

Service Manual

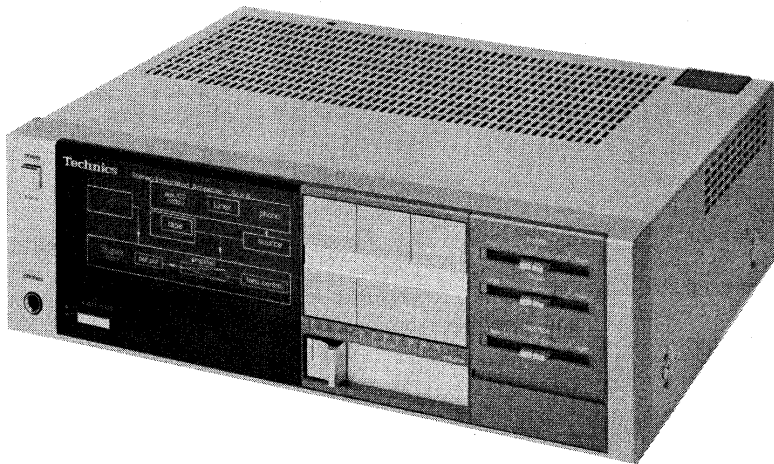
Stereo Integrated Amplifier

SU-6

[EX],[EK],[EW],[EF],[EB]
[EH],[Ei],[XA],[XL],[EGA]

SU-6(K)

[EX],[EW],[EK]
[EH],[XA],[EGA]



Areas

- * [EX] is available in Scandinavia.
- * [EK] is available in United Kingdom.
- * [EW] is available in Switzerland.
- * [EF] is available in France.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XL] is available in Australia.
- * [EGA] is available in F.R. Germany.

- * The colors of this model include silver and black.
- * The black type model is provided with (K) in the Service Manual.

原本のため
持出厳禁

Specifications (Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz~20 kHz continuous power output both channels driven	2 × 35W (8Ω)
1 kHz continuous power output both channels driven	2 × 40W (8Ω)
Total harmonic distortion	
rated power at 40 Hz~20 kHz	0.05% (8Ω)
rated power at 1 kHz	0.8% (8Ω)
half power at 20 Hz~20 kHz	0.03% (8Ω)
half power at 1 kHz	0.005% (8Ω)
Intermodulation distortion	
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.03%
Power bandwidth	
both channels driven, -3 dB	10 Hz~25 kHz (8Ω)
Residual hum and noise	0.8 mV
Damping factor	40 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, AUX/CD/VIDEO	150 mV/27kΩ
TAPE	150 mV/27kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (8Ω)	
PHONO	73 dB (IHF, A: 72 dB)
TUNER, AUX/CD/VIDEO, TAPE	89 dB (IHF, A: 98 dB)

Frequency response

PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, AUX/CD/VIDEO, TAPE	10 Hz~80 kHz (-3 dB)
Tone controls	
BASS	50 Hz, +10 dB~-10 dB
TREBLE	20 kHz, +10 dB~-10 dB
Output voltage and impedance	
REC OUT	150 mV
Channel balance, AUX/CD/VIDEO 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX/CD/VIDEO 1 kHz	55 dB
Headphones output level and impedance	420 mV/330Ω
Load impedance	8Ω~16Ω

■ GENERAL

Power consumption	200W
Power supply	
For United Kingdom and Australia	AC 50Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For other areas	AC 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (W×H×D)	315 × 99 × 245 mm (12-13/32" × 3-29/32" × 9-21/32")
Weight	4.7 kg (10.4 lb.)

Note:

Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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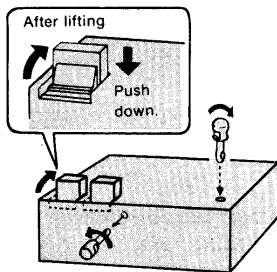
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FEATURE

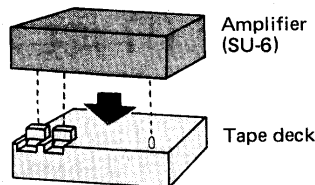
- "Super bass" circuit capable of reproducing grave low sound with compact speakers.
- Direct operation allowing you to select the desired source by one touch.
- Direct connection system that makes the connection when set up.
- Signal processing display that indicates the condition of program source.
- Electronic protection circuit that protects the speakers and amplifier from breakdown.

STANDARD CONNECTION METHOD WITH DIRECT CONNECTOR

- ① Lift the direct connector on the tape deck. Push it straight down to lock it into place.
- ② Remove the stabilizing pin from the back panel. (Turn counterclockwise 90° and pull.)
- ③ Insert the pin into the top panel. (Push in and turn clockwise 90°.)



- ④ Lower the amplifier onto the tape deck. Line up the direct connector and stabilizing pin properly.

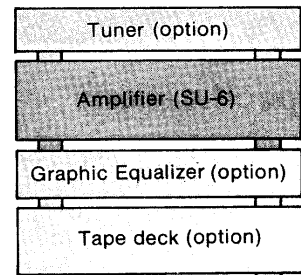


- ⑤ Connect the tuner to the amplifier the same way as in ① ~ ④.
- ⑥ Connect the turntable and speakers with their respective cords.

Notes:

1. When using the direct connectors, do not use pin cords.

2. When using the graphic equalizer, place it between the amplifier and the tape deck.

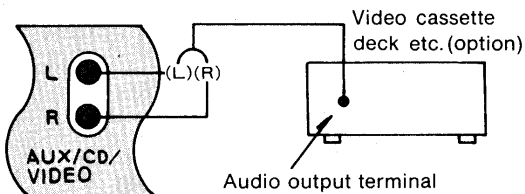


3. Position the units in a straight column to avoid twisting and breaking the direct connectors.
4. If this unit is installed in a rack, first make the direct connector connections.

"AUX/CD/VIDEO" terminals

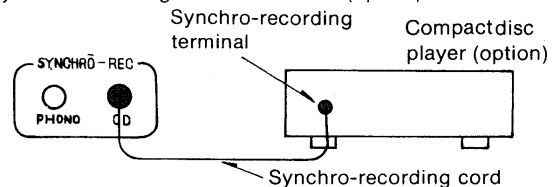
Use these terminals to connect a tape deck (playback only), compact disc (digital audio disc) player, or audio output of a video unit.

If the video unit has only one audio output terminal, use a Y-type cord (monaural to stereo) to make the connection.



Synchro-recording terminal

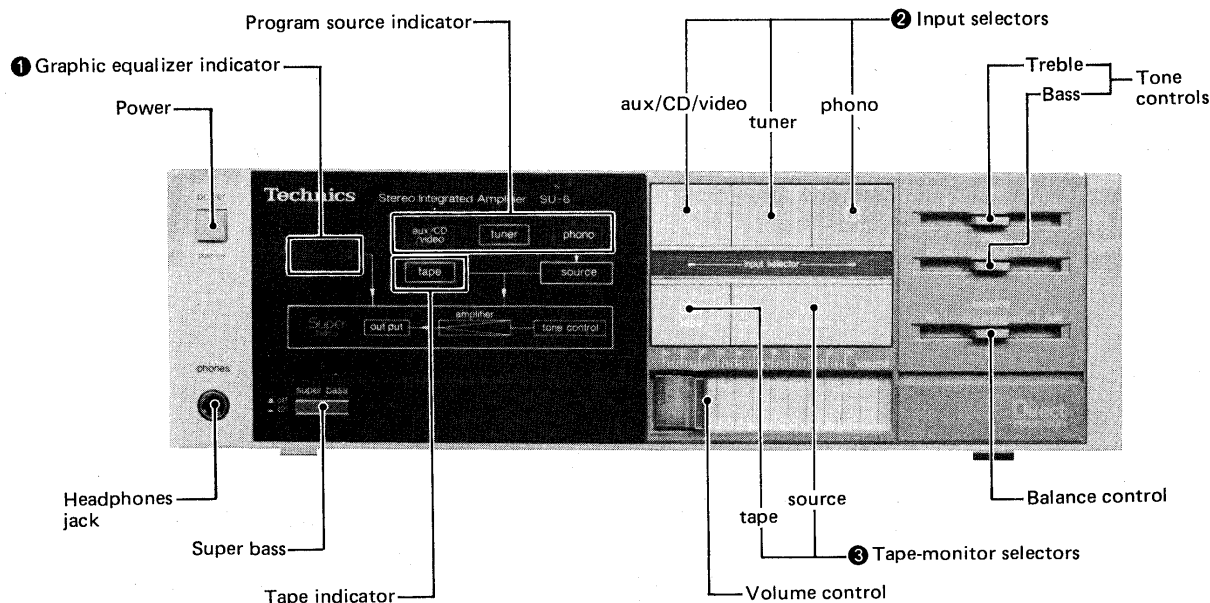
In addition to the turntable, the Technics compact disc player (model SL-P7) can be connected by using the synchro-recording connection cord (option).



Note:

If the model SL-3 or SL-6 turntable is used, an extension cord (option) is needed.

LOCATION OF CONTROLS



1 Graphic equalizer indicator (graphic EQ)

This indicator will illuminate when the Technics graphic equalizer (SH-E4) is connected by the direct connector and the power of the equalizer is switched on.

2 Input selectors (input selector)

aux/CD/video:

Press this button to listen to equipment connected to the auxiliary input terminals ("AUX/CD/VIDEO").

tuner:

Press this button to listen to radio broadcasts.

phono:

Press this button to listen to phono discs.

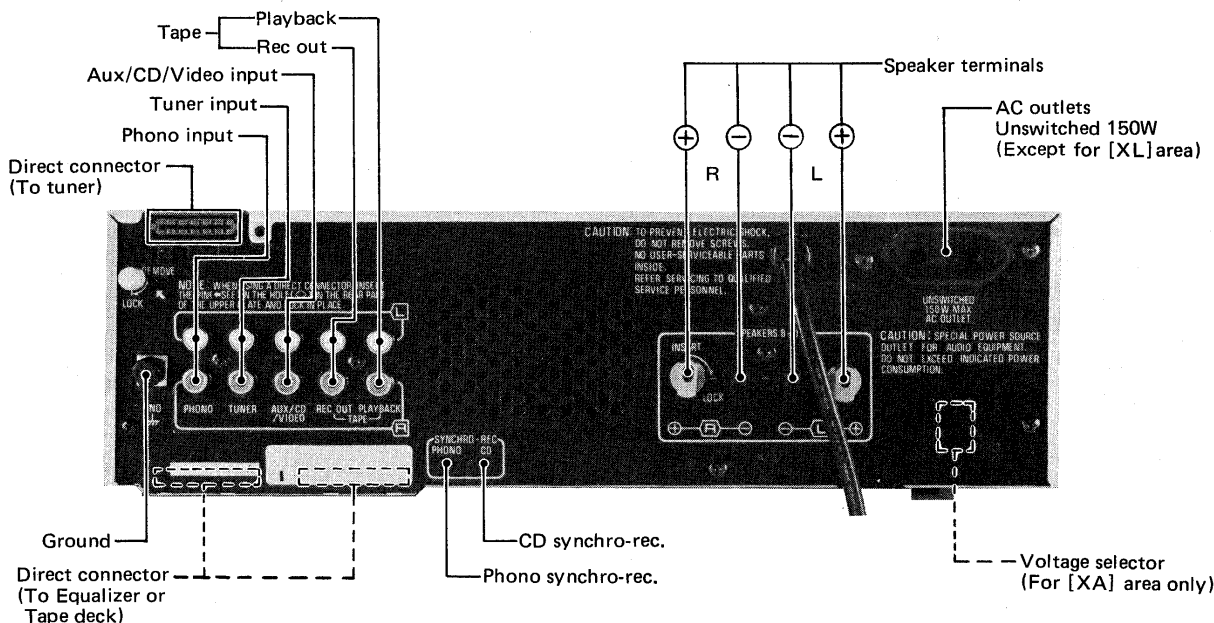
3 Tape-monitor selectors (tape)

source:

Press this button to listen to a phono disc or radio broadcast, or to listen to equipment connected to the auxiliary input terminals ("AUX/CD/VIDEO").

tape:

Press this button to play back or monitor the sound from a tape deck, or to use a graphic equalizer, etc. connected to the TAPE terminals.



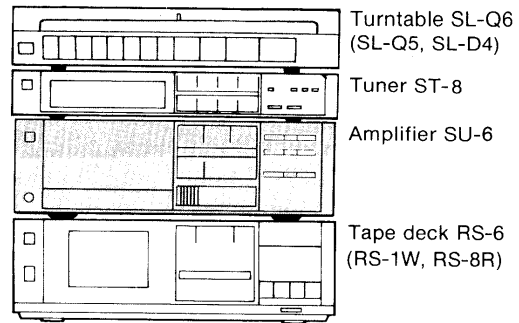
- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram (Separate service manual : Order No. HAD83122678C8-A) and the replacement parts list.
- * [XA] area is provided with voltage selector.
- * 240V (50/60Hz) for Australia and United Kingdom.
- * 220V (50/60Hz) for Continental Europe.
- * 110V/120V/220V/240V (50/60Hz) for other [XA] areas.
- * Phono input capacitance is about 150pF.

DIRECT OPERATION

"Direct operation" means that, once each component has been prepared for operation, any operation can be conveniently selected and started by one-touch operation.

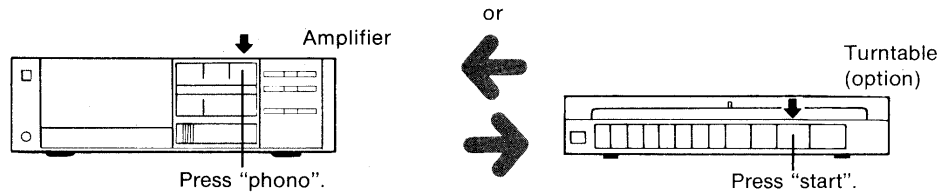
This function is possible only by the combination of Technics components shown in the figure at the right, and which have been connected by direct connectors.

Operation at the amplifier, or at the individual components, is possible.



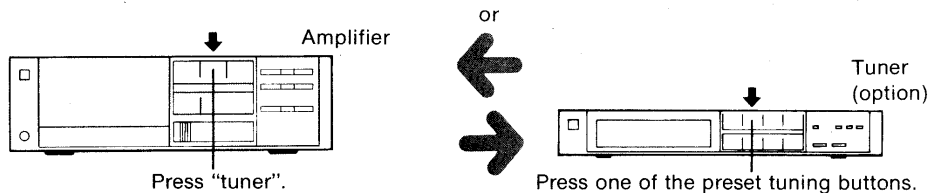
To listen to discs...

Press the "phono" button on the amplifier or the "start" button on the turntable.



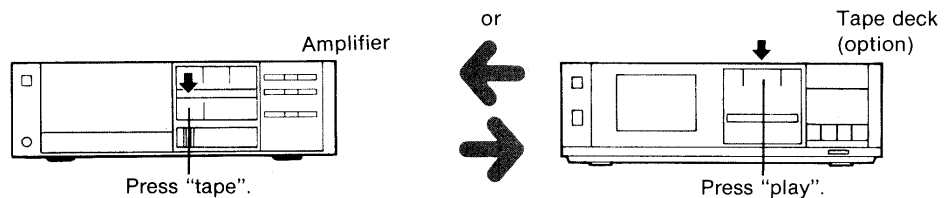
To listen to radio broadcasts...

Press the "tuner" button on the amplifier or one of the preset tuning buttons on the tuner.



To listen to a tape...

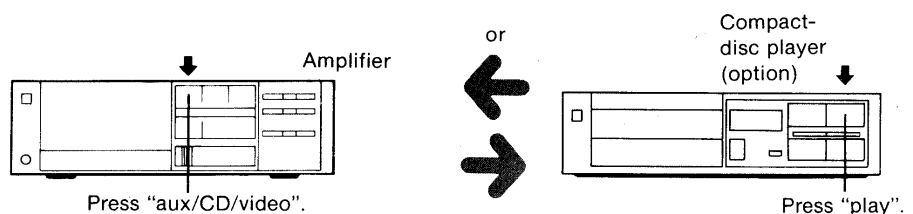
Press the "tape" button on the amplifier or the "play" button on the tape deck.



To listen to a compact-disc player...

(To listen to the component connected to the AUX/CD/VIDEO terminal on the rear panel)

Press the "aux/CD/video" button on the amplifier or the "play" button on the compact-disc player.



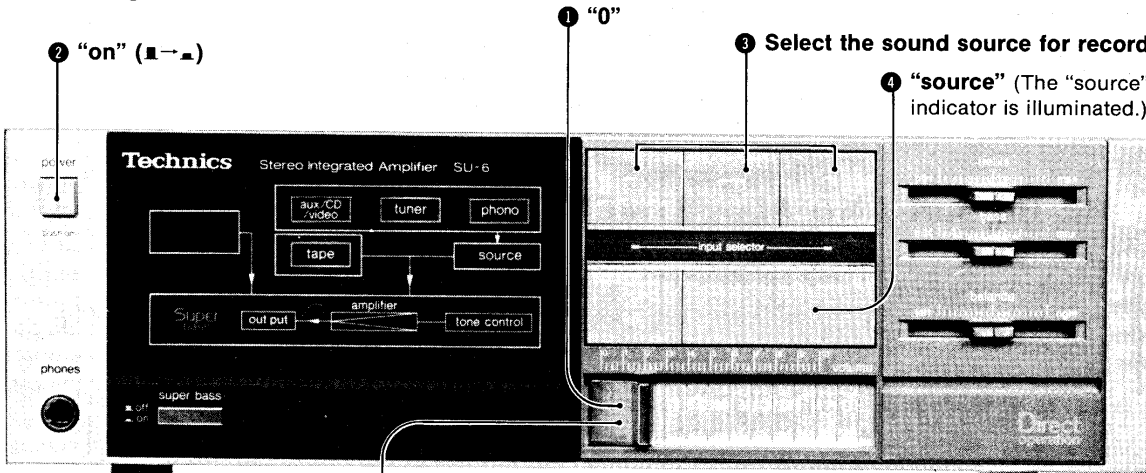
Notes:

1. Do not switch the tuner on while playing a disc or tape, or while tape recording, because to do so will cause the "tuner" input selector to be automatically activated.
2. If, while listening to a disc or radio broadcast, the tape deck is switched off and the tape indicator is illuminated, press the
3. tape-monitor selector marked "source". Even though another input selector is pressed while listening to a turntable or a compact-disc player, the turntable or compact-disc player will continue to operate; be sure to stop it.

TAPE RECORDING AND TAPE-TO TAPE RECORDING

The level of the disc or radio broadcast signal emitted from the recording output terminals ("REC OUT") on the rear panel is always at a constant level, unaffected by the settings of other controls and switches.

Tape recording



5 Begin the disc play or tune to the radio broadcast.

6 Adjust the volume level.

7 Operation of tape deck

By using the controls on the tape deck, adjust the recording level. Then begin recording.

Tape-to-tape recording

By using two tape decks, tape-to-tape recordings can be made.

1. Connection

Connect a playback tape deck to the "AUX/CD/VIDEO" terminal on the rear panel of this unit.

2. Operation

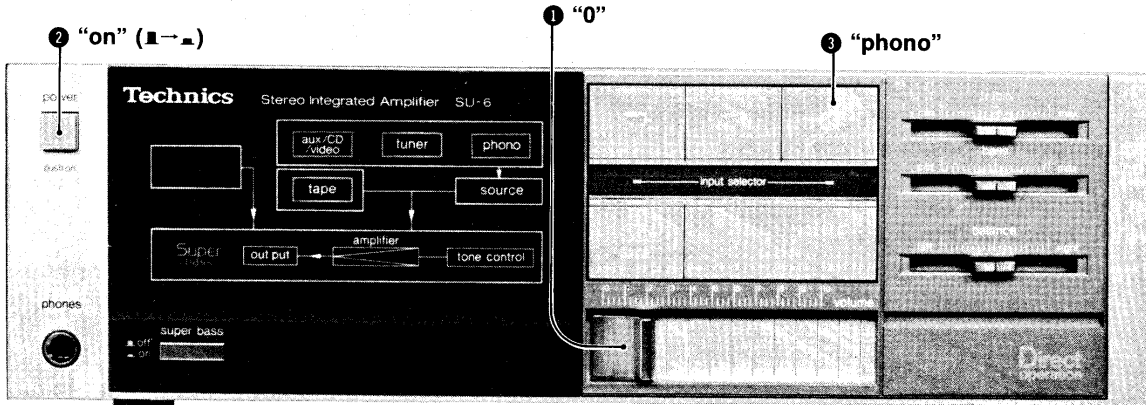
According to step 3 above, select "aux/CD/video", and playback, using a playback tape deck according to step 5.

SYNCHRO-RECORDING

Synchro-recording from a turntable

When a turntable from which synchro-recordings are possible is connected, the tape recording will begin at the moment when the stylus descends to the disc surface, and will stop when the stylus is lifted from the disc surface.

"Synchro-recording" is a convenient feature which can be used to automatically begin tape recording at the moment when a turntable or compact-disc player performance begins. Before beginning the recording, be sure to adjust the recording level. Note that synchro-recording is only possible when using a Technics turntable or compact disc player which has the synchro-recording terminals.



4 Operation of tape deck

By using the controls on the tape deck, adjust the recording level.

5 Prepare the turntable for disc play.

6 The tape recording will begin when the "start" button on the turntable is pressed.

Synchro-recording from a compact-disc player

When a compact-disc player from which synchro-recordings are possible is connected, the tape recording will begin at the moment the compact disc begins to rotate, and will stop when the disc stops.

In step 3 above, press the "aux/CD/video" button; in step 5, prepare the compact-disc player for disc play; and in step 6, press the "play" button of the compact-disc player.

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power supply and short-circuit of power supply capacitors (C406 and C407, 6800 μ F) at resistance (about 10 Ω , 5W) in order to discharge the charged voltage. Do not short between C406 and C407 by screwdriver. It may damage the component.
2. Before turning on the power supply after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current is free of abnormality. The consumed current at 60Hz/50Hz in no signal mode is shown below with respect to supply voltage 110V/120V/220V/240V.

Power supply voltage		AC110V	AC120V	AC220V	AC240V
Consumed current	50 Hz	230 ~ 460mA	220 ~ 440mA	125 ~ 250mA	110 ~ 220mA
	60 Hz	225 ~ 450mA	210 ~ 420mA	120 ~ 240mA	105 ~ 210mA

DISASSEMBLY INSTRUCTIONS

How to remove the cabinet [Fig. 1]

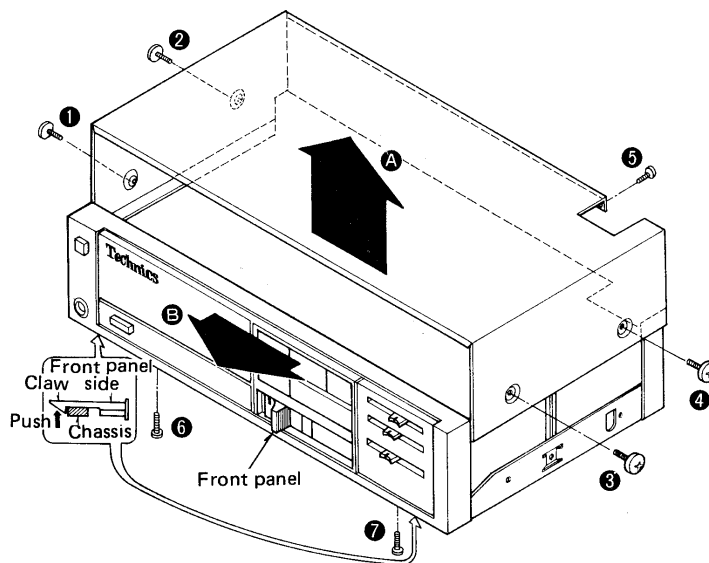
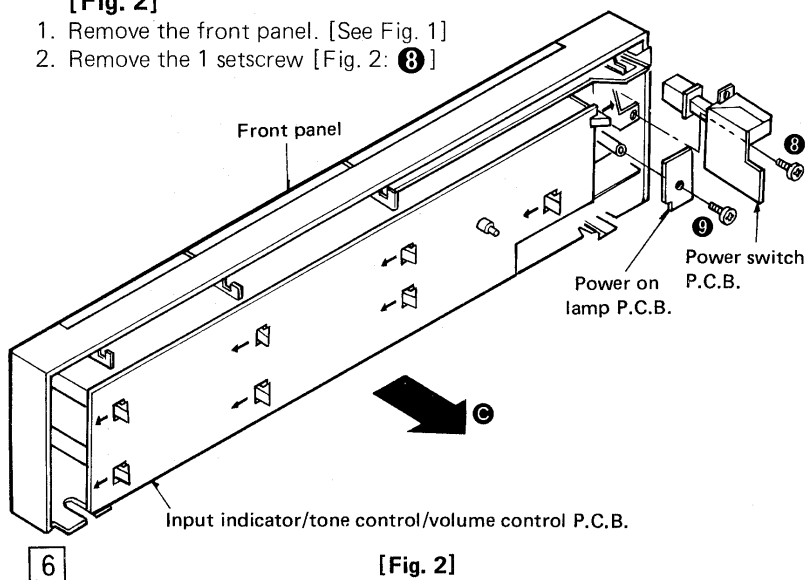
1. Remove the 5 setscrews [Fig. 1: ① ~ ⑤] of the cabinet.
2. Remove the cabinet upward. [See Fig. 1: A]

How to remove the front panel [Fig. 1]

1. Remove the cabinet. [See Fig. 1]
2. Remove the screws ⑥, ⑦, and two claws at the bottom of front panel.
3. Remove the front panel in the direction of the arrow ③ in Fig. 1.
(Remove the connector of flat cable as needed. When removing, put a mark on it to prevent faulty insertion.)

How to remove the power switch P.C.B. [Fig. 2]

1. Remove the front panel. [See Fig. 1]
2. Remove the 1 setscrew [Fig. 2: ⑧]



[Fig. 1]

How to remove power "on" lamp P.C.B. [Fig. 2]

1. Remove the front panel. [See Fig. 1]
2. Remove the 1 setscrew [Fig. 2: ⑨]

How to remove the input indicator/tone control/volume control P.C.B. [Fig. 2, 3]

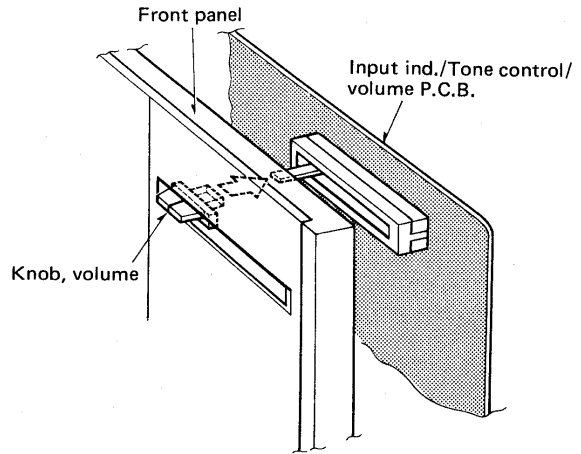
1. Remove the front panel. [See Fig. 1]
2. Remove the power switch P.C.B. [See Fig. 2]
3. Release the 8 claws in the direction of arrow ④ and pull out the P.C.B. [Fig. 2]

NOTE:

When fitting the front panel, match the depressions of knobs with the projections on the volume sides of sound volume and tone control. [See Fig. 3]

● **How to remove the input selector switch P.C.B. [Fig. 4]**

1. Remove the front panel. [See Fig. 1]
2. Remove the input indicator/tone control/volume control P.C.B. [See Fig. 2, 3]
3. Remove the 2 setscrews [Fig. 4: ⑩, ⑪] and release the 4 claws in the direction of arrow ④, and pull out the P.C.B.



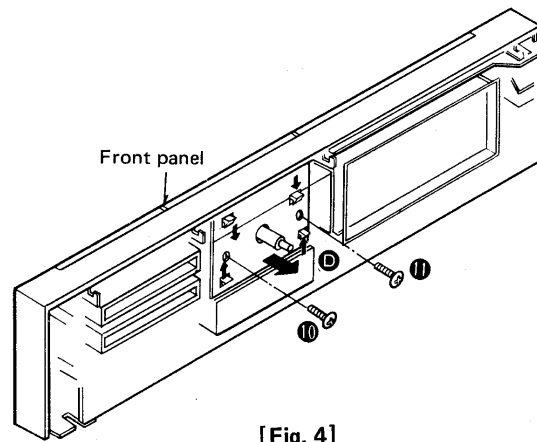
[Fig. 3]

● **How to remove the power IC. [Fig. 5]**

1. Remove the cabinet [See Fig. 1]
2. Remove the screws ⑫ ~ ⑭ (⑬ and ⑭ are red) and shift the main P.C.B. toward the rear panel in the direction of arrow ⑤ to remove it upward from the chassis.
3. Unsolder of the power IC.
4. Remove the 2 setscrews [Fig. 5: ⑮, ⑯] used to secure the power IC on the heat sink, and then pull the power IC.

NOTE:

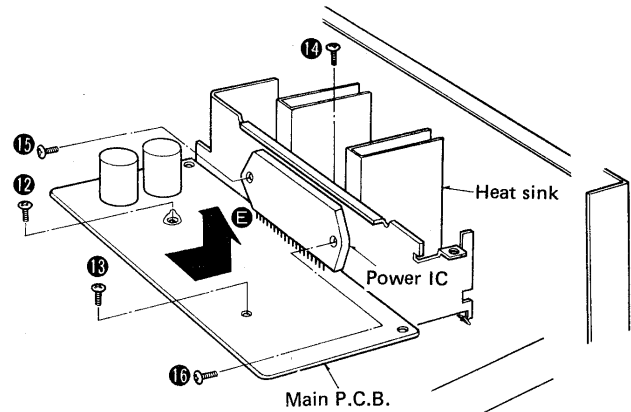
When mounting the power IC, apply silicone compound or equivalent heat diffuser to the rear side of power IC, and then follow the step 1 ~ 3 reversely.



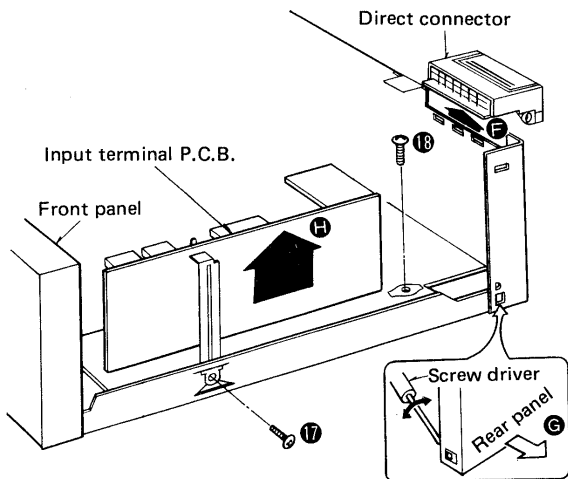
[Fig. 4]

● **How to remove the input terminal P.C.B. [Fig. 6 and Fig. 7]**

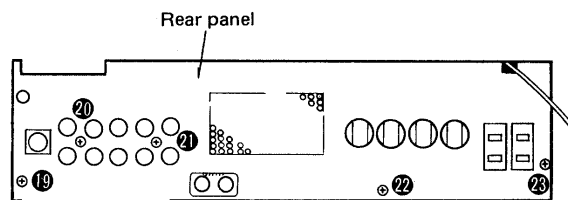
1. Remove the cabinet. [See Fig. 1]
2. Remove the direct connector in the direction of arrow ⑥ [See Fig. 6]
3. Remove the 2 setscrews. [Fig. 6: ⑰, ⑱]
4. Remove the 5 setscrews. [Fig. 7: ⑲ ~ ⑳]
5. Remove the stopper on either side of rear panel by use of a screwdriver, and then remove the rear panel in the direction of arrow ⑦. [See Fig. 6]
6. Remove the input terminal P.C.B. in the direction of arrow ⑧. [See Fig. 6]



[Fig. 5]



[Fig. 6]



[Fig. 7]

• For United Kingdom

The "EK" indication is shown on the name plate.

Important

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this unit may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

• For Australia

For your safety

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the unit must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the unit operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

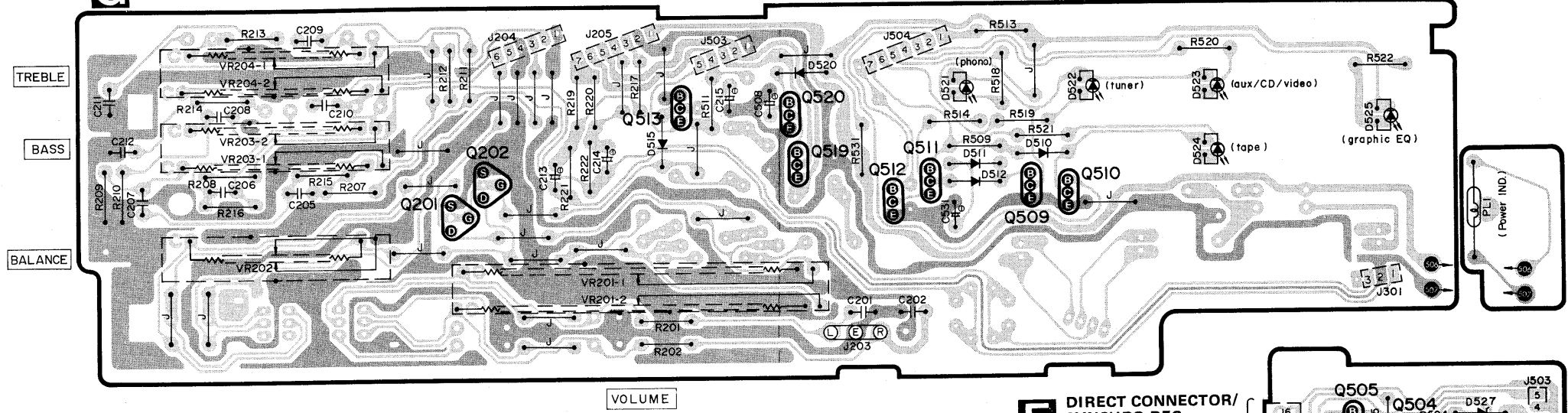
■ TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S

<table border="1"> <tr> <td>AN7062</td> <td>18Pin</td> </tr> <tr> <td>SVITC9151P</td> <td>24Pin</td> </tr> </table>		AN7062	18Pin	SVITC9151P	24Pin	<p>SVINJ4559DDM</p>	<p>SVISTK2028B</p>
AN7062	18Pin						
SVITC9151P	24Pin						
<p>AN7072N</p>	<p>UN4111, UN4211</p>	<p>2SA992, 2SA1015</p>	<p>2SK301</p>				
<p>2SD1265</p>	<p>MA162A, MA27W-A</p>	<p>MA150</p>	<p>MA1160M, MA1150M, MA1047M</p>				
<p>SVDS2V20</p>	<p>SVDSL31MC3, SVDSL31YC3</p>						

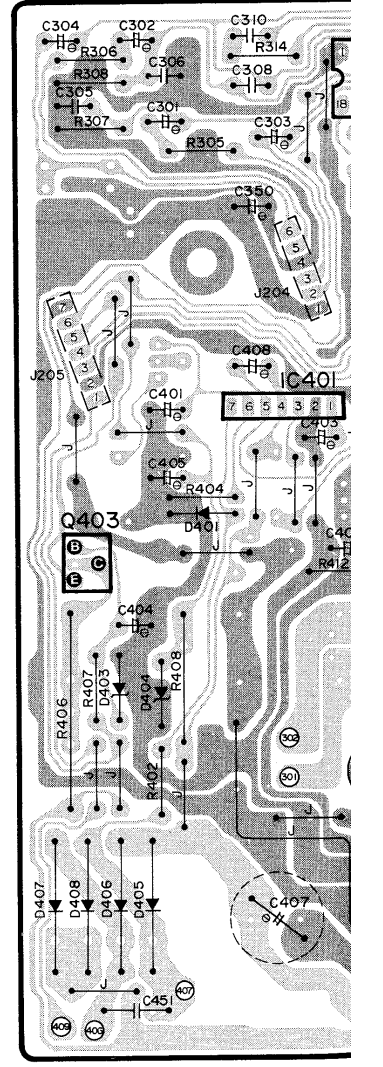
PRINTED CIRCUIT BOARDS

Ground (Earth) lines

G FUNCTION P.C.B.

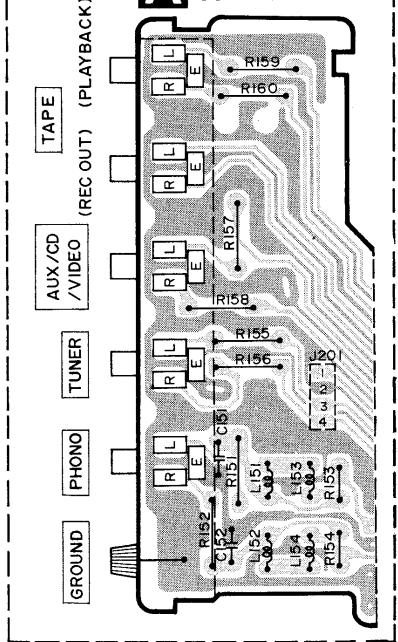


H VOLTAGE AMP/MAIN AMP/REGULATOR/POWER SUPPL

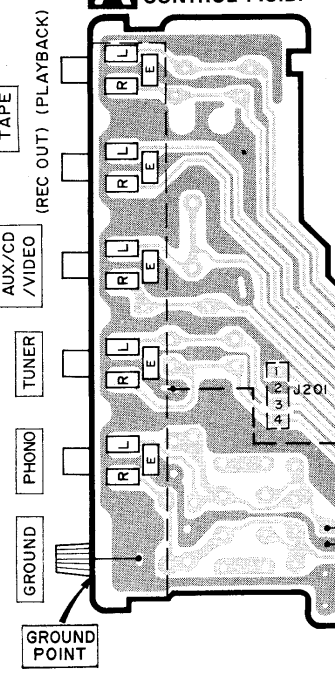


Product for [EGA] only

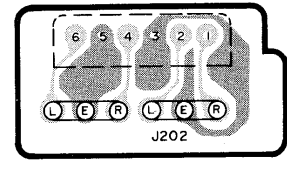
A INPUT/OPERATION CONTROL P.C.B.



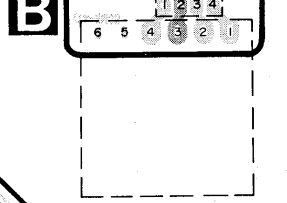
A INPUT/OPERATION CONTROL P.C.B.



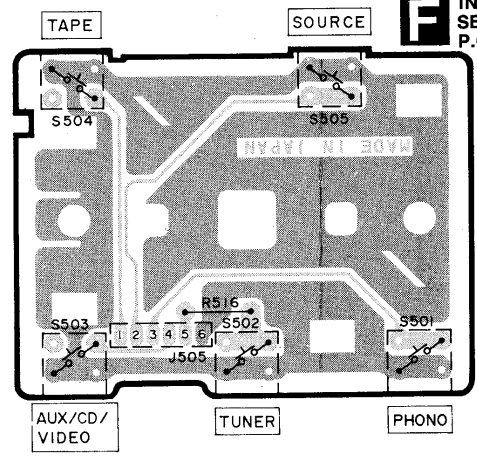
C DIRECT CONNECTOR



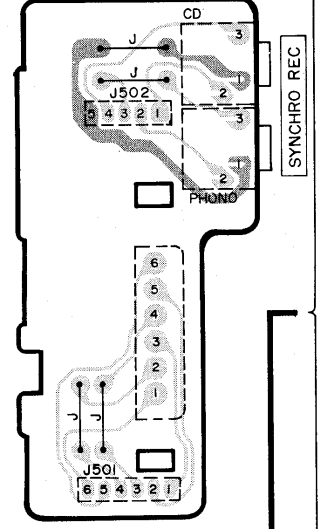
B DIRECT CONNECTOR



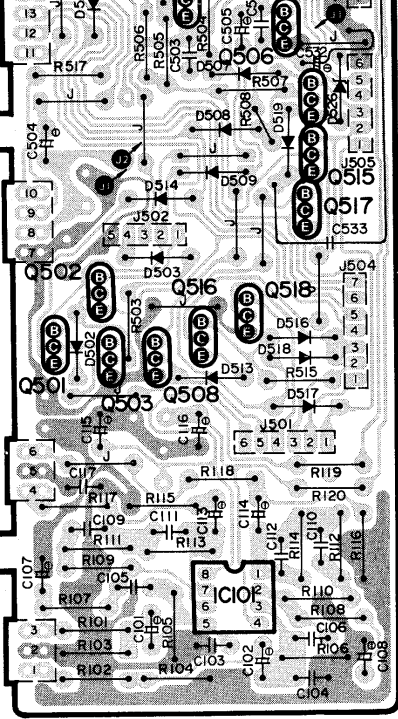
F INPUT SELECTOR P.C.B.



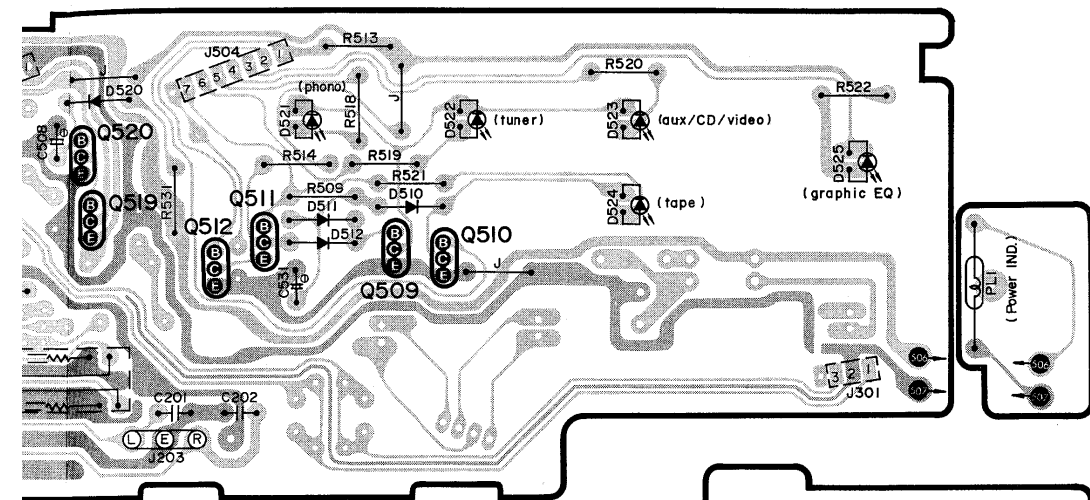
E DIRECT CONNECTOR/ SYNCHRO REC TERMINAL P.C.B.



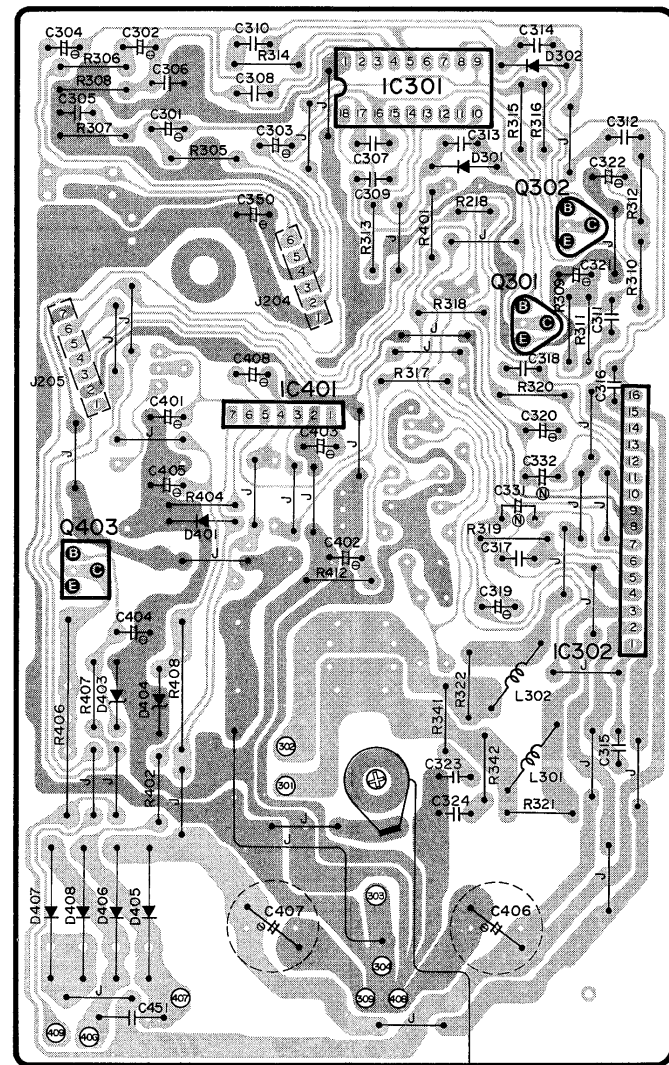
E DIRECT CONNECTOR/ SYNCHRO REC TERMINAL P.C.B.



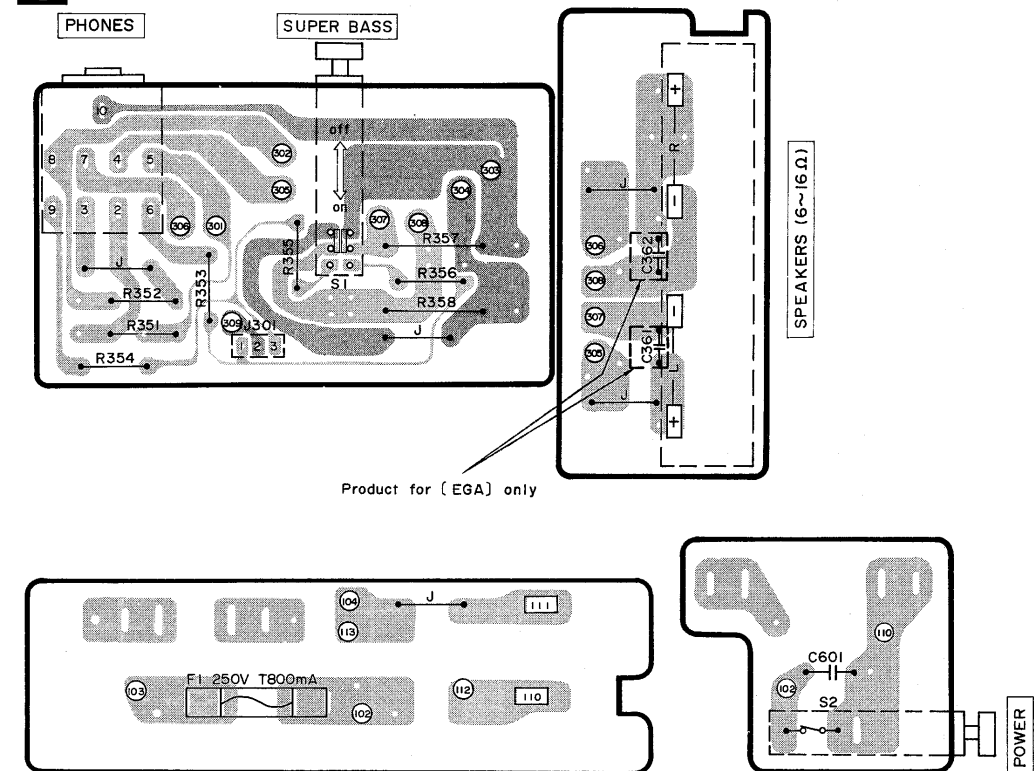
D EQUALIZER/OPERATION CONTROL P.C.B.



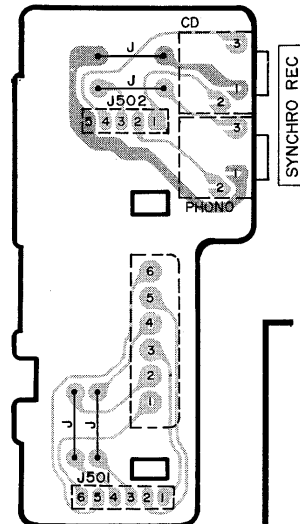
H VOLTAGE AMP/MAIN AMP/PROTECTION/REGULATOR/POWER SUPPLY P.C.B.



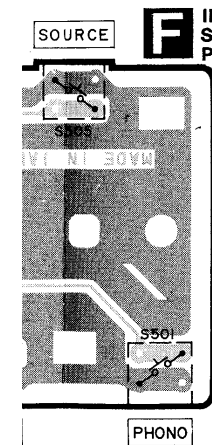
I SUPER BASS/HEADPHONES P.C.B.



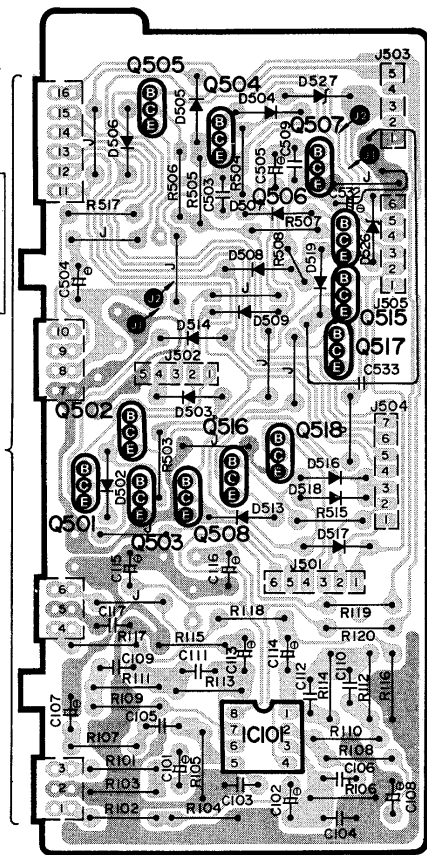
E DIRECT CONNECTOR/SYNCHRO REC TERMINAL P.C.B.



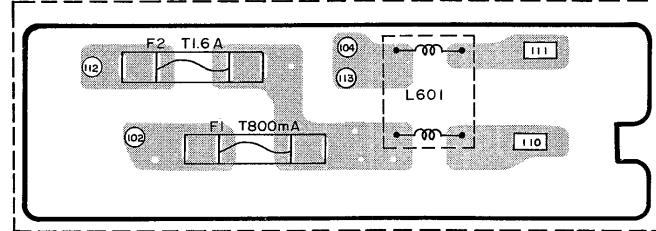
F INPUT SELECTOR P.C.B.



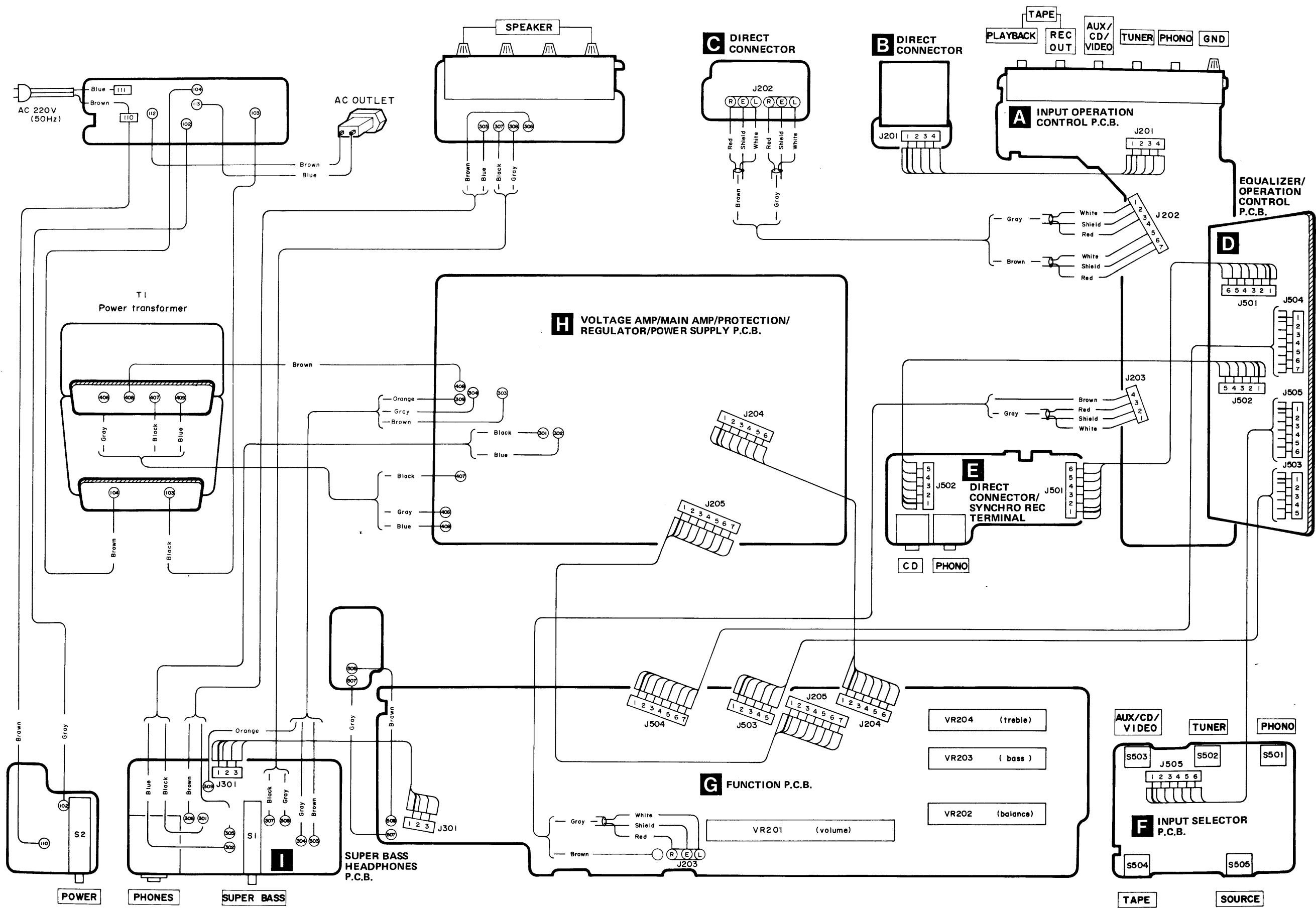
D EQUALIZER/OPERATION CONTROL P.C.B.



Product for (EGA),(EW) only



CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Top View)



POWER AMPLIFIER PROTECTION

Operational description of IC(IC401) for muting (power ON/OFF, overload detection)

* Muting with power "ON"

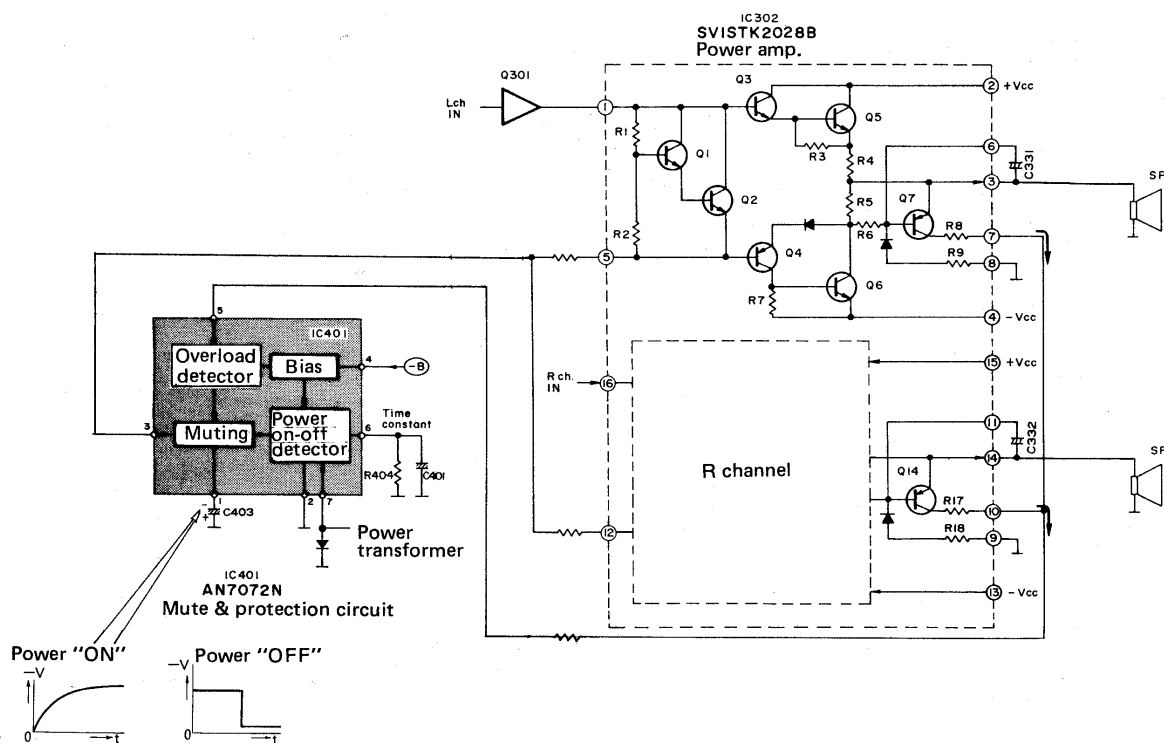
1. With power "ON", negative voltage is applied to terminal ⑦ of IC401.
2. Subsequently, capacitor (C403) connected to terminal ① is charged, and the voltage at terminal ① gradually increases.
3. When the voltage becomes nearly $-4V$ (about 5 sec. after power "ON"), the muting circuit turns "ON" and then the voltage at terminal ③ becomes $-29.8V$.
4. IC302 is operated since terminal ③ is connected to power IC (IC302).

* Muting with power "OFF"

1. With power "OFF", capacitor (C403) connected to terminal ① is discharged.
2. Consequently, the voltage at terminal ① decreases, and the muting circuit in IC turns "OFF".
3. When the muting circuit turns "OFF", the voltage at terminal ③ becomes $0V$, causing IC302 to stop operating.

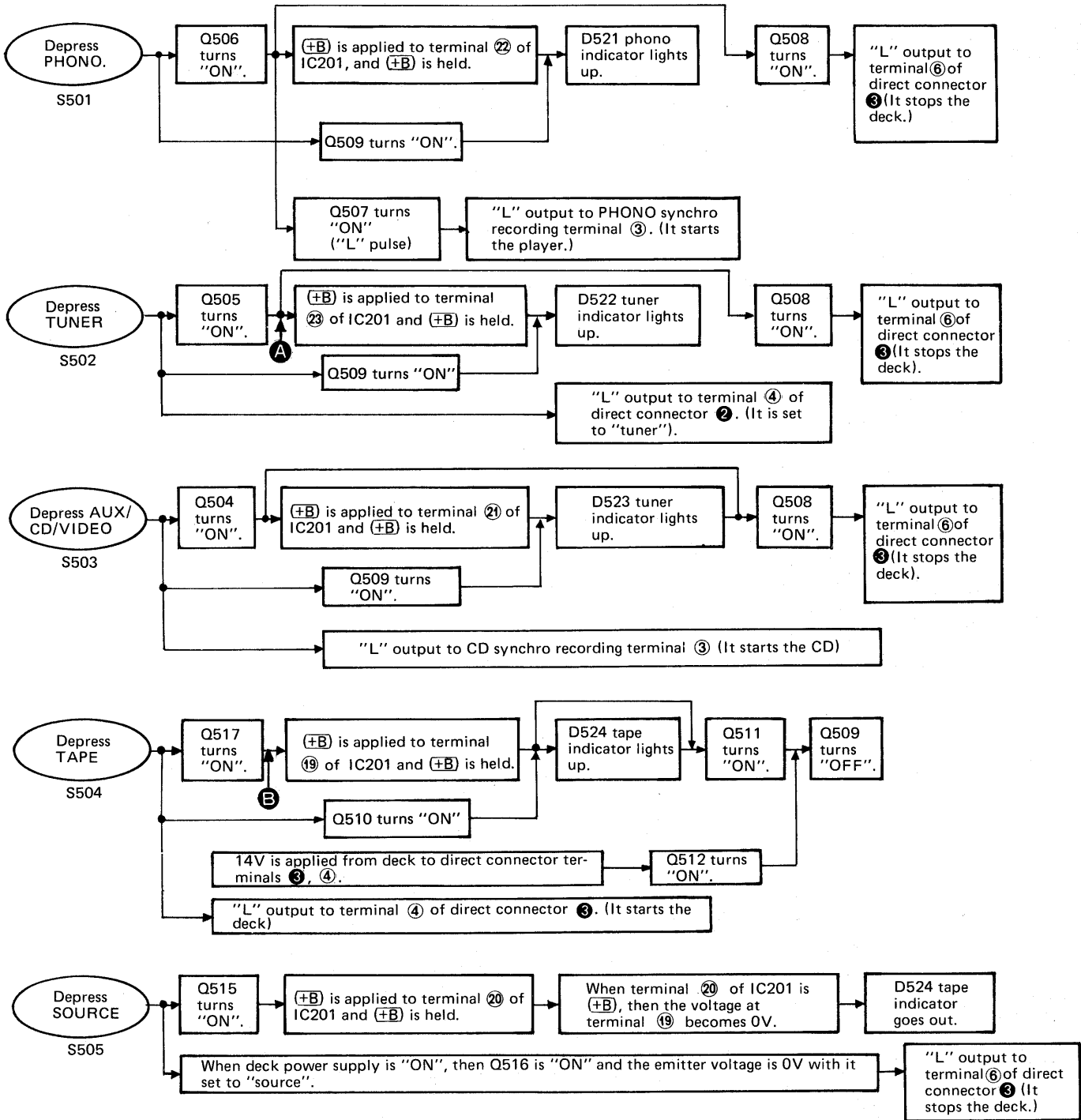
* Muting with power amplifier overloaded

1. If the speaker terminals are short-circuited or a speaker whose impedance is less than the rating of this unit is used, then excessive current will flow into power transistors Q5 and Q6, causing the voltage across emitter resistor R5 to increase.
2. As the voltage across R5 increases, overload detection transistor Q7 turns "ON".
3. Terminal ⑤ of IC401 has negative voltage supplied from the bias current of IC401. And when Q7 turns ON, the potential at terminal ⑤ of IC401 decreases (nearly $0V$). When the potential difference between terminals ⑤ and ④ of IC401 exceeds $0.6V$, the muting circuit turns "OFF" and the voltage at terminal ③ becomes $0V$.

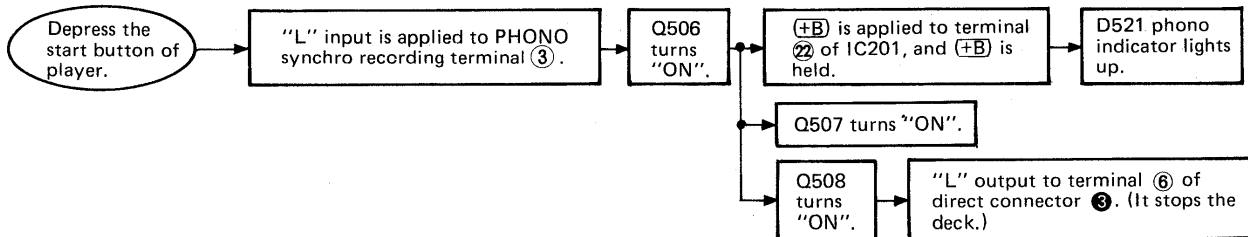


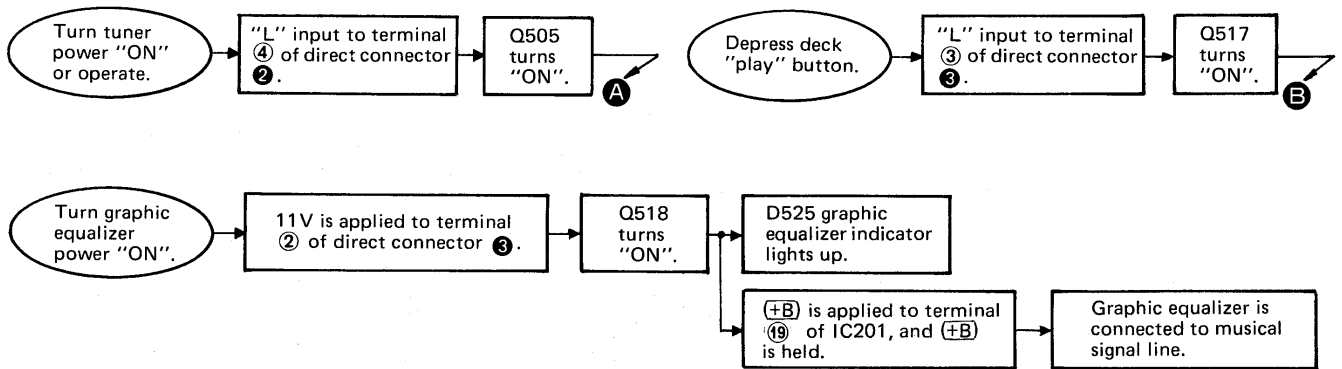
OPERATION CONTROL CHART

Operation of This Unit

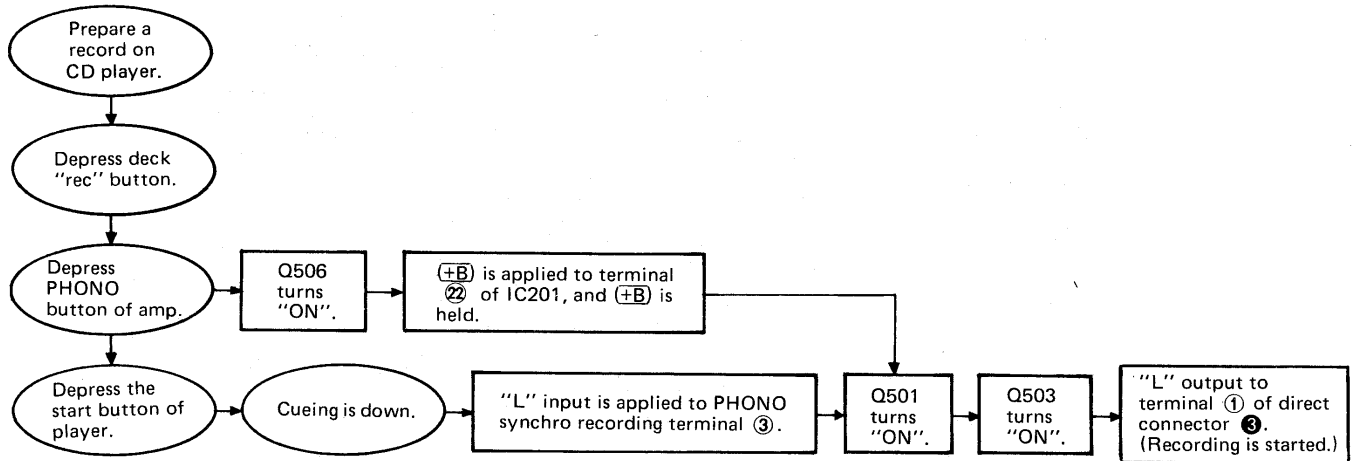


Operation of Other Equipment

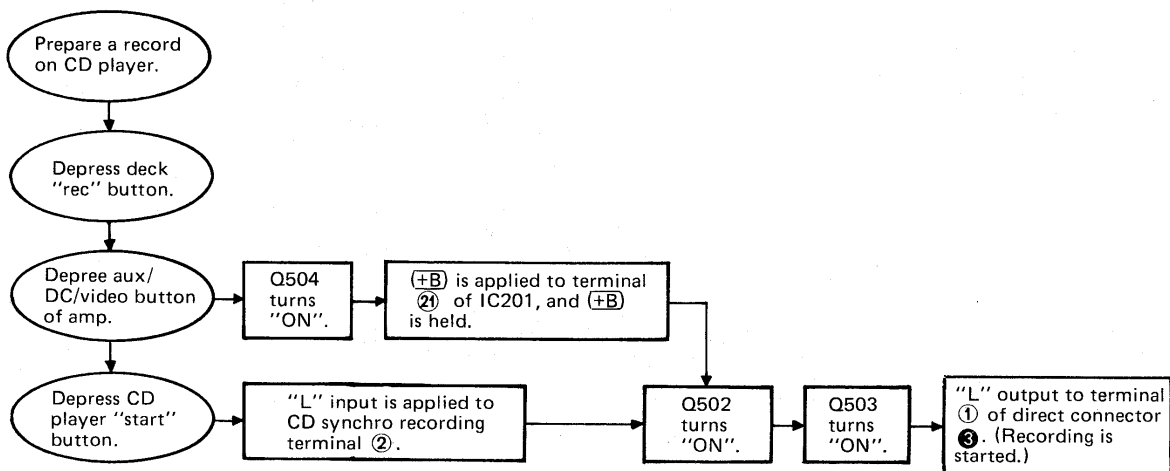




Synchro Recording of Player



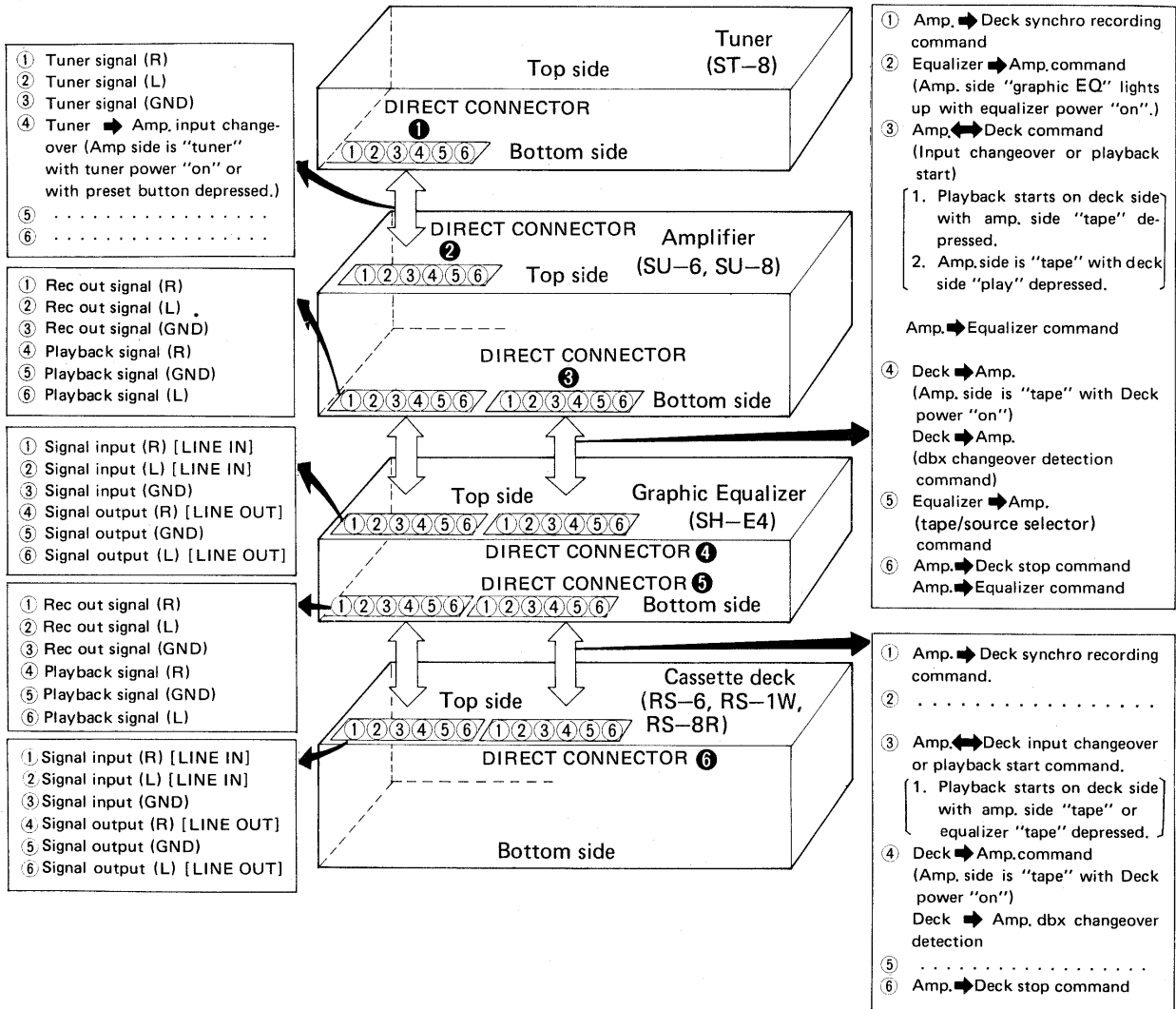
CD Synchro Recording



TERMINAL FUNCTION OF DIRECT CONNECTOR

(.) Terminals not used.

(.) Terminals not used.



DIRECT CONNECTOR 1

★With tuner power switch turned "on" or a broadcasting station selected —

- ① ~ ③ 0V ④ 7.4V (instant) ⑤, ⑥ 0V

(Note) DC 14V is applied to terminal ④ from amp. side. So, apply DC 14V to terminal ④ when checking.

DIRECT CONNECTOR 2

★With amp. power switch turned "on" and input set to "tuner" —

- ① ~ ③ 0V ④ 7.4V (instant) ⑤, ⑥ 0V

DIRECT CONNECTOR 3

★With amp. power switch turned "on" and input set to "tape" —

- ①, ② 0V ③ 13.2V ④ 0V ⑤ 10V ⑥ 0V

★With amp. power switch turned "on" and input set to "tuner" —

- ① 7V ② 0V ③ 4V ④ 11.8V ⑤ 4V ⑥ 5.5V

★With amp. and cassette deck connected by direct connector, power switch turned "on", and amp. input set to "tape" —

- ① 5.5V ② 4.7V ③ 0V ④ 4.6V ⑤ 10.4V ⑥ 13.6V

★With amp. and cassette deck connected by direct connector, power switch "on", and cassette deck "play" button depressed —

- ① 5.5V ② 4.5V ③ 11.9V ④ 4.3V ⑤ 10.3V
- ⑥ 3.9V

DIRECT CONNECTOR 4

★With graphic equalizer power switch turned "on" and tape monitor switch set to "source" —

- ① 0V ② 14.5V ③ 7V ④ ~ ⑥ 0V

★With graphic equalizer power switch turned "on" and tape monitor switch set to "tape" —

- ① 0V ② 14.5V ③ ~ ⑥ 0V

DIRECT CONNECTOR 5

★With graphic equalizer power switch turned "on" and tape monitor switch set to "source" —

- ①, ② 0V ③ 7V ④ ~ ⑥ 0V

★With graphic equalizer power switch turned "on" and tape monitor switch set to "tape" —

- ① ~ ⑥ 0V

DIRECT CONNECTOR 6

★With cassette deck power switch turned "on" —

- ① 5.5V ② 0V ③ 4.9V ④ 5.5V ⑤, ⑥ 0V

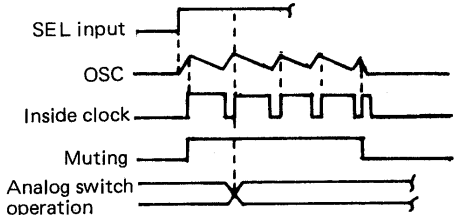
★With cassette deck power switch turned "on" and "play" button depressed —

- ① 5.5V ② 0V ③ 4.9V ④ 5.5V ⑤ 0V ⑥ 4.9V

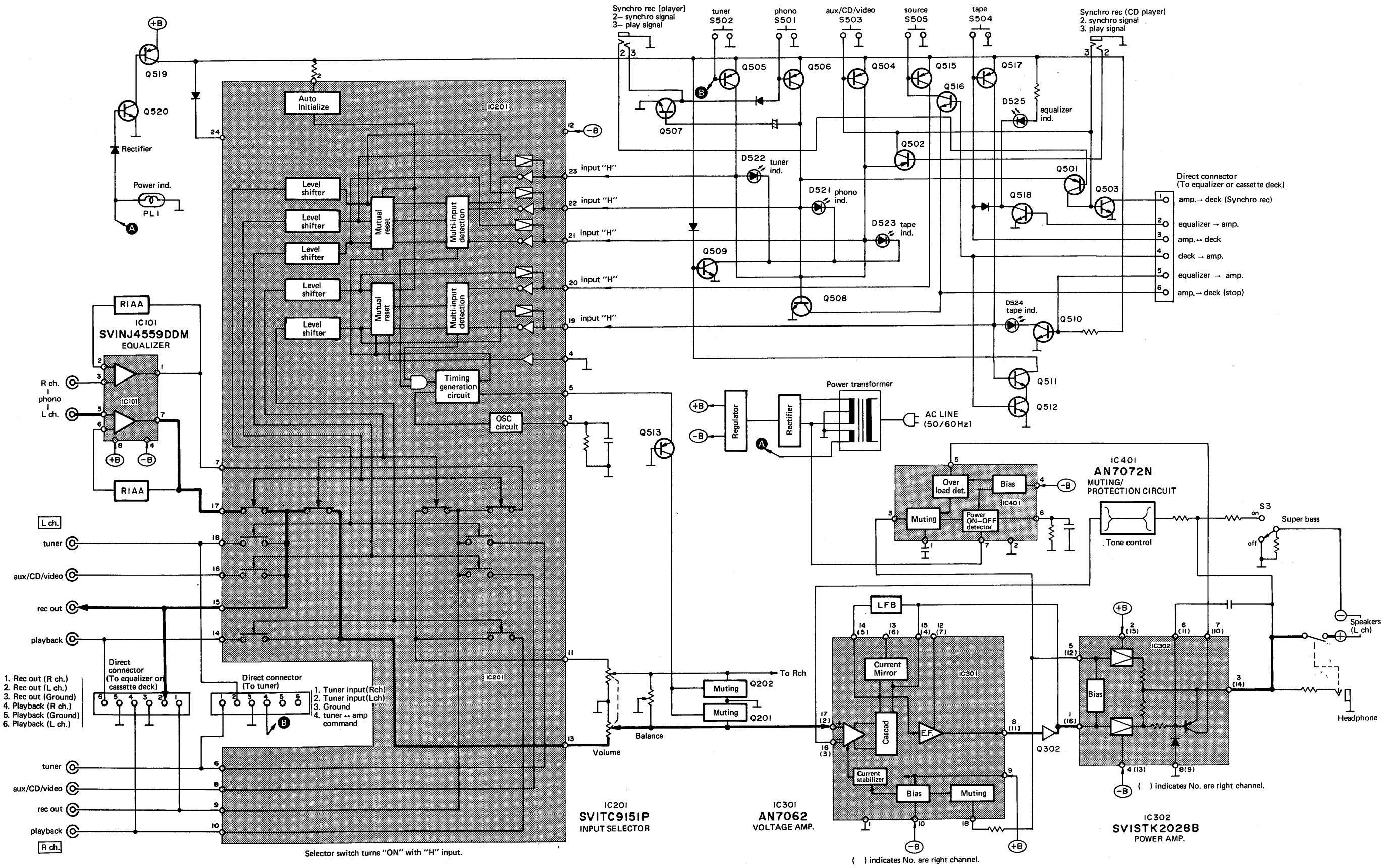
★With noise reduction switch of cassette deck set to "dbx" —

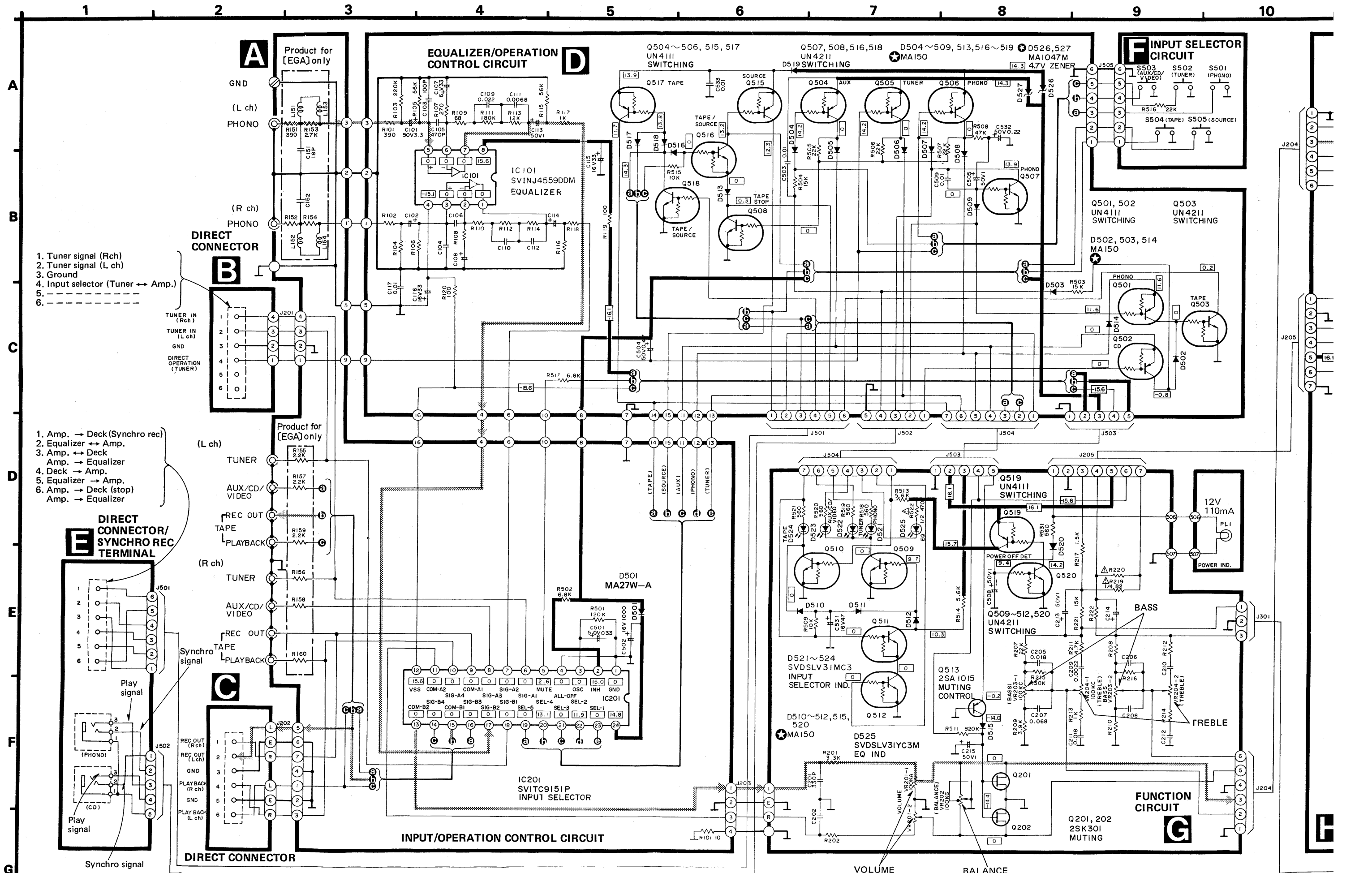
- ① 5.5V ② ~ ⑥ 0V

FUNCTION OF TERMINAL (FUNCTION SELECTOR IC201)

Pin No.	Mark	Description of terminal
1	GND	Ground terminal.
2	INH	Inhibit input terminal Normal operation at "H" level, and inhibit mode at "L" level.
3	OSC	C · R connection terminal for oscillator Muting time and analog switch timing are set according to the frequency of this oscillator. Usually, oscillator is stopped but starts oscillating with SEL input, and stops after delivery of 5 clock output.
4	ALL-OFF	OFF assigning input terminal for all analog switches. When this terminal is at "H" level, all analog switches turn OFF.
5	MUTE	Muting signal output terminal. This terminal is at "H" level for a specific period of time when select input (SEL-1 ~ SEL-5) terminals receive "H" level, and analog switches are operated within that period. Muting output time can be freely designed according to OSC frequency. 
6	SIG-A1	Signal input terminal 1. (Tuner input) With SEL-1 selected, analog switch 1 turns ON, and then it conducts between this terminal and COM-1 terminal.
18	SIG-B1	
7	SIG-A2	Signal input terminal 2. (Phono input) With SEL-2 selected, analog switch 2 turns ON, and then it conducts between this terminal and COM-1 terminal.
17	SIG-B2	
8	SIG-A3	Signal input terminal 3. (Aux/CD/Video input) With SEL-3 selected, analog switch 3 turns ON, and then it conducts between this terminal and COM-1 terminal.
16	SIG-B3	
9	COM-A1	Analog switch common terminal 1. (Rec out) Analog switch common to SIG ₁ ~ SIG ₃ .
15	COM-B1	
10	SIG-A4	Signal input terminal 4. (Playback) With SEL-5 selected, analog switch 5 turns ON, and then it conducts between this terminal and COM-2 terminal. With SEL-4 selected, analog switch 4 turns ON, and then it conducts between this terminal and then analog switch 5 turns off.
14	SIG-B4	
11	COM-A2	Analog switch common terminal 2. Common terminal of analog switches 4 and 5.
13	COM-B2	
12	Vss	Apply -15V.
19	SEL-5	Select input terminal of each analog switch. When SEL-1 ~ SEL-5 terminals are at "H" level, each analog switch selected turns ON. SEL-1, SEL-2, SEL-3, and SEL-4, SEL-5 are of mutual reset types, and are OFF except in case of selected input. This terminal is an I/O terminal, also used for driver output for display. (LED driver is turned ON by inside latch circuit with "H" level input, and it is fixed at "H" level even when shifted to "L" level.)
20	SEL-4	
21	SEL-3	
22	SEL-2	
23	SEL-1	
24	VDD	Apply 15V.

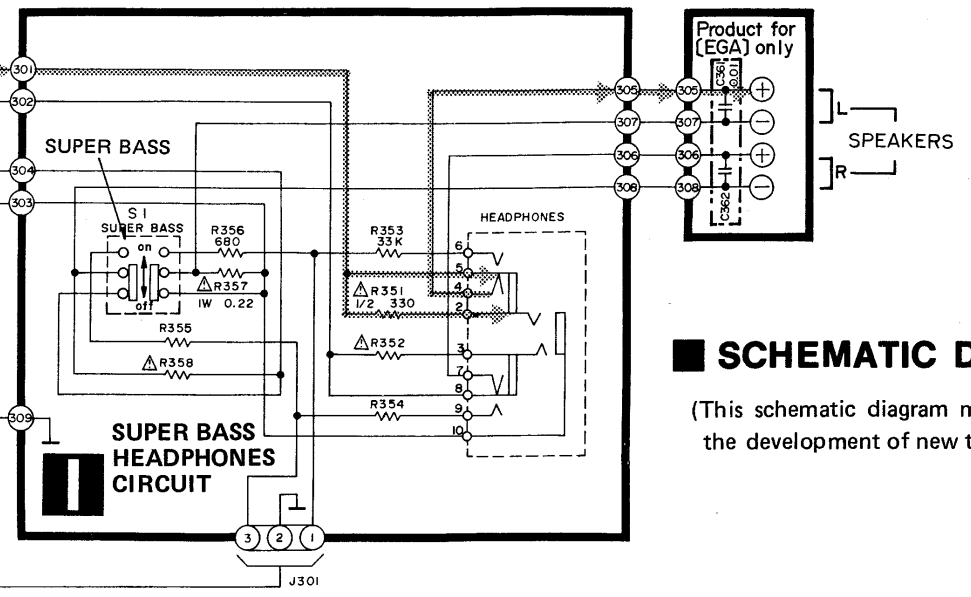
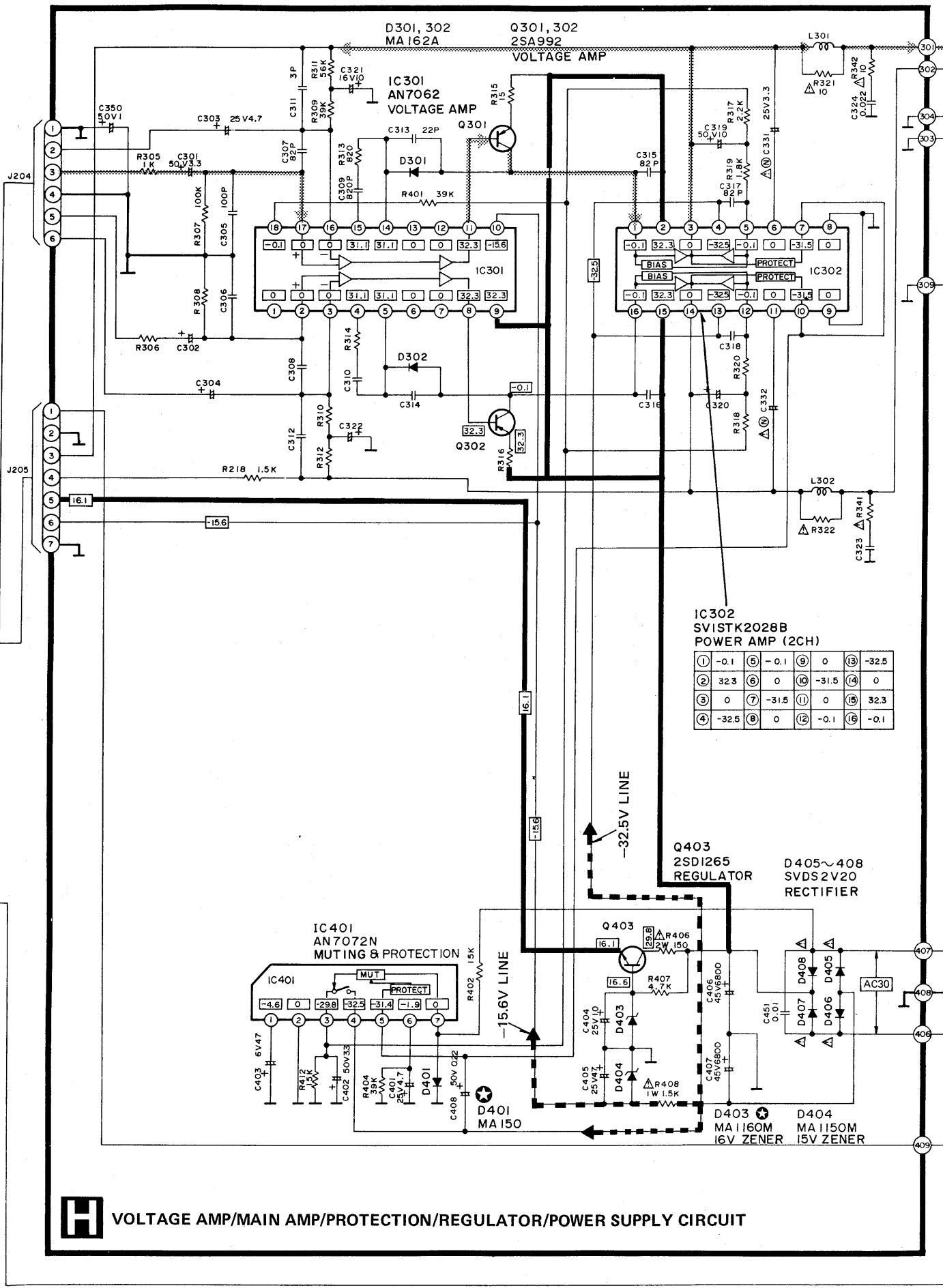
BLOCK DIAGRAM





- 1. Tuner signal (Rch)
- 2. Tuner signal (L ch)
- 3. Ground
- 4. Input selector (Tuner ← Amp.)
- 5. -----
- 6. -----

- 1. Amp. → Deck (Synchro rec)
- 2. Equalizer ↔ Amp.
- 3. Amp. → Deck
- 4. Amp. → Equalizer
- 5. Equalizer → Amp.
- 6. Amp. → Deck (stop)
- Amp. → Equalizer



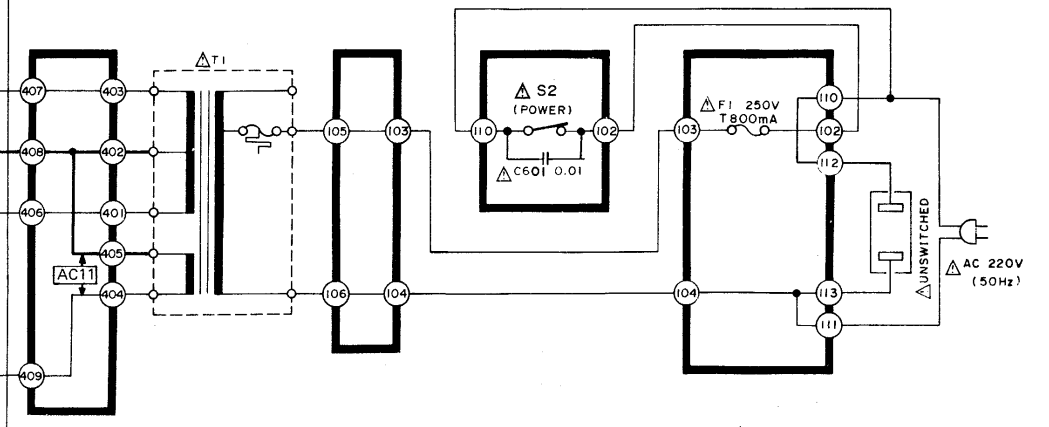
SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

• The part No. of transistors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the Part No. with \oplus mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.

Notes:

- S3 : Super bass switch in "off" position.
off \leftrightarrow on
- S4 : Power switch in "on" position.
- S501 ~ 503 : Input selector switch in "phono" position.
S501: phono, S502: tuner, S503: aux/CD/video
- S504, 505 : Tape-monitor selector switch in "source" position.
S504: tape, S505: source
- S506 (XA) only : Voltage selector switch in "220V" position.
120V \leftrightarrow 110V \leftrightarrow 220V \leftrightarrow 240V
- Same circuit is used for both L and R channels. For the resistance and capacity of R channel (lower of circuit diagram), refer to L channel. For the voltage value, refer to R channel.
- Indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Phono signal lines of left channel.
- Positive (+B) voltage lines.
- Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.



- This is the basic circuit diagram (For continental Europe) of this unit. Note that part of the circuit is subject to change depending on the areas.
- Regarding the circuits to be changed in the basic circuit diagram (For continental Europe) and related areas [EK],[XA],[XL] and [EGA] refer to the separate service manual (Order No. HAD83122678C8-A).

RESISTORS & CAPACITORS

- Notes:**
- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 - Important safety notice: Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
 - The "S" mark is service standard parts and may differ from production parts.
 - The unit of resistance is Ω (ohm),
K = 1000 Ω , M = 1000k Ω .
 - The unit of capacitance is μ F (microfarad).
P = 10⁻⁶ μ F
 - Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.

Resistor Type	Wattage	Tolerance
ERD : Carbon	25 : 1/4W	J : $\pm 5\%$
ERG : Metal Oxide	1 : 1W	G : $\pm 2\%$
ERX : Metal Film	2 : 2W S1 : 1/2W	

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic	1A : 10V	1H : 50V	C : $\pm 0.25\mu$ F
ECCD : Ceramic	1C : 16V	KC : 400V AC	J : $\pm 5\%$
ECKD : Ceramic	1E : 25V	2H : 500V DC	K : $\pm 10\%$
ECQM : Polyester	1H : 50V		Z : +80%, -20%
ECET : Electrolytic	50 : 50V		P : +100%, -0%
ECEA..... N: Non Polar Electrolytic	25 : 25V		
ECQE : Polyester	45 : 45V		

RESISTORS

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R101, 102	ERD25FJ391	390	R201, 202	ERD25FJ332	3.3K	R317, 318	ERD25FJ222	2.2K	R502	ERD25FJ682	6.8K
R103, 104	ERD25TJ224	220K	R207, 208	ERD25TJ223	22K	R319, 320	ERD25FJ182	1.8K	R503, 504	ERD25TJ153	15K
R105, 106	ERD25TJ563	56K	R209, 210	ERD25FJ392	3.9K	R321, 322	ERD25FJ100	10	R505, 506	ERD25TJ223	22K
R107, 108	ERD25FJ271	270	R211, 212	ERD25FJ472	4.7K	R341, 342	ERD25FJ100	10	R507	ERD25TJ223	22K
R109, 110	ERD25FJ680	68	R213, 214	ERD25FJ102	1K	R351, 352	ERDS1FJ331	330	R508	ERD25FJ473	47K
R111, 112	ERD25TJ184	180K	R215, 216	ERD25TJ154	150K	R353, 354	ERD25TJ333	33K	R509	ERD25FJ103	10K
R113, 114	ERD25TJ123	12K	R217	ERD25FJ152	1.5K	R355, 356	ERD25FJ681	680	R511	ERD25TJ824	820K
R115, 116	ERD25TJ563	56K	R218	ERD25FJ152	1.5K	R357, 358	ERX1ANJR22	0.22	R513, 514	ERD25FJ562	5.6K
R117, 118	ERD25FJ102	1K	R219, 220	ERD25FJ820	82	R401	ERD25TJ393	39K	R515	ERD25FJ103	10K
R119, 120	ERD25FJ101	100	R221, 222	ERD25TJ153	15K	R402	ERD25TJ153	15K	R516	ERD25TJ223	22K
R151, 152	ERD25FJ391	390	R305, 306	ERD25FJ102	1K	R404	ERD25TJ393	39K	R517	ERD25FJ682	6.8K
[EGA] only			R307, 308	ERD25TJ104	100K	R406	ERG2ANJ151	150	R518, 519	ERD25FJ561	560
R153, 154	ERD25FJ272	2.7K	R309, 310	ERD25TJ393	39K	R407	ERD25FJ472	4.7K	R520, 521	ERD25FJ561	560
[EGA] only			R311, 312	ERD25FJ563	56K	R408	ERG1ANJ152	1.5K	R522	ERDS1FJ471	470
R155, 156	ERD25FJ222	2.7K	R313, 314	ERD25FJ821	820	R412	ERD25TJ153	15K	R531	ERD25FJ561	560
[EGA] only			R315, 316	ERD25FJ150	15	R501	ERD25TJ124	120K			
R157, 158	ERD25FJ222	2.2K									
[EGA] only											
R159, 160	ERD25FJ222	2.2K									
[EGA] only											
R161	ERD25FJ100	10									

CAPACITORS

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
C101, 102	ECEA50Z3R3	3.3	C209, 210	ECQM1H222KV	0.0022	C321, 322	ECEA1HS100	10	C451 (other areas)	ECQE1104KN	0.1
C103, 104	ECCD1H101K	100P	C211, 212	ECQM1H183KV	0.018	C323, 324	ECKD1H223ZF	0.022	C501	ECEA1HSR33	0.33
C105, 106	ECKD1H471KB	470P	C213, 214	ECEA50Z1	1	C331, 332	ECEA1EN3R3S	3.3	C502	ECEA1AS102	1000
C107, 108	ECEA1CS330	33	C215	ECEA50Z1	1	C350	ECEA50Z1	1	C503	ECKD1H103ZF	0.01
C109, 110	ECQM1H223KV	0.022	C301, 302	ECEA50Z3R3	3.3	C361, 362	ECKD1H103ZF	0.01	C504	ECEA50ZR47	0.47
C111, 112	ECQM1H682JZ	0.0068	C303, 304	ECEA25Z4R7	4.7	[EGA] only			C505	ECEA50Z1	1
C113, 114	ECEA50Z1	1	C305, 306	ECCD1H101K	100P	C401	ECEA25Z4R7	4.7	C508	ECEA50Z1	1
C115, 116	ECEA1CS330	33	C307, 308	ECCD1H820K	82P	C402	ECEA50Z3R3	3.3	C509	ECKD1H103ZF	0.01
C117	ECKD1H103ZF	0.01	C309, 310	ECKD1H821KB	820P	C403	ECEA1AS470	47	C531	ECEA1ES470	47
C151, 152	ECCD1H180K	18P	C311, 312	ECCD1H030CC	3P	C404	ECEA1HS100	10			
[EGA] only											
C201, 202	ECKD1H331KB	330P	C313, 314	ECCD1H220K	22P	C405	ECEA1HS470	47	C532	ECEA50ZR22	0.22
C205, 206	ECQM1H183KV	0.018	C315, 316	ECCD1H820K	82P	C406, 407	ECETS45V682U	6800	C533	ECKD1H103ZF	0.01
C207, 208	ECQM1H683KV	0.068	C317, 318	ECCD1H820K	82P	C408	ECEA50ZR22	0.22	C601	ECKDKC103PF2	0.01
			C319, 320	ECEA1HS100	10	C451 (XA) only	ECKD2H103PE	0.01			

REPLACEMENT PARTS LIST

- Notes:**
- Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
 - Important safety notice: Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
 - \otimes - marked parts are used for black only, while \circ - marked parts are for silver type only.
 - Part other than \otimes - and \circ - marked are used for both black and silver type.
 - Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
 - The "S" mark is service standard parts and may differ from production parts.
 - The parenthesized numbers in the column of description stand for the quantity per set.

Black type model No. : SU-6(K)

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC101 IC101(EGA) only	SVINJ4559DDM SVINJM2043DD	Equalizer Equalizer
IC201 IC301 IC302 IC401	SVITC9151P AN7062 SVISTK2028B AN7072N	Input Selector Voltage Amp. Power Amp. Muting & Protection
TRANSISTORS		
Q201, 202 Q301, 302 Q403 Q501, 502, 504~506, 515, 517, 519 Q503, 507~512, 516, 518, 520 Q513	2SK301-S 2SA992 2SD1265-O UN4111 UN4211 2SA1015-Y	Muting Voltage Amp Regulator Switching Switching Muting Control
DIODES		
D301, 302, 401, 502~520 D403 D404 D405~408 D501 D521~524 D525 D526, 527	MA162A RD16EB MA1150M SVDS2V20 MA27W-A SVDSL31M3C3 SVDSL31Y3CM MA1047-M	Switching 16V, Zener 15V, Zener Rectifier L. E. D. (Input Selector) L. E. D. (Input Selector) 4.7V, Zener
COILS		
L151~154(EGA) only L301, 302 L601(EGA)only	ELQS181KB SLQY07G-30 SLQZ650MH49	Choke Choke Choke
TRANSFORMERS		
T1(other areas) T1(EK,XL)only T1(XA)only	SLT5M335-W SLT5M337-W SLT5M339-W	Power Source Power Source Power Source
VARIABLE RESISTORS		
VR201 VR202 VR203, 204	EWAQA6X15A15 EWANF5X15G15 EWANA6X15C15	Volume, 100kΩ(A) Balance, 100kΩ(G) Tone Control, 100kΩ(C)
LAMP		
PL1	XAMS6Q8C	12V, 110mA
FUSES		
F1 F2(EW,XA,EGA) only	XBA2C08TR0 XBA2C16TR0	250V, T800mA 250V, T1.6A
SWITCHES		
S1 S2 S501~505 S506(XA)only	SSH1127 SSH1071 SSG13 ESE37219	Super Bass Power Source Input Selector Voltage Selector
CABINET and CHASSIS PARTS		
1 1 2 3 4 4 4-1 4-1 4-2	○ SBC629 ⊗ SBC629-1 SBC489 SBC439 ○ SGWU6-SN ⊗ SGWU6-KE ○ SGU379 ⊗ SGU379-2 ○ SGX7559-2	Button, Input Selector Switch (1) Button, Input Selector Switch (1) Button, Power Switch (1) Button, Super Bass (1) Front Panel, Ass'y (Silver) (1) Front Panel, Ass'y (Black) (1) Transparent Plate (Silver Type) (1) Transparent Plate (Black Type) (1) Ornament, Super Bass(Silver Type) (1)

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
4-2 4-3 4-3 4-4 4-5 4-6 4-6 4-7 4-8 5 6 7 8 8 9 10 10(EK)only 10 10 10(EK)only 11 12(EW,XA,EGA) only 13(EK,XL)only 14 15 16(EK,XL) except 17(EK,XL) except 18 19(EK)only 19(EK,XL) except 20(EK)only 20(XL)only 20 other areas 21(EK)only 21(XL)only 21 other areas 22(EGA)only 22(EK)only 22(XL)only 22(XA)only 22 other areas 23 24 25 25 26	⊗ SGX7559-3 ○ SGX7561-6 ⊗ SGX7561-8 SBD69-1 SHR9673 ○ SGXU8-SN ⊗ SGXU8-KE SBD83-1 SHR9675-1 SMP355 SJJ63F SMPU6-SN ○ SGU381-2 ⊗ SGU381-5 SHG435 ○ SKCU6-SE ○ SKCU6-SK ⊗ SKCU6-KE ⊗ SKCU6-KK SJT347 SJT347 SMX319-3 SMX823 SUW2151 SMX319-1 SMN1865 SJJ4437-1 SJS9227 SJS9225 SHR129 SHR131 SHR127 QFC1205M QFC1207MA SJA138-3 SGPU6-SG SGPU6-SK SGPU6-SL SGPU6-SX SGPU6-SE SJS9607-1 SHR9631 ○ SHE135 ⊗ SHE135-1 SJJ3055N	Ornament, Super Bass(Black Type) (1) Ornament, Volume (Silver Type) (1) Ornament, Volume (Black Type) (1) Knob, Bass Treble, Balance (3) Holder, Knob (3) Ornament, Volume (Silver Type) (1) Ornament, Volume (Black Type) (1) Knob, Volume Control (1) Holder, Volume Knob (1) Holder, L. E. D. (1) Jack Headphone (1) Case (1) Identification Plate (Silver Type) (1) Identification Plate (Black Type) (1) Rubber (1) Cabinet, Ass'y (Silver) (1) Cabinet, Ass'y (Silver) (1) Cabinet, Ass'y (Black) (1) Cabinet, Ass'y (Black) (1) Holder, Fuse (2) Holder, Fuse (4) Insulation Plate (1) Insulation Plate (1) Bracket, Fuse P. C. B. (1) Insulation Plate (1) Bracket, AC Outlet Socket (1) Terminal Board (Speaker) (1) Socket, AC Power (1) Socket, AC Power (1) Bushing, AC Cord (1) Bushing, AC Cord (1) Bushing, AC Cord (1) AC Cord (1) AC Cord (1) AC Cord (1) Rear Panel Ass'y (1) Rear Panel, Ass'y (1) Rear Panel, Ass'y (1) Rear Panel, Ass'y (1) Rear Panel, Ass'y (1) Rear Panel, Ass'y (1) Connector Holder (1) Pin(Silver Type) (1) Pin(Black Type) (1) Terminal Board (1)

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
27 29 30 31(EX)only 31(EW)only 31(XA)only 31(XL)only 31(EK)only 31 other areas [31-1 32(XL)only	SJJ75BK SUW2107 SJS9605 SKUU6-SE SKUU6-SW SKUU6-SX SKUU6-SL SKUU6-SK SKUU6-SF [SHS2481 RJT202B	Jack, Synchro Rec (2) Bracket (1) Connector (2) Bottom Board (1) Bottom Board (1) Bottom Board (1) Bottom Board (1) Bottom Board (1) Bottom Board (1) Foot (4) Terminal (1)
SCREWS		
N1 N2 N3 N4 N4 N5 N6 N7 N8 N9 N10(XA)only N11 N12 N13(EK,XL) except N14(XL)only	⊗ XTB3+10BFZ ⊗ XTB3+16BFN XTB3+8GFZ ○ SNE2095-2 ⊗ SNE2095-3 XTB3+8F XTW3+8HFYR XTBS3+8FFYR1 ⊗ XTN3+8B XTBS3+8BFZ1 ⊗ XSN3+6BVS XTBS3+8BFYR1 ⊗ XTB3+10BFZ XTBS3+8BFZ1 ⊗ XTN3+8B	Tapping, ⊕3×10(2) Tapping, ⊕3×16(4) Tapping, ⊕3×8 (3) Tapping (Silver Type) (4) Tapping (Black Type) (4) Tapping, ⊕3×8 (4) Tapping, ⊕3×8 (1) Tapping with Detent, ⊕3×8 (2) Tapping, ⊕3×8 (3) Tapping with Detent, ⊕3×8 (6) Tapping with Detent, ⊕3×8 (2) Tapping, ⊕3×10(1) Tapping with Detent, ⊕3×8 (2) Tapping, ⊕3×8 (1)
WASHERS		
N20 N21(XA)only N22(XL)only	⊗ XWG3 XWA3B XWC3B	Plain, ϕ3 (3) Spring, ϕ3 (2) External Toothed Lock, ϕ3 (4)
NUT		
N25	⊗ XNS12	ϕ12 (1)
ACCESSORIES		
A1 A2(EK)only A3(XA)only A4(EGA)only A5(XL)only A5(XA)only A5(E)only A5(EK)only A5(EGA)only A5 other areas	SJP2257 SJP5219-1 SJP5213-1 XBA2C16TRO SQF11985 SQF11983 SQF11981 SQF11979 SQF11977 SQF11975	Cord (1) Plug Adaptor (1) Plug Adaptor (1) Fuse, 250V, T1.6A (3) Instruction Book (1) Instruction Book (1) Instruction Book (1) Instruction Book (1) Instruction Book (1) Instruction Book (1)
PACKING PARTS		
P1 P2(XL)only P2 other areas P3(XL)only P3 other areas P4(XL)only P4(EF)only P4(EK)only P4 other areas P4(EK)only P4 other areas	SPP659 SPS3917-3 SPS3917-2 SPS3919-4 SPS3919-2 SPG4723 SPG4721 SPG4719 SPG4717 SPG4729 SPG4727	Polyethylene Bag (1) Pad, Left Side (1) Pad, Left Side (1) Pad, Right Side (1) Pad, Right Side (1) Carton Box(Silver Type) (1) Carton Box(Silver Type) (1) Carton Box(Silver Type) (1) Carton Box(Silver Type) (1) Carton Box(Black Type) (1) Carton Box(Black Type) (1)

EXPLODED VIEWS

