

TA-V33/V33W

SERVICE MANUAL



TA-V33:
US Model
Canadian Model
AEP Model
UK Model
E Model

TA-V33W:
AEP Model
E Model

Photo: TA-V33 AEP model

SPECIFICATIONS

Amplifier Section

Continuous RMS power output

35 + 35 watts
 (6 ohms, at 1 kHz, 0.5% THD)
 30 + 30 watts
 (6 ohms, 40Hz - 20 kHz, 0.5% THD)

Music power output 140 W (6 ohms, 5% THD)

Inputs

	Sensitivity	Impedance
PHONO (phono jacks)	2 mV	50 kilohms
CD, VIDEO 1/2 (AUDIO IN) (phono jacks)	150 mV	50 kilohms
MIC (phone jack)	2 mV	20 kilohms

Outputs

VIDEO (AUDIO OUT) (phono jacks)	Voltage 150 mV, Impedance 4.7 kilohms
HEADPHONES (stereo phone jack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 6 to 16 ohms

Video inputs/outputs

VIDEO 1/2 IN, VIDEO 1 OUT, MONITOR
 OUT: 1 V p-p, 75 ohms

Frequency response

PHONO: RIAA curve ± 0.5 dB
 CD, VIDEO 1/2 (AUDIO IN):
 20 Hz - 50 kHz $+0$ dB
 MIC: 100 Hz - 10 kHz $+0$ dB

General

Dimensions

Approx. 355 x 105 x 250 mm (w/h/d)
 (14x4 $\frac{1}{8}$ x9 $\frac{7}{8}$ inches)

Weight

incl. projecting parts and controls
 Approx. 5.4 kg (11 lb 15 oz) net

Power requirements

US, Canadian model: 120 V ac, 60 Hz
 AEP model: 220 V ac, 50/60 Hz
 UK model: 240 V ac, 50/60 Hz
 E model: 120, 220 or 240 V ac adjustable,
 50/60 Hz

Power consumption

US model: 110 W
 Canadian model: 150 W
 AEP, UK, E model: 120 W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE \triangle SUR LES DIAGRAMMES SCHEMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

INTEGRATED STEREO AMPLIFIER
SONY



- TA-V33 is an integrated stereo amplifier unit in LBT-V33 or LBT-V33R.
- TA-V33W is an integrated stereo amplifier unit in LBT-V33W.
- LBT-V33, LBT-V33R and LBT-V33W are the stereo component system.

LBT-V33

	US model	AEP model	G-AEP model	UK model	E model
Amplifier	TA-V33	TA-V33	TA-V33	TA-V33	TA-V33
Tuner	ST-V33	ST-V33L	ST-V33L	ST-V33L	ST-V33S
Cassette deck	TC-V33	TC-V33	TC-V33	TC-V33	TC-V33
Turntable system	PS-LX330P	PS-LX330P	PS-LX330P	PS-LX330P	Not supplied
Speaker system	SS-U570	SS-V33	SS-V33	SS-V33	SS-V33
Remote commander	RM-V33B	RM-V33D	RM-V33D	RM-V33D	RM-V33D

LBT-V33R

	Canadian model	AEP model	G-AEP model
Amplifier	TA-V33	TA-V33	TA-V33
Tuner	ST-V33	ST-V33L	ST-V33L
Cassette deck	TC-V33R	TC-V33R	TC-V33R
Turntable system	PS-LX330P	PS-LX330P	PS-LX330P
Speaker system	APM-550AV	SS-V33	SS-V33
Remote commander	RM-V33C	RM-V33E	RM-V33E

LBT-V33W

	AEP model	E model
Amplifier	TA-V33W	TA-V33W
Tuner	ST-V33L	ST-V33S
Cassette deck	TC-V33W	TC-V33W
Turntable system	PS-LX330P	Not supplied
Speaker system	SS-V33	SS-V33
Remote commander	RM-V33D	RM-V33D

Inputs	Sensitivity	Impedance
PHONO (phono jack)	3 mV	50 kilohms
CD VIDEO 1 (AUDIO IN) (phono jack)	150 mV	50 kilohms
MIC (phono jack)	3 mV	50 kilohms

Outputs	Impedance
VIDEO (AUDIO OUT) (phono jack)	Voltage 150 mV, Impedance 4.7 kilohms
HEADPHONES (phono jack)	Accepts headphones of 8 ohms or more
SPEAKER	Accepts speakers of 8 to 16 ohms

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

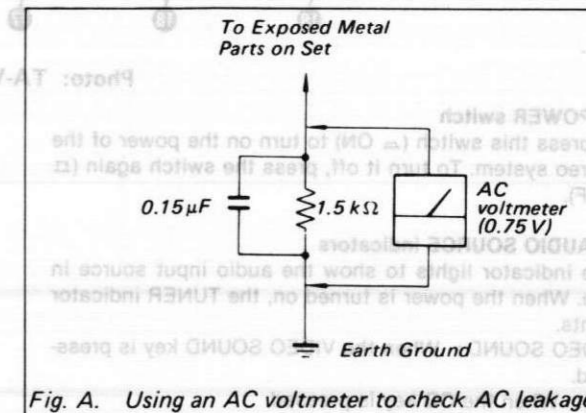
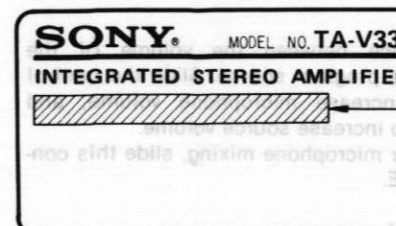


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— Specification Label on Jack Plate —

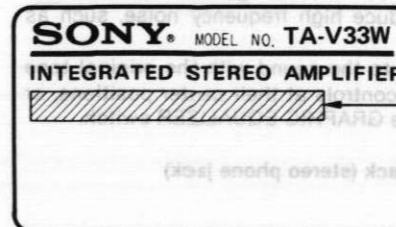
TA-V33 (LBT-V33/V33R)



TA-V33 (LBT-V33) G-AEP model



TA-V33W (LBT-V33W)



- US model: AC: 120 V, 60 Hz, 110 W
- Canadian model: AC: 120 V, 60 Hz, 150 W
- AEP model: AC: 220 V ~ 50/60 Hz, 120 W
- UK model: AC: 240 V ~ 50/60 Hz, 120 W
- E model: AC: 120/220/240 V ~ 50/60 Hz, 120 W

TA-V33 (LBT-V33R) G-AEP model



- AEP model: AC: 220 V ~ 50/60 Hz, 120 W
- E model: AC: 120/220/240 V ~ 50/60 Hz, 120 W

LOCATION AND FUNCTION OF CONTROLS

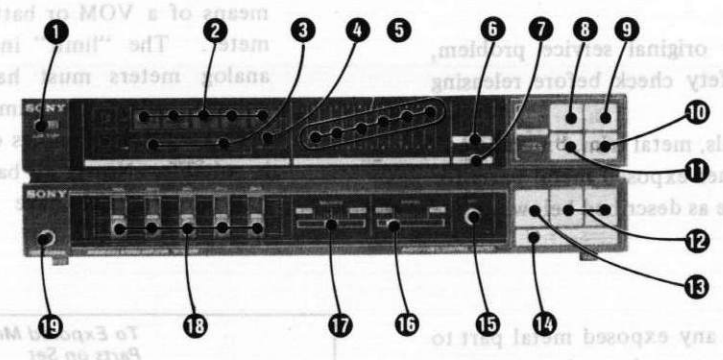
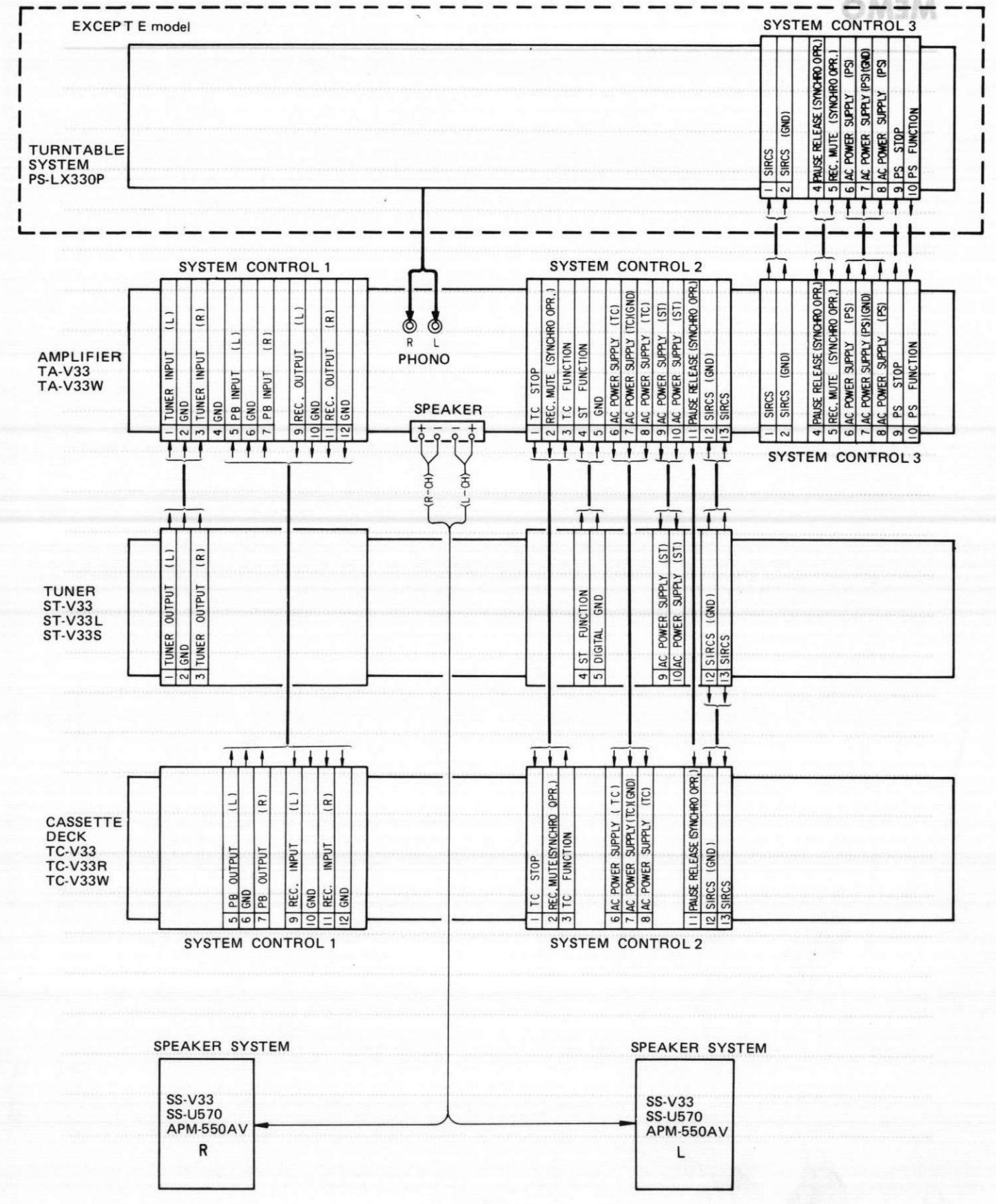


Photo: TA-V33W E model

- 1 POWER switch**
Depress this switch (ON) to turn on the power of the stereo system. To turn it off, press the switch again (OFF).
- 2 AUDIO SOURCE indicators**
The indicator lights to show the audio input source in use. When the power is turned on, the TUNER indicator lights.
VIDEO SOUND: When the VIDEO SOUND key is pressed.
CD: When the CD key is pressed.
TAPE: When the key or the SYNCHRO DUBBING key of the cassette deck is pressed.
TUNER: When the BAND, TUNING or PRESET key of the tuner is pressed.
PHONO: When the START/STOP key of the turntable is pressed. (For E model, when the PHONO button is pressed.)
- 3 VISUAL SOURCE indicators**
Lights to show the video input source in use.
VIDEO 1: When the power is turned on and when the VIDEO 1 key is pressed.
VIDEO 2: When the VIDEO 2 key is pressed.
- 4 PHONO button (E model only)**
Press to listen to or record record programs connected to the PHONO inputs.
- 5 VOLUME indicator**
Indicates the output level of the amplifier.
- 6 MUTING indicator**
Lights when the MUTING key is pressed.
- 7 GRAPHIC EQ (graphic equalizer) indicator**
Lights when the GRAPHIC EQUALIZER switch is depressed (ON).
- 8 VIDEO SOUND key**
Press to listen to or record the sound from the equipment connected to the VIDEO 1 or VIDEO 2 audio inputs.
- 9 CD (compact disc) key**
Press to listen to or record compact disc programs connected to the CD inputs.
- 10 VIDEO 1 key**
Press to view the picture of the video cassette recorder connected to the VIDEO 1 video input.

- 11 VIDEO 2 key**
Press to view the picture of the video cassette recorder connected to the VIDEO 2 video input.
- 12 VOLUME keys**
Regulate the overall sound level.
- 13 MUTING key**
Press to reduce the sound level by 20 dB. Press again to restore the same listening level as before.
This function is useful when you lower the tonearm onto a record or when you answer the telephone.
- 14 GRAPHIC EQUALIZER switch**
Depress this switch (ON) to activate the graphic equalizer controls. Press it again (OFF) to obtain the original tone quality.
- 15 MIC (microphone) jack (phone jack)**
Connect a microphone for microphone mixing.
- 16 MIXING control**
Adjusts the balance between the volume of the microphone and the program source. Slide the control towards MIC to increase microphone volume, and towards SOURCE to increase source volume.
When not in use for microphone mixing, slide this control fully to SOURCE.
- 17 BALANCE control**
Adjusts the balance of the left and right channel output levels.
- 18 Graphic equalizer controls**
To equalize the listening or recording sound, depress the GRAPHIC EQUALIZER switch and slide each control upwards to increase the level of the frequency band, and downwards to decrease the level.
100 Hz: Use to boost or cut the bass.
400 Hz: Use to adjust the middle frequency range.
1 kHz: Use to provide more presence of vocals.
4 kHz: Use to adjust the brightness of sound.
12 kHz: This control effects general treble. Slide downwards to reduce high frequency noise, such as tape hiss.
To record or listen to the sound with the original tone quality, set all the controls at their center positions, or press to release the GRAPHIC EQUALIZER switch.
- 19 HEADPHONES jack (stereo phone jack)**

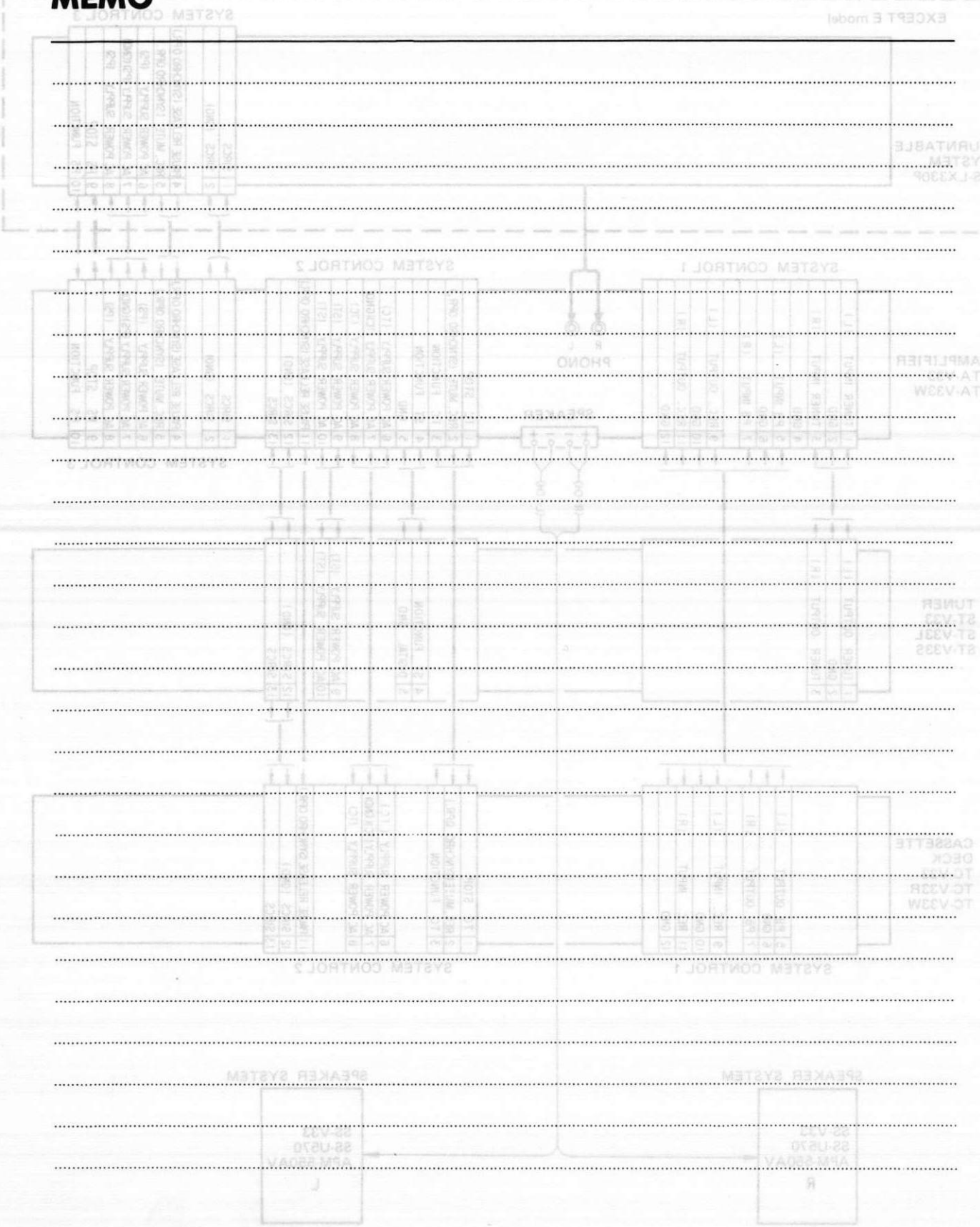
Connectors Signal Assignment and Connections



Connectors Signal Assignment and Connections

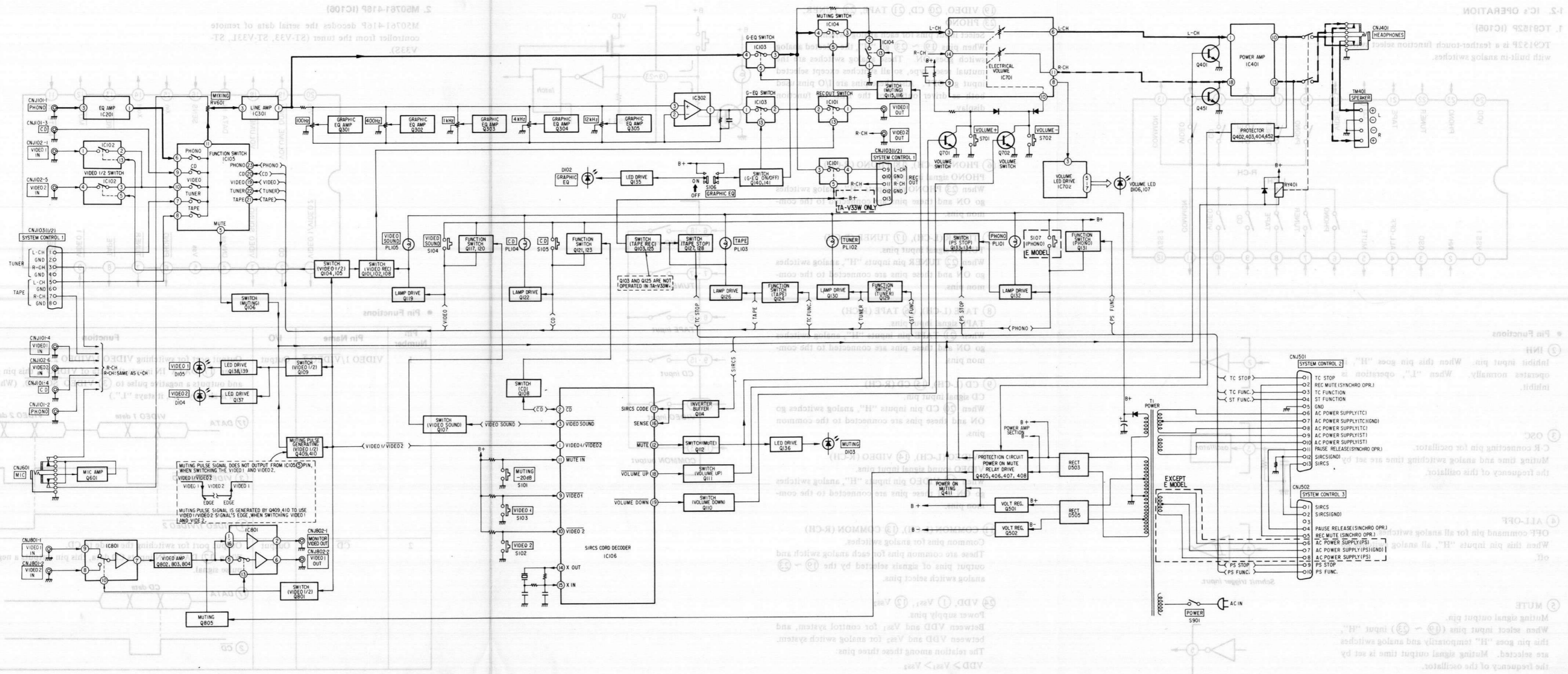
EXCEPT E model

MEMO



SECTION 1
OUTLINE

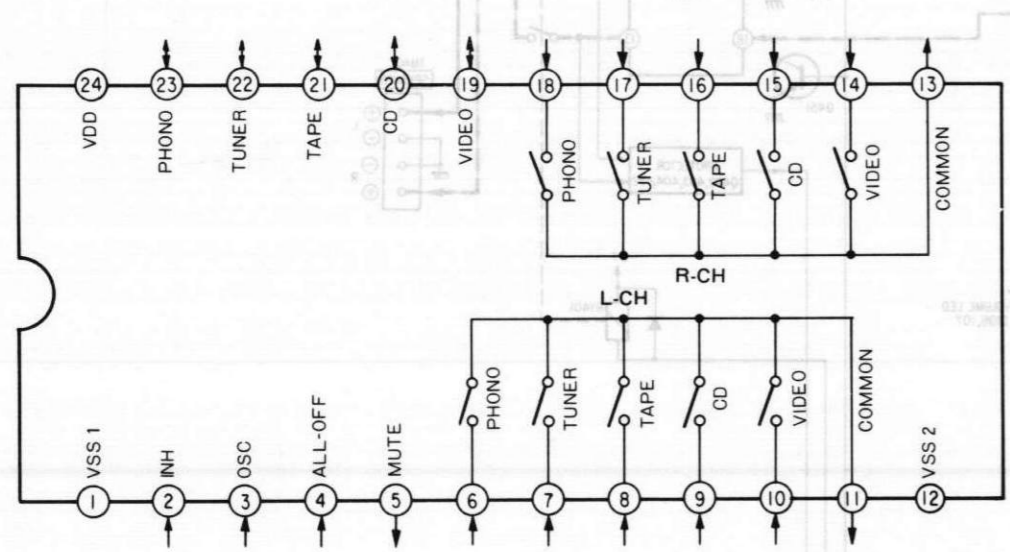
1-1. BLOCK DIAGRAM



1-2. IC's OPERATION

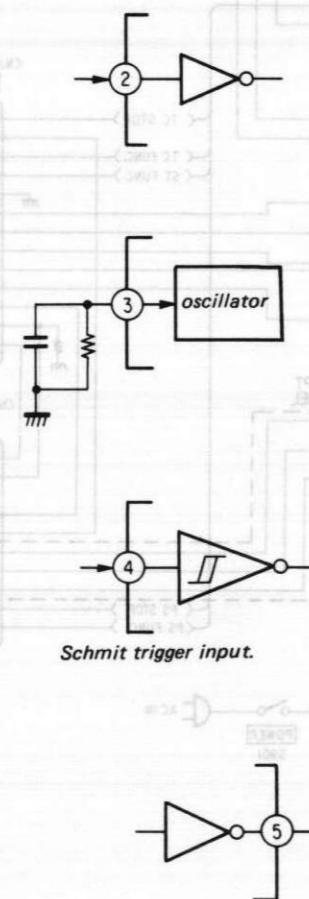
1. TC9152P (IC105)

TC9152P is a feather-touch function select switch with built-in analog switches.



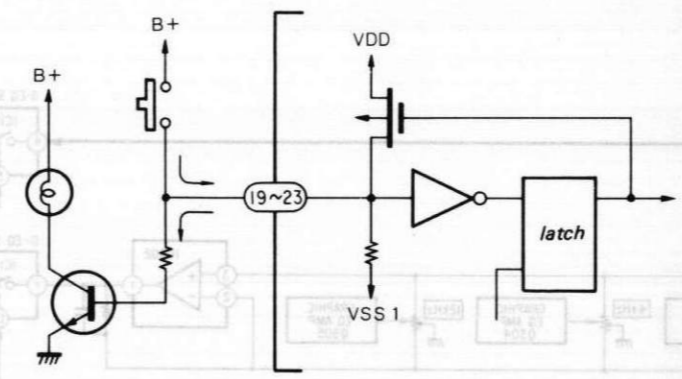
● Pin Functions

- ② INH
Inhibit input pin. When this pin goes "H", it operates normally. When "L", operation is inhibit.
- ③ OSC
C-R connecting pin for oscillator. Muting time and analog switching time are set by the frequency of this oscillator.
- ④ ALL-OFF
OFF command pin for all analog switches. When this pin inputs "H", all analog switches go off.
- ⑤ MUTE
Muting signal output pin. When select input pins (①⑨ ~ ②③) input "H", this pin goes "H" temporarily and analog switches are selected. Muting signal output time is set by the frequency of the oscillator.



- ①⑨ VIDEO, ②⑩ CD, ②① TAPE, ②② TUNER, ②③ PHONO

Select input pins for each analog switch. When pins ①⑨ ~ ②③ go "H", the selected analog switch goes ON. These analog switches are the mutual reset type, so all switches except selected input go OFF. Also these pins are I/O pins used both as driver output of the LED for function display.



- ⑥ PHONO (L-CH), ⑧ PHONO (R-CH)

PHONO signal input pins. When ②③ PHONO pin inputs "H", analog switches go ON and these pins are connected to the common pins.

- ⑦ TUNER (L-CH), ⑩ TUNER (R-CH)

TUNER signal input pins. When ②② TUNER pin inputs "H", analog switches go ON and these pins are connected to the common pins.

- ⑧ TAPE (L-CH), ⑩ TAPE (R-CH)

TAPE signal input pins. When ②① TAPE pin inputs "H", analog switches go ON and these pins are connected to the common pins.

- ⑨ CD (L-CH), ⑩ CD (R-CH)

CD signal input pin. When ②⑩ CD pin inputs "H", analog switches go ON and these pins are connected to the common pins.

- ⑩ VIDEO (L-CH), ⑩ VIDEO (R-CH)

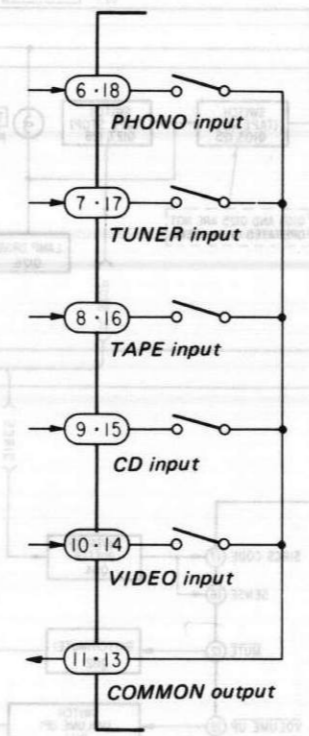
VIDEO sound signal input pins. When ①⑨ VIDEO pin inputs "H", analog switches go ON and these pins are connected to the common pins.

- ⑪ COMMON (L-CH), ⑬ COMMON (R-CH)

Common pins for analog switches. These are common pins for each analog switch and output pins of signals selected by the ①⑨ ~ ②③ analog switch select pins.

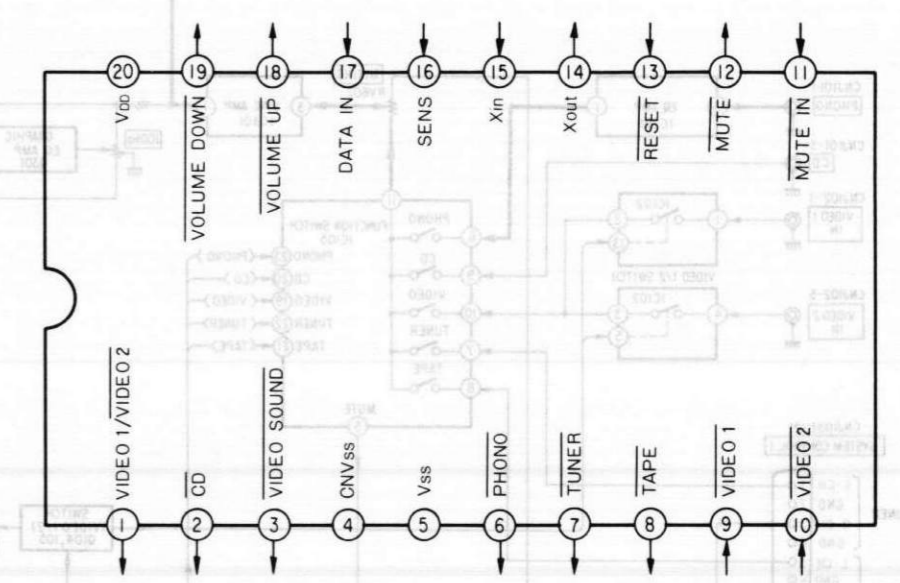
- ②④ VDD, ① Vss1, ② Vss2

Power supply pins. Between VDD and Vss1 for control system, and between VDD and Vss2 for analog switch system. The relation among these three pins: $VDD > Vss1 > Vss2$



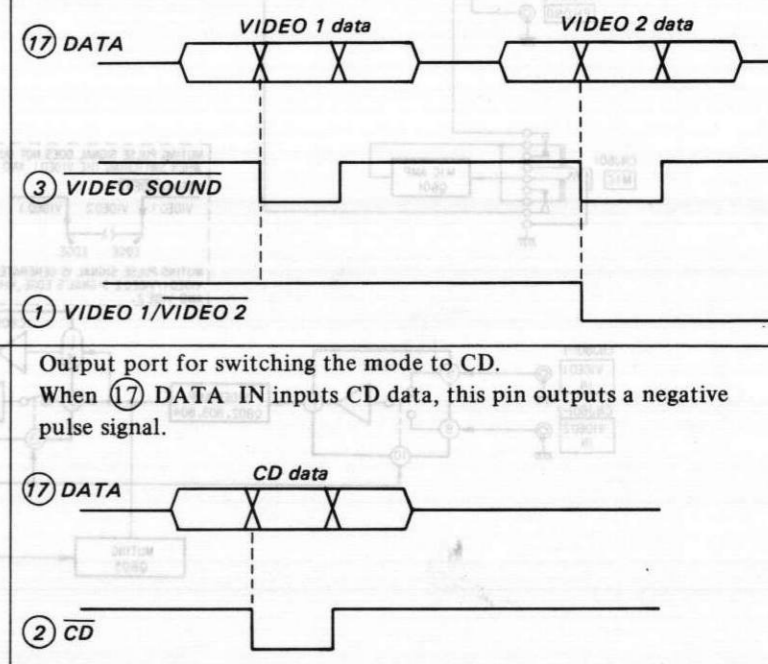
2. M50761-416P (IC106)

M50761-416P decodes the serial data of remote controller from the tuner (ST-V33, ST-V33L, ST-V33S).



● Pin Functions

Pin Number	Pin Name	I/O	Function
1	VIDEO 1/VIDEO 2	Output	Output port for switching VIDEO 1/VIDEO 2. When ⑩ DATA IN inputs the data of VIDEO 1, this pin goes "H" and outputs a negative pulse to ③ VIDEO SOUND. (When this pin is already "L", it stays "L".)
2	CD	Output	Output port for switching the mode to CD. When ⑩ DATA IN inputs CD data, this pin outputs a negative pulse signal.



Pin Number	Pin Name	I/O	Function
3	$\overline{\text{VIDEO SOUND}}$	Output	<p>Output port for switching the mode to VIDEO SOUND. When ⑰ DATA IN inputs the data of VIDEO 1 or VIDEO 2, this pin outputs a negative pulse signal.</p>
6	$\overline{\text{PHONO}}$	Output	<p>Output port for switching the mode to PHONO. When ⑰ DATA IN inputs the data of PHONO, this pin outputs a negative pulse signal.</p>
7	$\overline{\text{TUNER}}$	Output	<p>Output port for switching the mode to TUNER. When ⑰ DATA IN inputs the data of TUNER, this pin outputs a negative pulse signal.</p>
8	$\overline{\text{TAPE}}$	Output	<p>Output port for switching the mode to TAPE. When ⑰ DATA IN inputs the data of TAPE, this pin outputs a negative pulse signal.</p>
9 10	$\overline{\text{VIDEO 1}}$ $\overline{\text{VIDEO 2}}$	Input Input	<p>Input ports switching VIDEO 1 and VIDEO 2. When ⑨ VIDEO 1 inputs (active low), ① VIDEO 1/VIDEO 2 pin goes "H". Also when ⑩ VIDEO 2 inputs (active low), ① VIDEO 1/VIDEO 2 pin goes "L".</p>

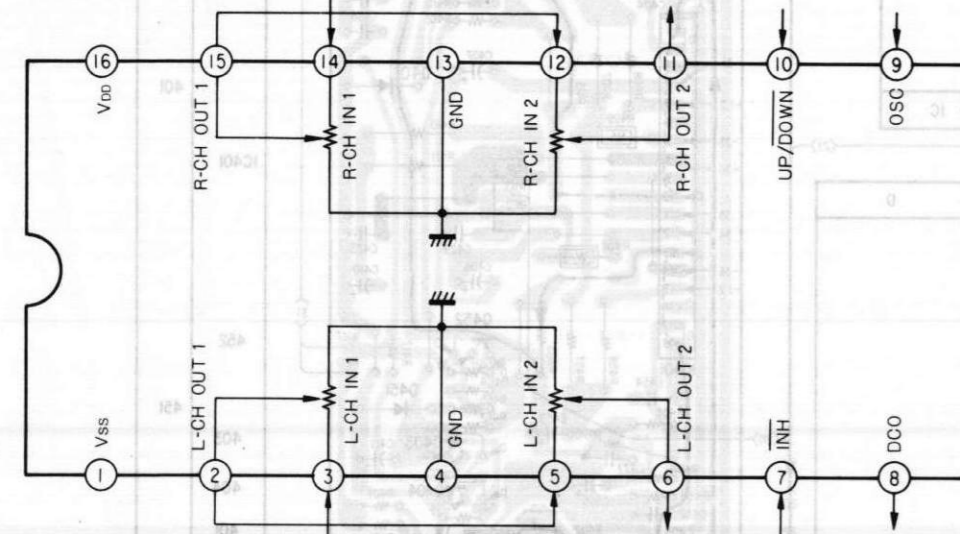
Pin Number	Pin Name	I/O	Function
11	$\overline{\text{MUTE IN}}$	Input	Input port for switching MUTING -20 dB ON/OFF.
12	$\overline{\text{MUTE}}$	Output	Output port for switching MUTING -20 dB ON/OFF. When the power switch is ON (at RESET), this pin goes "H", then inverts "H" → "L" → "H" by MUTE data input to ⑪ $\overline{\text{MUTE IN}}$ input or ⑰ DATA IN.
13	$\overline{\text{RESET}}$	Input	Reset input pin. After resetting, all output ports go "H".
14	Xout	Output	Clock output pin.
15	Xin	Input	Clock input pin.
16	SENS	Input	Input pin for starting transmission of the remote controller data. Input data to ⑰ DATA IN is read at the beginning of the signal input to this pin.
17	DATA IN	Input	This pin inputs the remote control serial data from the tuner (ST-V33/V33L/V33S).
18	$\overline{\text{VOLUME UP}}$	Output	Output port for VOLUME UP. During VOLUME UP data input to ⑰ DATA IN, this pin goes "L" and the transistor switches (Q117, 701) for VOLUME UP operate.
19	$\overline{\text{VOLUME DOWN}}$	Output	Output port for VOLUME DOWN. During VOLUME DOWN data input to ⑰ DATA IN, this pin goes "L" and the transistor switches (Q110, 702) for VOLUME DOWN operate.

SECTION 2
DISASSEMBLY

SECTION 3
ADJUSTMENTS

3. TC9153P (IC701)

TC9153P is an electronic volume IC. This TC9153P is able to control the attenuation from 0 dB to -66 dB at intervals of 2 dB by the built-in oscillator and UP/DOWN pin ⑩.



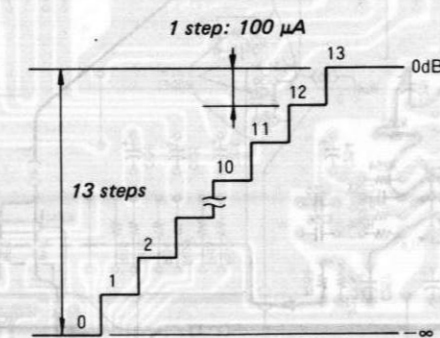
⑦ INH

Inhibit input pin. When "H" is input, this pin operates normally. When "L" is input, all inputs and outputs are interrupted and inhibit operation starts.

⑧ DCO

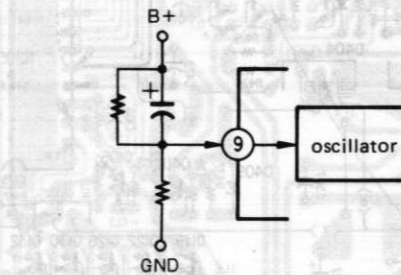
DC current output pin for attenuation display. Attenuation is divided into 13 steps (0 ~ ∞) and about 100 μA DC is output per 1 step.

Step	Output Current	Attenuation
0	0	-64 dB ~ -∞
1	100 μA	-60 ~ -62 dB
2	200 μA	-54 ~ -58 dB
3	300 μA	-50 ~ -52 dB
4	400 μA	-44 ~ -48 dB
5	500 μA	-40 ~ -42 dB
6	600 μA	-34 ~ -38 dB
7	700 μA	-30 ~ -32 dB
8	800 μA	-24 ~ -28 dB
9	900 μA	-20 ~ -22 dB
10	1 mA	-14 ~ -18 dB
11	1.1 mA	-10 ~ -12 dB
12	1.2 mA	-4 ~ -8 dB
13	1.3 mA	0 ~ -2 dB



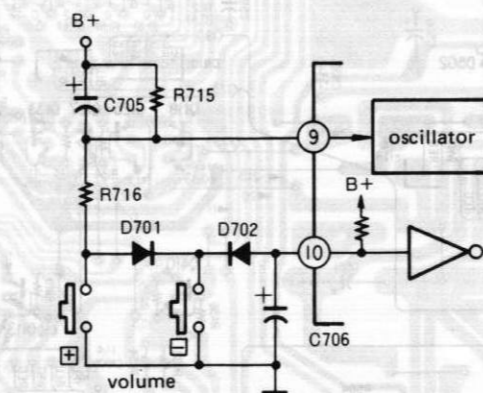
⑨ OSC

C-R connecting pin for the oscillator. This pin is the oscillator for UP/DOWN control of the attenuation. UP/DOWN speed is set by the time constant of the capacitor and the resistor. (OSC frequency)

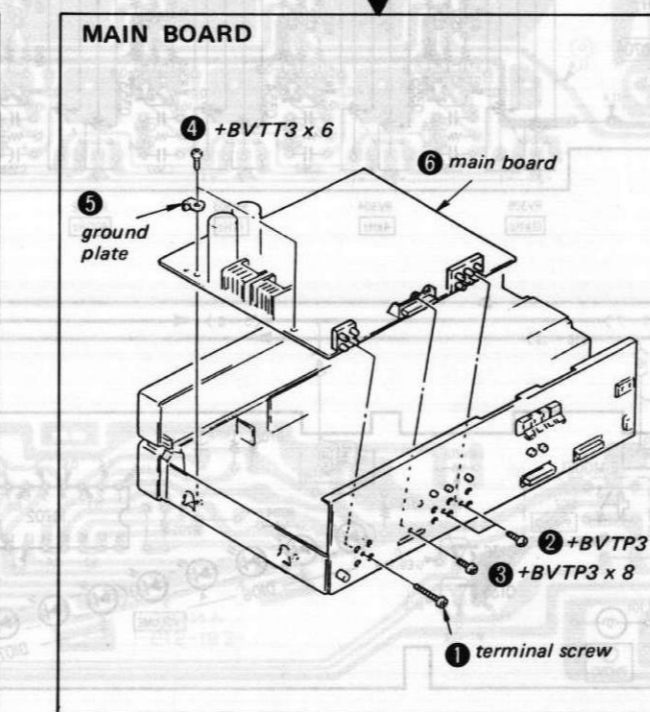
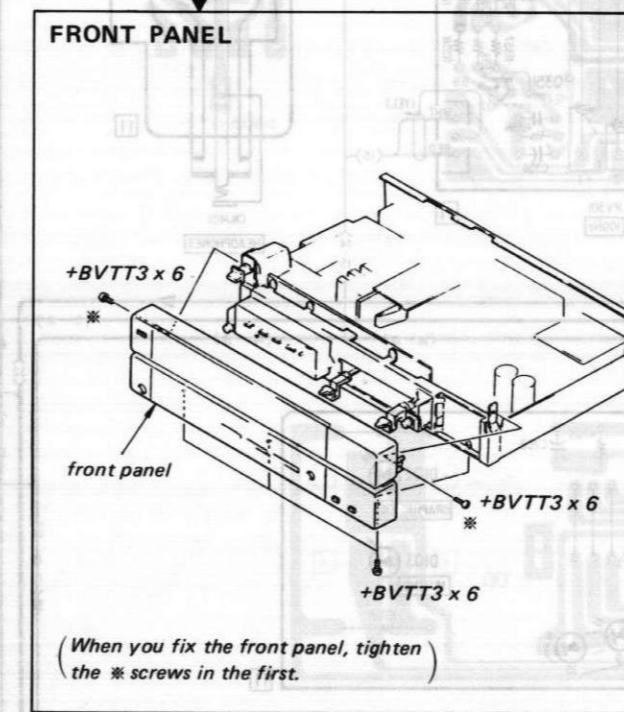
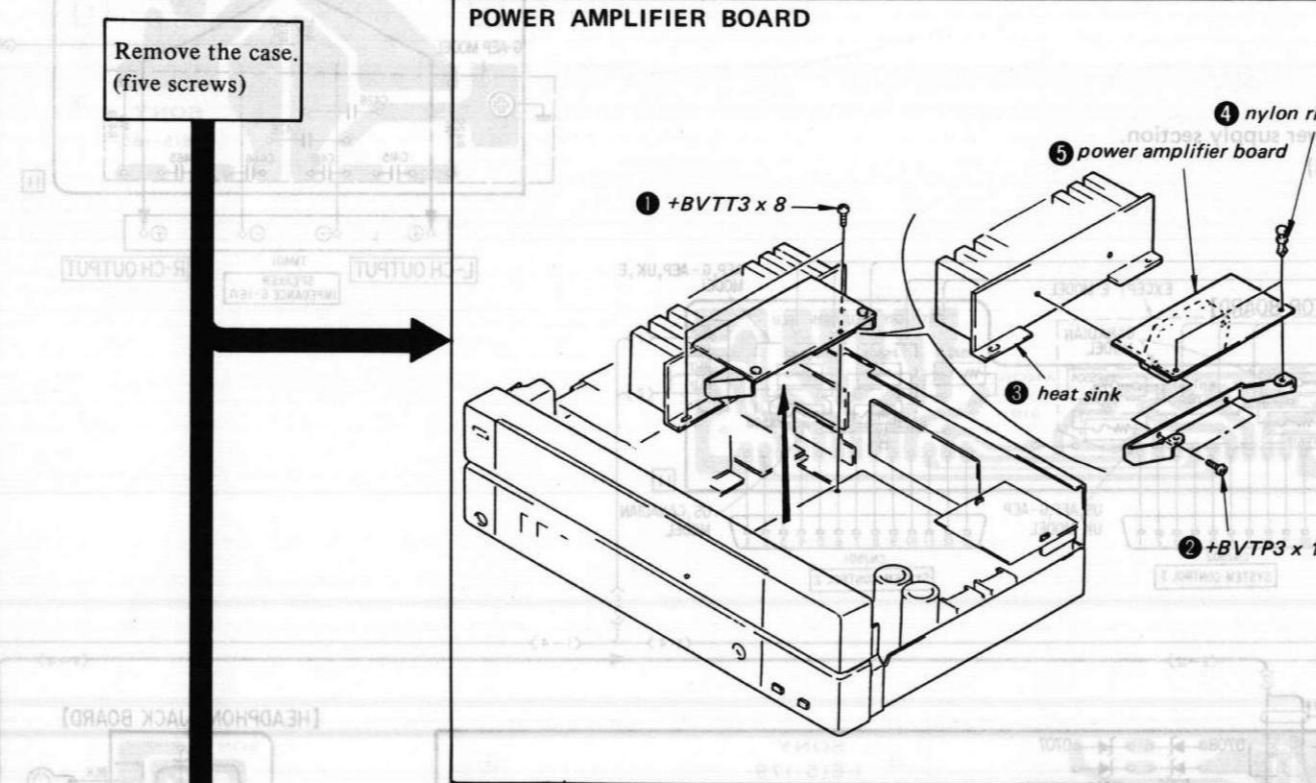


⑩ UP/DOWN

Input pin for the attenuation UP/DOWN control. When this pin goes "H", the volume goes up synchronized with activation of the oscillator. Also when this pin goes "L", the volume goes down. When the ⊕ or ⊖ key of the volume is pushed, R716 is grounded and the oscillator starts to operate. When ⊕ key is pushed, D701 and D702 go OFF and ⑩ goes "H". (⑩ is pulled up in the IC.) When ⊖ key is pushed, D701 and D702 go ON and ⑩ goes "L". When neither ⊕ key nor ⊖ key is pushed, ⑩ goes "H". However the attenuation does not change because the oscillator does not operate.



Note: Follow the disassembly procedure in the numerical order given.

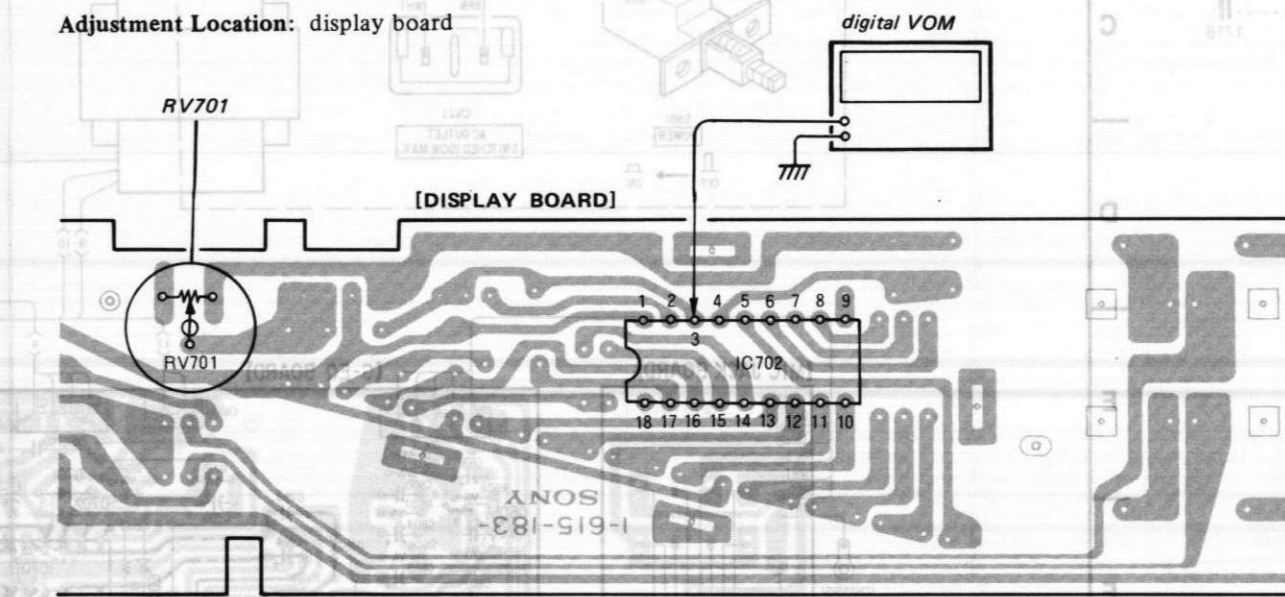


Volume LED Adjustment

Procedure:

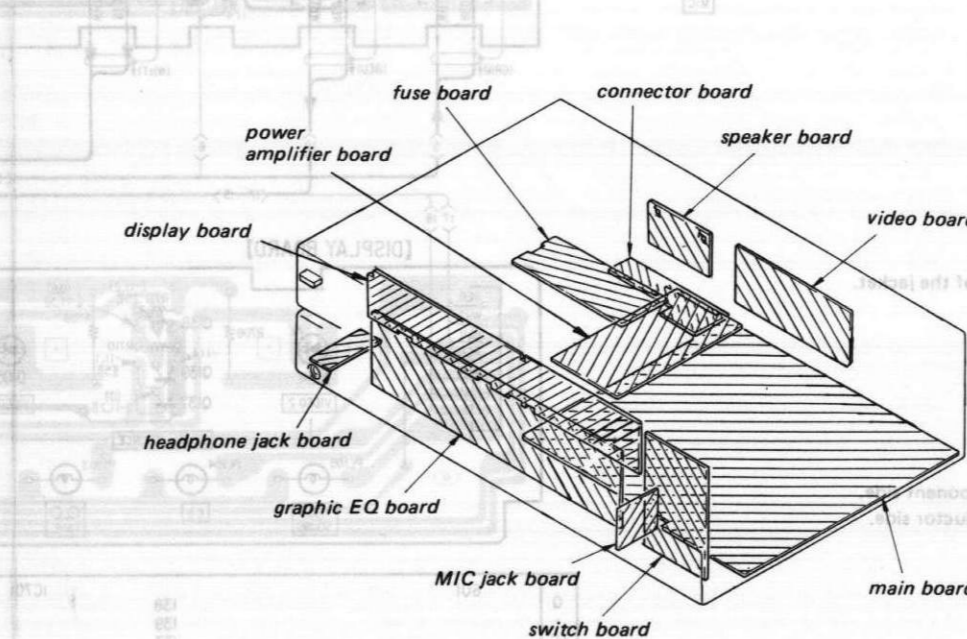
1. Connect the digital VOM to pin ③ of IC702 on the display board.
2. Push the volume ⊕ key for maximum volume. (Keep pushing for about ten seconds.)
3. Adjust RV701 so that the tenth point of the volume indicator LED just goes out, and measure the voltage of IC702 pin ③.

Adjustment Location: display board



4. Adjust RV701 so that the voltage of IC702 pin ③ increases by $50 \text{ mV} \pm \frac{3}{8} \text{ mV}$ from the voltage measured in step 3.
5. After the adjustment, perform volume up/down and confirm there is no flicker on LED and no simultaneous lighting up. (foing out). If there is, it may be caused by the adjustment or the measurement error in step 3, so repeat this adjustment again.

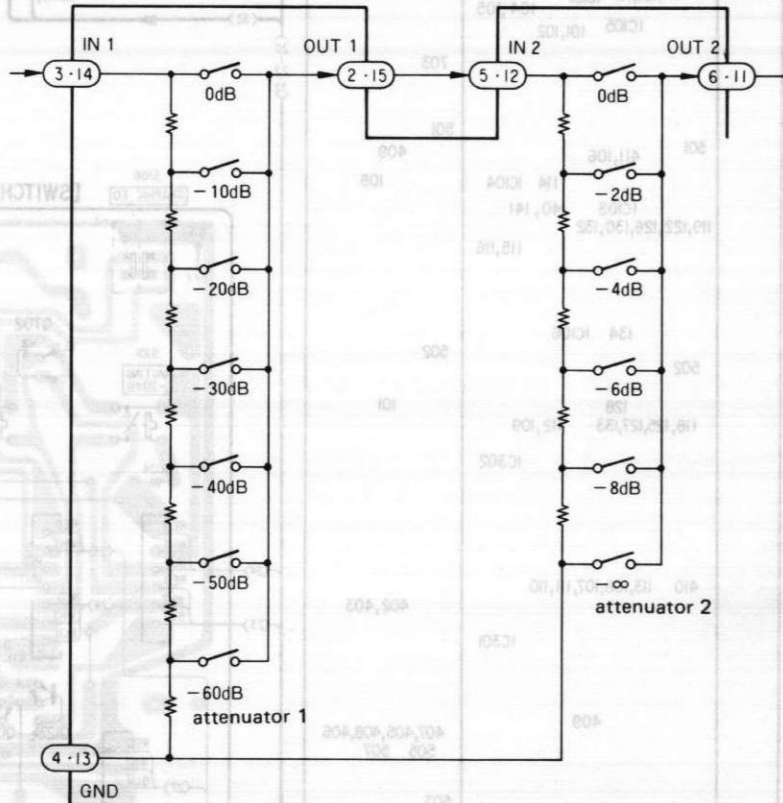
CIRCUIT BOARDS LOCATION



Pin Functions

- ② L-CH OUT 1, ⑮ R-CH OUT 1
Output pin for 10 dB step attenuator. The signal applied to L/R-CH IN 1 attenuates 7 steps from 0 to -60 dB at intervals of 10 dB.
- ③ L-CH IN 1, ⑭ R-CH IN 1
Input pin for 10 dB step attenuator.
- ⑥ L-CH OUT 2, ⑪ R-CH OUT 2
Output pin for 2 dB step attenuator. The signal applied to L/R-CH IN 2 attenuates 5 steps from 0 to -8 dB at intervals of 2 dB.
- ⑤ L-CH IN 2, ⑫ R-CH IN 2
Input pin for 2 dB step attenuator.

The attenuator is composed of the resistors and the analog switches. Attenuator 1 attenuates 10 dB steps from 0 to -60 dB and attenuator 2 attenuates 2 dB steps from 0 to 8 dB. Total attenuation is 2 dB steps from 0 to -66 dB.



TA-V33/V33W

TA-V33/V33W TA-V33/V33W

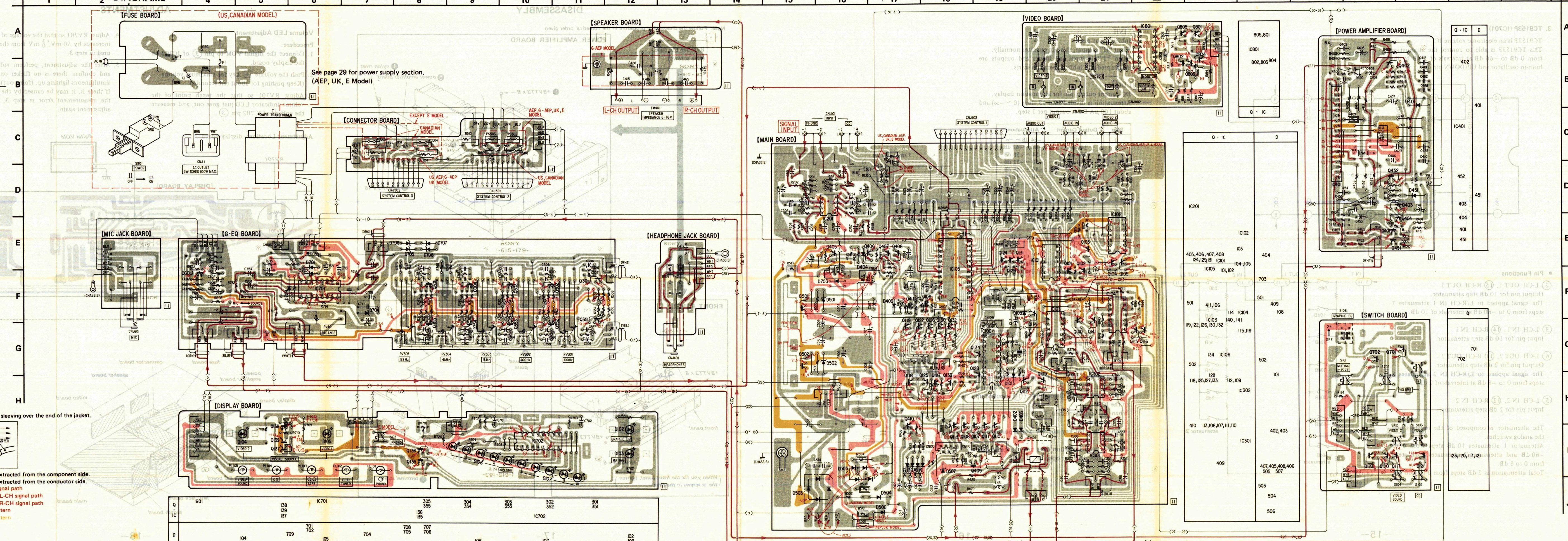
SECTION 4
4-1. MOUNTING DIAGRAM
DIAGRAMS

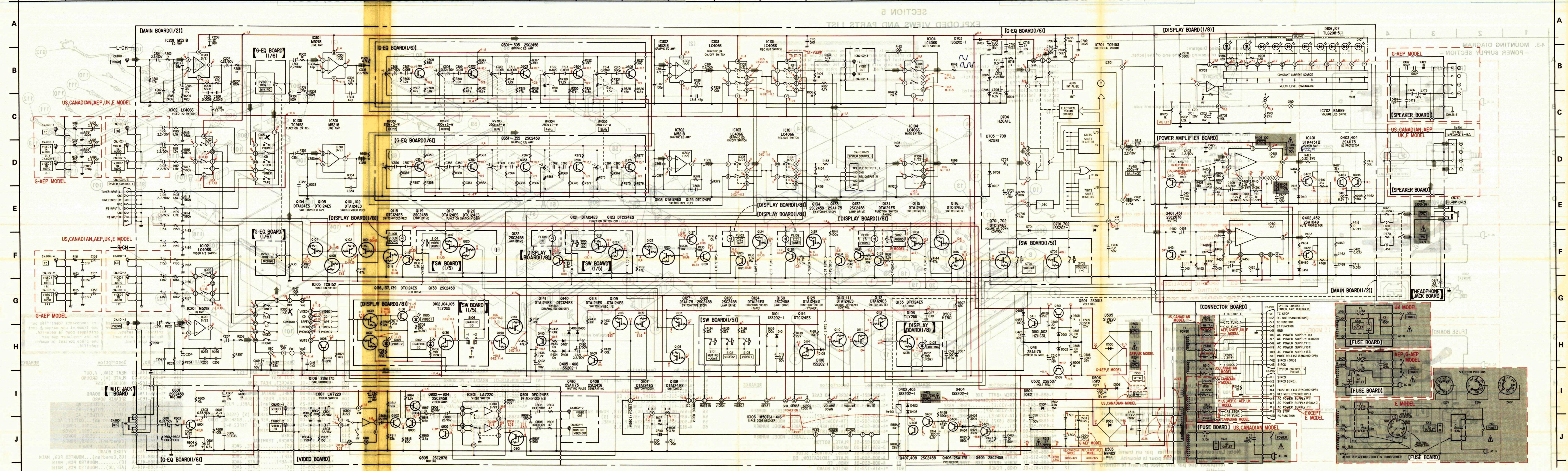
Semiconductor Lead Layouts

- M5209P, M5218P (RB402)
- LC4066BH (S1VB20)
- LA7220, TC9153P (GL-9PR4)
- BA689
- M50761-416P (TLY255)
- TC9152P
- 1SS202-1
- 2SA1048-GR, 2SA998-F, 2SC2458, DTA124ES, DTC124ES (2SC3622A-L)
- 10E-2, HZ11C3L, HZ5B1, HZ5C1L, HZ6A1L

Note:

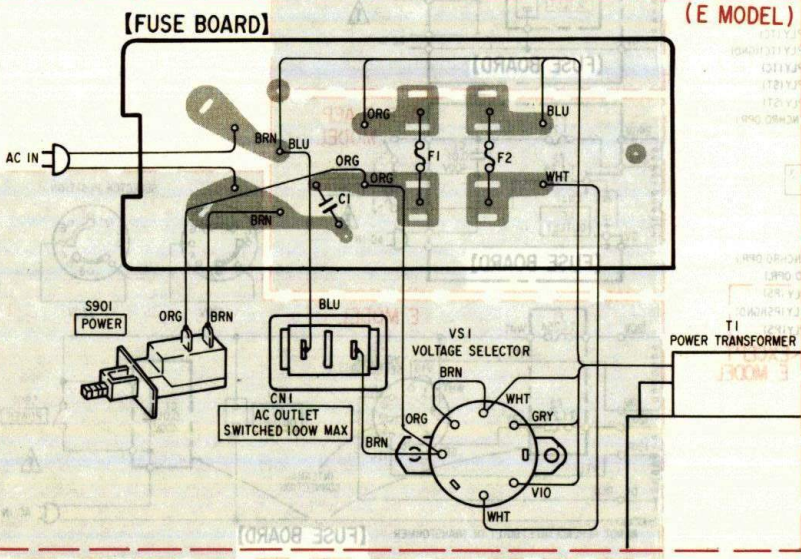
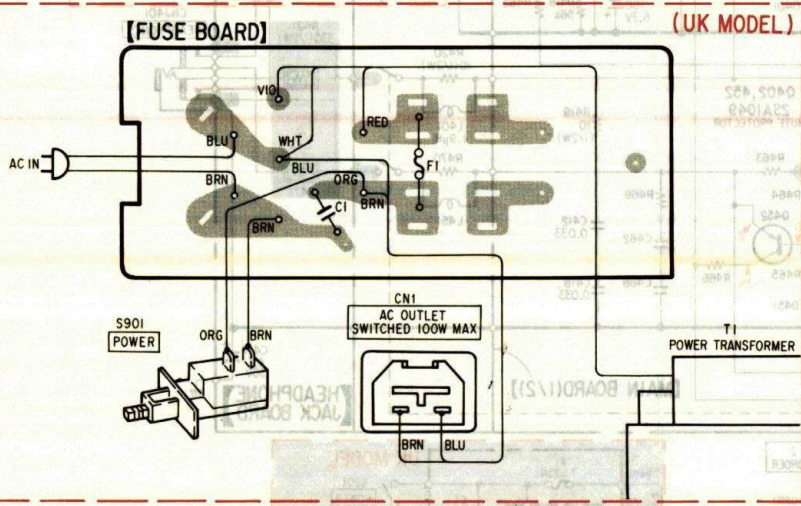
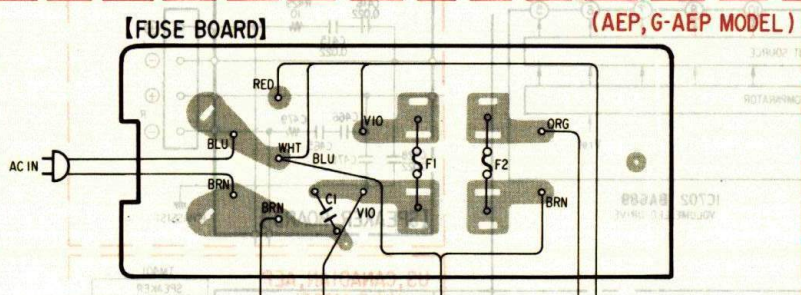
- Color code of sleeving over the end of the jacket.
- Parts extracted from the component side.
- Parts extracted from the conductor side.
- Signal path
- L-CH signal path
- R-CH signal path
- B+ pattern
- B-pattern





SECTION 5 EXPLODED VIEWS AND PARTS LIST

4-3. MOUNTING DIAGRAM - POWER SUPPLY SECTION -



Note on Mounting Diagram: Color code of sleeving over the end of the jacket. WHIT (RED) (RED)(GRY)

Note on Schematic Diagram: All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums. All resistors are in Ω and 1/4W or less unless otherwise specified.

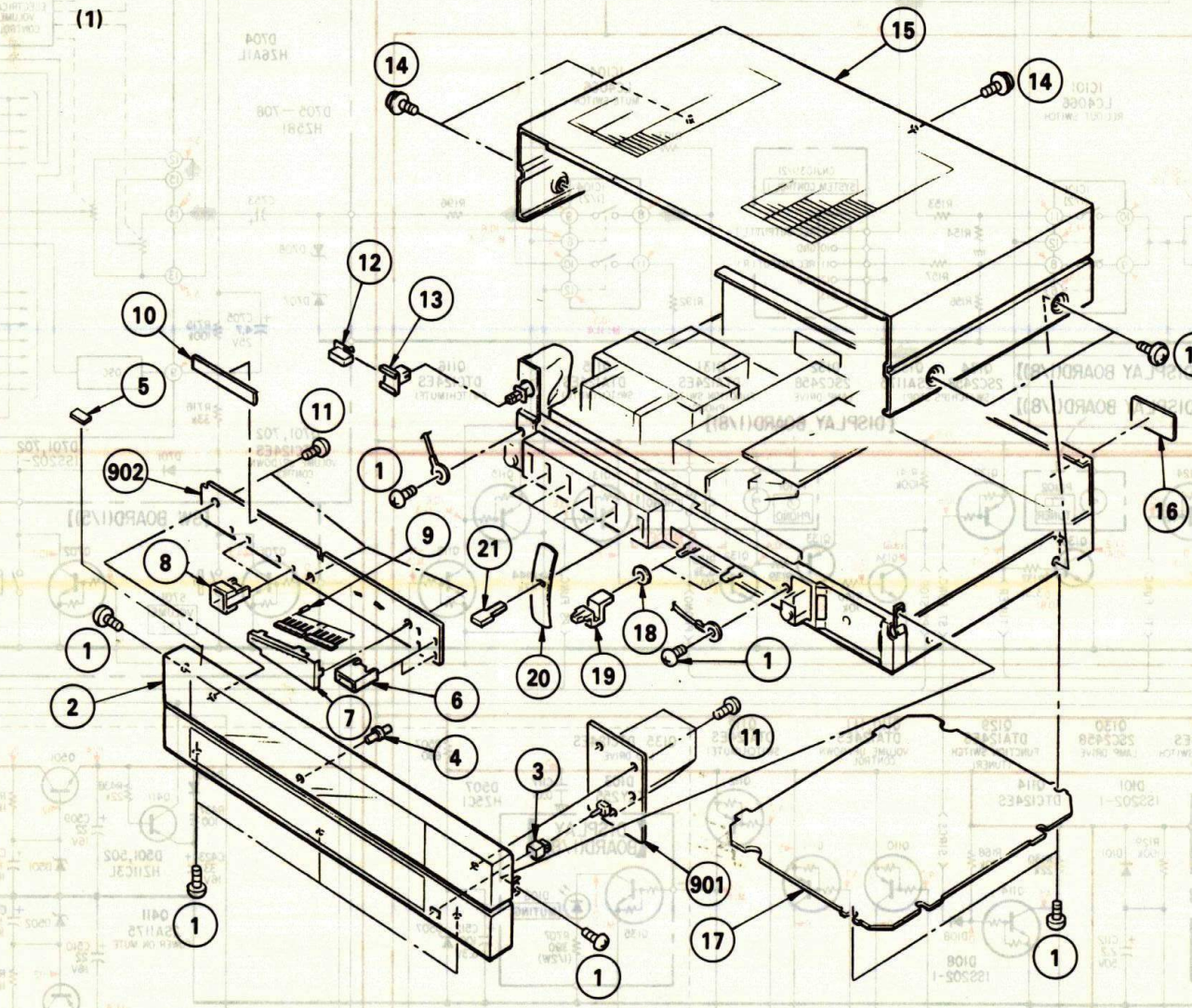
Table with 3 columns: Ref. No., Switch, Position. Lists switches S101 through S107 and S701 through S702 with their respective positions (OFF).

Note: The components identified by shading and mark A are critical for safety. Replace only with part number specified.

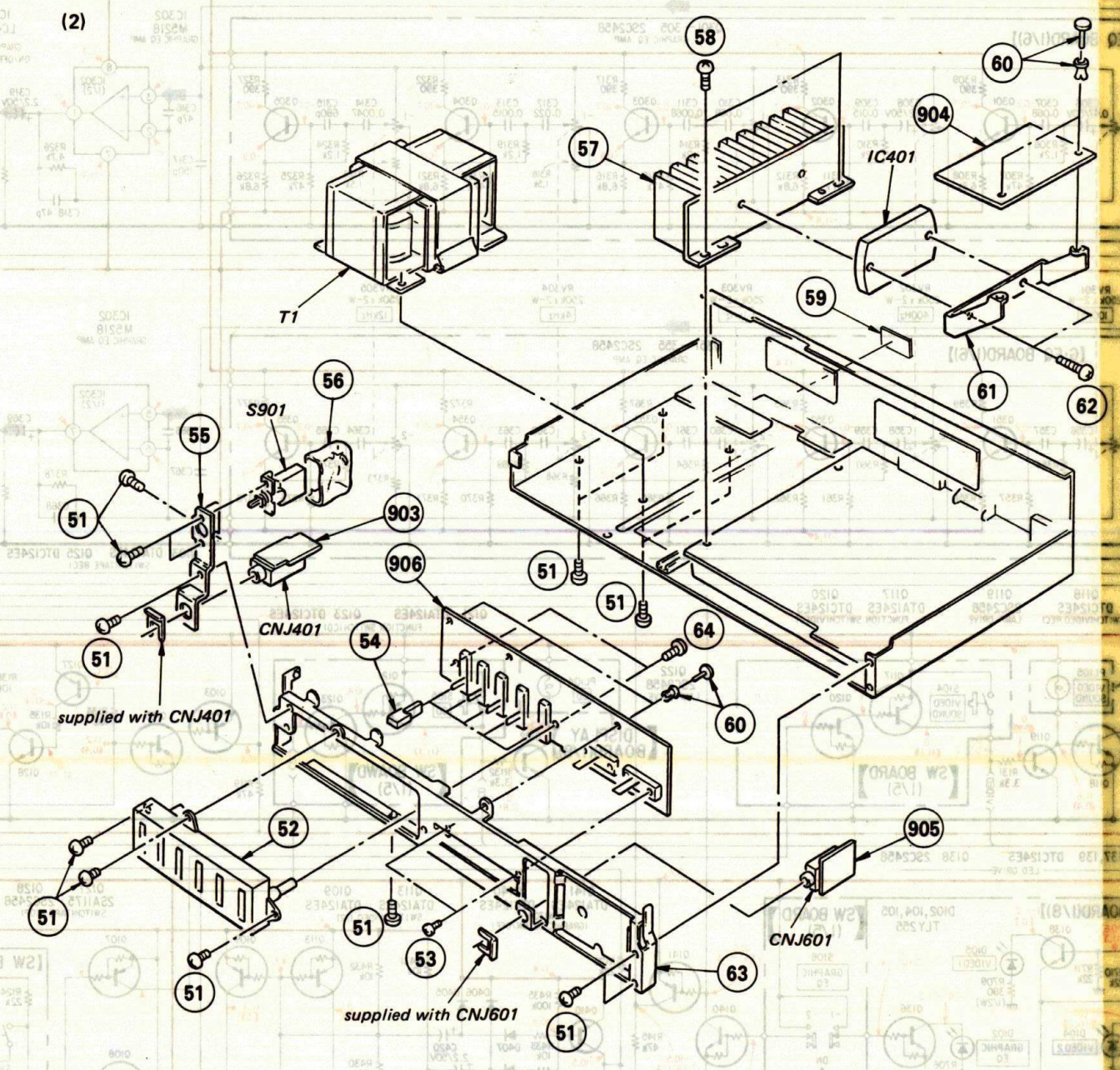
Note: Les composants identifiés par un trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

NOTE: The mechanical parts with no reference number in the exploded views are not supplied. Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items. The construction parts of an assembled part are indicated with a collation number in the remark column.

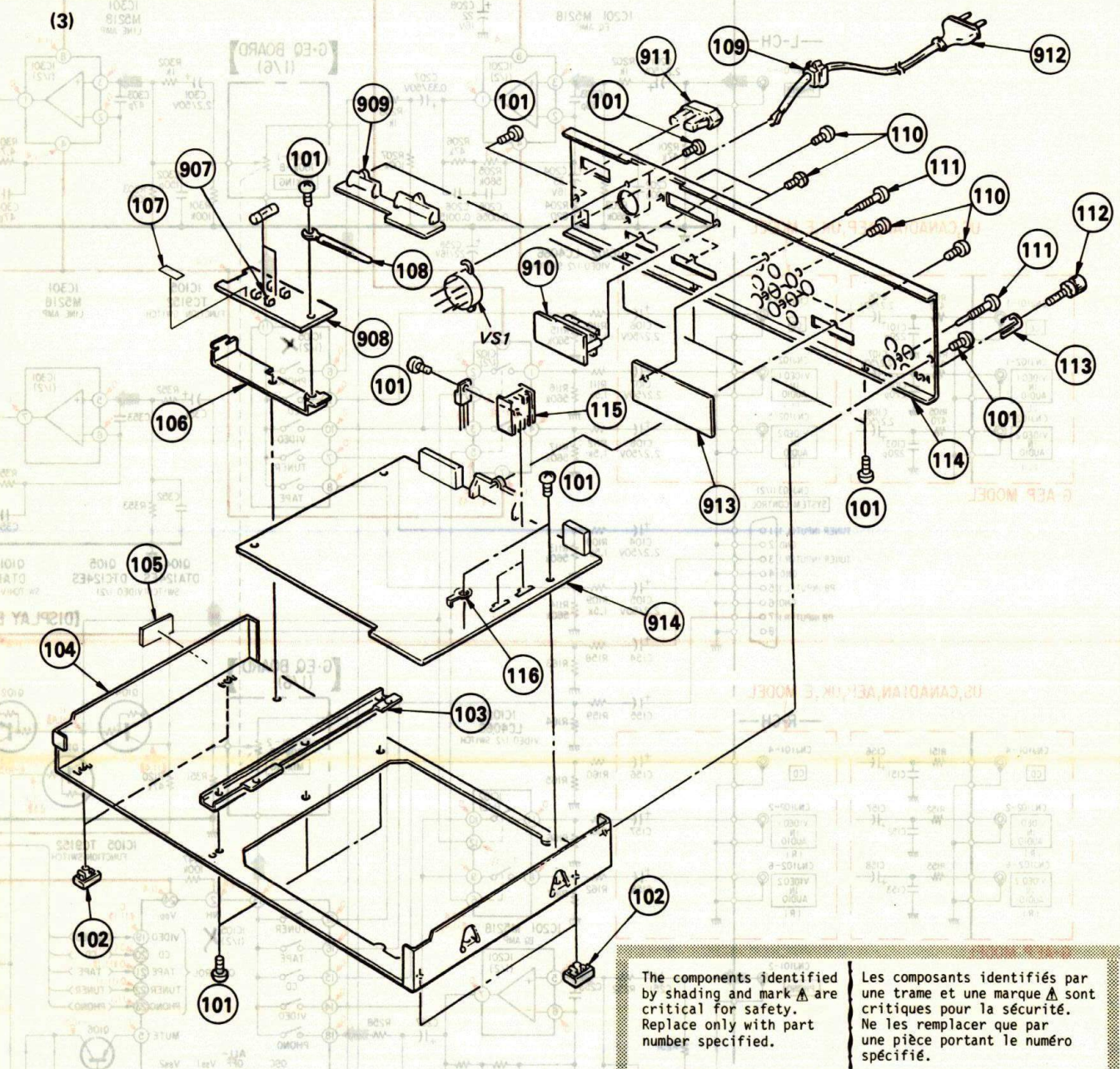
The components identified by shading and mark A are critical for safety. Replace only with part number specified. Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Parts list table for exploded view (1) with columns: No., Part No., Description, REMARKS. Lists parts 1 through 30.



Parts list table for exploded view (2) with columns: No., Part No., Description, REMARKS. Lists parts 51 through 60.



Parts list table for exploded view (3) with columns: No., Part No., Description, REMARKS. Lists parts 101 through 114.

The components identified by shading and mark A are critical for safety. Replace only with part number specified. Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:µF, PF:µµF.

RESISTORS
• All resistors are in ohms.
• F: nonflammable

COILS
• MMH : mH, UH : µH

SEMICONDUCTORS
In each case, U : µ, for example:
UA...: µA..., UPA...: µPA..., UPC...: µPC,
UPD...: µPD...

The components identified by shading and mark **△** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **△** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	*1-615-173-11	SWITCH BOARD
902	*1-615-183-11	DISPLAY BOARD
903	*1-615-177-11	HEADPHONE JACK BOARD
904	*A-4388-416-A	(US,Canadian,AEP,UK,E)...MOUNTED PCB, AMPLIFIER, POWER
	*A-4388-417-A	(G-AEP)...MOUNTED PCB, AMPLIFIER, POWER
905	*1-615-178-11	MIC JACK BOARD
906	*A-4375-204-A	MOUNTED PCB, GEQ
907	1-533-162-00	HOLDER, FUSE
908	*1-615-172-11	FUSE BOARD
909	*1-615-176-11	CONNECTOR BOARD
910	*1-615-180-11	SPEAKER BOARD
911	△ 1-526-751-11	(UK)...OUTLET, AC
	△ 1-526-776-11	(E)...OUTLET, AC
	△ 1-526-794-11	(AEP)...OUTLET, AC
	△ 1-526-882-00	(US,Canadian)...OUTLET, AC
912	△ 1-534-817-XX	(AEP)...CORD, POWER
	△ 1-551-472-23	(E)...CORD, POWER
	△ 1-551-884-00	(UK)...CORD, POWER
	△ 1-556-905-00	(Canadian)...CORD, POWER
	△ 1-557-579-11	(US)...CORD, POWER
913	*1-615-174-11	VIDEO BOARD
914	*A-4388-412-A	(US,Canadian)...MOUNTED PCB, MAIN
	*A-4388-413-A	(E)...MOUNTED PCB, MAIN
	*A-4388-414-A	(AEP,UK)...MOUNTED PCB, MAIN
	*A-4388-415-A	(G-AEP)...MOUNTED PCB, MAIN
C1	△ 1-161-744-00	CERAMIC 0.01MF 400V
C101	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C102	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C103	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C104	1-123-612-00	ELECT 2.2MF 20% 50V
C105	1-123-612-00	ELECT 2.2MF 20% 50V
C106	1-123-612-00	ELECT 2.2MF 20% 50V
C107	1-123-612-00	ELECT 2.2MF 20% 50V
C108	1-123-612-00	ELECT 2.2MF 20% 50V
C109	1-123-612-00	ELECT 2.2MF 20% 50V
C110	1-162-284-31	CERAMIC 150PF 10% 50V
C111	1-162-284-31	CERAMIC 150PF 10% 50V
C112	1-123-612-00	ELECT 2.2MF 20% 50V
C115	1-162-306-31	CERAMIC 0.01MF 30% 16V
C116	1-162-306-31	CERAMIC 0.01MF 30% 16V
C117	1-162-306-31	CERAMIC 0.01MF 30% 16V
C151	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C152	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C153	1-162-286-31	(G-AEP)...CERAMIC 220PF 10% 50V
C154	1-123-612-00	ELECT 2.2MF 20% 50V
C155	1-123-612-00	ELECT 2.2MF 20% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C156	1-123-612-00	ELECT 2.2MF 20% 50V
C157	1-123-612-00	ELECT 2.2MF 20% 50V
C158	1-123-612-00	ELECT 2.2MF 20% 50V
C201	1-123-612-00	ELECT 2.2MF 20% 50V
C202	1-162-282-31	CERAMIC 100PF 10% 50V
C203	1-162-219-31	CERAMIC 68PF 5% 50V
C204	1-123-318-00	ELECT 33MF 20% 16V
C205	1-106-190-00	MYLAR 0.0056MF 5% 50V
C206	1-106-176-00	MYLAR 0.0015MF 5% 50V
C207	1-123-609-00	ELECT 0.33MF 20% 50V
C208	1-123-622-00	ELECT 22MF 20% 16V
C251	1-123-612-00	ELECT 2.2MF 20% 50V
C252	1-162-282-31	CERAMIC 100PF 10% 50V
C253	1-162-219-31	CERAMIC 68PF 5% 50V
C254	1-123-318-00	ELECT 33MF 20% 16V
C255	1-106-190-00	MYLAR 0.0056MF 5% 50V
C256	1-106-176-00	MYLAR 0.0015MF 5% 50V
C257	1-123-609-00	ELECT 0.33MF 20% 50V
C258	1-123-622-00	ELECT 22MF 20% 16V
C301	1-123-612-00	ELECT 2.2MF 20% 50V
C302	1-162-284-31	CERAMIC 150PF 10% 50V
C303	1-162-215-31	CERAMIC 47PF 5% 50V
C304	1-162-215-31	CERAMIC 47PF 5% 50V
C305	1-123-612-00	ELECT 2.2MF 20% 50V
C306	1-123-610-00	ELECT 0.47MF 20% 50V
C307	1-136-163-00	FILM 0.068MF 5% 50V
C308	1-123-608-00	ELECT 0.22MF 20% 50V
C309	1-136-155-00	FILM 0.015MF 5% 50V
C310	1-136-163-00	FILM 0.068MF 5% 50V
C311	1-106-192-00	MYLAR 0.0068MF 5% 50V
C312	1-136-157-00	FILM 0.022MF 5% 50V
C313	1-106-176-00	MYLAR 0.0015MF 5% 50V
C314	1-106-188-00	MYLAR 0.0047MF 5% 50V
C315	1-102-116-00	CERAMIC 680PF 10% 50V
C316	1-162-215-31	CERAMIC 47PF 5% 50V
C317	1-162-284-31	CERAMIC 150PF 10% 50V
C318	1-162-215-31	CERAMIC 47PF 5% 50V
C319	1-123-612-00	ELECT 2.2MF 20% 50V
C351	1-123-612-00	ELECT 2.2MF 20% 50V
C352	1-162-284-31	CERAMIC 150PF 10% 50V
C353	1-162-215-31	CERAMIC 47PF 5% 50V
C354	1-162-215-31	CERAMIC 47PF 5% 50V

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like C355, C356, C357, C358, C359, C360, C361, C362, C363, C364, C365, C366, C367, C368, C369, C402, C403, C404, C405, C406, C407, C409, C410, C411, C412, C413, C414, C415, C416, C417, C418, C420, C421, C422, C423, C425, C428, C429, C452, C453, C454, C455, C459, C462, C465, C466, C468, C478, C501, C501.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like C502, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C601, C602, C603, C604, C605, C606, C607, C701, C702, C703, C704, C705, C706, C707, C708, C710, C711, C712, C713, C753, C754, C801, C802, C803, C804, C805, C806, C807, C808, CF101, CNJ101, CNJ102, CNJ103, CNJ401, CNJ501, CNJ502, CNJ601, CNJ801, CNJ802.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like D104, D105, D106, D107, D109, D401, D402, D403, D404, D405, D406, D407, D408, D409, D451, D501, D502, D503, D504, D505, D506, D507, D701, D702, D703, D704, D705, D706, D707, D708, D709, F1, F2, F2, IC101, IC102, IC103, IC104, IC105, IC106, IC201, IC301, IC302, IC401, IC701, IC702, IC801, L401, L451, PL101, PL102, PL103, PL104, PL105.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like PS501, PS502, PS503, PS504, PS505, Q101, Q102, Q103, Q104, Q105, Q106, Q107, Q108, Q109, Q110, Q111, Q112, Q113, Q114, Q115, Q116, Q117, Q118, Q119, Q120, Q121, Q122, Q123, Q124, Q125, Q126, Q127, Q128, Q129, Q130, Q131, Q132, Q133, Q134, Q135, Q136, Q137, Q138, Q139, Q140, Q141, Q301, Q302, Q303, Q304, Q305, Q351, Q352, Q353, Q354, Q355.

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q401	8-729-107-98	TRANSISTOR 2SC3622A-L
Q402	8-729-108-14	TRANSISTOR 2SA988-F
Q403	8-729-204-83	TRANSISTOR 2SA1048-GR
Q404	8-729-204-83	TRANSISTOR 2SA1048-GR
Q405	8-729-245-83	TRANSISTOR 2SC2458
Q406	8-729-204-83	TRANSISTOR 2SA1048-GR
Q407	8-729-245-83	TRANSISTOR 2SC2458
Q408	8-729-245-83	TRANSISTOR 2SC2458
Q409	8-729-245-83	TRANSISTOR 2SC2458
Q410	8-729-204-83	TRANSISTOR 2SA1048-GR
Q411	8-729-204-83	TRANSISTOR 2SA1048-GR
Q451	8-729-107-98	TRANSISTOR 2SC3622A-L
Q452	8-729-108-14	TRANSISTOR 2SA988-F
Q501	8-729-831-33	TRANSISTOR 2SD313HP
Q502	8-729-850-73	TRANSISTOR 2SB507HP-E
Q601	8-729-245-83	TRANSISTOR 2SC2458
Q701	8-729-900-36	TRANSISTOR DTC124ES
Q702	8-729-900-36	TRANSISTOR DTC124ES
Q801	8-729-900-36	TRANSISTOR DTC124ES
Q802	8-729-245-83	TRANSISTOR 2SC2458
Q803	8-729-245-83	TRANSISTOR 2SC2458
Q804	8-729-245-83	TRANSISTOR 2SC2458
Q805	8-729-107-98	TRANSISTOR 2SC3622A-L
R101	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R102	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R103	1-247-847-00	CARBON 4.7K 5% 1/6W
R104	1-247-903-00	CARBON 1M 5% 1/6W
R105	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R106	1-247-903-00	CARBON 1M 5% 1/6W
R107	1-247-847-00	CARBON 4.7K 5% 1/6W
R108	1-247-835-00	CARBON 1.5K 5% 1/6W
R109	1-247-835-00	CARBON 1.5K 5% 1/6W
R110	1-247-835-00	CARBON 1.5K 5% 1/6W
R111	1-247-835-00	CARBON 1.5K 5% 1/6W
R112	1-247-835-00	CARBON 1.5K 5% 1/6W
R113	1-247-897-00	CARBON 560K 5% 1/6W
R114	1-247-897-00	CARBON 560K 5% 1/6W
R115	1-247-897-00	CARBON 560K 5% 1/6W
R116	1-247-897-00	CARBON 560K 5% 1/6W
R117	1-247-897-00	CARBON 560K 5% 1/6W
R118	1-247-871-00	CARBON 47K 5% 1/6W
R119	1-247-871-00	CARBON 47K 5% 1/6W
R120	1-247-871-00	CARBON 47K 5% 1/6W
R122	1-247-863-00	CARBON 22K 5% 1/6W
R123	1-247-863-00	CARBON 22K 5% 1/6W
R124	1-247-863-00	CARBON 22K 5% 1/6W
R125	1-247-863-00	CARBON 22K 5% 1/6W
R126	1-247-863-00	CARBON 22K 5% 1/6W
R127	1-247-903-00	CARBON 1M 5% 1/6W
R128	1-247-843-00	CARBON 3.3K 5% 1/6W
R129	1-247-879-00	CARBON 100K 5% 1/6W
R130	1-247-863-00	CARBON 22K 5% 1/6W
R131	1-247-843-00	CARBON 3.3K 5% 1/6W
R132	1-247-843-00	CARBON 3.3K 5% 1/6W

Ref.No.	Part No.	Description
R133	1-247-843-00	CARBON 3.3K 5% 1/6W
R134	1-247-855-00	CARBON 10K 5% 1/6W
R135	1-247-855-00	CARBON 10K 5% 1/6W
R136	1-247-855-00	CARBON 10K 5% 1/6W
R137	1-247-843-00	CARBON 3.3K 5% 1/6W
R138	1-247-843-00	CARBON 3.3K 5% 1/6W
R139	1-247-855-00	CARBON 10K 5% 1/6W
R140	1-247-855-00	CARBON 10K 5% 1/6W
R141	1-247-879-00	CARBON 100K 5% 1/6W
R142	1-247-859-00	CARBON 15K 5% 1/6W
R143	1-247-879-00	CARBON 100K 5% 1/6W
R144	1-247-871-00	CARBON 47K 5% 1/6W
R145	1-247-871-00	CARBON 47K 5% 1/6W
R146	1-247-831-00	CARBON 1K 5% 1/6W
R147	1-247-879-00	CARBON 100K 5% 1/6W
R151	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R152	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R153	1-247-847-00	CARBON 4.7K 5% 1/6W
R154	1-247-903-00	CARBON 1M 5% 1/6W
R155	1-247-823-00	(G-AEP)...CARBON 470 5% 1/6W
R156	1-247-903-00	CARBON 1M 5% 1/6W
R157	1-247-847-00	CARBON 4.7K 5% 1/6W
R158	1-247-835-00	CARBON 1.5K 5% 1/6W
R159	1-247-835-00	CARBON 1.5K 5% 1/6W
R160	1-247-835-00	CARBON 1.5K 5% 1/6W
R161	1-247-835-00	CARBON 1.5K 5% 1/6W
R162	1-247-835-00	CARBON 1.5K 5% 1/6W
R163	1-247-897-00	CARBON 560K 5% 1/6W
R164	1-247-897-00	CARBON 560K 5% 1/6W
R165	1-247-897-00	CARBON 560K 5% 1/6W
R166	1-247-897-00	CARBON 560K 5% 1/6W
R167	1-247-897-00	CARBON 560K 5% 1/6W
R168	1-247-855-00	CARBON 10K 5% 1/6W
R192	1-247-859-00	CARBON 15K 5% 1/6W
R193	1-247-879-00	CARBON 100K 5% 1/6W
R196	1-247-831-00	CARBON 1K 5% 1/6W
R197	1-247-863-00	CARBON 22K 5% 1/6W
R201	1-247-871-00	CARBON 47K 5% 1/6W
R202	1-247-831-00	CARBON 1K 5% 1/6W
R203	1-247-897-00	CARBON 560K 5% 1/6W
R204	1-247-829-00	CARBON 820 5% 1/6W
R205	1-247-897-00	CARBON 560K 5% 1/6W
R206	1-247-871-00	CARBON 47K 5% 1/6W
R207	1-247-879-00	CARBON 100K 5% 1/6W
R208	1-247-831-00	CARBON 1K 5% 1/6W
R251	1-247-871-00	CARBON 47K 5% 1/6W
R252	1-247-831-00	CARBON 1K 5% 1/6W
R253	1-247-897-00	CARBON 560K 5% 1/6W
R254	1-247-829-00	CARBON 820 5% 1/6W
R255	1-247-897-00	CARBON 560K 5% 1/6W
R256	1-247-871-00	CARBON 47K 5% 1/6W
R257	1-247-879-00	CARBON 100K 5% 1/6W
R258	1-247-831-00	CARBON 1K 5% 1/6W
R301	1-247-879-00	CARBON 100K 5% 1/6W
R302	1-247-831-00	CARBON 1K 5% 1/6W
R303	1-247-879-00	CARBON 100K 5% 1/6W
R304	1-247-847-00	CARBON 4.7K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R305	1-247-847-00	CARBON	4.7K	5%	1/6W
R306	1-247-833-00	CARBON	1.2K	5%	1/6W
R307	1-247-871-00	CARBON	47K	5%	1/6W
R308	1-247-851-00	CARBON	6.8K	5%	1/6W
R309	1-247-821-00	CARBON	390	5%	1/6W
R310	1-247-833-00	CARBON	1.2K	5%	1/6W
R311	1-247-871-00	CARBON	47K	5%	1/6W
R312	1-247-851-00	CARBON	6.8K	5%	1/6W
R313	1-247-821-00	CARBON	390	5%	1/6W
R314	1-247-833-00	CARBON	1.2K	5%	1/6W
R315	1-247-871-00	CARBON	47K	5%	1/6W
R316	1-247-851-00	CARBON	6.8K	5%	1/6W
R317	1-247-821-00	CARBON	390	5%	1/6W
R318	1-247-835-00	CARBON	1.5K	5%	1/6W
R319	1-247-833-00	CARBON	1.2K	5%	1/6W
R320	1-247-871-00	CARBON	47K	5%	1/6W
R321	1-247-851-00	CARBON	6.8K	5%	1/6W
R322	1-247-821-00	CARBON	390	5%	1/6W
R323	1-247-835-00	CARBON	1.5K	5%	1/6W
R324	1-247-833-00	CARBON	1.2K	5%	1/6W
R325	1-247-871-00	CARBON	47K	5%	1/6W
R326	1-247-851-00	CARBON	6.8K	5%	1/6W
R327	1-247-821-00	CARBON	390	5%	1/6W
R328	1-247-847-00	CARBON	4.7K	5%	1/6W
R329	1-247-879-00	CARBON	100K	5%	1/6W
R351	1-247-879-00	CARBON	100K	5%	1/6W
R352	1-247-831-00	CARBON	1K	5%	1/6W
R353	1-247-879-00	CARBON	100K	5%	1/6W
R354	1-247-847-00	CARBON	4.7K	5%	1/6W
R355	1-247-847-00	CARBON	4.7K	5%	1/6W
R356	1-247-833-00	CARBON	1.2K	5%	1/6W
R357	1-247-871-00	CARBON	47K	5%	1/6W
R358	1-247-851-00	CARBON	6.8K	5%	1/6W
R359	1-247-821-00	CARBON	390	5%	1/6W
R360	1-247-833-00	CARBON	1.2K	5%	1/6W
R361	1-247-871-00	CARBON	47K	5%	1/6W
R362	1-247-851-00	CARBON	6.8K	5%	1/6W
R363	1-247-821-00	CARBON	390	5%	1/6W
R364	1-247-833-00	CARBON	1.2K	5%	1/6W
R365	1-247-871-00	CARBON	47K	5%	1/6W
R366	1-247-851-00	CARBON	6.8K	5%	1/6W
R367	1-247-821-00	CARBON	390	5%	1/6W
R368	1-247-835-00	CARBON	1.5K	5%	1/6W
R369	1-247-833-00	CARBON	1.2K	5%	1/6W
R370	1-247-871-00	CARBON	47K	5%	1/6W
R371	1-247-851-00	CARBON	6.8K	5%	1/6W
R372	1-247-821-00	CARBON	390	5%	1/6W
R373	1-247-835-00	CARBON	1.5K	5%	1/6W
R374	1-247-833-00	CARBON	1.2K	5%	1/6W
R375	1-247-871-00	CARBON	47K	5%	1/6W
R376	1-247-851-00	CARBON	6.8K	5%	1/6W
R377	1-247-821-00	CARBON	390	5%	1/6W
R378	1-247-847-00	CARBON	4.7K	5%	1/6W
R379	1-247-879-00	CARBON	100K	5%	1/6W

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R401	1-247-831-00	CARBON	1K	5%	1/6W
R402	1-247-831-00	CARBON	1K	5%	1/6W
R403	1-247-873-00	CARBON	56K	5%	1/6W
R404	1-247-825-00	CARBON	560	5%	1/6W
R405	1-247-873-00	CARBON	56K	5%	1/6W
R406 A	1-247-107-00	CARBON	100	5%	1/4W F
R407	1-247-248-00	CARBON	2.2K	5%	1/2W
R408	1-247-248-00	CARBON	2.2K	5%	1/2W
R409 A	1-247-107-00	CARBON	100	5%	1/4W F
R410	1-247-240-00	CARBON	1K	5%	1/2W
R411	1-247-240-00	CARBON	1K	5%	1/2W
R412	1-247-873-00	CARBON	56K	5%	1/6W
R413	1-217-151-00	RES, METAL PLATE 0.22			
R414	1-247-831-00	CARBON	1K	5%	1/6W
R415	1-247-859-00	CARBON	15K	5%	1/6W
R416	1-247-867-00	CARBON	33K	5%	1/6W
R417	1-247-867-00	CARBON	33K	5%	1/6W
R418	1-247-873-00	CARBON	56K	5%	1/6W
R419	1-247-192-00	CARBON	10	5%	1/2W
R420	1-247-192-00	CARBON	10	5%	1/2W
R421 A	1-247-228-00	CARBON	330	5%	1/2W F
R422 A	1-247-228-00	CARBON	330	5%	1/2W F
R423	1-247-867-00	CARBON	33K	5%	1/6W
R424	1-247-891-00	CARBON	330K	5%	1/6W
R425	1-247-897-00	CARBON	560K	5%	1/6W
R426	1-247-893-00	CARBON	390K	5%	1/6W
R427	1-247-783-00	CARBON	10	5%	1/6W
R428	1-247-893-00	CARBON	390K	5%	1/6W
R429	1-247-192-00	(G-AEP)...CARBON	10	5%	1/2W
R430	1-247-879-00	CARBON	100K	5%	1/6W
R431	1-247-855-00	CARBON	10K	5%	1/6W
R432	1-247-855-00	CARBON	10K	5%	1/6W
R433	1-247-855-00	CARBON	10K	5%	1/6W
R434	1-247-855-00	CARBON	10K	5%	1/6W
R435	1-247-879-00	CARBON	100K	5%	1/6W
R436	1-247-839-00	CARBON	2.2K	5%	1/6W
R437	1-247-807-00	CARBON	100	5%	1/6W
R438	1-247-863-00	CARBON	22K	5%	1/6W
R451	1-247-831-00	CARBON	1K	5%	1/6W
R452	1-247-831-00	CARBON	1K	5%	1/6W
R453	1-247-873-00	CARBON	56K	5%	1/6W
R454	1-247-825-00	CARBON	560	5%	1/6W
R455	1-247-873-00	CARBON	56K	5%	1/6W
R457	1-247-248-00	CARBON	2.2K	5%	1/2W
R458	1-247-248-00	CARBON	2.2K	5%	1/2W
R462	1-247-873-00	CARBON	56K	5%	1/6W
R463	1-217-151-00	RES, METAL PLATE 0.22			
R464	1-247-831-00	CARBON	1K	5%	1/6W
R465	1-247-859-00	CARBON	15K	5%	1/6W
R466	1-247-867-00	CARBON	33K	5%	1/6W
R469	1-247-192-00	CARBON	10	5%	1/2W
R470	1-247-192-00	CARBON	10	5%	1/2W
R471 A	1-247-228-00	CARBON	330	5%	1/2W F
R479	1-247-192-00	(G-AEP)...CARBON	10	5%	1/2W
R501 A	1-247-071-00	(US,Canadian)...CARBON	1	5%	1/4W F
R502	1-247-145-00	CARBON	3.9K	5%	1/4W
R503 A	1-247-079-00	CARBON	4.7	5%	1/4W F

ELECTRICAL PARTS

Ref.No.	Part No.	Description	QTY	Power	Notes
R504	1-247-079-00	CARBON	4.7	5%	1/4W F
R505	1-247-131-00	CARBON	1K	5%	1/4W
R506	1-247-131-00	CARBON	1K	5%	1/4W
R507	1-247-127-00	CARBON	680	5%	1/4W
R508	1-217-473-00	(US,Canadian)...FUSIBLE	2.2	5%	1W F
R509	1-217-473-00	(US,Canadian)...FUSIBLE	2.2	5%	1W F
R510	1-217-426-00	FUSIBLE	2.2	5%	1/2W F
R511	1-212-934-00	(US,AEP,UK)...FUSIBLE	1	5%	1/2W F
R512	1-212-934-00	(US,AEP,UK)...FUSIBLE	1	5%	1/2W F
R513	1-247-099-00	CARBON	47	5%	1/4W F
R514	1-247-783-00	CARBON	10	5%	1/6W
R601	1-247-879-00	CARBON	100K	5%	1/6W
R602	1-247-879-00	CARBON	100K	5%	1/6W
R603	1-247-831-00	CARBON	1K	5%	1/6W
R604	1-247-865-00	CARBON	27K	5%	1/6W
R605	1-247-855-00	CARBON	10K	5%	1/6W
R606	1-247-879-00	CARBON	100K	5%	1/6W
R607	1-247-839-00	CARBON	2.2K	5%	1/6W
R608	1-247-831-00	CARBON	1K	5%	1/6W
R701	1-247-865-00	CARBON	27K	5%	1/6W
R702	1-247-833-00	CARBON	1.2K	5%	1/6W
R703	1-247-855-00	CARBON	10K	5%	1/6W
R704	1-247-809-00	CARBON	120	5%	1/6W
R705	1-247-809-00	CARBON	120	5%	1/6W
R706	1-247-230-00	CARBON	390	5%	1/2W
R707	1-247-230-00	CARBON	390	5%	1/2W
R708	1-247-230-00	CARBON	390	5%	1/2W
R709	1-247-230-00	CARBON	390	5%	1/2W
R710	1-247-863-00	CARBON	22K	5%	1/6W
R711	1-247-863-00	CARBON	22K	5%	1/6W
R712	1-247-839-00	CARBON	2.2K	5%	1/6W
R713	1-247-855-00	CARBON	10K	5%	1/6W
R714	1-247-873-00	CARBON	56K	5%	1/6W
R715	1-247-879-00	CARBON	100K	5%	1/6W
R716	1-247-867-00	CARBON	33K	5%	1/6W
R718	1-247-131-00	CARBON	1K	5%	1/4W
R720	1-247-891-00	CARBON	330K	5%	1/6W
R762	1-247-839-00	CARBON	2.2K	5%	1/6W
R801	1-247-111-00	CARBON	150	5%	1/4W
R802	1-247-111-00	CARBON	150	5%	1/4W
R803	1-247-099-00	CARBON	47	5%	1/4W
R804	1-247-111-00	CARBON	150	5%	1/4W
R805	1-247-111-00	CARBON	150	5%	1/4W
R806	1-247-099-00	CARBON	47	5%	1/4W
R807	1-247-125-00	CARBON	560	5%	1/4W
R808	1-247-125-00	CARBON	560	5%	1/4W
R809	1-247-163-00	CARBON	22K	5%	1/4W
R811	1-247-167-00	CARBON	33K	5%	1/4W
R812	1-247-175-00	CARBON	68K	5%	1/4W
R813	1-247-129-00	CARBON	820	5%	1/4W
R814	1-247-143-00	CARBON	3.3K	5%	1/4W
R815	1-247-143-00	CARBON	3.3K	5%	1/4W
R816	1-247-149-00	CARBON	5.6K	5%	1/4W
R817	1-247-131-00	CARBON	1K	5%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description	QTY	Power	Notes
R818	1-247-863-00	CARBON	22K	5%	1/6W
R819	1-247-855-00	CARBON	10K	5%	1/6W
RV301	1-230-362-11	RES, VAR, SLIDE	250K/250K		(100Hz)
RV302	1-230-362-11	RES, VAR, SLIDE	250K/250K		(400Hz)
RV303	1-230-362-11	RES, VAR, SLIDE	250K/250K		(1kHz)
RV304	1-230-362-11	RES, VAR, SLIDE	250K/250K		(4kHz)
RV305	1-230-362-11	RES, VAR, SLIDE	250K/250K		(12kHz)
RV401	1-230-731-11	RES, VAR, SLIDE	250K		(BALANCE)
RV601	1-230-376-11	RES, VAR, SLIDE	100K/100K		(MIXING)
RV701	1-228-990-00	RES, ADJ, CARBON	1K		
RY401	1-515-503-00	RELAY			
S101	1-554-303-00	SWITCH, KEY BOARD			(MUTING -20dB)
S102	1-554-303-00	SWITCH, KEY BOARD			(VIDEO 2)
S103	1-554-303-00	SWITCH, KEY BOARD			(VIDEO 1)
S104	1-554-303-00	SWITCH, KEY BOARD			(VIDEO SOUND)
S105	1-554-303-00	SWITCH, KEY BOARD			(CD)
S106	1-554-419-00	SWITCH, PUSH			(1 KEY)(GRAPHIC EQ)
S107	1-554-303-00	(E)....SWITCH, KEY BOARD			(PHONO)
S701	1-554-303-00	SWITCH, KEY BOARD			(VOLUME +)
S702	1-554-303-00	SWITCH, KEY BOARD			(VOLUME -)
S901	1-553-318-00	(US,Canadian,E)...SWITCH, PUSH			(AC POWER)(1 KEY)
S901	1-554-685-11	(AEP,UK)...SWITCH, PUSH			(AC POWER)
T1	1-448-082-11	(US).....TRANSFORMER, POWER			
T1	1-448-083-11	(AEP,UK).....TRANSFORMER, POWER			
T1	1-448-084-11	(E).....TRANSFORMER, POWER			
T1	1-448-109-11	(Canadian)...TRANSFORMER, POWER			
TM401	1-536-705-21	TERMINAL BOARD (SP)(SPEAKER)			
VS1	1-526-576-51	(E)....SELECTOR, POWER VOLTAGE			

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