

SPECIFICATIONS

AUDIO section

Rated power output (FRONT)

105 watts per channel minimum RMS, both channels driven, at 8 ohms, from 20 Hz to 20 kHz with no more than 0.05% total harmonic distortion. (FTC)

Rated power output (REAR)

20 watts per channel minimum RMS, both channels driven, at 8 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Dynamic power

Per channel at 2 ohms 240 W
Per channel at 4 ohms 215 W
Per channel at 8 ohms 145 W

Total harmonic distortion distortion (LINE input to SPEAKER output)

Rated output power at 8 ohms, 20 Hz-20,000 Hz 0.05%
1/2 Rated output power at 8 ohms, 20 Hz-20,000 Hz 0.05%
Rated output power at 8 ohms, 1 kHz 0.003%

Frequency response

LINE to SPEAKER 10 Hz to 100 kHz +0, -3 dB
PHONO "RIAA" response
PHONO (MM) input 20 Hz to 20 kHz \pm 0.5 dB

Signal to noise ratio
PHONO (MM) (IHF-A) 78 dB (for 2.5 mV input) (IHF'66)
TUNER/AUX/TAPE/CD/VIDEO (IHF-A) (IHF'66) 100 dB (for 150 mV input)
PHONO (MM) (IHF-A) 79 dB
TUNER/AUX/TAPE/CD/VIDEO (IHF-A) 83 dB

Tone control

Bass \pm 10 dB (at 100 Hz)
Treble \pm 10 dB (at 10 kHz)
Damping factor 150 (50 Hz at 8 ohms)
Input sensitivity/impedance
PHONO (MM) 2.5 mV, 47 kohms
TUNER/AUX/TAPE/CD/VIDEO 150 mV, 47 kohms
PHONO maximum input level (PHONO to TAPE REC) MM at 1 kHz, 0.05% T.H.D. 135 mV

Video section

Television format NISC
Rated input 1 Vp-p, 75 ohms
Rated output 1 Vp-p, 75 ohms

General

Power consumption 3.3 A (USA & Canada)
340 W (other countries)
Dimensions
W: 440 mm (17-3/8")
H: 164 mm (6-7/16")
D: 428 mm (16-7/8")
Weight (Net) 15.5 kg (34.1 lbs)

Note:
We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD CORPORATION

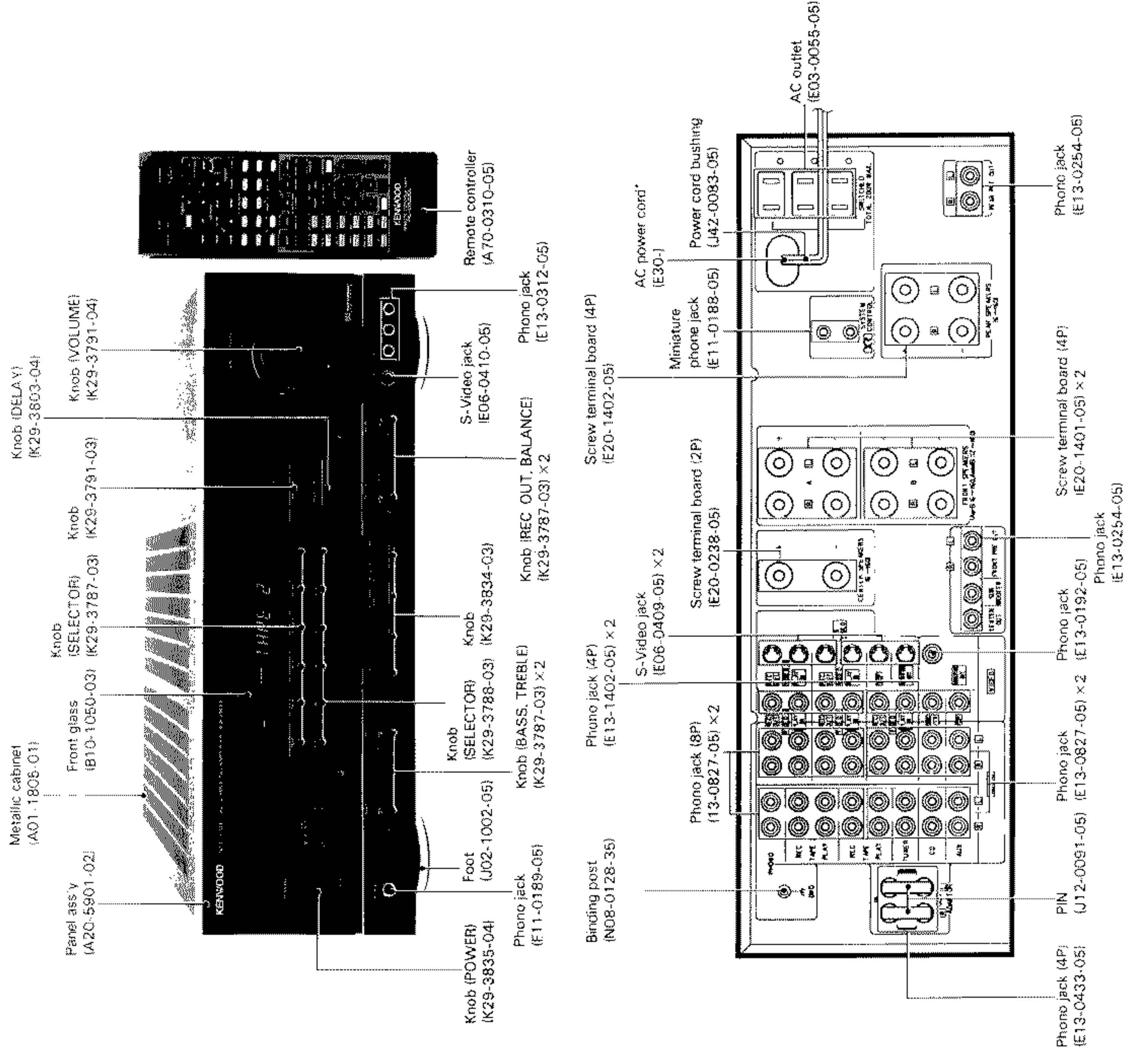
Shirogi, Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 153, Japan
KENWOOD USA CORPORATION
2201, East Dominguez Street, Long Beach, CA 90810
550 Clark Drive Mount Olive, NJ 07828, U.S.A.
KENWOOD ELECTRONICS CANADA INC
P.O. Box 1915, 959 Dana Court, Mississauga, Ontario, Canada L4T 4C2
TRIO-KENWOOD U.K. LIMITED
KENWOOD House, Langthorpe Road, Walford, Wetherby, West Yorkshire LS23 7BA, England
KENWOOD ELECTRONICS BENELUX N.V.
Machelsesteenweg 418 B-1930 Zaventem, Belgium
KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rheinbuckel-Str. 15, 6056 Heusenstamm 1, West Germany
TRIO-KENWOOD FRANCE S.A.
13, Boulevard Ney, 75018 Paris, France
KENWOOD LINEAR S.p.A.
20125, MILANO-VIA ARBE 50, ITALY
KENWOOD ELECTRONICS AUSTRALIA PTY LTD (INCORPORATED IN N.S.W.)
4C Woodcock, Place, Lane Cove, N.S.W. 2066, Australia
KENWOOD & LEE ELECTRONICS LTD
Wing Kee Building, 4th Floor, 34-37 Connaught Road Central, Hong Kong

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

STEREO AMPLIFIER KA-V6000

SERVICE MANUAL

C-1989-10 PRINTED IN JAPAN
B51-4022-00(B11695)



* Refer to parts list on page 59.

CONTENTS

DISASSEMBLY FOR REPAIR	3	SCHEMATIC DIAGRAM	41
BLOCK DIAGRAM	4	EXPLODED VIEW	57
CIRCUIT DESCRIPTION	5	PARTS LIST	59
ADJUSTMENT/REGULATE/ANGLECH	28	SPECIFICATIONS	Back cover
PC BOARD (Component Side View)	31		

DISASSEMBLY FOR REPAIR

CONTROL AND INDICATORS

Input selector keys

Audio input selector keys

CD: For listening to CDs.

PHONO: For listening to records.

TUNER: For listening to radio broadcasts.

AUX: For listening to the component connected to the AUX jacks on the rear panel.

TAPE1: For listening to the tape deck connected to the TAPE1 jacks on the rear panel.

TAPE2: For listening to the tape deck connected to the TAPE2 jacks on the rear panel.

Video input selector keys

VDP: For playing the component connected to the VDP jacks on the rear panel.

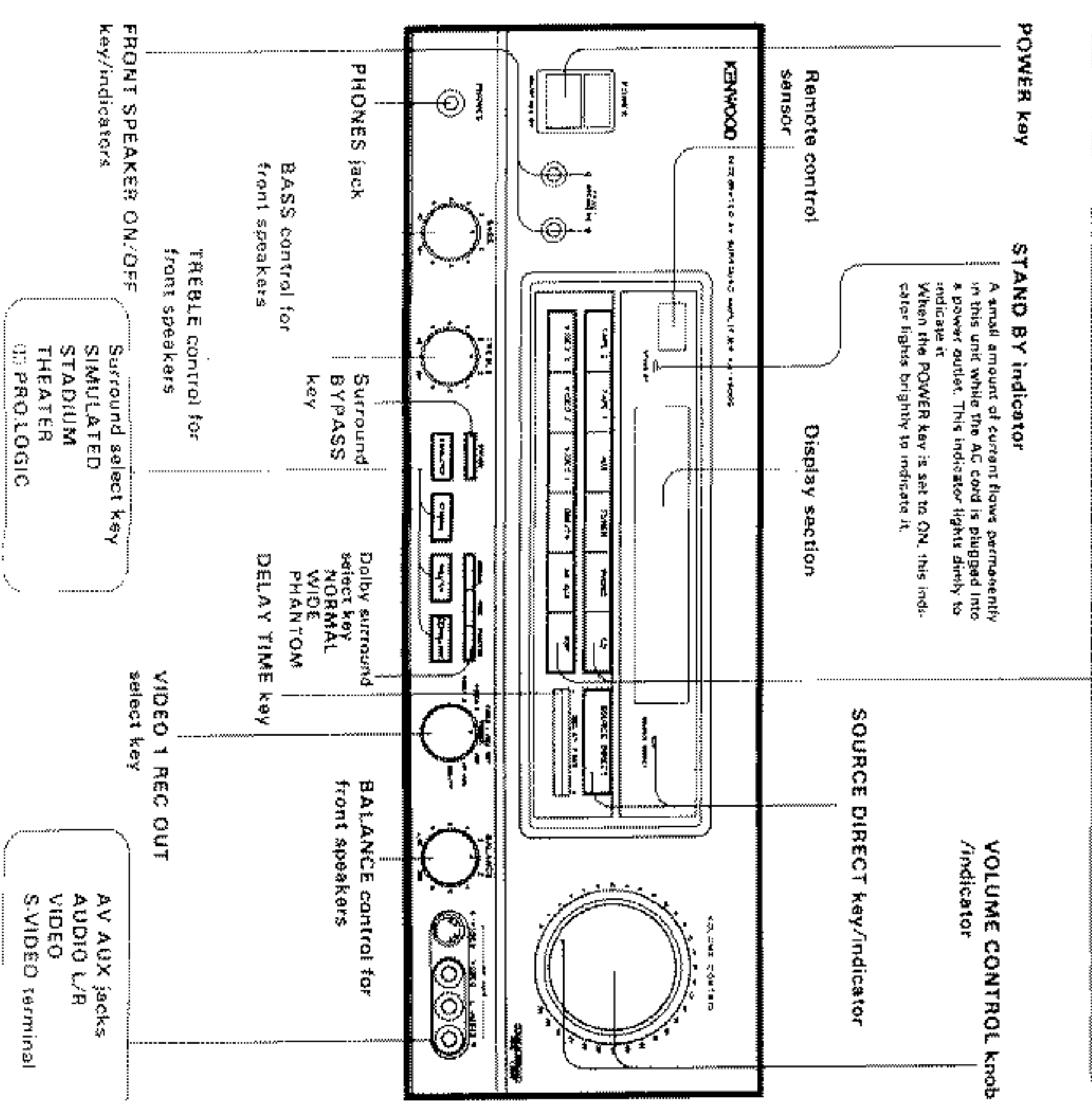
AV/AUX: For playing the auxiliary video component connected to the AV/AUX VIDEO jacks on the rear panel.

DBS/TV: For operating a DBS tuner or TV tuner.

VIDEO1: For playing VCR 1.

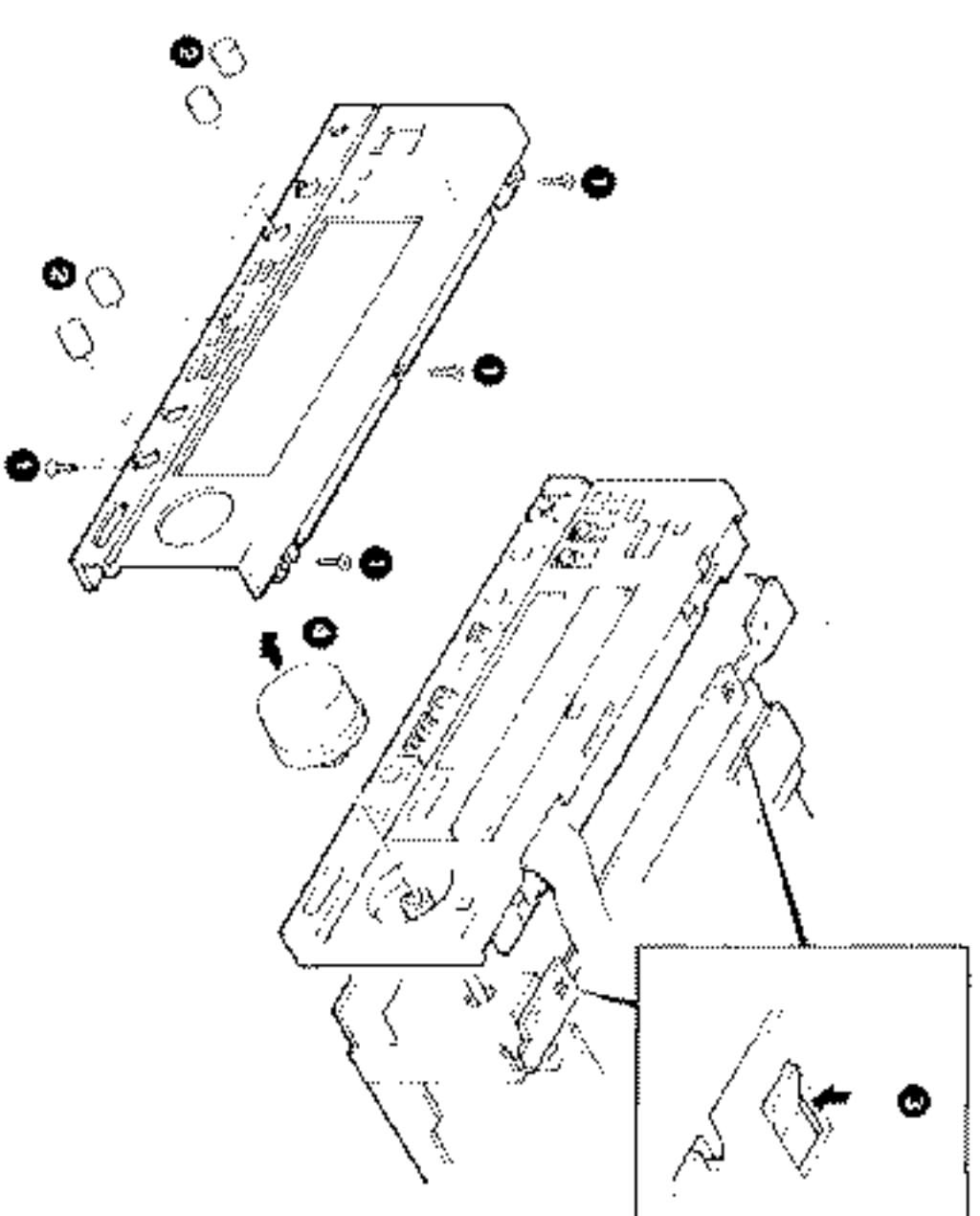
VIDEO2: For playing VCR 2.

VIDEO3(S): For playing VCR 3.

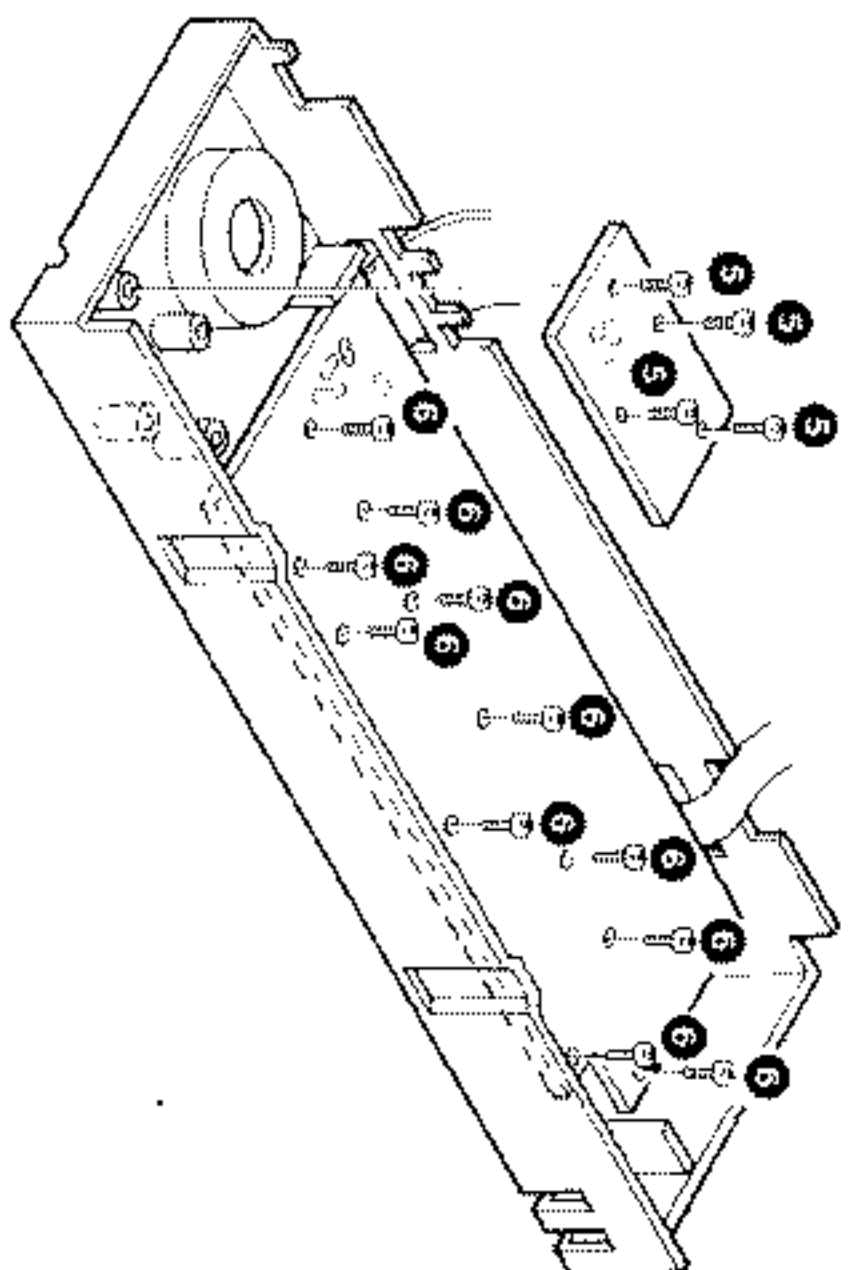


Disassembly for Repair

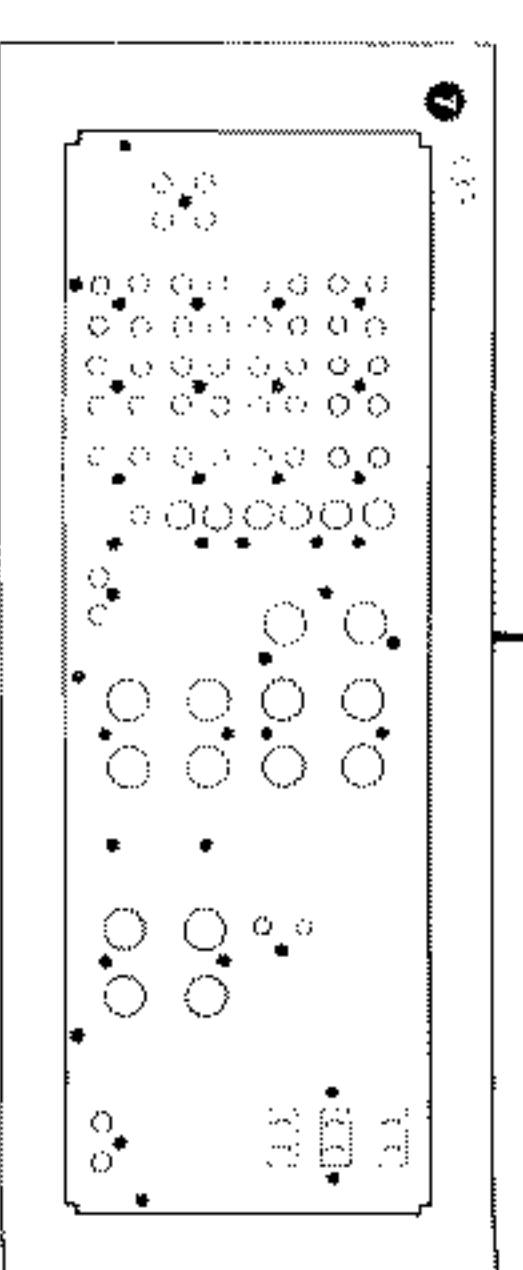
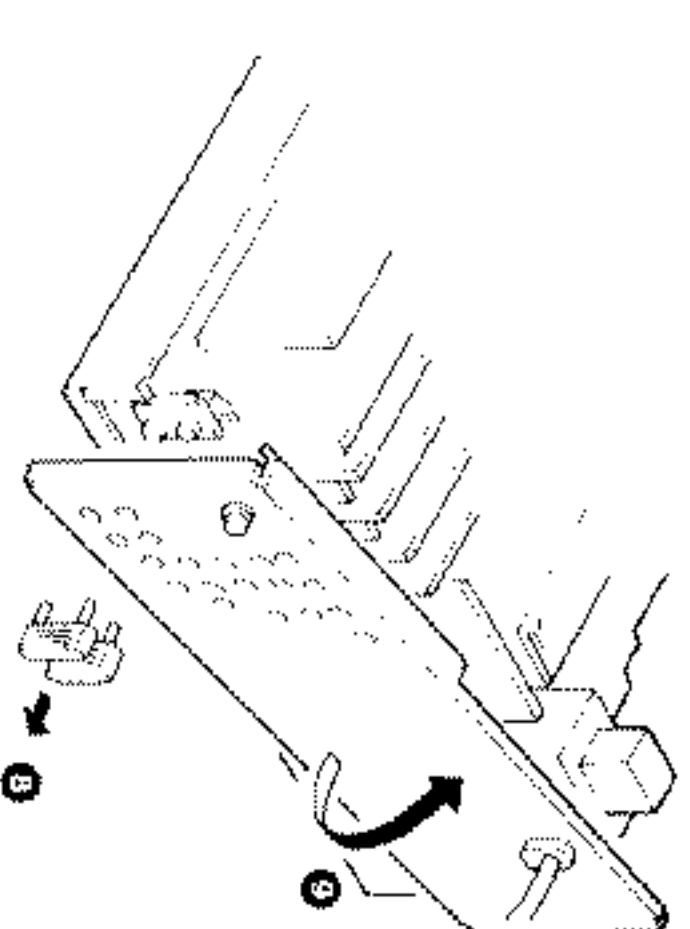
- 1) Remove the 8 screws ①
 - 2) Detach the knob ②
 - 3) Undo the 4 catches ③
 - 4) Detach the knob ④
- *When 1 cannot be detached, force it out from the rear using a straight-edged screwdriver.



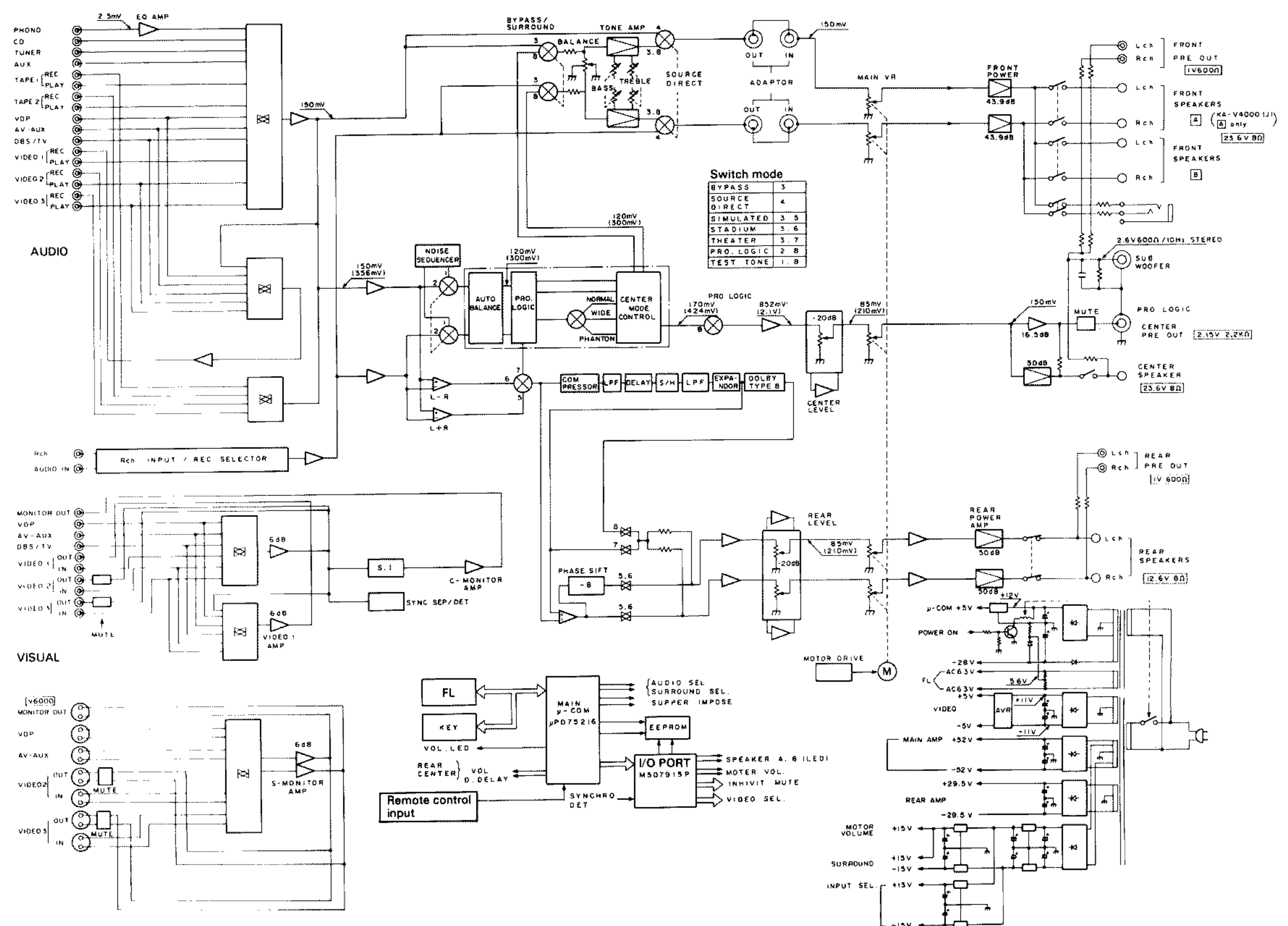
- 5) Remove the 4 screws ⑤
- 6) Remove the 11 screws ⑥



- 7) Remove the 38 screws ⑦
- 8) Take out the pin ⑧
- 9) Detach the rear panel in the direction of an arrow ⑨

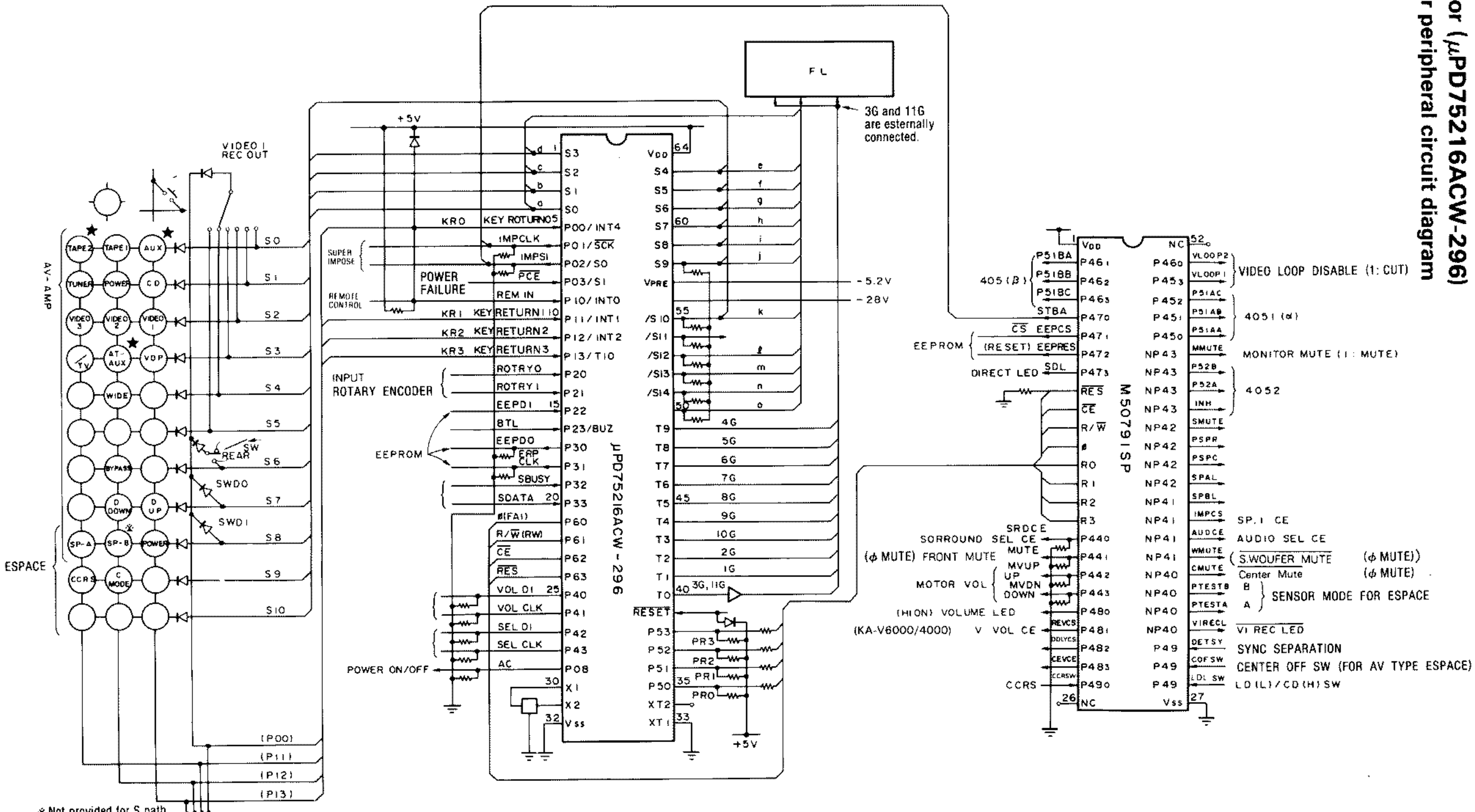


BLOCK DIAGRAM



CIRCUIT DESCRIPTION

Microprocessor (µPD75216ACW-296)
Microprocessor peripheral circuit diagram



⊗ Not provided for S path
 * Provided only for ESPACE
 ★ Not provided for KA-V4000

ESPACE II	SWD 1	SWD φ
KA-V6000	Not provided	Not provided
KA-V4000 (J)	Not provided	Provided
KA-V4000	Provided	Not provided
	Provided	Provided

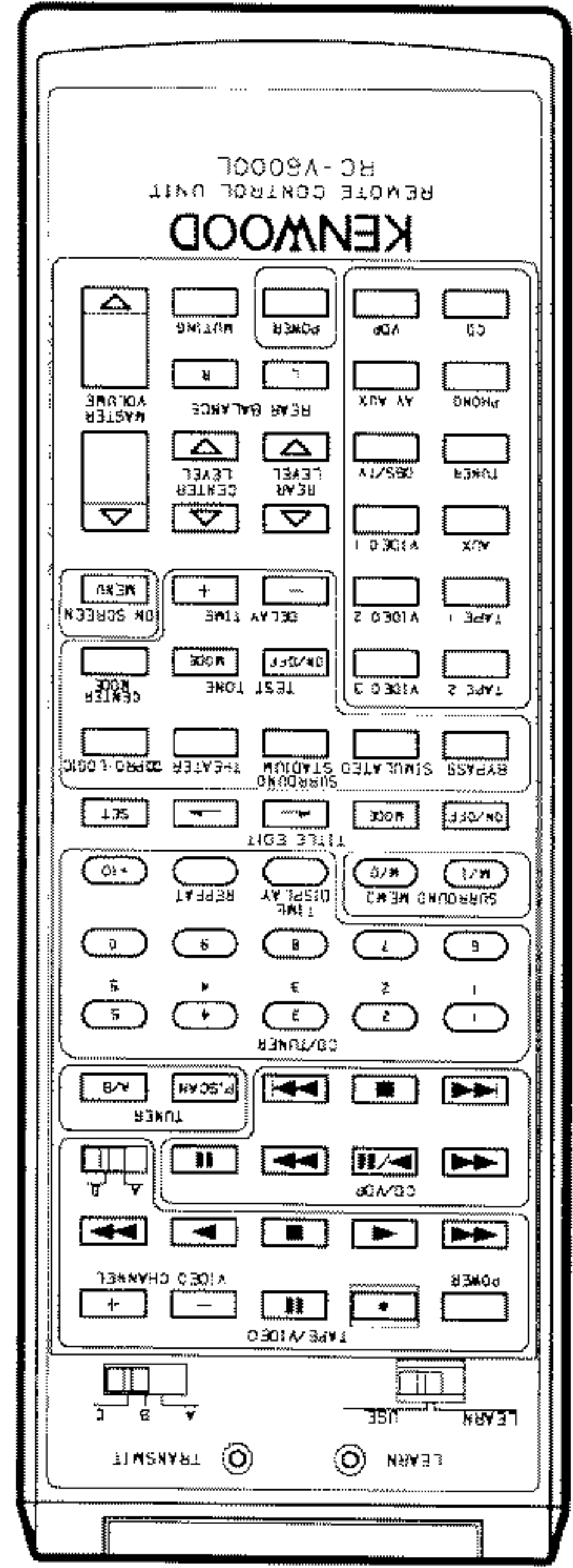
CIRCUIT DESCRIPTION

Pin No.	Pin Name	I/O	Name	Description
51	V _{DD}	0	VLOOP2	Video loop inhibit (for VIDEO 3) (1 - Cut)
46	P46 ₁	0	P51B4	4051 (beta) control output
3	P46 ₂	0	P51B8	4051 (beta) control output
4	P46 ₃	0	P51B0	4051 (beta) control output
5	P47 ₁	0	STBA	EEPROM chip select output
6	P47 ₂	0	EEPCS	EEPROM chip select output
7	P47 ₃	0	EEPRES	EEPROM reset output
8	P47 ₄	0	SDL	Source direct LED output (1 - ON)
9	RES	1	RES	Reset input
10	CE	1	CE	Chip enable
11	R/W	1	R/W	Read/write
12	0	1	0	Timing clock
13-16	R ₀ -R ₃	I/O	#PD75216ACW P50-P53: Data	#PD75216ACW P50-P53: Data
17	P44 ₁	0	SRDCE	Surround selector IC (TC9162/63) chip enable
18	P44 ₂	0	FMUTE	Front mute (0: Mute)
19	P44 ₃	0	MVUP	Motor volume up output
20	P44 ₄	0	MVDN	Motor volume down output
21	P48 ₁	0	VOLL	Volume LED (1 - ON)
22	P48 ₂	0	REVCE	Rear volume control chip enable (KA-V6000/V4000)
23	P48 ₃	0	DLVCS	Digital delay IC (YM3428) chip select output
24	P48 ₄	0	CEVCE	Center/rear volume control chip enable
25	P49 ₁	1	CCRSIN	CCRS input
26	NC	—	NC	NC
27	V _{SS}	—	V _{SS}	V _{SS}
28	P49 ₂	1	LDSW	CD (balanced/LD (unbalanced) SW input
29	P49 ₃	1	COFSW	Center Off SW input
30	P49 ₄	1	DETSY	Superimpose external/internal sync detection
31	P40 ₁	0	VI REC	VIDEO 1 REC LED
32	P40 ₂	0	PTESTA	Center mode selection output
33	P40 ₃	0	PTESTB	Center mode selection output
34	P40 ₄	0	CMUTE	Center mute output (0: Mute)
35	P41 ₁	0	WMUTE	Sub-woofer mute output (0: Mute)
36	P41 ₂	0	AUDCE	Audio selector (LC7821/22) chip enable
37	P41 ₃	0	IMPSC	Superimpose chip select output
38	P41 ₄	0	SPBL	Pro-logic and other selections
39	P42 ₁	0	SPAL	Speaker A relay and LED output
40	P42 ₂	0	SPPC	Center speaker relay output
41	P42 ₃	0	PSPR	Rear speaker relay output
42	P42 ₄	0	SMUTE	Rear mute output (0: Mute)
43	P43 ₁	0	INH	4052 inhibit output
44, 45	P43 ₂ , P43 ₃	0	P52A, P52B	4052 control output
46	P43 ₄	0	MMUTE	Monitor mute (1 - Mute)
47-49	P45 ₁ -P45 ₃	0	P51A1-P51A3	4051 (alpha) control signal
50	P45 ₄	0	VLOOP1	Video loop inhibit (for VIDEO 2) (1 - Cut)
52	NC	—	NC	NC

CIRCUIT DESCRIPTION

Pin No.	Pin Name	I/O	Name	Description
1	S0	0	Segment d	FL segment signal
2	S2	0	Segment c	FL segment signal
3	S1	0	Segment b	FL segment signal
4	S4	0	Segment a	FL segment signal
5	P00/NT4	1	KR0	Key Return 0
6	P01/sck	0	IMPCLK	Serial clock for superimpose and CXD1067
7	P02/SO	0	IMPSSI	Serial data for superimpose and CXD1067
8	P03/SI	1	PCE	Power failure detection (0: Power failure)
9	P10/NT0	1	REMIIM	Remote control input (interrupt)
10	P11/NT1	1	KR1	Key Return 1
11	P12/NT2	1	KR2	Key Return 2
12	P13/NT0	1	KR3	Key Return 3
13	P20	1	ROTR0	Rotary encoder input 0
14	P21	1	ROTR1	Rotary encoder input 1
15	P22	1	EEP - DI	EEPROM serial data input
16	P23/BUZ	1	BTL	BTL SW input
17	P30	0	EEP - DO	EEPROM serial data output
18	P31	0	EEPCLK	EEPROM serial clock
19	P32	I/O	SBUSY	External serial communication busy signal
20	P33	I/O	SDATA	External serial communication data signal
21	P60	0	0	Extension I/O (M50791SP) control signal
22	P61	0	R/W	Extension I/O (M50791SP) control signal
23	P62	0	CE	Extension I/O (M50791SP) control signal
24	P63	0	RES	Extension I/O (M50791SP) control signal
25	P40	0	VOLDI	Serial data for digital delay, rear volume and center volume
26	P41	0	VOLCLK	Serial clock for digital delay, rear volume and center volume
27	P42	0	SELDI	Serial data for audio (LC7821/22) and surround (TC9162/63)
28	P43	0	SELCLK	Serial clock for audio (LC7821/22) and surround (TC9162/63)
29	PQ0	0	AC	Power ON/OFF relay control (1 - ON)
30	X1	—	—	Microprocessor system clock oscillation pin
31	X2	—	—	Microprocessor system clock oscillation pin
32	V _{SS}	—	—	GND
33	XT1	—	—	Microprocessor subclock oscillation pin (unused)
34	XT2	—	—	Microprocessor subclock oscillation pin (unused)
35	P50	0	P60	Extension I/O (M50791SP) data signal
36	P51	0	P61	Extension I/O (M50791SP) data signal
37	P52	0	P62	Extension I/O (M50791SP) data signal
38	P53	0	P63	Extension I/O (M50791SP) data signal
39	RESET	—	—	Reset input
40	T0	0	3G, 11G	FL digit signal
41	T1	0	1G	FL digit signal
42	T2	0	1G	FL digit signal
43	T3	0	10G	FL digit signal
44	T4	0	9G	FL digit signal
45	T5	0	8G	FL digit signal

CIRCUIT DESCRIPTION



■ To clear the whole of the programmed (saved) contents

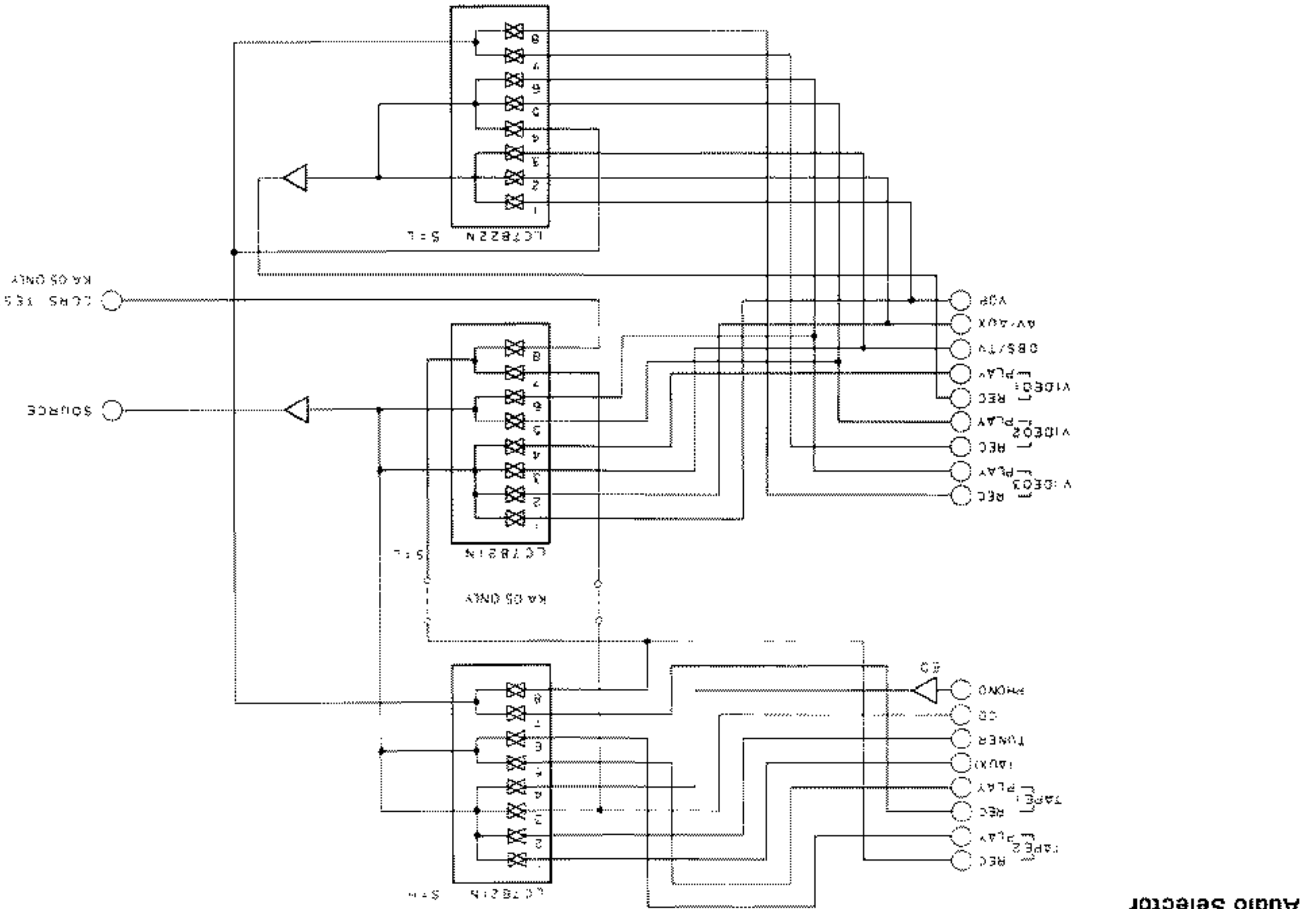
1. Set the LEARN/USE switch to LEARN.
2. Press one of the "learning" keys.
3. Remove the battery case cover on the rear of the remote control unit.
4. Press the Reset key inside the battery case with a ball-point pen tip, etc.

CIRCUIT DESCRIPTION

Pin No.	Pin Name	I/O	Name	Description
46	T6	0	7G	FL digit signal
47	T7	0	6G	FL digit signal
48	T8	0	5G	FL digit signal
49	T9	0	4G	FL digit signal
50	T10/PH3/S15	0	Segment o	FL segment signal
51	T11/PH2/S14	0	Segment n	FL segment signal
52	T12/PH1/S13	0	Segment m	FL segment signal
53	T13/PH0/S12	0	Segment l	FL segment signal
54	T14/S11	0	Unused	FL segment signal
55	T15/S10	0	Segment k	FL segment signal
56	V _{LOAD}	—	—	-28 V
57	V _{POS}	—	—	-5.2 V
58	S9	0	Segment j	FL segment signal
59	S8	0	Segment i	FL segment signal
60	S7	0	Segment h	FL segment signal
61	S6	0	Segment g	FL segment signal
62	S5	0	Segment f	FL segment signal
63	S4	0	Segment e	FL segment signal
64	V _{DD}	—	—	+5.0 V

KA-V6000

CIRCUIT DESCRIPTION



Audio Selector

On Loop Inhibit Display

- At this time, no special display is made because a loop is inhibited
- 1-1) The input selected is not output to REC OUT
 Example: TAPE2, TAPE2, VIDEO3, VIDEO2
 1-2) With VIDEO1 REC OUT as source and VIDEO2 as input
 1-3) As input VIDEO1
- [2] Loop taking place with two units
- At this time, the INPUT SELECTOR display portion of the FL display flickers (FL display 12) For KA-05, when the REC OUT SELECTOR display is engaged in the FL display, the REC OUT SELECTOR display portion flickers (FL display 13) Case where a loop is inhibited VIDEO1 - VIDEO2 or VIDEO 3
- 2-1) In VIDEO1 REC to VIDEO2, VIDEO1 is selected as input
 (No special order)
- 2-2) In VIDEO1 REC to VIDEO3, VIDEO1 is selected as input
 (No special order)
- Note: In a loop of the above item 2-1) or 2-2), even when VIDEO1 REC OUT is set to VIDEO2 or VIDEO3, even during the preceding dubbing VIDEO3 even during the preceding dubbing from VIDEO1 to VIDEO2 or VIDEO3, REC OUT of VIDEO1 to VIDEO2 or VIDEO3 is inhibited, and thus VIDEO1 REC OUT is always given priority

KA-V6000

CIRCUIT DESCRIPTION

- (1) Initial Settings**
- (1) INPUT SELECTOR : TUNER
 - (2) REC OUT VIDEO1 : SOURCE (ESPACE ONLY)
 - (3) REC OUT TAPE2 : SOURCE (ESPACE ONLY)
 - (4) SURROUND MODE : BYPASS
 - (5) PRO-LOGIC : PHANTOM
 - (6) REAR/CENTER LEVEL : PHANTOM
 - (7) SURROUND MEMORY : Every at PRO-LOGIC, 1-5
 - (8) SURROUND MEMORY : REAL LEVEL AND DELAY
 - (9) SOURCE DIRECT : OFF (KA-V6000/V4000 only)
 - (10) SPEAKERS A/B : ON/ON (KA-V6000/V4000 only)
 - (11) PRO-LOGIC TEST : L-ch only)
 - (12) POWER MODE : OFF
 - (13) ON-SCREEN DISPLAY : ON (Information)
- (1) Initialize operation**
- OUT: Perform the usual operation.
 IN: Pressing the TUNER key, plug in AC. intervals of 2 seconds (L-ch - C-Ch - R-ch - S-ch (in Normal/Wide mode) or Front - Rear (in Phantom mode)).
- (3) Controlled Ics**
- 1. Audio selector
 - 2. Video selector
 - 3. Surround selector
 - 4. Rear/center level
 - 5. Digital delay
 - 6. LED/CCHS control
 - 7. On screen
 - 8. Extension I/O
 - 9. Dolby surround
 - 10. External memory
 - 11. Surround selector (Center mode)
- (2-1) Setting by a key on unit itself**
- IN: Pressing the CD key, plug in AC.
 OUT: Unplug AC or perform the following operation. In a mode other than where the FL tube display is all lit, set the POWER key to OFF.
- (2) Test mode**
- IN: Pressing the TEST key, plug in AC.
 OUT: Unplug AC or perform the following operation. When the test mode is entered, the FL tube display is all lit. Cancel the all-lit FL tube display by the POWER key.
- (i) When the test mode is entered, the FL tube display is all lit. Cancel the all-lit FL tube display by the POWER key.
 - (ii) In the test mode, the following operations are different from normal.
 - Rear and center volume: Only 2 points of MIN and MAX.
 - Rear balance: Only 3 points of L-ch, center and R-ch.
 - PRO-LOGIC: Only 3 points of 15 msec, 21 msec and 30 msec.
 - THEATER: Only 3 points of 0 msec, 15 msec and 30 msec.
 - Test tone: At the time of the test tone mode, mode changes to subsequent modes automatically at intervals of 2 seconds (L-ch - C-Ch - R-ch - S-ch (in Normal/Wide mode) or Front - Rear (in Phantom mode)).
- Contents:** Perform the settings in "1. Initial Settings", and at the same time all-clear EEPROM. is cut off simply, EEPROM is not all-cleared. Therefore, at the time of production or when EEPROM is reinstalled, be sure to this initialize operation.

TYPE CODE	REMOTE CONTROL									
	F	E	D	C	B	A	9	8	7	6
0	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
1	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
2	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
3	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
4	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
5	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
6	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
7	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
8	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
9	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
A	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
B	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
C	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
D	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
E	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
F	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON

CIRCUIT DESCRIPTION

KA-V6000

CIRCUIT DESCRIPTION

KA-V6000

No.	Mode	IC20	IC23
1	Source Direct	22	22
2	Pro-logic	21	21
3	Other than Source Direct and Pro-logic	20	20
4	Output of -3	19	19
5	Source Direct	18	18
6	Other than Source Direct and Pro-logic	17	17
7	Pro-logic	16	16
8	Output of 5-7	15	15
9	Center mode A	14	14
10	Center mode B	13	13
11	Center mode C	12	12
12	Other than Source Direct and Pro-logic	11	11
13	Test noise A	10	10
14	Test noise B	9	9
15	Test noise C	8	8
16	Output of 10-18	7	7
17	Source Direct	6	6
18	Other than Source Direct and Pro-logic	5	5
19	Pro-logic	4	4
20	Test tone	3	3
21	Other than Source Direct and Pro-logic	2	2
22	Normal/Wide	1	1
23	Other than Source Direct and Pro-logic	0	0
24	Output of 22 and 24	44	44
25	Pro-logic	43	43
26	Other than Source Direct and Pro-logic	42	42
27	Test tone	41	41
28	Pro-logic	40	40
29	Other than Source Direct and Pro-logic	39	39
30	Test tone	38	38
31	Pro-logic	37	37
32	Other than Source Direct and Pro-logic	36	36
33	Test tone	35	35
34	Pro-logic	34	34
35	Other than Source Direct and Pro-logic	33	33
36	Test tone	32	32
37	Pro-logic	31	31
38	Other than Source Direct and Pro-logic	30	30
39	Test tone	29	29
40	Pro-logic	28	28
41	Other than Source Direct and Pro-logic	27	27
42	Test tone	26	26
43	Pro-logic	25	25
44	Other than Source Direct and Pro-logic	24	24
45	Test tone	23	23
46	Pro-logic	22	22
47	Other than Source Direct and Pro-logic	21	21
48	Test tone	20	20
49	Pro-logic	19	19
50	Other than Source Direct and Pro-logic	18	18
51	Test tone	17	17
52	Pro-logic	16	16
53	Other than Source Direct and Pro-logic	15	15
54	Test tone	14	14
55	Pro-logic	13	13
56	Other than Source Direct and Pro-logic	12	12
57	Test tone	11	11
58	Pro-logic	10	10
59	Other than Source Direct and Pro-logic	9	9
60	Test tone	8	8
61	Pro-logic	7	7
62	Other than Source Direct and Pro-logic	6	6
63	Test tone	5	5
64	Pro-logic	4	4
65	Other than Source Direct and Pro-logic	3	3
66	Test tone	2	2
67	Pro-logic	1	1

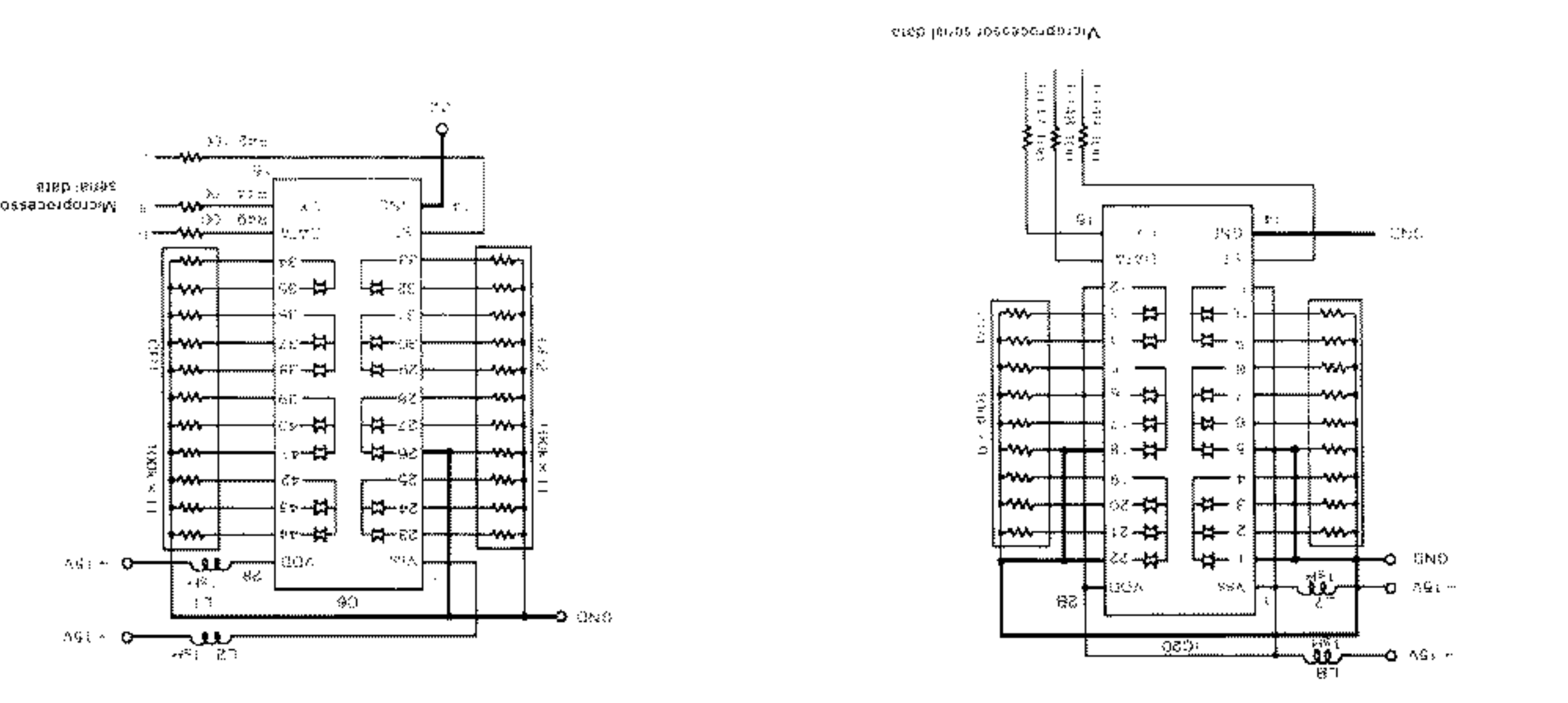
This switch selects for source direct, bypass, each surround mode. In the C illustration IC 20 has numbers 1-22 and IC6 23-44, which correspond to switch numbers occurring scatteredly in the circuit diagram. The following table shows the relationship between switch numbers and modes.

Function Switch

Test mode A or B operates when 41 and 44 are ON in the Pro-logic mode. Center mode A or B operates when 40 and 43 are ON in the Pro-logic mode.

No.	Mode	IC20	IC23
10	Normal	13	13
11	Phantom	12	12
12	Wide	11	11
13	Other than Source Direct and Pro-logic	10	10
14	Test tone	9	9
15	Pro-logic	8	8
16	Other than Source Direct and Pro-logic	7	7
17	Test tone	6	6
18	Pro-logic	5	5
19	Other than Source Direct and Pro-logic	4	4
20	Test tone	3	3
21	Pro-logic	2	2
22	Other than Source Direct and Pro-logic	1	1

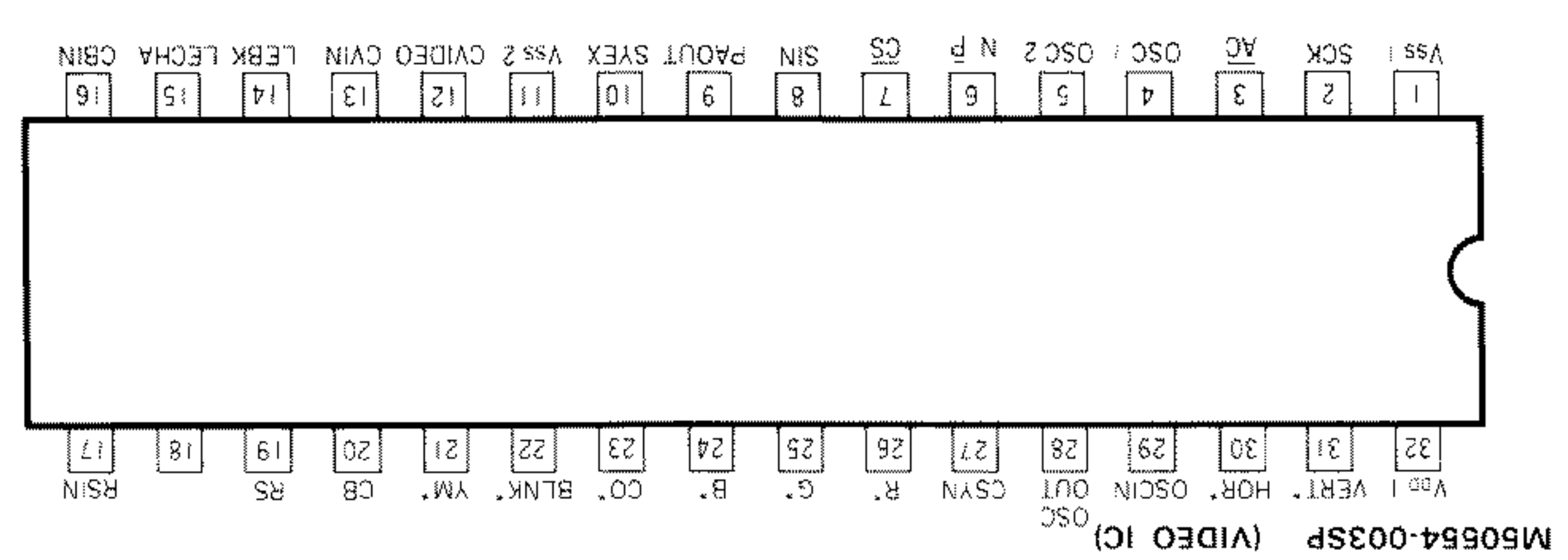
For +5V
 For -0V



Pin No.	Pin Name	Name	Description
1	V _{SS1}	Ground pin	Pin to ground the digital system. Connected to GND.
2	SCK	Serial clock input	When CS is "L", serial data of SIN is input at the use of SCK. Hysteresis input and built-in pull-up resistor.
3	AC	Auto clear input	At "L", resets the internal circuit. Hysteresis input and built-in pull-up resistor.
4	OSC1	Oscillator circuit external	Pin to connect the display oscillator circuit externally. Standard oscillation frequency of about 7 MHz.
5	OSC2	NTSC/PAL select	Pin to select the NTSC or PAL sync signal generator. At "L", generates the NTSC sync signal, and at "H", the PAL sync signal. Built-in pull-up resistor.
6	N/P	Chip select input	Chip select pin, which is made "L" for serial data transfer. Built-in pull-up resistor.
7	CS	Serial data input	Pin to input data and address serially for display control register and display data memory. Built-in pull-up resistor.
8	SIN	Parity output	Odd parity output pin. Built-in error detection of one word of SIN mode, and at "L", internal sync signals. At "H", provides the external sync mode, and at "L", internal sync mode.
9	PAOUT	Sync signal select	Pin to select between external sync and internal sync signals. At "H", provides the external sync mode, and at "L", internal sync mode. A logical sum is made between the EX register of address 2&3 of display control registers and the internal sync.
10	SYEX	Ground pin	Pin to ground the analog system. Connected to GND.
11	V ₁₂	Composite video output	Pin to output the composite video signal of 2 V _{pp} . When superimposing, the character output, etc. is superimposed on this composite video signal. When superimposing, the character output, etc. is superimposed on this composite video signal.
12	VIDEO	Composite video input	Pin to input the composite video signal. When superimposing, the character output, etc. is superimposed on this composite video signal.
13	CVIN	LEBK	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
14	LEBKA	LEBKA	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
15	LEBKB	LEBKB	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
16	LEBKC	LEBKC	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
17	LEBK1	LEBK1	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
18	LEBK2	LEBK2	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
19	LEBK3	LEBK3	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
20	LEBK4	LEBK4	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
21	LEBK5	LEBK5	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
22	LEBK6	LEBK6	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
23	LEBK7	LEBK7	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
24	LEBK8	LEBK8	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
25	LEBK9	LEBK9	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
26	LEBK10	LEBK10	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
27	LEBK11	LEBK11	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
28	LEBK12	LEBK12	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
29	LEBK13	LEBK13	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
30	LEBK14	LEBK14	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
31	LEBK15	LEBK15	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.
32	LEBK16	LEBK16	Character level input pin to determine the character output level for 100 lines. When superimposing, the character level input pin to determine the character output level for 100 lines.

KA-V6000

CIRCUIT DESCRIPTION



M505B4-003SP (VIDEO IC)

TITLE EDIT
MODEL NAME PRESET
 Character
TITLE EDIT
CD
DP-70

1. Press the [ON/OFF] key.
 On this screen, the input of the select key of an input model to be subject to modification or of the surround memory select key (1 to 5) of a surround memory to be subject to modification is waited for. Unless the key is pressed within about 15 seconds, auto reset is performed. In this situation, even when the [ON/OFF] key is pressed, reset is performed.
2. Press an input select key or surround memory select key (1 to 5). (E.g., press the VIDEO 1 or 1 key.)
 The following display will appear.

TITLE EDIT
PLEASE SELECT
MODEL NAME PRESET
OR
SURROUND TITLE LIST.

- Operation**
 Owing to this function, a device connected as input can be registered up to 8 characters, and five surround titles in surround memory, each up to 16 characters.
 For operation, the following keys on the remote control are used in any case.
- Each input select key
- [ON/OFF] [MODE] [SET] [1] [2] [3] [4] [5]
- In addition, total 79 kinds of registered characters (refer to the character table) are subject to searching in a sequence to follow:

Surround Memory Registration and Call Method
 For this, remote control keys are made use of: [M/], [M/], [M/O].

1. In this situation, each time the [←] or [→] key is pressed, a character searching is made counterclockwise. When the [←] key is pressed, a character searching is made clockwise as shown below, while "flickers" for a blank and "flickers" for a character position is indicated by flickering of the character. In the above situation, perform modification character by character. The character changing position is indicated by flickering of the character.
2. When the [M/] key is pressed, a character is registered, and the character changing position shifts to right one character width. When it is necessary to move the character changing position to left or right, press the [MODE] key.
3. On the screen, the display "Character" will change to "Position".
4. In this situation, each time the [←] or [→] key is pressed, the character changing position is moved to left or right one character width. When the [MODE] key is pressed again, the display "Character" is restored, in which situation a character searching is made.
5. After termination of registration, press the [ON/OFF] key again or press another input select key or a surround memory select key (1 to 5). In the former case, reset is made to the original status, whereas in the latter case, the character entry mode is engaged. In addition, unless no entry is made for 15 seconds, auto reset is made, and character registration is performed.

TITLE EDIT
CHARACTER
SURROUND TITLE LIST
MEMO 1
TOP G...

Surround Memo I, saved.

Cannot save
Surround Memo.

Select
Surround Memo Number
 to save.

1. When the [M/] key is pressed, a display as shown below appears, in which situation numeral keys to serves as surround memory select keys. Unless entry is made within 5 seconds, reset is made.
2. On the above display, when one of surround memory select keys 1 to 5 is pressed (e.g., [1]), a display as shown below appears, in which situation pieces of information as title, surround mode, delay time, center level, rear level, rear balance, etc. are displayed from the surround memory in request.

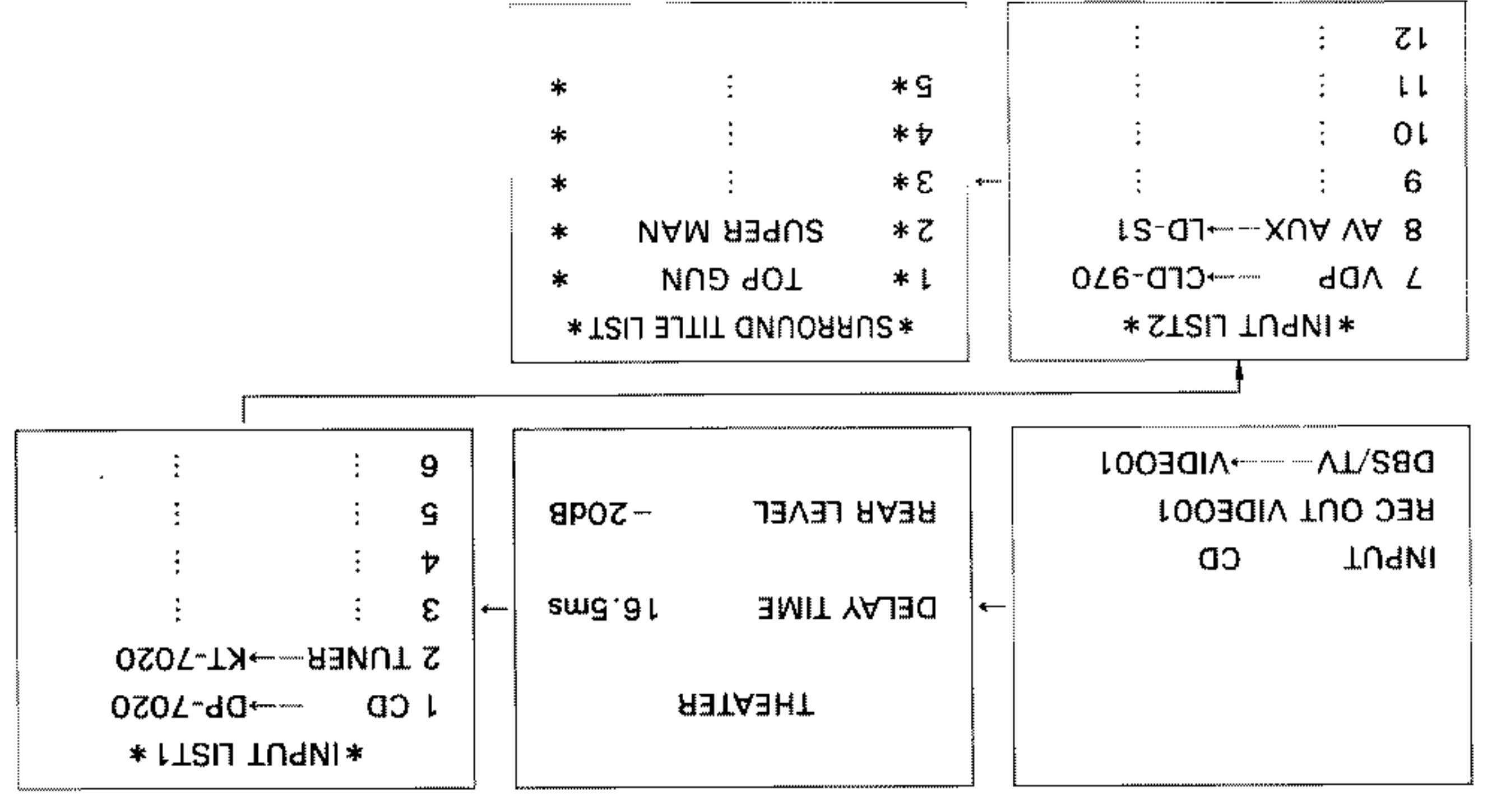
Crocodile Dandy
DOLBY PRO LOGIC MODE
 (WIDE)
 DELAY TIME 16.5ms
 CENTER LEVEL -18dB
 -20dB
 BALANCE

Please Select
 surround memory.
 * Crocodile Dandy *
 * TOP GUNS *
 * * *
 * * *

CIRCUIT DESCRIPTION

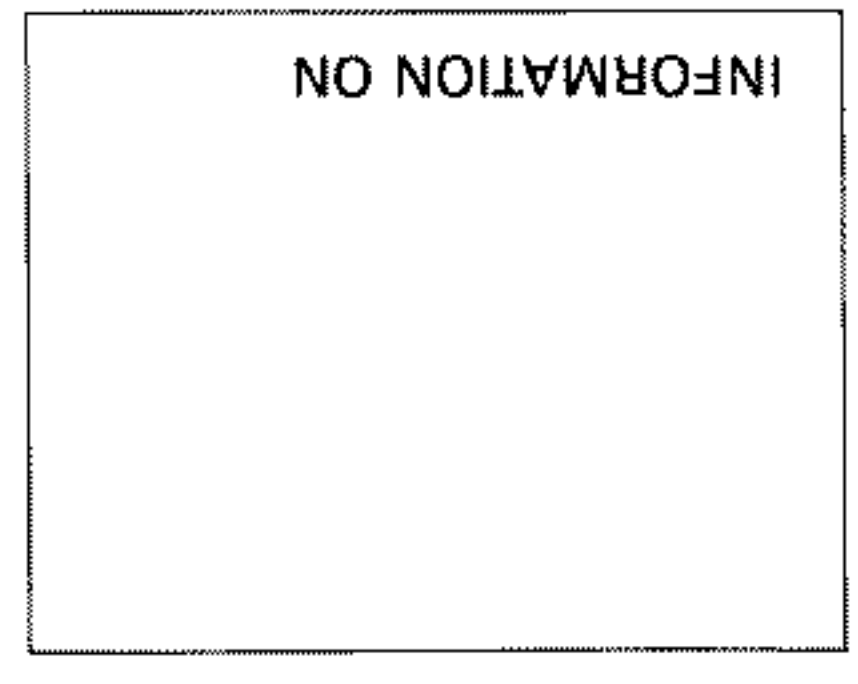
KA-V6000

Pin No.	Pin Name	Name	Description
16	CRIN	Color burst signal input	The CR output is converted to the color burst signal level, at video signal by an externally connected circuit, after which it is input.
17	RSIN	Character background chrominance signal input	The RS output is converted to the chrominance signal level of video signal by an externally connected circuit, after which it is input.
18	V ₁₂	Power supply pin	Average system power supply pin. Connected to -5 V.
19	RS	Character background chrominance signal output	Character background chrominance signal output. A signal is output with a phase angle with color burst signal (CR). Amplitude 5 V.
20	CB	Color burst signal output	Pin to output the color burst signal. 3.58 MHz for NTSC and 4.43 MHz for PAL. Amplitude 5 V.
21	VH	Luminance signal output	Pin to output the luminance signal. Polarity can be selected upon determination of character.
22	BLNK	Character background output	Pin to output the character background signal. Polarity can be selected upon determination of character.
23	CC	Character output	Pin to output the character signal. Polarity can be selected upon determination of character.
24	B	Blue output	Pin to output the blue component. Polarity can be selected upon determination of character.
25	G	Green output	Pin to output the green component. Polarity can be selected upon determination of character.
26	R	Red output	Pin to output the red component. Polarity can be selected upon determination of character.
27	CSYN	Composite sync signal output	Pin to output the NTSC or PAL composite sync signal. Negative polarity and amplitude 5 V.
28	OSCOUT	Sync signal generate	Pin to connect the sync signal generate oscillation circuit externally. Oscillation frequency of 4.32 MHz for NTSC and 17.73 MHz for PAL.
30	HOR	Horizontal sync signal	Pin to input the horizontal sync signal. Hysteresis input. Polarity can be selected upon determination of character.
31	VERT	Vertical sync signal	Pin to input the vertical sync signal. Hysteresis input. Polarity can be selected upon determination of character.
32	V _{CC}	Power supply pin	Digital system power supply pin. Connected to +5 V.



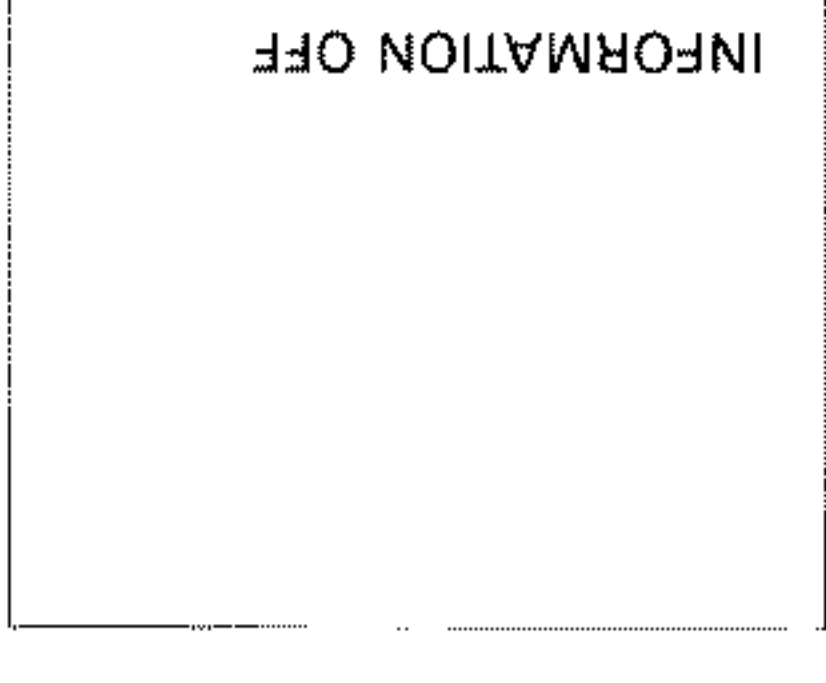
2. On the above screen display (for 1.5 seconds), each time the [MENU] key is further pressed, one of the following five displays appears and finally the display of the next item 3 appears.

1. On the normal screen mode, press the [MENU] key. A display as shown on the right is made for 1 second, after which character display is enabled.



<Operation Method >
 In addition, a selection as to whether or not character display is made on the TV screen is made by this [MENU] key.
 By the [MENU] key of the remote control, such contents as current amplifier selector setting, surround mode, entry list, surround memory title list, etc. are displayed to check.
 On the normal screen mode, press the [MENU] key. A display as shown on the right is made for 1 second, after which character display is enabled.

About On-Screen Background Color
 In the internal mode (without video signal input), the following colors appear:
 1. Input selector display
 Audio system... green
 Visual system... blue
 2. REC OUT VIDEO1 display... pink
 Menu... yellow
 3. Title edit... black and dark blue
 4. Title edit... black and dark blue
 (In the external mode, black remains)
 5. Pro-logic test mode... dark blue



3. During an above display "SURROUND TITLE LIST", when the [MENU] key is further pressed, a display as shown on the right is made for 1.5 seconds. From this time, character display is disabled, and not enabled until the [MENU] key is pressed once again.

CIRCUIT DESCRIPTION

KA-V6000

KA-V6000

CIRCUIT DESCRIPTION

7. Regulator (IC4): +12 V power supply to Dolby unit X14-2650-01
 8. Buffer amplifier, adder, subtractor (IC5): 1/4, 2/4: Buffer
 3/4: Adder for Simulated mode
 4/4: Subtractor for Theater or Stadium mode
 9. Analog switch (IC6): By serial data from microprocessor, selects between audio signals of Pro-logic, Theater, Simulated and Stadium.
 10. Compressor, expander (IC7): Reduces the noise of gate delay (C)
 Compression 1/2 time in decibels (e.g. -40 dB to -20 dB)
 Expansion 2 times in decibels (e.g. -20 dB to -40 dB)
 11. Low pass filter and sample hold (IC8): Pins 1, 8 for compression and pins 5, 16 for expansion
 1/4, 2/4: Both order low pass filter to cut more than 7 kHz
 3/4: D/A converter output sampling
 4: 3rd-order low pass filter to cut more than 7 kHz

Encode mode	A	B	State
Center	+15 V	0 V	0 V
Lch	0 V	0 V	0 V
Rch	0 V	0 V	0 V
Surround	+15 V	-15 V	0 V

1. Mute (Q1 ~5): Mute with a signal-GND shunting
 U1 for L-ch, Q2 for R-ch, Q3 for C-ch, Q4 for SL-ch
 Q5 for SR ch
 2. Protection relay driver (Q6): Q6 turns ON at power ON or in abnormal operation of power amplifier
 3. Relay driver (Q7 ~9): delayed signal for Simulated or Stadium mode
 2/4: Phase delay, holding flat the frequency response of 1/4's output
 3/4, 4/4: +14 dB amplification, the final stage of surround output
 14. Dolby B noise reduction decoder (IC11): Noise reduction for surround output in Pro-logic mode
 Lesser variation in comparison with Dolby B of cassette deck.
 Approx. 5 dB improved at 10 kHz for -40 dB on 300 mV reference.
 15. Inverting amplifier, adder (IC12): 1/2: Amplification to input of IC1, 0.17-time inversion
 2/2: Addition of output of IC11
 16. Center preset volume control (IC13): Sets the level by serial data from microprocessor in Pro-logic Normal or Wide mode.
 Pms 2 to 6 are not used.
 17. Impedance shifter (IC14): Voltage-follower for IC13 and IC15. Its purpose is impedance conversion.
 18. Rear preset volume control (IC15): Sets the level by serial data from microprocessor in a surround mode.
 19. Regulator (IC16): +5 V power supply for IC9
 20. Rear buffer amplifier (IC17): Prevents noise ingress by lowered impedance owing to long transmission path running up to the rear power amplifier.
 Voltage follower
 21. Tone amplifier (IC18): Tone control amplifier
 22. Motor driver (IC19): Volume up/down control by two controls from microprocessor. The motor is a motor VR (VR2).
 23. Analog switch (IC20): By serial data from microprocessor, selects between Lch, Rch and audio signals of Line Straight, Bypass and Pro-logic.
 Pins 10, 12 and 7, 16 are substituted as expansion ports using the microprocessor pins 0, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Terminal	A	B
1	L	L
2	L	L
3	L	L
4	L	L
5	L	L
6	L	L
7	L	L
8	L	L
9	L	L
10	L	L
11	L	L
12	L	L
13	L	L
14	L	L
15	L	L
16	L	L
17	L	L
18	L	L
19	L	L
20	L	L
21	L	L
22	L	L
23	L	L
24	L	L
25	L	L
26	L	L
27	L	L
28	L	L
29	L	L
30	L	L
31	L	L
32	L	L
33	L	L
34	L	L
35	L	L
36	L	L
37	L	L
38	L	L
39	L	L
40	L	L
41	L	L
42	L	L
43	L	L
44	L	L
45	L	L
46	L	L
47	L	L
48	L	L
49	L	L
50	L	L
51	L	L
52	L	L
53	L	L
54	L	L
55	L	L
56	L	L
57	L	L
58	L	L
59	L	L
60	L	L
61	L	L
62	L	L
63	L	L
64	L	L
65	L	L
66	L	L
67	L	L
68	L	L
69	L	L
70	L	L
71	L	L
72	L	L
73	L	L
74	L	L
75	L	L
76	L	L
77	L	L
78	L	L
79	L	L
80	L	L
81	L	L
82	L	L
83	L	L
84	L	L
85	L	L
86	L	L
87	L	L
88	L	L
89	L	L
90	L	L
91	L	L
92	L	L
93	L	L
94	L	L
95	L	L
96	L	L
97	L	L
98	L	L
99	L	L
100	L	L

1. Dolby System integrated circuit (IC1): PHANTOM, C-OFF of select on and also each SW transistor are carried out with MODE for a surround
 2. MODE selection (IC2):
 3. Detection amplifier for VLR, VCS, (IC3): A DC level of LA2270 (Lch, Rch) and C, S detect be amplified
 4. VCA control (IC4): A control of C5 is carried out
 5. VCA (IC5): A level of Lch is controlled
 6. SW transistor.
 (Q1): NORMAL MODE selection. When base voltage become (H) by an input signal from IC1, NORMAL MODE becomes ON.
 (Q2): WIDE MODE selection. When base voltage become (H) by an input signal from IC1, NORMAL MODE becomes ON.
 (Q3): NORMAL (CENTER off) MODE a selection becomes ON.
 When base voltage become (H) by an input signal from IC1, NORMAL (CENTER off) MODE becomes ON.
 (Q4): Center level detection. A control of Q5 is carried out.
 (Q5): Center level control. When a center level became (H) a gate becomes ON.

CIRCUIT DESCRIPTION

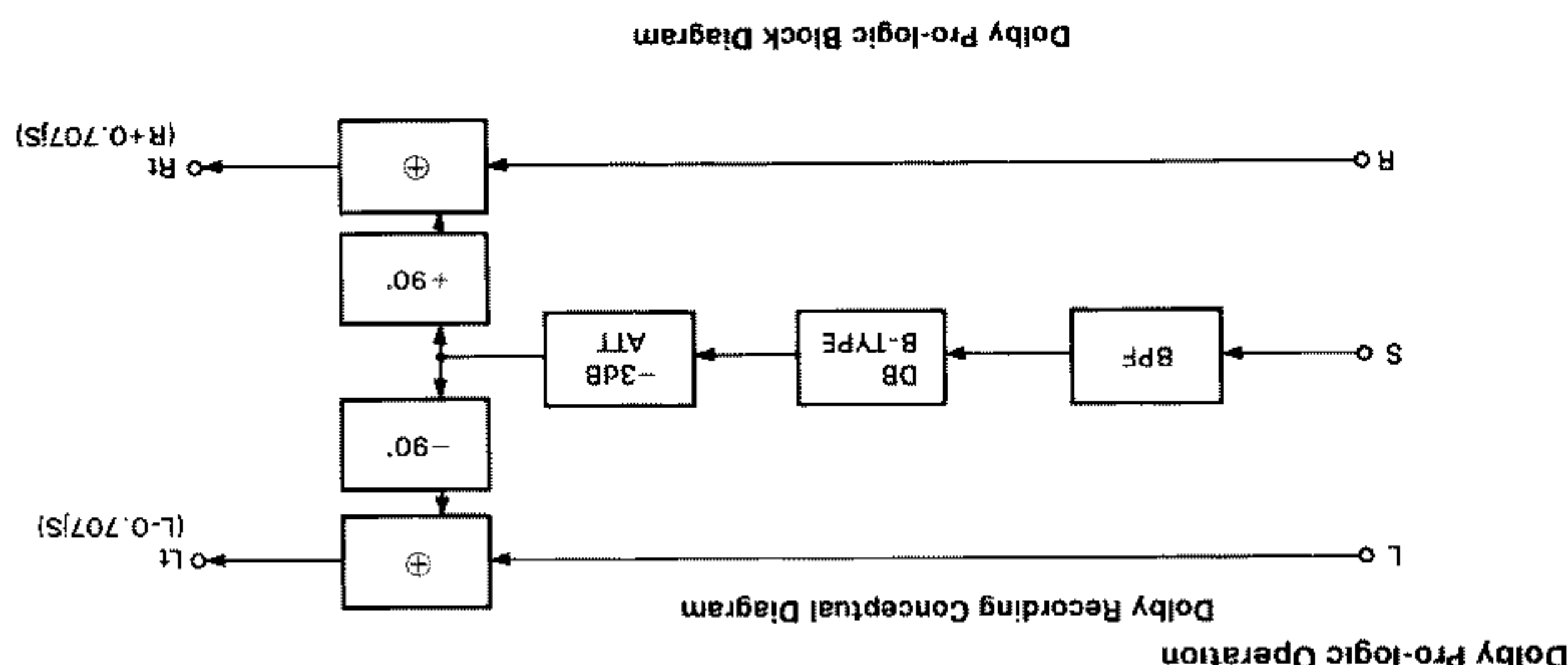
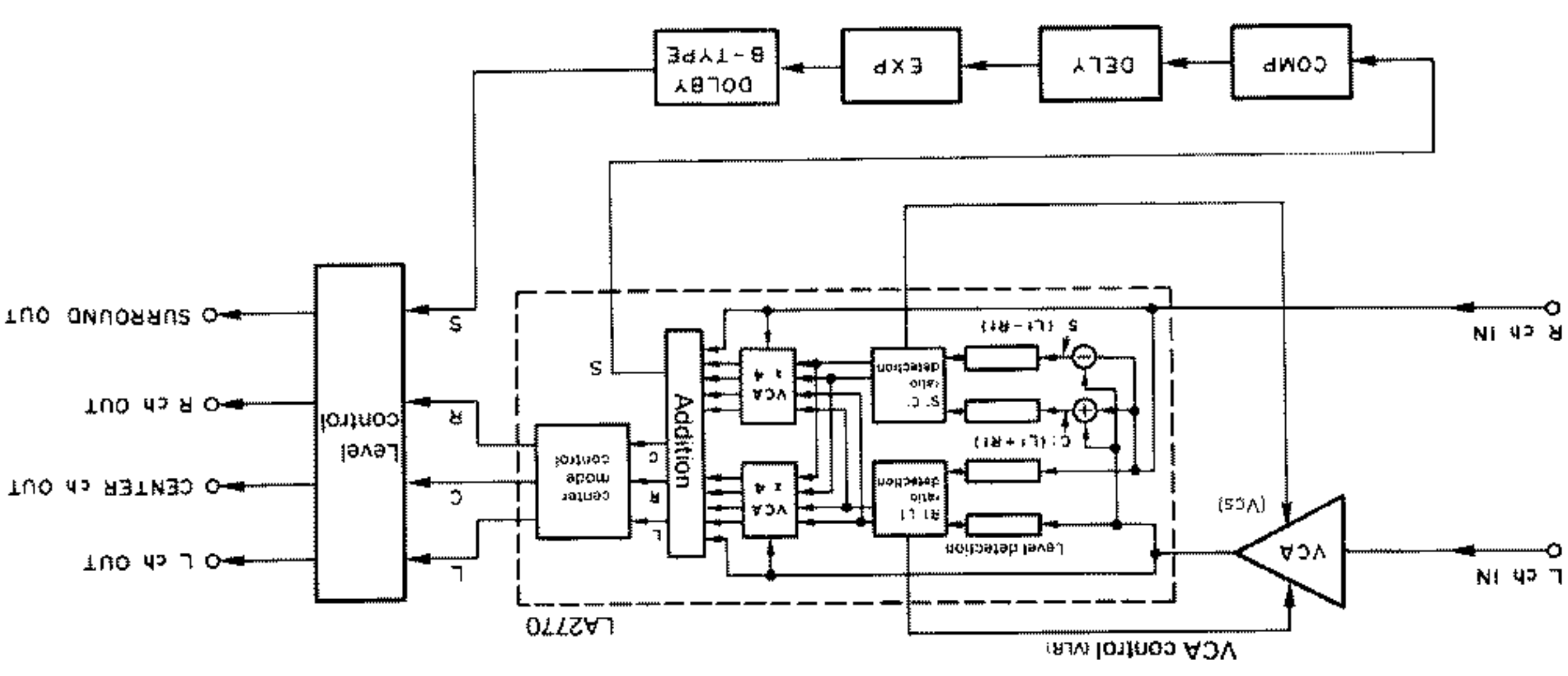
KA-V6000

KA-V6000

CIRCUIT DESCRIPTION

Surround unit (X08-2340-00)

(X14-2650-01)

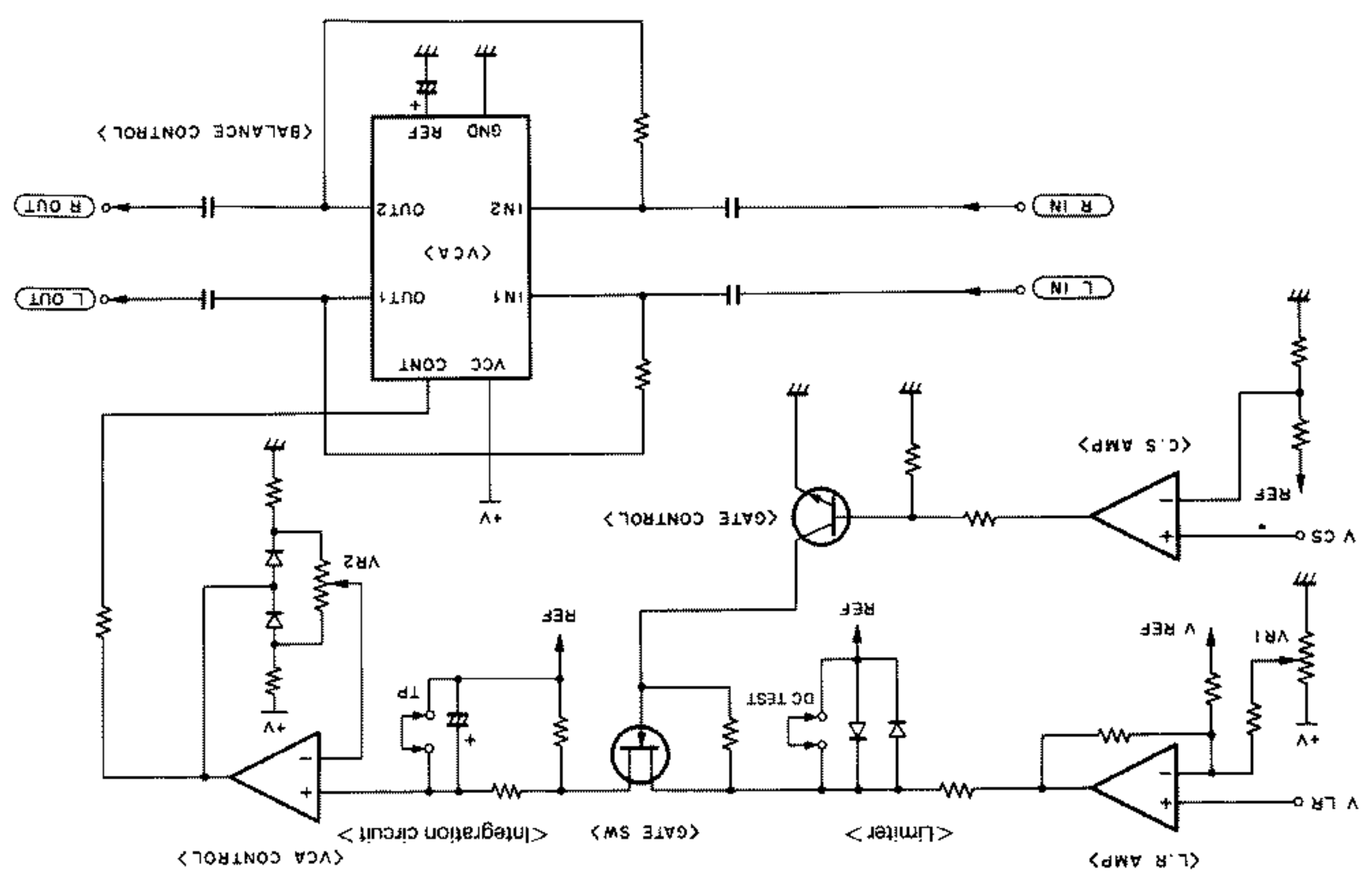


Outline:
LA2770 Monolithic Linear Integrated Decoder
Dolby Pro-logic Surround Matrix Decoder
LA2770, a decoder IC for Dolby pro-logic surround system, contains every feature for the adaptive matrix and center mode control of this system. The two channel inputs subjected to Dolby surround encoding are decoded into four channel signals of L-ch, C-ch, R-ch and S-ch. A perfect Dolby pro-logic surround decoder can be constituted owing to a combination with an input balancer noise sequencer, delay circuit, 7 kHz low pass filter, modified Dolby NR, and output master level control.

- Features:**
- Every feature of adaptive matrix (input buffer, BPF, full-wave rectifier, log-difference amplifier, threshold switch, dual time constant, polarity splitter, VCA, combining network) is contained.
 - Center mode selection (Normal/Phantom/Wide)
 - Center ON/OFF selection
 - SUR OFF mode

CIRCUIT DESCRIPTION

KA-V6000



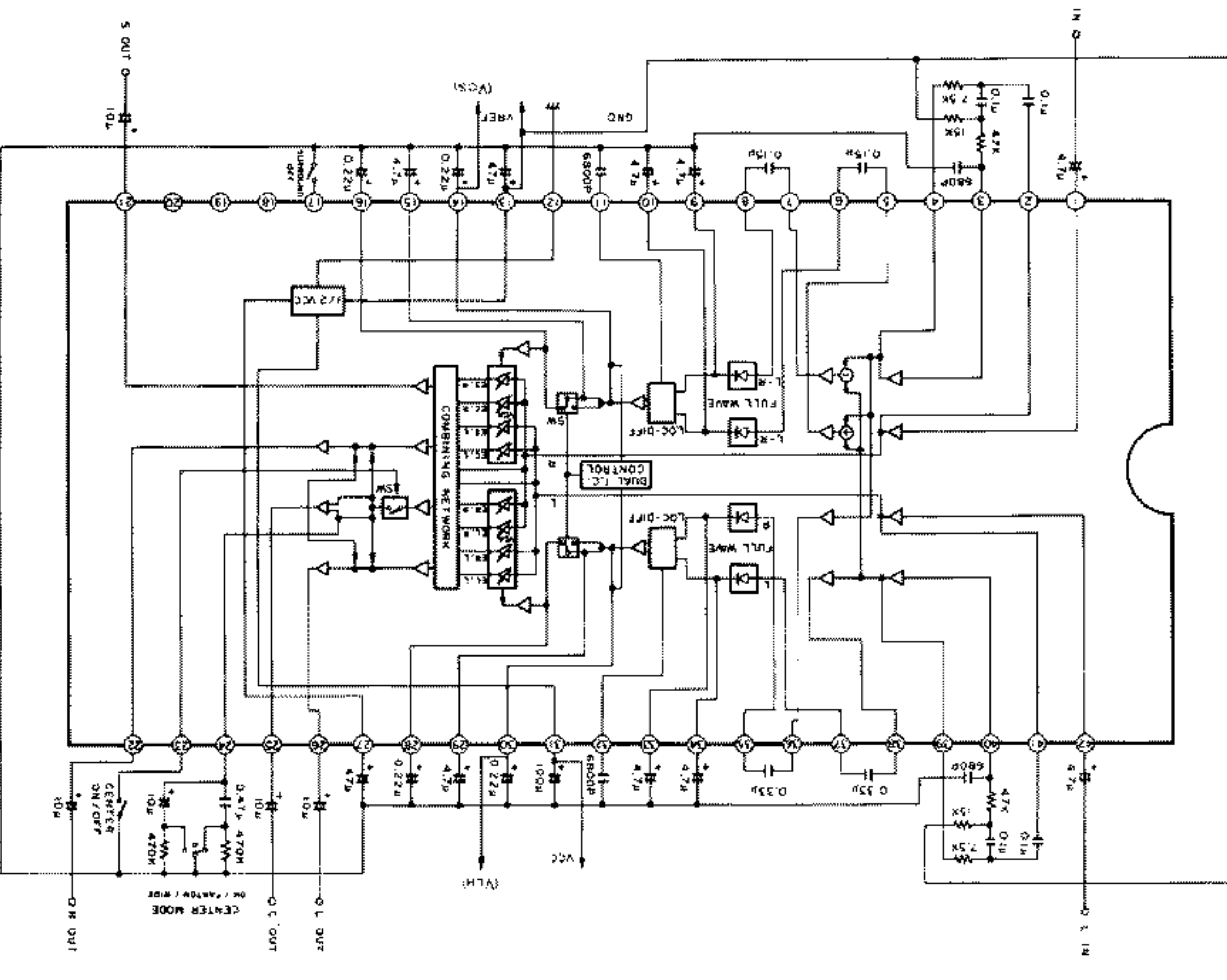
Auto Balance Operation (x14-2650-00)
 To the pin 32 of IC1, VLR (L/R DC level) is output and to the pin 17, Vcs (center surround DC level). The auto balance circuit is controlled by these voltages. VLR, the front L/R level balance voltage, is identical with the reference voltage when L-ch and R-ch are the same in voltage level. The former voltage is subject to averaging in an integration circuit and comparison with the reference voltage. Then, the difference voltage serves for VCA control. However, it is when Vcs is higher than Vref, i.e. when L-R level is given that the control voltage passes the FET gate. Namely, when the L-ch and R-ch signals are in phase and the same in level, the auto balance circuit operates. In addition, the VCA control level is regulated to ± 3 dB. The L-ch only can be controlled.

CIRCUIT DESCRIPTION

KA-V6000

Pin No.	Description	Pin No.	Description
1	R-ch input	22	R-ch output
2	R-ch input amplifier output	23	Center ON/OFF switch (GND: OFF)
3	R-ch control signal BPF input	24	Center mode switch (ON/Phantom/Wide)
4	R-ch control signal BPF output	25	C-ch output
5	C-ch control signal output	26	L-ch output
6	C-ch control signal input	27	1/2 Vcc (AC GND)
7	S-ch control signal output	28	R/L-ch time-constant (f) setting capacitor
8	S-ch control signal input	29	R/L-ch time-constant (SI) setting capacitor
9	S-ch full-wave rectification output	30	R/L-ch dual time-constant timing setting capacitor
10	C-ch full-wave rectification output	31	Vcc
11	S-ch log-difference amplifier input capacitor	32	R/L-ch log-difference amplifier input capacitor
12	GND	33	R-ch full-wave rectification output
13	V ref (1/2 Vcc)	34	L-ch full-wave rectification output
14	S/C-ch dual time-constant timing setting capacitor	35	R-ch control signal input
15	S/C-ch time-constant (SI) setting capacitor	36	L-ch control signal output
16	S/C-ch time-constant (f) setting capacitor	37	L-ch control signal input
17	Surround OFF (L-ch/C-ch/R-ch steering mode switch (GND: OFF))	38	L-ch control signal output
18	NC	39	L-ch control signal BPF output
19	NC	40	L-ch control signal BPF input
20	NC	41	L-ch input amplifier output
21	S-ch output	42	L-ch input

LA2770 Pin Functions



CIRCUIT DESCRIPTION

KA-V6000

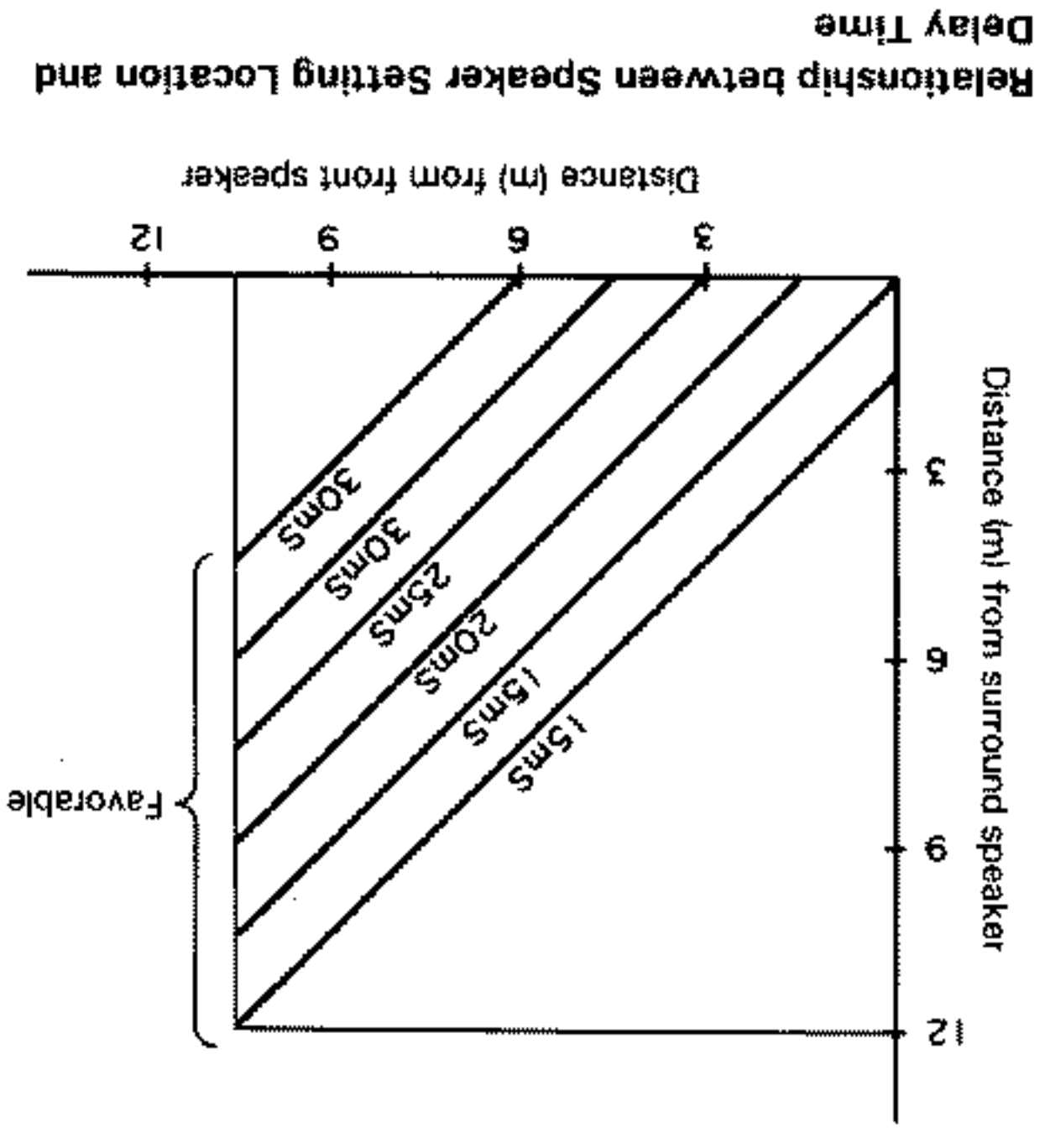
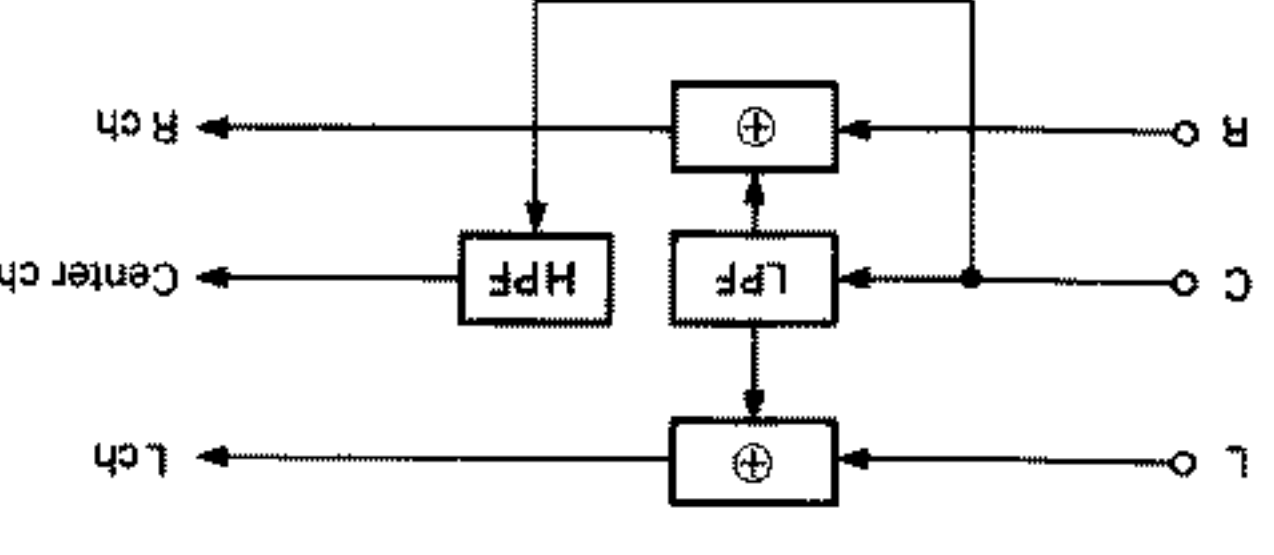
Center Mode Control

(1) **Normal Mode**
 Much of low-frequency monaural components is given sounds will be heard from the center speaker. At this time, the use of a low-diameter speaker for center may results in insufficient low-frequency sound. To avoid this, low-frequency components of less than 100 Hz are divided to the left and right channels from the center channel.

(2) **Wide mode**
 Without the application of the process of the normal mode, the C-ch and L-ch and R-ch signals are output as they are. For this reason, the center speaker needs to emit sufficient low-frequency sounds. In addition, in use of a sub-woofer system, the normal mode is engaged.

(3) **Phantom mode**
 Without the center speaker, the C-ch component is divided by two to the left and right channels.

(4) **Center OFF**
 The center channel is only set OFF and no other process is performed. Therefore, a monaural sound is not emitted from any channel. This mode is used for testing such as level check, etc.



CIRCUIT DESCRIPTION

KA-V6000

ADJUSTMENT/REGLAGE/ABGLEICH

ADJUSTMENT

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGN POINTS	ALIGN FOR FIG.
1	CURRENT	Blank signal to LIN	Connect a DC voltmeter to both ends of CP1 and CP2.	VOLUME: 0	VR1 (L)	(a)
2	AUTO BALANCE and level signal to LIN	Input a same phase signal to LIN (TP7) and RIN (TP6).	Jump between TP8 and TP9. Connect an AC voltmeter between LOUT (TP13) and ROUT (TP12).	VOLUME: 0	VR2 (R)	(a)
3	ALIGNMENT (200 mV, 1 kHz)	Align VR1 so that the jumper between TP8 and TP9 is minimum.	Remove the pin jumper between TP8 and TP9 and check that the voltmeter readings at pins ② and ③ do not change.	VOLUME: 0	VR1 (L)	(a)
4	REGLAGE	Aligner VR2 de telle sorte à l'entrée un signal de LOUT (TP13) et ROUT (TP12). Raccordez un voltmètre CA entre TP8 et TP9.	Aligner VR1 de telle sorte à l'entrée un signal de LOUT (TP13) et ROUT (TP12). Raccordez un voltmètre CA entre TP8 et TP9.	VOLUME: 0	VR2 (R)	(a)
3	ALIGNMENT (200 mV, 1 kHz)	Raccordez un voltmètre CC entre TP10 et TP11.	Aligner VR1 de telle sorte à obtenir une déviation minimum de l'aiguille du voltmètre.	VOLUME: 0	VR1 (L)	(a)
4	REGLAGE	Enlever la fiche volante entre TP8 et TP9 et vérifier que l'indication du voltmètre aux bornes ② et ③ ne change pas.	Enlever la fiche volante entre TP8 et TP9 et vérifier que l'indication du voltmètre aux bornes ② et ③ ne change pas.	VOLUME: 0	VR1 (L)	(a)

NR.	ARTICLE	REGLAGES ENTREE	REGLAGES SORTIE	AMPLIFICATEUR	POINTS D'ALIGNEMENT	ALIGNER SUR FIG.
1	COURANT DE SUPPRESSION	Raccordez un voltmètre aux deux extrémités de CP1 et CP2.	VOLUME: 0	VR1 (L)	VR2 (R)	(a)
2	ALIGNEMENT	Entrez un signal de LOUT (TP13) et ROUT (TP12). Raccordez un voltmètre CA entre TP8 et TP9.	Aligner VR2 de telle sorte à l'entrée un signal de LOUT (TP13) et ROUT (TP12). Raccordez un voltmètre CA entre TP8 et TP9.	VOLUME: 0	VR2 (R)	(a)
3	REGLAGE AUTOMATIQUE (200 mV, 1 kHz)	Raccordez un voltmètre CC entre TP10 et TP11.	Aligner VR1 de telle sorte à obtenir une déviation minimum de l'aiguille du voltmètre.	VOLUME: 0	VR1 (L)	(a)
4	REGLAGE	Enlever la fiche volante entre TP8 et TP9 et vérifier que l'indication du voltmètre aux bornes ② et ③ ne change pas.	Enlever la fiche volante entre TP8 et TP9 et vérifier que l'indication du voltmètre aux bornes ② et ③ ne change pas.	VOLUME: 0	VR1 (L)	(a)

NR.	OBJET	REGLAGES	REGLAGES	REGLAGES	REGLAGES	REGLAGES
1	AUTOMATISCHES STROM	Einen Gleichspannungsmesser zwischen den beiden Enden von CP1 und CP2 anschließen.	VOLUME: 0	VR1 (L)	VR2 (R)	(a)
2	ABGLEICHUNG	Ein Wechselspannungsmesser zwischen LOUT (TP13) und ROUT (TP12) anschließen.	VR2 dort abgleichen, daß der Unterschied in den Meßwerten der beiden Spannungsmesser minimal ist.	VOLUME: 0	VR2 (R)	(a)
3	ABGLEICHUNG	Spanndrät zwischen TP8 und TP9 anschließen. Einen Gleichspannungsmesser zwischen TP10 und TP11 anschließen.	VR1 dort abgleichen, daß der Spannungsmesser Zeigerausgang minimal ist.	VOLUME: 0	VR1 (L)	(a)
4	ABGLEICHUNG	Spannungsmesser-Meßwert an Sitten 2. und 3. nicht geändert hat.	Spannungsmesser-Meßwert an Sitten 2. und 3. nicht geändert hat.	VOLUME: 0	VR1 (L)	(a)

ABGLEICH

REGLAGE

70

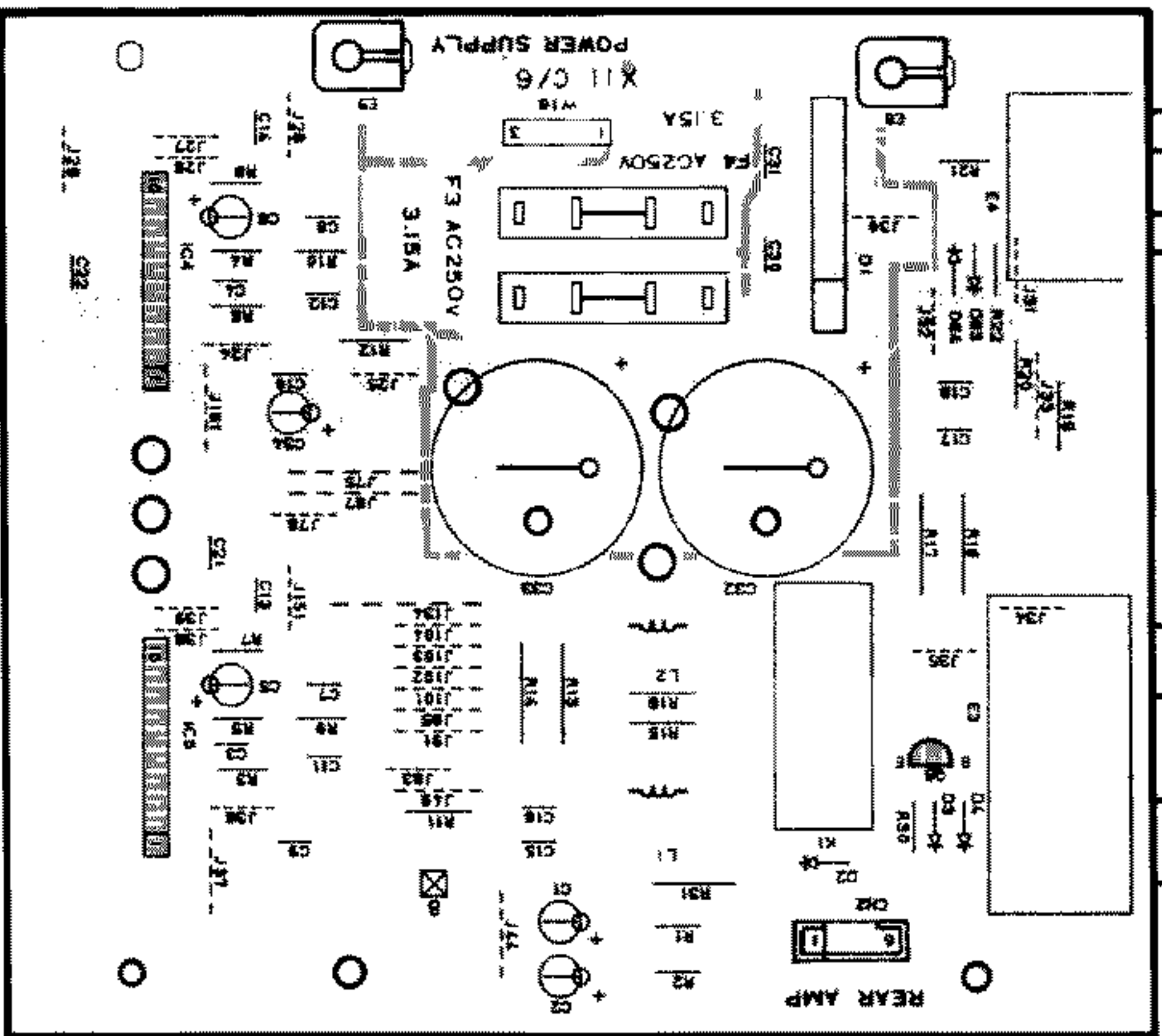
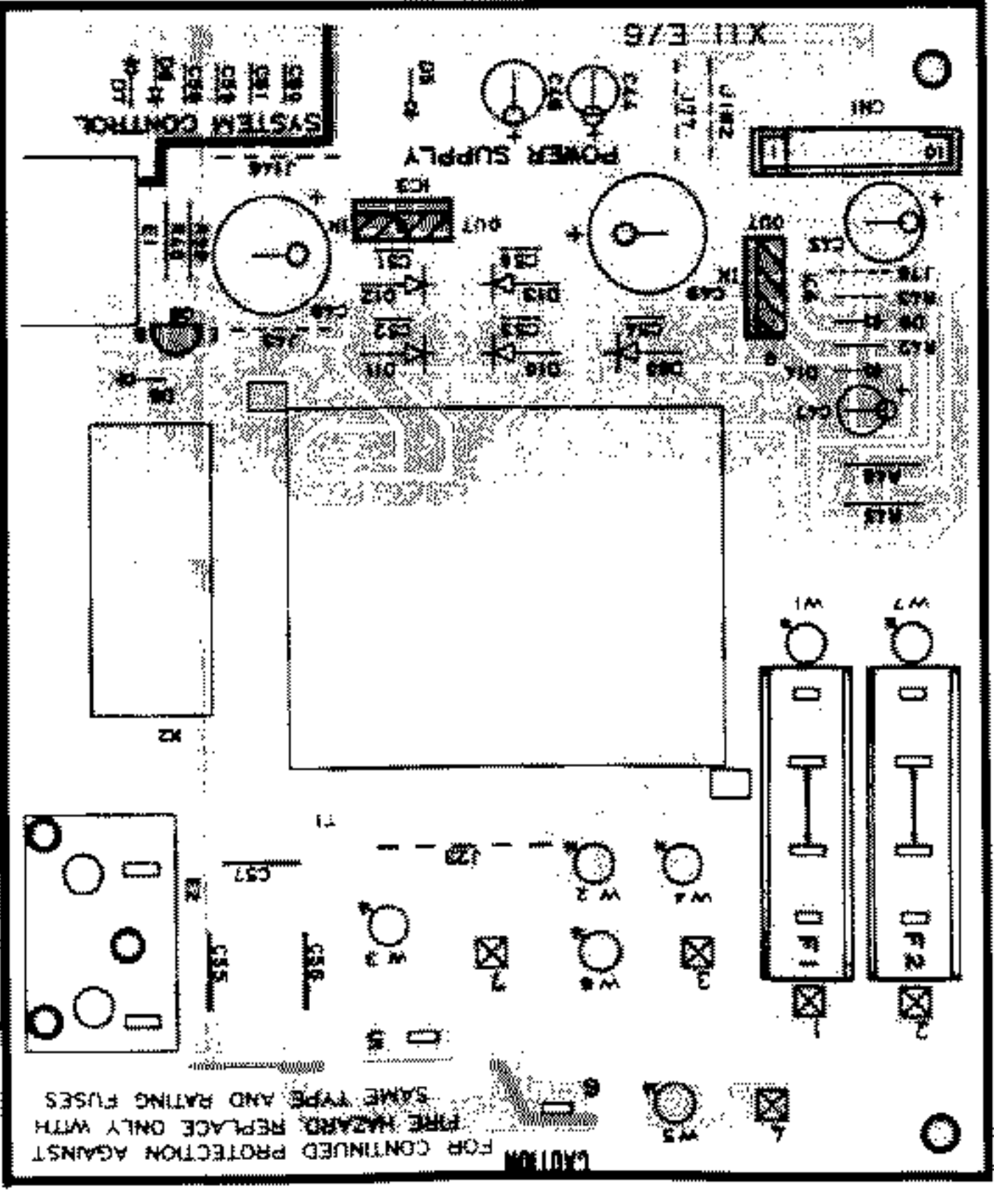
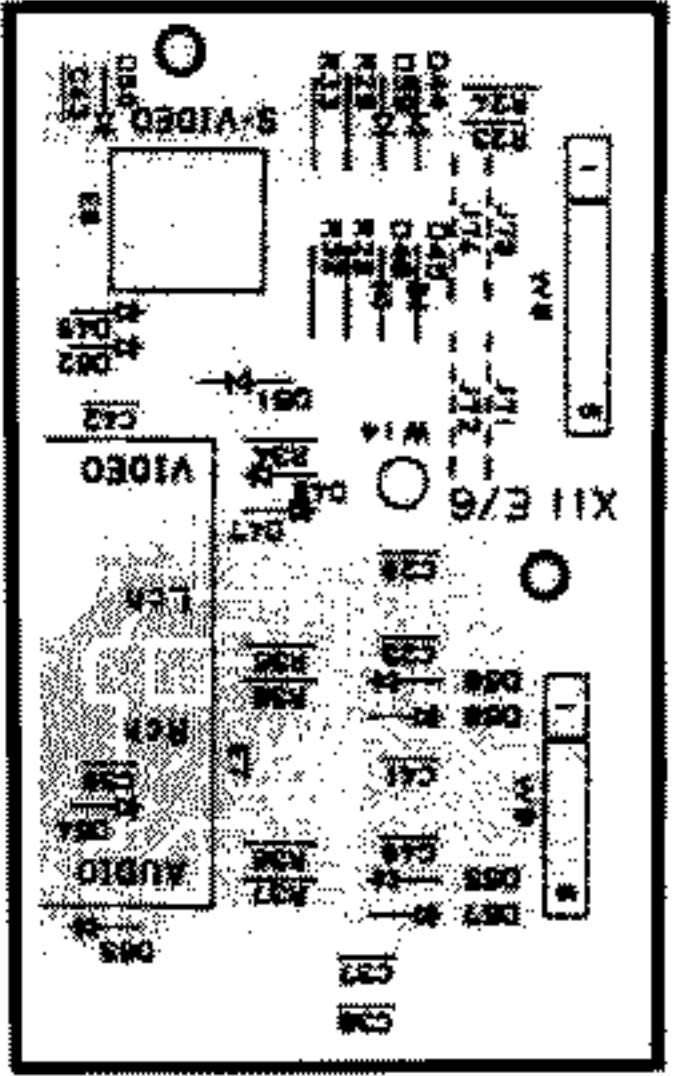
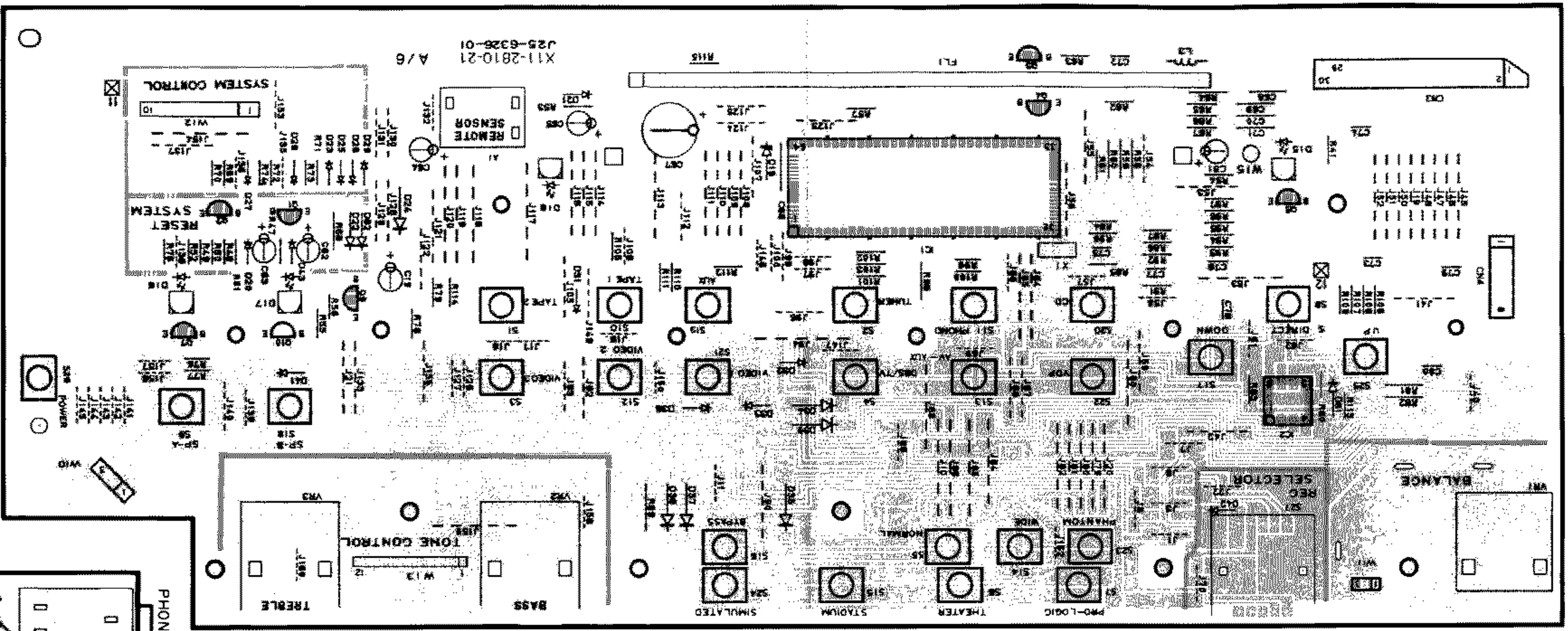
E: Scandinavia & Europe K: USA F: Canada
 U: Pacific East Hawaii T: England M: Other Areas
 UE: Africa(S) Europe X: Australia

△ indicates safety critical components

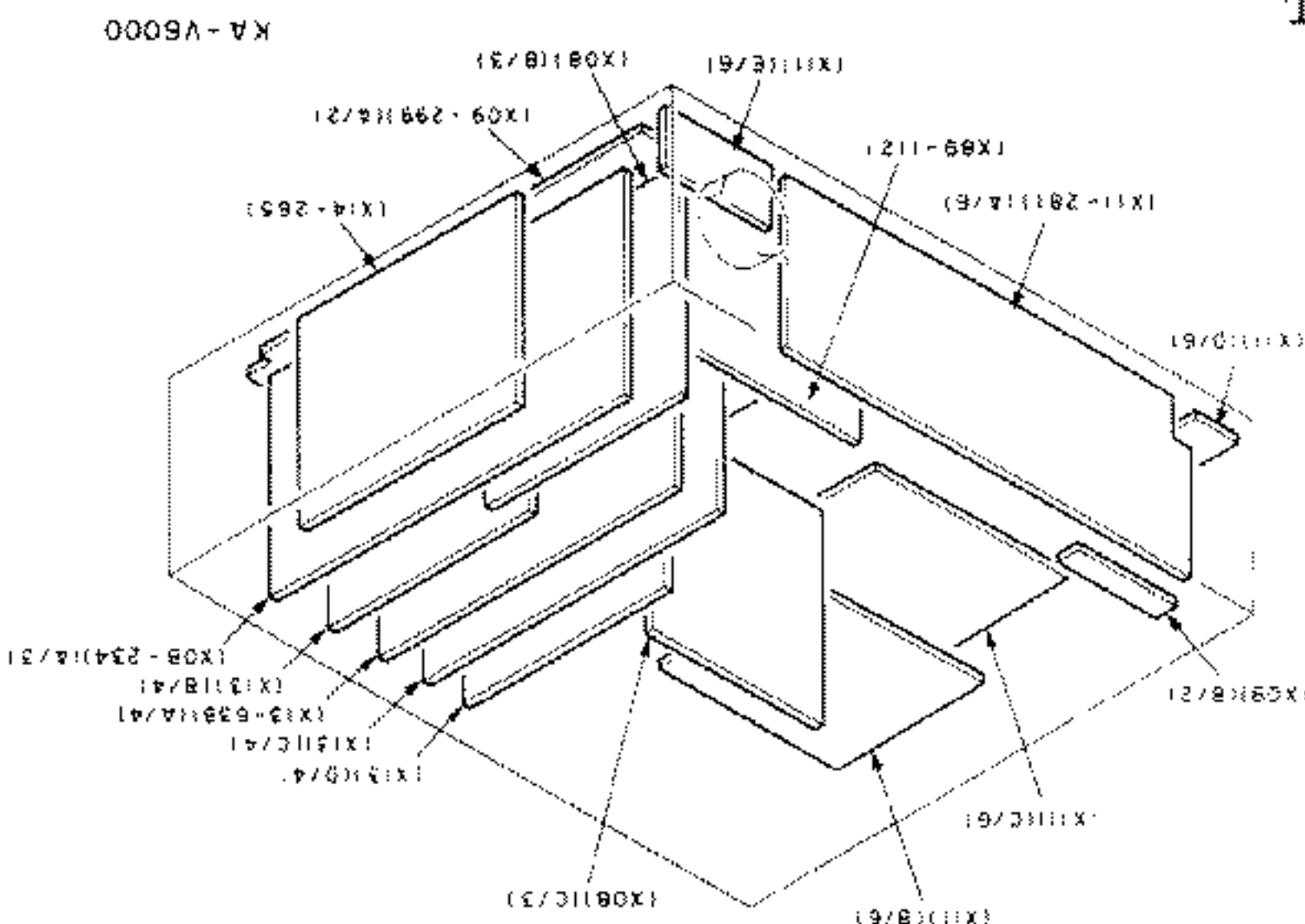
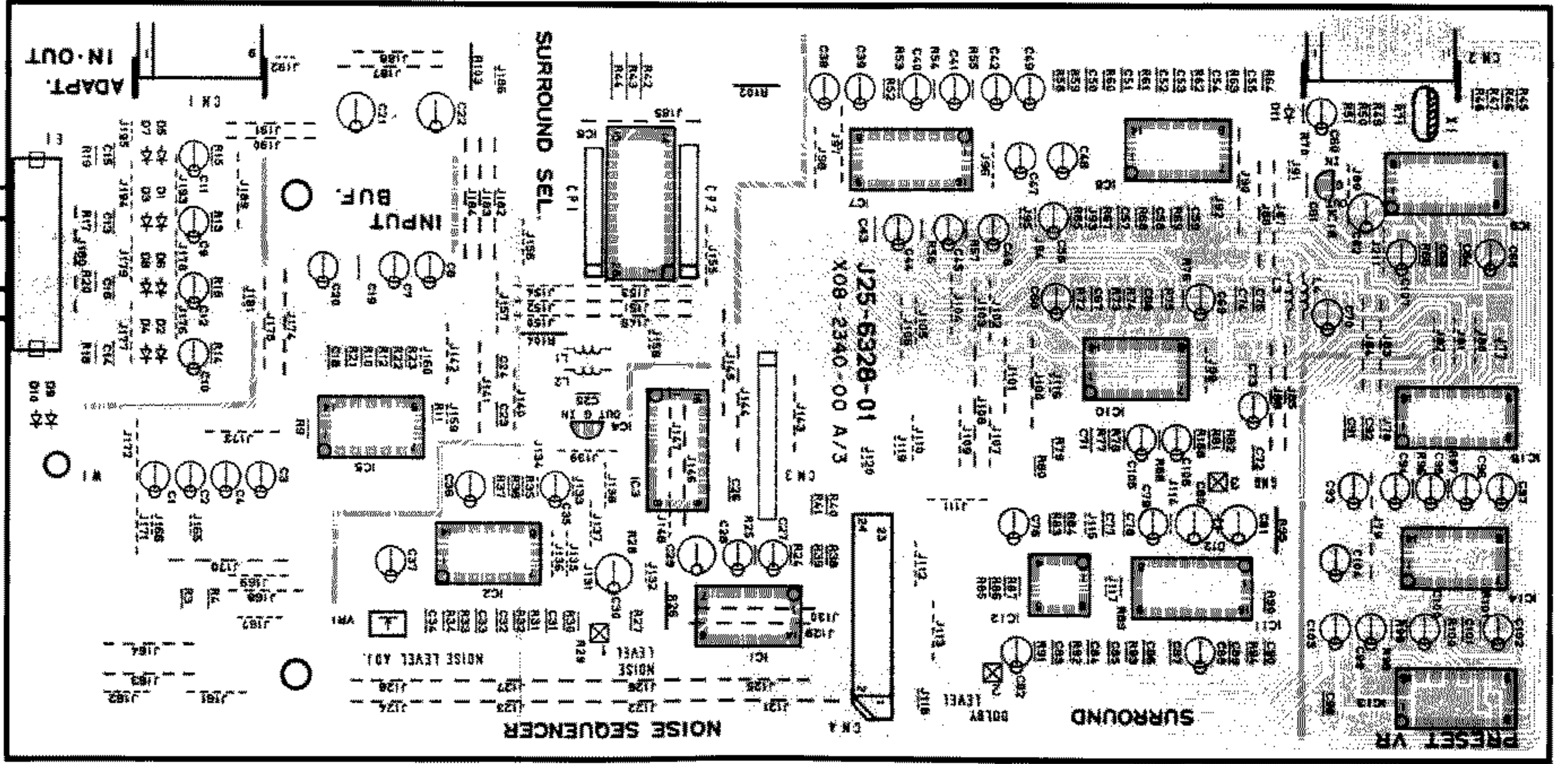
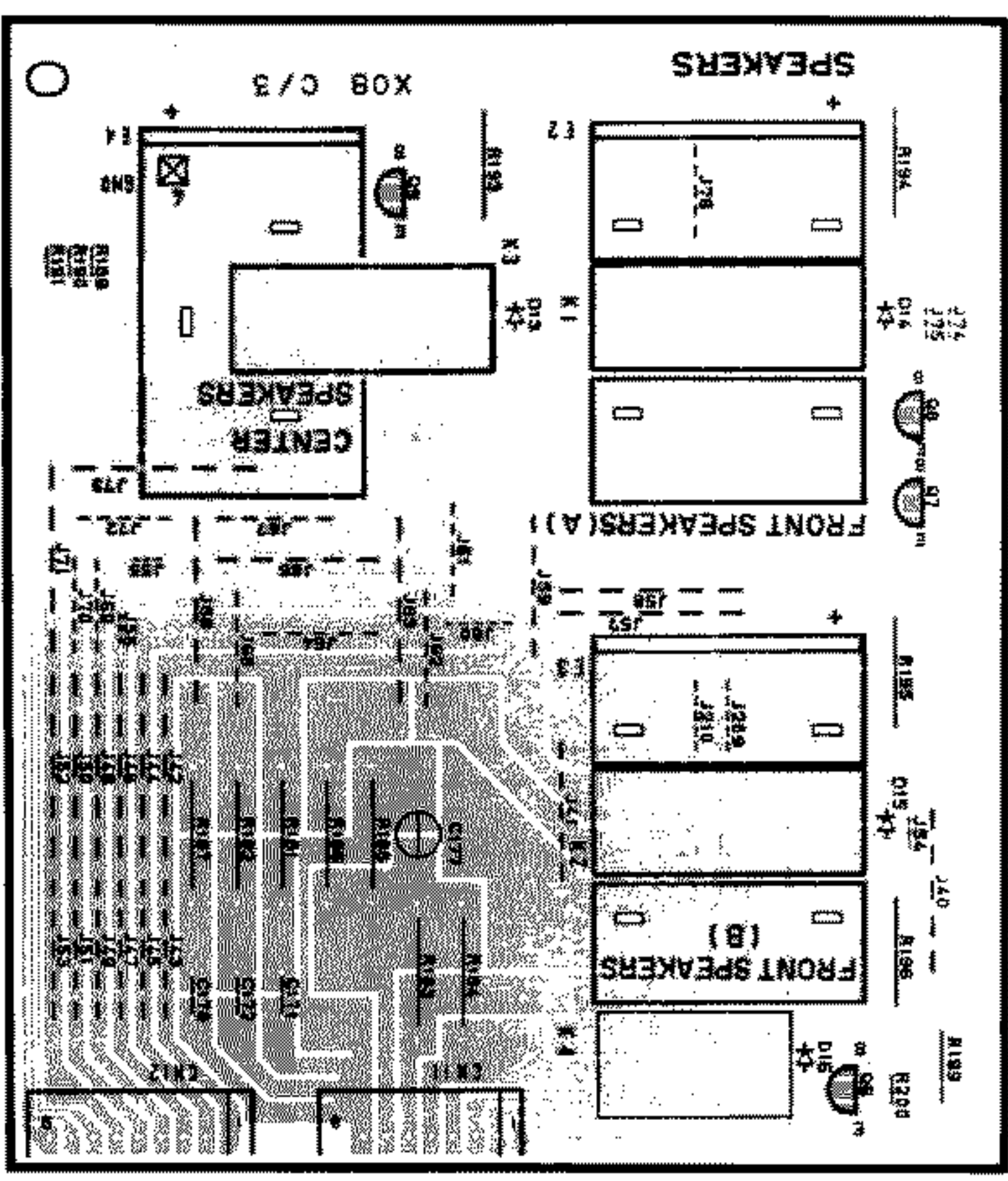
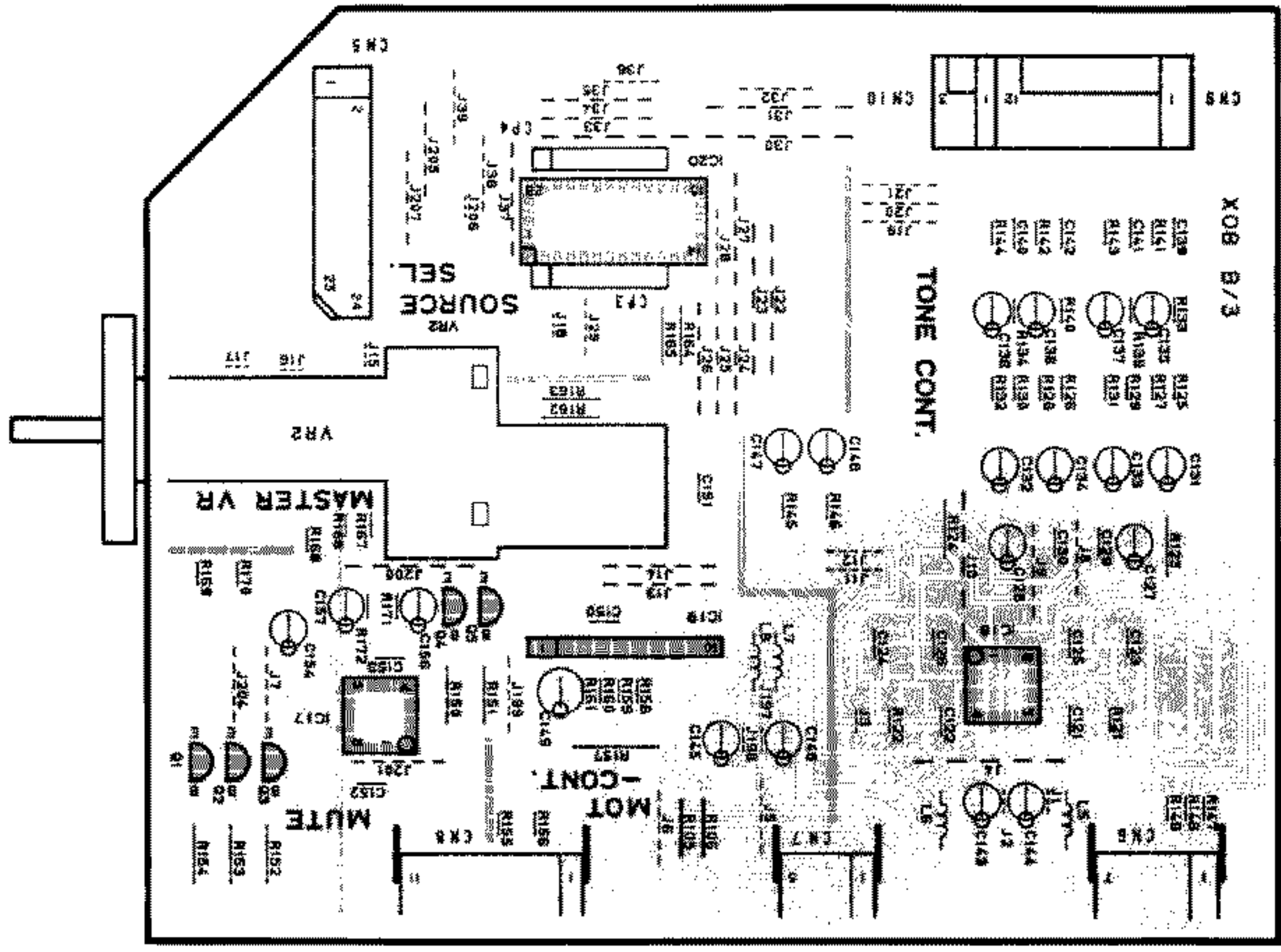
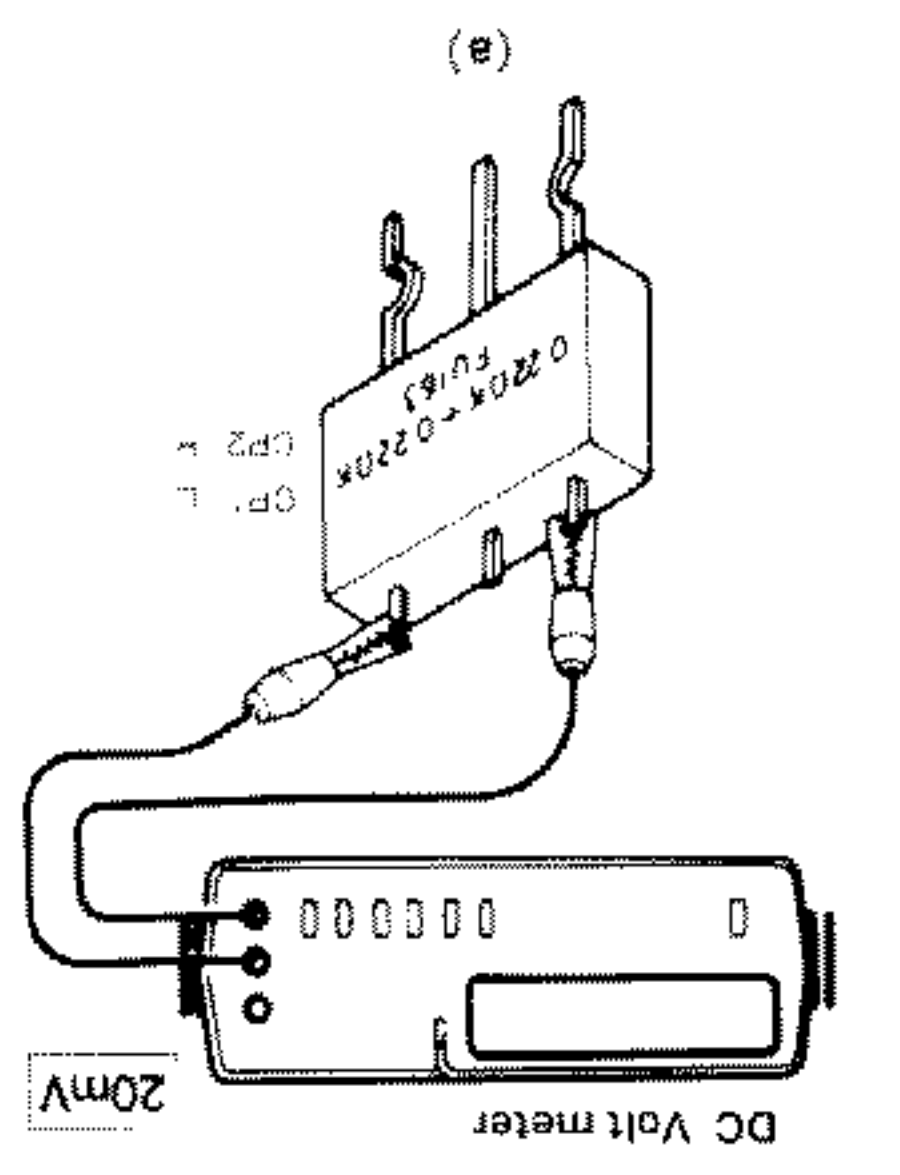
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C3	CF92FV1H101K	MF	C3	CF92FV1H101K	MF
C4	CF92FV1H101K	MF	C4	CF92FV1H101K	MF
C7	CF92FV1H101K	MF	C7	CF92FV1H101K	MF
C8	CF92FV1H101K	MF	C8	CF92FV1H101K	MF
C9	CF92FV1H101K	MF	C9	CF92FV1H101K	MF
C10	CF92FV1H101K	MF	C10	CF92FV1H101K	MF
C11	CF92FV1H101K	MF	C11	CF92FV1H101K	MF
C12	CF92FV1H101K	MF	C12	CF92FV1H101K	MF
C13	CF92FV1H101K	MF	C13	CF92FV1H101K	MF
C14	CF92FV1H101K	MF	C14	CF92FV1H101K	MF
C15	CF92FV1H101K	MF	C15	CF92FV1H101K	MF
C19	CF92FV1H101K	MF	C19	CF92FV1H101K	MF
C20	CF92FV1H101K	MF	C20	CF92FV1H101K	MF
C23	CF92FV1H101K	MF	C23	CF92FV1H101K	MF
VR1	VR1	VR1	VR1	VR1	VR1
VR2	VR2	VR2	VR2	VR2	VR2
VR3	VR3	VR3	VR3	VR3	VR3
VR4	VR4	VR4	VR4	VR4	VR4
VR5	VR5	VR5	VR5	VR5	VR5
VR6	VR6	VR6	VR6	VR6	VR6
VR7	VR7	VR7	VR7	VR7	VR7
VR8	VR8	VR8	VR8	VR8	VR8
VR9	VR9	VR9	VR9	VR9	VR9
VR10	VR10	VR10	VR10	VR10	VR10
VR11	VR11	VR11	VR11	VR11	VR11
VR12	VR12	VR12	VR12	VR12	VR12
VR13	VR13	VR13	VR13	VR13	VR13
VR14	VR14	VR14	VR14	VR14	VR14
VR15	VR15	VR15	VR15	VR15	VR15
VR16	VR16	VR16	VR16	VR16	VR16
VR17	VR17	VR17	VR17	VR17	VR17
VR18	VR18	VR18	VR18	VR18	VR18
VR19	VR19	VR19	VR19	VR19	VR19
VR20	VR20	VR20	VR20	VR20	VR20
VR21	VR21	VR21	VR21	VR21	VR21
VR22	VR22	VR22	VR22	VR22	VR22
VR23	VR23	VR23	VR23	VR23	VR23
VR24	VR24	VR24	VR24	VR24	VR24
VR25	VR25	VR25	VR25	VR25	VR25
VR26	VR26	VR26	VR26	VR26	VR26
VR27	VR27	VR27	VR27	VR27	VR27
VR28	VR28	VR28	VR28	VR28	VR28
VR29	VR29	VR29	VR29	VR29	VR29
VR30	VR30	VR30	VR30	VR30	VR30
VR31	VR31	VR31	VR31	VR31	VR31
VR32	VR32	VR32	VR32	VR32	VR32
VR33	VR33	VR33	VR33	VR33	VR33
VR34	VR34	VR34	VR34	VR34	VR34
VR35	VR35	VR35	VR35	VR35	VR35
VR36	VR36	VR36	VR36	VR36	VR36
VR37	VR37	VR37	VR37	VR37	VR37
VR38	VR38	VR38	VR38	VR38	VR38
VR39	VR39	VR39	VR39	VR39	VR39
VR40	VR40	VR40	VR40	VR40	VR40
VR41	VR41	VR41	VR41	VR41	VR41
VR42	VR42	VR42	VR42	VR42	VR42
VR43	VR43	VR43	VR43	VR43	VR43
VR44	VR44	VR44	VR44	VR44	VR44
VR45	VR45	VR45	VR45	VR45	VR45
VR46	VR46	VR46	VR46	VR46	VR46
VR47	VR47	VR47	VR47	VR47	VR47
VR48	VR48	VR48	VR48	VR48	VR48
VR49	VR49	VR49	VR49	VR49	VR49
VR50	VR50	VR50	VR50	VR50	VR50
VR51	VR51	VR51	VR51	VR51	VR51
VR52	VR52	VR52	VR52	VR52	VR52
VR53	VR53	VR53	VR53	VR53	VR53
VR54	VR54	VR54	VR54	VR54	VR54
VR55	VR55	VR55	VR55	VR55	VR55
VR56	VR56	VR56	VR56	VR56	VR56
VR57	VR57	VR57	VR57	VR57	VR57
VR58	VR58	VR58	VR58	VR58	VR58
VR59	VR59	VR59	VR59	VR59	VR59
VR60	VR60	VR60	VR60	VR60	VR60
VR61	VR61	VR61	VR61	VR61	VR61
VR62	VR62	VR62	VR62	VR62	VR62
VR63	VR63	VR63	VR63	VR63	VR63
VR64	VR64	VR64	VR64	VR64	VR64
VR65	VR65	VR65	VR65	VR65	VR65
VR66	VR66	VR66	VR66	VR66	VR66
VR67	VR67	VR67	VR67	VR67	VR67
VR68	VR68	VR68	VR68	VR68	VR68
VR69	VR69	VR69	VR69	VR69	VR69
VR70	VR70	VR70	VR70	VR70	VR70
VR71	VR71	VR71	VR71	VR71	VR71
VR72	VR72	VR72	VR72	VR72	VR72
VR73	VR73	VR73	VR73	VR73	VR73
VR74	VR74	VR74	VR74	VR74	VR74
VR75	VR75	VR75	VR75	VR75	VR75
VR76	VR76	VR76	VR76	VR76	VR76
VR77	VR77	VR77	VR77	VR77	VR77
VR78	VR78	VR78	VR78	VR78	VR78
VR79	VR79	VR79	VR79	VR79	VR79
VR80	VR80	VR80	VR80	VR80	VR80
VR81	VR81	VR81	VR81	VR81	VR81
VR82	VR82	VR82	VR82	VR82	VR82
VR83	VR83	VR83	VR83	VR83	VR83
VR84	VR84	VR84	VR84	VR84	VR84
VR85	VR85	VR85	VR85	VR85	VR85
VR86	VR86	VR86	VR86	VR86	VR86
VR87	VR87	VR87	VR87	VR87	VR87
VR88	VR88	VR88	VR88	VR88	VR88
VR89	VR89	VR89	VR89	VR89	VR89
VR90	VR90	VR90	VR90	VR90	VR90
VR91	VR91	VR91	VR91	VR91	VR91
VR92	VR92	VR92	VR92	VR92	VR92
VR93	VR93	VR93	VR93	VR93	VR93
VR94	VR94	VR94	VR94	VR94	VR94
VR95	VR95	VR95	VR95	VR95	VR95
VR96	VR96	VR96	VR96	VR96	VR96
VR97	VR97	VR97	VR97	VR97	VR97
VR98	VR98	VR98	VR98	VR98	VR98
VR99	VR99	VR99	VR99	VR99	VR99
VR100	VR100	VR100	VR100	VR100	VR100

△ indicates safety critical components

PARTS LIST

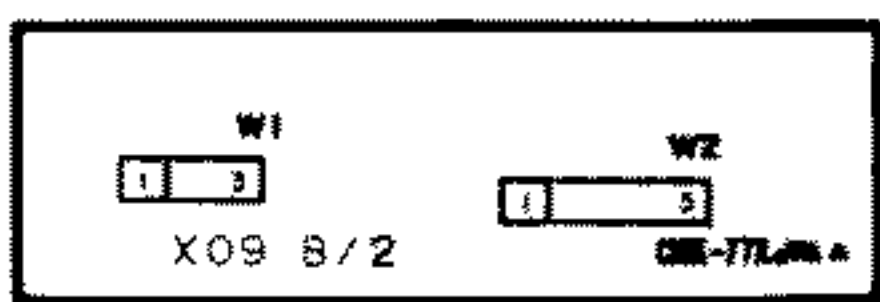
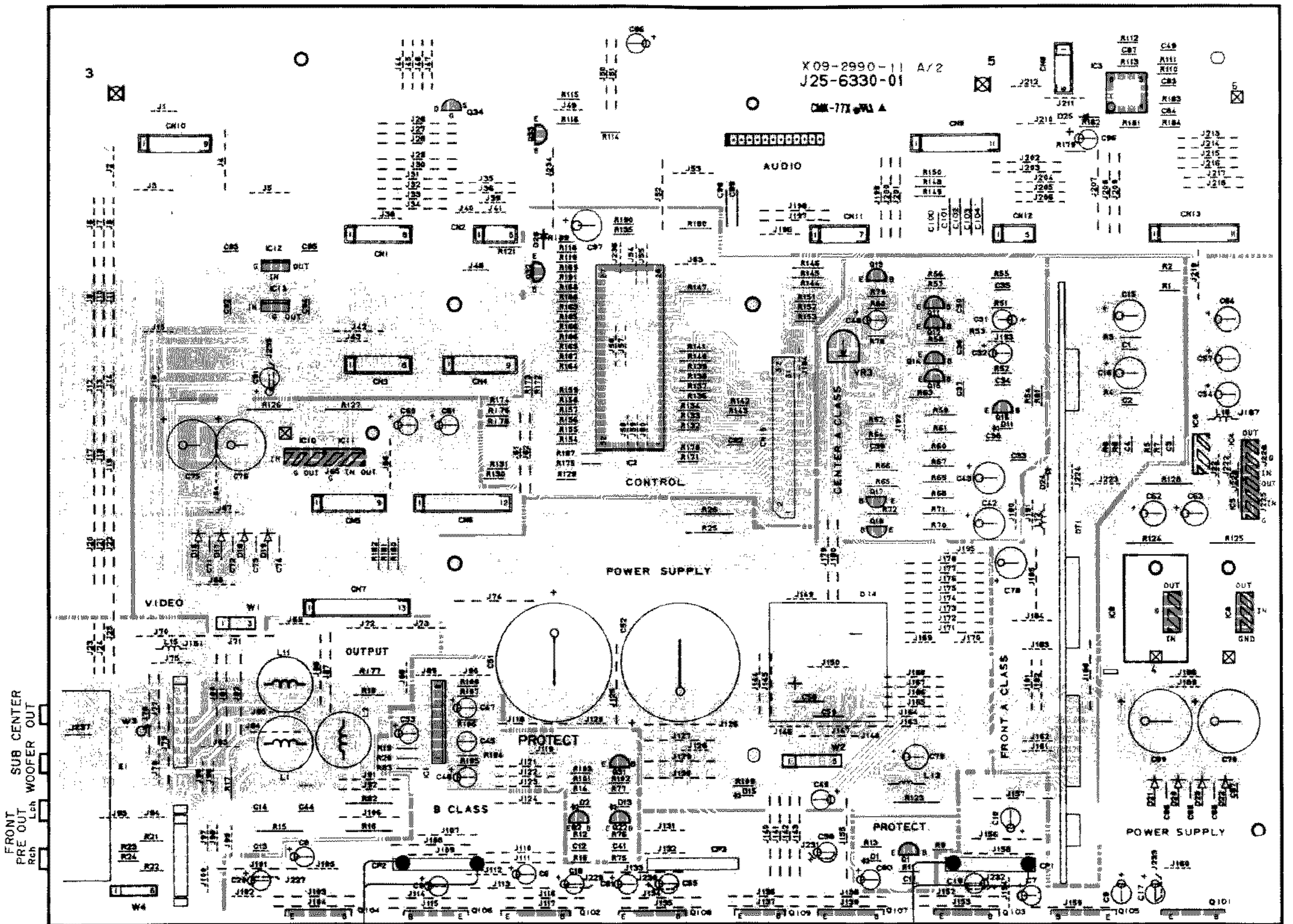


U V W X Y Z AA AB AC AD



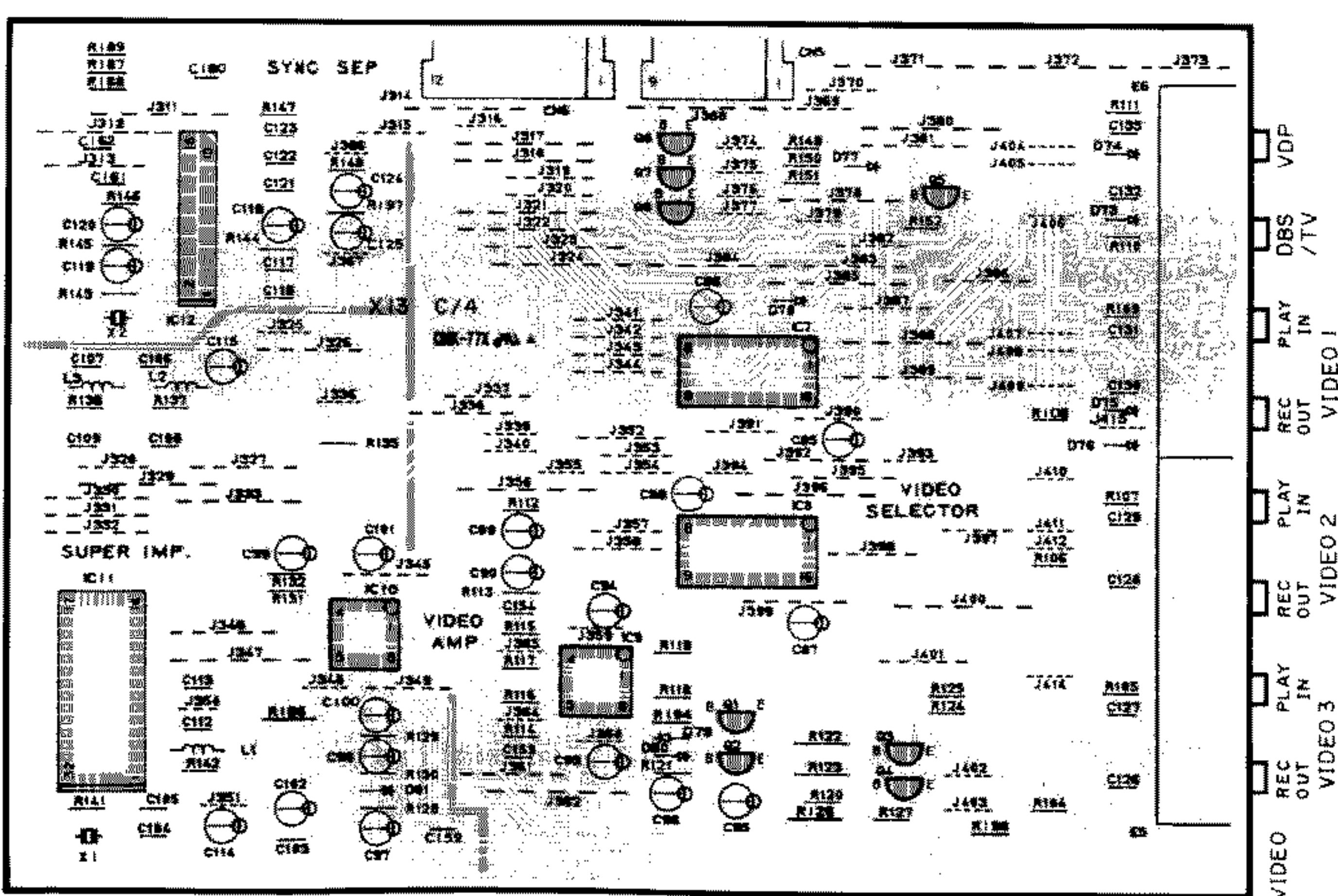
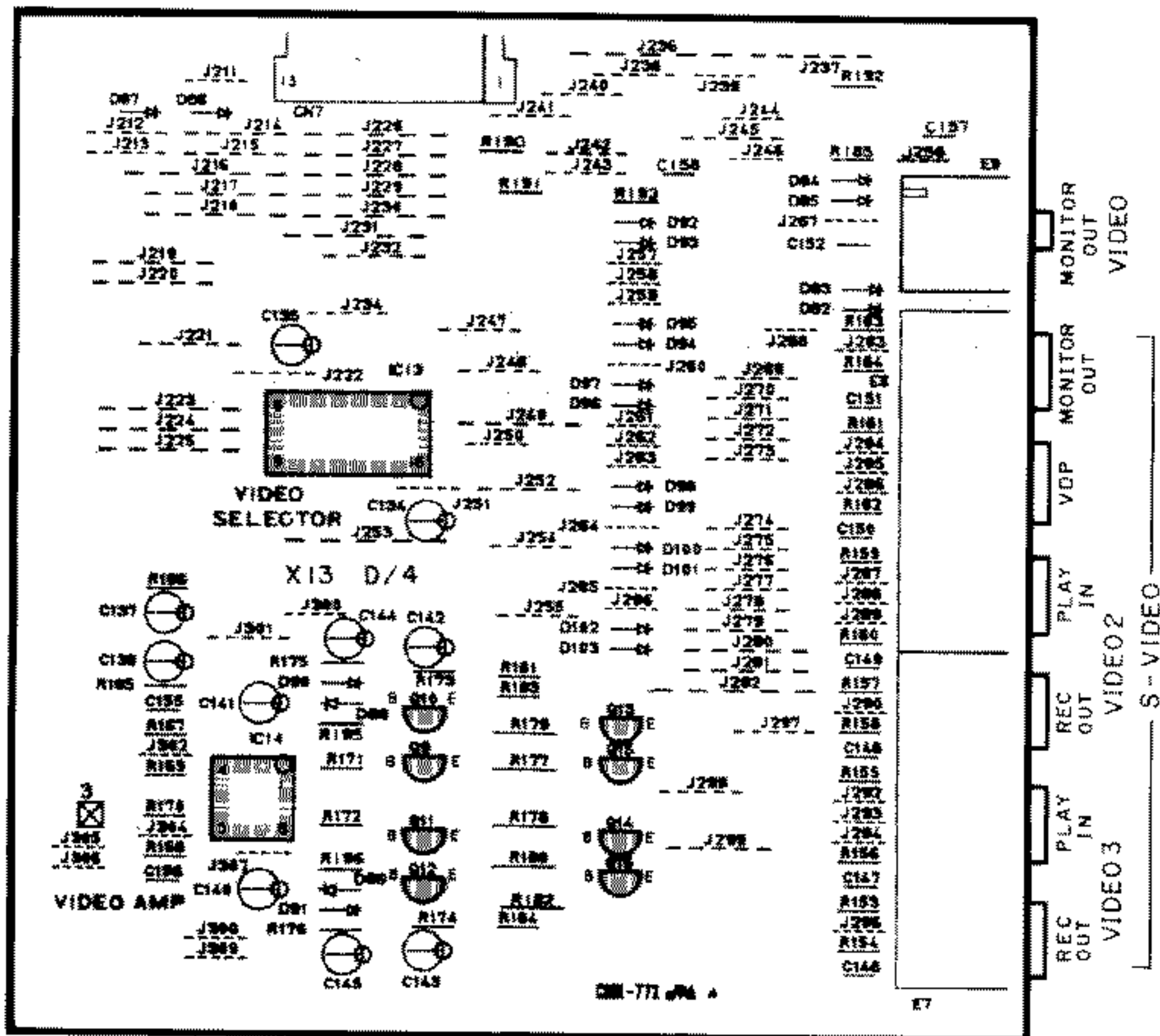
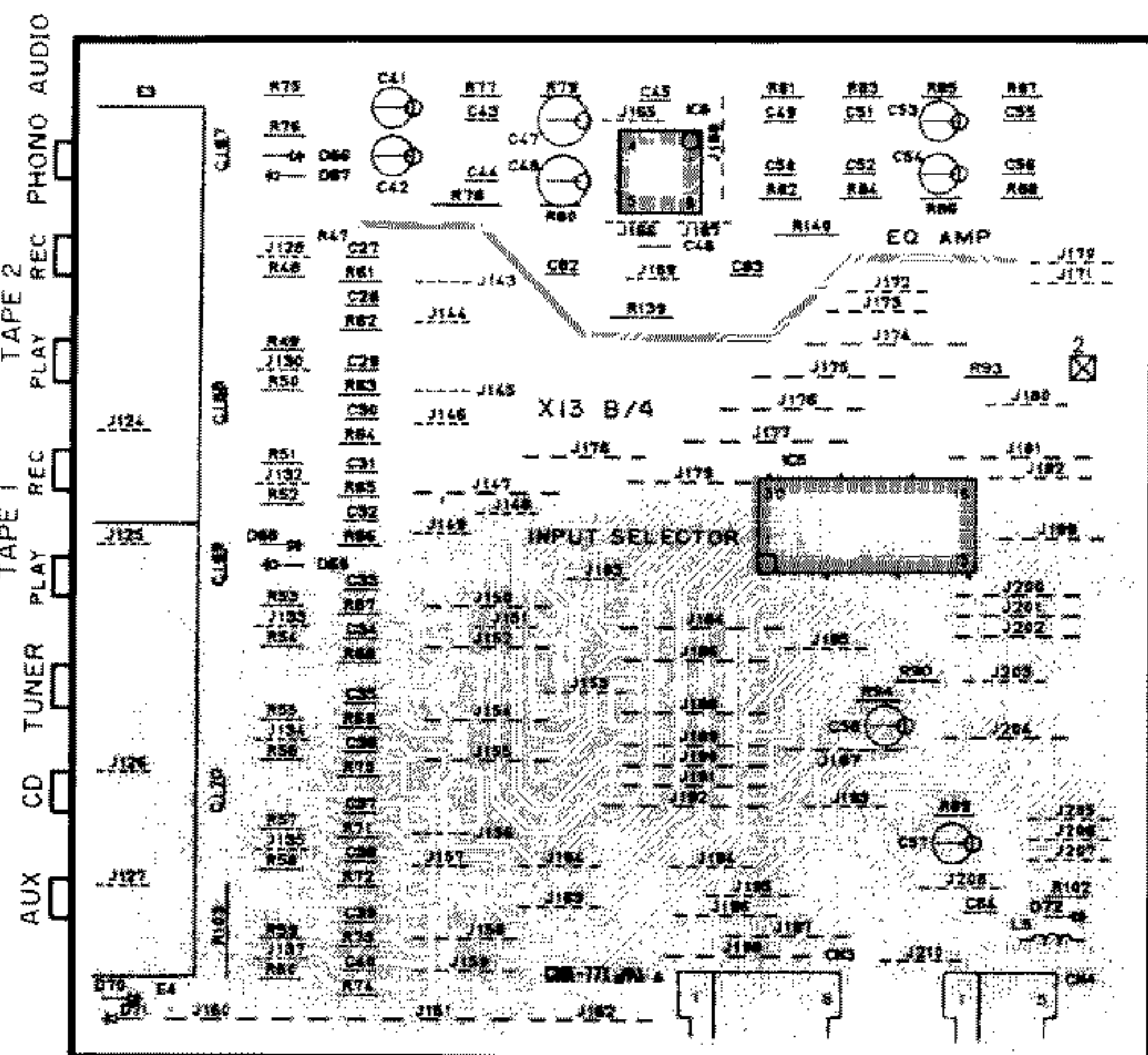
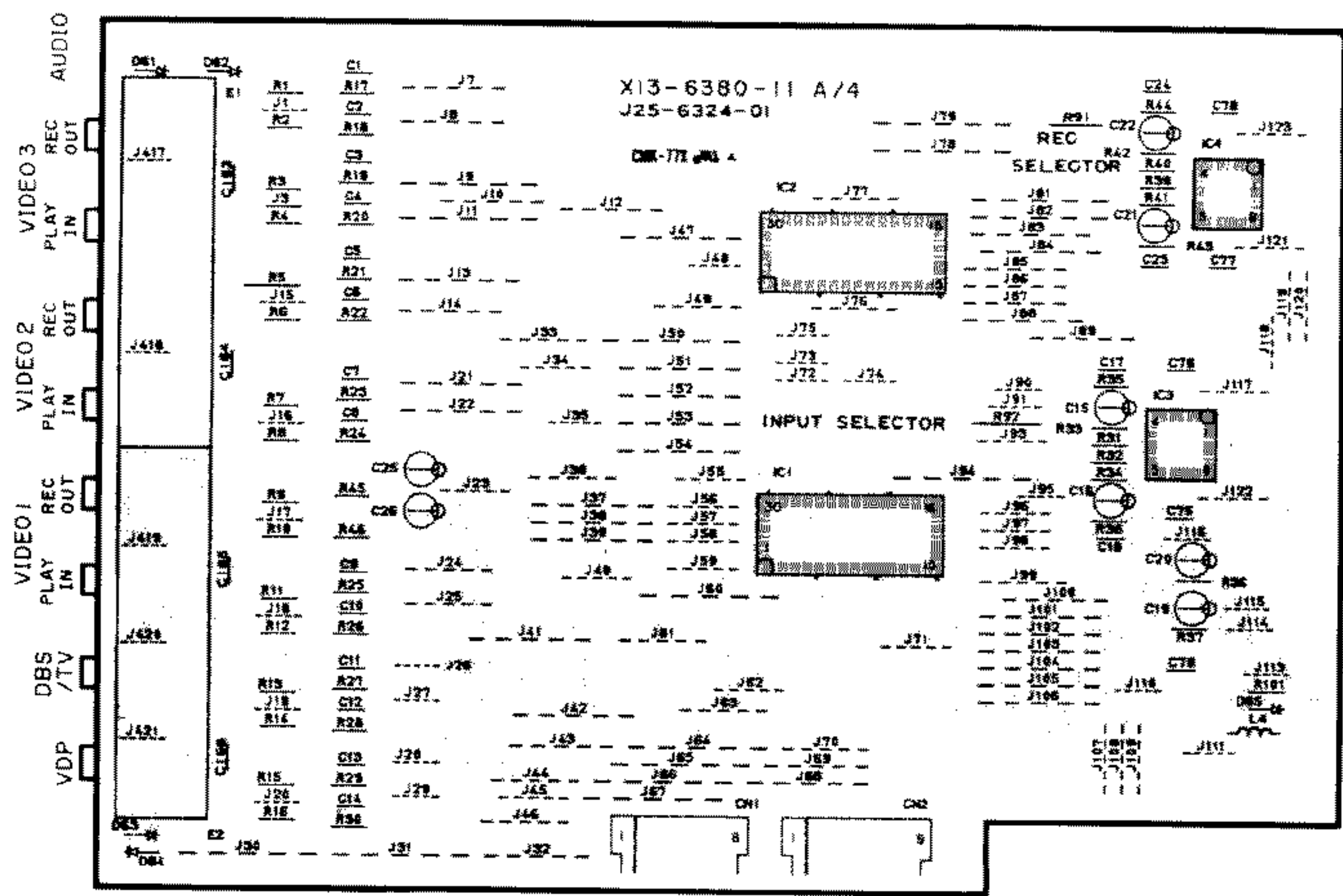
PC BOARD SURROUND UNIT

PC BOARD AUDIO UNIT



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

PC BOARD ACCESSORY UNIT



37

38

Indicates safety critical components.

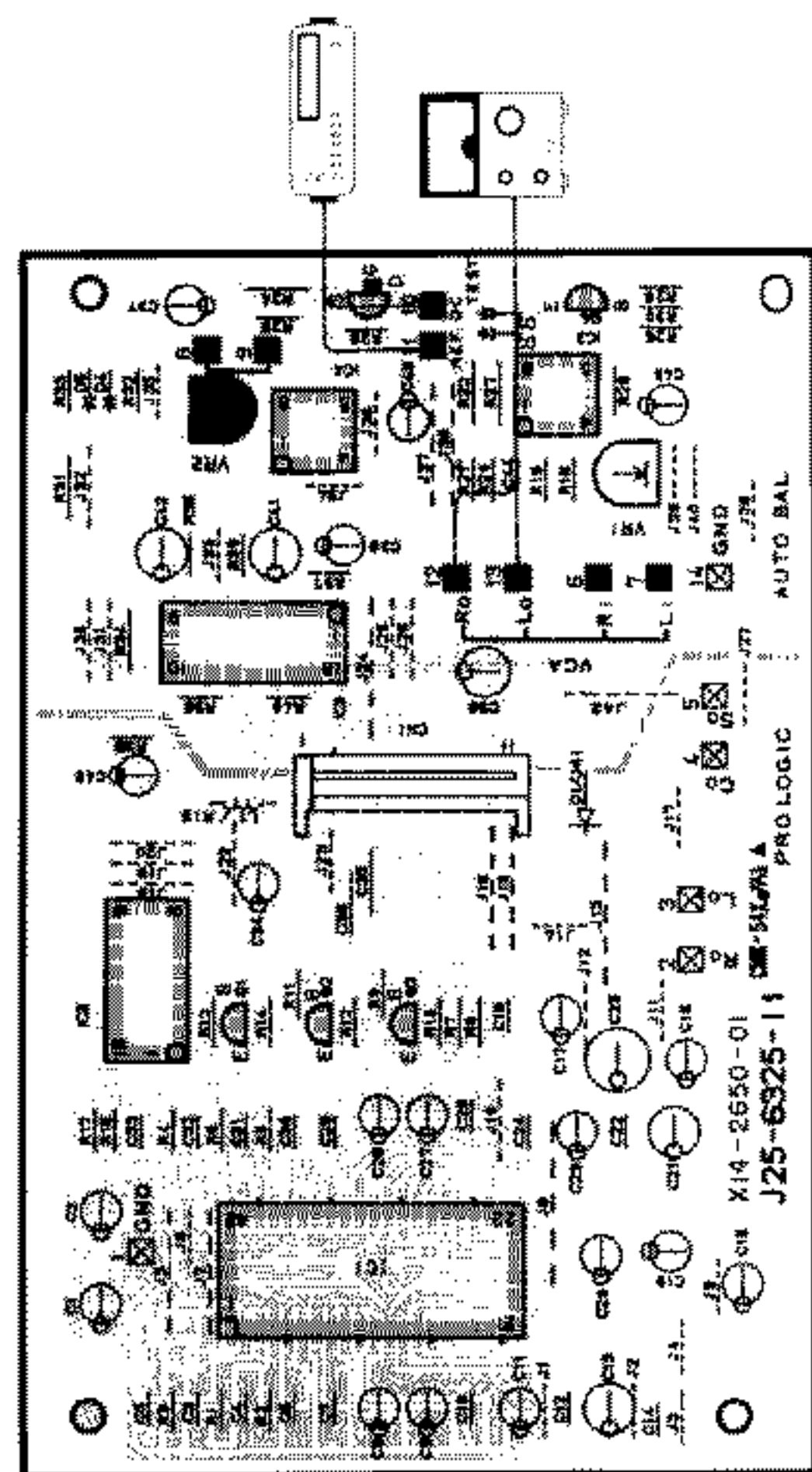
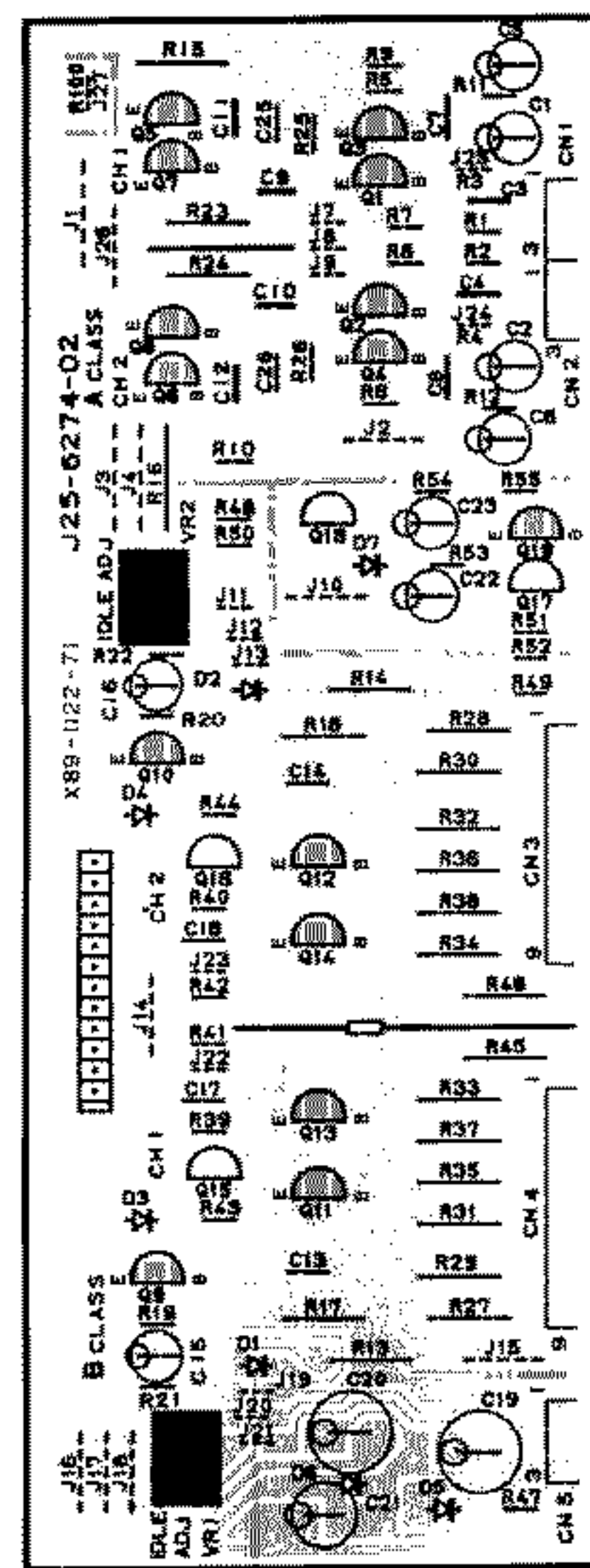
E: Scandinavia & Europe K: USA
 U: Pacific East (Hawaii) T: England M: Other Areas
 U: Americas (Europe) X: Australia
 P: Canada

Ref. No.	Parts No.	Description	Dest. Re-
R102-106	R92-0219-05	FUSE RESIST 10	G 1/4M
R95	R014A2E151JTS	FL-PROOF RD 150	J 1/4M
R96	R014A2E331JTS	FL-PROOF RD 330	J 1/4M
CP3 1	R90-0493-05	MULTI-COMP 100KX9	J 1/6M
CP1 2	R90-0851-05	MULTIPLE RESISTOR	
L1	L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)	
E4	E20-0238-05	SCREW TERMINAL BOARD(2P)	
E2 3	E20-1401-05	SCREW TERMINAL BOARD(4P)	
EN4 5	E10-2403-05	FLAT CABLE CONNECTOR	
C178	CF92FV1H473J	NP-ELEC 3.3UF 50WV	J
C171, 172	CF92FV1H473J	MF 0.047UF J	J
C158, 159	CE91-0745-05	CERAMIC 100PF K	
C156, 157	CE04KW1V100M	ELECTRO 10UF 35WV	J
C154	CE04KW1H220M	ELECTRO 22UF 50WV	J
C155	CE04KW1H220M	ELECTRO 22UF 50WV	J
C153, 153	CF92FV1H103J	MF 0.010UF J	J
C150, 151	CE04KW1H473J	CERAMIC 0.047UF Z	
C149	CE04KW1C101M	ELECTRO 100UF 16WV	J
C147, 148	CE04KW1H220M	ELECTRO 22UF 50WV	J
C145, 146	CE04KW1C101M	ELECTRO 100UF 16WV	J
C143, 144	CE04KW1V100M	ELECTRO 10UF 35WV	J
C139-142	CF92FV1H473J	MF 0.047UF J	J
C135-138	CE04KW1H220M	ELECTRO 22UF 50WV	J
C131-134	CE04KW1H010M	ELECTRO 1.0UF 50WV	J
C129, 130	CF92FV1H561J	MF 560PF J	J
C127, 128	CE04KW1H220M	ELECTRO 22UF 50WV	J
C121-126	CF92FV1H121K	MF 120PF K	
C107, 108	CE04KW1A470M	ELECTRO 47UF 10WV	J
C105, 106	CE04KW1H2R2M	ELECTRO 2.2UF 50WV	J
C104	CE04KW1C470M	ELECTRO 47UF 16WV	J
C103	CE04KW1H220M	ELECTRO 22UF 50WV	J
C102	CE04KW1H2R2M	ELECTRO 2.2UF 50WV	J
C101	CF92FV1H121K	MF 120PF K	
C99	CE04KW1V100M	ELECTRO 10UF 35WV	J
C98	CF92FV1H221K	MF 220PF K	
C96, 97	CE04KW1H220M	ELECTRO 22UF 50WV	J
C94, 95	CE04KW1V100M	ELECTRO 10UF 35WV	J
C93	CE04KW1C470M	ELECTRO 47UF 16WV	J
C91, 92	CE04KW1H103Z	CERAMIC 0.010UF Z	
C90	CF92FV1H334J	MF 0.33UF J	J
C89	CF92FV1H104J	MF 0.10UF J	J
C88	CE04KW1V100M	ELECTRO 10UF 35WV	J
C87	CF92FV1H473J	MF 0.047UF J	J
C86	CF92FV1H473J	MF 0.047UF J	J
C85	CF92FV1H223J	MF 0.027UF J	J
C84	CF92FV1H223J	MF 0.027UF J	J
C83	CF92FV1H473J	MF 0.047UF J	J
C82	CE04KW1H2R2M	ELECTRO 2.2UF 50WV	J
C80, 81	CE04KW1C101M	ELECTRO 100UF 16WV	J

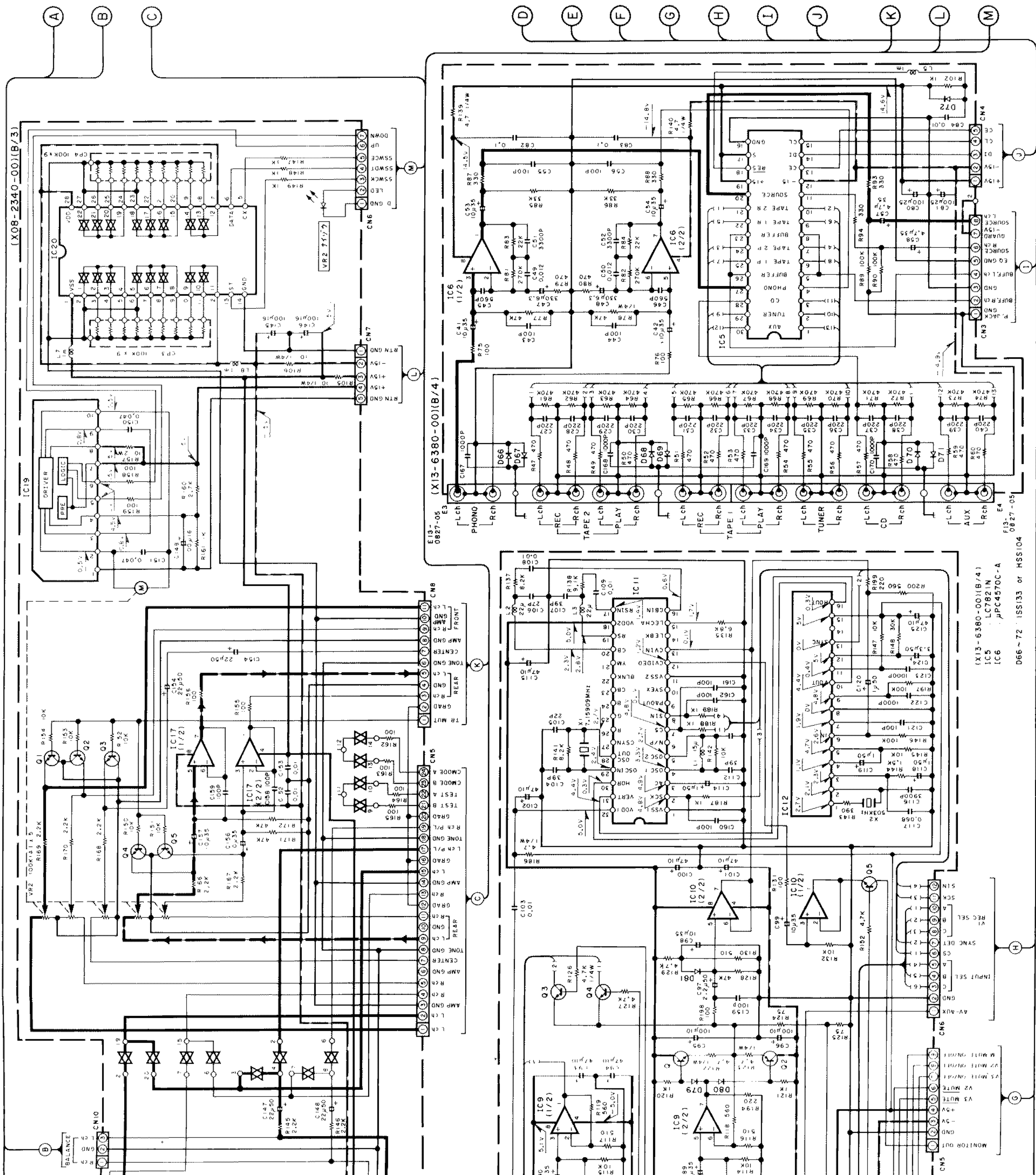
PARTS LIST

* New Parts
 Parts without Part No. are not supplied.
 Les articles sans numéro de pièce ne sont pas fournis.
 Teile ohne Parts No. werden nicht geliefert.

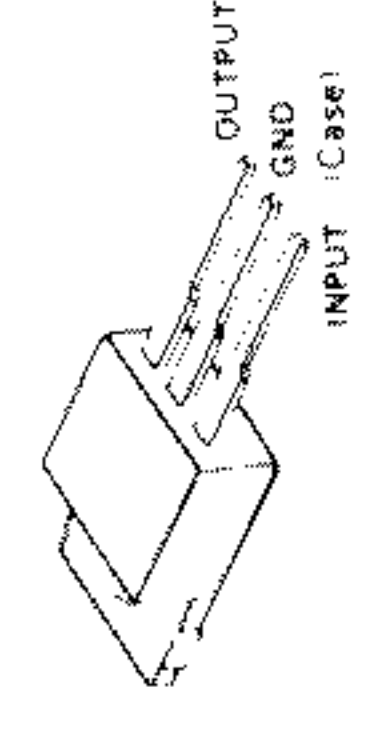
PC BOARD



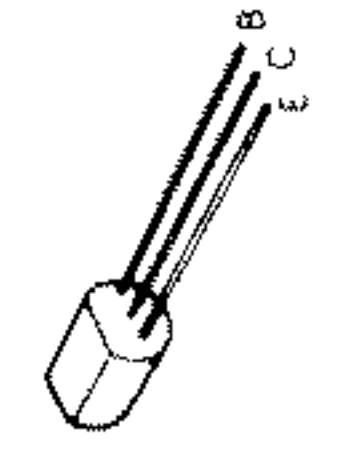
Refer to the schematic diagram for the values of resistors and capacitors.



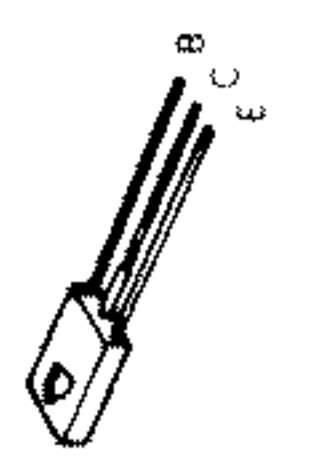
NE571N
UPC7918HF
YM3428



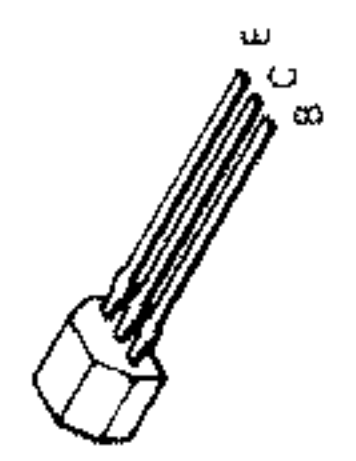
2SA733(A)
2SA954
2SA992
2SA999
2SC1845
2SC2003
2SC2320
2SC2878
2SC945(A)



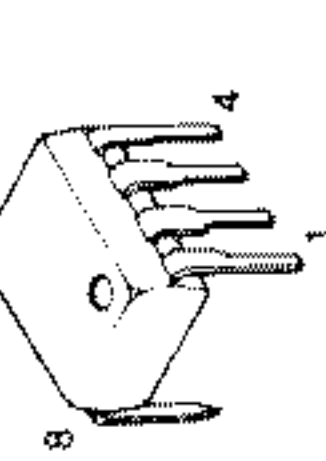
2SA1110
2SC2590



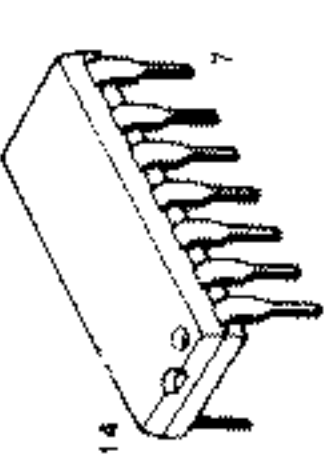
DTA114ES
DTA124ES
2SA933S
2SC1740S



NJM4560D-A



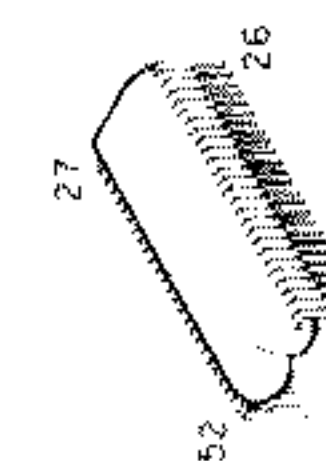
NJM2058D



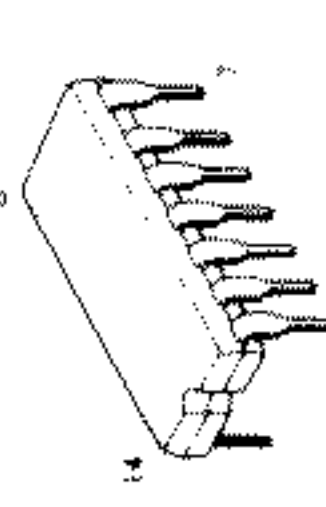
LC7821N
LC7822N



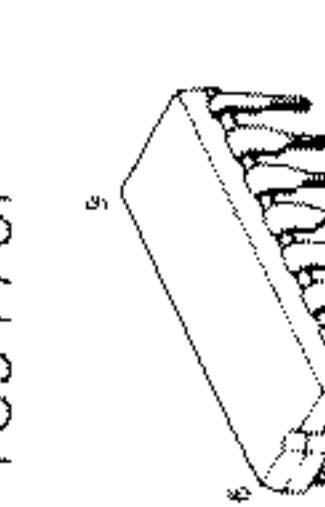
M50791SP



TC4011UBP



TAY7629P
TC4051BP
TC4052BP
TC9176P



NJM2229S



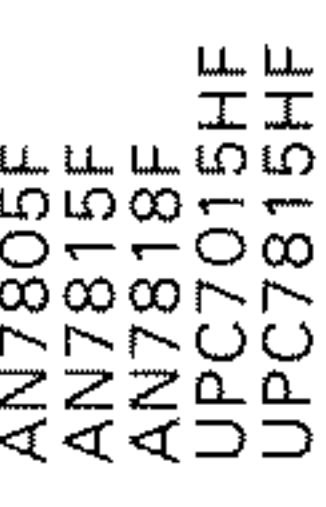
NJM4565D-D
UPC4072C
UPC4570-A



UPC1237HA



AN7805F
AN7815F
AN7818F
UPC7015HF
UPC7815HF
UPC7818HF



TC9163N
TC9162N



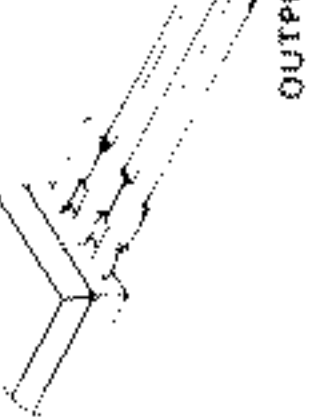
BA6209N



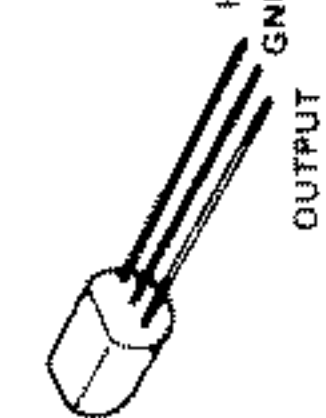
AN7905F



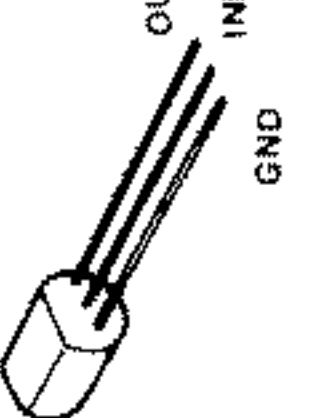
UPC78L05J
UPC78L12J



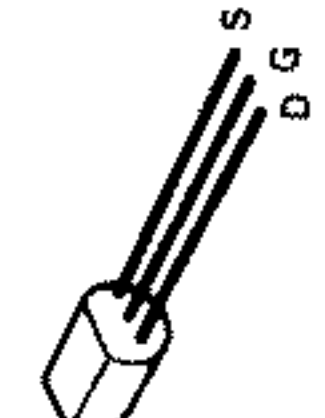
NJM78L05A
NJM78L15A
TA78L005AP



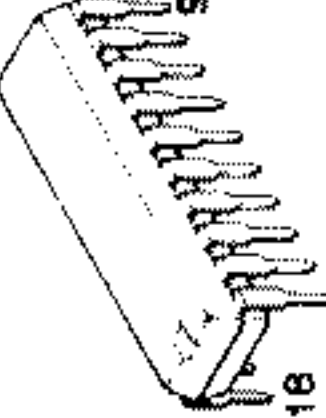
NJM79L15A



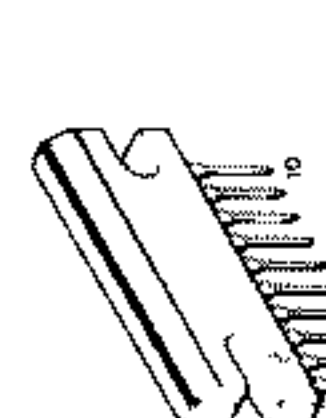
2SK105
2SK163



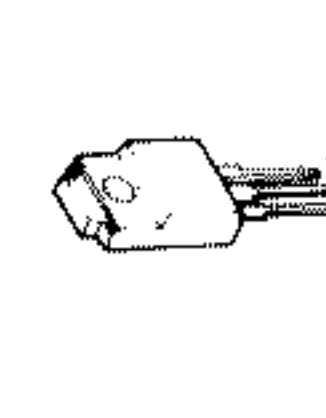
TDA1074A



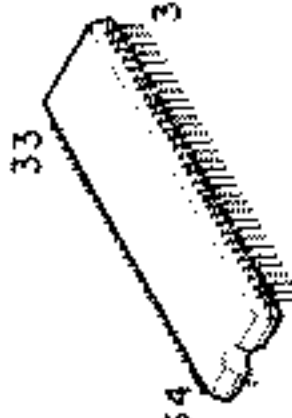
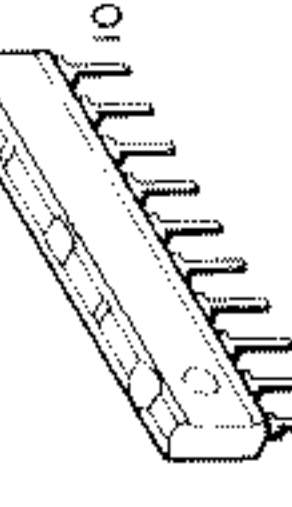
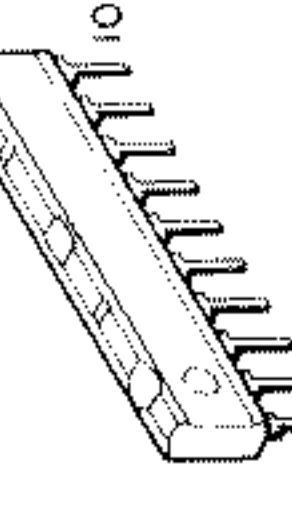
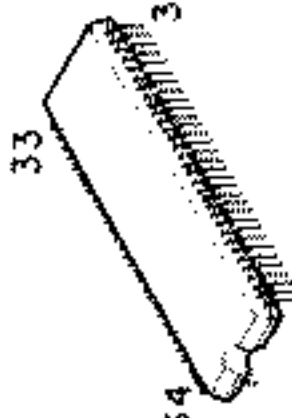
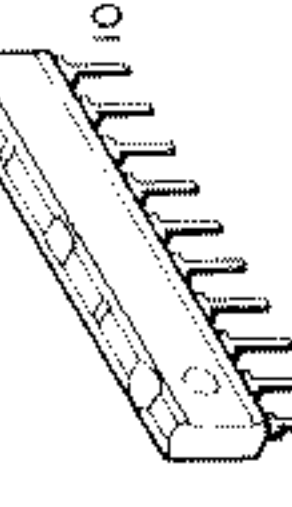
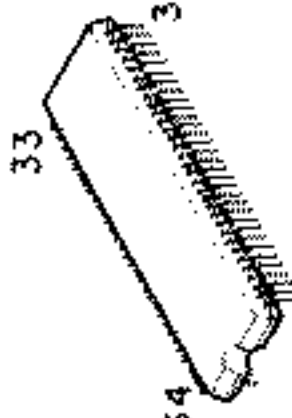
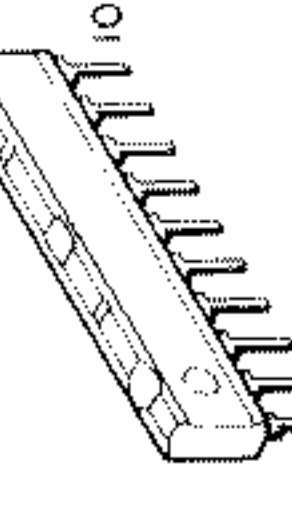
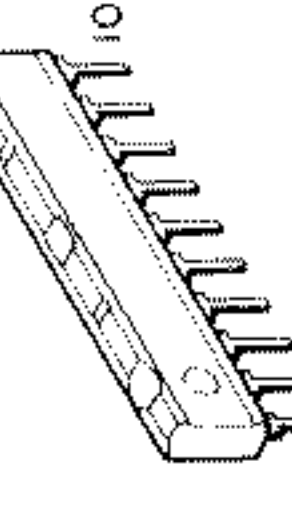
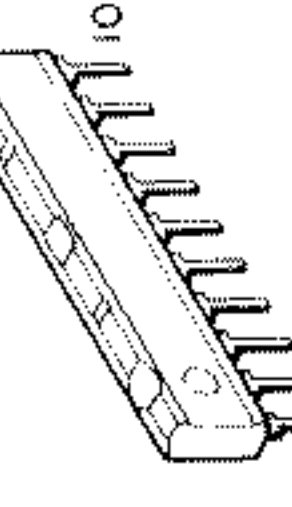
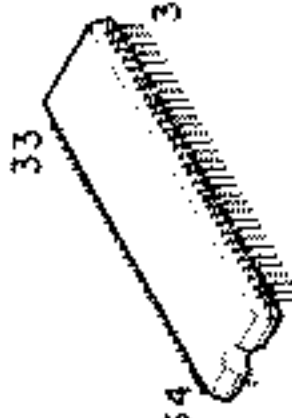
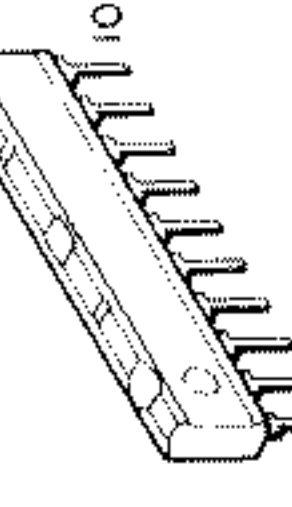
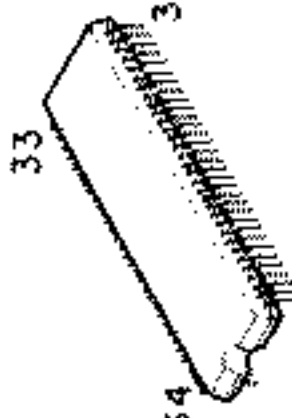
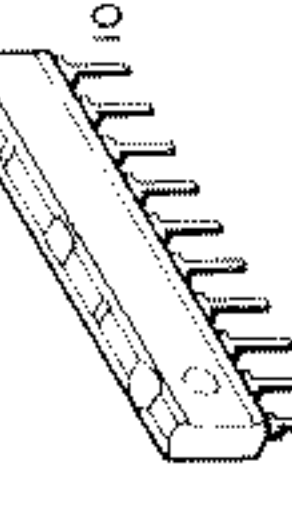
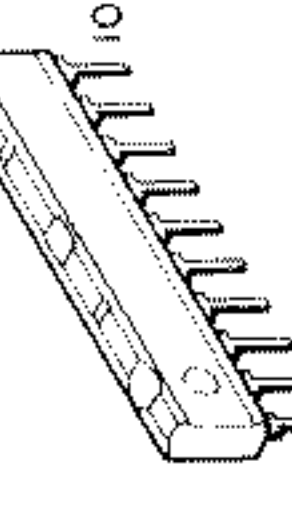
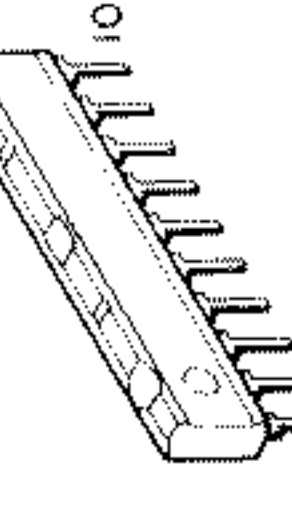
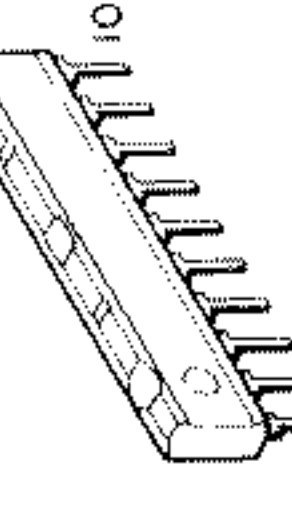
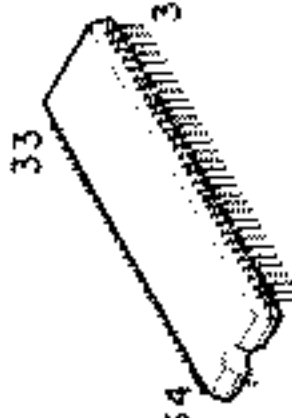
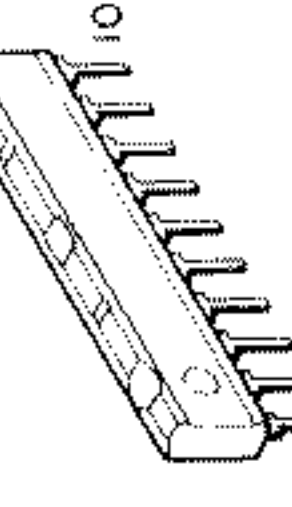
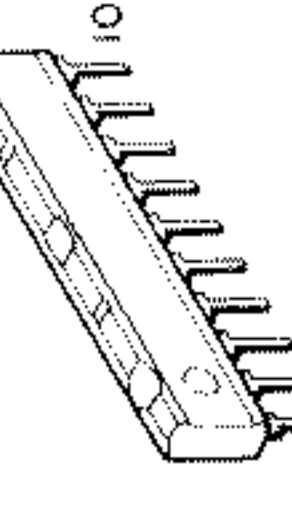
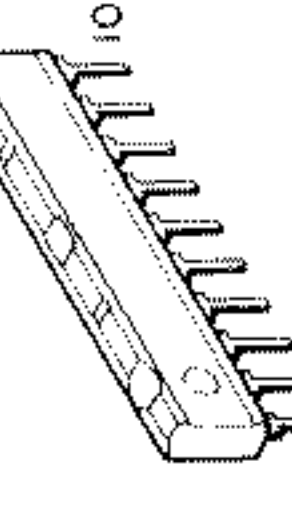
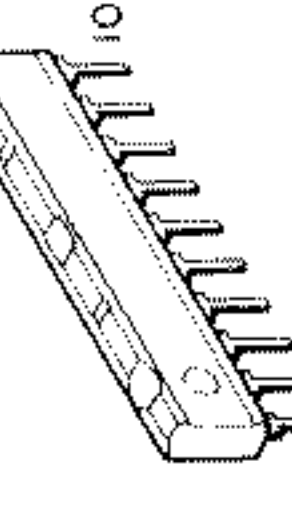
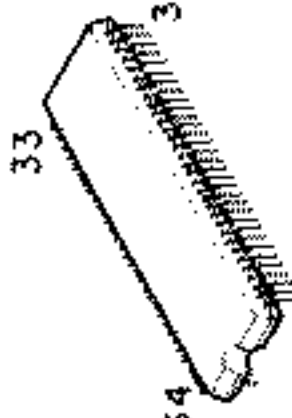
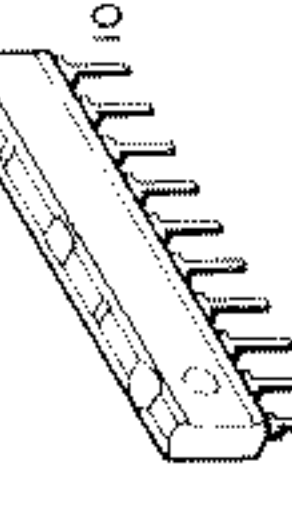
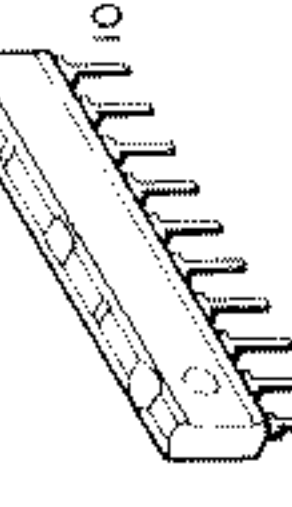
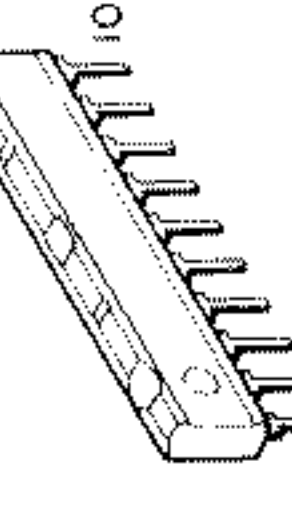
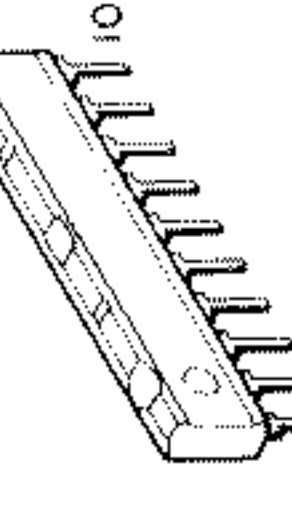
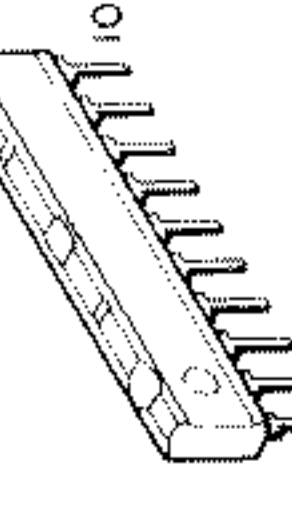
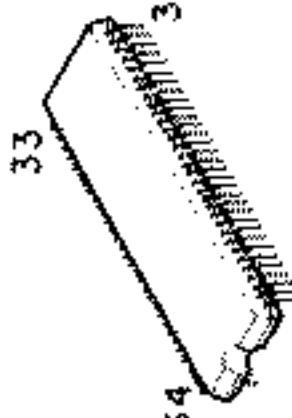
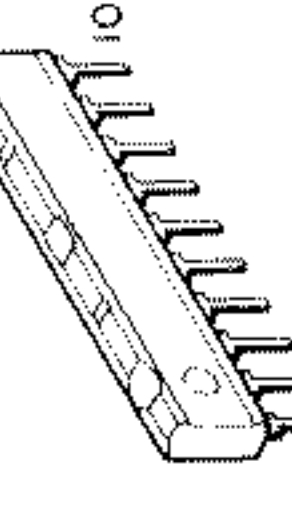
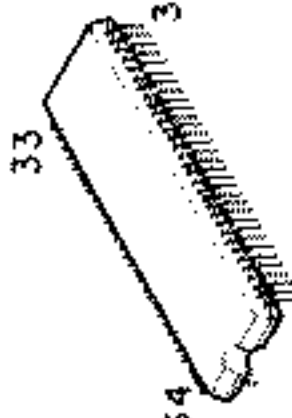
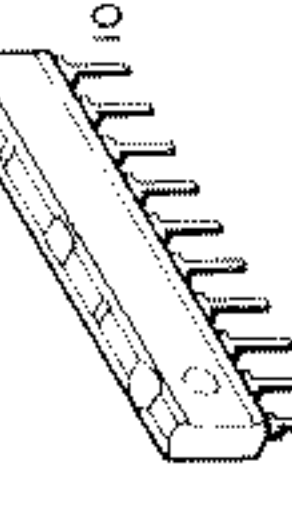
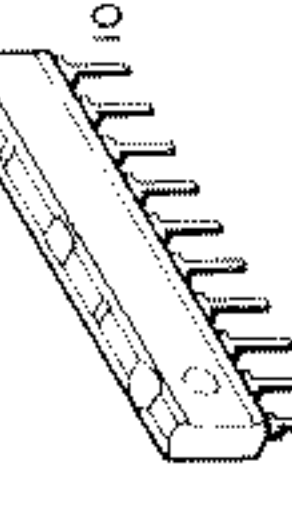
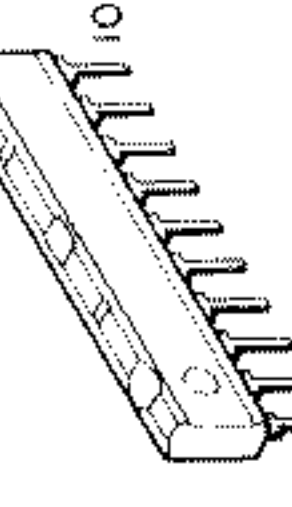
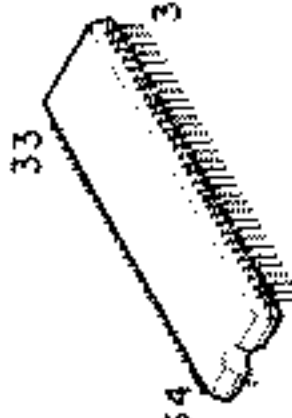
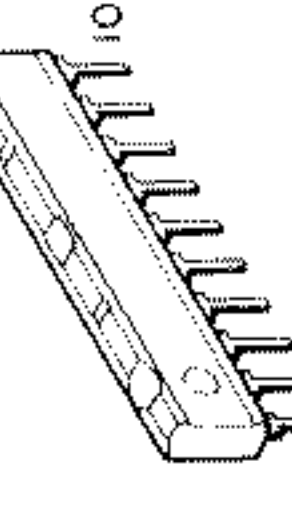
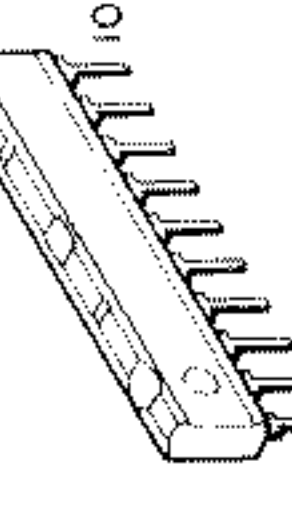
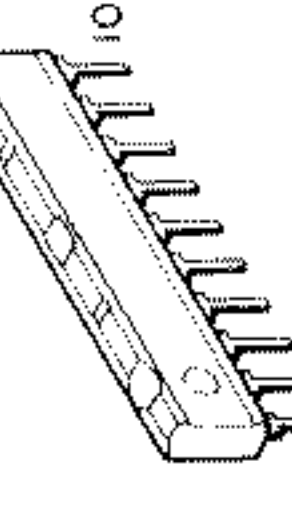
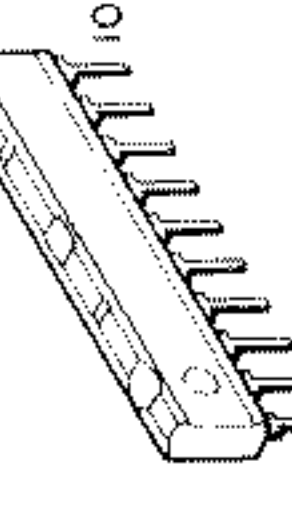
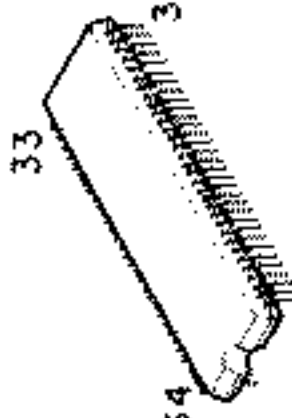
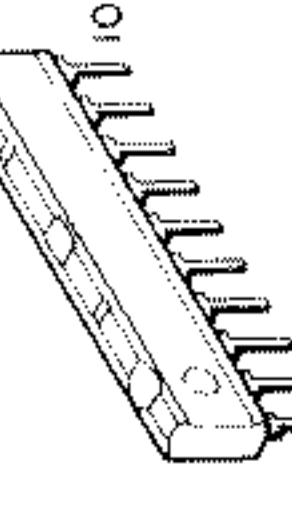
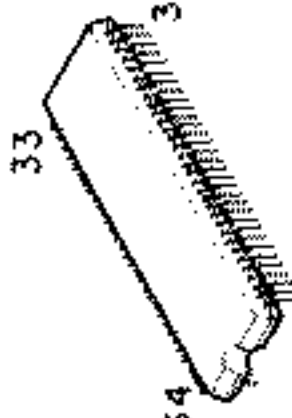
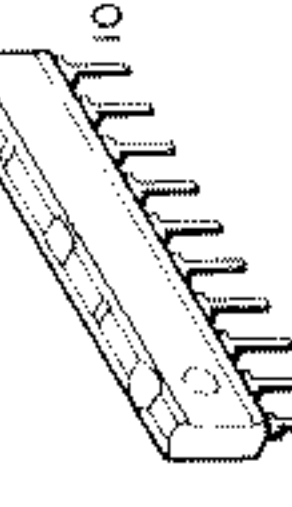
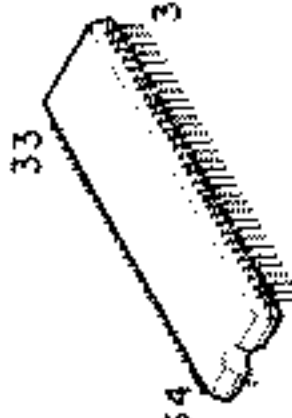
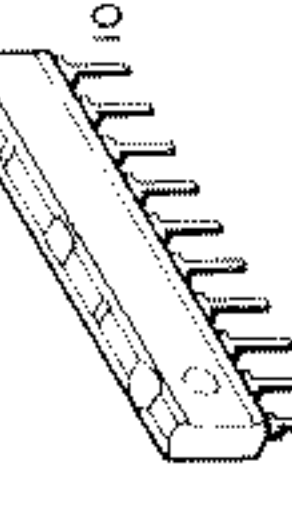
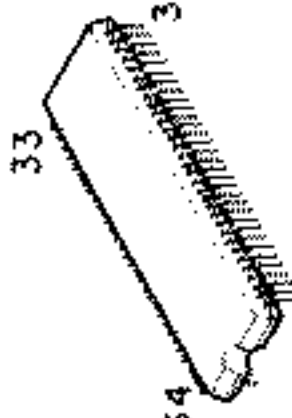
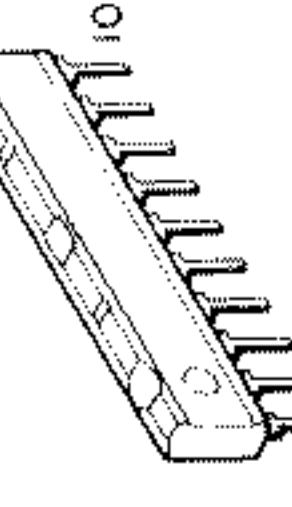
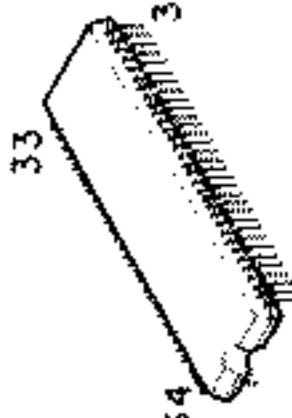
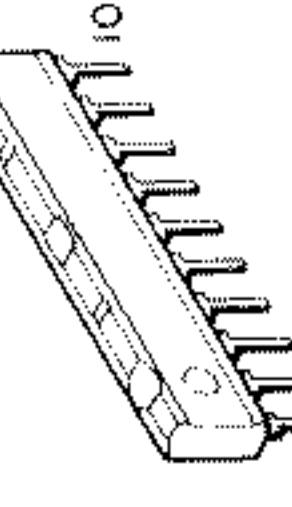
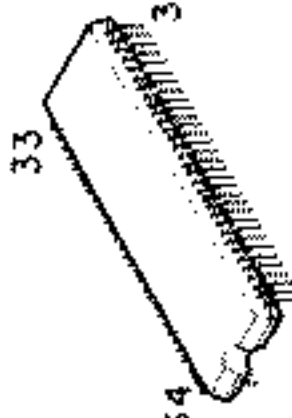
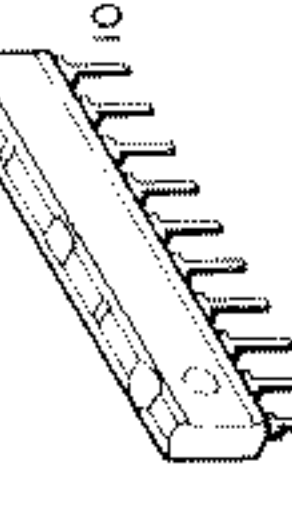
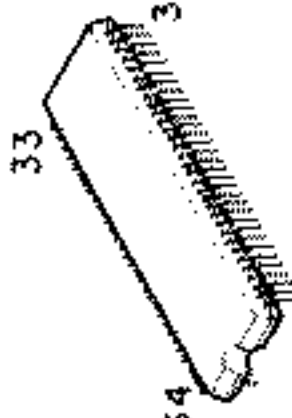
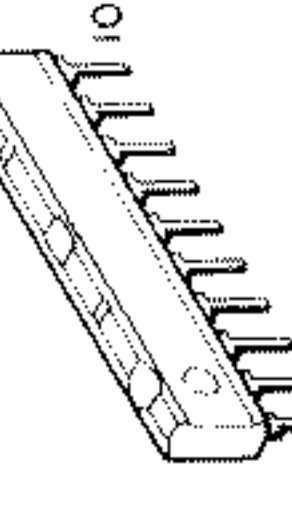
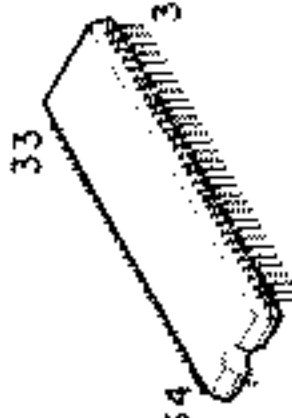
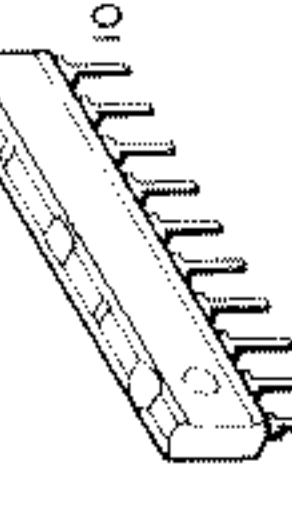
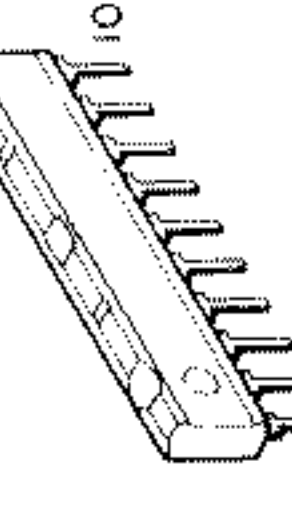
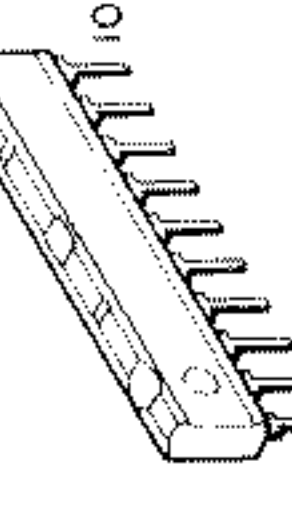
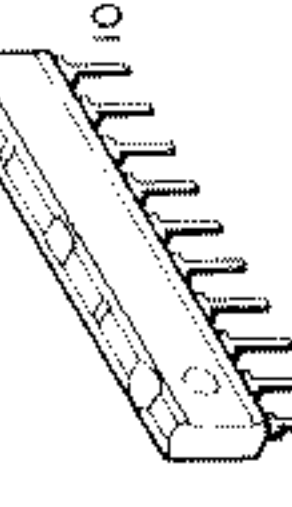
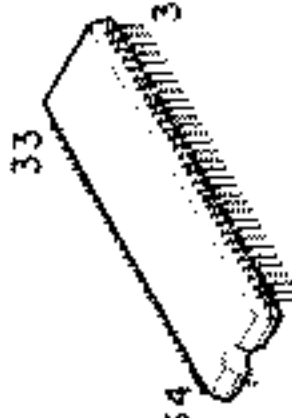
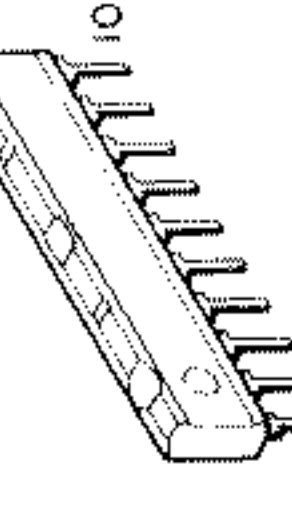
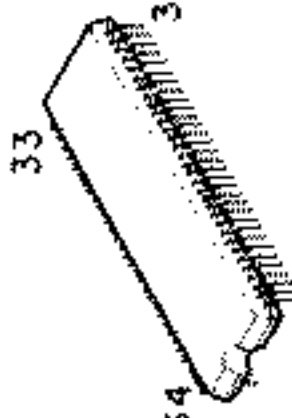
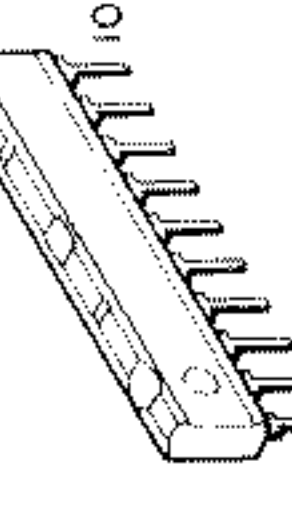
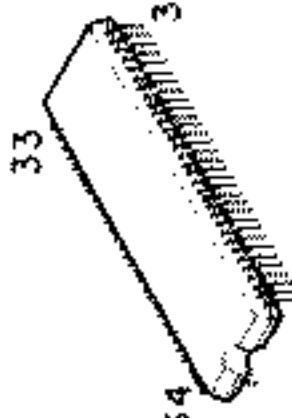
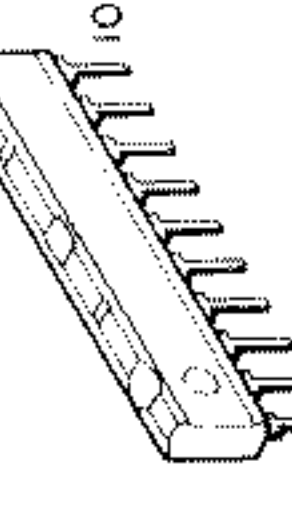
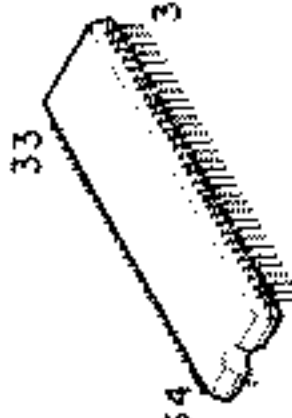
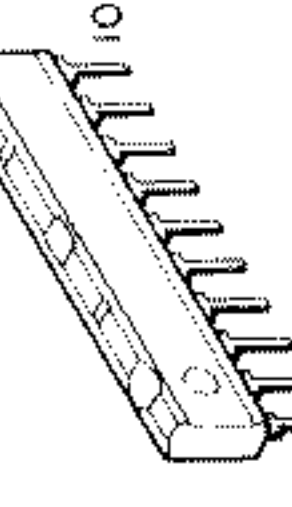
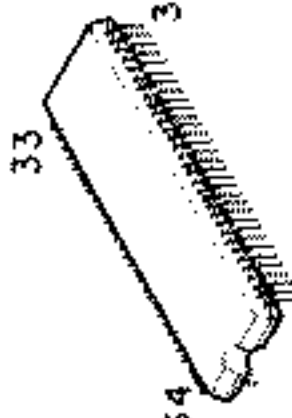
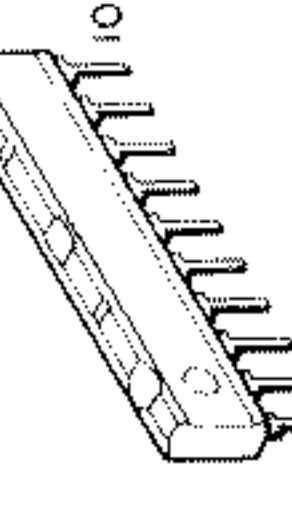
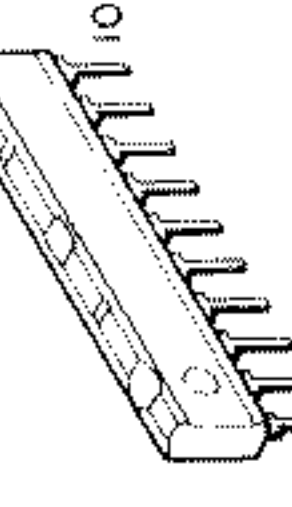
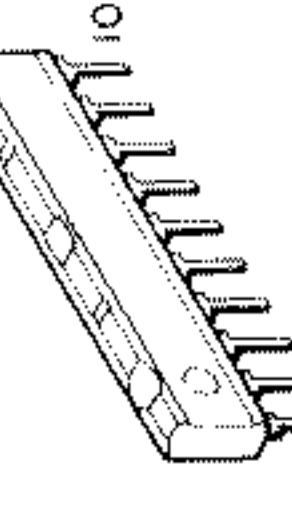
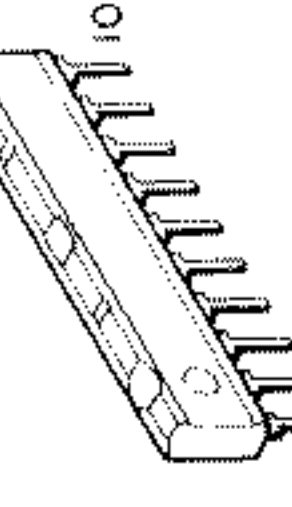
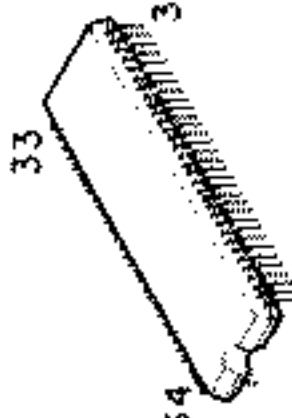
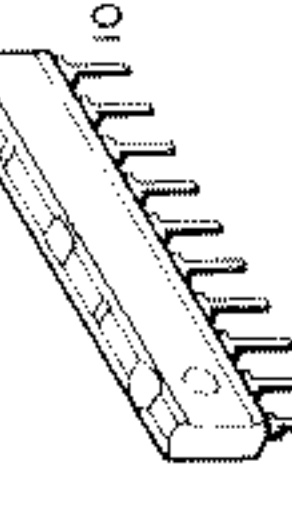
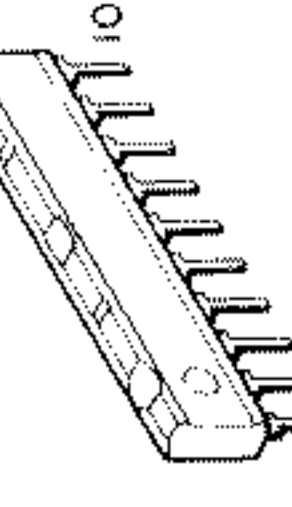
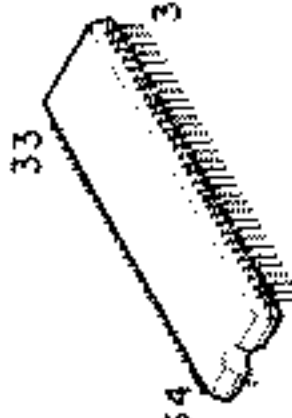
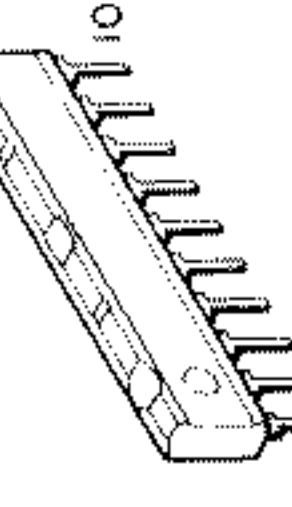
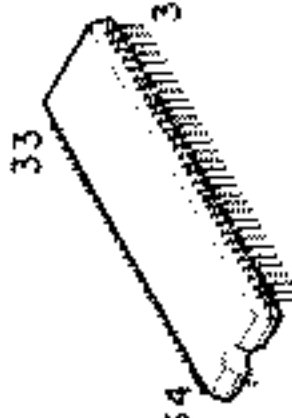
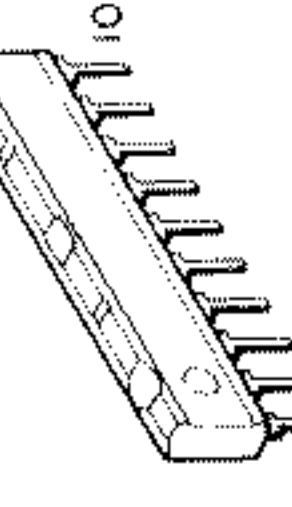
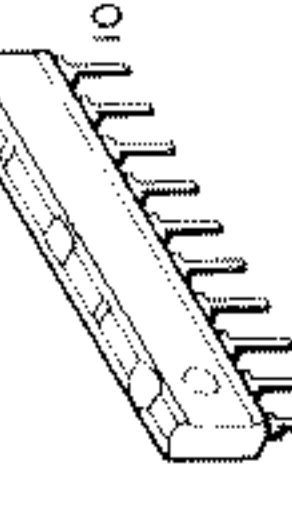
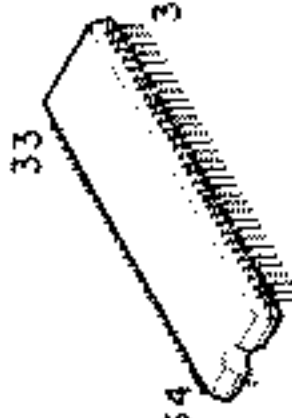
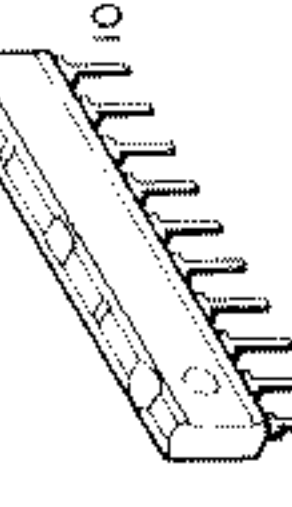
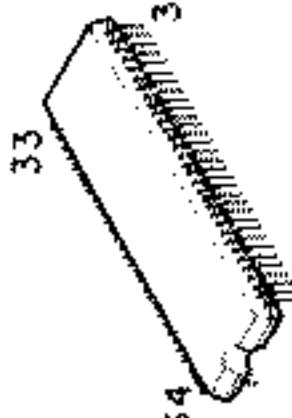
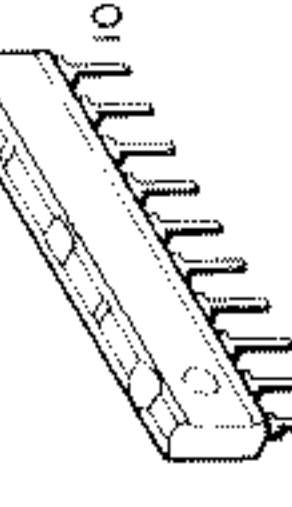
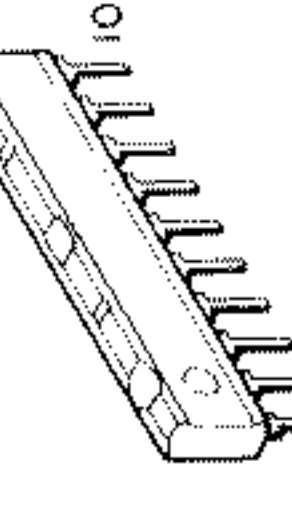
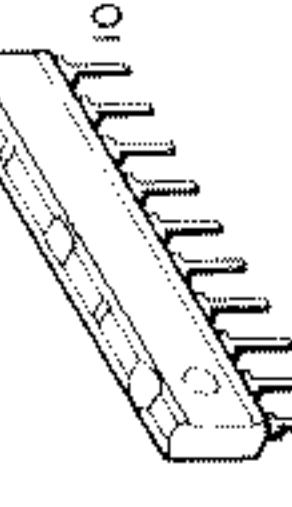
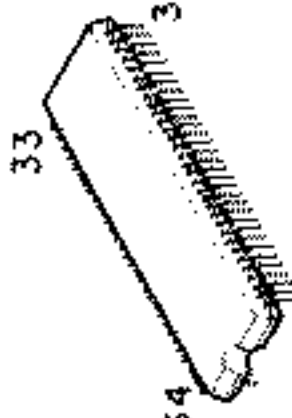
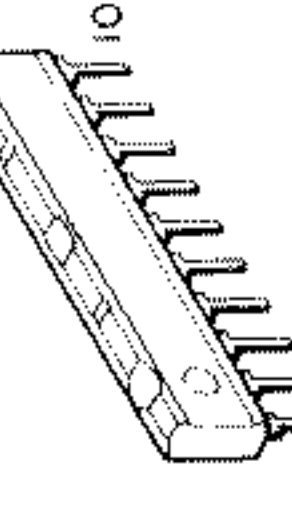
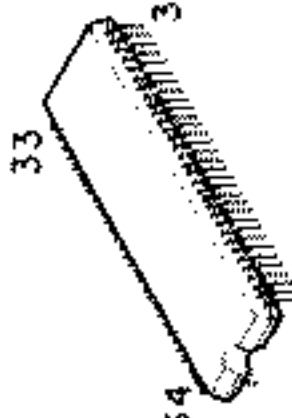
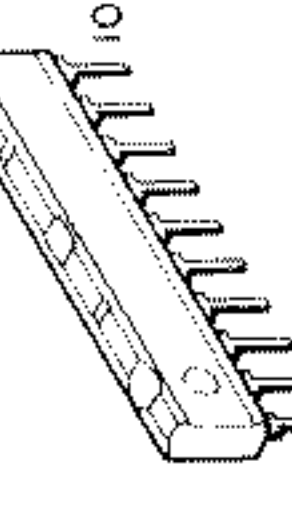
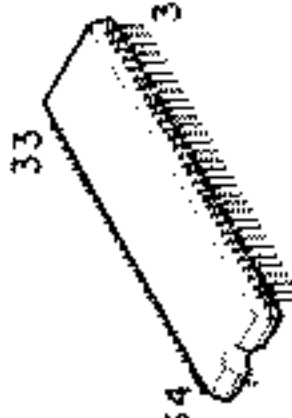
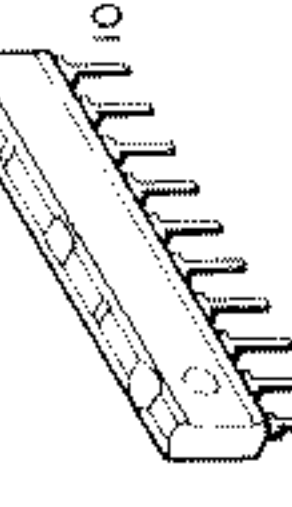
UPC1188H-X

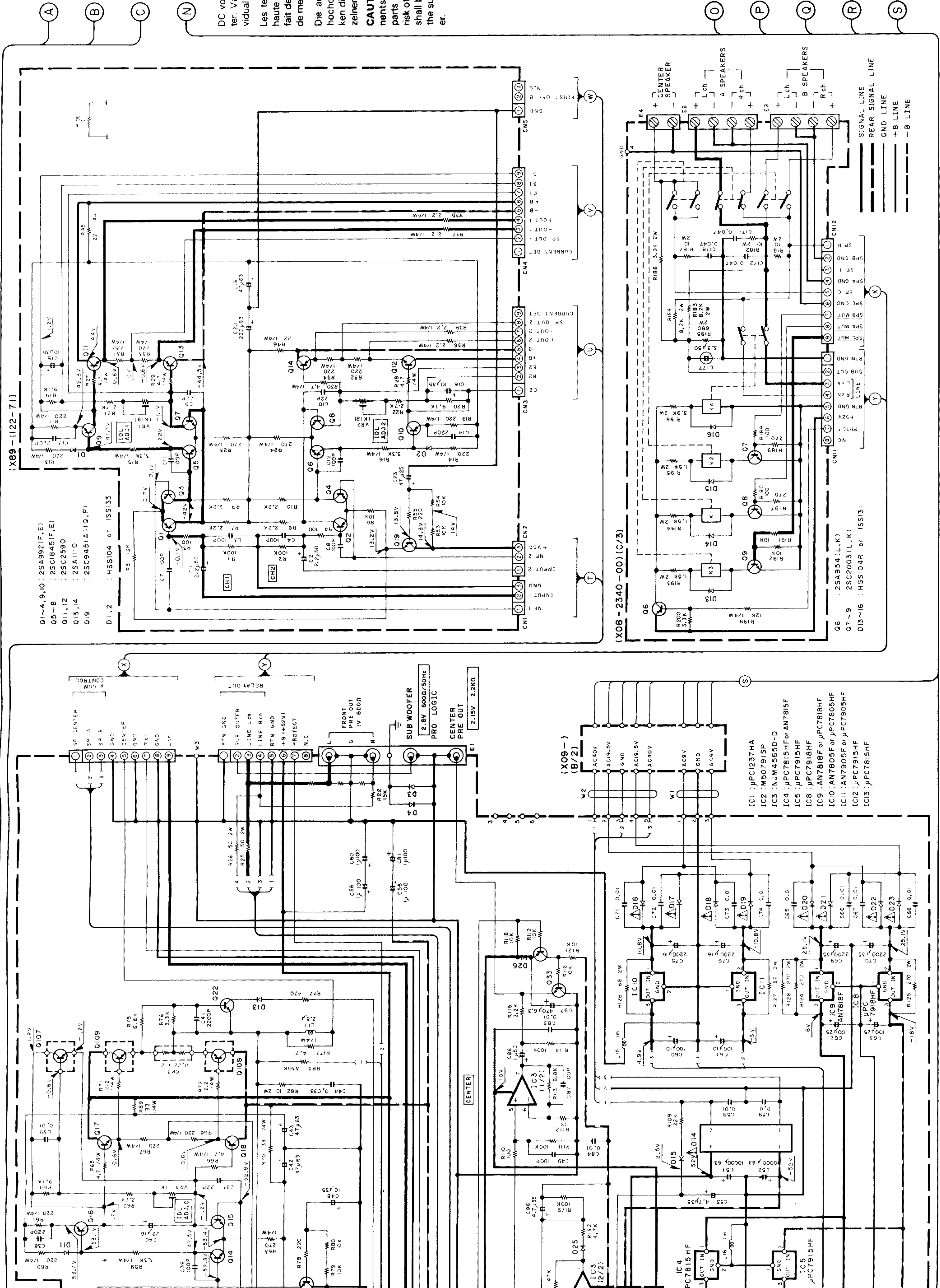


UPC7905HF
UPC7915HF



UPD75216ACW-A13
UPD75216ACW-296





- Q1~4, 9, 10 : 2SA92(F, E)
- Q5~8 : 2SC1845(F, E)
- Q11, 12 : 2SC2590
- Q13, 14 : 2SA1110
- Q19 : 2SC945(L, G, P)
- D1, 2 : HSS104 or ISS133

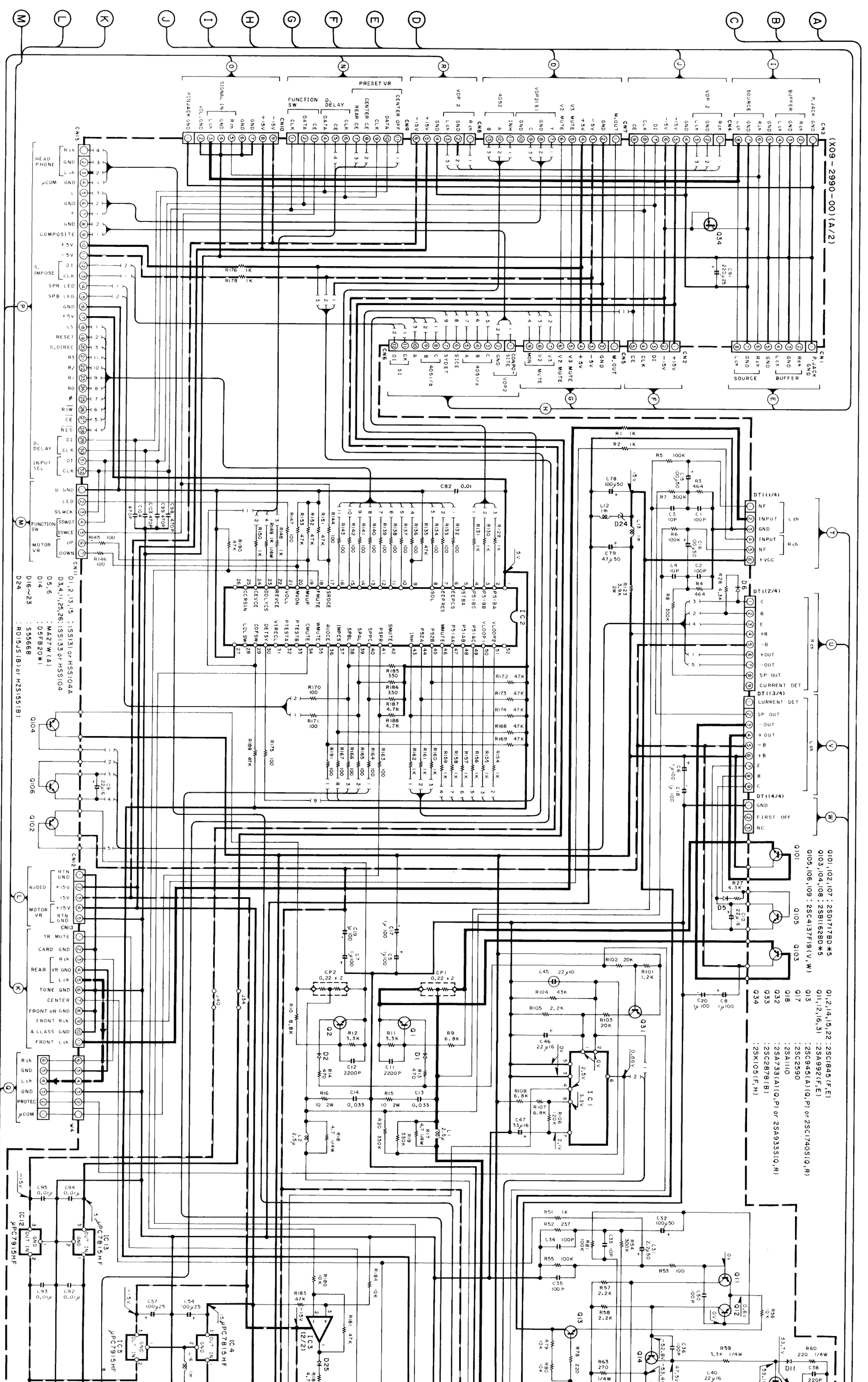
- IC1 : μ PC1237HA
- IC2 : M5079ISP
- IC3 : NJM45680-D
- IC4 : μ PC7815HF or AN7815F
- IC5 : μ PC7915HF
- IC6 : μ PC7915HF
- IC8 : μ PC7918HF
- IC9 : AN7818F or μ PC7818HF
- IC10 : AN7805F or μ PC7805HF
- IC11 : AN7905F or μ PC7905HF
- IC12 : μ PC7915HF
- IC13 : μ PC7815HF

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

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

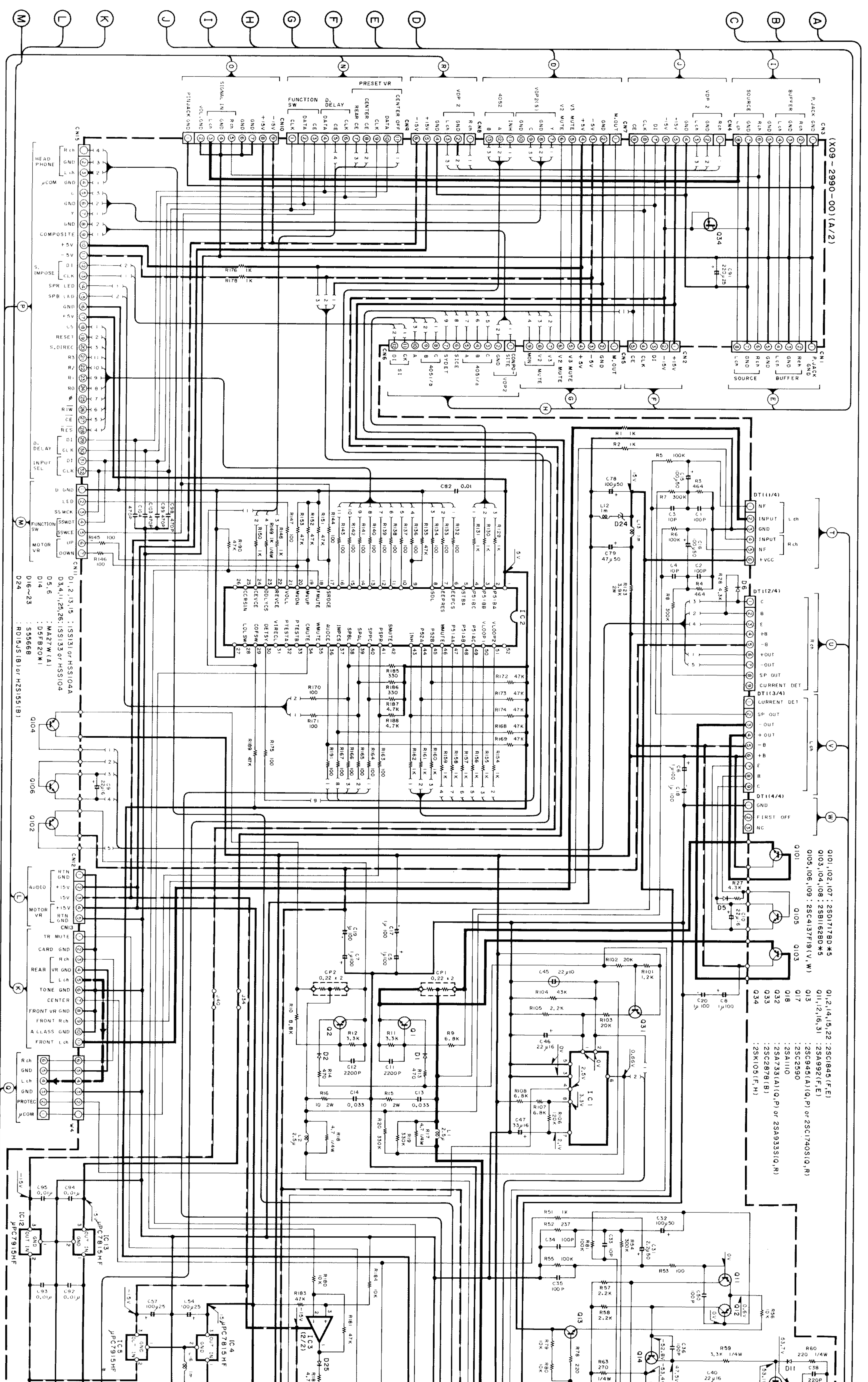
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ 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.



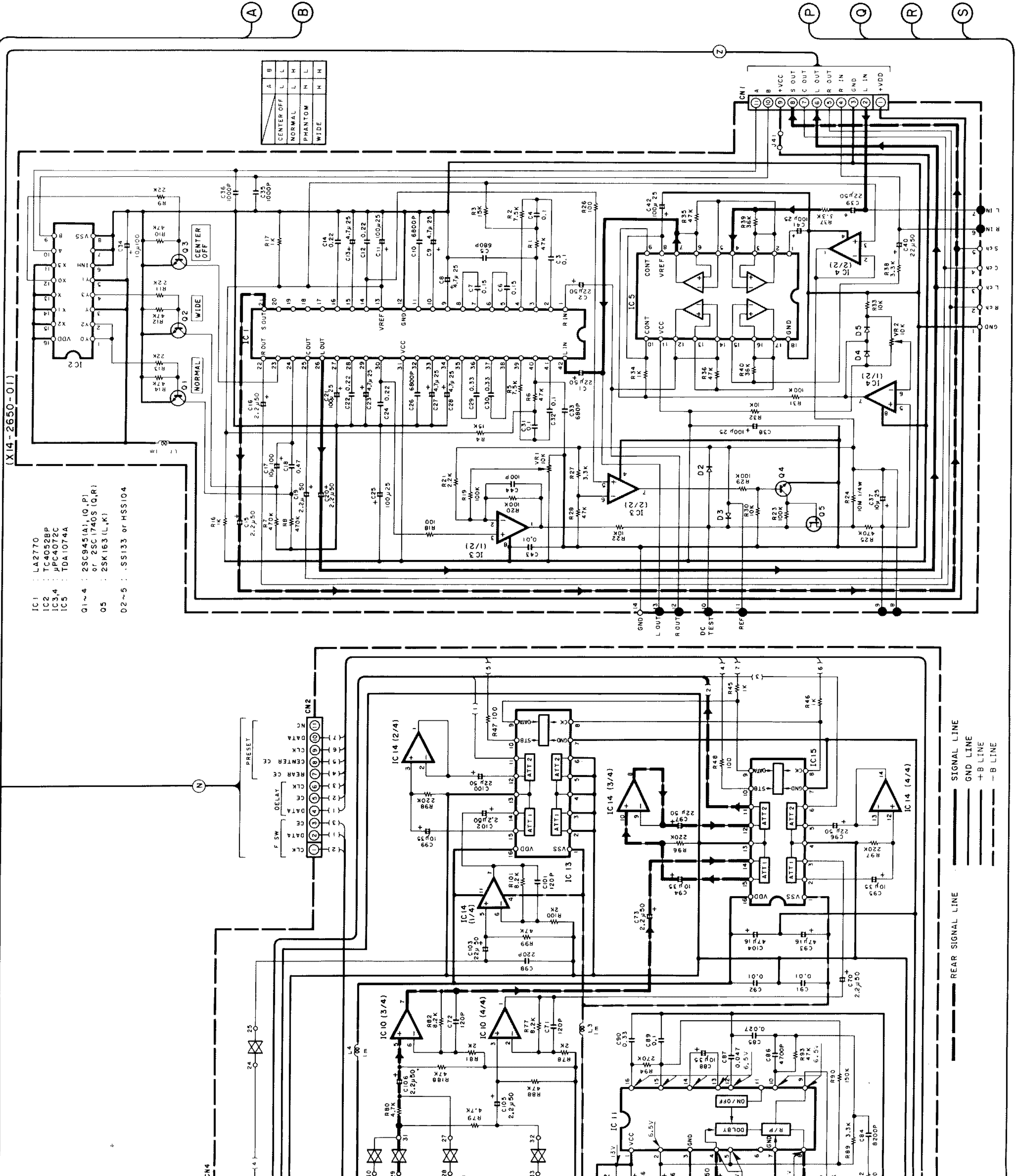
(X09-2990-00) (A/2)

- Q101 : 2SD1779D *5
- Q103, Q104, Q108 : 2SB1628D *5
- Q105, Q106, Q109 : 2SC4137F19 (V, W)
- Q105 : 2SC1740S1Q, R
- Q103 : 2SA1110
- Q108 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q17 : 2SC2950
- Q18 : 2SA1110
- Q32 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q33 : 2SC2950
- Q34 : 2SK105 (F, H)
- Q12, Q14, Q15, Q22 : 2SC1845 (F, E)
- Q11, Q12, Q16, Q31 : 2SA922 (F, E)
- Q13 : 2SC945 (A)Q, P or 2SC1740S1Q, R
- Q17 : 2SC2950
- Q18 : 2SA1110
- Q32 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q33 : 2SC2950
- Q34 : 2SK105 (F, H)



(X09-2990-00) (A/2)

- Q101 : 2SD1779D *5
- Q103, Q104, Q108 : 2SB1628D *5
- Q105, Q106, Q109 : 2SC4137F19 (V, W)
- Q105 : 2SC1740S1Q, R
- Q103 : 2SA1110
- Q108 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q17 : 2SC2950
- Q18 : 2SA1110
- Q32 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q33 : 2SC2950
- Q34 : 2SK105 (F, H)
- Q12, Q14, Q15, Q22 : 2SC1845 (F, E)
- Q11, Q12, Q16, Q31 : 2SA922 (F, E)
- Q13 : 2SC945 (A)Q, P or 2SC1740S1Q, R
- Q17 : 2SC2950
- Q18 : 2SA1110
- Q32 : 2SA731(A)Q, P or 2SA933S1Q, R
- Q33 : 2SC2950
- Q34 : 2SK105 (F, H)



- IC1 : LA2770
- IC2 : TC4052BP
- IC3,4 : JPC4072C
- IC5 : TDA1074A
- Q1~4 : 2SC945(A), (Q,P)
- Q5 : 2SC1740S (Q,R)
- Q6 : 2SK163 (L,K)
- D2~5 : .S5133 or HSS104

	A	B
CENTER OFF	L	L
NORMAL	L	H
PHANTOM	N	L
WIDE	H	H

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or and units.

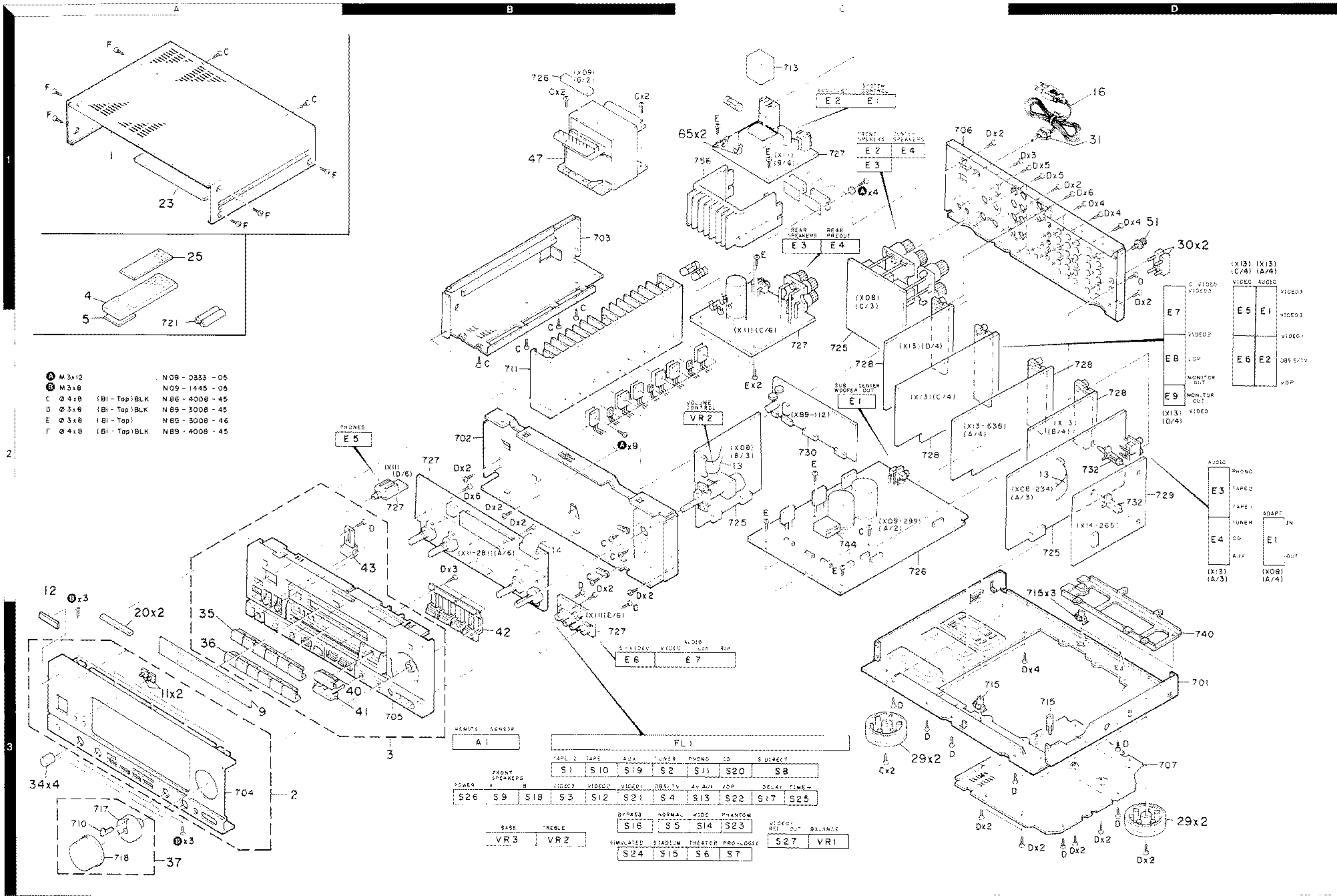
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

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

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.

KA-V6000 KA-V6000

EXPLODED VIEW



57

分解番号700番以降の部品は修理用部品として在庫していません。

58

△ indicates safety critical components.

E: Scandinavia & Europe K: USA
 F: Canada
 U: (For East Hawaii) T: England M: Other Areas
 UE: AAFS(Europe) X: Australia

60

△ indicates safety critical components.

E: Scandinavia & Europe K: USA
 F: Canada
 U: (For East Hawaii) T: England M: Other Areas
 UE: AAFS(Europe) X: Australia

59

Ref. No.	Part No.	Description	Address	Position	Notes
Q107	2S017178D*5	TRANSISTOR			
Q108	2S011628D*5	TRANSISTOR			
Q109	2S04137F19(V,W)	TRANSISTOR			
C1	4	ELECTRO			
C7	18	ELECTRO			
C11	12	ELECTRO			
C13	16	ELECTRO			
C17	10	ELECTRO			
C18	10	ELECTRO			
C19	10	ELECTRO			
C20	10	ELECTRO			
C21	22	ELECTRO			
C22	10	ELECTRO			
C23	26	ELECTRO			
C27	28	ELECTRO			
C29	30	ELECTRO			
C30	10	ELECTRO			
C31	10	ELECTRO			
C32	10	ELECTRO			
C33	33	ELECTRO			
C34	10	ELECTRO			
C37	16W	ELECTRO			
C38	10	ELECTRO			
C39	10	ELECTRO			
C40	41	ELECTRO			
C42	41	ELECTRO			
C43	45	ELECTRO			
C44	45	ELECTRO			
C46	48	ELECTRO			
C47	48	ELECTRO			
C49	48	ELECTRO			
C50	50	ELECTRO			
C51	50	ELECTRO			
C52	53	ELECTRO			
C54	53	ELECTRO			
C55	53	ELECTRO			
C56	53	ELECTRO			
C57	53	ELECTRO			
C58	53	ELECTRO			
C59	53	ELECTRO			
C60	53	ELECTRO			
C61	53	ELECTRO			
C62	53	ELECTRO			
C63	53	ELECTRO			
C64	53	ELECTRO			
C65	53	ELECTRO			
C66	53	ELECTRO			
C67	53	ELECTRO			
C68	53	ELECTRO			
C69	53	ELECTRO			
C70	53	ELECTRO			
C71	53	ELECTRO			
C72	53	ELECTRO			
C73	53	ELECTRO			
C74	53	ELECTRO			
C75	53	ELECTRO			
C76	53	ELECTRO			
C77	53	ELECTRO			
C78	53	ELECTRO			
C79	53	ELECTRO			

PARTS LIST

KA-V6000 KA-V6000

PARTS LIST

Ref. No.	Part No.	Description	Address	Position	Notes
1	A01-1805-01	METALLIC CABINET			
2	A20-5901-02	PANEL ASSY			
3	A22-1134-02	SUB PANEL ASSY			
4	A70-0310-05	BATTERY CASE			
5	A09-0086-08	BATTERY CASE			
9	810-1050-03	FRONT GLASS			
11	B12-0048-04	INDICATOR			
12	B43-0287-04	KENWOOD BADGE			
13	B46-0092-03	WARRANTY CARD			
14	B46-0094-03	WARRANTY CARD			
15	B46-0095-03	WARRANTY CARD			
16	B46-0096-03	WARRANTY CARD			
17	B46-0097-03	WARRANTY CARD			
18	B46-0098-03	WARRANTY CARD			
19	B46-0099-03	WARRANTY CARD			
20	G11-1400-04	SOFT TAPE			
21	G11-1400-04	SOFT TAPE			
22	G11-1400-04	SOFT TAPE			
23	G11-1400-04	SOFT TAPE			
24	G11-1400-04	SOFT TAPE			
25	G16-0735-08	WRITING SEBT			
26	G16-0735-08	WRITING SEBT			
27	G29-3794-03	DIRECT			
28	K29-3834-03	POWER			
29	K29-3834-03	POWER			
30	K29-3834-03	POWER			
31	K29-3834-03	POWER			
32	K29-3834-03	POWER			
33	K29-3834-03	POWER			
34	K29-3834-03	POWER			
35	K29-3834-03	POWER			
36	K29-3834-03	POWER			
37	K29-3834-03	POWER			
38	K29-3834-03	POWER			
39	K29-3834-03	POWER			
40	K29-3834-03	POWER			
41	K29-3834-03	POWER			
42	K29-3834-03	POWER			
43	K29-3834-03	POWER			
44	K29-3834-03	POWER			
45	K29-3834-03	POWER			
46	K29-3834-03	POWER			
47	K29-3834-03	POWER			
48	K29-3834-03	POWER			
49	K29-3834-03	POWER			
50	K29-3834-03	POWER			
51	K29-3834-03	POWER			
52	K29-3834-03	POWER			
53	K29-3834-03	POWER			
54	K29-3834-03	POWER			
55	K29-3834-03	POWER			
56	K29-3834-03	POWER			
57	K29-3834-03	POWER			
58	K29-3834-03	POWER			
59	K29-3834-03	POWER			
60	K29-3834-03	POWER			
61	K29-3834-03	POWER			
62	K29-3834-03	POWER			
63	K29-3834-03	POWER			
64	K29-3834-03	POWER			
65	K29-3834-03	POWER			
66	K29-3834-03	POWER			
67	K29-3834-03	POWER			
68	K29-3834-03	POWER			
69	K29-3834-03	POWER			
70	K29-3834-03	POWER			
71	K29-3834-03	POWER			
72	K29-3834-03	POWER			
73	K29-3834-03	POWER			
74	K29-3834-03	POWER			
75	K29-3834-03	POWER			
76	K29-3834-03	POWER			
77	K29-3834-03	POWER			
78	K29-3834-03	POWER			
79	K29-3834-03	POWER			
80	K29-3834-03	POWER			
81	K29-3834-03	POWER			
82	K29-3834-03	POWER			
83	K29-3834-03	POWER			
84	K29-3834-03	POWER			
85	K29-3834-03	POWER			
86	K29-3834-03	POWER			
87	K29-3834-03	POWER			
88	K29-3834-03	POWER			
89	K29-3834-03	POWER			
90	K29-3834-03	POWER			
91	K29-3834-03	POWER			
92	K29-3834-03	POWER			
93	K29-3834-03	POWER			
94	K29-3834-03	POWER			
95	K29-3834-03	POWER			
96	K29-3834-03	POWER			
97	K29-3834-03	POWER			
98	K29-3834-03	POWER			
99	K29-3834-03	POWER			
100	K29-3834-03	POWER			

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.

E: Scandinavia & Europe K: USA
F: Canada
U: P.K.(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

Table with columns: Ref. No., Address, Parts No., Description, and national marks. Includes sub-sections for MAIN AMPLIFIER UNIT (X89-1122-71) and DOLBY UNIT (X14-2650-01).

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

PARTS LIST

KA-V6000

E: Scandinavia & Europe K: USA
F: Canada
U: P.K.(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

Table with columns: Ref. No., Address, Parts No., Description, and national marks. Includes sub-sections for AUDIO UNIT (X09-2990-11) and MAIN AMPLIFIER UNIT (X89-1122-71).

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

PARTS LIST

KA-V6000

E: Scandinavia & Europe K: USA
F: Canada
U: P.K.(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

Table with columns: Ref. No., Address, Parts No., Description, and national marks. Includes sub-sections for MAIN AMPLIFIER UNIT (X89-1122-71) and DOLBY UNIT (X14-2650-01).

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

PARTS LIST

KA-V6

E: Scandinavia & Europe K: USA
F: Canada
U: P.K.(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

Table with columns: Ref. No., Address, Parts No., Description, and national marks. Includes sub-sections for AUDIO UNIT (X09-2990-11) and MAIN AMPLIFIER UNIT (X89-1122-71).

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

PARTS LIST

KA-V

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.

U: P (Far East, Hawaii) T: England M: Other Areas
UE: A (Europe) X: Australia
P: Canada

Table with columns: Ref. No., Address, Parts No., Description, Dest. Re- nation marks. Includes parts like TRANSISTOR, IC(VOLTAGE REGULATOR), and various electronic components.

PARTS LIST

* New Parts
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Parts without Parts No. are not supplied.