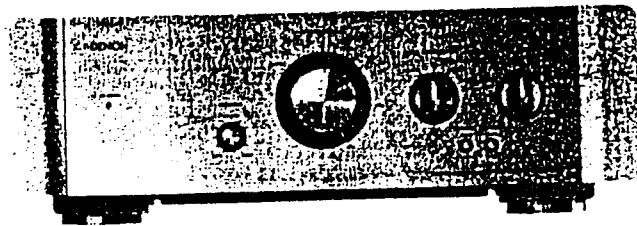


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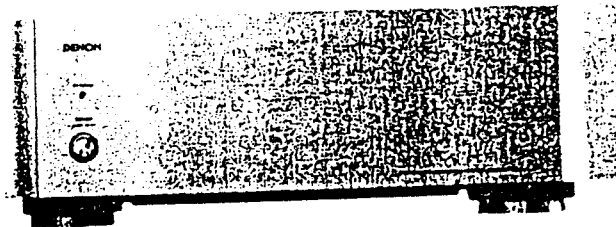
Hi-Fi Pre Amplifier

SERVICE MANUAL MODEL PRA-S1

PRE AMPLIFIER



CONTROL UNIT



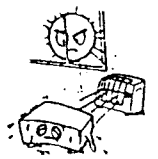
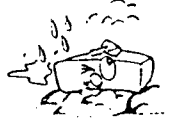

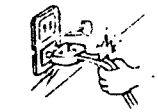


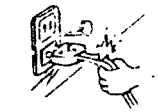


POWER UNIT

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NIPPON COLUMBIA CO., LTD.

NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION

 <ul style="list-style-type: none"> • Avoid high temperatures. Make the sufficient heat dissipation when operating on a rack. • Vermeiden Sie hohe Temperaturen. Beachten Sie, daß eine ausreichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird. • Évitez des températures élevées. Faire assurer à une température de chaleur suffisante lors de l'exploitation sur une armoire. 	 <ul style="list-style-type: none"> • Keep the set free from moisture, water and dust. Warten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern. • Préservez l'équipement contre l'humidité, l'eau et la poussière. 	 <ul style="list-style-type: none"> • Do not let foreign objects in the set. Keine fremden Gegenstände in das Gerät lassen. • Ne laissez pas des objets étrangers dans l'équipement.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Read the plug when unplugging the cord. Gehen Sie vorsichtig mit dem Netzkabel um. Nehmen Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen. • Manipuler le cordon à précaution et lire attentivement l'étiquette à l'extrémité du cordon. 	 <ul style="list-style-type: none"> • Unplug the speaker cord when not using the set for long periods of time. Warten das Gerät ohne Kopfhörer für lange Zeiträume unbenutzt und trennen Sie das Netzkabel vom Netzstecker. • Débrancher le cordon à précaution lorsque l'équipement n'est pas utilisé pendant de longues périodes. 	 <ul style="list-style-type: none"> • Do not use insecticides, benzene, and other liquids in contact with the set. Lassen Sie das Gerät fern von Insektiziden, Benzin oder Verdünnungsmitteln in Benetzung kommen. • Ne pas mettre en contact des insecticides, du benzène ou un diluant avec l'équipement.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Read the plug when unplugging the cord. Gehen Sie vorsichtig mit dem Netzkabel um. Nehmen Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen. • Manipuler le cordon à précaution et lire attentivement l'étiquette à l'extrémité du cordon. 	 <p>*For use with ventilation holes*</p> <ul style="list-style-type: none"> • Do not obstruct the ventilation holes. Die Belüftungslöcher dürfen nicht verdeckt werden. • Ne pas obstruer les trous d'aération. 	 <ul style="list-style-type: none"> • Never disassemble or modify the set in any way. Verändern Sie niemals das Gerät in irgendeiner Weise, auch wenn es nur repariert sein soll. • Ne laissez personne modifier l'équipement d'une façon ou d'une autre.

1 FEATURES

(1) Newly developed power circuit

1. A separate power supply is used to eliminate any adverse influence from the power supply section.
2. A pure power generator makes it possible to vary the power frequency, providing music reproduction with a high density unachievable on 50/60Hz AC lines.

(2) Balanced type rheostat mode attenuators

1. Newly developed balanced type rheostat mode attenuators achieved thanks to the increased performance of the electronic circuitry are used for the controls. These attenuators are the major factors for improving sound quality. In actual use, they improve the S/N ratio and keep deterioration of the sound quality due to the controls to a minimum.
2. The attenuators consist of a contact switching type switch and a high sound quality carbon resistor, and achieve far better sound quality than conventional attenuators.

(3) New inverted Σ balanced circuit and high precision balanced flat amplifier

1. A new inverted Σ balanced circuit which makes it possible to accept both balanced and unbalanced inputs is used, eliminating the need for a converter amplifier and providing simple, pure signal transfer.
2. A high precision balanced flat amplifier which improves the common mode noise elimination capacity (the greatest advantage of balanced signal transfer) is used, eliminating the need for a converter amplifier from both the balanced and unbalanced outputs.

(4) Cast aluminum chassis base.

A non-magnetic chassis base reducing mutual interference due to vibrations is used to protect the music signals against such external influences as vibrations and magnetic forces.

Balanced type rheostat mode attenuator

The dividing mode attenuators now used in audio devices have the property that the thermal agitation noise generated by the attenuator is maximum at the position at which the signal level is cut in half. Because of this, when actually listening to music, more thermal agitation noise is mixed in with the music signals than when the attenuator is at the maximum position. The rheostat mode attenuator has the property that the thermal agitation noise decreases linearly as the attenuator is turned down from the maximum position, thereby achieving an S/N ratio better than indicated in the catalog specifications when actually listening to music. The PRA-S1 uses fully balanced type rheostat mode attenuators, eliminating the influence of the signal ground and keeping the balanced transfer error in the attenuators extremely low.

2 NAMES AND FUNCTIONS OF PARTS (Refer to page 5, 7)

- ① **POWER switch**
When set to the ON (—) position, the power turns on and the muting circuit is activated for several seconds.
When set to the OFF (ㄨ) position, the power turns off.
- ② **POWER Indicator**
This indicates the set's operating status. The indicator turns green after the power turns on.
- ③ **DC OUTPUT terminals**
These are the power output terminals for the control unit.
Connect the included DC power cords between these terminals and the DC INPUT terminals ⑩ on the control unit.
- ④ **FREQUENCY SELECTOR**
Use this to select the frequency of the power unit's oscillator.
Use a flat screwdriver to change the selector's position.
Be sure to turn the power off before switching the frequency.
- 100Hz Oscillator oscillates at 100Hz.
 - 150Hz Oscillator oscillates at 150Hz.
 - 200Hz Oscillator oscillates at 200Hz.
 - 250Hz Oscillator oscillates at 250Hz.
 - 300Hz Oscillator oscillates at 300Hz.
- ⑤ **AC INPUT terminal**
Connect the included AC Power cords to this terminal.
- ⑥ **POWER indicator**
This indicates the set's operating status. The indicator flashes green for several seconds when the power is turned on and when the position of the EQ POWER switch ⑪ is changed, indicating that the muting circuit is activated. In the normal operating mode, the indicator is green when it is set to the ON (—) position.
Also, if the protective circuit is activated (due to DC output abnormal temperature rise, etc.), the indicator flashes and the output is interrupted. If this happens, turn the power off immediately, then check the connections, etc.
- ⑦ **BALANCE control**
Use this to adjust the balance between the left and right speakers. When set to the center position, the amplification is the same for the left and right speakers.
If there seems to be a difference in the output voltage of the input component for the left and right channels, turn this control clockwise (⊙) to increase the volume of the right channel, counterclockwise (⊙) to increase the volume of the left channel. (The control can be set to 11 positions, including the central position.)
- ⑧ **ATTENUATOR**
Use this to adjust the volume.
Turn clockwise (⊙) to increase the volume, counterclockwise (⊙) to decrease it.

NOTE:

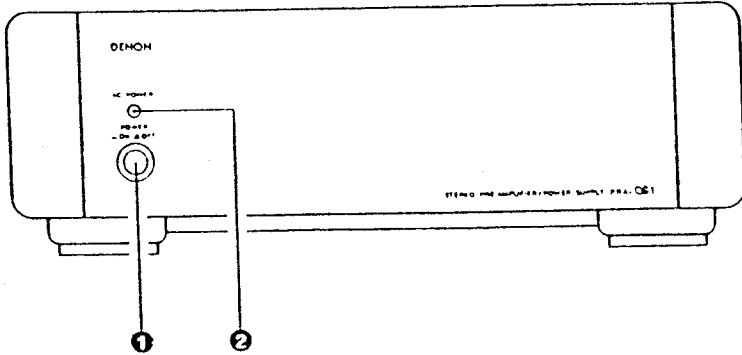
- Changing the FREQUENCY SELECTOR's position when the power is on (—) may damage the unit. Be sure to turn the power off first.

- ⑨ **REC OUT SELECTOR**
(recording output selector)
Use this to select the output source for recording onto a tape deck, etc.
- **SOURCE**
Set to this position when recording. The recording output is the source selected with the INPUT SELECTOR ⑫.
 - **OFF**
In this position, the recording output is turned off. For higher quality playback sound, we recommend keeping the selector at this position when not recording.
 - **TAPE-1 ▶ 2**
Use this position when making copies of tapes using two tape decks. The input signal from the deck connected to the TAPE-1 input jacks is fed to the TAPE-2 REC OUT jacks, regardless of the position of the INPUT SELECTOR ⑫.
 - **TAPE-2 ▶ 1**
Use this position when making copies of tapes using two tape decks. The input signal from the deck connected to the TAPE-2 input jacks is fed to the TAPE-1 REC OUT jacks, regardless of the position of the INPUT SELECTOR ⑫.
- ⑩ **SUBSONIC switch**
Set this switch to the ON (—) position when playing records to prevent subsonic speaker vibration due to vibration of the record player's motor or vibration caused by warping of the record.
- ⑪ **EQ POWER switch**
(phono equalizer power switch)
When set to the ON (—) position, the power of the phono equalizer circuit turns on, and when set to the OFF (ㄨ) position, the power of the phono equalizer circuit turns off.
When this switch is operated, the muting circuit is activated for several seconds and the pre-out signals are set to the ground level.
Set this switch to the ON (—) position when playing records (analog discs). (Also set the INPUT SELECTOR ⑫ to the PHONO position.)
For sources other than records, we recommend setting this switch to the OFF (ㄨ) position for higher sound quality.

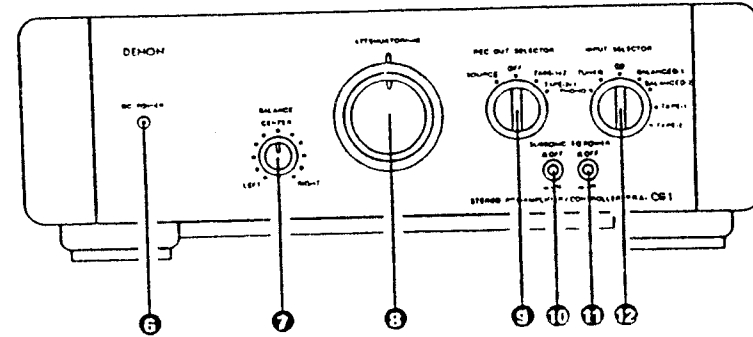
- ⑫ **INPUT SELECTOR**
Use this to select the playback source.

- **PHONO**
Set to this position to play the turntable connected to the PHONO jacks on the rear panel. Also set the EQ POWER switch ⑪ to the ON (—) position.
The PRA-S1's PHONO input is for MM cartridges. When using an MC cartridge, input the signals via an MC cartridge step-up transformer, etc.
- **TUNER**
Set to this position to play the AM/FM tuner connected to the TUNER jacks on the rear panel.
- **CD**
Set to this position to play the CD player connected to the CD jacks on the rear panel.
- **BALANCED-1**
Set to this position when playing a CD player equipped with a balanced output terminal and connected to the BALANCE-1 terminal on the rear panel.
- **BALANCED-2**
Set to this position when playing a CD player equipped with a balanced output terminal and connected to the BALANCE-2 terminal on the rear panel.
- **TAPE-1**
Set to this position to play the tape deck connected to the TAPE-1 jacks on the rear panel.
- **TAPE-2**
Set to this position to play the tape deck connected to the TAPE-2 jacks on the rear panel.

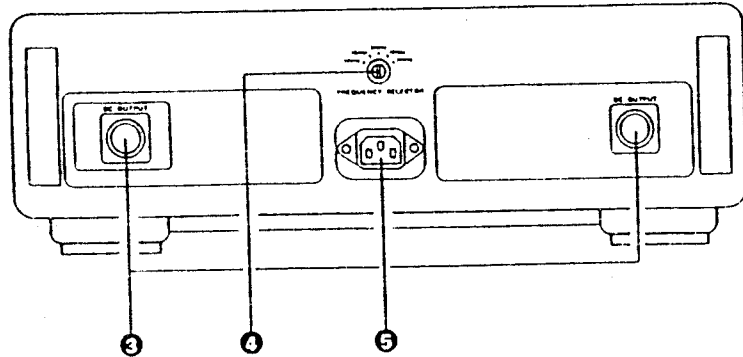
POWER UNIT FRONT PANEL
FRONTPLATTE DES NETZGERÄTES
PANNEAU AVANT DE L'UNITÉ D'ALIMENTATION



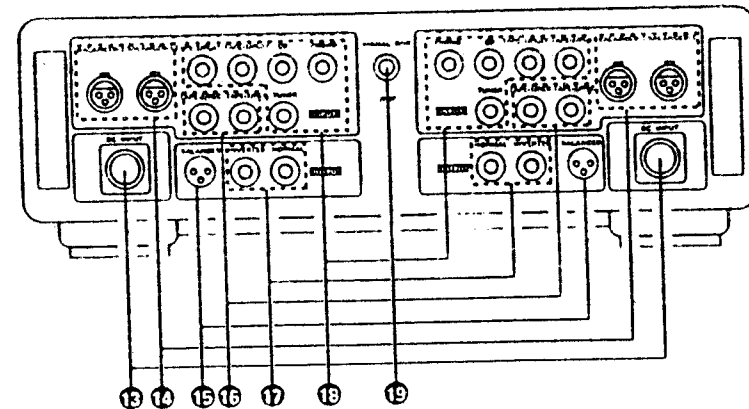
CONTROL UNIT FRONT PANEL
STEUEREINHEIT FRONTPLATTE
UNITÉ DE COMMANDE PANNEAU AVANT



POWER UNIT REAR PANEL
RÜCKSEITE DES NETZGERÄTES
PANNEAU ARRIERE DE L'UNITÉ D'ALIMENTATION

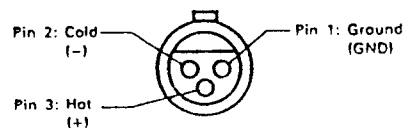


CONTROL UNIT REAR PANEL
STEUEREINHEIT RÜCKWAND
UNITÉ DE COMMANDE PANNEAU ARRIERE

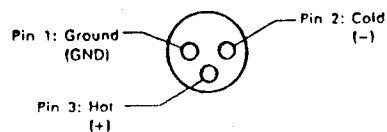


13 DC INPUT terminals
 These are the power input terminals for the control unit.
 Connect the included DC power cords between these terminals and the DC OUTPUT terminals **13** on the power unit.

14 BALANCED INPUT terminals
 These are cannon input terminals for connecting a CD player or other playback component equipped with balanced outputs.
 The polarities of the pins are as follows:



15 BALANCED OUTPUT terminals
 These are cannon output terminals for connecting power amplifier equipped with balanced inputs.
 The polarities of the pins are as follows:



16 REC OUT (recording output) jacks
 These are recording output jacks for connection to tape decks.

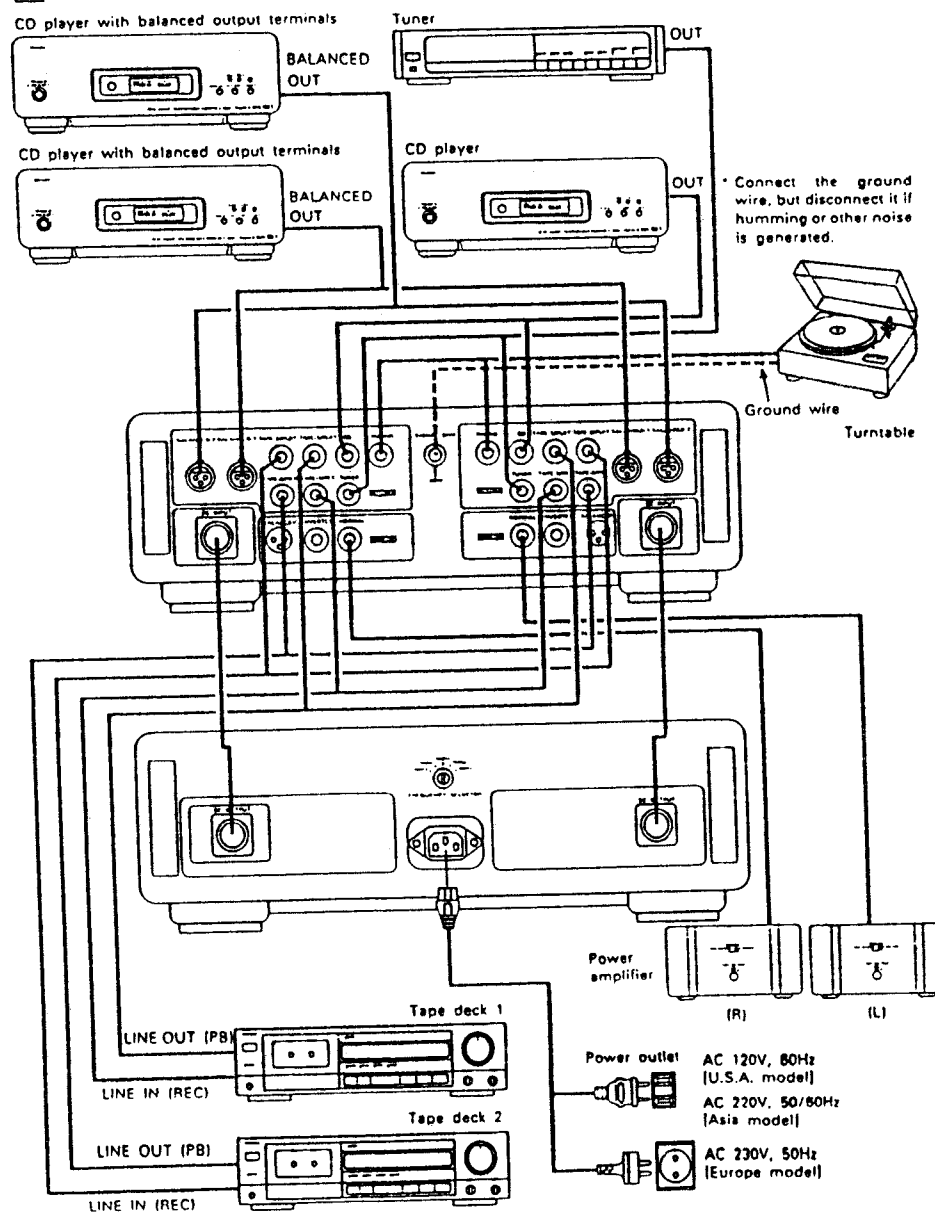
17 PRE OUT terminals
 Connect the power amplifier here.

- **NORMAL (normal phase output)**
 The same signals as the signals from BALANCE OUTPUT terminal pin 3 (hot) are output from this terminal.
- **INVERTED**
 The same signals as the signals from BALANCE OUTPUT terminal pin 2 (cold) are output from this terminal.

18 INPUTS jacks
 These are input jacks for CD players, turntables, AM/FM tuners, tape decks or other playback components.

19 GND (ground) terminal
 Connect the turntable's ground wire here.

3 CONNECTIONS



Cautions on Connections

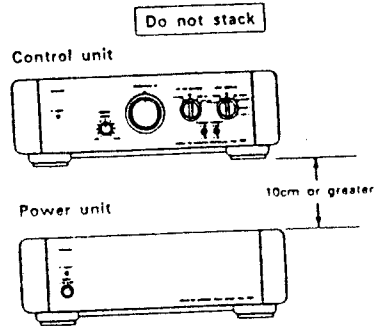
- Do not plug in the power cord until all connections are completed.
- Be sure to connect the left and right channels properly.
- Insert the plugs securely. Incomplete connections can result in noise.
- The PHONO input jacks have an extremely high sensitivity, so avoid turning up the volume when no pin plug cords are connected. Doing so may result in induction humming (booming) from the speakers. When pin plug cords are not connected, insert the included short-circuit pin plug.
- Be sure to connect the connection cords between the control unit and power unit properly, L (left) to L, R (right) to R. If either or both the sides are connected incorrectly, the protective circuit is activated and the power cannot be turned on.

Protective circuit

- The PRA-S1 is equipped with a high-speed protective circuit. The protective circuit sets the output to the ground level if there is a problem with the set to protect the internal circuitry and the connected equipment. If the protective circuit is activated, turn off the power, check the connections, then turn the power back on. The set will operate normally in a few seconds after the muting circuit turns off.

Cautions on Installation

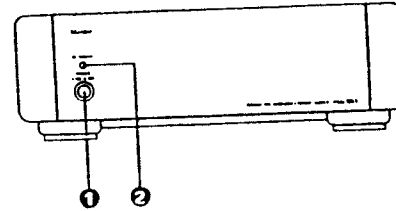
- To allow for heat discharge, do not stack the control unit directly on top of the power unit or vice versa. Leave a space of at least 10 cm between them.



- When installing in a rack, be sure the shelf is sufficiently thick and strong enough to support the set's weight.
- When connecting using the balanced input and output terminals, check that the polarity of the other unit is the same as the PRA-S1's.

4 OPERATIONS

- Make sure that all connections are proper.
- Turn the VOLUME control ⑥ fully counterclockwise (∞) to the minimum position.
- Set the BALANCE control ⑦ to the center position.
- Set the POWER switch ⑩ to the ON (—) position.



Playing records

1. Set the INPUT SELECTOR ① to the PHONO position.
2. Set the EQ POWER switch ⑩ to the ON (—) position.
3. Set the record on the turntable and start playback.
4. Adjust the VOLUME ⑥ and BALANCE ⑦ controls to the desired levels.

Playing CDs

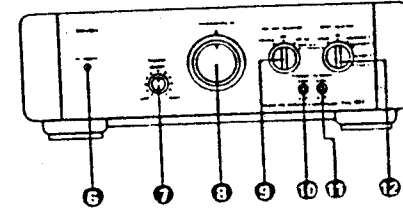
- (when the CD player is connected to the CD jacks)
1. Set the INPUT SELECTOR ① to the CD position.
 2. Set the CD in the CD player and start playback.
 3. Adjust the VOLUME ⑥ and BALANCE ⑦ controls to the desired levels.

Listening to the radio on the tuner

- (when the tuner is connected to the TUNER jacks)
1. Set the INPUT SELECTOR ① to the TUNER position.
 2. Tune the radio to the desired station.
 3. Adjust the VOLUME ⑥ and BALANCE ⑦ controls to the desired levels.

Playing a component connected to a balanced input terminal

1. Set the INPUT SELECTOR ① to the "BALANCED-1" or "BALANCED-2" position.
2. Begin playback on the component connected to the balanced input terminal.
3. Adjust the VOLUME ⑥ and BALANCE ⑦ controls to the the desired levels.



Playing a tape deck

1. Set the INPUT SELECTOR ① to the TAPE-1 or TAPE-2 position.
2. Set the tape in the tape deck and start playback.
3. Adjust the VOLUME ⑥ and BALANCE ⑦ controls to the desired levels.

Copying tapes

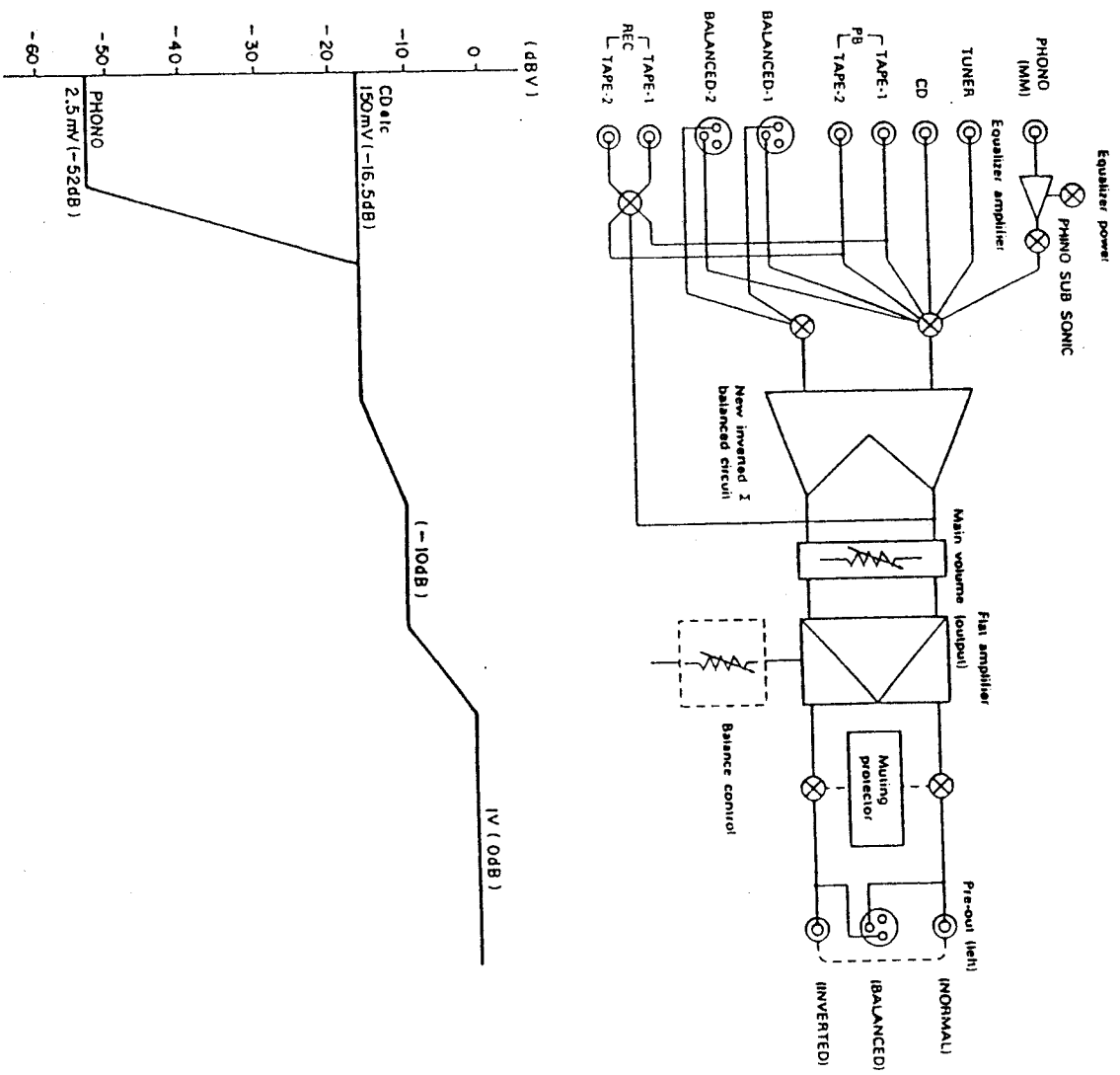
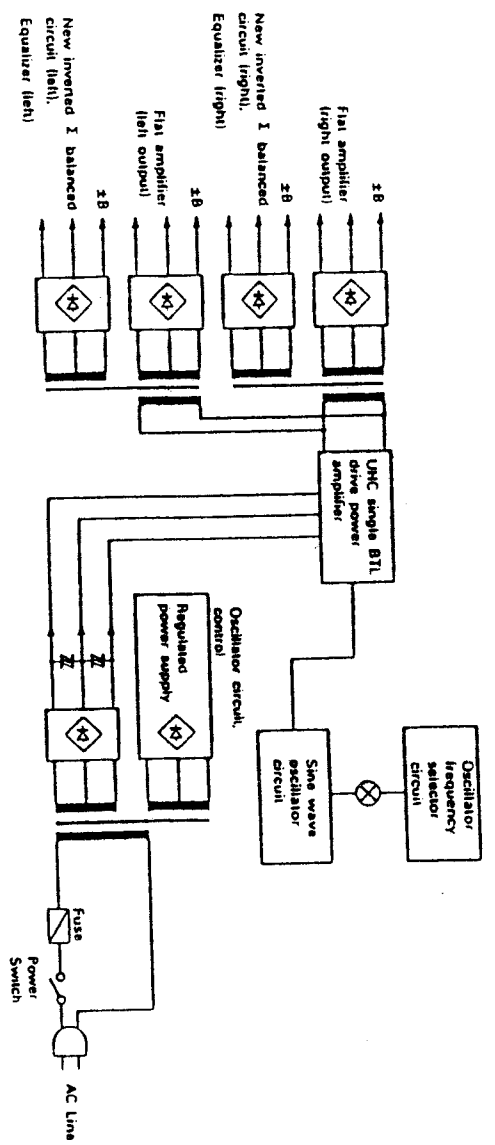
(Refer to the tape decks' instructions.)

1. Select the tape deck using the REC OUT SELECTOR ⑤.
 - To record from the deck connected to the TAPE-1 jacks, set to the TAPE-1▶2 position.
 - To record from the deck connected to the TAPE-2 jacks, set to the TAPE-2▶1 position.
2. Set the tape deck onto which you want to record to the recording mode.
3. Set the tape deck from which you want copy to the play mode.

Recording onto a tape deck (other than for copying tapes)

1. Select the source to be recorded using the INPUT SELECTOR ①.
2. Set the REC OUT SELECTOR ⑤ to the SOURCE position.
3. Set the tape deck onto which you want to record to the recording mode. (Refer to the tape deck's instructions.)
4. Play the source to be recorded.

5 BLOCK DIAGRAM



6 SPECIFICATIONS

Control unit

Rated output:	NORMAL, INVERTED	: 1 V
	BALANCED	: 2 V
Input sensitivity/impedance:	PHONO (MM)	: 2.5 mV/47 kΩ/ohm
	CD, TUNER, TAPE-1, TAPE-2	: 150 mV/47 kΩ/ohm
	BALANCED-1, BALANCED-2	: 150 mV/100 kΩ/ohm
RIAA deviation:	PHONO	: 20Hz to 20kHz, ±0.3dB
Total harmonic distortion rate:		: 0.005% or less
S/N ratio (A network):	PHONO (MM)	: 91 dB (input terminals short-circuited, 5 mV input signal)
	CD, TUNER, TAPE-1, TAPE-2	: 108 dB (input terminals short-circuited)
Maximum external dimensions:	434 (W) × 145 (H) × 443 (D) mm	
	17-3/32" × 5-45/64" × 17-5/64"	
	(including feet, controls and jacks)	
Weight:		17.4 kg (38 lbs 7 oz)

Power (power generator) unit

Power supply:	AC 120 V, 60 Hz	{U.S.A. model}
	AC 220 V, 50/60Hz	{Asia model}
	AC 230 V, 50 Hz	{Europe model}
Power consumption:	120 W	{U.S.A. model}
	110 W	{Asia & Europe model}
Maximum external dimensions:	434 (W) × 145 (H) × 426 (D) mm	
	17-3/32" × 5-45/64" × 16-49/64"	
	(including feet, controls and jacks)	
Weight:		24.8 kg (54 lbs 12 oz)

7 TROUBLESHOOTING

Check the following before assuming there is a problem with the set.

1. Are all connections proper?
 2. Is the set being operated as described in the operating instructions?
 3. Are the power amplifier and input components being operated properly?
- If the set does not seem to be operating properly, check the points listed below. If these points do not apply, the set may be damaged. Turn off the power immediately and contact your store of purchase.

	Symptom	Cause	Measures
Problems occurring when playing records, tapes and FM broadcasts.	Power indicator does not light and no sound is produced when POWER switch is turned on.	<ul style="list-style-type: none"> Power cord is not plugged into outlet. Power cord is not plugged into AC inlet. 	<ul style="list-style-type: none"> Check that the cord is plugged in. Check that the cord is plugged in.
	Power indicator lights but no sound is produced.	<ul style="list-style-type: none"> Incomplete connections to power amplifier. INPUT SELECTOR not set to proper position. VOLUME control turned down. 	<ul style="list-style-type: none"> Connect securely. Set to the proper position. Set to an appropriate level.
	Sound is not produced from one side only.	<ul style="list-style-type: none"> Incomplete connections to power amplifier. Input cords not properly connected. Left/right balance improperly adjusted. 	<ul style="list-style-type: none"> Connect securely. Connect securely. Adjust the BALANCE control.
	Volume level is different when listening to tuner and records.	<ul style="list-style-type: none"> Tuner and record outputs different. 	<ul style="list-style-type: none"> Adjust the tuner output to the turntable's output (if the tuner is equipped with an output control).
	Positions of instruments inverted for stereo sources.	<ul style="list-style-type: none"> Left and right power amplifier or input cords inverted. 	<ul style="list-style-type: none"> Check the left/right connections.
Problems occurring when playing records.	Booming sound produced when playing records.	<ul style="list-style-type: none"> Turntable's ground wire not connected. Input cords not properly connected to PHONO jacks. Influence from a TV or VCR near the turntable. 	<ul style="list-style-type: none"> Connect securely. Connect securely. Change the position of installation.
	Howling produced when volume is turned up while playing records.	<ul style="list-style-type: none"> Turntable and speaker systems are too close. Floor is soft and vibrates easily. 	<ul style="list-style-type: none"> Move speaker systems as far away as possible. Use cushions to absorb the vibrations transmitted from the floor to the speakers. If the turntable does not include insulators, use audio insulators, available in stores.
	Sound is distorted.	<ul style="list-style-type: none"> Stylus pressure is too light. Dirt on tip of stylus. Defective cartridge. 	<ul style="list-style-type: none"> Apply proper pressure. Check the tip of the stylus. Replace the cartridge.

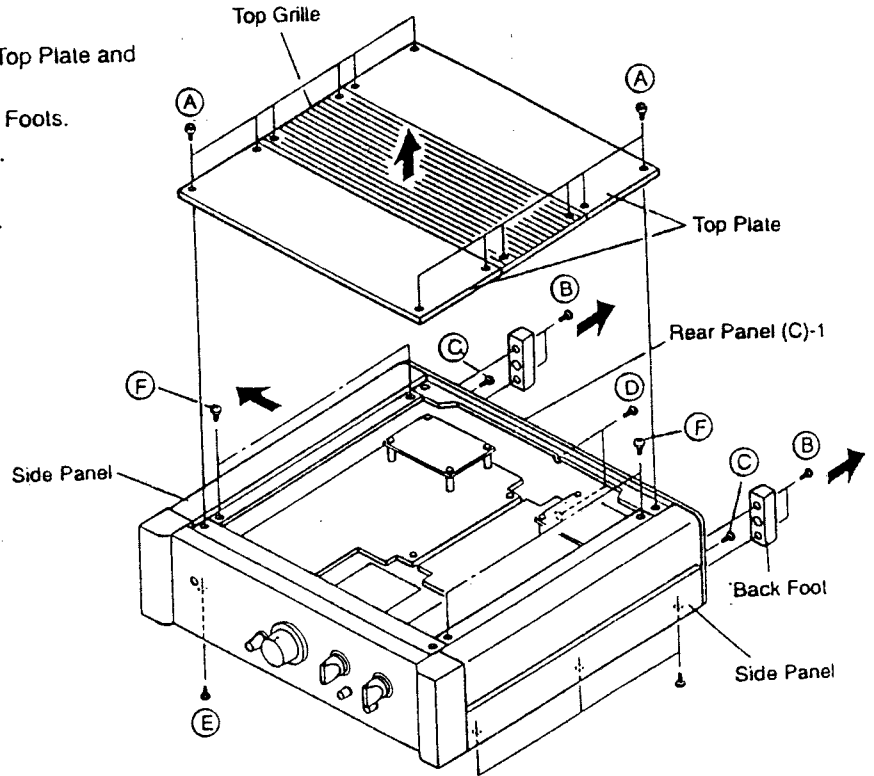
DISASSEMBLY

(To reassemble reverse disassembly)

[CONTROL UNIT]

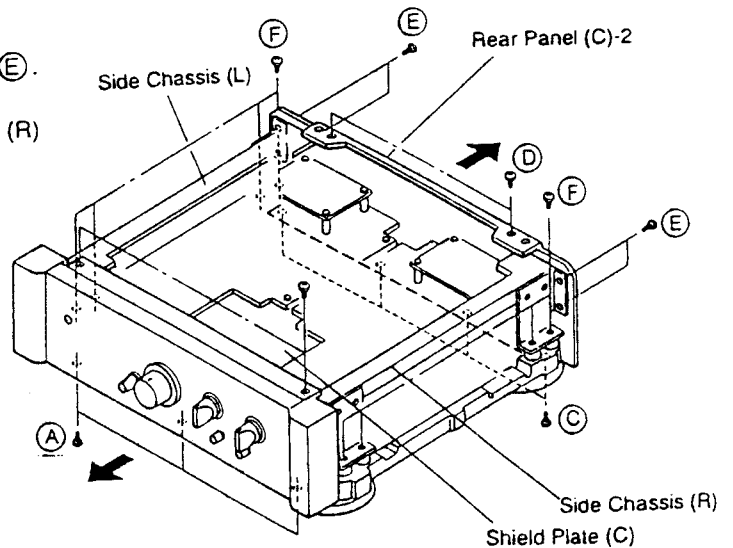
1. Outside Parts

1. Remove 12 screws (A), and then detach Top Plate and Top Grille as show as arrow.
2. Remove 4 screws (B) and detach 2 Back Feet.
3. Remove 2 screws (C) and 2 screws (D). Detach Rear Panel.
4. Remove 6 screws (E) and 4 screws (F). Detach Side Panel as show as arrow.



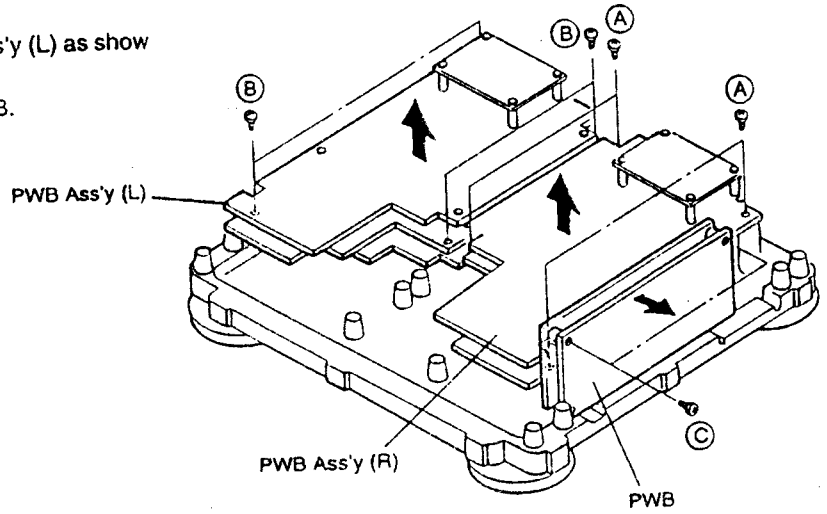
2. Front Panel, Rear Panel and Side Chassis

1. Remove 3 screws (A) and 2 screws (B). Detach Front Plate as show as arrow.
2. Remove 4 screws (C), 2 screws (D) and 4 screws (E). Detach Rear Panel as show as arrow.
3. Remove 8 screws (F), then detach Side Chassis (R) and Side Chassis (L).



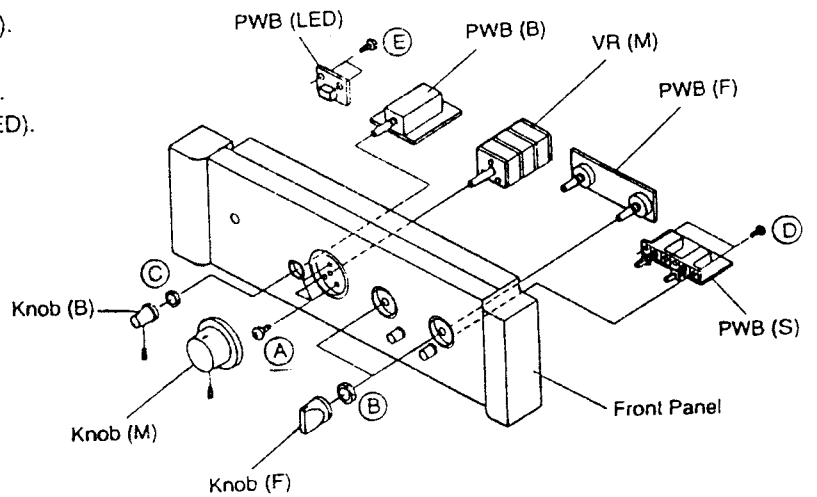
3. PWB Ass'y and PWB

1. Remove 4 screws (A), and then detach PWB Ass'y (R) as show as arrow.
2. Remove 4 screws (B), Detach PWB Ass'y (L) as show as arrow.
3. Remove 2 screws (C), and detach PWB.



4. Each Front Panel PWB

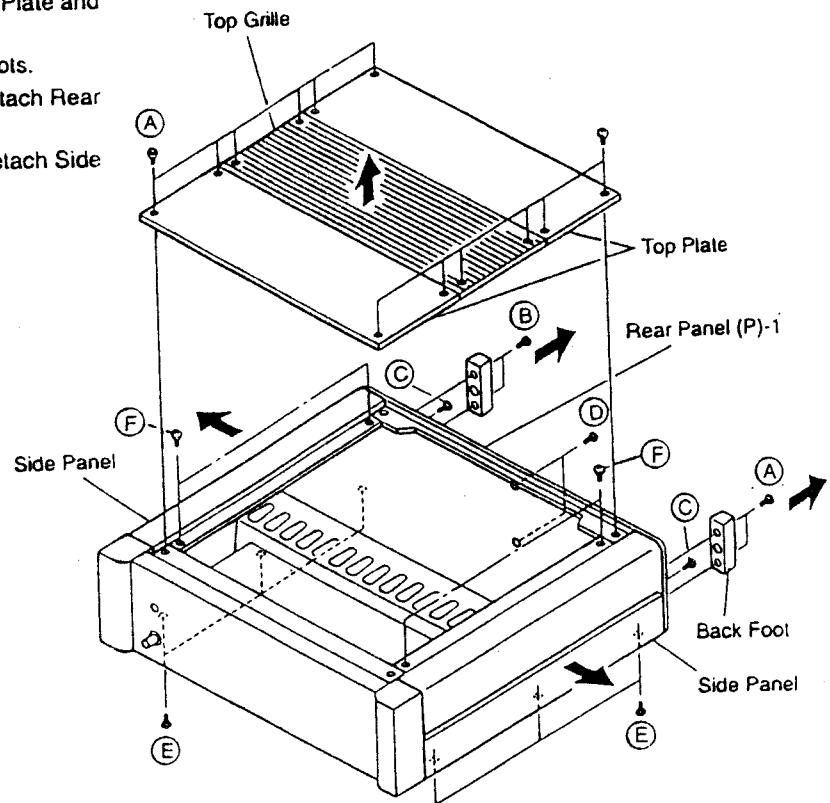
1. Loosen knob (M) screw and remove knob (M).
Remove 3 screws (A) and detach VR (M).
2. Loosen 2 knob (F) screws and remove knob (F).
Remove 2 nuts (B) and detach PWB (F).
3. Loosen knob (B) screw and remove knob (B).
Remove nut (C) and detach PWB (B).
4. Remove 2 screws (D) and detach PWB (S).
5. Remove 2 screws (E) and detach PWB (LED).



[POWER UNIT]

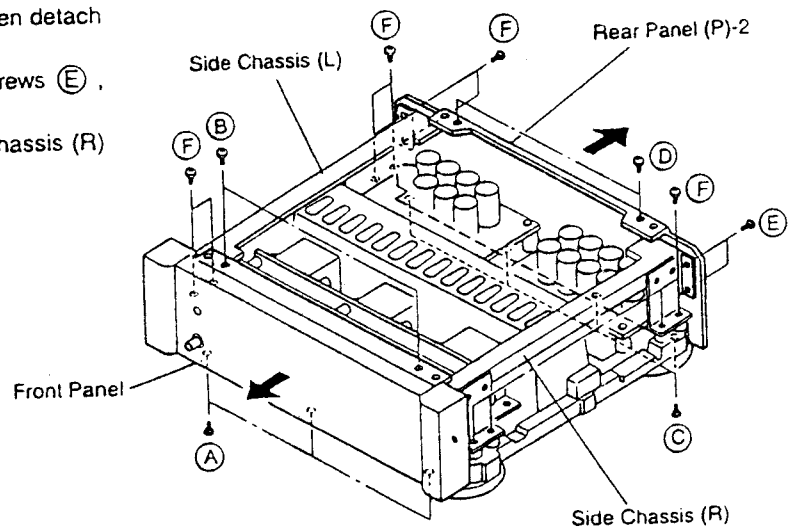
1. Outside Parts

1. Remove 12 screws (A), and then detach Top Plate and Top Grille as show as arrow.
2. Remove 4 screws (B) and detach 2 Back Feet.
3. Remove 2 screws (C) and 2 screws (D). Detach Rear Panel.
4. Remove 6 screws (E) and 4 screws (F). Detach Side Panel as show as arrow.



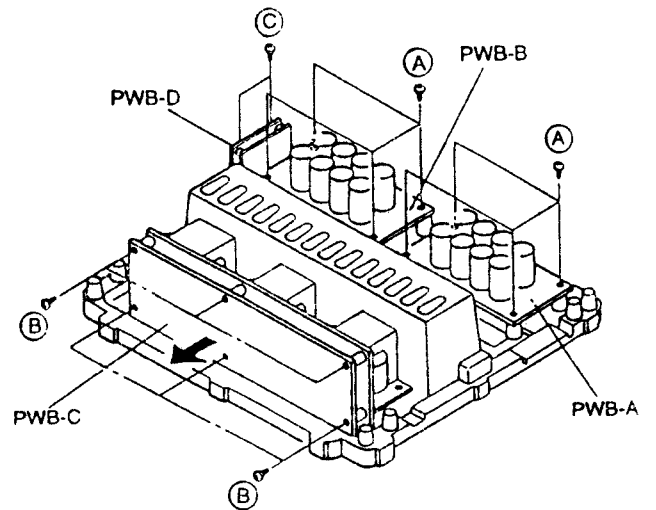
2. Front Panel, Rear Panel and Side Chassis

1. Remove 3 screws (A) and 2 screws (B), then detach Front Panel as show as arrow.
2. Remove 4 screws (C), 2 screws (D) and 4 screws (E), Detach Rear Panel as show as arrow,
3. Remove 8 screws (F), then detach Side Chassis (R) and Side Chassis (L).



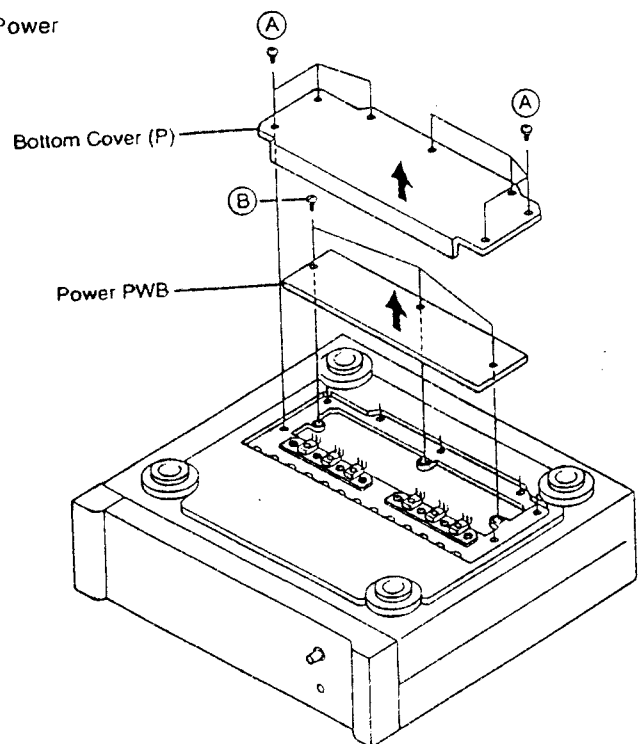
3. PWB and Transformer

1. Remove 8 screws (A), then detach PWB-A and PWB-B.
2. Remove 6 screws (B), and then detach PWB-C.
3. Remove 2 screws (C), Detach PWB-D.



4. Power PWB

1. Remove 7 screws (A), and then detach Bottom Cover (P).
2. Remove 3 screws (B), release transistors at Power PWB with soldering iron. Detach Power PWB.



ADJUSTMENT

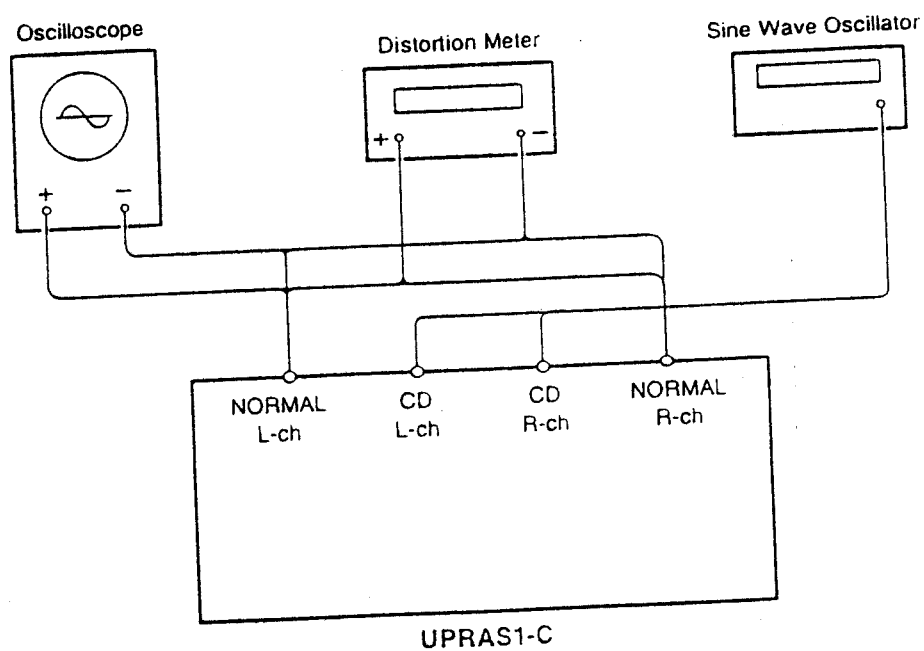
DISTORTION ADJUSTMENT

1. Measurement Equipment Required for Adjustment

- Oscilloscope
- Distortion Meter
- Sine Wave Oscillator

2. Adjustment

1. Connect sine wave oscillator to CD input terminal, and input 1KHz · 1Vrms signal.
2. Connect oscilloscope and distortion meter to NORMAL output terminal, turn the Main Volume maximum.
3. Turn the unit power switch ON.
4. Rotate L-ch (1U-2747-1) VR301 and R-ch (1U-2748-1) VR302 so as to obtain the smallest value of distortion.
5. Turn the unit power switch OFF, then disconnect measurement equipment.



POWER AMPLIFIER STAGE (POWER UNIT)

1. Idle Current Adjustment

Turn VR301, VR302 fully counterclockwise.

Disconnect lead connectors (CN301, CN302) and turn the power switch ON.

(*1) Connect a DC voltmeter to Test Point (TP1) and obtain a DC voltage at the same Test Point as follows.

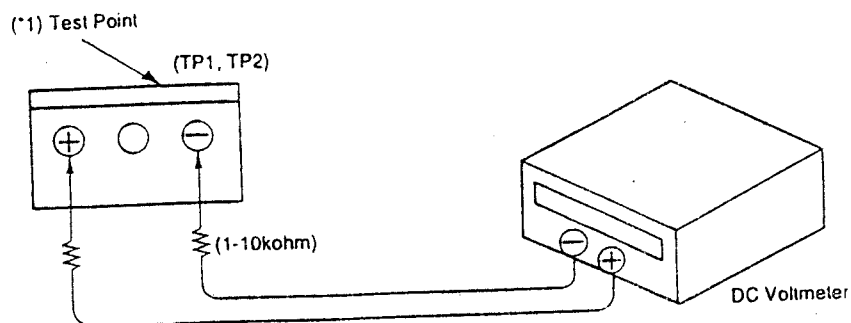
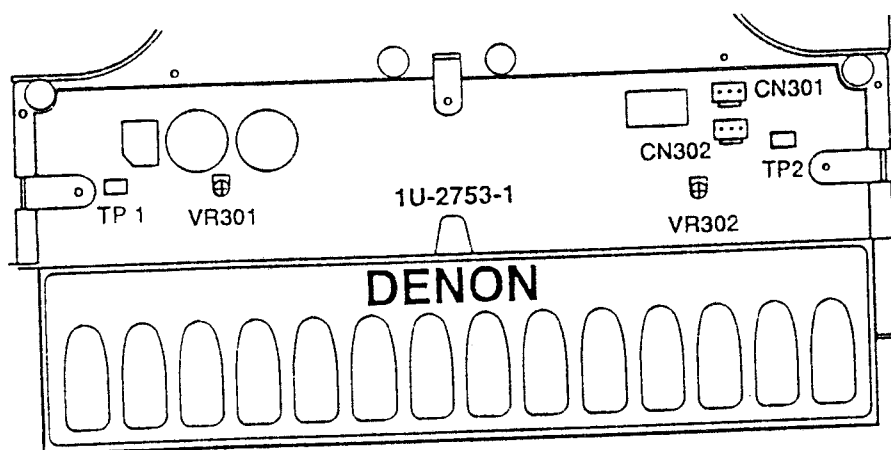
Turn VR301 clockwise and adjust the voltage to $10\text{mV} \pm 2\text{mV}$.

Keep warm up 5 minutes, adjust the above voltage to $10\text{mV} \pm 1\text{mV}$.

Keep warm up 10 minutes, confirm the above voltage to $10\text{mV} \pm 1\text{mV}$.

Adjust the voltage with VR302 the same procedure as to the above for TP2.

After ward connect lead connectors (CN301, CN302).

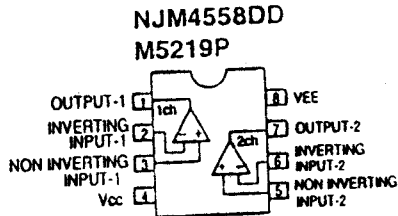
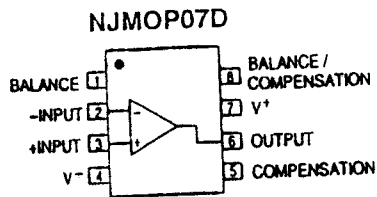
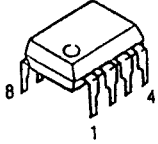


Note 1 : Be sure to connect a oscillation preventive resistor (1 kohm ~ 10 kohm) on the tip of DC Voltmeter probe.

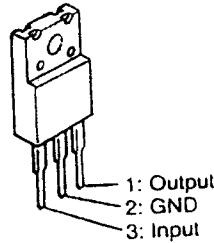
SEMICONDUCTORS

● IC

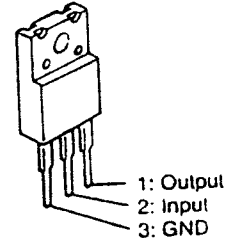
- NJM4558DD
- M5219P
- NJMOP07D



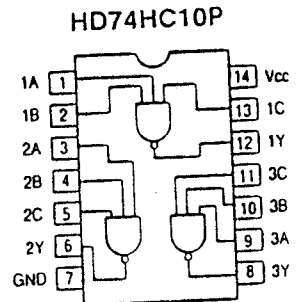
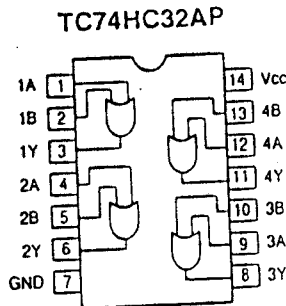
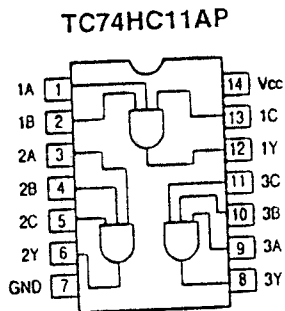
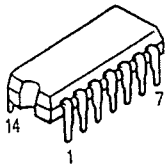
- NJM7805FA
- NJM7812FA
- NJM7820FA
- NJM78M15FA



- NJM7915FA

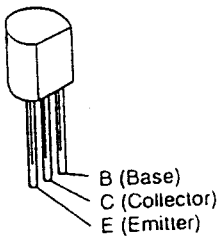


- TC74HC11AP
- TC74HC32AP
- HD74HC10P

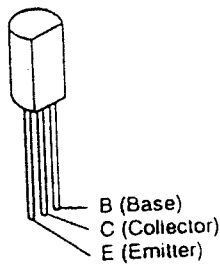


● TRANSISTOR

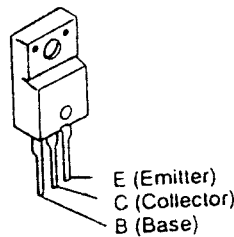
- 2SA970
- 2SA988
- 2SA1015
- 2SC1815
- 2SC1841
- 2SC2240



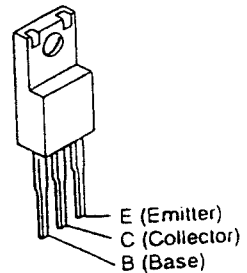
- 2SA1145
- 2SC2705



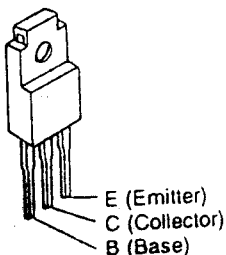
- 2SB1586
- 2SD2437



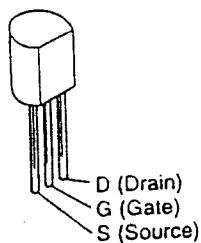
- 2SB1274
- 2SD1913



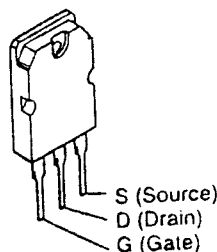
- 2SA1306
- 2SB1186A
- 2SC3298
- 2SD1763A



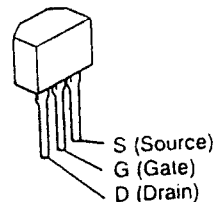
- 2SK373



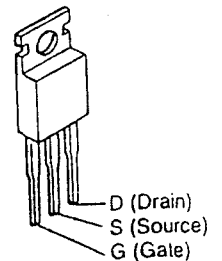
- 2SK1303
- 2SJ216



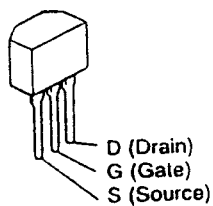
- 2SK184C
- 2SK369



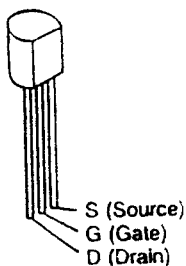
- 2SJ78
- 2SK215



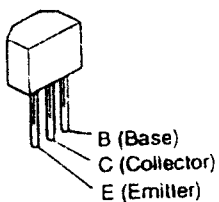
2SK381



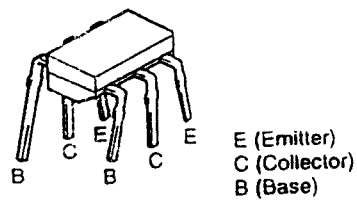
2SK362



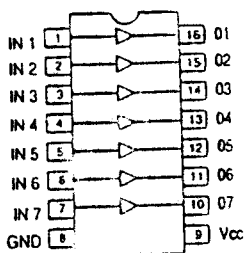
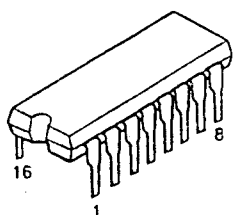
RN2202 (10K-10K)



2SA1240
2SC3067

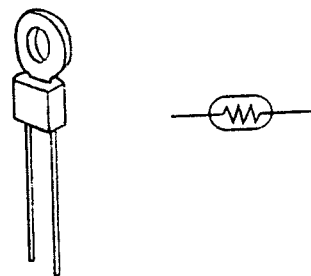


LB1701 (Transistor Array)



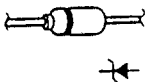
• POSISTOR

PTH9M04BD222TS2F333



• DIODE (Include LED)

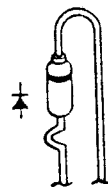
- HZ3A-1 HZ16-1
- HZ3B-2 HZ18-1
- HZ3C-1 HZ18-3
- HZ5B-1 HZ20L-2
- HZ5C-1 HZ24-1
- HZ6C-1
- HZ9C-1
- HZ6LA-1



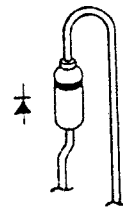
1SS270A
1S2076A



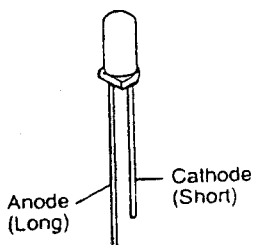
S2K20F



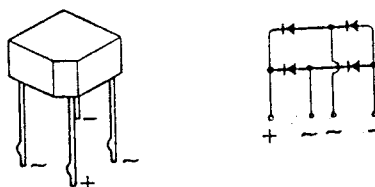
1SR35-200A



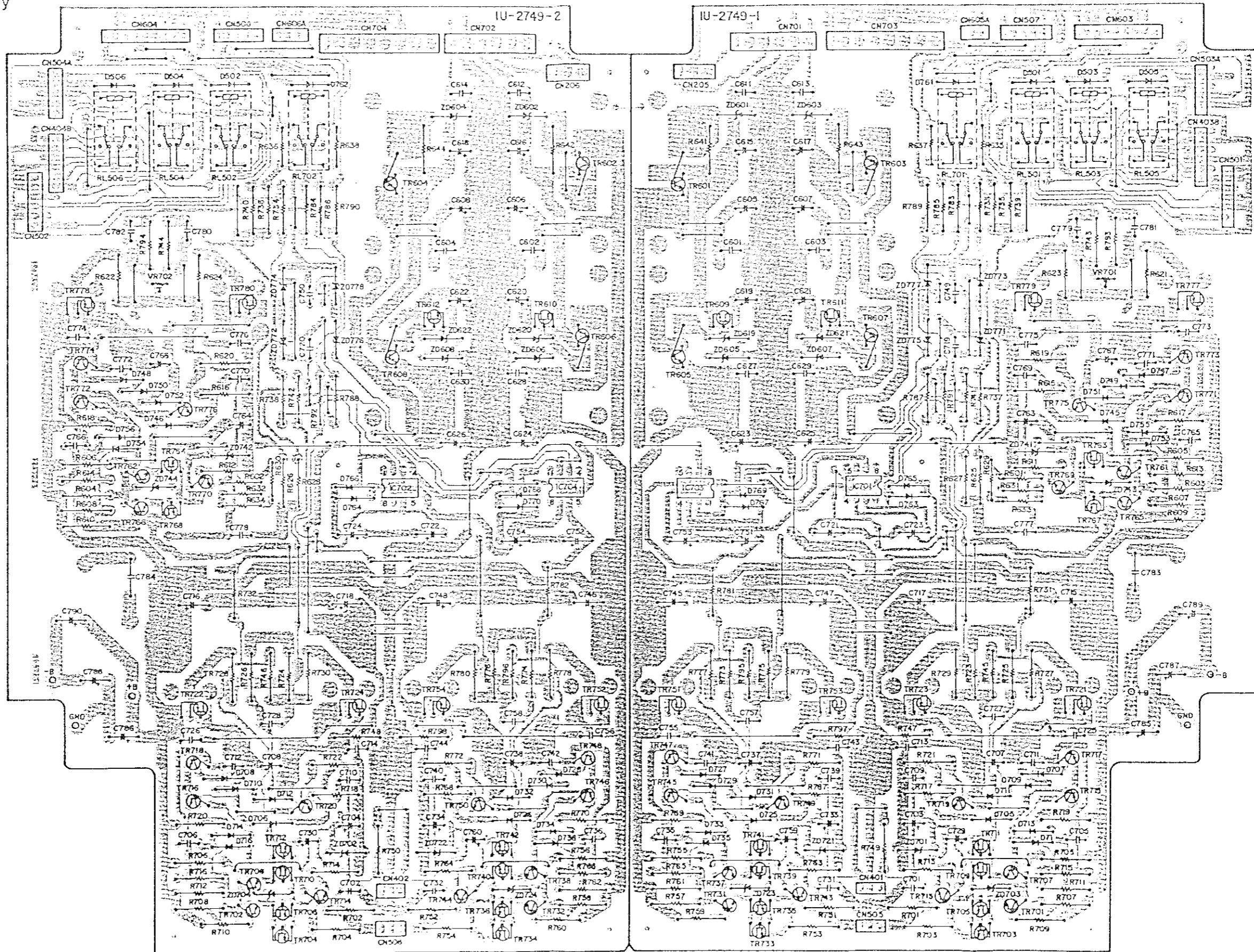
SEL-2210E
SEL-4414G (GREEN)



4D4B42

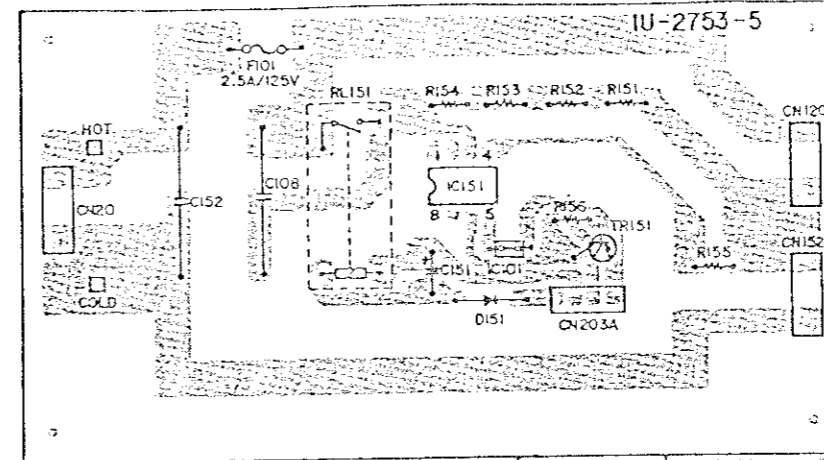
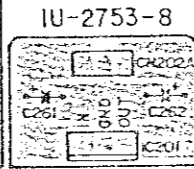
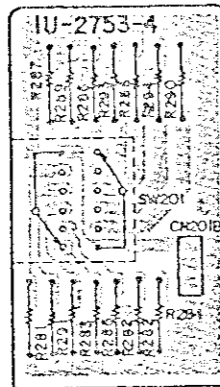


1U-2749 Output Unit Ass'y

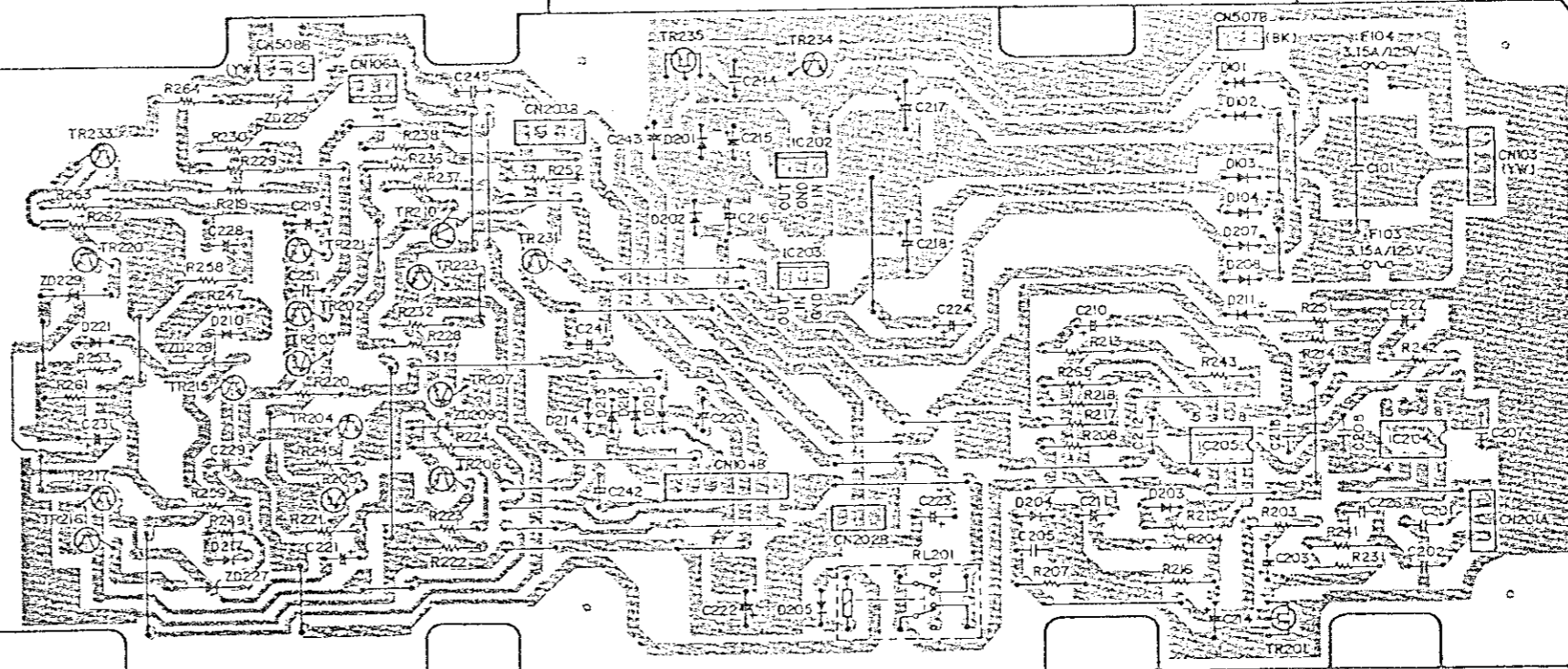
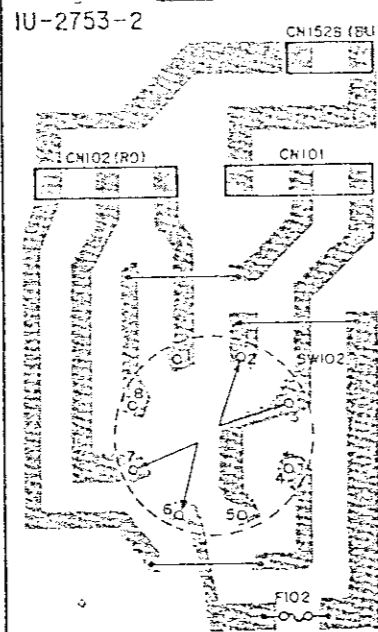


1U-2753 Power AMP. & OSC. Unit Ass'y

A

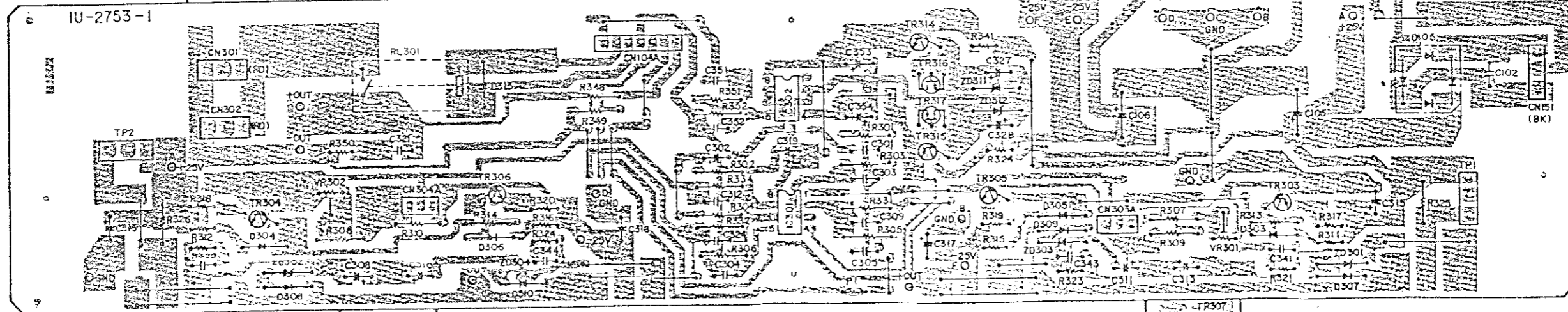


B



C

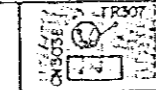
D



E

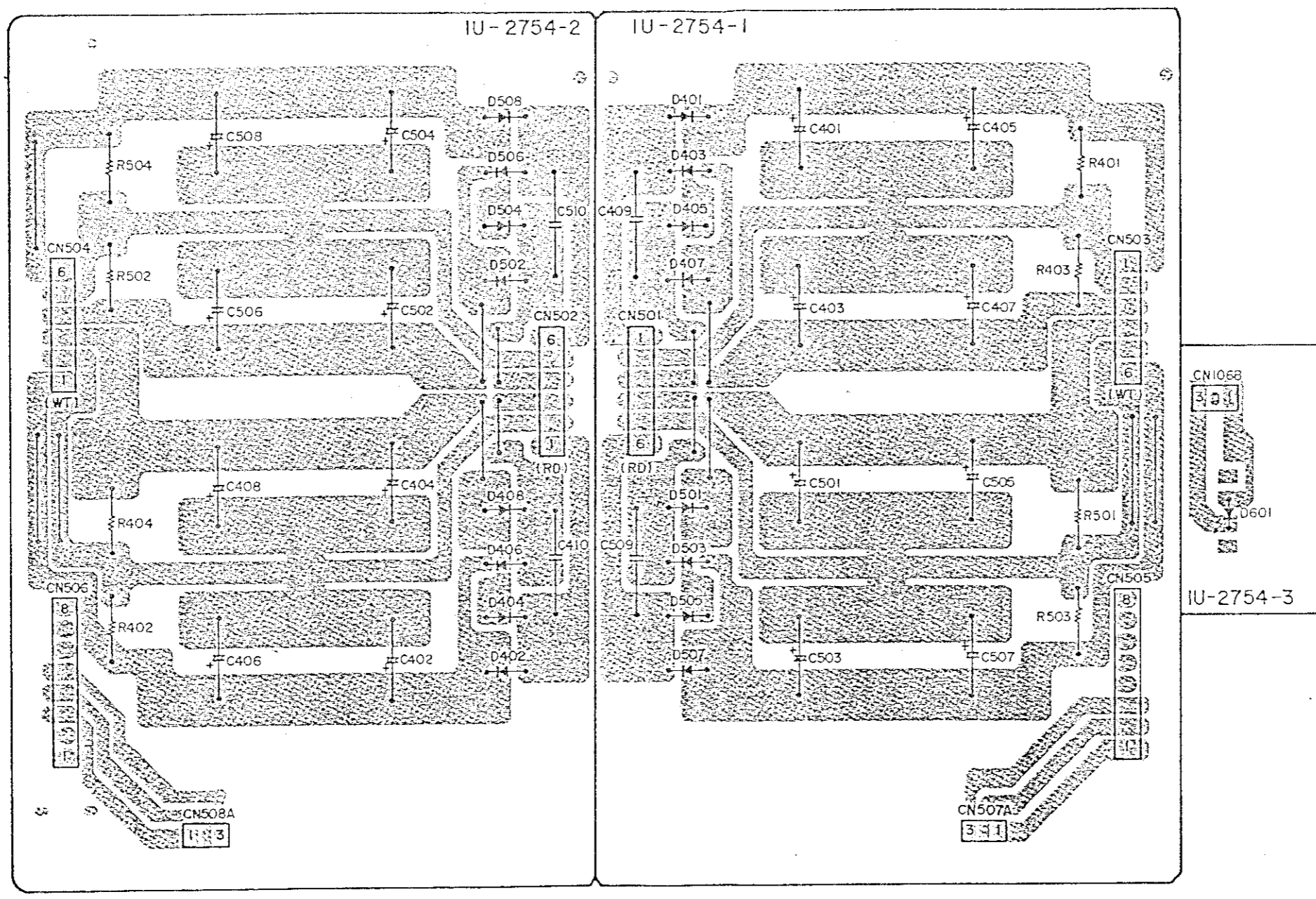


IU-2753-7



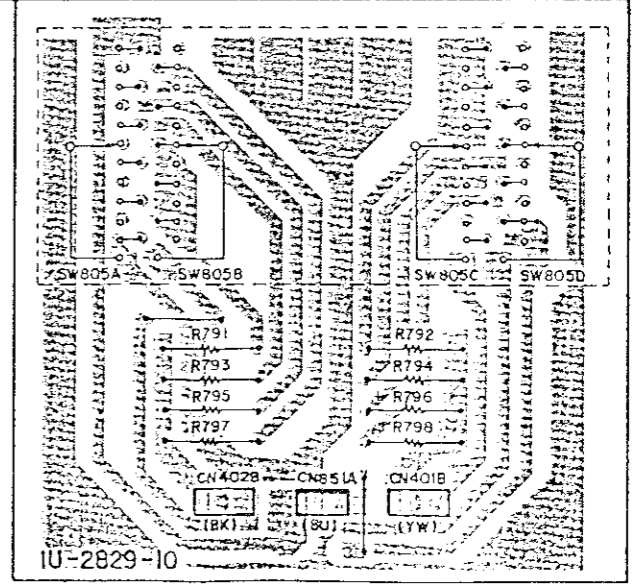
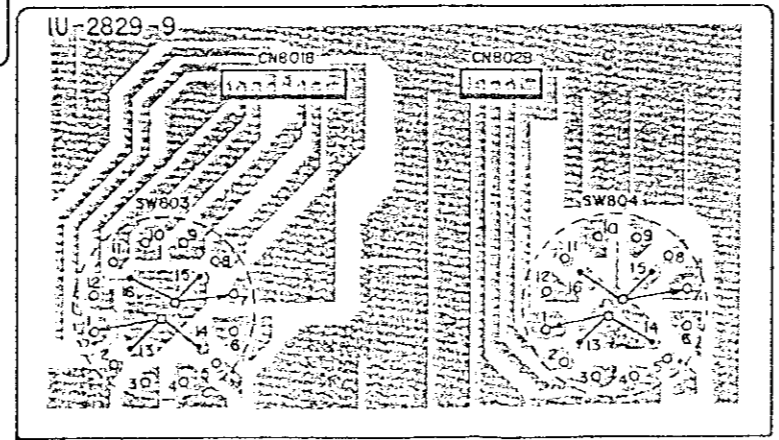
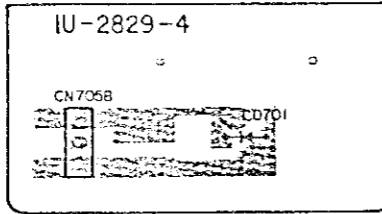
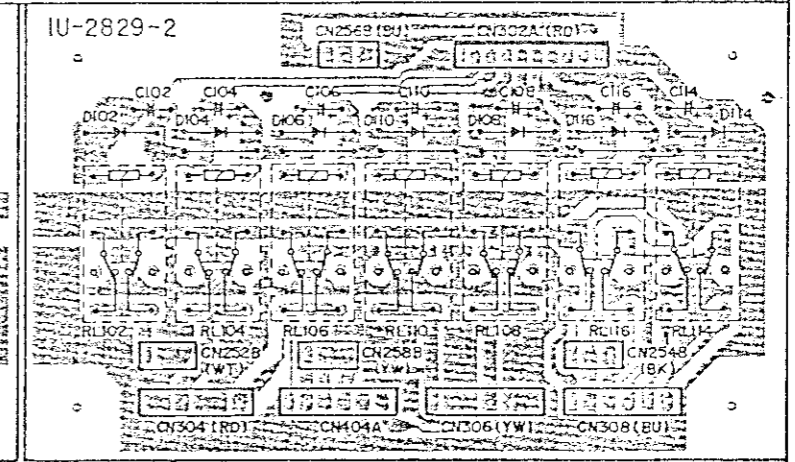
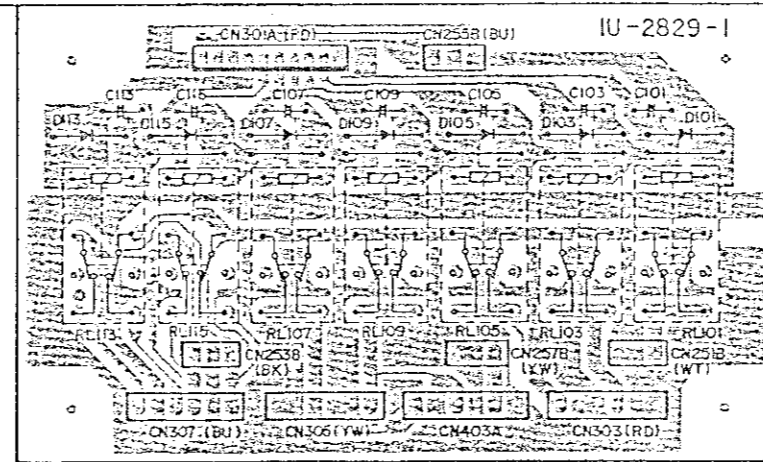
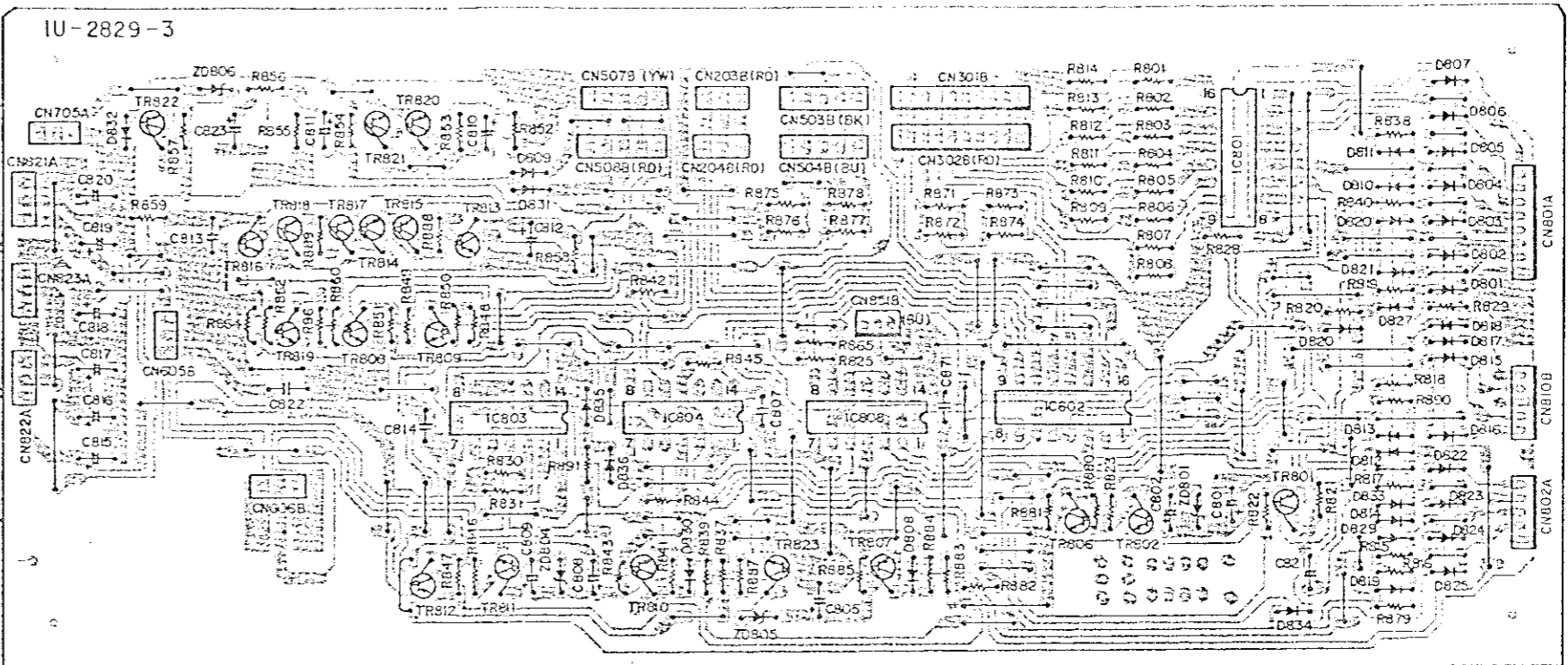
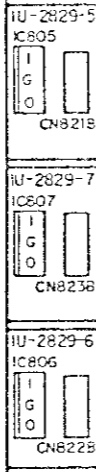
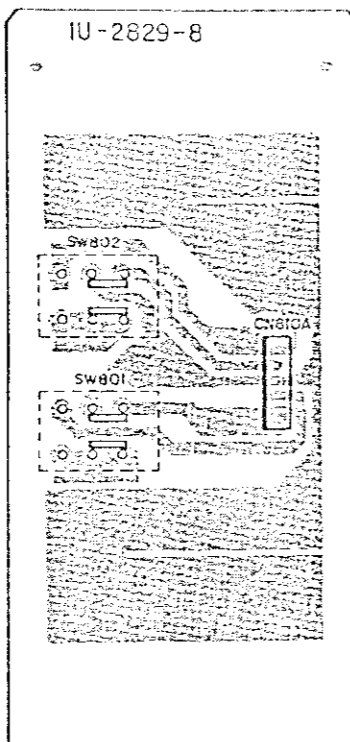
IU-2753-6

1U-2754 Power Supply Unit Ass'y



A
B
C
D
E

1U-2829 Control Unit Ass'y



A

B

C

D

E

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "1" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex:

RN	14K	2E	182	G	FR
Type	Shape and performance	Power	Resistance	Allowable error	Others

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

• Resistance

$1 \text{ } \overline{8} \text{ } 2 = 1800 \text{ ohm} = 1.8 \text{ kohm}$
 Indicates number of zeros after effective number.
 2-digit effective number.

• Units: ohm

$1 \text{ } \overline{R} \text{ } 2 = 1.2 \text{ ohm}$
 1-digit effective number.
 2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex:

CE	04W	1H	2R2	M	BP
Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others

CE : Aluminum foil electrolytic	0J : 8.3V	F : ±1%	MS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 18V	J : ±5%	HR : Ripple-resistant type
CO : Film	1E : 25V	K : ±10%	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80%	U : UL part
CP : Oil	2A : 100V	-20%	C : CSA part
CM : Mica	2B : 125V	P : +100%	W : UL-CSA type
CF : Metallized	2C : 160V	-0%	F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	= : Others	
	2J : 800V		

• Capacity (electrolyte only)

$2 \text{ } \overline{2} \text{ } 2 = 2200\mu\text{F}$
 Indicates number of zeros after effective number.
 2-digit effective number.

• Units: μF .

$2 \text{ } \overline{R} \text{ } 2 = 2.2\mu\text{F}$
 1-digit effective number.
 2-digit effective number, decimal point indicated by R.

• Units: μF .

• Capacity (except electrolyte)

$2 \text{ } \overline{2} \text{ } 2 = 2200\text{pF} = 0.0022\mu\text{F}$
 (More than 2) — Indicates number of zeros after effective number.
 2-digit effective number.

• Units: μF .

$2 \text{ } \overline{2} \text{ } 1 = 220\text{pF}$
 (0 or 1) — Indicates number of zeros after effective number.
 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF PRINTED WIRING BOARD (1U-2747)INPUT(L) UNIT(Control Unit)

Ref.No	Part .No	Part Name	Remaks	Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP				TR431	273 0281 906	Transistor 2SC2705(O)(Y)TPE6	
TR209	271 0094 919	Transistor 2SA970(BL)TPE2		D111	276 0049 914	Diode 1S2076ATE	
TR211	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		D117	276 0049 914	Diode 1S2076ATE	
TR213	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		D211	276 0049 914	Diode 1S2076ATE	
TR215	275 0038 045	Transistor 2SK369(BL)(GR)-C		D215	276 0049 914	Diode 1S2076ATE	
TR217	275 0042 905	Transistor 2SK373(Y)TPE2		D217	276 0049 914	Diode 1S2076ATE	
TR221	275 0038 045	Transistor 2SK369(BL)(GR)-C		D219	276 0049 914	Diode 1S2076ATE	
TR223	273 0187 932	Transistor 2SC2240(BL/GR)TPE2		D221	276 0049 914	Diode 1S2076ATE	
TR225	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		D223	276 0049 914	Diode 1S2076ATE	
TR227	273 0324 009	Transistor 2SC3298(OY)		D225	276 0049 914	Diode 1S2076ATE	
TR229	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		D241	276 0049 914	Diode 1S2076ATE	
TR231	271 0196 008	Transistor 2SA1306 OY		D243	276 0049 914	Diode 1S2076ATE	
TR233	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		D301	276 0049 914	Diode 1S2076ATE	
TR241	275 0038 045	Transistor 2SK369(BL)(GR)-C		D303	276 0049 914	Diode 1S2076ATE	
TR243	275 0038 045	Transistor 2SK369(BL)(GR)-C		D305	276 0049 914	Diode 1S2076ATE	
TR301	273 0431 002	Transistor 2SC3067		D307	276 0049 914	Diode 1S2076ATE	
TR305	275 0042 905	Transistor 2SK373(Y)TPE2		D311	276 0049 914	Diode 1S2076ATE	
TR307	275 0042 905	Transistor 2SK373(Y)TPE2		D401	276 0049 914	Diode 1S2076ATE	
TR309	273 0281 003	Transistor 2SC2705(OY)		D403	276 0049 914	Diode 1S2076ATE	
TR313	271 0253 006	Transistor 2SA1240F/G		ZD201	276 0299 942	Zener Diode HZ3A-1TE	
TR317	275 0055 915	Transistor 2SK184C(GR)(BL)		ZD203	276 0407 912	Zener Diode HZ6LA-1TD	
TR319	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		ZD301	276 0256 914	Zener Diode HZ16-1TE	
TR321	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		ZD303	276 0407 912	Zener Diode HZ6LA-1TD	
TR323	275 0048 912	Transistor 2SK381(B)(C)-T		ZD307	276 0249 918	Zener Diode HZ18-3TD	
TR325	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		ZD309	276 0249 918	Zener Diode HZ18-3TD	
TR327	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		ZD311	276 0313 938	Zener Diode HZ20L-2TD	
TR329	273 0431 002	Transistor 2SC3067		ZD313	276 0313 938	Zener Diode HZ20L-2TD	
TR333	275 0069 001	Transistor 2SK215		ZD351	276 0249 921	Zener Diode HZ18-1TE	
TR335	275 0068 002	Transistor 2SJ78		LD401	393 9503 905	LED SEL4414G(TP1)	
TR337	275 0069 001	Transistor 2SK215		LD403	393 9503 905	LED SEL4414G(TP1)	
TR339	275 0068 002	Transistor 2SJ78		LD405	393 9503 905	LED SEL4414G(TP1)	
TR343	274 0167 007	Transistor 2SD2437		LD407	393 9503 905	LED SEL4414G(TP1)	
TR345	272 0128 008	Transistor 2SB1586		RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
TR347	275 0042 905	Transistor 2SK373(Y)TPE2		VR301	211 6075 095	Adjust 470ohm (CERMET)	V06PB471
TR351	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R205	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
TR349	275 0042 905	Transistor 2SK373(Y)TPE2		R207	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR401	275 0038 045	Transistor 2SK369(BL)(GR)-C		R211	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
TR403	275 0038 045	Transistor 2SK369(BL)(GR)-C		R213	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
TR405	275 0038 045	Transistor 2SK369(BL)(GR)-C		R215	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
TR407	275 0038 045	Transistor 2SK369(BL)(GR)-C		R217	241 2438 763	Carbon 10kohm 1/2W	RD05A2H103J RMG
TR409	273 0198 918	Transistor 2SC1815(BL)TPE2		R219	241 2434 068	Carbon 1kohm 1/2W	RD05A2H102J RMG
TR411	273 0198 918	Transistor 2SC1815(BL)TPE2		R221	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
TR413	273 0198 918	Transistor 2SC1815(BL)TPE2		R225	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR415	273 0198 918	Transistor 2SC1815(BL)TPE2		R227	241 2445 057	Carbon 3.9kohm 1/2W	RD05A2H392J RMG
TR417	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		R229	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
TR419	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		R231	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG
TR421	271 0168 900	Transistor 2SA1145(O)(Y)TPE6					
TR423	271 0168 900	Transistor 2SA1145(O)(Y)TPE6					
TR425	271 0168 900	Transistor 2SA1145(O)(Y)TPE6					
TR427	271 0168 900	Transistor 2SA1145(O)(Y)TPE6					
TR429	273 0281 906	Transistor 2SC2705(O)(Y)TPE6					

Ref.No	Part .No	Part Name	Remaks	Ref.No	Part .No	Part Name	Remaks
R233	241 2448 753	Carbon 91kohm 1/2W	RD05A2H913JF RMG	R423	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R237	241 2438 734	Carbon 2.7kohm 1/2W	RD05A2H272J RMG	R425	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R239	241 2458 002	Carbon 560ohm 1/2W	RD05A2H561J RFA	R427	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R241	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG	R429	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R243	241 2434 725	Carbon 220ohm 1/2W	RD05A2H221JF RMG	R431	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R245	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG	R433	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R247	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R435	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R249	241 2442 720	Carbon 82ohm 1/2W	RD05A2H820JF RMG	R437	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R273	241 2448 724	Carbon 68kohm 1/2W	RD05A2H683JF RMG	R439	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R275	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S	R441	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R277	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S	R443	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
				R445	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
J01	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R447	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R303	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG	R449	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R305	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG	R451	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R307	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG	R453	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R309	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG	R455	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R311	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG	R461	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R315	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG	R463	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R317	241 2444 786	Carbon 1.5kohm 1/2W	RD05A2H152J RMG	R471	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R319	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	R473	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R321	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA	R485	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243J RMG
R323	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA	R487	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243J RMG
R325	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	R489	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222J RMG
R327	241 2445 714	Carbon 2kohm 1/2W	RD05A2H202JF RMG	R491	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222J RMG
R329	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG	R493	241 2438 763	Carbon 4.7Kohm 1/2W	RD05A2H472J RMG
R331	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R495	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162J RMG
R333	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	R497	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162J RMG
R335	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	CAPACITORS GROUP			
R337	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	C111	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
39	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	C117	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R341	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG	C201	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
R343	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG	C203	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
R345	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG	C205	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R347	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG	C215	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R349	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA	C219	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R351	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA	C221	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R353	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104J RMG	C223	255 6187 019	Film 150pF/125V	CO09S2B151KF B
R355	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104J RMG	C225	255 6187 048	Film 0.0047µF/125V	CO09S2B472KF B
				C229	255 1265 965	Film 0.018µF/50V	CO93M1H183J
R401	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG	C231	255 6175 076	Film 0.0015µF/125V	CO09S2B152KF B
R403	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG	C233	255 6187 006	Film 56pF/125V	CO09S2B560KF B
R405	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG	C235	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
R407	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG	C237	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H470MC ARSA
R409	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG	C239	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
R411	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG	C241	255 6187 022	Film 680pF/125V	CO09S2B681KF B
R413	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	C245	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H470MC ARSA
R415	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	C247	255 6187 048	Film 0.0047µF/125V	CO09S2B472KF B
R417	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG	C249	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R419	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG				
R421	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG				

Ref.No	Part .No	Part Name	Remarks	Ref.No	Part .No	Part Name	Remarks
C251	256 1035 910	Metallized 0.22µF/50V	CF93A1H224JT	C429	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C253	256 1034 953	Film 0.068µF/50V	CF93A1H683J	C431	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C261	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C445	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C263	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C461	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C265	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C463	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C287	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C465	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C301	255 6167 039	Film 47pF/125V	CQ09S2B470K B	C467	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C303	255 6167 039	Film 47pF/125V	CQ09S2B470K B	C469	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C305	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C471	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C313	255 6175 050	Film 39pF/125V	CQ09S2B390KF B	C473	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C315	255 6175 050	Film 39pF/125V	CQ09S2B390KF B	C475	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C317	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C481	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C319	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C483	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C321	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	C485	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C323	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	C487	255 6175 034	Film 100pF/125V	CQ09S2B101KF E
C325	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C489	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C327	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C491	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C329	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C493	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C331	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C495	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C333	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	OTHER PARTS			
C335	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	RL111	214 0172 003	Relay (RY12W-OH)	
C337	255 4235 947	Film 0.022µF/100V	CQ93P2A223J NH	RL117	214 0172 003	Relay (RY12W-OH)	
C339	255 4235 947	Film 0.022µF/100V	CQ93P2A223J NH	RL209	214 0178 007	Relay (MR62-12USRY)	
C341	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	RL213	214 0172 003	Relay (RY12W-OH)	
C343	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	CN201	205 0190 036	3P NH Connector Base	
C351	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS	CN203A	205 0277 030	3P EH Connector Base (RD)	
C353	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B	CN205A	205 0653 036	3P VH Connector Base	
C355	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS	CN251A	205 0233 032	3P EH Connector Base	
C357	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN253A	205 0278 039	3P EH Connector Base (BK)	
C371	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN255A	205 0276 031	3P EH Connector Base (BU)	
C373	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN257A	205 0296 037	3P EH Connector Base (YW)	
C375	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	CN405	205 0190 036	3P NH Connector Base	
C377	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS				
C379	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H477MC ARS				
C381	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H477MC ARS				
C383	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C385	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C387	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B				
C389	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B				
C395	256 1054 001	Film 1µF/50V	CF93B1H105K GSG				
C401	255 6175 063	Film 220pF/125V	CQ09S2B221KF B				
C403	255 6175 063	Film 220pF/125V	CQ09S2B221KF B				
C409	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C411	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C419	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C421	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C423	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C425	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				

(1U-2748)INPUT(R) UNIT (Control Unit)

Ref.No	Part.No	Part Name	Remaks	Ref.No	Part.No	Part Name	Remaks
SEMICONDUCTORS GROUP				SEMICONDUCTORS GROUP			
TR210	271 0094 919	Transistor 2SA970(BL)TPE2		TR430	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6	
TR212	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		TR432	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6	
TR214	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		D112	276 0049 914	Diode 1S2076ATE	
TR216	275 0038 045	Transistor 2SK369(BL)(GR)-C		D118	276 0049 914	Diode 1S2076ATE	
TR218	275 0042 905	Transistor 2SK373(Y)TPE2		D212	276 0049 914	Diode 1S2076ATE	
TR222	275 0038 045	Transistor 2SK369(BL)(GR)-C		D216	276 0049 914	Diode 1S2076ATE	
TR224	273 0187 932	Transistor 2SC2240(BLGR)TPE2		D218	276 0049 914	Diode 1S2076ATE	
TR226	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6		D220	276 0049 914	Diode 1S2076ATE	
TR228	273 0324 009	Transistor 2SC3298(OY)		D222	276 0049 914	Diode 1S2076ATE	
TR230	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		D224	276 0049 914	Diode 1S2076ATE	
TR232	271 0196 008	Transistor 2SA1306 O/Y		D226	276 0049 914	Diode 1S2076ATE	
234	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		D242	276 0049 914	Diode 1S2076ATE	
TR242	275 0038 045	Transistor 2SK369(BL)(GR)-C		D244	276 0049 914	Diode 1S2076ATE	
TR244	275 0038 045	Transistor 2SK369(BL)(GR)-C		D302	276 0049 914	Diode 1S2076ATE	
TR302	273 0431 002	Transistor 2SC3067		D304	276 0049 914	Diode 1S2076ATE	
TR306	275 0042 905	Transistor 2SK373(Y)TPE2		D306	276 0049 914	Diode 1S2076ATE	
TR308	275 0042 905	Transistor 2SK373(Y)TPE2		D308	276 0049 914	Diode 1S2076ATE	
TR310	273 0281 003	Transistor 2SC2705(OY)		D312	276 0049 914	Diode 1S2076ATE	
TR314	271 0253 006	Transistor 2SA1240F/G		D402	276 0049 914	Diode 1S2076ATE	
TR318	275 0055 915	Transistor 2SK184C(GRY)(BL)		D404	276 0049 914	Diode 1S2076ATE	
TR320	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6		ZD202	276 0299 942	Zener Diode HZ3A-1TE	
TR322	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6		ZD204	276 0407 912	Zener Diode HZ6LA-1TD	
TR324	275 0048 912	Transistor 2SK381(BY)(C)-T		ZD302	276 0256 914	Zener Diode HZ16-1TE	
TR326	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		ZD304	276 0407 912	Zener Diode HZ6LA-1TD	
TR328	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		ZD308	276 0249 918	Zener Diode HZ18-3TD	
TR330	273 0431 002	Transistor 2SC3067		ZD310	276 0249 918	Zener Diode HZ18-3TD	
TR334	275 0069 001	Transistor 2SK215		ZD312	276 0313 938	Zener Diode HZ20L-2TD	
TR336	275 0068 002	Transistor 2SJ78		ZD314	276 0313 938	Zener Diode HZ20L-2TD	
TR338	275 0069 001	Transistor 2SK215		ZD352	276 0249 921	Zener Diode HZ18-1TE	
340	275 0068 002	Transistor 2SJ78		LD402	393 9503 905	LED SEL4414G(TP1)	
TR344	274 0167 007	Transistor 2SD2437		LD404	393 9503 905	LED SEL4414G(TP1)	
TR346	272 0128 008	Transistor 2SB1586		LD406	393 9503 905	LED SEL4414G(TP1)	
TR348	275 0042 905	Transistor 2SK373(Y)TPE2		LD408	393 9503 905	LED SEL4414G(TP1)	
TR350	275 0042 905	Transistor 2SK373(Y)TPE2		RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
TR352	273 0281 906	Transistor 2SC2705(OY)(Y)TPE6		VR302	211 6075 095	Adjust 470ohm (CERMET)	V06PB471
TR402	275 0038 045	Transistor 2SK369(BL)(GR)-C		R206	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
TR404	275 0038 045	Transistor 2SK369(BL)(GR)-C		R208	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR406	275 0038 045	Transistor 2SK369(BL)(GR)-C		R212	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
TR408	275 0038 045	Transistor 2SK369(BL)(GR)-C		R214	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
TR410	273 0198 918	Transistor 2SC1815(BL)TPE2		R216	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
TR412	273 0198 918	Transistor 2SC1815(BL)TPE2		R218	241 2438 763	Carbon 10kohm 1/2W	RD05A2H103JF RMG
TR414	273 0198 918	Transistor 2SC1815(BL)TPE2		R220	241 2434 068	Carbon 1kohm 1/2W	RD05A2H102J RMG
TR416	273 0198 918	Transistor 2SC1815(BL)TPE2		R222	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
TR418	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6		R226	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR420	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6		R228	241 2445 057	Carbon 3.9kohm 1/2W	RD05A2H392J RMG
TR422	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6					
TR424	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6					
TR426	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6					
TR428	271 0168 900	Transistor 2SA1145(OY)(Y)TPE6					

Ref. No.	Part No.	Part Name	Remaks	Ref. No.	Part No.	Part Name	Remaks
R230	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA	R420	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R232	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG	R422	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R234	241 2448 753	Carbon 91kohm 1/2W	RD05A2H913JF RMG	R424	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R238	241 2438 734	Carbon 2.7kohm 1/2W	RD05A2H272J RMG	R426	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R240	241 2458 002	Carbon 560ohm 1/2W	RD05A2H561J RFA	R428	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R242	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG	R430	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R244	241 2434 725	Carbon 220ohm 1/2W	RD05A2H221JF RMG	R432	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R246	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG	R434	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R248	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R436	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R250	241 2442 720	Carbon 82ohm 1/2W	RD05A2H820JF RMG	R438	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R274	241 2448 724	Carbon 68kohm 1/2W	RD05A2H683JF RMG	R440	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R276	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S	R442	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R278	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S	R444	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R302	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R446	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R304	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG	R448	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R306	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG	R450	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R308	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG	R452	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R310	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG	R454	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R312	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG	R456	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R316	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG	R462	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R318	241 2444 786	Carbon 1.5kohm 1/2W	RD05A2H152J RMG	R464	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R320	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	R472	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R322	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA	R474	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R324	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA	R486	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243JF RMG
R326	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	R488	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243JF RMG
R328	241 2445 714	Carbon 2kohm 1/2W	RD05A2H202JF RMG	R490	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222JF RMG
R330	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG	R492	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222JF RMG
R332	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	R494	241 2438 763	Carbon 4.7Kohm 1/2W	RD05A2H472JF RMG
R334	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	R496	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162JF RMG
R336	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	R498	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162JF RMG
R338	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	CAPACITORS GROUP			
R340	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA	C112	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R342	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG	C118	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R344	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG	C202	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
R346	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG	C204	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
R348	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG	C206	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R350	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA	C216	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
R352	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA	C220	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R354	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104JF RMG	C222	255 6167 000	Film 0.01µF/125V	CO09S2B103K B
R356	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104JF RMG	C224	255 6187 019	Film 150pF/125V	CO09S2B151KF B
R402	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG	C226	255 6187 048	Film 0.0047µF/125V	CO09S2B472KF B
R404	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG	C230	255 1265 965	Film 0.018µF/50V	CO93M1H183J
R406	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG	C232	255 6175 076	Film 0.0015µF/125V	CO09S2B152KF B
R408	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG	C234	255 6187 006	Film 56pF/125V	CO09S2B560KF B
R410	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG	C236	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
R412	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG	C238	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA
R414	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	C240	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
R416	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG	C242	255 6187 022	Film 680pF/125V	CO09S2B681KF B
R418	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG	C246	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
C248	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B	C416	255 6187 051	Film 330pF/125V	CQ09S2B331KF B
C250	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF	C420	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C252	256 1035 910	Metalized 0.22µF/50V	CF93A1H224JT	C422	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C254	256 1034 953	Film 0.068µF/50V	CF93A1H683J T	C424	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C262	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C426	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C264	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C430	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C266	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	C432	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C288	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C446	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C302	255 6167 039	Film 47pF/125V	CQ09S2B470K B	C462	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C304	255 6167 039	Film 47pF/125V	CQ09S2B470K B	C464	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C306	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C466	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
114	255 6175 050	Film 39pF/125V	CQ09S2B390KF B	C468	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C316	255 6175 050	Film 39pF/125V	CQ09S2B390KF B	C470	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C318	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C472	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C320	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C474	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C322	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	C476	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C324	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	C482	255 6175 034	Film 100pF/400V	CQ09S2B101KF B
C326	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C484	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C328	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C486	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C330	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C488	255 6175 034	Film 100pF/400V	CQ09S2B101KF B
C332	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	C490	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C334	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C492	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C336	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	C494	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C338	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH	C496	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C340	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH	OTHER PARTS			
C342	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	RL112	214 0172 003	Relay (RY12W-OH)	
C344	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	RL118	214 0172 003	Relay (RY12W-OH)	
C352	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MCARS	RL210	214 0178 007	Relay (MR62-12 USRY)	
C354	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	RL214	214 0172 003	Relay (RY12W-OH)	
356	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS	CN202	205 0190 036	3P NH Connector Base	
C358	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN204A	205 0277 030	3P EH Connector Base (RD)	
C372	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN206A	205 0653 036	3P VH Connector Base	
C374	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN252A	205 0233 032	3P EH Connector Base	
C376	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	CN254A	205 0278 039	3P EH Connector Base (BK)	
C378	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	CN256A	205 0276 031	3P EH Connector Base (BU)	
C380	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS	CN258A	205 0296 037	3P EH Connector Base (YW)	
C382	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS	CN406	205 0190 036	3P NH Connector Base	
C384	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C386	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C388	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B				
C390	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B				
C396	256 1054 001	Film 1µF/50V	CF93B1H105K GSG				
C402	255 6175 063	Film 220pF/125V	CQ09S2B221KF B				
C404	255 6175 063	Film 220pF/125V	CQ09S2B221KF B				
C406	255 6181 028	Film 33pF/400V	CQ09S2G330KF B				
C408	255 6181 028	Film 33pF/400V	CQ09S2G330KF B				
C410	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C412	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C414	255 6187 051	Film 330pF/125V	CQ09S2B331KF B				

(1U-2749)OUTPUT UNIT(Control Unit)

Ref.No	Part .No	Part Name	Remarks	Ref.No	Part .No	Part Name	Remarks
SEMICONDUCTORS GROUP				RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
IC701-704	263 0998 001	IC NJMOP-07D		ZD703,704	276 0236 934	Zener Diode HZ5C-1TE	
TR601,602	274 0167 007	Transistor 2SD2437		ZD721,722	276 0299 939	Zener Diode HZ3B-2TE	
TR603,604	272 0128 008	Transistor 2SB1586		ZD723,724	276 0236 934	Zener Diode HZ5C-1TE	
TR605,606	274 0167 007	Transistor 2SD2437		ZD741,742	276 0299 939	Zener Diode HZ3B-2TE	
TR607,608	272 0128 008	Transistor 2SB1586		ZD743,744	276 0236 934	Zener Diode HZ5C-1TE	
TR609-612	275 0042 905	Transistor 2SK373(Y)TPE2		ZD771-778	276 0173 987	Zener Diode HZ6C-1TE	
TR701,702	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		VR701,702	211 6122 003	Adjust 20ohm	V04PB200 CERMET
TR703-706	275 0038 029	Transistor 2SK369(GR)-C		R603,604	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
TR707,708	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R605,606	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR709-712	275 0038 029	Transistor 2SK369(GR)-C		R607-610	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
TR713,714	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R611,612	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA
TR715-718	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		R613,614	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
TR719,720	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R615,616	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
TR721,722	275 0069 001	Transistor 2SK215		R617,618	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
TR723,724	275 0068 002	Transistor 2SJ78		R619,620	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
TR731,732	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R621-624	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
TR733-736	275 0038 029	Transistor 2SK369(GR)-C		R625-628	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG
TR737,738	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R641-644	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR739-742	275 0038 029	Transistor 2SK369(GR)-C		R701,702	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
TR743,744	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R703,704	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
TR745-748	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		R705,706	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
TR749,750	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R707,708	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
TR751,752	275 0069 001	Transistor 2SK215		R709-712	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
TR753,754	275 0068 002	Transistor 2SJ78		R713,714	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA
TR761,762	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R715,716	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
TR763,764	275 0038 029	Transistor 2SK369(GR)-C		R717,718	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
TR765,766	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R719,720	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
TR767,768	275 0038 029	Transistor 2SK369(GR)-C		R721,722	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
TR769,770	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R723-726	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG
TR771-774	271 0168 900	Transistor 2SA1145(O)(Y)TPE6		R727-730	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
TR775,776	273 0281 906	Transistor 2SC2705(O)(Y)TPE6		R731,732	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
TR777,778	275 0069 001	Transistor 2SK215		R733,734	241 2445 798	Carbon 7.5kohm 1/2W	RD05A2H752J RMG
TR779,780	275 0068 002	Transistor 2SJ78		R735,736	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
D501,502	276 0049 914	Diode 1S2076ATE		R737,738	241 2438 776	Carbon 6.8kohm 1/2W	RD05A2H682J RMG
D503-506	276 0049 914	Diode 1S2076ATE		R739,740	241 2448 708	Carbon 56kohm 1/2W	RD05A2H563JF RMG
D705-712	276 0049 914	Diode 1S2076ATE		R741,742	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG
D713-716	276 0049 914	Diode 1S2076ATE		R743,744	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG
D725-732	276 0049 914	Diode 1S2076ATE		R745,746	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
D733,734	276 0049 914	Diode 1S2076ATE		R747,748	241 2450 725	Carbon 470kohm 1/2W	RD05A2H474JF RMG
D745-752	276 0049 914	Diode 1S2076ATE		R749,750	241 2442 788	Carbon 180ohm 1/2W	RD05A2H181J RMG
D755,756	276 0049 914	Diode 1S2076ATE		R751,752	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
D761-774	276 0049 914	Diode 1S2076ATE		R753,754	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
ZD601-604	276 0218 952	Zener Diode HZ9C-1TE		R755,756	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
ZD605-608	276 0249 918	Zener Diode HZ18-3TE		R757,758	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
ZD619-622	276 0313 938	Zener Diode HZ20L-2TD		R759-762	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
ZD701,702	276 0299 939	Zener Diode HZ3B-2TE		R763,764	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA

Ref.No	Part .No	Part Name	Remaks	Ref.No	Part .No	Part Name	Remaks
R765,766	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA	C759,760	254 4313 934	Electrolytic 220µF/25V	CE04W1E221M ASF
R767,768	241 2445 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA	C761,762	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
R769,770	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA	C763,764	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
R771,772	241 2445 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA	C765,766	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
R773-776	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG	C767,768	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
R777-780	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA	C769,770	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
R781,782	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG	C771,772	255 6181 002	Film 10pF/400V	CQ09S2G100KF B
R783,784	241 2445 798	Carbon 7.5kohm 1/2W	RD05A2H752J RMG	C773,774	255 6177 948	Film 100pF/50V	CQ09S1H101J SMT
R785,786	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG	C775,776	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
R787,788	241 2438 776	Carbon 6.8kohm 1/2W	RD05A2H682J RMG	C777,778	256 1035 936	Film 0.33µF/50V	CF93A1H334J
R789,790	241 2448 708	Carbon 56kohm 1/2W	RD05A2H563JF RMG	C779-782	255 6176 004	Film 0.001µF/125V	CQ09S2B102JF B
R791,792	241 2440 706	Carbon 10ohm 1/2W	RD05A100J RMG	C783,784	256 1045 007	Film 1µF/16V	CF93B1J105K SA
3,794	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG	OTHER PARTS			
R795,796	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG	RL501-506	214 0172 003	Relay (RY12W-OH)	
R797,798	241 2450 725	Carbon 470kohm 1/2W	RD05A2H474JF RMG	RL701,702	214 0172 003	Relay (RY12W-OH)	
CAPACITORS GROUP				CN205,206	205 0653 036	3P VH Connector Base	
C601-604	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN401	205 0296 037	3P EH Connector Base (YW)	
C605-608	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS	CN402	205 0278 039	3P EH Connector Base (BK)	
C611-614	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN403,404	205 0233 061	6P EH Connector Base	
C615-618	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS	CN501,502	205 0278 068	6P EH Connector Base (BK)	
C619-622	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	CN503	205 0278 055	5P EH Connector Base (BK)	
C623-626	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS	CN504	205 0276 057	5P EH Connector Base (BU)	
C627-630	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B	CN505	205 0233 032	3P EH Connector Base	
C701,702	255 6167 042	Film 470pF/125V	CQ09S2B471KF B	CN506	205 0277 030	3P EH Connector Base (RD)	
C703,704	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS	CN507	205 0296 053	5P EH Connector Base (YW)	
C705,706	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B	CN508	205 0277 056	5P EH Connector Base (RD)	
C707,708	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS	CN603,604	205 0233 090	9P EH Connector Base	
709,710	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B	CN605,606	205 0233 032	3P EH Connector Base	
11,712	255 6181 044	Film 47pF/400V	CQ09S2G470KF B	CN701,702	205 0653 065	6P VH Connector Base	
C713,714	255 6175 034	Film 100pF/125V	CQ09S2B101KF B	CN703,704	205 0653 081	8P VH Connector Base	
C715-718	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C719,720	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B				
C721-724	254 4368 947	Electrolytic 220µF/25V	CE04W1E221M ASF				
C725,726	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH				
C727,728	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C729,730	254 4313 934	Electrolytic 220µF/25V	CE04W1E221M ASF				
C731,732	255 6167 042	Film 470pF/125V	CQ09S2B471KF B				
C733,734	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS				
C735,736	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B				
C737,738	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS				
C739,740	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B				
C741,742	255 6181 044	Film 47pF/400V	CQ09S2G470KF B				
C743,744	255 6175 034	Film 100pF/125V	CQ09S2B101KF B				
C745-748	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS				
C749,750	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B				
C751-754	254 4368 947	Electrolytic 220µF/25V	CE04W1E221M ASF				
C755,756	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH				
C757,758	255 6187 047	Film 0.0047µF/125V	CQ09S2B472KF B				

(1U-2753) POWER AMP & OSC UNIT (Power Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
IC101	268 0073 905	IC ICP-N15T	
IC151	262 2151 005	IC TLP620(GB)	
IC201	263 0516 001	IC NJM7812FA	
IC202	263 0507 007	IC NJM78M15FA	
IC203	263 0561 001	IC NJM7915FA	
IC204,205	265 0030 004	IC NJM4558DD	
IC301,302	263 0284 003	IC MS219P	
TR151	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR201	275 0039 002	Transistor 2SK362(GR)(BL)	
TR202-204	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR205	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR206,207	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR210	273 0253 918	Transistor 2SC2878(A/B)TPE2	
TR215-217	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR220,221	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR223	274 0136 012	Transistor 2SD1913(R/S)	
TR231	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR233	269 0026 900	Transistor RN2202(10K-10K)T	
TR234	274 0136 012	Transistor 2SD1913(R/S)	
TR235	275 0042 905	Transistor 2SK373(Y)TPE2	
TR301	273 0235 923	Transistor 2SC18414-T(E/F)	
TR303	271 0131 924	Transistor 2SA988-T(E/F)	
TR304	271 0131 924	Transistor 2SA988-T(E/F)	
TR305,306	273 0235 923	Transistor 2SC18414-T(E/F)	
TR307,308	274 0136 012	Transistor 2SD1913(R/S)	
TR314	274 0136 012	Transistor 2SD1913(R/S)	
TR315	272 0093 010	Transistor 2SB1274(R/S)	
TR316,317	275 0043 043	Transistor 2SK381(C)	
D101-104	276 0553 905	Diode 1SR35-200A(T93X)	
D105	276 0424 005	Diode 4D4B42(LC1)	
D151	276 0049 914	Diode 1S2076ATE	
D201-205	276 0553 905	Diode 1SR35-200A(T93X)	
D207,208	276 0553 905	Diode 1SR35-200A(T93X)	
D210	276 0553 905	Diode 1SR35-200A(T93X)	
D211	276 0370 900	Diode 1SS106TD	
D212-215	276 0553 905	Diode 1SR35-200A(T93X)	
D217	276 0553 905	Diode 1SR35-200A(T93X)	
D221	276 0553 905	Diode 1SR35-200A(T93X)	
D303-310	276 0049 914	Diode 1S2076ATE	
D315	276 0049 914	Diode 1S2076ATE	
ZD209	276 0236 905	Zener Diode HZ5B-1TE	
ZD225	276 0236 905	Zener Diode HZ5B-1TE	
ZD227-229	276 0218 952	Zener Diode HZ9C-1TE	
ZD301-304	276 0299 926	Zener Diode HZ3C-1TE	
ZD311,312	276 0220 911	Zener Diode HZ24-1TE	

Ref.No	Part .No	Part Name	Remaks
RESISTORS GROUP			
VR301,302	211 6075 024	Adjust 4.7kohm (CERMET)	V06PB472 (CERMET)
R151-154	244 2055 912	Metal oxide film 0.47ohm 1W (Non-burning type)	RS14B2E3A47JNBST(S)
R155	241 2379 987	Carbon 1Kohm 1/4W (Non-burning type)	RD14B2E102JNBST
R156	244 2383 986	Carbon 47Kohm 1/4W	RD14B2E473JNBST
R217	245 2342 000	Metal film 100Kohm 1/4W 1%	RN14K2E104F
R218	245 2318 005	Metal film 8.2Kohm 1/4W 1%	RN14K2E822F
R247,249	241 2375 907	Carbon 10ohm 1/4W (Non-burning type)	RD14B2E100JNBST
R253	241 2375 907	Carbon 10ohm 1/4W (Non-burning type)	RD14B2E100JNBST
R265	245 2289 008	Metal film 390ohm 1/4W 1%	RN14K2E391F
R304	245 2304 006	Metal film 2.2Kohm 1/4W 1%	RN14K2E222F
R305	245 2303 007	Metal film 2Kohm 1/4W 1%	RN14K2E202F
R311,312	241 2377 947	Carbon 100ohm 1/4W (Non-burning type)	RD14B2E101JNBST
R315,316	241 2377 947	Carbon 100ohm 1/4W (Non-burning type)	RD14B2E101JNBST
R317,318	241 2376 964	Carbon 47ohm 1/4W (Non-burning type)	RD14B2E470JNBST
R319,320	241 2376 964	Carbon 47ohm 1/4W (Non-burning type)	RD14B2E470JNBST
R321-324	241 2379 987	Carbon 1Kohm 1/4W (Non-burning type)	RD14B2E102JNBST
R325,326	243 2039 003	Winding 0.33ohm 5W	RW99=3HR33K
R331	245 2325 001	Metal film 18Kohm 1/4W 1%	RN14K2E183F
R332	245 2327 009	Metal film 22Kohm 1/4W 1%	RN14K2E223F
R341,342	241 2387 940	Carbon 4.7ohm 1/4W (Non-burning type)	RD14B2E47JNBST
R350	244 2043 937	Metal oxide film 10ohm 1W (Non-burning type)	RS14B3A100JNBST(S)
CAPACITORS GROUP			
ΔC101	256 8023 008	Film 0.01μF/250VAC	CF93A2EAC103M
C102	256 1042 903	Metallized 0.1μF/250V	CF93A2E104KT
C105,106	254 6180 000	Electrolytic 4700μF/63V	CE68W1J472M DL
C108	256 8023 006	Metallized 0.01μF/250VAC	CF93A2EAC103M
C151	254 4313 950	Electrolytic 100μF/50V	CE04W1H101MT ASF
ΔC152	256 8023 006	Film 0.01μF/250VAC	CF93A2EAC103M
C201,202	256 1035 936	Film 0.33μF/50V	CO92M1H334JT
C203	254 4313 963	Electrolytic 1μF/50V	CE04W1H1010MT ASF
C205	255 4199 902	Film 0.1μF/50V	CO92M1H104JT MRZ
C207,208	255 4199 902	Film 0.1μF/50V	CO92M1H104JT MRZ
C210	254 4313 950	Electrolytic 100μF/50V	CE04W1H1010MT ASF
C211	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF

Ref.No	Part .No	Part Name	Remaks	Ref.No	Part .No	Part Name	Remaks
C212,213	255 4199 902	Film 0.1 μ F/50V	CO92M1H104JT MRZ	ASW101	212 1031 008	Power Switch (TV-5)	
C214	254 4313 947	Electrolytic 4.7 μ F/50V	CE04W1H4R7MT ASF		212 0365 005	Rotary Switch (25)	
C215,216	254 4313 921	Electrolytic 22 μ F/50V	CE04W1H220MT ASF	CN020	205 0581 001	2P VH Connector Base	
C217,218	254 4387 012	Electrolytic 220 μ F/50V	CE04W1H222M ASF	CN101	205 0948 000	3P VH Connector Base	
C219	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF	CN102	205 0581 098	3P VH Connector Base	
C220	254 4250 929	Electrolytic 100 μ F/6.3V	CE04W0J101MT SME	CN103	205 0833 034	3P VH Connector Base (YW)	
C222	254 4387 708	Electrolytic 470 μ F/50V	CE04W1H471MT ASF	CN104A,B	205 0233 074	7P EH Connector Base	
C221	254 4313 934	Electrolytic 47 μ F/50V	CE04W1H470MT ASF	CN106B	205 0190 036	3P NH Connector Base	
C223	254 4313 921	Electrolytic 22 μ F/50V	CE04W1H220MT ASF	CN120	205 0453 003	2P VH Connector Base (L)	
C224	254 4481 905	Electrolytic 1 μ F/100V	CE04W2A010MT ASF	CN151	205 0833 018	3P VH Connector Base (BK)	
C226	253 1100 901	Ceramic 100pF/50V	CK45B1H101KT	CN152A	205 0947 001	2P VH Connector Base (BU)	
C227	254 4313 921	Electrolytic 22 μ F/50V	CE04W1H220MT ASF	CN152B	205 0581 085	2P VH Connector Base	
C228	254 4313 934	Electrolytic 47 μ F/50V	CE04W1H470MT ASF	CN201A,B	205 0233 032	3P EH Connector Base	
C229	254 4313 921	Electrolytic 22 μ F/50V	CE04W1H220MT ASF	CN202	205 0233 032	3P EH Connector Base	
C231	254 4452 701	Electrolytic 47 μ F/50V	CE04W1H470MT ASF	CN203A,B	205 0233 045	4P EH Connector Base	
C241	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF	CN301,302	205 0833 005	3P VH Connector Base (RD)	
C242	254 4250 929	Electrolytic 100 μ F/6.3V	CE04W0J101MT SME	CN507B	205 0278 039	3P EH Connector Base (BK)	
C243	254 4313 950	Electrolytic 100 μ F/50V	CE04W1H101MT ASF	CN508B	205 0296 037	3P EH Connector Base (YW)	
C244	255 1251 911	Film 0.0022 μ F/50V	CO92M1H222JT MRZ				
C245	253 9036 909	Ceramic 0.1 μ F/25V	CK45-1E104ZT	F101	206 1035 067	Fuse T2.5A	
C251	253 1181 904	Ceramic 0.01 μ F/50V	CK45F1H103ZT (DD-3)	F103,104	206 1035 009	Fuse T3.15A	
C261	254 4313 963	Electrolytic 1 μ F/50V	CE04W1H010MT ASF				
C262	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF	TP001,002	205 0653 036	3P VH Connector Base	
C301	256 1035 091	Metallized 1 μ F/50V	CF93A1H105J				
C302	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF				
C303	255 1251 940	Film 0.0047 μ F/50V	CO92M1H472JT MRZ				
C304	255 4199 902	Film 0.1 μ F/50V	CO92M1H104JT MRZ				
C305	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF				
C308	254 4313 798	Electrolytic 220 μ F/50V	CE04W1H221MC ASF				
C309	255 6152 099	Film 10pF/250V	CO09S2E100J				
C310,311	254 4313 798	Electrolytic 220 μ F/50V	CE04W1H221MC ASF				
C312	253 1100 901	Ceramic 100pF/50V	CK45B1H101KT				
C313	254 4313 798	Electrolytic 220 μ F/50V	CE04W1H221MC ASF				
C315-318	254 4313 798	Electrolytic 220 μ F/50V	CE04W1H221MC ASF				
C319	254 4313 934	Electrolytic 47 μ F/50V	CE04W1H470MT ASF				
C321	255 4224 903	Film 0.047 μ F/50V	CO92M1H473JT MRZ				
C324	255 1249 907	Film 470pF/50V	CO93M1H471JT				
C327,328	254 4313 918	Electrolytic 10 μ F/50V	CE04W1H100MT ASF				
C341-344	255 4199 986	Film 0.001 μ F/50V	CO92M1H102JT MRZ				
C351	256 1035 091	Metallized 1 μ F/50V	CF93A1H105J				
C352	255 4199 986	Film 0.001 μ F/50V	CO92M1H102JT MRZ				
C353,354	254 4313 934	Electrolytic 47 μ F/50V	CE04W1H470MT ASF				
OTHER PARTS							
RL151	214 0142 004	Relay(TV-5)					
RL201	214 0127 003	Relay(RY-12W)					
RL301	214 0142 004	Relay(TV-5)					
P001	279 0034 041	Posistor (PTH9M04BD222TS2F333)					

(1U-2754)POWER SUPPLY UNIT(Power Unit)

Ref.No	Part .No	Part Name	Remarks
SEMICONDUCTORS GROUP			
D401-408	276 0348 000	Diode S2K20F	
D501-508	276 0348 000	Diode S2K20F	
D601	393 9517 904	LED SEL-2410E(TP2)	
RESISTORS GROUP (not included Carbon Film $\pm 5\%$ 1/4W type)			
R401-404	241 2447 084	Carbon 47kohm 1/2W	RD05A2H473J RMG
R501-504	241 2447 084	Carbon 47kohm 1/2W	RD05A2H473J RMG
CAPACITORS GROUP			
C401-404	254 4435 715	Electrolytic 100 μ F/50V	CE04W1H101MC ARSA
C405-408	254 4461 721	Electrolytic 4700 μ F/50V	CE04W1H472MC ARS
C409,410	256 8023 006	Metallized 0.01 μ F/250VAC	CF93A2EAC103M
C501-504	254 4435 715	Electrolytic 100 μ F/50V	CE04W1H101MC ARSA
C505-508	254 4461 721	Electrolytic 4700 μ F/50V	CE04W1H472MC ARS
C509,510	256 8023 006	Metallized 0.01 μ F/250VAC	CF93A2EAC103M
OTHER PARTS			
CN106B	205 0190 036	3P NH Connector Base	
CN501,502	205 0907 009	6P VH Connector Base(RD)	
CN503,504	205 0653 065	6P VH Connector Base	
CN505,506	205 0653 081	8P VH Connector Base	
CN507A	205 0278 039	3P EH Connector Base(BK)	
CN508A	205 0296 037	3P EH Connector Base(YW)	

(1U-2829) CONTROL UNIT (Control Unit)

Ref.No	Part .No	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC801,802	263 0917 008	IC LB1710	
IC803	262 0849 005	IC HD74HC10P	
IC804	262 1434 008	IC TC74HC11AP	
IC805	263 0986 000	IC NJM7820FA(S)	
IC806	263 0809 006	IC NJM7805FA(S)	
IC807	263 0801 004	IC NJM7812FA(S)	
IC808	262 1321 001	IC TC74HC32AP	
TR801,802	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR806-811	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR812	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR815	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR816,817	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR818	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR819-821	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR813,814	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR822	269 0029 907	Transistor RN1204	
TR823	273 0198 918	Transistor 2SC1815(BL)TPE2	
D101-110	276 0049 914	Diode 1S2076ATE	
D113-116	276 0049 914	Diode 1S2076ATE	
D801-825	276 0432 903	Diode 1SS270A	
D827-836	276 0432 903	Diode 1SS270A	
ZD801	276 0469 905	Zener Diode HZS9C-1TD	
ZD804,805	276 0469 905	Zener Diode HZS9C-1TD	
ZD806	276 0466 908	Zener Diode HZS7C-1TD	
LD701	393 9517 904	LED SEL-2410E(TP2)	
RESISTORS GROUP (not included Carbon Film $\pm 5\%$ 1/4W type)			
R791,792	241 2443 716	Carbon 270ohm 1/2W	RD05A2H271JF RMG
R793,794	241 2443 729	Carbon 330ohm 1/2W	RD05A2H331JF RMG
R795,796	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R797,798	241 2444 715	Carbon 750ohm 1/2W	RD05A2H751JF RMG
R801-814	244 2043 908	Metal Oxide Film 680ohm 1W (Non-burning type)	RS14B3A681JNBST S
R871-878	244 2043 908	Metal Oxide Film 680ohm 1W (Non-burning type)	RS14B3A681JNBST S
CAPACITORS GROUP			
C101-110	254 4313 950	Electrolytic 100 μ F/50V	CE04W1H101MT ASF
C113-116	254 4313 950	Electrolytic 100 μ F/50V	CE04W1H101MT ASF
C801	254 4313 976	Electrolytic 2.2 μ F/50V	CE04W1H2R2MT ASF
C802	254 4368 705	Electrolytic 10 μ F/25V	CE04W1E100MT ASF
C803	254 4368 734	Electrolytic 100 μ F/25V	CE04W1E101MT ASF
C804	254 4368 705	Electrolytic 10 μ F/25V	CE04W1E100MT ASF
C805	254 4368 905	Electrolytic 10 μ F/25V	CE04W1E100MT ASF
C806	254 4368 705	Electrolytic 10 μ F/25V	CE04W1E100MT ASF

PARTS LIST OF PACKING & ACCESSORIES

CNTROL UNIT


Ref.No	Part .No	Part Name	Remarks
C807	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C808	254 4368 905	Electrolytic 10μF/25V	CE04W1E100MT ASF
C809	254 4368 705	Electrolytic 10μF/25V	CE04W1E100MT ASF
C810,811	254 4313 976	Electrolytic 2.2μF/50V	CE04W1H2R2MT ASF
C812,813	254 4382 716	Electrolytic 1000μF/16V	CE04W1C102MC ASF
C814	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C815-818	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C819,820	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C871	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C821	254 4313 976	Electrolytic 2.2μF/50V	CE04W1H2R2MT ASF
C822	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104ZT
C823	254 4313 989	Electrolytic 33μF/50V	CE04W1H330MT ASF

Ref.No	Part No	Part Name	Remarks	Q'ty
	505 9102 019	Poly Cover	900 x 450	1
	504 9102 029	Styrene Paper	900 x 700	1
	503 9268 009	Cushion		2
	501 9263 011	Carton Case		1



OTHER PARTS

Ref.No	Part .No	Part Name	Remarks
RL101-110	214 0172 003	Relay (RY12W-OH)	INPUT SELECT REC/OUT SELECT
RL113-116	214 0172 003	Relay (RY12W-OH)	
SW801,802	212 1115 005	2P Push Switch	
SW803	212 0357 013	Rotary Switch(1-7)	
SW804	212 0358 009	Rotary Switch(2-4)	
SW805A-D	212 0364 006	Rotary Switch(4-11)	
CN203B,204B	205 0277 030	3P EH Connector Base (RD)	
CN251B,252B	205 0233 032	3P EH Connector Base	
CN253B,254B	205 0278 039	3P EH Connector Base (BK)	
CN255B,256B	205 0276 031	3P EH Connector Base (BU)	
CN257B,258B	205 0296 037	3P EH Connector Base (YW)	
CN301A,B	205 0271 007	10P PH Connector Base	
CN302A,B	205 0321 009	10P PH Connector Base (RD)	
CN303,304	205 0277 069	6P EH Connector Base (RD)	
CN305,306	205 0296 066	6P EH Connector Base (YW)	
CN307,308	205 0276 060	6P EH Connector Base (BU)	
CN401B	205 0296 037	3P EH Connector Base (YW)	
CN402B	205 0278 039	3P EH Connector Base (BK)	
CN403A,404A	205 0233 061	6P EH Connector Base	
CN503B	205 0278 055	5P EH Connector Base (BK)	
CN504B	205 0276 057	5P EH Connector Base (BU)	
CN508B	205 0277 056	5P EH Connector Base (RD)	
CN605,606	205 0233 032	3P EH Connector Base	
CN705A,B	205 0296 037	3P EH Connector Base (YW)	
CN801A,B	205 0271 081	8P PH Connector Base	
CN802A,B	205 0271 052	5P PH Connector Base	
CN810A,B	205 0322 053	5P PH Connector Base (BU)	
CN851A,B	205 0322 037	3P PH Connector Base (BU)	

POWER UNIT

Ref.No	Part No	Part Name	Remarks	Q'ty
	505 9102 019	Poly Cover	900 x 450	1
	504 9102 029	Styrene Paper	900 x 700	1
	503 9268 009	Cushion		2
	501 9263 008	Carton Case		1
	505 8006 019	Envelope	225 x 380	1
	511 9394 000	Operating Instructions		1
	515 0671 106	Service Station List (EX)		1
	505 0076 115	Poly Cover		1
	204 6505 004	12P DC Cord		2
	 206 2118 006	AC Cord With Plug	Europe Only	1
	515 0690 006	DEL Warranty Home	U.S.A Only	1

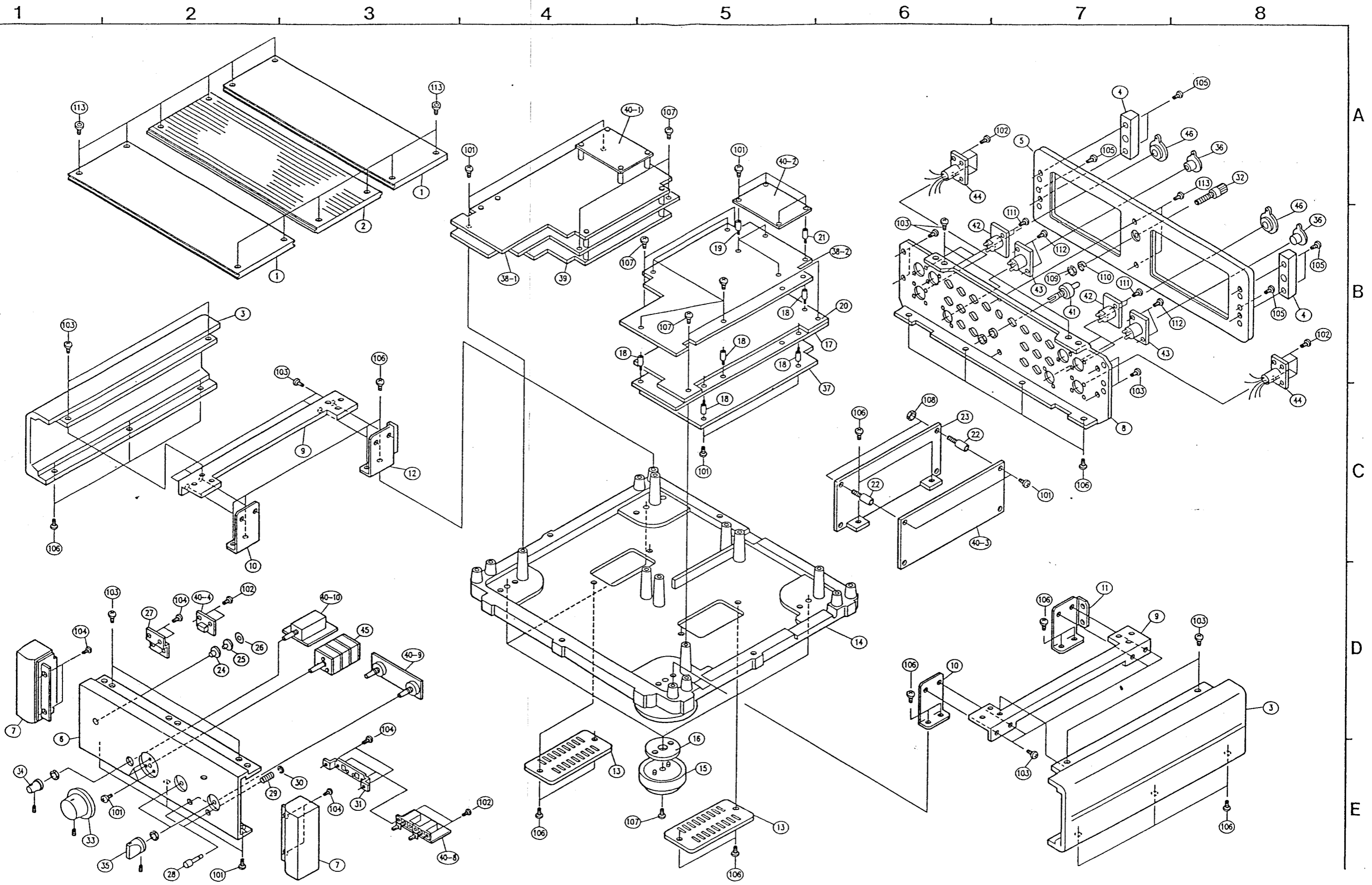
WARNING:

- Parts marked with *  * and/or shading have special characteristics important to safety.
- Part indicated with the mark *  * are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

PARTS LIST OF EXPLODED VIEW (UPRAS1-C)

Ref.No	Part No	Part Name	Remaks	Ref.No	Part No	Part Name	Remaks
1	144 9199 005	Top Plate		43	203 5039 002	3P Cannon Connector	
2	144 9200 017	Top Grille		44	204 6511 001	12P DC Connector(2)	
3	144 2301 308	Side Panel		45	GEN 3175	Attenuator Sub	
4	144 2302 103	Back Foot		46	414 9078 009	Dust Cap-SDC	
5	144 9204 107	Rear Panel (C)-1					
6	GEN 7668	F.P Guide (C) Sub Ass		101	471 3832 008	4x8 CBS-CU	
7	144 2300 008	Side ESC		102	473 7002 021	3x8 CBTS (S)-B	
8	105 9248 304	Rear Panel (C)-2		103	473 8034 001	3x8 CBTS (S)-CU	
9	411 9127 100	Side Chassis		104	471 3837 003	3x4 CBS-CU	
10	412 9427 104	Bracket (F)		105	473 7005 015	3x12 CBTS (S)-Z	
11	412 9429 005	Bracket (R-R)		106	471 3840 003	4x6 CBS-CU	
12	412 9430 007	Bracket (R-L)		107	471 3840 016	4x14 CBS-CU	
13	105 9249 002	Bottom Cover		108	475 6164 007	Nut-W	
14	411 9130 032	Base Chassis (C) (KK)		109	475 6008 006	4N	
15	104 0267 006	Foot Ass'y		110	475 2004 004	4SW ZN	
16	414 9099 020	Damp Plate (FT)		111	473 7012 008	3x10 CFTS (S)-N	
17	414 9162 203	Shield Plate-A		112	473 7515 000	2.6x8 CBTS (P)-N	
18	443 0900 132	P.W.B.Support		113	476 3802 004	Socket Screw (4x10)	
19	443 0900 161	P.W.B.Support					
20	414 9175 009	Damp Plate-A					
21	443 0900 158	P.W.B.Support					
22	443 0900 116	P.W.B.Support					
23	414 9163 105	Shield Plate-B					
24	114 0121 000	LED Ring					
25	143 9107 007	Lens (Input)					
26	477 0211 002	InsulationWasher					
27	412 9425 009	Bracket (LED)					
28	113 9300 007	Push Knob Ass'y (S)					
29	463 9071 008	Spring					
30	476 1003 009	3E Ring					
31	412 9424 107	Push SW Bracket (2P)					
32	205 0804 005	Gnd Terminal					
33	112 9116 104	Knob Ass'y (M)					
34	112 9120 006	Knob Ass'y (B)					
35	112 9119 004	Knob Ass'y (F)					
36	414 9077 000	Dust Cap-PDC					
37	1U- 2748	Input (R) Unit Ass'y					
38	1U- 2749	Output Unit Ass'y					
38-1	1U- 2749 D-1	Output (L) Unit					
38-2	1U- 2749 D-1	Output (R) Unit					
39	1U- 2747	Input (L) Unit Ass'y					
40	1U-2829	Control Unit Ass'y					
40-1	1U-2829-1	Relay (L) Unit					
40-2	1U-2829-2	Relay (R) Unit					
40-3	1U-2829-3	Protect Unit					
40-4	1U-2829-4	LED Unit					
40-8	1U-2829-8	Push SW Unit					
40-9	1U-2829-9	Rotary SW Unit					
40-10	1U-2829-10	BAL. VOL Unit					
41	204 8441 001	1P Pin Jack					
42	205 0837 001	3P Cannon Connector					

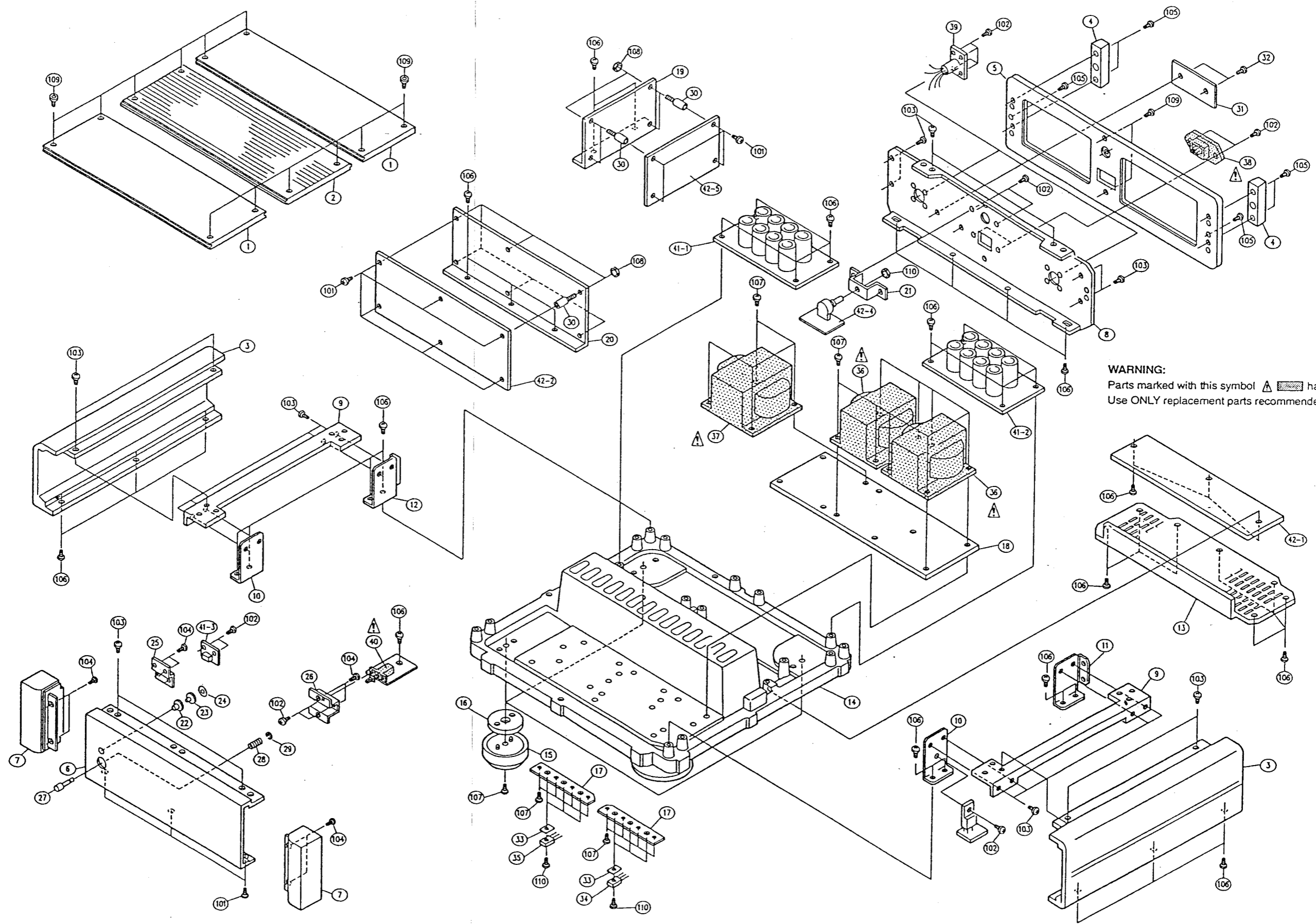
EXPLODED VIEW [CONTROL UNIT]




EXPLODED VIEW [POWER UNIT]

1 2 3 4 5 6 7 8

A
B
C
D
E



WARNING:
 Parts marked with this symbol  have critical characteristics.
 Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW (UPRAS1-P)

Ref.No	Part No	Part Name	Remaks	Ref.No	Part No	Part Name	Remaks
1	144 9199 005	Top Plate		42	1U- 2753 -D	Power Amp Unit Ass'y	Multi-Voltage
2	144 9200 004	Top Grille		42	1U- 2753 -B	Power Amp Unit Ass'y	Europe
3	144 2301 308	Side Panel		42	1U- 2753 -A	Power Amp Unit Ass'y	USA
4	144 2302 103	Back Foot		42-1	1U- 2753 D-1	Power Amp Unit	Multi-Voltage
5	144 9203 108	Rear Panel (P)-1		42-1	1U- 2753 B-1	Power Amp Unit	Europe
6	GEN 7661	F.P Guide (P) Sub Ass		42-1	1U- 2753 A-1	Power Amp Unit	USA
7	144 2300 008	Side ESC		42-2	1U- 2753 D-2	OSC&Protect Unit	Multi-Voltage
8	105 9247 101	Rear Panel (P)-2		42-2	1U- 2753 B-2	OSC&Protect Unit	Europe
9	411 9127 100	Side Chassis		42-2	1U- 2753 A-2	OSC&Protect Unit	USA
10	412 9427 104	Bracket (F)		42-4	1U-2753-D4	Rotary SW Unit	Multi-Voltage
11	412 9429 005	Bracket (R-R)		42-4	1U-2753-B4	Rotary SW Unit	Europe
12	412 9430 007	Bracket (R-L)		42-4	1U-2753-A4	Rotary SW Unit	USA
13	105 9250 208	Bottom Cover		42-5	1U-2753-D5	Fuse Unit	Multi-Voltage
14	411 9129 137	Base Chassis (P) (KK)		42-5	1U-2753-B5	Fuse Unit	Europe
15	104 0267 006	Foot Ass'y		42-5	1U-2753-A5	Fuse Unit	USA
16	414 9099 020	Damp Plate (FT)		101	471 3832 008	3x8 CBS-CU	
17	412 9426 105	TR Holder		102	473 7002 021	3x8 CBTS (S)-B	
18	414 9168 207	P.T Damper		103	473 8034 001	3x8 CBTS (B)-CU	
19	412 9422 002	PWB Bracket-P		104	471 3837 003	3x4 CBS-CU	
20	414 9166 102	Shield Plate-2		105	471 7005 015	3x12 CBTS (S)-Z	
21	412 9435 109	SW Bracket		106	471 3840 003	4x6 CBS-CU	
22	114 0121 000	LED Ring		107	471 3840 016	4x14 CBS-CU	
23	143 9107 007	Lens (Input)		108	475 6164 007	Nut-W	
24	477 0211 002	InsulationWasher		109	476 3802 004	Socket Screw (4x10)	
25	412 9425 009	Bracket (LED)		110	470 0012 022	3x12 CPS SW W	
26	412 9423 001	Power SW Bracket					
27	113 1625 007	P.Knob Ass'y					
28	463 9071 008	Spring					
29	476 1003 009	3E Ring					
30	443 0900 132	P.W.B.Support					
31	133 9010 139	Rating Plate					
32	479 0011 004	Rivet					
33	415 0234 007	Insulating Sheet					
34	275 0080 006	2SJ216	TR309,311				
35	275 0081 005	2SK1303	TR308,310				
36	233 6148 003	Power Trans	Multi-Voltage				
37	233 6149 002	Power Trans	Europe				
37	233 6154 004	Power Trans	USA				
37	233 6152 005	Power Trans	USA&Multi-Voltage				
38	203 3562 003	AC Inlet					
39	204 6506 003	12P DC Connector					
40	212 1031 008	Power Switch					
41	1U- 2754	P.Supply Unit Ass'y					
41-1	1U- 2754 D-1	P.Supply (L) Unit					
41-2	1U- 2754 D-2	P.Supply (R) Unit					
41-3	1U- 2754 D-3	LED Unit					

CONNECTOR PIN FUNCTION (CONTROL UNIT)

Pin	CN201
1	PHONO(L)
2	GND
3	GND
	CN202
1	PHONO(R)
2	GND
3	GND
	CN203
1	+12V
2	SUBSONIC
3	EQPOWER
	CN204
1	+12V
2	SUBSONIC
3	EQPOWER
	CN205
1	+B
2	GND
3	-B
	CN206
1	+B
2	GND
3	-B
	CN251
1	EQOUT(L)
2	GND
3	GND
	CN252
1	EQOUT(R)
2	GND
3	GND
	CN253
1	HOT(L)
2	GND
3	COLD(L)
	CN254
1	HOT(R)
2	GND
3	COLD(R)
	CN255
1	RELAY+B
2	BALUNBAL
3	BALUNBAL
	CN256
1	RELAY+B
2	BALUNBAL
3	BALUNBAL
	CN257
1	SOURCE(L)
2	GND
3	GND
	CN258
1	SOURCE(R)
2	GND
3	GND

Pin	CN301
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	BALUNBAL
9	BALUNBAL
10	RELAY+B
	CN302
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	BALUNBAL
9	BALUNBAL
10	RELAY+B
	CN303
1	CD(L)
2	GND
3	GND
4	TUNER(L)
5	GND
6	GND
	CN304
1	CD(R)
2	GND
3	GND
4	TUNER(R)
5	GND
6	GND
	CN305
1	TAPE1(L)
2	GND
3	GND
4	TAPE2(L)
5	GND
6	GND
	CN306
1	TAPE1(R)
2	GND
3	GND
4	TAPE2(R)
5	GND
6	GND
	CN307
1	BAL1-H(L)
2	GND
3	BAL1-C(L)
4	BAL2-H(L)
5	GND
6	BAL2-C(L)
	CN308
1	BAL1-H(R)
2	GND
3	BAL1-C(R)
4	BAL2-H(R)
5	GND
6	BAL2-C(R)

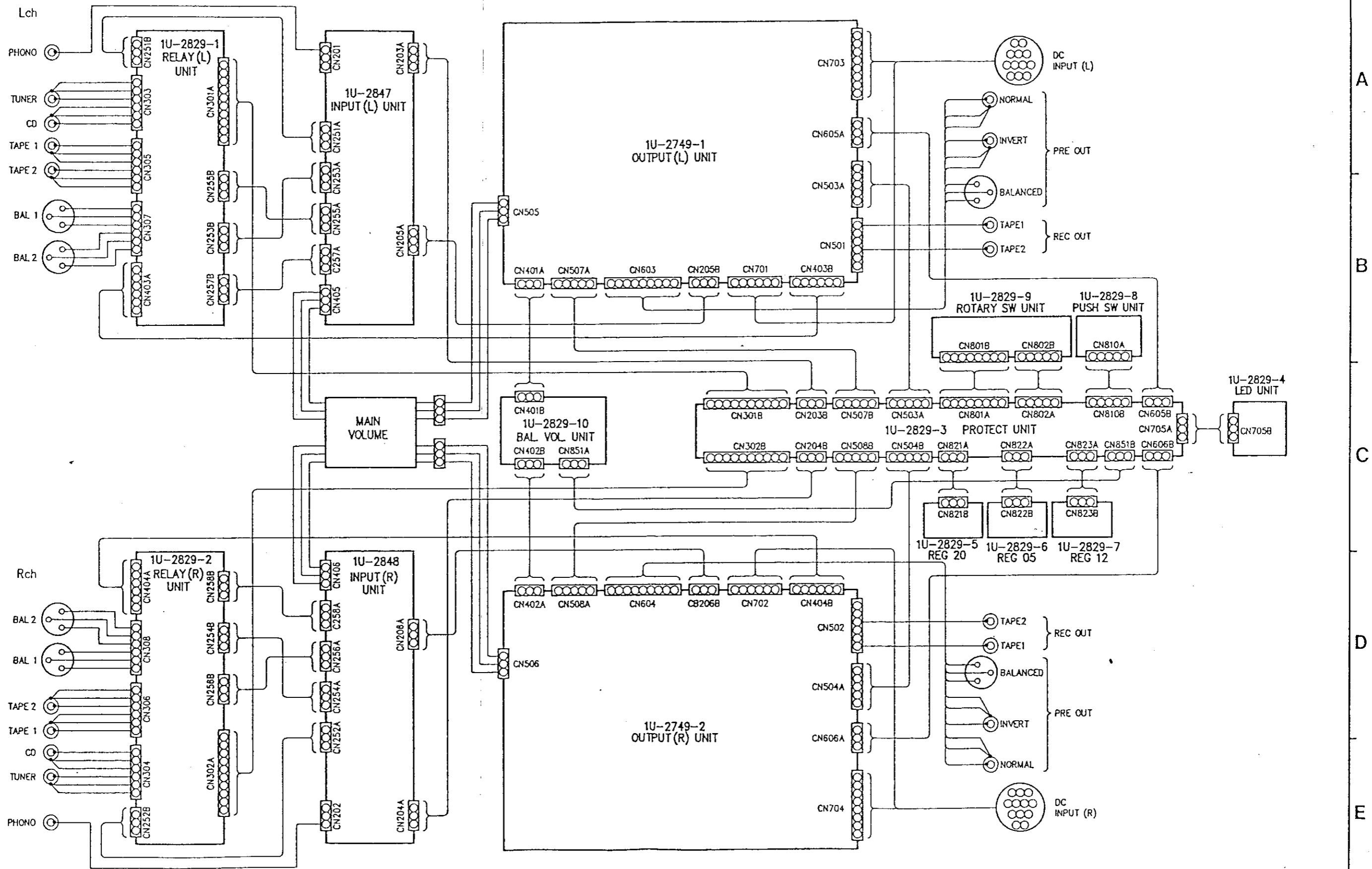
Pin	CN401
1	BAL-CONT.A(L)
2	GND
3	BAL-CONT.B(L)
	CN402
1	BAL-CONT. A(R)
2	GND
3	BAL-CONT. B(R)
	CN403
1	GND
2	SOURCE (L)
3	GND
4	TAPE1 (L) OUT
5	GND
6	TAPE2 (L) OUT
	CN404
1	GND
2	SOURCE(R)
3	GND
4	TAPE1(R)OUT
5	GND
6	TAPE2 (R) OUT
	CN405
1	HOT(L)
2	GND
3	COLD(L)
	CN406
1	HOT(R)
2	GND
3	COLD(R)
	CN501
1	TAPE1(L)OUT
2	GND
3	GND
4	TAPE2(L)OUT
5	GND
6	GND
	CN502
1	TAPE1(R)OUT
2	GND
3	GND
4	TAPE2(R)OUT
5	GND
6	GND
	CN503
1	TAPE1>2
2	TAPE2>1
3	+12V
4	SOURCE
5	RELAY+B
	CN504
1	TAPE1>2
2	TAPE2>1
3	+12V
4	SOURCE
5	RELAY+B
	CN505
1	HOT(L)
2	GND
3	COLD(L)

Pin	CN506
1	HOT(R)
2	GND
3	COLD(R)
	CN507
1	HOT(L)OUT
2	GND
3	COLD(L)OUT
4	PRE OUT(L)ON/OFF
5	+12V
	CN508
1	HOT(R)OUT
2	GND
3	COLD(R)OUT
4	PRE OUT(R)ON/OFF
5	+12V
	CN603
1	HOT(L)OUT
2	GND
3	GND
4	COLD(L)OUT
5	GND
6	GND
7	HOT(L)OUT
8	GND
9	COLD(L)OUT
	CN604
1	HOT(R)OUT
2	GND
3	GND
4	COLD(R)OUT
5	GND
6	GND
7	HOT(R)OUT
8	GND
9	COLD(R)OUT
	CN605
1	CNTL+B
2	GND
3	N.C.
	CN606
1	CNTL+B
2	PRE OUT PRESET
3	DC OFFSET
	CN701
1	+B
2	GND
3	-E
4	+E
5	GND
6	-B
	CN702
1	+B
2	GND
3	-B
4	+B
5	GND
6	-B

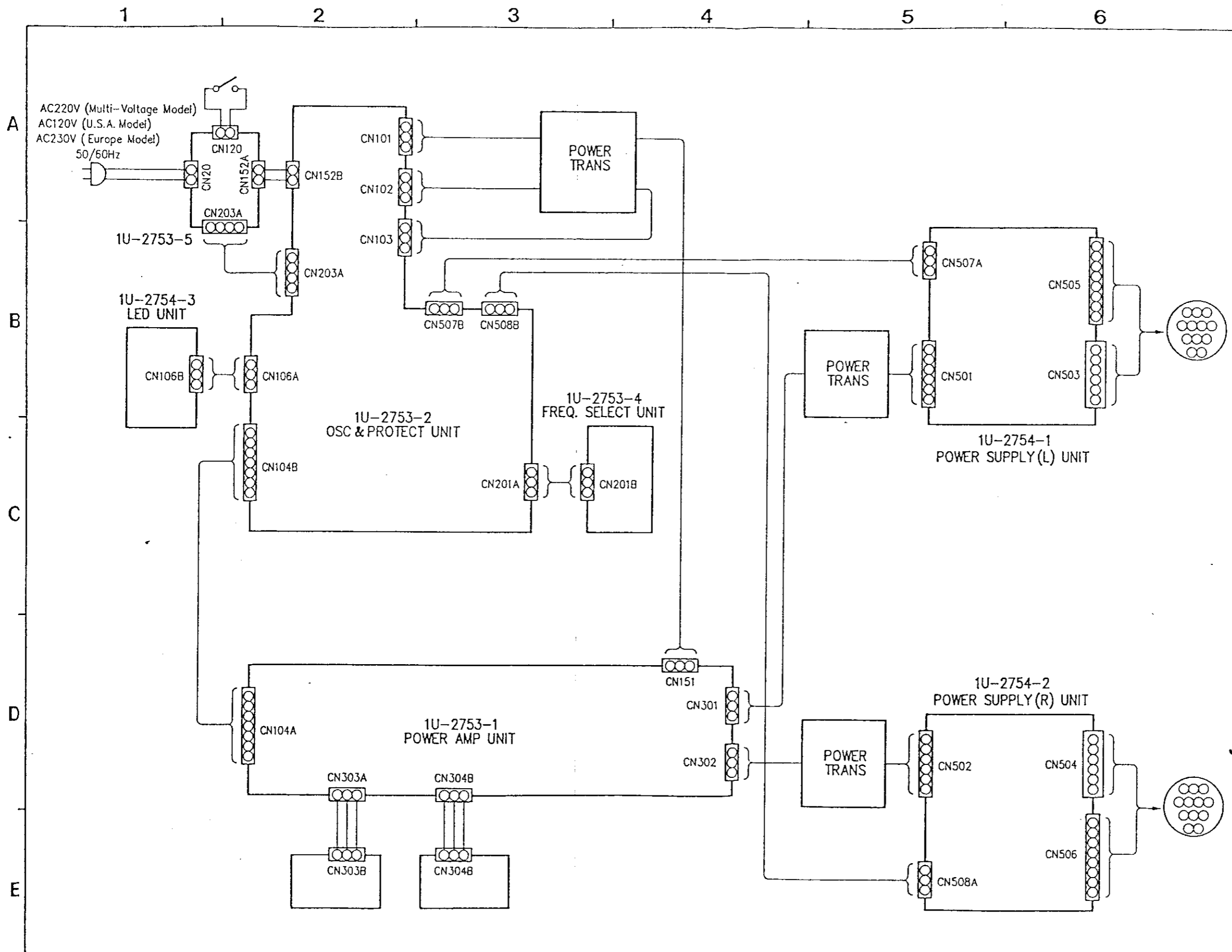
Pin	CN703
1	CNTL+B
2	GND
3	GND
4	GND
5	GND
6	GND
7	N.C.
8	N.C.
	CN704
1	N.C.
2	N.C.
3	N.C.
4	CNTL+B
5	PRE OUT PRESET
6	DC OFFSET
7	ERROR
8	N.C.
	CN705
1	IND.(A)
2	N.C.
3	IND.(C)
	CN801
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	GND
	CN802
1	SOURCE
2	OFF
3	TAPE1>2
4	TAPE2>1
5	GND
	CN810
1	EQ POWER ON
2	EQ POWER OFF
3	GND
4	SUBSONIC ON
5	SUBSONIC OFF
	CN821
1	CNTL +B
2	GND
3	+20V
	CN822
1	+12V
2	GND
3	+5V
	CN823
1	CNTL +B
2	GND
3	+12V
	CN851
1	BAL-CONT(L)
2	GND
3	BAL-CONT(R)

WIRING DIAGRAM [CONTROL UNIT]

1 2 3 4 5 6 7 8

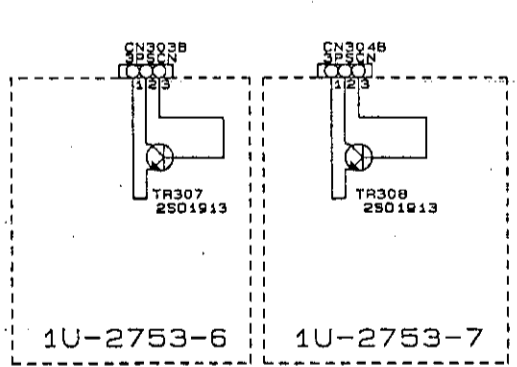
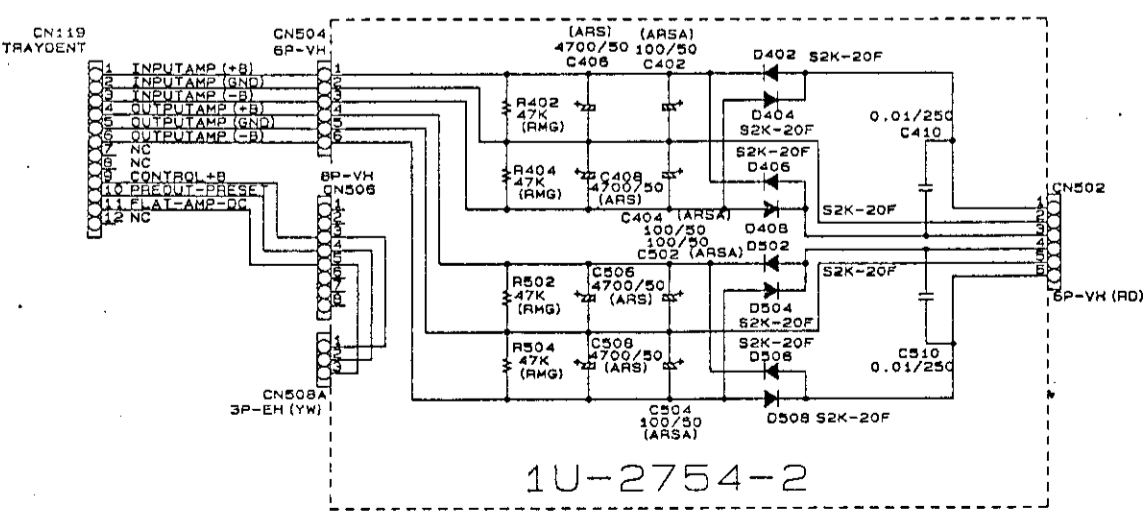
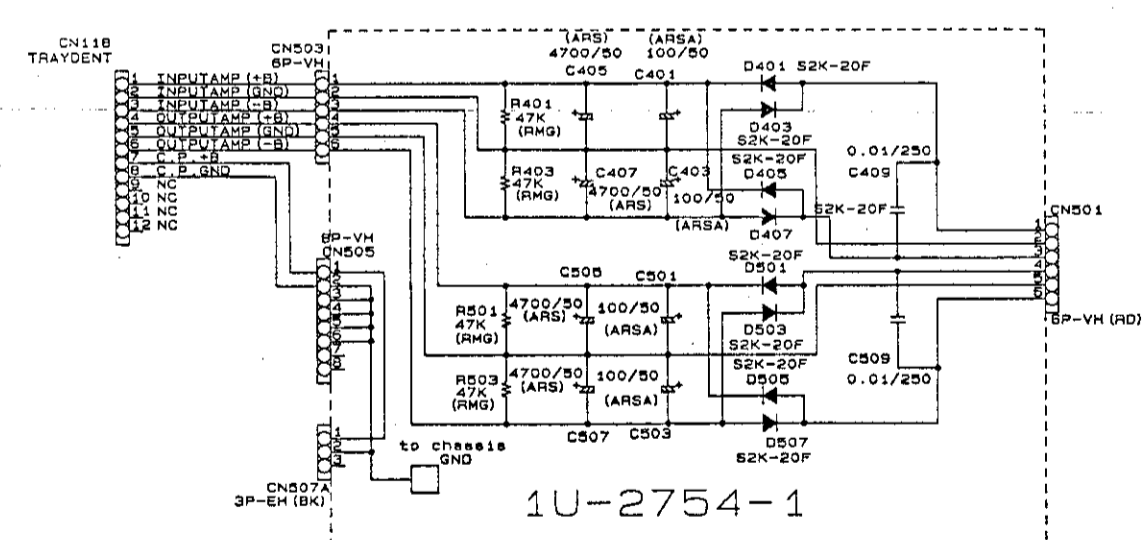
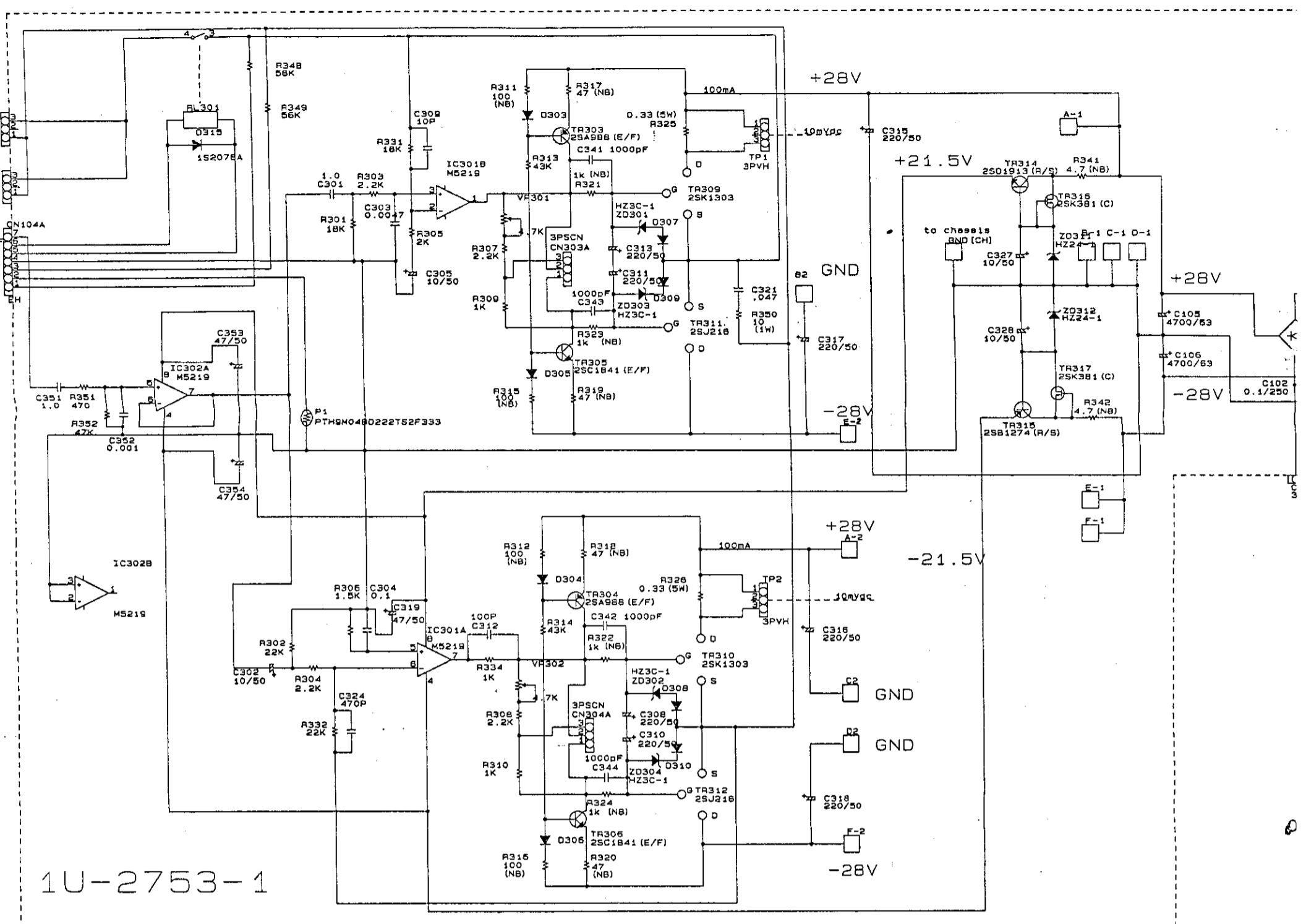


WIRING DIAGRAM [POWER UNIT]

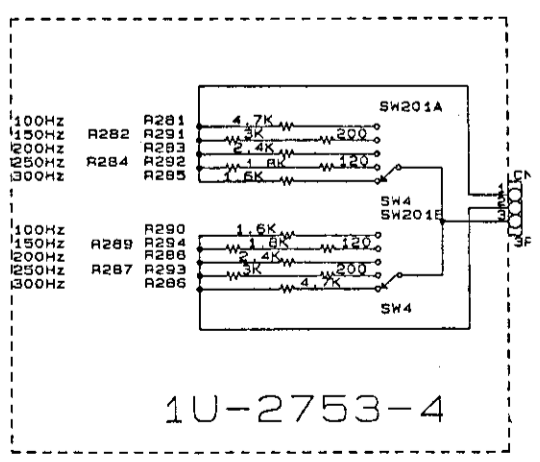


CONNECTOR PIN FUNCTION (POWER UNIT)

Pin	CN20	Pin	CN304
1	AC100V(C)	1	EMITTER
2	AC100V(H)	2	CORRECTOR
		3	BASE
Pin	CN101	Pin	CN501
1	0V	1	AC
2	0V	2	GND
3	110V	3	AC
		4	AC
		5	GND
		6	AC
Pin	CN102	Pin	CN502
1	0V	1	AC
2	10V	2	GND
3	120V	3	AC
		4	AC
		5	GND
		6	AC
Pin	CN104	Pin	CN503
1	OFFSET(HOT)	1	+B
2	POSISTOR	2	GND
3	OFFSET(COLD)	3	-B
4	GND	4	AC
5	+12V	5	GND
6	P-A--ON/OFF	6	AC
7	OSC		
Pin	CN106	Pin	CN504
1	IND.(A)	1	+B
2	N.C.	2	GND
3	IND.(C)	3	-B
		4	+B
		5	GND
		6	-B
Pin	CN103	Pin	CN505
1	AC	1	C.P.+B
2	GND	2	C.P.GND
3	AC	3	N.C.
		4	N.C.
		5	N.C.
		6	N.C.
		7	N.C.
		8	N.C.
Pin	CN120	Pin	CN506
1	P.S.W.(IN)	1	N.C.
2	P.S.W.(OUT)	2	N.C.
		3	CONTROL +B
		4	PRE OUT-PRESET
		5	FLAT-AMP-DC
		6	N.C.
		7	N.C.
		8	N.C.
Pin	CN151	Pin	CN507
1	AC	1	C.P.+B
2	GND	2	C.P.GND
3	AC	3	N.C.
Pin	CN152	Pin	CN508
1	AC100V	1	CONTROL+B
2	AC100V	2	PREOUT-PRESET
		3	FLAT-AMP-DC
Pin	CN201	Pin	CN301
1	REGISTOR-SEL	1	P.A.OUT(C)
2	COMMON	2	N.C.
3	REGISTOR-SEL	3	P.A.OUT(H)
Pin	CN203	Pin	CN302
1	RELAY	1	P.A.OUT(C)
2	+12V	2	N.C.
3	GND	3	P.A.OUT(H)
4	POWER OFF		
Pin	CN301	Pin	CN303
1	P.A.OUT(C)	1	EMITTER
2	N.C.	2	CORRECTOR
3	P.A.OUT(H)	3	BASE



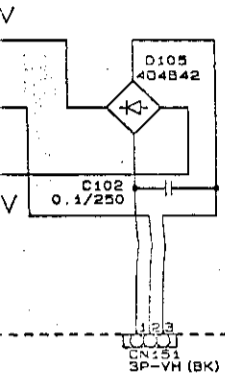
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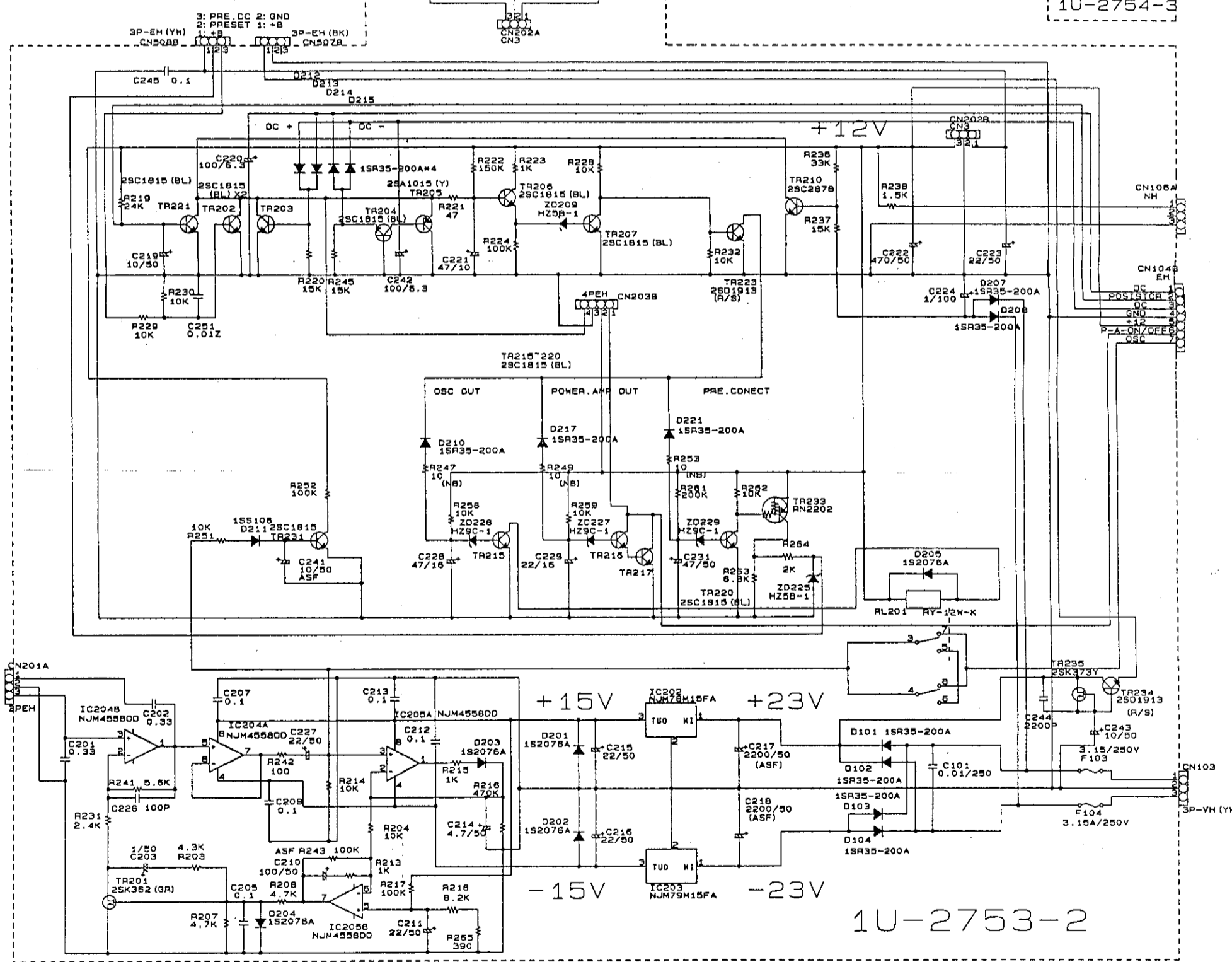
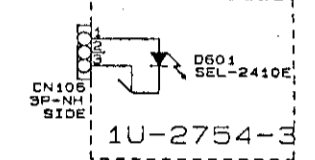
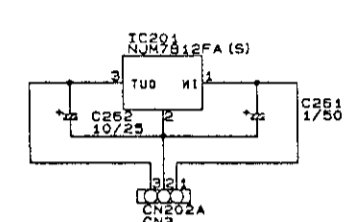
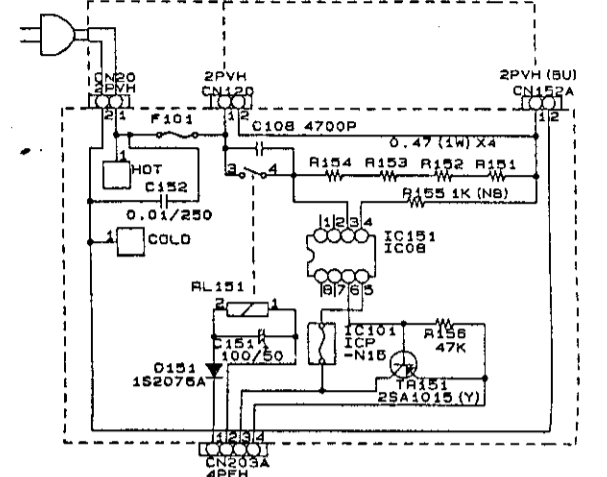
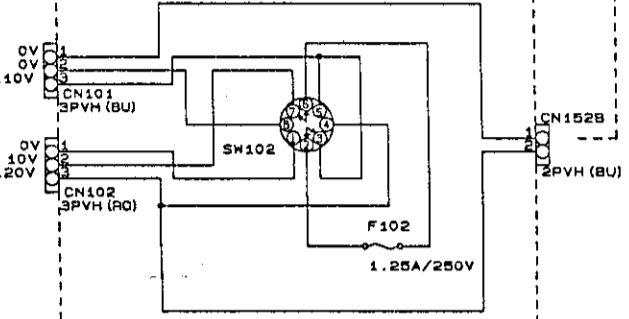
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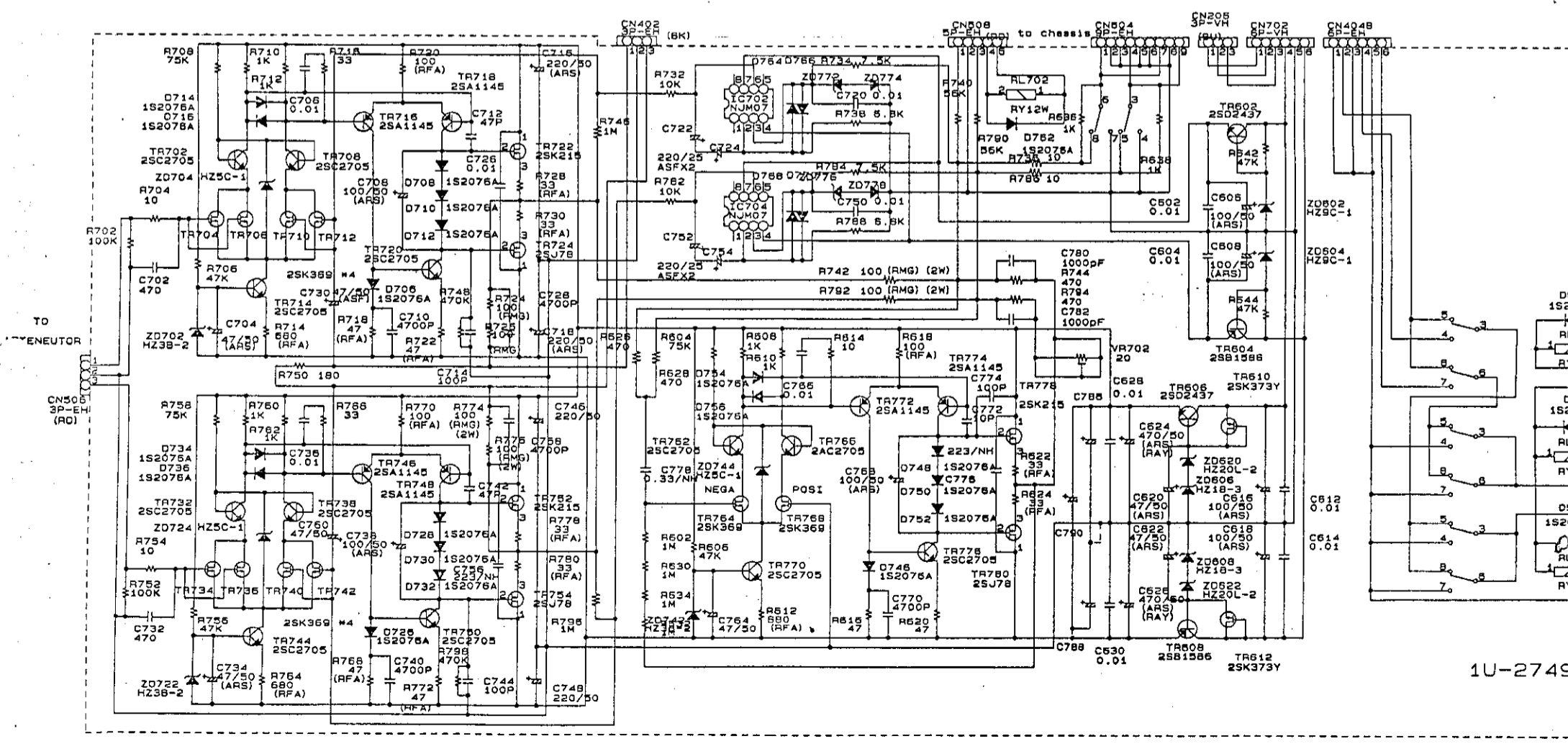
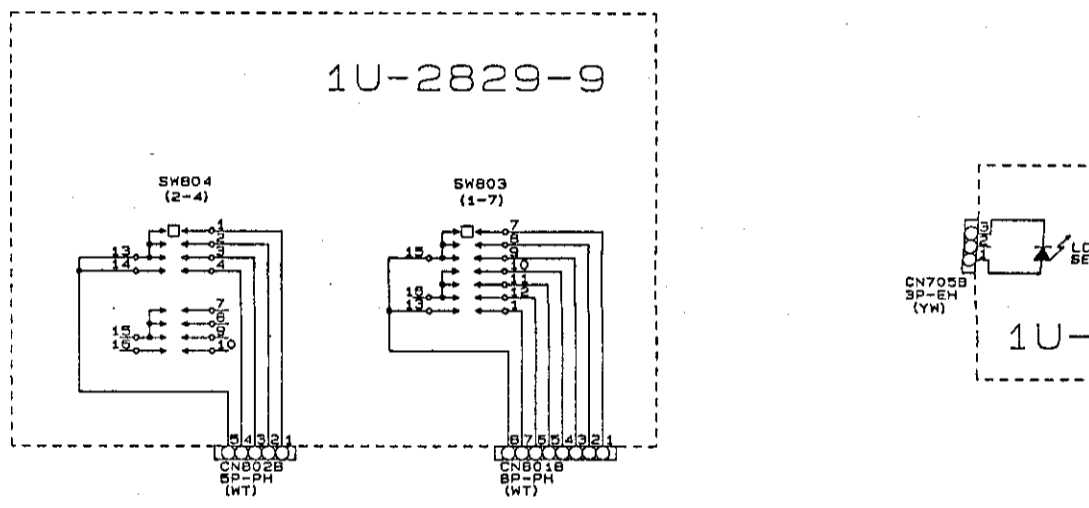
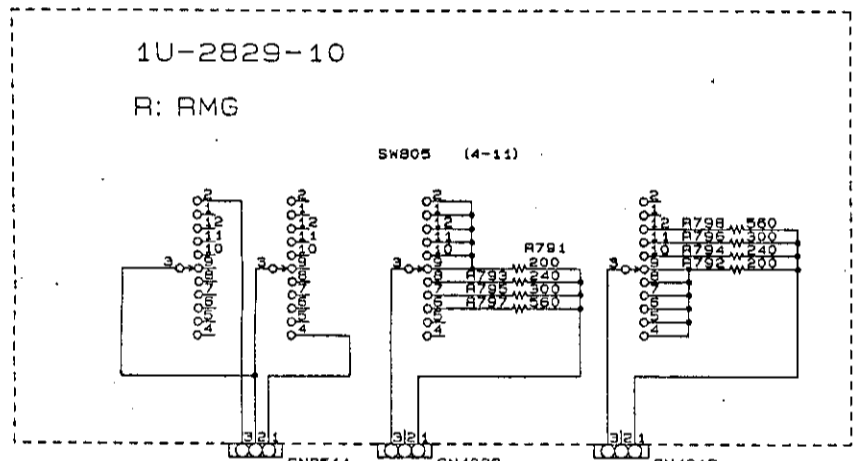
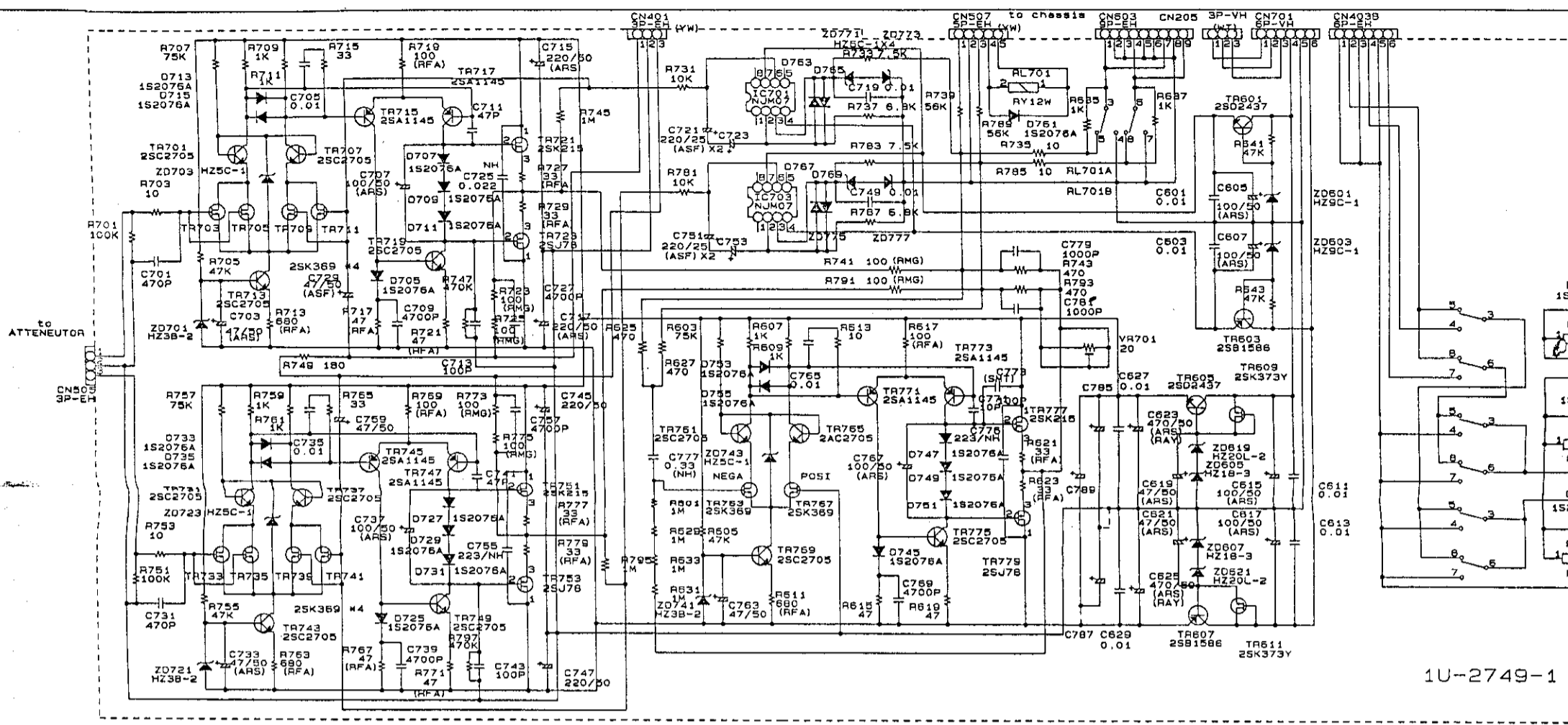
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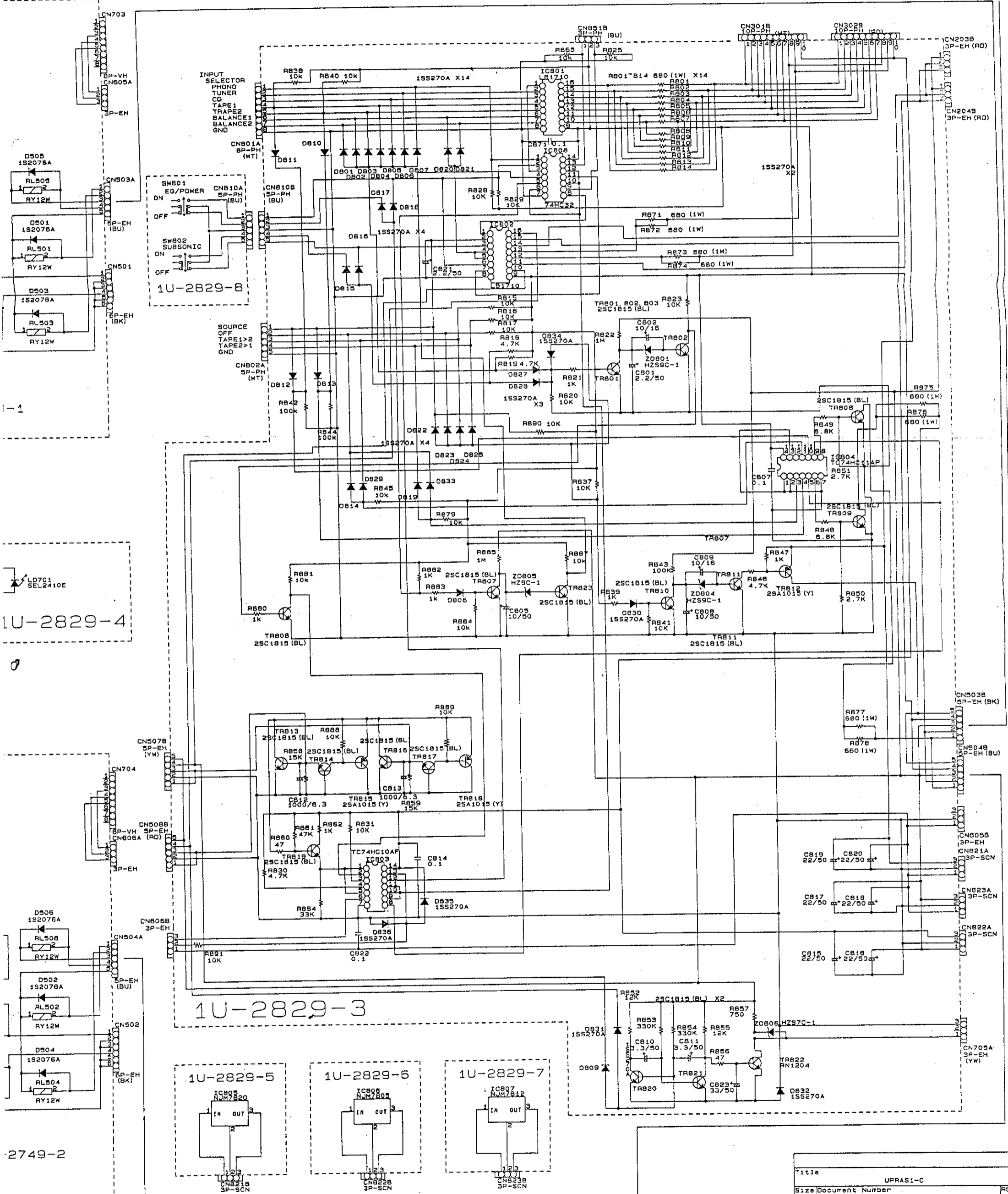


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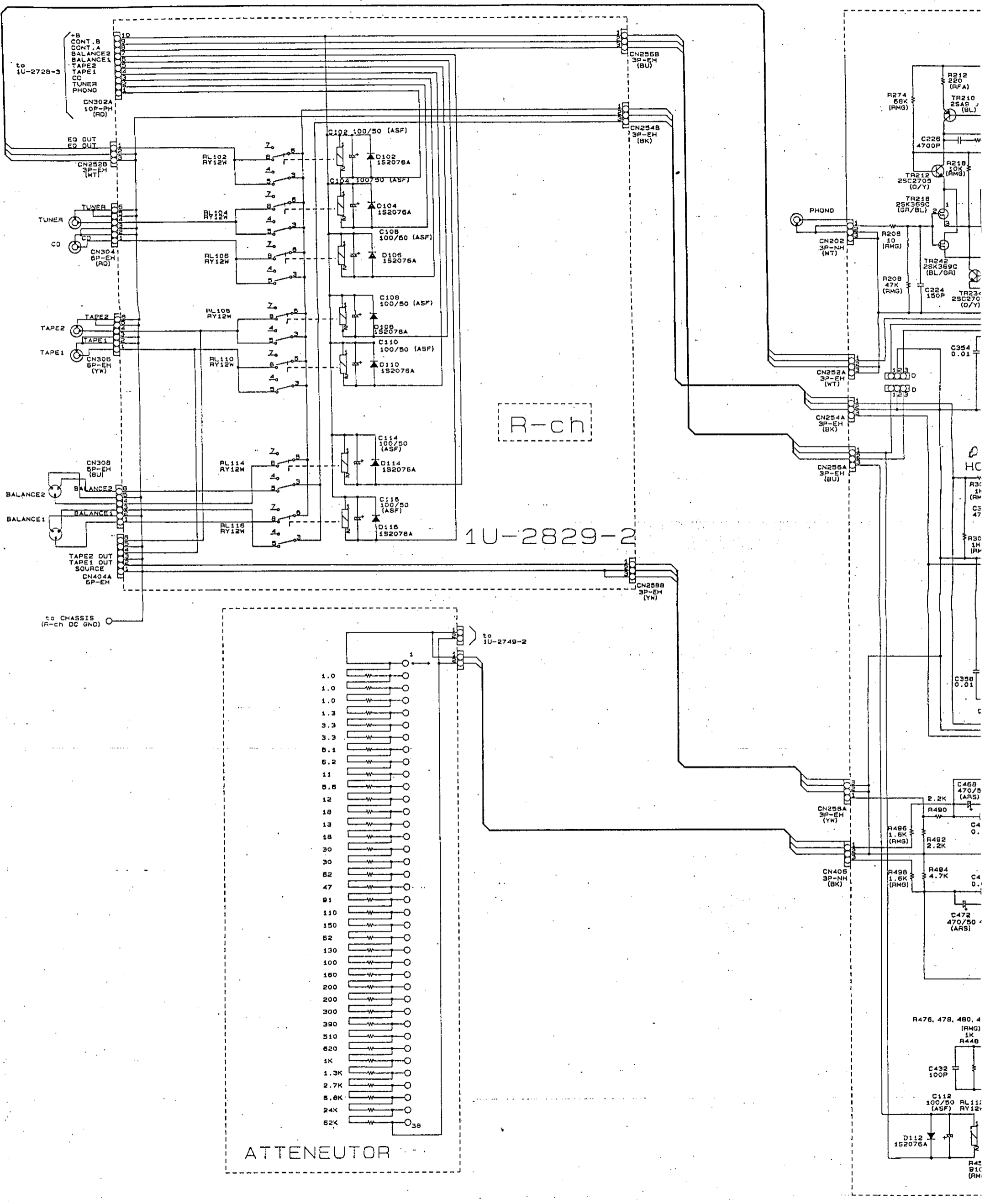


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R-ch

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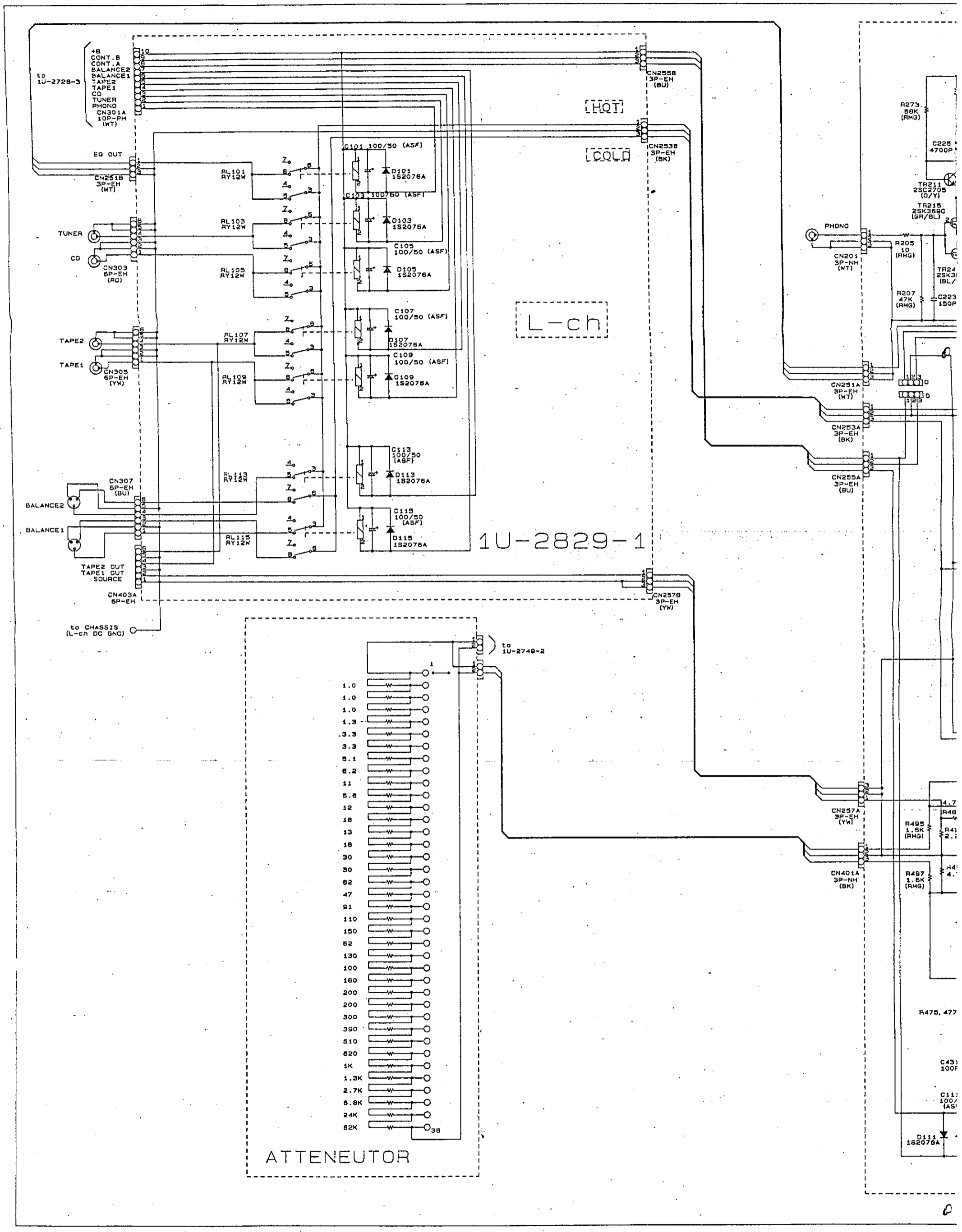
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- 3.3
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- 6.2
- 11
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- 12
- 18
- 13
- 18
- 30
- 30
- 62
- 47
- 91
- 110
- 150
- 52
- 130
- 100
- 180
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- 510
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- 1K
- 1.3K
- 2.7K
- 5.6K
- 24K
- 62K

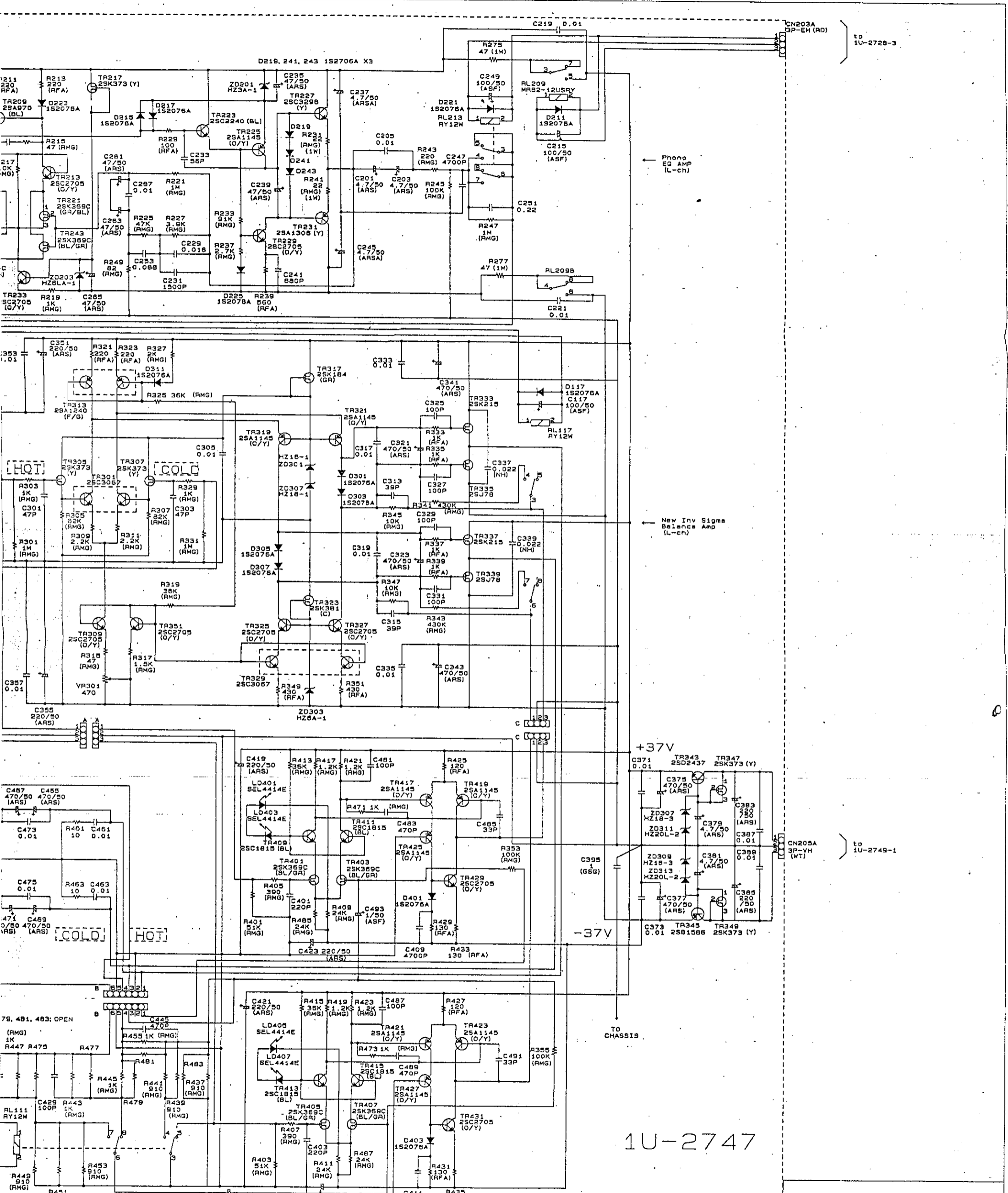
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to 1U-2728-3

to CHASSIS (R-ch DC GND)

R45
R1C
(RM)





to 1U-2728-3

Phono EQ AMP (L-cn)

New Inv Sigma Balance Amp (L-cn)

to 1U-2748-1

-37V

+37V

TO CHASSIS

1U-2747

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