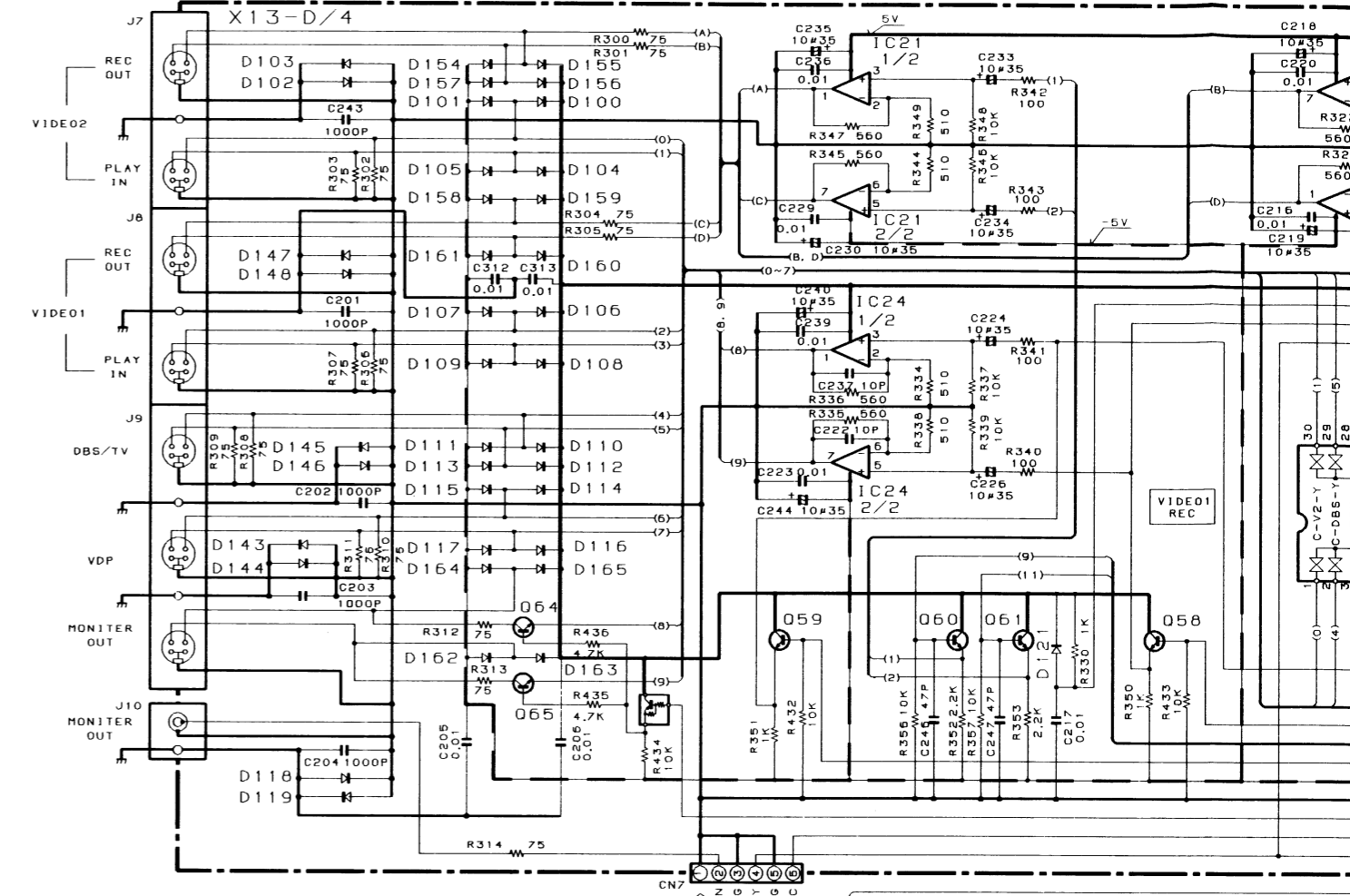
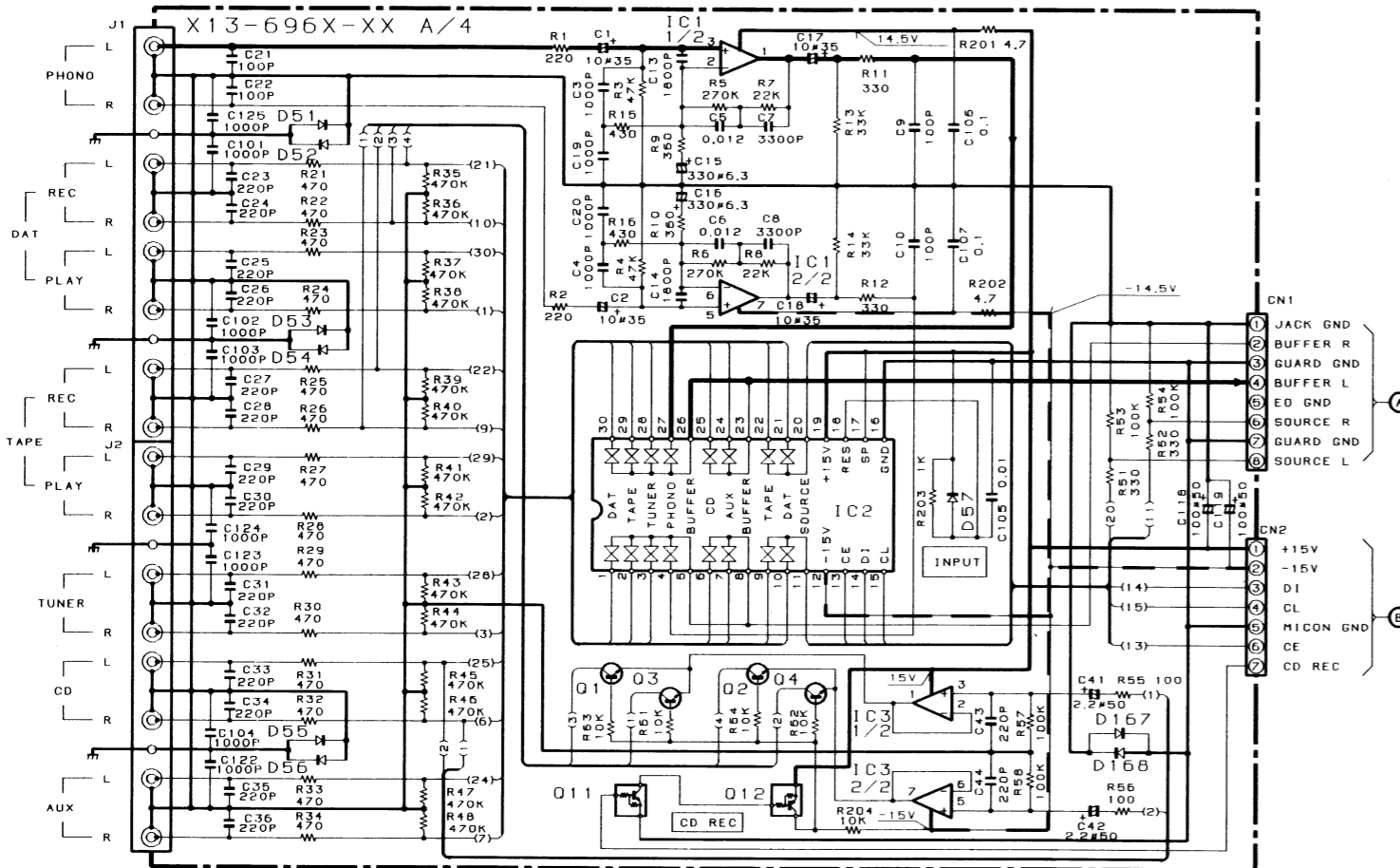
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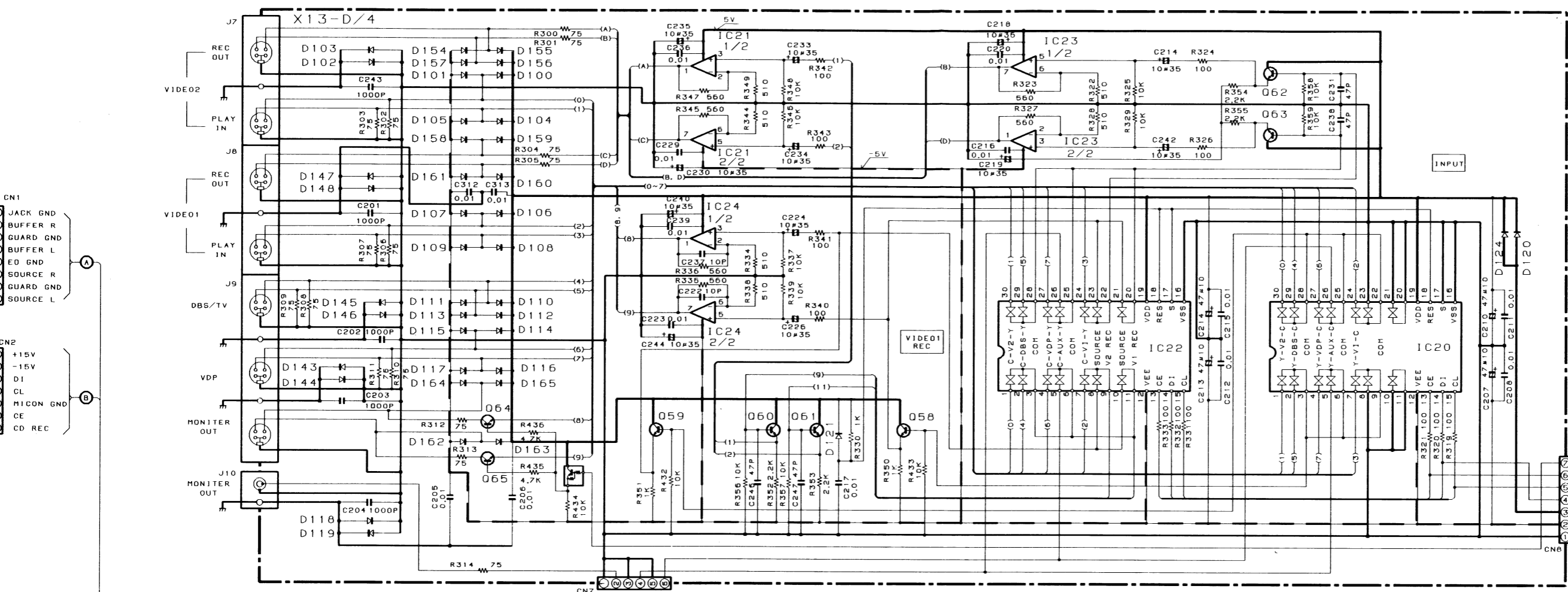
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6

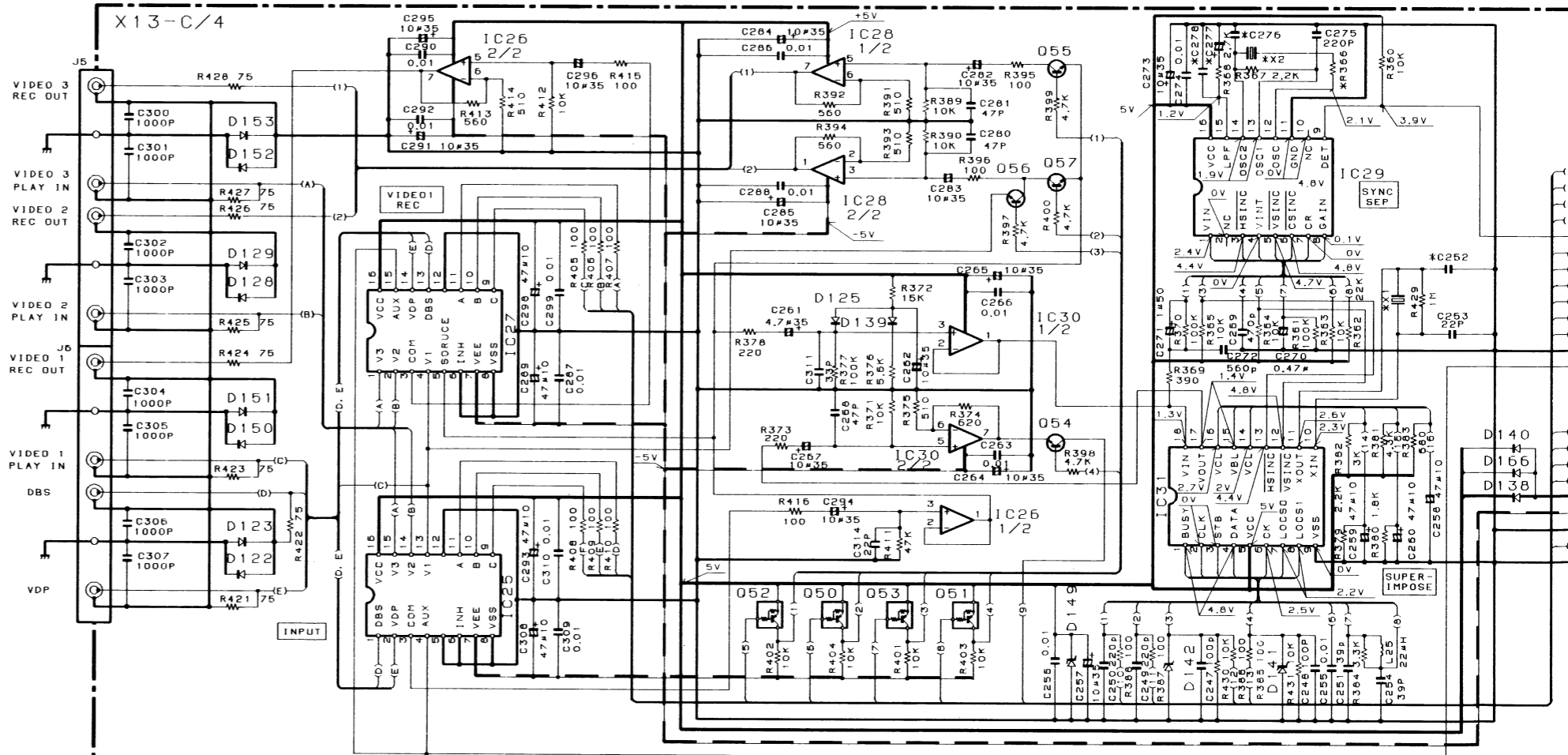
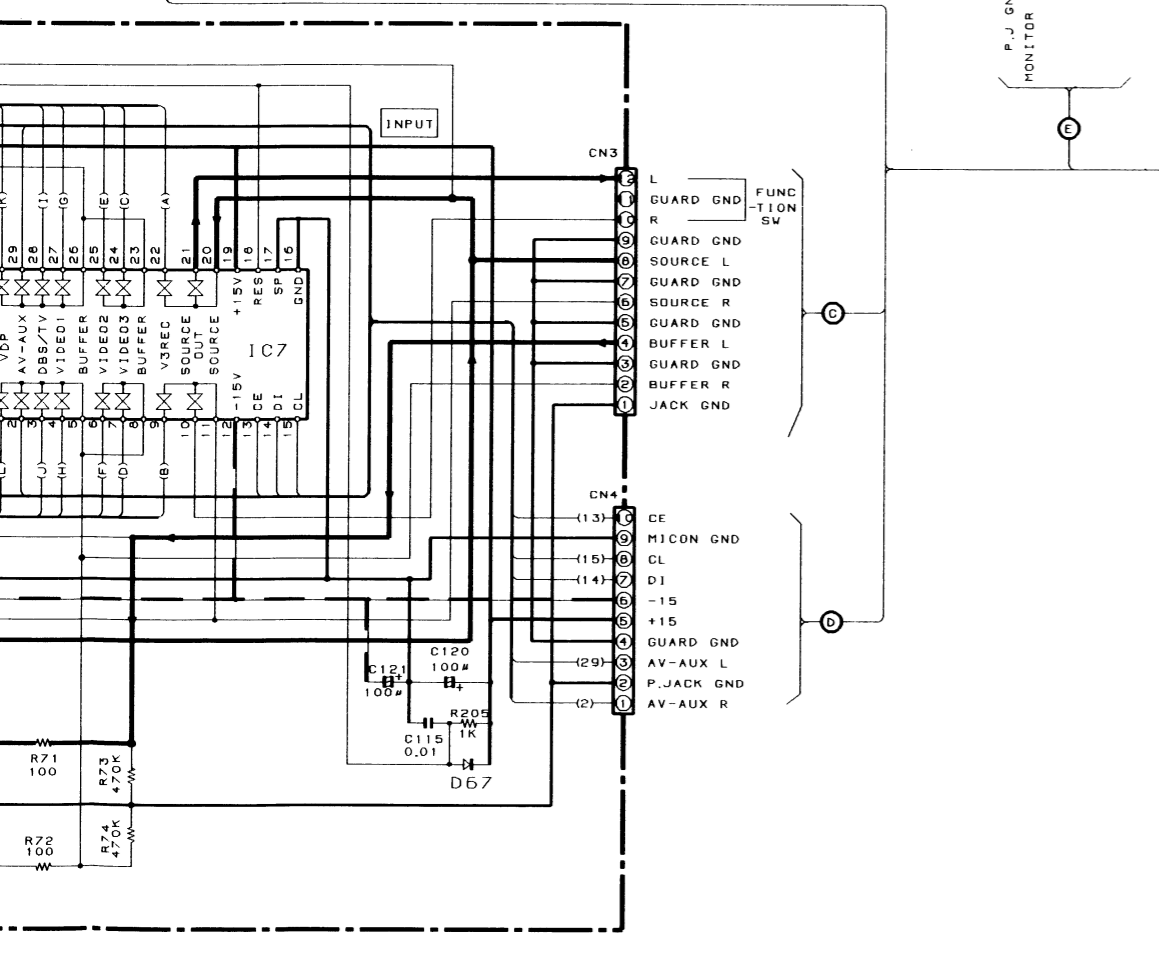
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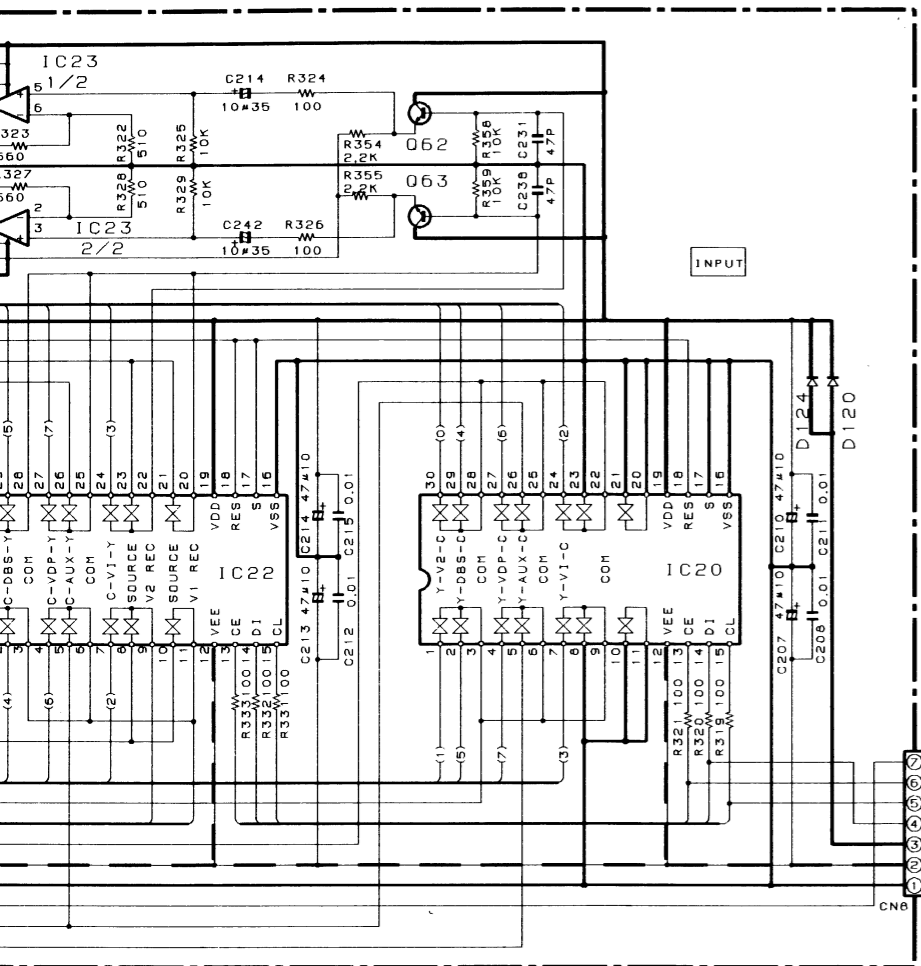




- D51-57, 61-67 : 1S5133 or HSS104
- 100-125, 128, 129 : 138-140, 143-148
- 150-168 : 150-168
- D141, 142, 149 : RD5.1ES (B) or HZS5.1N (E)
- 01-4, 54-57, 64, 65 : 25C2876 (B)
- 011 : DTC124ES or UN4212
- 012, 50-53, 66 : DTA124ES or UN4112
- 058-63 : 25C3311A (G, R) or 25C2876 (B)
- IC1 : UPC4570C-A
- IC2, 7 : LC7821N
- IC3-6 : NJM4565D-D or NJM4560D
- IC8 : LC7822N
- IC20, 22 : LC7823N
- IC21, 23, 24, 26 : HC14877AP
- 28, 30 : 28, 30
- IC25, 27 : TC40518P
- IC29 : MM1057XD
- IC31 : UPD6450X-514

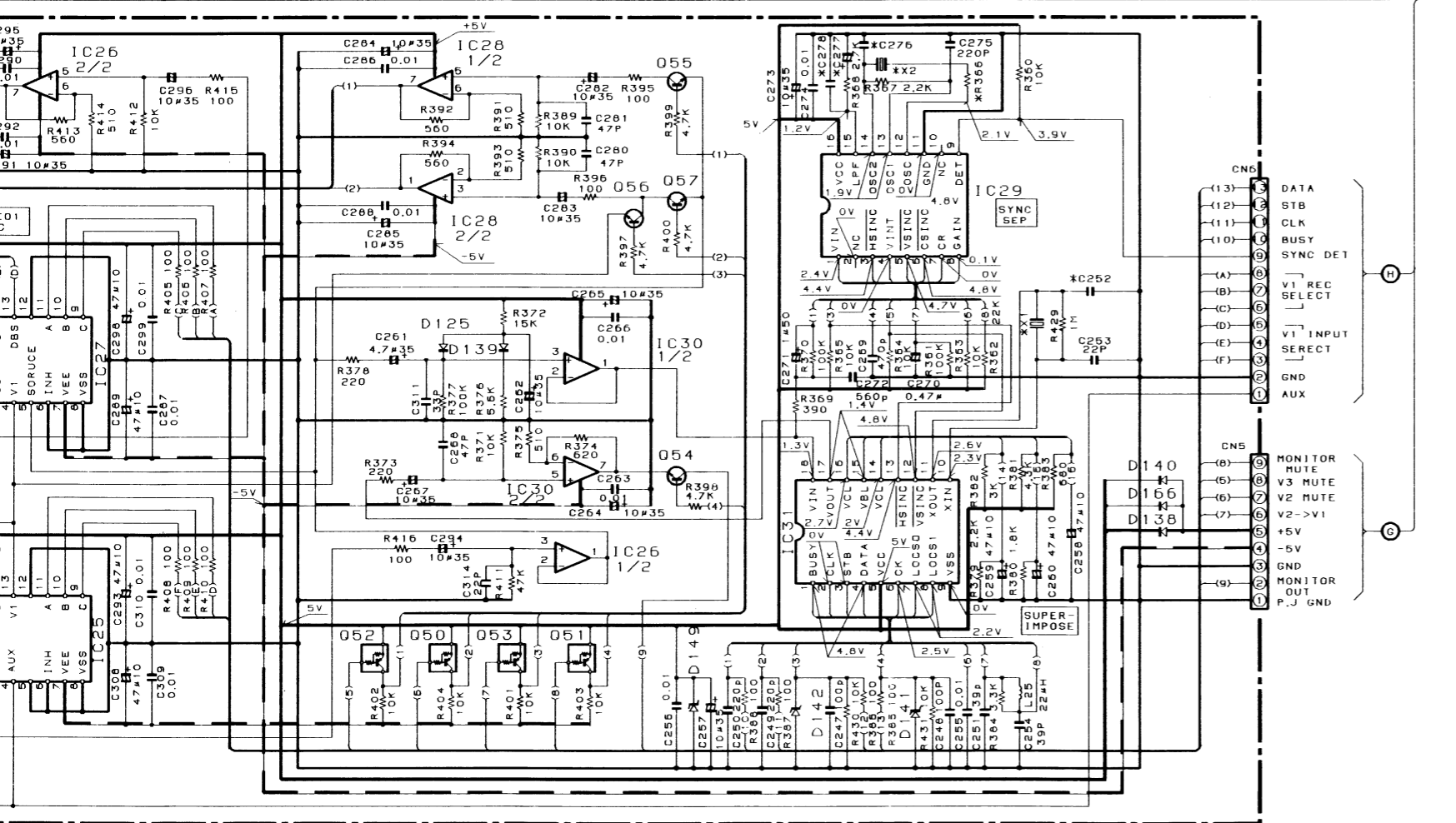
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AAAFES, PX	(F)							(14)
CANADA	(F)							(14)
ENGLAND	(I)	2-71	15P	4700P	1	0.047	220	L77
EUROPE	(E)							(17)





- D51-57, 61-67 : 1SS133 or HSS104
- 100-125, 126, 129 : 130-140, 143-148
- 150-168 : RD5.1ES (B) or HZS5.1N (B)
- D141, 142, 149 : RD5.1ES (B) or HZS5.1N (B)
- 01-4, 54-57, 64, 65 : 2SC2078 (B)
- 011 : DTC124ES or UN4212
- 012, 50-53, 66 : DTA124ES or UN4112
- 058-63 : 2SC3311A (G, R) or 2SC2458 (Y, GR)
- IC1 : UPC4570C-A
- IC2, 7 : LC7821N
- IC3-6 : NJM4565D-D or NJM4560D-A
- IC8 : LC7822N
- IC20, 22 : LC7823N
- IC21, 23, 24, 26 : MC14577AP
- IC25, 27 : TC4051BP
- IC29 : MM1067XD
- IC31 : UPD6450X-514

COUNTRY	ABB.	Ref. NO	C252	C276	C277	C278	R366	X1	X2
OTHER AREAS (H)			18P	3300P	2.2	0.022	390	L77-1182-05 (14.318180MHZ)	L78-0272-05 (504KHZ)
CANADA (F)		0-00							
ENGLAND (T)		2-71	15P	4700P	1	0.047	220	L77-2107-05 (17.734475MHZ)	L78-0300-05 (500KHZ)
EUROPE (E)									



- TO X09 CN1 (A) A/2
- TO X09 CN2 (B) A/2
- TO X09 CN3 (C) A/2
- TO X09 CN4 (D) A/2
- TO X09 CN7 (E) A/2
- TO X09 CN6 (F) A/2
- TO X09 CN5 (G) A/2
- TO X09 CN6 (H) A/2

2SA1123

2SA954

2SC2003

2SA992

2SC2631

2SC1845

2SC2878

2SC4137

2SB1470*5

2SD2222*5

2SD2061

UN4212

2SA1309A

UN4219

2SA1693LC

2SC4466LC

NJM4558D

NJM4560D-A

UPC1093J

NJM4565D-D

TC74HCU04AP

TC74HC74AP

LA2730

MM1067XD

TC4051BP

TC9213P

TA8409S

M6M80041P

UPC4570C-A

MC14577A

NJU3711D

UPC78L05J

TA78L005AP

2SK152

SM5840EP

LC7821N

LC7822N

SM5851AF

TC9162N

PCM1700U

UPD75216ACW-C60

UPD75216ACW-C89

LC83010N

TA7805S

TA7815S

UPC7908HF

UPC7915HF

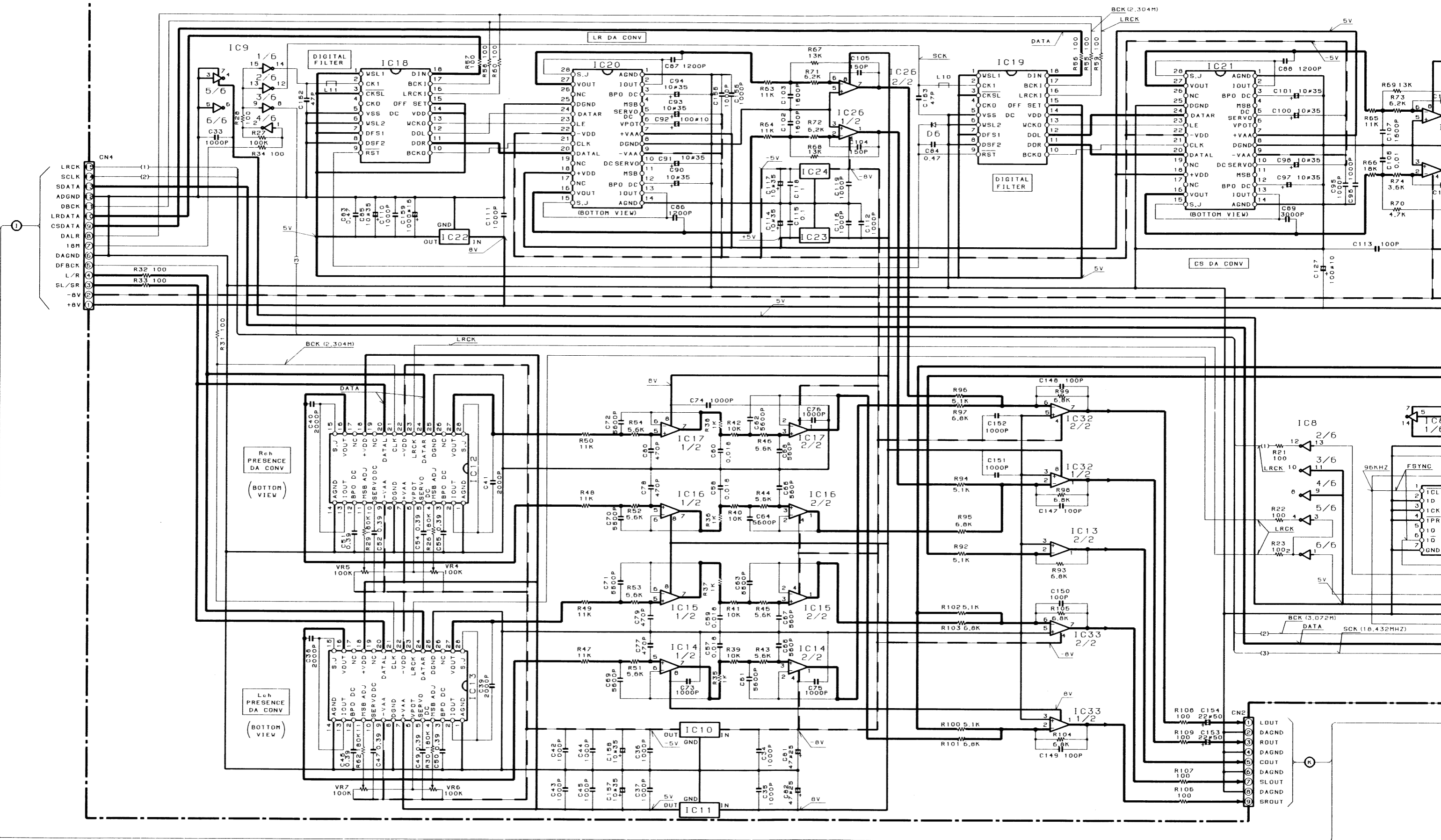
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

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X08-2490-00 A/6

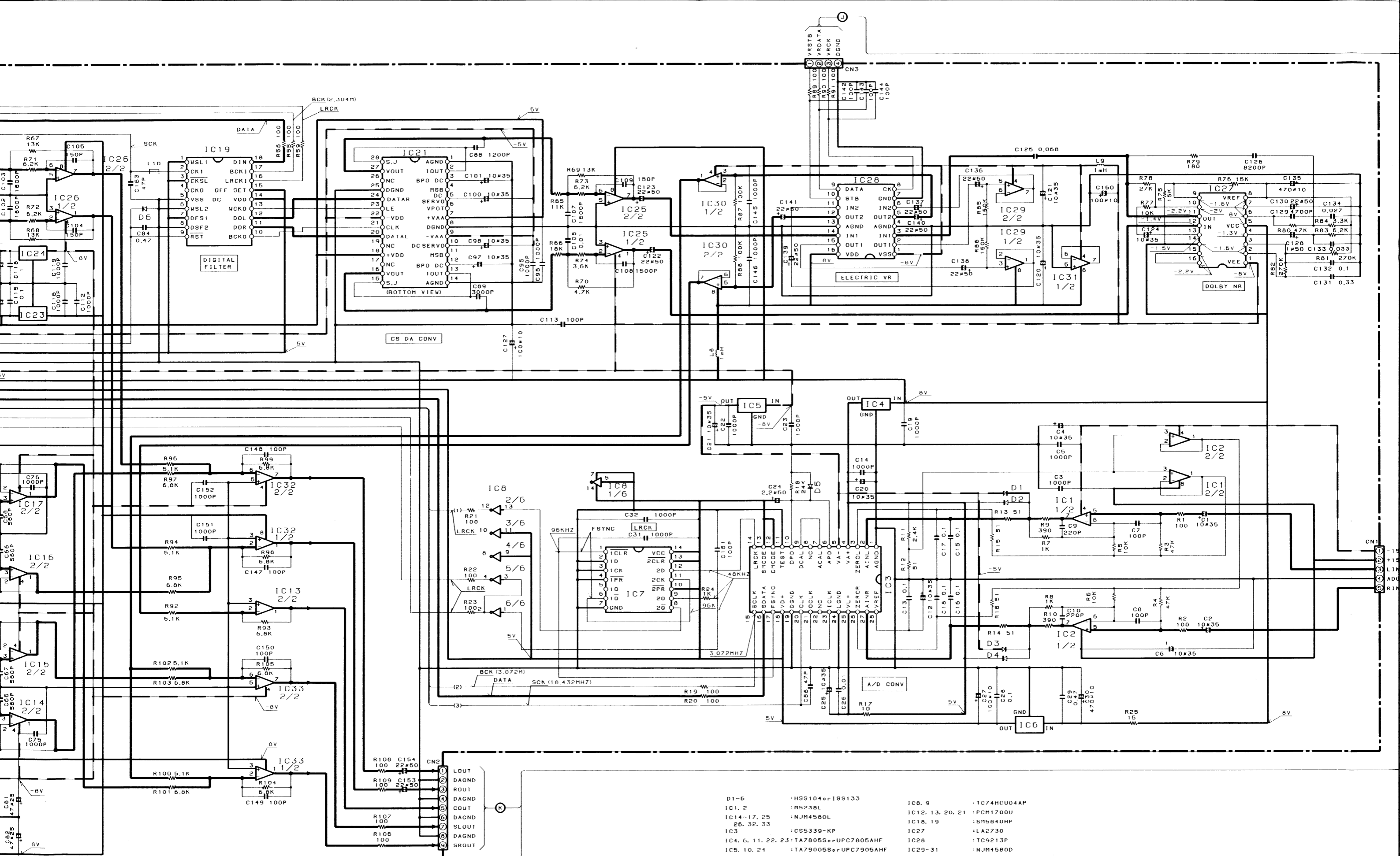


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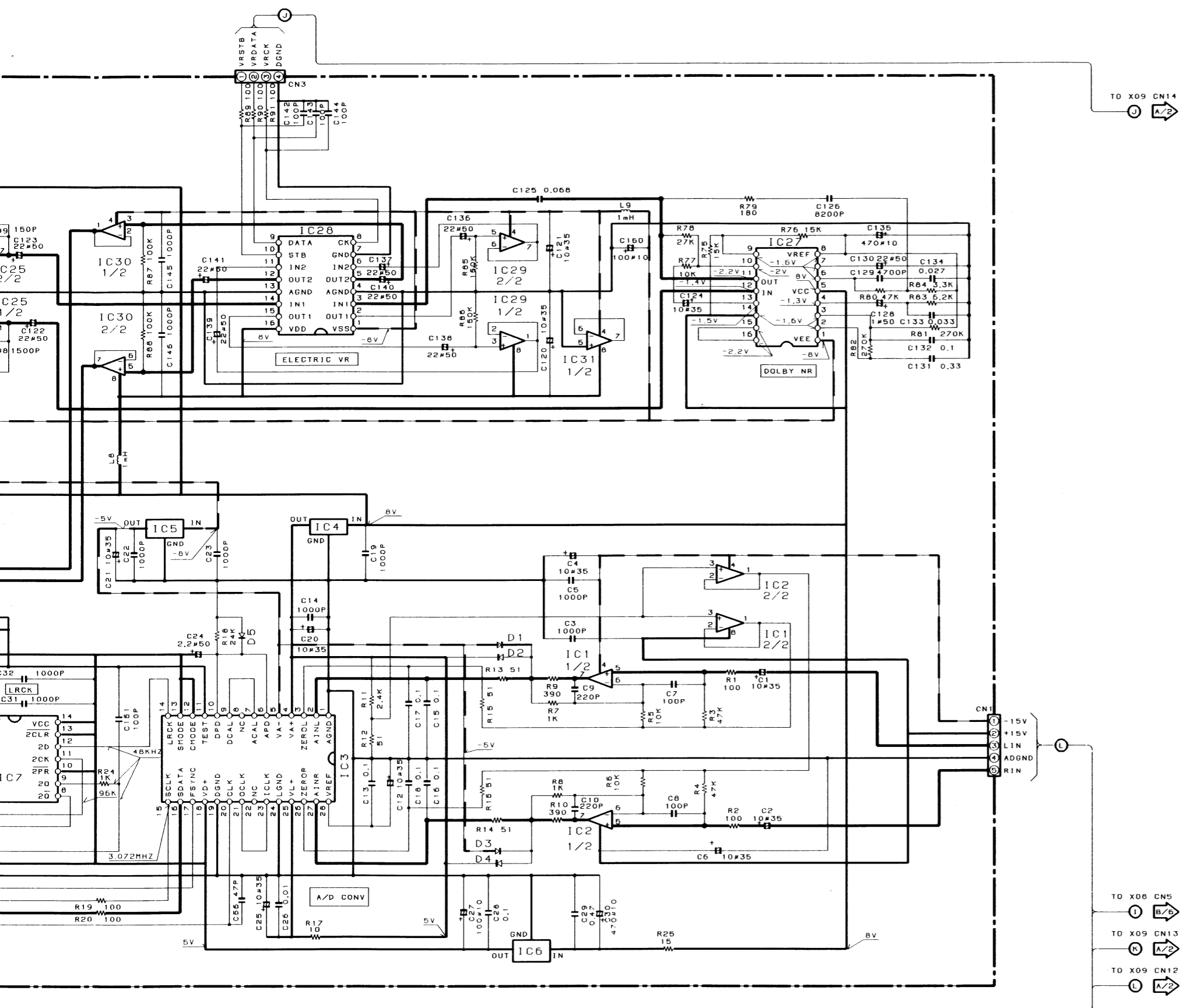
7



D1-6	:H55104 or 18S133	IC8. 9	:TC74HC04AP
IC1. 2	:M5238L	IC12. 13. 20. 21	:PCM1700U
IC14-17. 25	:NJM4580L	IC18. 19	:SM5840HP
26. 32. 33		IC27	:LA2730
IC3	:CS5339-KP	IC28	:TC9213P
IC4. 6. 11. 22. 23	:TA7805S or UPC7805AHF	IC29-31	:NJM4580D
IC5. 10. 24	:TA79005S or UPC7905AHF		
IC7	:TC74HC74P		

- R108 C154 100 22#50
- R109 C153 100 22#50
- R107 100
- R106 100

- ① LOUT
- ② DAGND
- ③ ROUT
- ④ DAGND
- ⑤ COUT
- ⑥ DAGND
- ⑦ SROUT
- ⑧ DAGND
- ⑨ SROUT



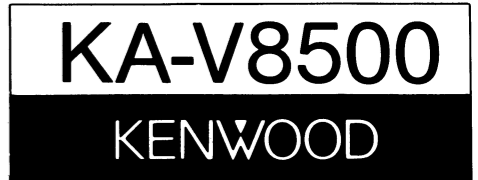
- | | | | |
|--------------------|-------------------------|------------------|-------------|
| D1~6 | :HSS104 or 18S133 | IC8, 9 | :TC74HC04AP |
| IC1, 2 | :M5238L | IC12, 13, 20, 21 | :PCM1700U |
| IC14~17, 25 | :NJM4580L | IC18, 19 | :SH5840HP |
| 26, 32, 33 | | IC27 | :LA2730 |
| IC3 | :CS5339-KP | IC28 | :TC9213P |
| IC4, 6, 11, 22, 23 | :TA7805S or UPC7805AHF | IC29~31 | :NJM4580D |
| IC5, 10, 24 | :TA79005S or UPC7905AHF | | |
| IC7 | :TC74HC74P | | |

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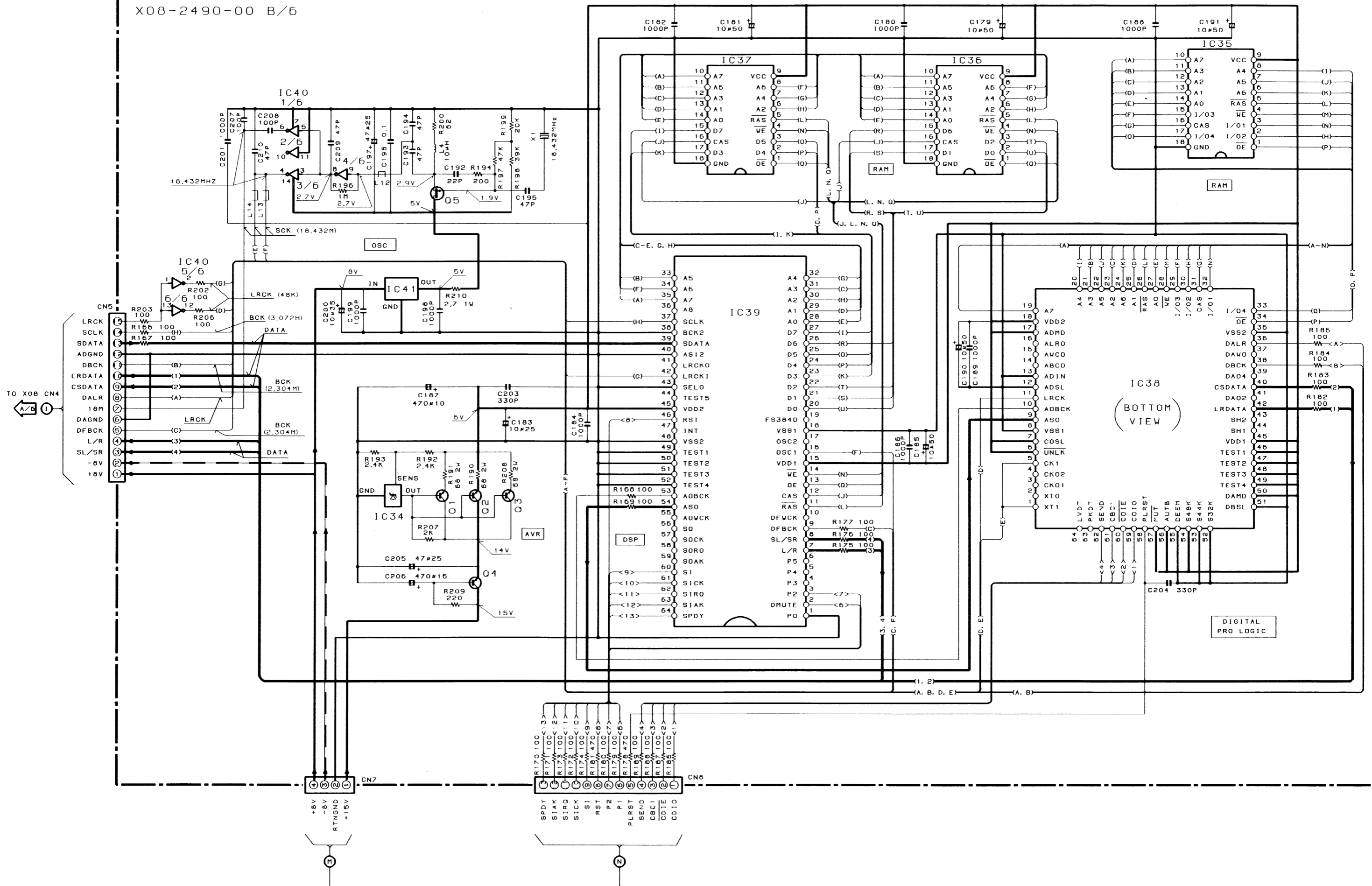
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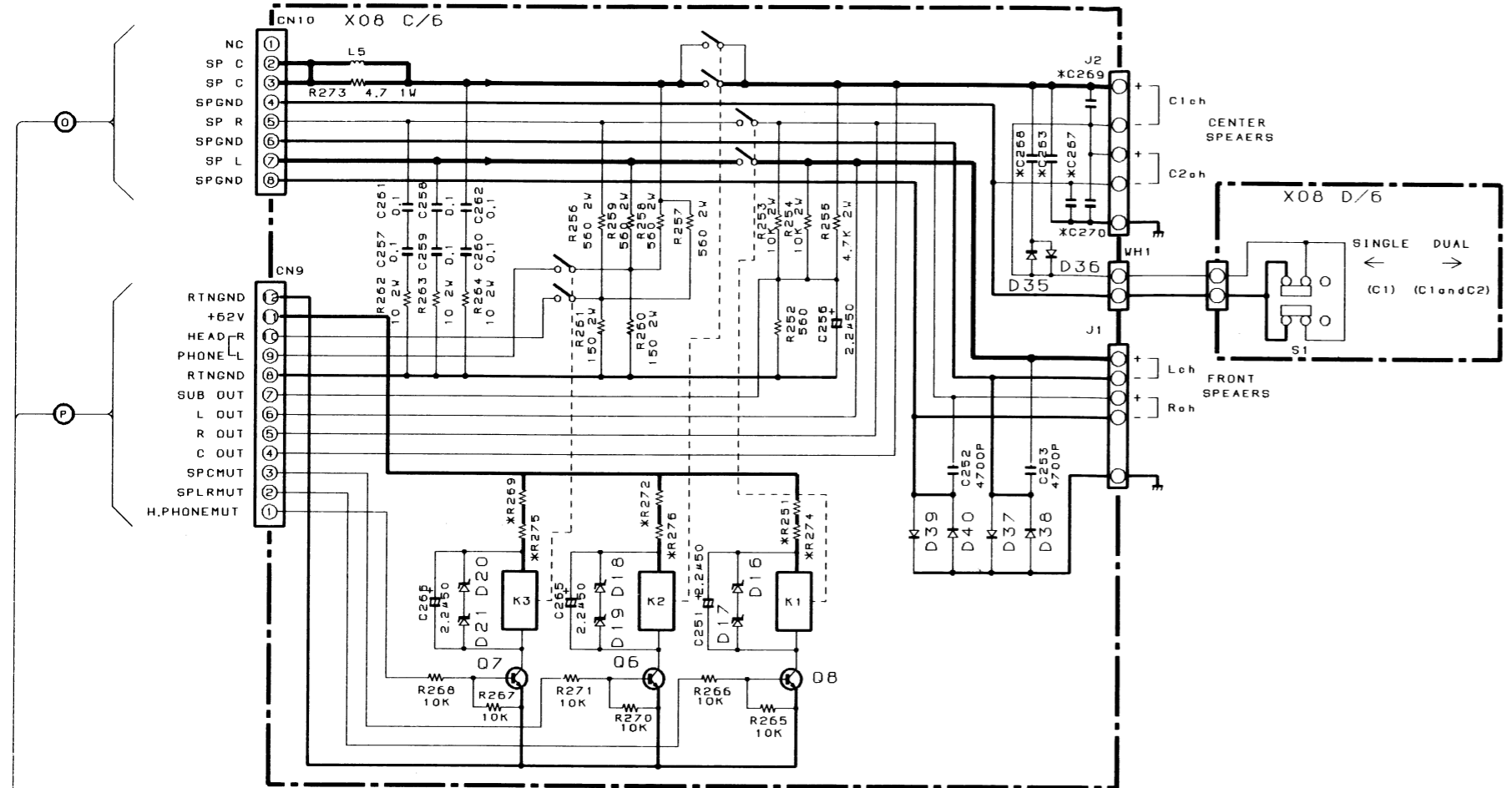
X08-2490-00 B/6



2

4

6



- D1-6, 35-40 : HSS104 or 1SS133
- 43-48
- D16, 18, 20, 41 : RD11ES (B2) or HZS11N (B2)
- D17, 19, 21, 42 : RD13ES (B2) or HZS13N (B2)
- D31, 32 : HSS104A or 1SS131
- Q1-4 : 2SD2061 or 2SD1266
- Q5 : 2SK152 (3, 4)
- Q6-8, 21 : 2SC2003 (L, K)
- Q9, 10 : 2SC1845 (F, E)
- Q11, 12 : 2SC4466LC
- Q13, 14 : 2SA1693LC
- Q15, 16 : 2SC4137
- IC34 : TL431CLP or UPC1093J
- IC35-37 : LM33464G-12 or MT4067-10
- IC38 : SM5051AF
- IC39 : LC83010N
- IC40 : TC74HC04AP
- IC41 : TA78L005AP or UPC78L05J
- IC43, 44 : MPC1270H

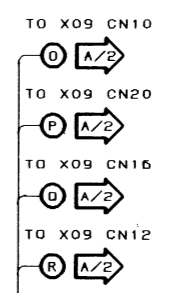
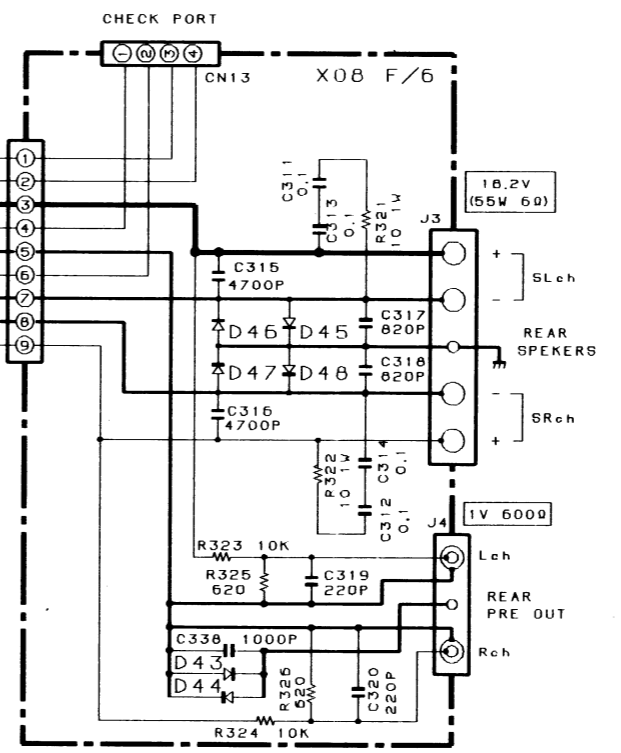
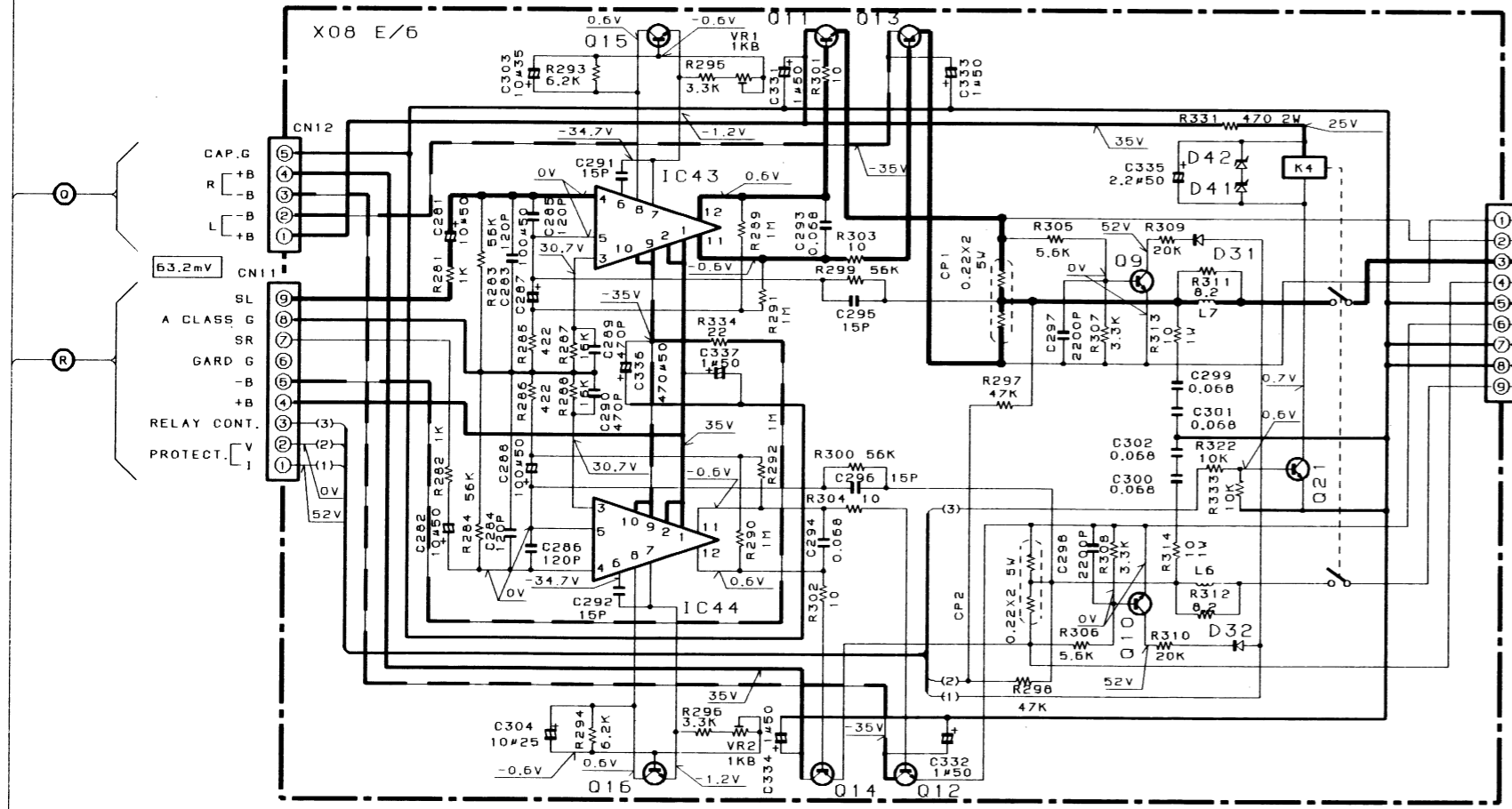
Ref. No.	COUNTRY (ABB)	OTHER AREAS (M)	ENGLAND (T)
		AAFES, PX (Y) CANADA (P)	EURPPE (E)
R251, 269, 272		470 2W	390 2W
C263, 267, 268		0.01	×
C269, 270		×	0.01

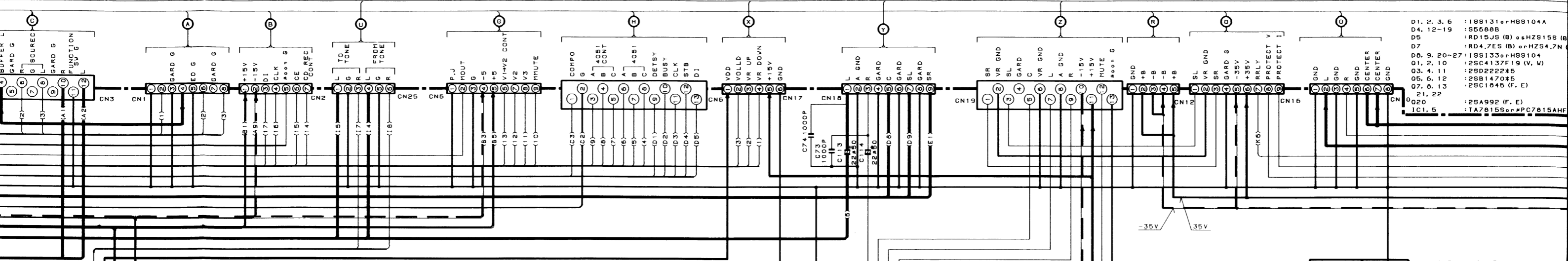
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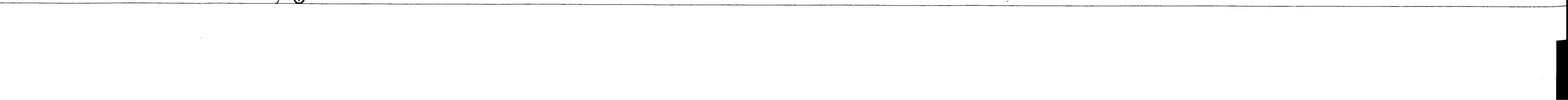
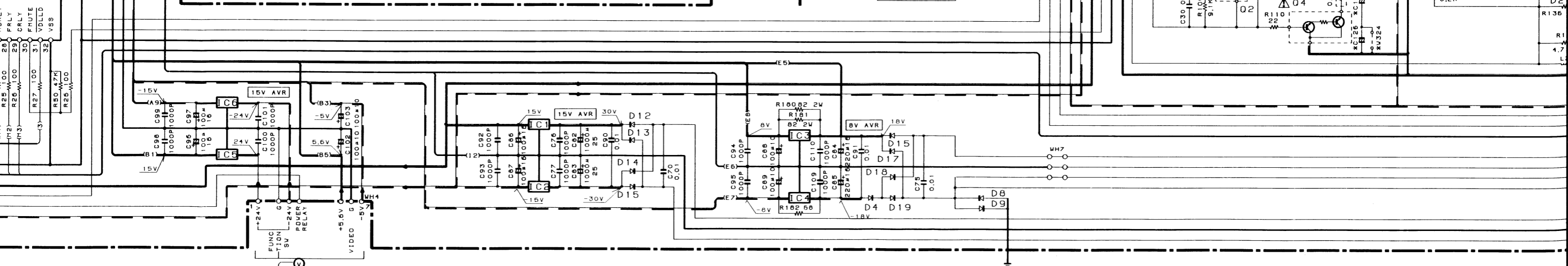
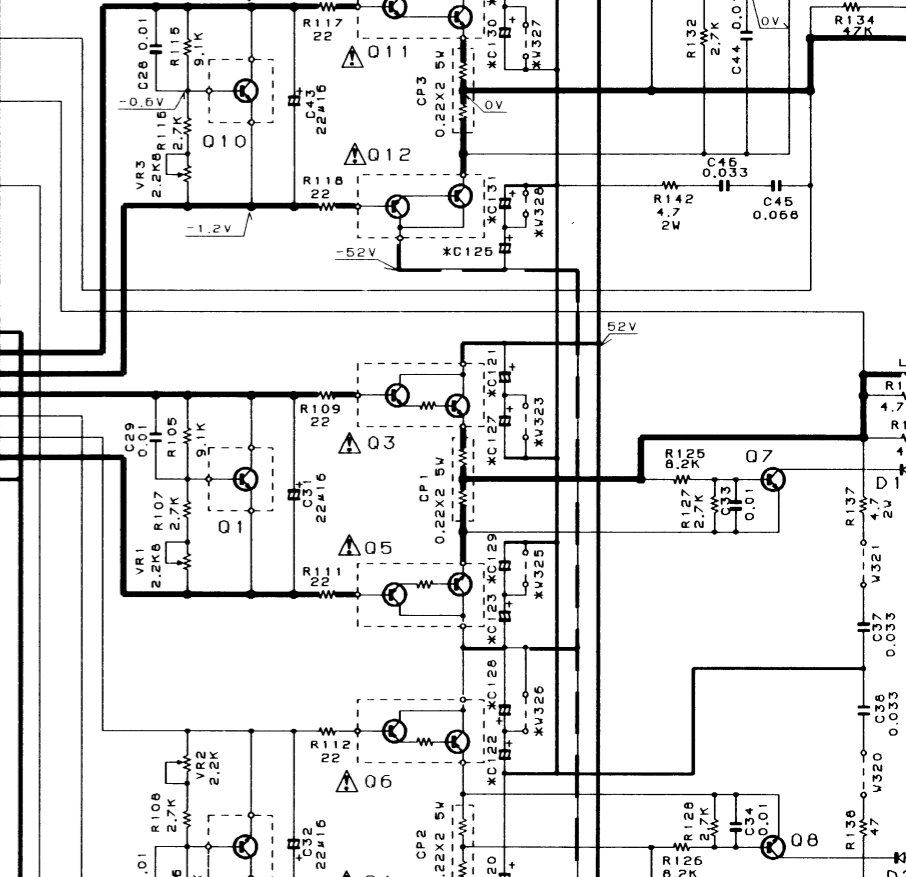
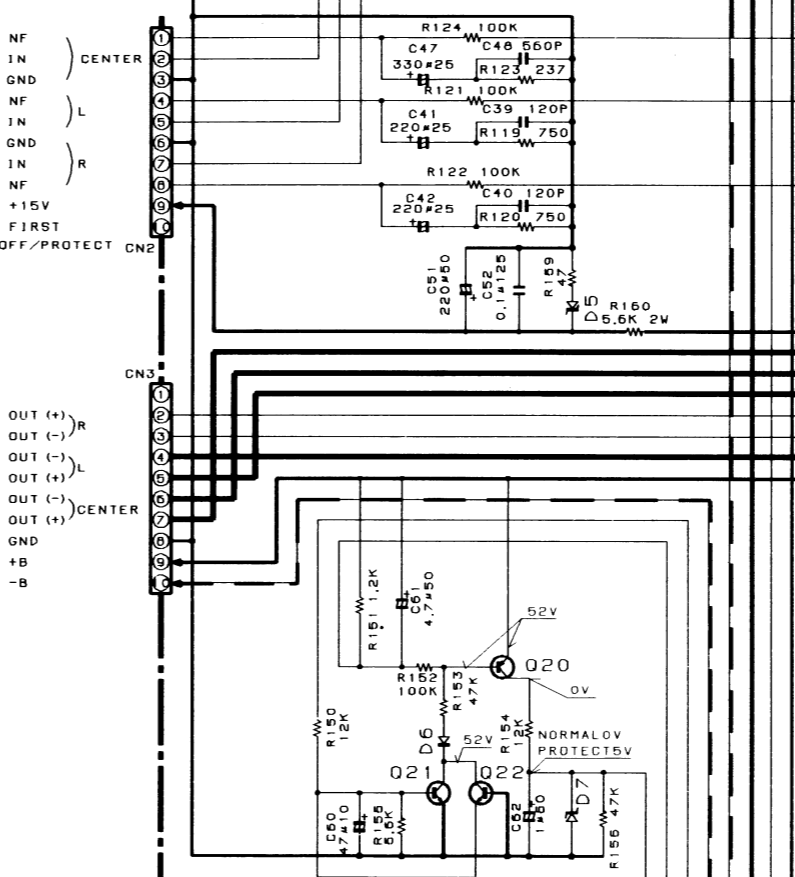
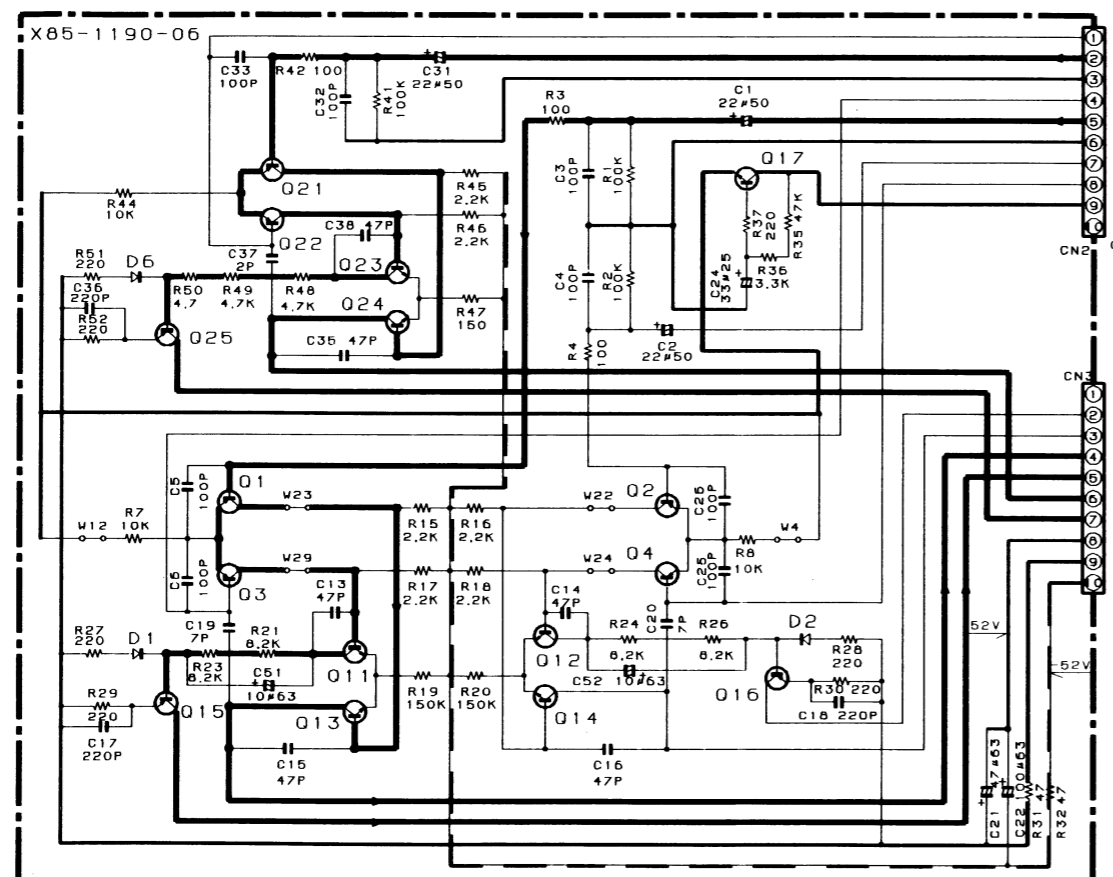
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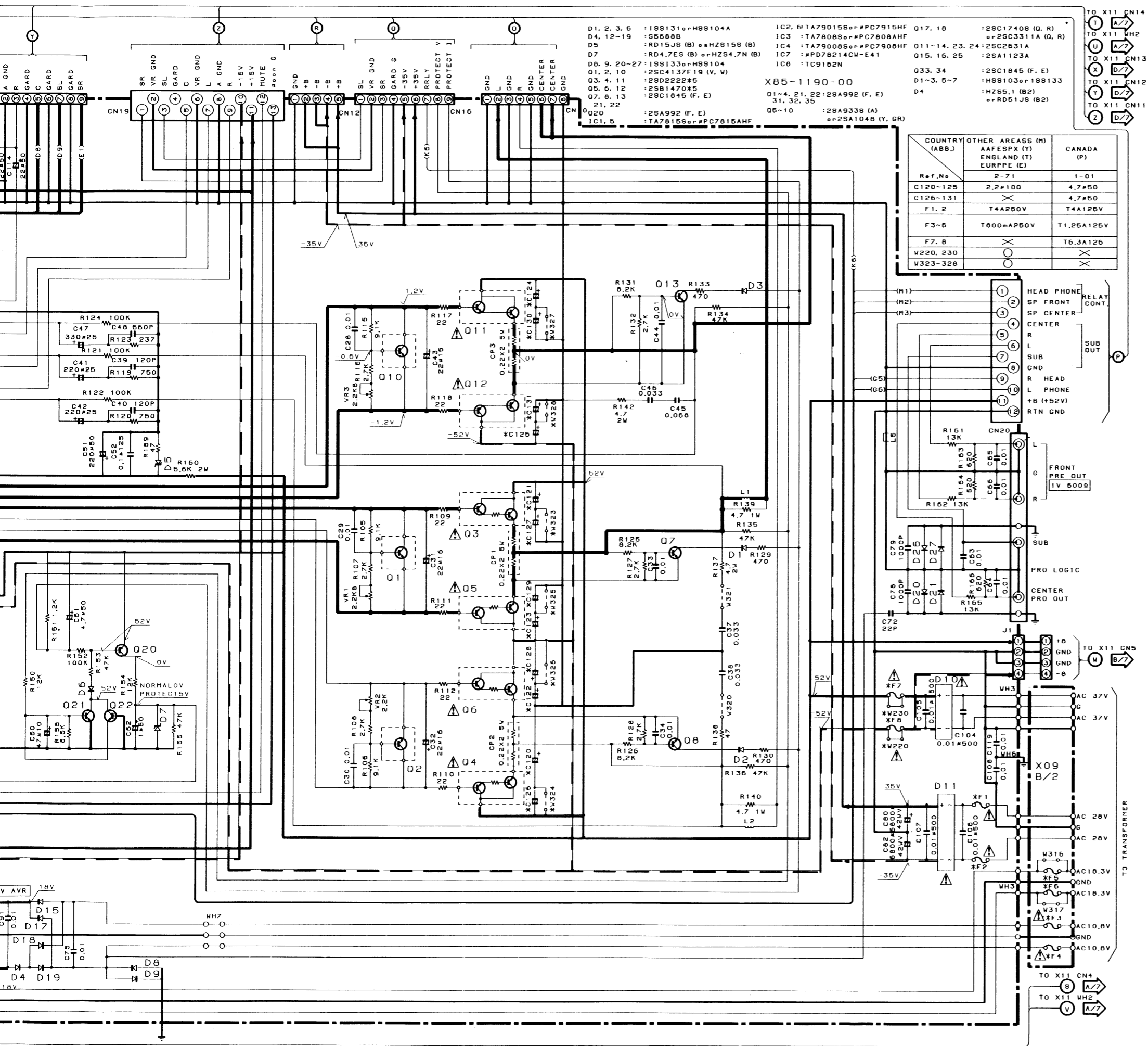
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D1, 2, 3, 6	: 19S1310 H89104A
D4, 12-19	: S5688B
D5	: RD15J5 (B) HZ8158 (B)
D7	: RD4.7E5 (B) HZ54.7N
D8, 9, 20-27	: 19S1330 H89104
Q1, 2, 10	: 2SC4137F19 (V, W)
Q3, 4, 11	: 2SD2222*5
Q5, 6, 12	: 2SB1470*5
Q7, 8, 13	: 29C1645 (F, E)
Q21, 22	: 29A992 (F, E)
IC1, 5	: TA78155 PC7815AHF

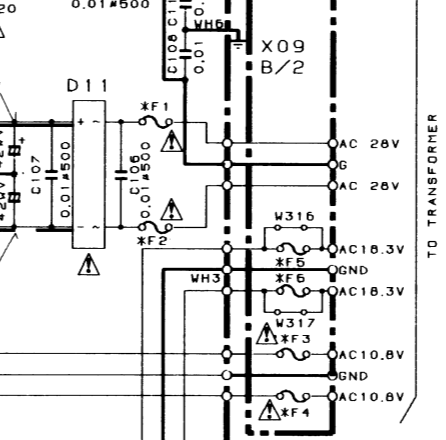
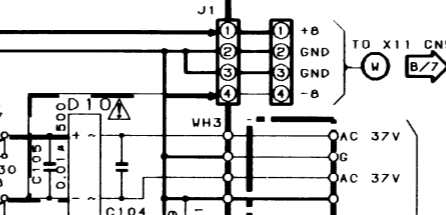
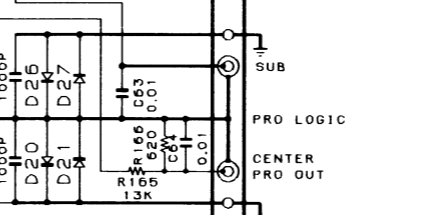
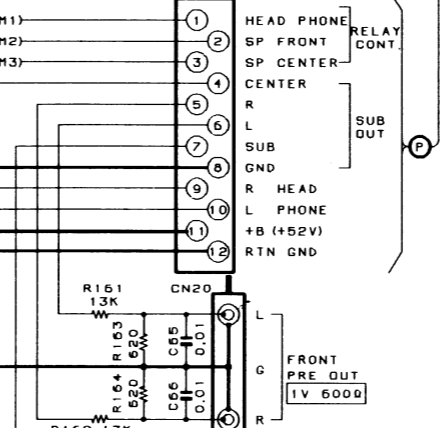
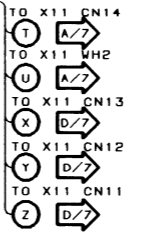




- D1, 2, 3, 6 : 1S8131 or H8S104A
- D4, 12-19 : S5608B
- D5 : RD15J5 (B) or HZ8155 (B)
- D7 : RD4.7E5 (B) or HZ54.7N (B)
- D8, 9, 20-27 : 1S8133 or H8S104
- Q1, 2, 10 : 2SC4137F19 (V, W)
- Q3, 4, 11 : 2SD2222*5
- Q5, 6, 12 : 2SB1470*5
- Q7, 8, 13 : 2SC1645 (F, E)
- Q12, 22 : 2SA992 (F, E)
- Q20 : 2A7B155 or PC7815AHF
- IC1, 6 : 28A9338 (A)
- IC2, 5 : TA790155 or PC7915HF
- IC3 : TA78085 or PC7808AHF
- IC4 : TA790085 or PC7908HF
- IC7 : PD78214CV-E41
- IC8 : TC9162N
- Q17, 18 : 2SC17405 (Q, R) or 2SC3311A (Q, R)
- Q11-14, 23, 24 : 2SC2631A
- Q15, 16, 25 : 2SA1123A
- Q33, 34 : 2SC1845 (F, E)
- D1-3, 5-7 : H8S103 or 1S8133
- D4 : HZ55.1 (B2) or RD51J5 (B2)
- Q6-10 : 28A9338 (A)
- Q5-10 : 28A1048 (Y, GR)

X85-1190-00

COUNTRY (ABB.)	OTHER AREAS (M) AAFESPX (Y) ENGLAND (T) EURPPE (E)	CANADA (P)
Ref. No	2-71	1-01
C120-125	2,2#100	4,7#50
C126-131	X	4,7#50
F1, 2	T4A250V	T4A125V
F3-5	T600mA250V	T1,25A125V
F7, 8	X	T6,3A125
W220, 230	X	X
W323-328	X	X



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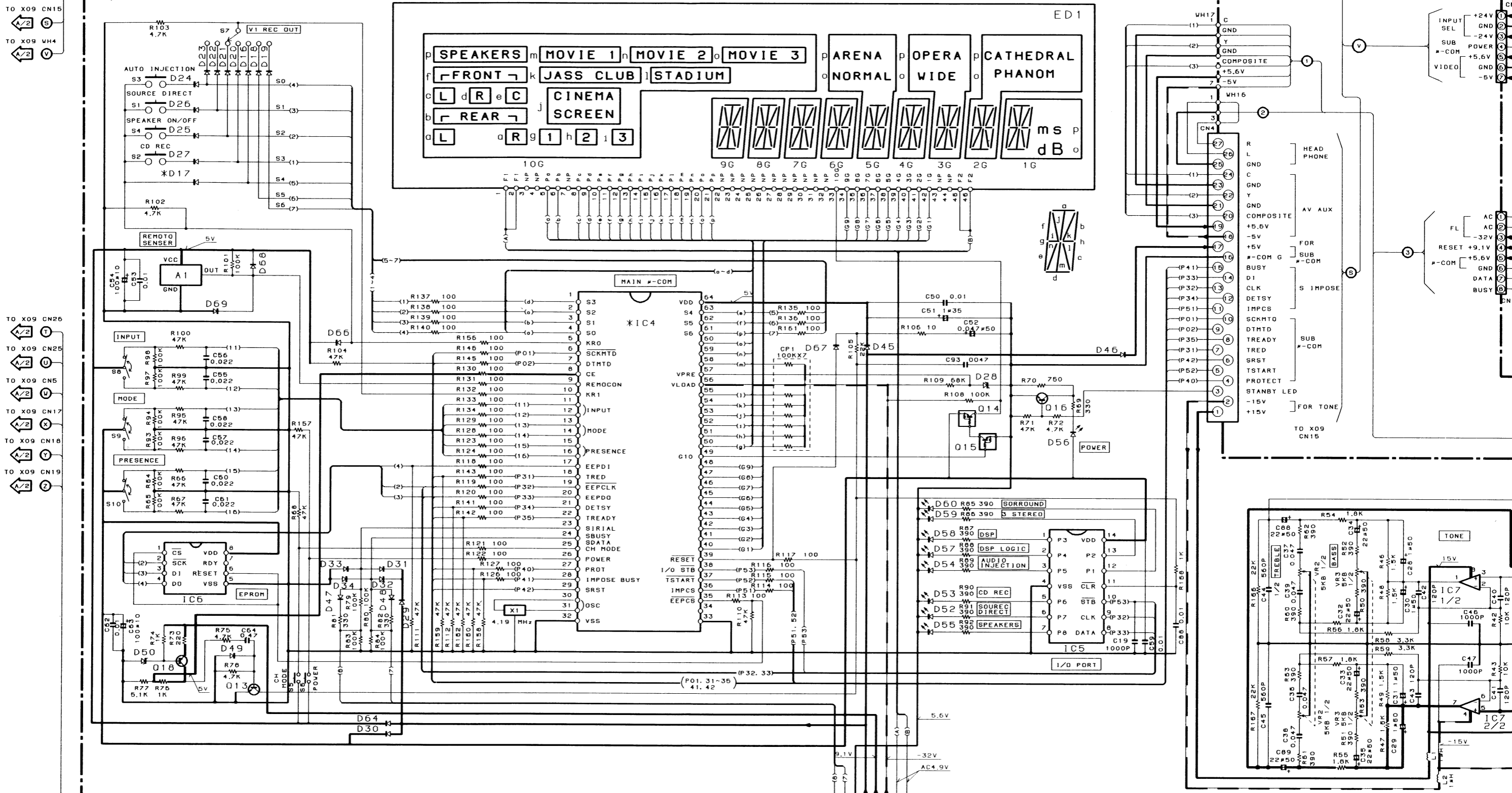
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X11-319X-XX A/7



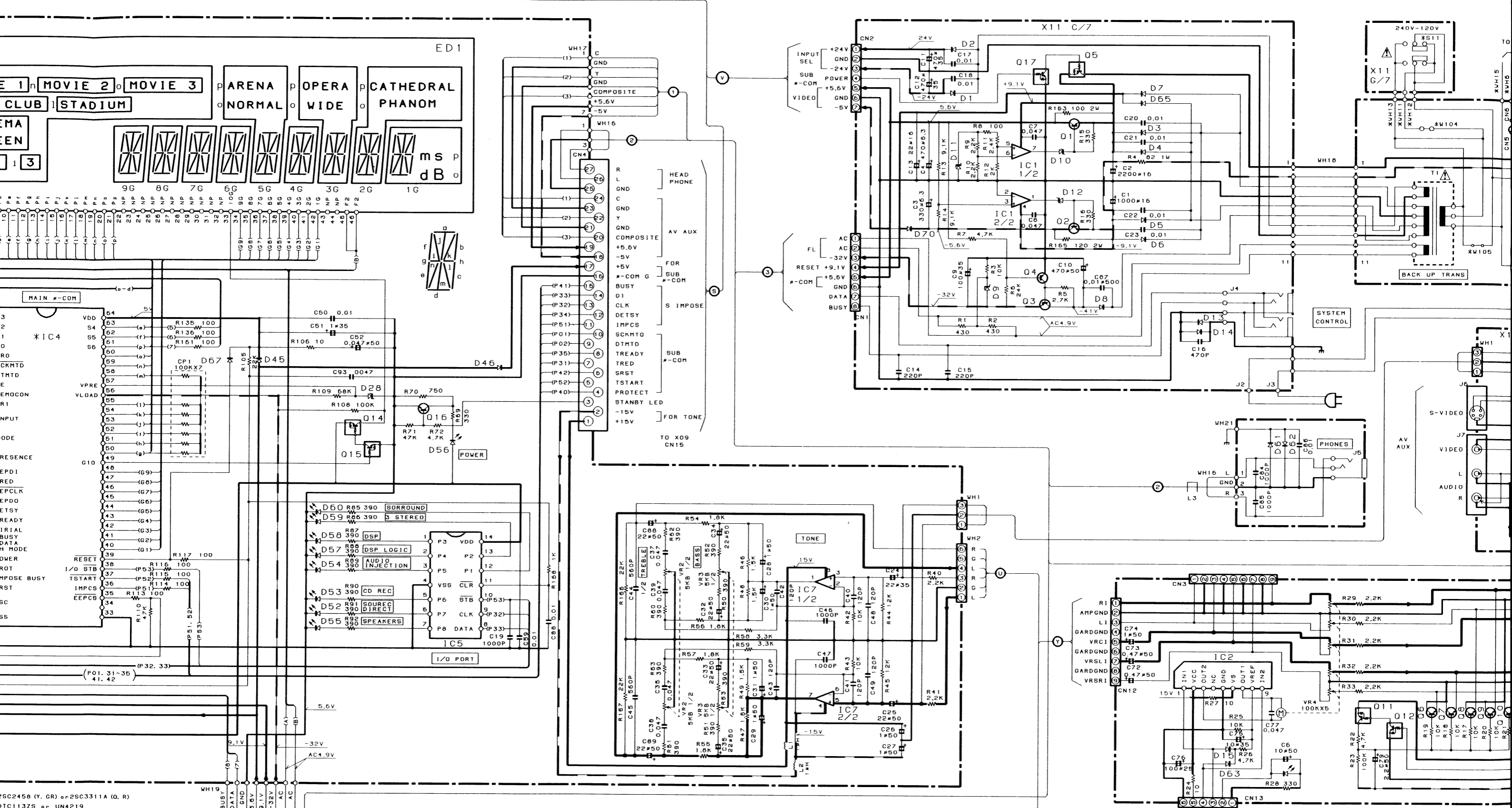
- IC1 : NJM4558D
- IC2 : TAB409S
- IC3, 7 : NJM4565D-D or NJM4560D-A
- IC4 : #PD75216ACW-C60 or C69
- IC5 : NJU3711D
- IC6 : #M6M80041P
- Q1, 3 : 25B1370 (E, F, G)
- Q2 : 2SD2061 (E, F, G)
- Q4 : 2SA954 (L, K)
- Q5, 14 : DTA1132S or UN4119
- Q6-10 : 2SC2878 (B)
- Q11 : DTA124ES or UN4112
- Q12, 15 : DTC124ES or UN4212
- Q13, 16 : 2SC2458 (Y, GR) or 2SC3311A (Q, R)
- Q17 : DTC1132S or UN4219
- Q18 : 2SA1048 (Y, GR) or 2SA1309A (Q, R)
- D1-8, 65, 70 : S5658B
- D9 : RD6,8ES (B2) or HZS5,8N (B2)
- D10, 12, 28, 50 : RD5,1ES (B2) or HZS5,1N (B2)
- D13-27, 29-49 : HSS133 or HSS104
- D1-64, 66-69 : 1SS131 or HSS104A
- D52-60 : B30-1012-05

		C01	C03	D17	F1	F2	F3	CN7, 8	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

2

4

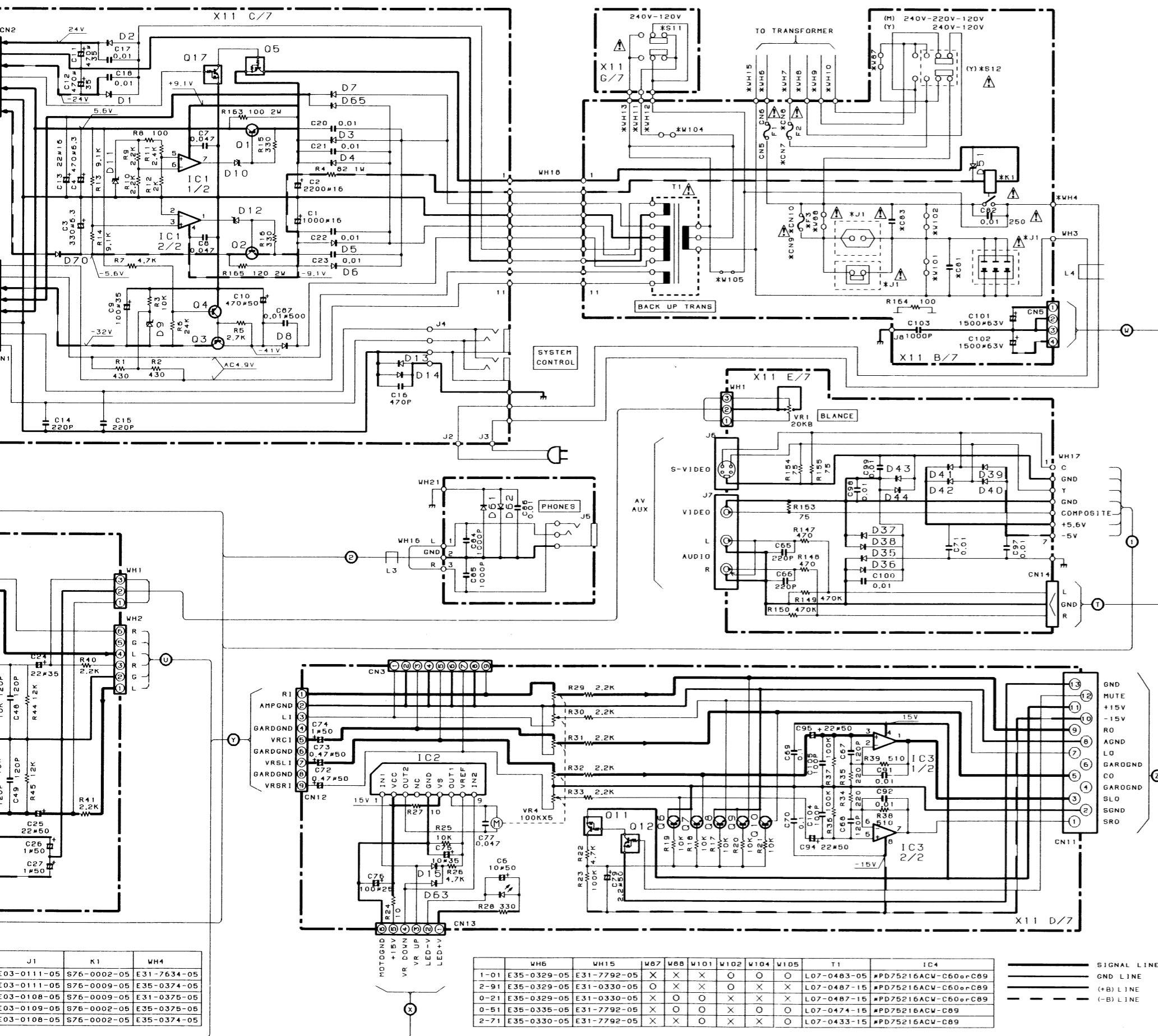
6



SC2458 (Y, GR) or SC3311A (O, R)
 TC1132S or UN4219
 SA1048 (Y, GR) or SA1309A (O, R)
 S5688B
 D5,8ES (B2) or HZS5,8N (B2)
 D5,1ES (B2) or HZS5,1N (B2)
 S5133 or H55104
 S5131 or H55104A
 330-1012-05

		C01	C03	D17	F1	F2	F3	CN7, 8	CN9, 10	S11	S12	WH7, 8 10-13	WH9	J1	K1	WH4
CANADA	P	1-01	0.01 250	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	T4A 250V	T4A 250V	X	X	X	O	S62-0001-05	O	X	E03-0111-05	S76-0009-05	E35-0374-05
OTHER ARESS	H	0-21	X	0.01 250	T4A 250V	T4A 250V	X	X	X	O	S31-2322-05	O	O	E03-0108-05	S76-0009-05	E31-0375-05
ENGLAND	T	0-51	X	0.01 250	T4A 250V	X	X	X	X	X	X	X	X	E03-0109-05	S76-0002-05	E35-0375-05
EUROPE	E	2-71	X	0.01 250	T4A 250V	X	T2.5A 250V	X	X	X	X	X	X	E03-0108-05	S76-0002-05	E35-0374-05

	WH6	WH15	WH7	WH8	WH10	WH12	WH13
1-01	E35-0329-05	E31-7792-05	X	X	X	O	O
2-91	E35-0329-05	E31-0330-05	O	X	X	O	X
0-21	E35-0329-05	E31-0330-05	X	O	O	X	X
0-51	E35-0335-05	E31-7792-05	X	O	O	X	O
2-71	E35-0330-05	E31-7792-05	X	X	O	X	X



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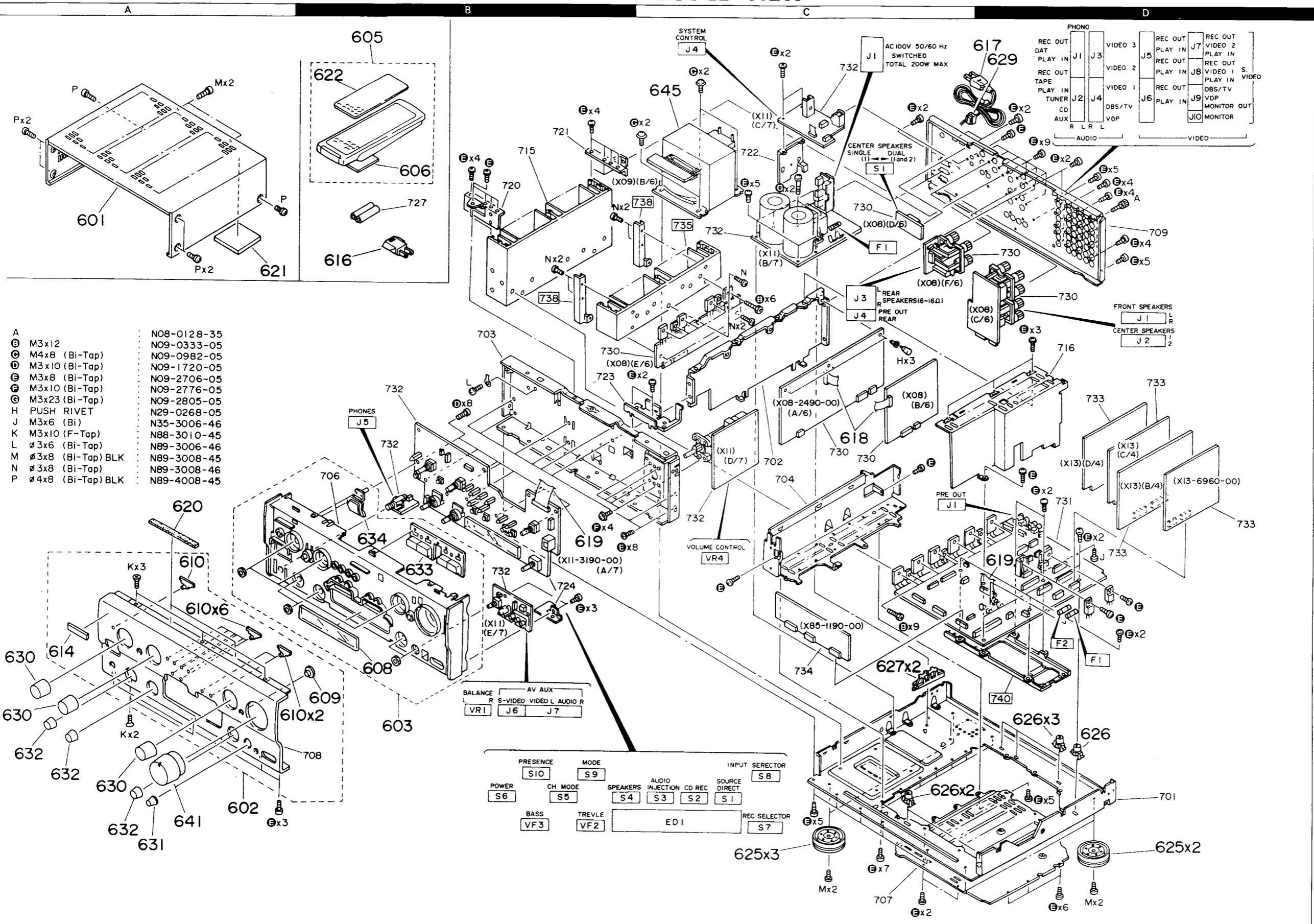
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KA-V8500

KENWOOD

KA-V8500 KA-V8500

EXPLODED VIEW



- A M3x12
 - ⊖ M4x8 (Bi-Tap)
 - ⊖ M3x10 (Bi-Tap)
 - ⊖ M3x8 (Bi-Tap)
 - ⊖ M3x10 (Bi-Tap)
 - ⊖ M3x23 (Bi-Tap)
 - H PUSH RIVET
 - J M3x6 (Bi)
 - K M3x10 (F-Tap)
 - L ∅3x6 (Bi-Tap)
 - M ∅3x8 (Bi-Tap) BLK
 - N ∅3x8 (Bi-Tap)
 - P ∅4x8 (Bi-Tap) BLK
- N08-0128-35
 - N09-0333-05
 - N09-0982-05
 - N09-1720-05
 - N09-2706-05
 - N09-2776-05
 - N09-2805-05
 - N29-0268-05
 - N35-3006-46
 - N88-3010-45
 - N89-3006-46
 - N89-3008-45
 - N89-3008-46
 - N89-4008-45

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.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向標	Re- marks 備考
KA-V8500					
601	1A	* A01-1994-01	METALLIC CABINET		
602	3A	A60-0152-02	PANEL ASSY		
603	3B	A22-1529-12	SUB PANEL ASSY		
605	1B	A70-0570-05	REMOTE CONTROLLER ASSY		
606	1B	A09-0086-08	BATTERY COVER		
608	3B	B10-1894-04	FRONT GLASS	Y	
609	3A	B11-0237-14	COLOR FILTER		
610	2A, 3A	B12-0193-04	INDICATOR		
614	3A	B43-0287-04	KENWOOD BADGE		
-	-	B46-0094-03	WARRANTY CARD		
-	-	B46-0095-03	WARRANTY CARD		
-	-	B46-0121-13	WARRANTY CARD		
-	-	B46-0122-23	WARRANTY CARD		
-	-	B46-0143-13	WARRANTY CARD		
-	-	B58-0513-04	CAUTION CARD (PRESET220-240)		
-	-	B60-0649-00	INSTRUCTION MANUAL (ENGLISH)		
-	-	B60-0651-00	INSTRUCTION MANUAL (DUT, ITA)		
-	-	B60-0658-00	INSTRUCTION MANUAL (GER, FRN)		
-	-	B60-0659-00	INSTRUCTION MANUAL (SPA, CHI)		
-	1B	E03-0115-05	AC PLUG ADAPTER	M	
616	1D	E30-0459-05	AC POWER CORD	ME	
617	1D	E30-0685-05	AC POWER CORD	ME	
617	1D	E30-0974-05	AC POWER CORD	Y	
617	1D	E30-1416-05	AC POWER CORD	P	
618	2C	E35-0009-05	FLAT CABLE 15P (X08CM4-X08CNS)	E	
619	2B, 2D	E35-0239-05	FLAT CABLE 27P (X09CN15-X11CN4)	Y	
620	2A	G11-0191-04	SOFT TAPE (90X5X2.5)		
621	1A	G11-0109-04	CUSHION		
622	1B	G16-0756-08	REMOTE CONTROL UNIT ENTRIESHEET		
-	-	H50-0186-04	ITEM CARTON CASE		
-	-	H10-5226-02	POLYSTYRENE FOAMED FIXTURE L		
-	-	H10-5229-02	POLYSTYRENE FOAMED FIXTURE R		
-	-	H25-0332-04	PROTECTION BAG (235X450X0.03)	MYP	
-	-	H25-0319-04	PROTECTION BAG (650X450X0.03)	MYP	
-	-	H25-0654-04	PROTECTION BAG (0225 PRINTED)	T	
-	-	H25-0657-04	PROTECTION BAG (0232 PRINTED)	T	
625	3C, 3D	I02-1072-05	FOOT		
626	3C, 3D	I19-3179-05	UNIT HOLDER		
627	3C, 3D	I19-3174-04	HOLDER		
629	1D	L42-0083-05	POWER CORD BUSHING		
-	-	J61-0307-05	WIRE BAND		
630	3A	K29-4312-04	KNOB PRESENCE, MODE, INPUTSELECT	OR	
631	3A	K29-4313-04	KNOB BALANCE		
632	3A	K29-4314-04	KNOB BASS, TREBLE, VIDEO REC		
633	2B	K29-4315-03	KNOB SPEAKERS, CD REC		
634	2B	K29-4317-04	KNOB POWER		
641	3A	K29-4340-04	KNOB VOLUME CONTROL		
645	1C	L07-0430-05	POWER TRANSFORMER	T	
645	1C	L07-0431-05	POWER TRANSFORMER	E	
645	1C	L07-0436-05	POWER TRANSFORMER	M	
645	1C	L07-0484-05	POWER TRANSFORMER	P	

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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
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645	1C	L07-0488-05	POWER TRANSFORMER	Y	
-	-	L92-0035-05	FERRITE CORE		
-	-	L92-0036-05	FERRITE CORE		
A	1D	N08-0128-35	BINDING POST (EARTH)		
B	2C	N09-0133-05	TAPPING SCREW (3X12)		
C	2C	N09-0362-05	TAPITTE SCREW (M4X8, TP)		
D	2B	N09-1720-05	TAPITTE SCREW (3X10)		
E	1B	N09-2706-05	TAPITTE SCREW		
F	2B	N09-2776-05	SEMS (TAPITTE SCREW)		
G	1C	N09-2805-05	TAPITTE SCREW		
H	2C	N29-0268-05	PUSH RIVET		
K	3A	N88-3010-45	FLAT HEAD TAPITTE SCREW		
L	2B	N89-3006-46	BINDING HEAD TAPITTE SCREW		
M	1A, 3D	N89-3008-45	BINDING HEAD TAPITTE SCREW		
P	1A	N89-4008-45	BINDING HEAD TAPITTE SCREW		
SURROUND UNIT (X08-2490-00)					
C1	-	C90-1794-05	ELECTRØ		
C2	-	CK45FB1H102K	100PF 35WV CERAMIC		
C3	-	CK45FB1H102K	1000PF K CERAMIC		
C4	-	CK45FB1H102K	100PF 35WV CERAMIC		
C5	-	CK45FB1H102K	1000PF K CERAMIC		
C6	-	CE04KW1V100M	100PF 35WV ELECTRØ		
C7	8	CF92FV1H101K	MF 100PF K		
C9	9, 10	CF92FV1H221K	MF 220PF K		
C12	-	CE04KW1V100M	ELECTRØ		
C13	-	CF92FV1H104J	MF 0.10UF J		
C14	-	CK45FB1H102K	CERAMIC		
C15	18	CF92FV1H104J	MF 0.10UF J		
C19	-	CK45FB1H102K	CERAMIC		
C20	21	CE04KW1V100M	ELECTRØ		
C22	23	CK45FB1H102K	CERAMIC		
C24	-	CE04KW1H2R2M	ELECTRØ		
C25	-	CE04KW1V100M	ELECTRØ		
C26	-	CK45FB1H102K	CERAMIC		
C27	-	CF92FV1H202J	MF 200PF J		
C28	-	CE04KW1A101M	ELECTRØ		
C29	-	CF92FV1H104J	MF 0.10UF J		
C30	-	CF92FV1H474J	MF 0.47UF J		
C31	37	CE04KW1A471M	ELECTRØ		
C38	41	CK45FB1H102K	CERAMIC		
C42	45	CF92FV1H202J	MF 200PF J		
C46	47	CK45FB1H102K	CERAMIC		
C49	52	CF92FV1H394J	MF 0.39UF J		
C54	55	CF92FV1H394J	MF 0.39UF J		
C56	60	CC45FSL1H470J	CERAMIC		
C57	60	CF92FV1H183J	MF 0.018UF J		
C61	64	CF92FV1H562J	MF 5600PF J		
C65	68	CF92FV1H561J	MF 560PF J		
C69	72	CF92FV1H562J	MF 5600PF J		
C73	76	CK45FB1H102K	CERAMIC		
C77	80	CF92FV1H471J	MF 470PF J		
C81	82	CE04KW1E470M	ELECTRØ		
C83	84	CF92FV1H474J	MF 0.47UF J		
C85	-	CE04KW1V100M	100PF 35WV ELECTRØ		
C86	86	CF92FV1H122J	MF 1200PF J		

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C89	91	CF92FV1H302J	MF 3000PF J		
C90	91	CE04KW1V100M	ELECTRØ		
C92	94	CE04KW1A101M	ELECTRØ		
C93	94	CE04KW1V100M	ELECTRØ		
C95	96	CK45FB1H102K	CERAMIC		
C97	98	CE04KW1V100M	ELECTRØ		
C100	101	CE04KW1V100M	ELECTRØ		
C102	103	CF92FV1H162J	MF 1600PF J		
C104	105	CF92FV1H151K	MF 1500PF K		
C106	-	CF92FV1H103J	MF 0.010UF J		
C107	-	CF92FV1H162J	MF 1600PF J		
C108	-	CF92FV1H152J	MF 1500PF J		
C109	-	CF92FV1H151K	MF 1500PF K		
C110	113	CK45FB1H102K	CERAMIC		
C114	-	CE04KW1V100M	ELECTRØ		
C115	116	CK45FB1H102K	CERAMIC		
C117	119	CE04KW1V100M	ELECTRØ		
C118	121	CK45FB1H102K	CERAMIC		
C120	121	CE04KW1V100M	ELECTRØ		
C122	123	CE04KW1H220M	ELECTRØ		
C124	-	CE04KW1V100M	ELECTRØ		
C125	-	CF92FV1H683J	MF 0.068UF J		
C126	-	CF92FV1H822J	MF 8200PF J		
C127	-	CF92FV1H104J	MF 0.10UF J		
C128	-	CE04KW1H010M	ELECTRØ		
C129	-	CF92FV1H472J	MF 4700PF J		
C130	-	CE04KW1H220M	ELECTRØ		
C131	-	CF92FV1H334J	MF 0.33UF J		
C132	-	CF92FV1H104J	MF 0.10UF J		
C133	-	CF92FV1H333J	MF 0.033UF J		
C134	-	CF92FV1H272J	MF 0.027UF J		
C135	-	CE04KW1A471M	ELECTRØ		
C136	141	CK45FB1H220M	CERAMIC		
C142	144	CC45FSL1H101J	CERAMIC		
C145	146	CK45FB1H102K	CERAMIC		
C147	150	CF92FV1H101K	MF 100PF K		
C151	152	CK45FB1H102K	CERAMIC		
C153	154	CE04KW1H220M	ELECTRØ		
C155	156	CK45FB1H102K	CERAMIC		
C157	158	CE04KW1V100M	ELECTRØ		
C159	-	CE04KW1C102M	ELECTRØ		
C160	-	CE04KW1A101M	ELECTRØ		
C161	-	CC45FSL1H101J	CERAMIC		
C162	163	CC45FSL1H470J	CERAMIC		
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	CK45FB1H102K	CERAMIC		
C190	191	CE04KW1H220M	ELECTRØ		

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PARTS LIST

No.5

Ref. No. 参照番号	Address 位 置	New Parts 新 部品	Parts No. 部品番号	Description 部 品 名 / 規 格	Desti- nation 仕 向	Re- marks 備 考
R210			RS14QB3A2R7JTE	FL-PROOF RS 2.7		
R251			RS14DB3D391JTE	FL-PROOF RS 390	J 1W	TE
R251			RS14DB3D471JTE	FL-PROOF RS 470	J 2W	MYP
R253, 254		*	RS14DB3D103JTE	FL-PROOF RS 10K	J 2W	
R255		*	RS14DB3D472JTE	FL-PROOF RS 4.7K	J 2W	
R256-259			RS14DB3D561JTE	FL-PROOF RS 560	J 2W	
R260, 261			RS14DB3D151JTE	FL-PROOF RS 150	J 2W	
R262-264			RS14DB3D100JTE	FL-PROOF RS 10	J 2W	
R269			RS14DB3D391JTE	FL-PROOF RS 390	J 2W	TE
R272			RS14DB3D471JTE	FL-PROOF RS 470	J 2W	MYP
R272			RS14DB3D471JTE	FL-PROOF RS 470	J 2W	
R273		*	RS14DB3A4R7JTE	FL-PROOF RS 4.7	J 1W	
R274-276			RS14DB3D391JTE	FL-PROOF RS 390	J 2W	TE
R274-276			RS14DB3D471JTE	FL-PROOF RS 470	J 2W	MYP
R285, 286			RM14BK2C4220FTS	RN 422.0	F 1/6W	
R301-304		*	RD14AB2E100JTS	FL-PROOF RD 10	J 1/4W	
R311, 312			RD14AB2E8R2JTS	FL-PROOF RD 8.2	J 1/4W	
R313, 314			RS14DB3A100JTE	FL-PROOF RS 10	J 1W	
R321, 322			RS14DB3A100JTE	FL-PROOF RS 10	J 1W	
R331			RS14DB3D471JTE	FL-PROOF RS 470	J 2W	
R334			RD14AB2E220JTS	FL-PROOF RD 22	J 1/4W	
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		
K3, 4			S76-0005-05	MAGNETIC RELAY		
S1			S76-0005-05	MAGNETIC RELAY		
S4			S31-2128-05	SLIDE SWITCH S-SPEAKER SELECT		
D1 -6			HSS104	DIODE		
D1 -6			1SS133	DIODE		
D16			HZS11N(B2)	ZENER DIODE		
D16			RD11ES(B2)	ZENER DIODE		
D17			HZS13N(B2)	ZENER DIODE		
D17			RD13ES(B2)	ZENER DIODE		
D18			HZS11N(B2)	ZENER DIODE		
D18			RD11ES(B2)	ZENER DIODE		
D19			HZS13N(B2)	ZENER DIODE		
D19			RD13ES(B2)	ZENER DIODE		
D20			HZS11N(B2)	ZENER DIODE		
D20			RD11ES(B2)	ZENER DIODE		
D21			HZS13N(B2)	ZENER DIODE		
D21			RD13ES(B2)	ZENER DIODE		
D31, 32			HSS104A	DIODE		
D31, 32			1SS131	DIODE		
D41			HZS11N(B2)	ZENER DIODE		
D41			RD11ES(B2)	ZENER DIODE		
D42			HZS13N(B2)	ZENER DIODE		
D42			RD13ES(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			TA78055	IC(VOLTAGE REGULATOR +5V)		

No.4

Ref. No. 参照番号	Address 位 置	New Parts 新 部品	Parts No. 部品番号	Description 部 品 名 / 規 格	Desti- nation 仕 向	Re- marks 備 考
C192			CC45FSL1H20J	CERAMIC 22PF	J	
C193-195			CC45FSL1H470J	47PF	J	
C196			CF92EV1H104J	0.10UF	J	
C197			CE04KW1E470M	47UF 25WV	K	
C198, 199			CK45FB1H102K	1000PF	K	
C200			CE04KW1V100M	10UF 35WV	K	
C201			CE45FB1H102K	1000PF	K	
C202			CC45FSL1H470J	47PF	J	
C203, 204			CC45FSL1H331J	330PF	J	
C205			CE04KW1E470M	47UF 25WV	K	
C206			CE04KW1C471M	470UF 16WV	K	
C208			CC45FSL1H101J	100PF	J	
C251			CE04KW1H2R2M	2.2UF 50WV	J	
C252, 253			CF92EV1H472J	4700PF	J	
C256			CE04KW1H2R2M	2.2UF 50WV	J	
C257-262			CF92EV1H104J	0.10UF	J	
C263			CF92EV1H103J	0.010UF	J	
C265, 266			CE04KW1H2R2M	2.2UF 50WV	J	
C267, 268			CF92EV1H103J	0.010UF	J	
C281, 282			CE04KW1H100M	10UF 50WV	J	
C283, 284			CF92EV1H121K	120PF	K	
C285, 286			CC45FSL1H121J	120PF	J	
C287, 288			CE04KW1H101M	100UF 50WV	J	
C289, 290			CK45FB1H471K	470PF	K	
C291, 292			CC45FSL1H150J	15PF	J	
C293, 294			CF92EV1H683J	0.068UF	J	
C295, 296			CC45FSL1H150J	15PF	J	
C297, 298			CK45FB1H222K	2200PF	K	
C299-302			CF92EV1H683J	0.068UF	J	
C303, 304			CE04KW1V100M	10UF 35WV	J	
C311-314			CF92EV1H104J	0.10UF	J	
C315, 316			CF92EV1H472J	4700PF	J	
C317, 318			CF92EV1H821J	820PF	J	
C319, 320			CC45FSL1H21J	220PF	J	
C331-334			CE04KW1H010M	1.0UF 50WV	J	
C335			CE04KW1H2R2M	2.2UF 50WV	J	
C336			CE04KW1H471M	470UF 50WV	J	
C337			CE04KW1H010M	1.0UF 50WV	J	
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	PHONO JACK REAR PREOUT		
L4			L40-1001-17	SMALL FIXED INDUCTOR(10UH, K)		
L5 -7			L39-0085-05	PHASE-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		N35-3008-46	BINDING HEAD TAPPLITE SCREW		
CP1, 2			R90-0826-05	MULTI-COMP 0.22X2	J 5W	
R25			RD14AB2E150JTS	FL-PROOF RD 15	J 1/4W	
R190, 191			RS14DB3D680JTE	FL-PROOF RS 68	J 2W	
R208			RS14DB3D680JTE	FL-PROOF RS 68	J 2W	
R209			RD14AB2E221JTS	FL-PROOF RD 220	J 1/4W	

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C44		CF92FV1H103J	0.010UF J		
C45	.46	CF92FV1H68J	0.068UF J		
C47		GE04KW1C31M	330UF 16WV		
C48		CF92FV1H561J	560PF J		
C51	*	C90-1927-05	220UF 50WV		
C52		C91-1445-05	0.10UF K		
C60		CE04KW1A70M	47UF 10HV		
C61		CE04KW1H47M	4.7UF 50WV		
C62	-66	CE04KW1H01M	1.0UF 50WV		
C70		CF92FV1H103J	0.010UF J		
C73	.74	CF92FV1H102J	1000PF J		
C75	-79	CF92FV1H103J	0.010UF J		
C80	.81	C90-1233-05	6800UF 42WV		
C82	.83	CE04KW1E102M	1000UF 25WV		
C84	.85	CE04KW1C22M	2200UF 16WV		
C86	.87	CE04KW1C101M	100UF 16WV		
C88	.89	CE04KW1A102M	1000UF 10WV		
C90	.91	CF92FV1H103J	0.010UF J		
C92	-95	CF92FV1H102J	1000PF J		
C96	.97	CE04KW1C101M	1000PF 16WV		
C98	-101	CF92FV1H102J	1000PF J		
C102	103	CE04KW1A101M	100UF 10WV		
C104	-107	CK45FE2H103P	0.010UF P		
C108		CF92FV1H103J	0.010UF J		
C109	110	CF92FV1H102J	1000PF J		
C111	-114	CE04KW1H20M	20UF 50WV		
C115	116	CF92FV1H102J	1000PF J		
C117	118	CF92FV1H221K	220PF K		
C119		CF92FV1H103J	0.010UF J		HYTE
C120	-125	CE04KW2A20M	2.2UF 100WV		P
C120	-131	CE04KW1H47M	4.7UF 50WV		
J1		E13-1403-05	PHONO JACK F-PREOUT, PROLOGIC		
F1	.2	F05-4025-05	FUSE (SEMK0) (250V T4A)		HYTE
F1	.2	F05-4028-05	FUSE (UL)		P
F3	-6	F53-0015-05	FUSE (SEMK0)		HYTE
F3	-6	F53-0031-05	FUSE (UL)		P
F7	.8	F53-0036-05	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	FERRITE CORE		
X1		L78-0277-05	RESONATOR 4.19MHZ		
M		N35-3008-46	BINDING HEAD MACHIN. SCREW		
N		N69-3008-45	BINDING HEAD TAPITE SCREW		
N		N69-3008-46	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	RD14ABE220JTS	FL-PROOF RD 22 J 1/4W		

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IC4		UPC7805AHF	IC(VOLTAGE REGULATOR)		
IC5		TA79005S	IC(VOLTAGE REGULATOR/ -5V)		
IC5		UPC7905AHF	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(CHMOS INVERTER)		
IC10		TA79005S	IC(VOLTAGE REGULATOR)		
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	SK5848P	IC(DIGITAL FILTER)		
IC20	21	PCF1700U	IC(D/A CONVERTER)		
IC22	23	TA7805S	IC(VOLTAGE REGULATOR/ +5V)		
IC22	23	UPC7805AHF	IC(VOLTAGE REGULATOR)		
IC24		TA79005S	IC(VOLTAGE REGULATOR)		
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	NJM45800	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(CHMOS 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(L,E)	TRANSISTOR		
Q11	12	2SC4466LC	TRANSISTOR		
Q13	14	2SA1693LC	TRANSISTOR		
Q15	16	2SC1137	TRANSISTOR		
Q21		2SC2003(L,K)	TRANSISTOR		
C1		AUDIO UNIT (X09-3491-01:P, 2-71:M, Y, T, E)			
C2	.3	GE04KW1A70M	ELECTRO 47UF 10WV		
C4		CK45FF1H103Z	0.010UF Z		
C28	-30	CF92FV1H101K	100PF K		
C31	.32	CF92FV1H103J	0.010UF J		
C31	.32	CE04KW1C220M	ELECTRO 22UF 16WV		
C33	.34	CF92FV1H103J	0.010UF J		
C35	-38	CF92FV1H68J	MF 0.068UF J		
C39	.40	CF92FV1H121K	MF 120PF K		
C41	42	CE04KW1E221M	ELECTRO 220UF 25WV		
C43		CE04KW1C220M	ELECTRO 22UF 16WV		

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

PARTS LIST

No.9

* New Parts
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Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 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		CE04KW1C102H	ELECTRØ	16WV
C2		CE04KW1C222H	ELECTRØ	16WV
C3		CE04KW0J331H	ELECTRØ	330UF 6.3WV
C4		CE04KW0J471H	ELECTRØ	470UF 6.3WV
C6		CE04KW1V100H	ELECTRØ	10UF 35WV
C7 , 8		CK45FF1H473Z	CERAMIC	0.047UF Z
C9		CE04KW1V101H	ELECTRØ	100UF 35WV
C10		CE04KW1H471M	ELECTRØ	470UF 50WV
C11 , 12		CE04KW1V471M	ELECTRØ	470UF 35WV
C13		CE04KW1C220H	ELECTRØ	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	ELECTRØ	22UF 50WV
C26 -31		CE04KW1H010M	ELECTRØ	1.0UF 50WV
C32 -35		CE04KW1H220M	ELECTRØ	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	ELECTRØ	1.0UF 50WV
C52		C90-1827-05	BACKUP	0.047F 5.5WV
C53		CK45FF1H103Z	CERAMIC	0.010UF Z
C54		CE04KW1A101M	ELECTRØ	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	ELECTRØ	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	ELECTRØ	0.47UF 50WV
C74		CE04KW1H010H	ELECTRØ	1.0UF 50WV
C75		CE04KW1V100H	ELECTRØ	100UF 35WV
C76		CE04KW1E101M	ELECTRØ	100UF 25WV
C77		CK45FF1H473Z	CERAMIC	0.047UF Z
C79		CE04KW1H222H	ELECTRØ	2.20UF 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		CE04KW1H220H	ELECTRØ	22UF 50WV

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No.8

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Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
R111		RD14CB2E220JTS	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		RN14BK2C2370FTS	RN 750.0	F 1/6W
R123	*	RN14BK2C2370FTS	RN 237.0	F 1/6W
R137 , 138		RS14DB3D4R7JTE	FL-PROOF RS 4.7	J 2W
R139 , 140	*	RS14DB3D4R7JTE	FL-PROOF RS 4.7	J 2W
R142	*	RS14DB3D4R7JTE	FL-PROOF RS 4.7	J 2W
R159	*	RN14BK2E47R0FTS	RN 47.0	F 1/4W
R160	*	RS14DB3D562JTE	FL-PROOF RS 5.6K	J 2W
R180-181		RS14DB3D020JTE	FL-PROOF RS 82	J 2W
R182		RS14DB3D101JTE	FL-PROOF RS 100	J 2W
VR1 -3	*	R12-1617-05	TRIMMING POT.(.470)	
D1 -3		HSS104A	DIODE	
D1		1SS131	DIODE	
D4		SS688B	DIODE	
D5		HZS15S(B)	ZENER DIODE	
D5		RD15JS(B)	ZENER DIODE	
D6		HSS104A	DIODE	
D6		1SS131	DIODE	
D7		HZS4.7N(B)	ZENER DIODE	
D7		RD4.7BS(B)	ZENER DIODE	
D8 , 9		HSS104	DIODE	
D8 , 9		1SS133	DIODE	
D10		DSFB20*1	DIODE	
D11		D3BA20F03	DIODE	
D12 -19		SS688B	DIODE	
D20 -27		HSS104	DIODE	
D20 -27		1SS133	DIODE	
IC1		TA7815S	IC(VOLTAGE REGULATOR/ +15V)	
IC1		UPC7815AHF	IC(VOLTAGE REGULATOR/ +15V)	
IC2	*	TA7901SS	IC(VOLTAGE REGULATOR/ -15V)	
IC2		UPC7915HF	IC(VOLTAGE REGULATOR/ -15V)	
IC3		TA7808S	IC(VOLTAGE REGULATOR/ +8V)	
IC3		UPC7808AHF	IC(VOLTAGE REGULATOR)	
IC4		TA7900BS	IC(VOLTAGE REGULATOR)	
IC4		UPC7908HF	IC(VOLTAGE REGULATOR)	
IC5		TA7815S	IC(VOLTAGE REGULATOR/ -15V)	
IC5		UPC7815AHF	IC(VOLTAGE REGULATOR/ +15V)	
IC6	*	TA7901SS	IC(VOLTAGE REGULATOR/ -15V)	
IC6		UPC7915HF	IC(VOLTAGE REGULATOR/ -15V)	
IC7	*	UPD78214CN-E41	IC(MICRO PROCESSOR)	
IC8		TC9162N	IC(ANALOG SWITCH ARRAY)	
Q1 , 2		25C4137F19(V,W)	TRANSISTOR	
Q3 , 4		25D222*5	TRANSISTOR	
Q5 , 6		25B1470*5	TRANSISTOR	
Q7 , 8		25C1845(F,E)	TRANSISTOR	
Q10		25C4137F19(V,W)	TRANSISTOR	
Q11		25D222*5	TRANSISTOR	
Q12		25B1470*5	TRANSISTOR	
Q13		25C1845(F,E)	TRANSISTOR	
Q20		25A992(F,E)	TRANSISTOR	
Q21 , 22		25C1845(F,E)	TRANSISTOR	

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PARTS LIST

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No.11

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
D10			RDS.1ES(B2)	ZENER DIODE	MYP	
D11			HZS5.1S(B2)	ZENER DIODE	MYP	
D12			HZS.1JS(B2)	ZENER DIODE	TE	
D12			HZS5.1N(B2)	ZENER DIODE	TE	
D12			HZS.1ES(B2)	ZENER DIODE	MYP	
D13 -16			HSS104	DIODE	MYP	
D13 -16			HSS133	DIODE	MYP	
D13 -27			HSS104	DIODE	TE	
D13 -27			HSS133	DIODE	TE	
D18 -27			HSS104	DIODE	MYP	
D18 -27			1SS133	DIODE	MYP	
D28			HZS5.1N(B2)	ZENER DIODE		
D28			HZS.1ES(B2)	ZENER DIODE		
D29 -49			HSS104	DIODE		
D29 -49			1SS133	DIODE		
D50			HZS5.1N(B2)	ZENER DIODE		
D50			HZS.1ES(B2)	ZENER DIODE		
D51			HSS104A	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		*	FIP12BTM7	FLUORESCENT INDICATOR TUBE		
IC1		*	NJM4558D	IC(OP AMP X2)		
IC2		*	TAB409S	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	
IC4		*	UPD75216ACH-C89	IC(MICROPROCESSOR)	MYP	
IC5		*	NJU3711D	IC(SBIT I/O EXPANDER)		
IC6		*	M6860041P	IC(EEP ROM)		
IC7		*	NJM4560D-A	IC(OP AMPX2)		
IC7		*	NJM4565D-D	IC(OP AMP X2)		
Q1		*	ZS81370(E, F, G)	TRANSISTOR		
Q2		*	ZSD2051(E, F, G)	TRANSISTOR		
Q3		*	ZS81370(E, F, G)	TRANSISTOR		
Q4		*	2SA954(L, K)	TRANSISTOR		
Q5		*	DTA1132S	DIGITAL TRANSISTOR		
Q5		*	UN4119	DIGITAL TRANSISTOR		
Q6 -10		*	2SC2878(B)	TRANSISTOR		
Q6 -10		*	DTA124ES	DIGITAL TRANSISTOR		
Q11			UN4112	TRANSISTOR		
Q12			DTC124ES	DIGITAL TRANSISTOR		
Q12			UN4212	DIGITAL TRANSISTOR		
Q13			2SC2458(Y, GR)	TRANSISTOR		
Q13			2SC3311A(Q, R)	TRANSISTOR		
Q14			DTA1132S	DIGITAL TRANSISTOR		
Q14			UN4119	DIGITAL TRANSISTOR		
Q15			DTC124ES	DIGITAL TRANSISTOR		
Q15			UN4212	DIGITAL TRANSISTOR		
Q16			2SC2458(Y, GR)	TRANSISTOR		

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No.10

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
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 PHONES		
J6			E06-0410-05	CYLINDRICAL RECEPTACLE S-VIDEO		
J7		*	E63-0032-05	PHONO JACK VIDEO/PLAY		
F1			F05-4025-05	FUSE (SEMØ) (250V T4A)	TE	
F1			F05-6029-05	FUSE (UL)	P	
F1 ,2			F05-4025-05	FUSE (SEMØ) (250V T4A)	MY	
F3			F05-2925-05	FUSE (SEMØ) (230V 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		
L1		*	L40-1021-14	SMALL FIXED INDUCTOR(1.0MH, K)	E	
L1		*	L07-0433-05	POWER TRANSFORMER	T	
L1		*	L07-0474-05	POWER TRANSFORMER	P	
L1		*	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 100KX7 J 1/4W		
R4		*	RS14KB2A820JTE	FL-PROOF RS 82 J 1W		
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 5KB2 BASS TREBL		
VR4		*	R29-5061-05	POTENTIOMETER 100KX5 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		
D9			RD6.8ES(B2)	ZENER DIODE		
D10			HZS5.1N(B2)	ZENER DIODE		

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 P:Canada
 E:Europe
 Y:AFES(Europe)
 Y:PX(Far East, Hawaii)
 X:Australia
 M:Other Areas

indicates safety critical components

PARTS LIST

No.13

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Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向標
C237			CC45FSL1H1000	CERAMIC 10PF	
C238			CC45FSL1H470J	CERAMIC 47PF	
C239			CC45FF1H103Z	CERAMIC 0.010UF	
C240			CE04KW1V100M	ELECTRO 10UF	35WV
C243			CC45FB1H102K	CERAMIC 1000PF	
C244			CE04KW1V100M	ELECTRO 10UF	35WV
C245			CC45FSL1H470J	CERAMIC 47PF	
C247			CC45FSL1H101J	CERAMIC 100PF	
C249			CC45FSL1H221J	CERAMIC 220PF	
C251			CC45FSL1H390J	CERAMIC 39PF	
C252			CC45FSL1H150J	CERAMIC 15PF	
C253			CC45FSL1H180J	CERAMIC 18PF	
C254			CC45FSL1H220J	CERAMIC 22PF	
C255			CC45FSL1H390J	CERAMIC 39PF	
C256			CC45FF1H103Z	CERAMIC 0.010UF	Z
C257			CE04KW1V100M	ELECTRO 10UF	35WV
C258			CE04KW1A470M	ELECTRO 47UF	10WV
C261			CE04KW1V477M	ELECTRO 4.7UF	35WV
C262			CE04KW1V100M	ELECTRO 10UF	35WV
C263			CC45FF1H103Z	CERAMIC 0.010UF	Z
C264			CE04KW1V100M	ELECTRO 10UF	35WV
C266			CC45FF1H103Z	CERAMIC 0.010UF	Z
C267			CE04KW1V100M	ELECTRO 10UF	35WV
C268			CC45FSL1H470J	CERAMIC 47PF	
C269			CC45FB1H471K	CERAMIC 470PF	
C270			CE04KW1H477M	ELECTRO 0.47UF	50WV
C271			CE04KW1H010M	ELECTRO 1.0UF	50WV
C272			CC45FB1H541K	CERAMIC 560PF	
C273			CE04KW1V100M	ELECTRO 10UF	35WV
C274			CC45FF1H103Z	CERAMIC 0.010UF	Z
C275			CC45FSL1H221J	CERAMIC 220PF	
C276			CF92FV1H122J	MF 1200PF	J
C277			CF92FV1H352J	MF 3500PF	J
C278			CE04KW1H2R2M	ELECTRO 2.2UF	50WV
C279			CE04KW1V010M	ELECTRO 1.0UF	35WV
C280			CF92FV1H223J	MF 0.022UF	J
C281			CF92FV1H473J	MF 0.047UF	J
C282			CC45FSL1H470J	CERAMIC 47PF	
C286			CC45FF1H103Z	CERAMIC 0.010UF	Z
C289			CE04KW1A470M	ELECTRO 47UF	10WV
C290			CC45FF1H103Z	CERAMIC 0.010UF	Z
C291			CE04KW1V100M	ELECTRO 10UF	35WV
C292			CC45FF1H103Z	CERAMIC 0.010UF	Z
C293			CE04KW1A470M	ELECTRO 47UF	10WV
C294			CE04KW1V100M	ELECTRO 10UF	35WV
C298			CE04KW1A470M	ELECTRO 47UF	10WV
C299			CC45FF1H103Z	CERAMIC 0.010UF	Z
C300			CC45FB1H102K	CERAMIC 1000PF	
C308			CE04KW1A470M	ELECTRO 47UF	10WV
C309			CC45FF1H103Z	CERAMIC 0.010UF	Z
C311			CC45FSL1H330J	CERAMIC 33PF	
C312			CC45FF1H103Z	CERAMIC 0.010UF	Z
C314			CC45FSL1H220J	CERAMIC 22PF	

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

No.12

* 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.

Ref. No. 参照番号	Address 位置	New Parts 新部品	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向標
Q16			2SC3311A(Q,R)	TRANSISTOR	
Q17			UN4219	DIGITAL TRANSISTOR	
Q18			2SA1048(Y,GP)	TRANSISTOR	
Q18			2SA1309A(Q,R)	TRANSISTOR	
A1			W02-0975-05	ELECTRIC CIRCUIT MODULE	
ACCESSORY UNIT (X13-6960-00:M,Y,P,2-71:T,E)					
C1			CE04KW1V100M	ELECTRO 10UF	35WV
C3			CF92FV1H102J	MF 1000PF	J
C5			CF92FV1H123J	MF 0.012UF	J
C7			CF92FV1H322J	MF 3300PF	J
C9			CF92FV1H101K	MF 100PF	K
C13			CF92FV1H182J	MF 1800PF	J
C15			CE04KW0J331M	ELECTRO 330UF	6.3WV
C17			CE04KW1V100M	ELECTRO 10UF	35WV
C19			CF92FV1H102J	MF 1000PF	J
C21			CC45FSL1H101J	CERAMIC 100PF	
C23			CC45FSL1H221J	CERAMIC 220PF	
C41			CE04KW1H2R2M	ELECTRO 2.2UF	50WV
C43			CC45FSL1H221J	CERAMIC 220PF	
C44			CC45FSL1H221J	CERAMIC 220PF	
C51			CE04KW1H220M	ELECTRO 22UF	50WV
C53			CF92FV1H221K	MF 220PF	K
C55			C90-1921-05	ELECTRO 22UF	25WV
C57			CE04KW1H2R2M	ELECTRO 2.2UF	50WV
C59			CC45FSL1H221J	CERAMIC 220PF	
C63			CE04KW1H2R2M	ELECTRO 2.2UF	50WV
C65			CC45FSL1H221J	CERAMIC 220PF	
C71			CC45FSL1H221J	CERAMIC 220PF	
C101			CC45FB1H102K	CERAMIC 1000PF	K
C105			CC45FF1H103Z	CERAMIC 0.010UF	Z
C106			CF92FV1H104J	MF 0.100UF	J
C111			CC45FB1H102K	CERAMIC 1000PF	K
C115			CC45FF1H103Z	CERAMIC 0.010UF	Z
C118			CE04KW1H101M	ELECTRO 100UF	50WV
C122			CC45FB1H102K	CERAMIC 1000PF	K
C201			CC45FB1H102K	CERAMIC 1000PF	K
C205			CC45FF1H103Z	CERAMIC 0.010UF	Z
C207			CE04KW1A470M	ELECTRO 47UF	10WV
C208			CC45FF1H103Z	CERAMIC 0.010UF	Z
C210			CE04KW1A470M	ELECTRO 47UF	10WV
C211			CC45FF1H103Z	CERAMIC 0.010UF	Z
C213			CE04KW1A470M	ELECTRO 47UF	10WV
C215			CC45FF1H103Z	CERAMIC 0.010UF	Z
C218			CE04KW1V100M	ELECTRO 10UF	35WV
C220			CC45FF1H103Z	CERAMIC 0.010UF	Z
C222			CC45FSL1H100D	CERAMIC 10PF	D
C223			CC45FF1H103Z	CERAMIC 0.010UF	Z
C224			CE04KW1V100M	ELECTRO 10UF	35WV
C226			CE04KW1V100M	ELECTRO 10UF	35WV
C229			CC45FF1H103Z	CERAMIC 0.010UF	Z
C230			CE04KW1V100M	ELECTRO 10UF	35WV
C231			CC45FSL1H470J	CERAMIC 47PF	
C233			CE04KW1V100M	ELECTRO 10UF	35WV
C236			CC45FF1H103Z	CERAMIC 0.010UF	Z

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KA-V8500

PARTS LIST

No.15

* 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.

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向	Re- marks 備考
Q58 -63			2SC2458(Y,OR)	TRANSISTOR		
Q58 -63			2SC3511A(Q,R)	TRANSISTOR		
Q64 ,65			2SC2878(B)	TRANSISTOR		
Q66			DTA124ES	DIGITAL TRANSISTOR		
Q66			UN4112	TRANSISTOR		
MAIN AMPLIFIER UNIT (X85-1190-06)						
C1 ,2			CE04KW1H220M	ELECTRO		22UF 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			CE04KW1E330M	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			RD14NB2E151J	RD		150 J 1/4W
R27 -50			RD14NB2E221J	RD		220 J 1/4W
R31 ,52			RD14NB2E470J	RD		47 J 1/4W
R47			RD14NB2E151J	RD		150 J 1/4W
R51 ,52			RD14NB2E221J	RD		220 J 1/4W
D1 ,2			HSS104	DIODE		
D1			ISS133	DIODE		
D6			HSS104	DIODE		
D6			ISS133	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
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△ indicates safety critical components.

No.14

* 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.

Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 向	Re- marks 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		*	L78-2107-05	CRYSTAL RESONATOR 17.734475MHZ	TE	
X2		*	L78-0272-05	RESONATOR 503.5KHZ	MYP	
X2		*	L78-0300-05	RESONATOR 15.680KHZ	TE	
R201,202			RD14CB2E4R7JTS	FL-PROOF RD 4.7 J 1/4W		
D51 -57			HSS104	DIODE		
D51 -57			ISS133	DIODE		
D61 -67			HSS104	DIODE		
D61 -67			ISS133	DIODE		
D100-125			HSS104	DIODE		
D100-125			ISS133	DIODE		
D126,129			HSS194	DIODE		
D126,129			ISS133	DIODE		
D138-140			HSS104	DIODE		
D138-140			ISS133	DIODE		
D141,142			HZSS.1N(B)	ZENER DIODE		
D141,142			RD5.1ES(B)	ZENER DIODE		
D143-148			HSS104	DIODE		
D143-148			ISS133	DIODE		
D149			HZSS.1N(B)	ZENER DIODE		
D149			RD5.1ES(B)	ZENER DIODE		
D150-166			HSS104	DIODE		
D150-166			ISS133	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			LC4051BP	IC(8CH MPX DE-MPX)		
IC25			MC14577A	IC(DUAL VIDEO AMP)		
IC26			LC4051BP	IC(8CH MPX/ DE-MPX)		
IC26			MC14577A	IC(DUAL VIDEO AMP)		
IC28		*	MC14577A	IC(DUAL VIDEO AMP)		
IC29		*	MC14577A	IC(SYNC SEPARATION)		
IC30		*	MC14577A	IC(DUAL VIDEO AMP)		
IC31		*	UPD6450CX-514	IC		
Q1 -4			2SC2878(B)	TRANSISTOR		
Q11			DTC124ES	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
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Y:AAFES(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 Ω 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 8Ω). 65 W + 65 W
 Center (1kHz, 0.2 % T.H.D. at 8Ω). 65 W
 Rear (1kHz, 0.2 % T.H.D. at 8Ω). 25 W + 25 W

Total harmonic distortion

0.08 % (20 Hz – 20 kHz, 80 W, 8Ω)
 0.02 % (1 kHz, 80 W, 8Ω)

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 kΩ
 LINE (CD, TUNER, AUX, TAPE) 200 mV/47 kΩ

Tone control

BASS ±10 dB (at 100Hz)
 TREBLE ±10 dB (at 10kHz)

Output level/Impedance

TAPE REC 200 mV/470 Ω
 PREOUT 1 V/600 Ω
 Center channel preout 1 V/600 Ω
 Rear channel preout 1 V/600 Ω
 SUB WOOFER PREOUT 1 V/600 Ω

VIDEO section

Television format NTSC

Input level/Impedance

VIDEO (composite) 1Vp-p/75Ω
 Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO 2,
 VIDEO 3)

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

Output level/Impedance

VIDEO (composite) 1Vp-p/75Ω
 Output (VDP, DBS/TV, AV AUX, MONITOR,
 VIDEO 1, VIDEO 2, VIDEO 3)

S-VIDEO (Luminance signal) 1Vp-p/75Ω
 (Chrominance signal) 0.286Vp-p/75Ω
 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 Ω 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 Ω 1 kHz with no more than 0.2 % total harmonic distortion.

Center

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

Rear

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

Total harmonic distortion

0.08 % (20 Hz-20 kHz, 80 W, 8 Ω)
0.02 % (1 kHz, 80 W, 8 Ω)

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 Ω
LINE (CD, TUNER, AUX, TAPE) ... 200 mV/47 k Ω

Tone control

BASS ± 10 dB (at 100Hz)
TREBLE ± 10 dB (at 10kHz)

Output level/Impedance

TAPE REC 200 mV/470 Ω
PREOUT 1 V/600 Ω
Center channel preout 1 V/600 Ω
Rear channel preout 1 V/600 Ω
SUB WOOFER PREOUT 1 V/600 Ω

VIDEO section

Television format NTSC

Input level/Impedance

VIDEO (composite) 1Vp-p/75 Ω
Input (VDP, DBS/TV, AV AUX, VIDEO 1 VIDEO 2,
VIDEO 3)

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

Output level/Impedance

VIDEO (composite) 1Vp-p/75 Ω
Output (VDP, DBS/TV, AV AUX, MONITOR,
VIDEO 1, VIDEO 2, VIDEO 3)
S-VIDEO (Luminance signal) 1Vp-p/75 Ω
(Chrominance signal) 0.286Vp-p/75 Ω
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 Ω from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion.

(DIN) 1kHz, at 8 Ω..... 55 W + 55W
 at 4 Ω..... 85 W + 85W

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

0.7 % T.H.D. at 8 Ω..... 55 W + 55W
 at 4 Ω..... 80 W + 80W

[SURROUND MODE]

Continuous rated power output (IHF'66)

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

Total harmonic distortion

0.08 % (20 Hz – 20 kHz, 55 W, 8Ω)
 0.04 % (1 kHz, 55 W, 8Ω)

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 kΩ
 LINE (CD, TUNER, AUX, TAPE) 200 mV/47 kΩ

Tone control

BASS ±10 dB (at 100Hz)
 TREBLE ±10 dB (at 10kHz)

Output level/Impedance

TAPE REC 200 mV/470 Ω
 PREOUT 1 V/600 Ω
 Center channel preout 1 V/600 Ω
 Rear channel preout 1 V/600 Ω
 SUB WOOFER PREOUT 1 V/600 Ω

VIDEO section

Television format PALL

Input level/Impedance

VIDEO (composite) 1Vp-p/75Ω
 Input (VDP, DBS/TV, AV AUX, VIDEO 1 VIDEO 2,
 VIDEO 3)

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

Output level/Impedance

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

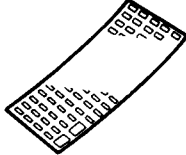
KA-V8500

Accessories

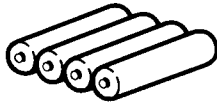
- Remote control unit ... 1
(A70-0570-05)
(A09-0086-08): Battery cover



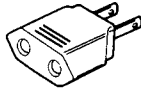
- Remote control unit entry sheet ... 1
(G16-0756-08)



- 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 fixture

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

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