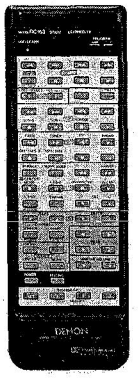
DENON

Hi-Fi AV Surround Amplifier

SERVICE MANUAL

MODEL AVC-2530

AV SURROUND AMPLIFIER



CONTENTS

NIPPON COLUMBIA CO., LTD.

SPECIFICATIONS

- **Audio Section**

(Power amplifier)

Rated output: (All properties shown are only for the power amplifier stage.)	Front:	80 W + 80 W	(20 Hz to 20 kHz 8 ohms 0.05% T.H.D.)
	Center:	80 W	(20 Hz to 20 kHz 8 ohms 0.05% T.H.D.)
	Rear:	25 W + 25 W	(1 kHz, 8 ohms, 0.5% T.H.D.)
Load Impedance:	Front:	6 to 16 ohms	
	Center:	6 to 16 ohms	
	Rear:	6 to 16 ohms	

(Pre-amplifier)

Line input (Each line input – FRONT PRE OUT)	
Input sensitivity / impedance:	150 mV/47 k ohms PHONO (MM): 2.5 mV / 47 kohms
Frequency response:	10 Hz to 50 kHz: ±3 dB (BYPASS mode) 5 Hz to 100 kHz: +0, –3dB (CD DIRECT)
Tone control range:	BASS: ±10 dB at 100 Hz TREBLE: ±10 dB at 10 kHz
Signal-to-noise ratio	92 dB (BYPASS mode) 94 dB (CD DIRECT)
Distortion factor:	0.01% 1 kHz 1 V (BYPASS mode)
Phono equalizer (PHONO input – REC OUT)	
RIAA deviation:	±1 dB (20 Hz to 20 kHz)
Signal-to-noise ratio:	74 dB (A weighting, with 5 mV input)
Rated output / Maximum output:	150 mV/8 V
Distortion factor:	0.03% (1 kHz, 3 V)

- **Video Section**

Standard video jacks	
Input and output level / impedance:	1 Vp-p/75 ohms
Frequency response:	3 Hz to 6 MHz + 0, –3 dB
S-video output jacks	
Input and output level / impedance:	Y (brightness) signal: 1 Vp-p/75 ohms C (color) signal: 0.286 Vp-p/75 ohms
Frequency response:	Y (brightness) signal : 3 Hz to 8 MHz +1, –3dB C (color) signal : 10kHz to 8 MHz +1, –3dB

- **General**

Power supply:	AC 230 V, 50 Hz
Power consumption:	250 W
Maximum external dimensions:	434 (W) × 161 (H) × 421 (D) mm (17-3/32" × 6-11/32" × 16-37/64")
Weight:	12.7 kg (28 lbs 1 oz)

- **Remote control unit**

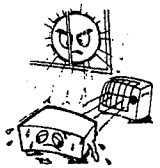
System remote control with learning function

RC-163:

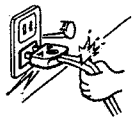
Total buttons:	62
DENON system code	
DAT:	8 buttons
CD player:	8 buttons
Cassette deck:	8 buttons
VDP:	8 buttons
TUNER:	2 buttons
AVC-2530 fixed codes: 38 buttons	
Learning buttons	
System call buttons: 3 (maximum of 10 codes per button)	
Program – AMP: 14 buttons	
– AV: 58 buttons	
Maximum total:	35 codes
Batteries:	R6P/AA Type (two batteries)
External dimensions:	70 (W) × 215 (H) × 18 (D) mm (2-3/4" × 8-15/32" × 45/64")
Weight:	170 g (Approx. 6 oz) (including batteries)

* For purposes of improvement, specifications and design are subject to change without notice.

NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES À L'UTILISATION NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA OBSERVAÇÕES QUANTO AO USO

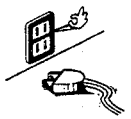


- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen
  Beachten Sie, daß eine zureichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte.
  Assicuratévi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas
  Permita la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen.
  Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer.
  Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.
- Evite temperaturas altas
  Conceda suficiente dispersão de calor quando o equipamento for instalado numa prateleira.

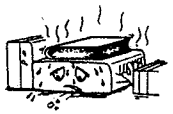


- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Manneggiate il filo di alimentazione con cura.
  Agite per la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado.
  Sostenga el enchufe cuando desconecte el cordón de energía.
- Hanteer het netsnoer voorzichtig.
  Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt.
  Håll i kabeln när den kopplas från eluttaget.
- Manuseie com cuidado o fio condutor de energia.
  Segure a tomada ao desconectar o fio.

- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umdità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.
- Mantenha o aparelho livre de qualquer umidade, água ou poeira.



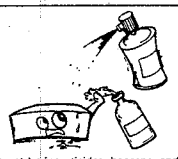
- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando aveta l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopkontakt wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkabeln om apparaten inte kommer att användas i lång tid.
- Desligue o fio condutor de força quando o aparelho não tiver que ser usado por um longo período.



*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden beblokkeerd.
- Täpp inte till ventilationsoppningarna.
- Não obstrua os orifícios de ventilação.

- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.
- Não deixe objetos estranhos no aparelho.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevvi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Laat geen insektenverdelgende middelen, benzine of verfverdunner met dit apparaat in kontakt komen.
- Se till att inte insektsmedel på spraybruk, bensen och thinner kommer i kontakt med apparatens höljе.
- Não permita que inseticidas, benzina e dissolvente entrem em contacto com o aparelho.

- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modifiëren.
- Ta inte isär apparaten och försök inte bygga om den.
- Nunca desmonte ou modifique o aparelho de alguma forma.

• NUR FÜR EUROPÄISCHE MODELLE

Konformitätserklärung

Die DENON Electronic GmbH
Halskestraße 32
4030 Ratingen 1

Erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 868/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31. 8. 1989) entspricht.

• FOR UNITED KINGDOM MODEL ONLY

CONNECTING THE MAINS PLUG:
This unit operates from a 240V ac 50 Hz mains supply.

Fit a proper mains plug to the mains lead of this equipment. If a 13 amp (BS1363) plug is used, a 5 amp fuse must be fitted. The 13 amp fuse supplied in a new plug must NOT be used. If any other type of plug is used, a 5 amp fuse must to fitted either in the plug or adaptor or at the distribution board.

IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live

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

DO NOT MAKE ANY CONNECTION TO THE LARGER PIN MARKED WITH THE LETTER E OR BY THE SYMBOL ⏚ OR COLOURED GREEN OR GREEN-AND-YELLOW.

Disconnect the mains plug from the supply socket when not in use.

- We greatly appreciate your purchase.
- Read these operating instructions carefully to obtain the best performance and a long, trouble-free life from this amplifier. Be sure to keep these operating instructions for future reference.

- Wir danken Ihnen für den Kauf dieses Gerätes.
- Bitte lesen Sie die Bedienungsanleitung sorgfältig durch, damit Sie schnell mit diesem Gerät vertraut werden und seine Leistung voll ausnutzen können. Sie tragen damit auch zu einer langen und problemlosen Lebensdauer Ihres Gerätes bei. Bitte bewahren Sie diese Bedienungsanleitung zum späteren Nachschlagen auf.

- Nous vous remercions de l'achat de cet amplificateur.
- Prière de lire attentivement ce mode d'emploi afin d'obtenir la meilleure performance et une longue durée de vie sans problème de cet amplificateur. S'assurer de conserver ce mode d'emploi pour s'y référer ultérieurement.

- Apprezziamo veramente il fatto che avete acquistato questo componente.
- Leggete questo libretto delle istruzioni attentamente per ottenere le migliori prestazioni di lunga durata da questo amplificatore. Assicuratevi di tenere questo libretto delle istruzioni in un luogo sicuro per eventuale riferimento futuro.

- Le estamos sinceramente agradecidos por su compra.
- A fin de aprovechar plenamente las características del amplificador y disfrutar del mismo por mucho tiempo, lea detenidamente este manual de instrucciones. Guárdelo en un lugar seguro para consultas futuras.

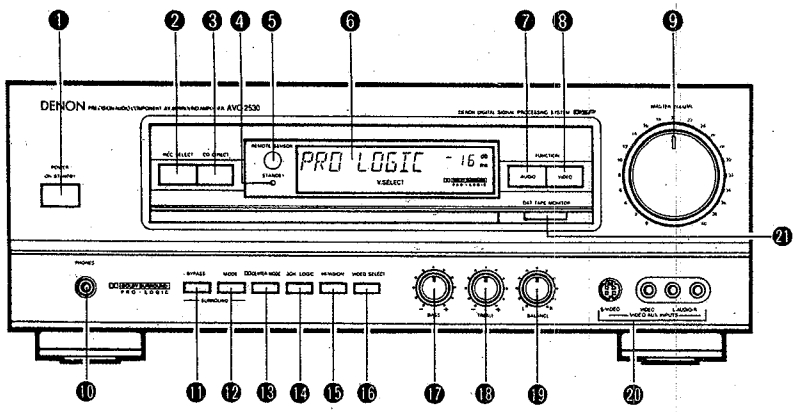
- Wij appreciëren uw aankoop zeer.
- Lees deze gebruiksaanwijzing zorgvuldig door om optimale resultaten met deze versterker te bereiken en verzekerd te zijn van een lange probleemloze levensduur van het toestel. Wij verzoeken u deze gebruiksaanwijzing goed te bewaren voor latere naslag.

- Vi tackar dig för ditt val.
- Ta tid på dig för att läsa igenom bruksanvisningen så att du kan utnyttja förstärkaren på bästa sätt och försäkra dig om lång, problemfri användning. Spara bruksanvisningen som referens i framtiden.

"SERIAL NO. _____
PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

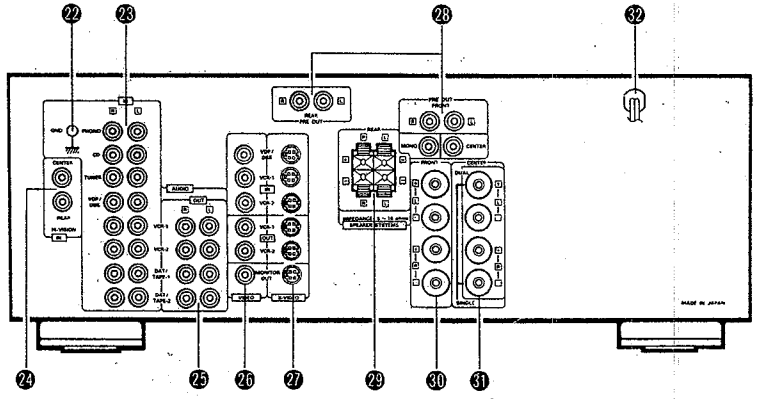
FRONT PANEL / FRONTPLATTE / PANNEAU AVANT / PANNELLO ANTERIORE PANEL FRONTAL / VOORPANEEL / FRAMSIDA

(❶ ~ ㉑)



REAR PANEL / RÜCKWAND / PANNEAU ARRIERE / PANNELLO POSTERIORE PANEL TRASERO / ACHTERPANEEL BAKSIDA

(㉒ ~ ㉜)



1 BEFORE USING

Read the following cautions carefully before using the amplifier:

- Moving the set
  Be sure to unplug the power cord and disconnect other cords connecting the amplifier to other audio units before moving the amplifier to prevent damaging or short-circuiting the cords.
- Before turning on the power switch
  Check again to make sure that all connections are correct and that there are no problems with the connection cords. Be sure to turn the power STANDBY before disconnecting or connecting cords.
- Retain the operating instructions
  After reading this manual, store it in a safe place.
- The illustrations used in this manual may differ somewhat from the actual amplifier.

1 VOR DER INBETRIEBNAHME

Bitte lesen Sie die folgenden wichtigen Hinweise für die Inbetriebnahme des Verstärkers sorgfältig durch:

- Transport des Gerätes
  Entfernen Sie vor jedem Transport das Netzkabel aus der Steckdose und ziehen Sie alle anderen Anschlußkabel vom Verstärker ab, um Kurzschlüße und Beschädigungen der Kabel zu vermeiden.
- Vor dem Einschalten der Stromversorgung
  Prüfen Sie alle Verbindungen auf korrekten Anschluß, damit es keine Probleme mit den Verbindungskabeln gibt. Schalten Sie die Stromversorgung auf Wartestellung (STANDBY), bevor Sie Kabel einstecken oder abziehen.
- Aufbewahrung der Bedienungsanleitung
  Diese Anleitung sollte nach dem Durchlesen an einem sicheren Ort aufbewahrt werden.
- Die Abbildungen in dieser Anleitung können etwas von dem Aussehen des Verstärkers abweichen.

1 AVANT L'UTILISATION

Lire attentivement les points suivants avant d'utiliser l'amplificateur:

- Déplacement de l'appareil
  Afin d'éviter d'endommager ou de mettre en court-circuit les cordons de connexion, s'assurer de débrancher le cordon d'alimentation et les autres cordons de connexion de l'amplificateur aux autres appareils audio avant de déplacer l'appareil.
- Avant de mettre l'appareil sous tension
  Vérifier à nouveau que toutes les connexions sont correctes et qu'il n'y a pas de problème avec les cordons de connexion. S'assurer de mettre le commutateur de veille (STANDBY) sur la position d'attente avant de connecter et de déconnecter les cordons de connexion.
- Conserver ce manuel dans un endroit sûr
  Après l'avoir lu, conserver ce manuel dans un endroit sûr.
- Les illustrations dans ce manuel sont données à titre explicatif et peuvent être différentes par rapport à cet amplificateur.

1 PRIMA DELL'USO

Leggete le seguenti precauzioni attentamente prima di usare l'amplificatore:

- Spostamento dell'unità
  Prima di spostare l'amplificatore, assicuratevi di scollegare il filo di alimentazione e gli altri fili che collegano l'amplificatore con i componenti audio per prevenire danni o corto circuiti dei fili.
- Prima di accendere l'interruttore di accensione
  Assicuratevi che tutti i collegamenti siano corretti e che non ci siano alcuni problemi con i cavi di connessione. Assicuratevi di impostare il modo di attesa accensione (STANDBY) prima di scollegare o collegare i fili.
- Conservate questo libretto delle istruzioni
  Tenete questo libretto in un luogo sicuro dopo averlo letto attentamente.
- Le illustrazioni usate in questo libretto possono differire leggermente dal disegno effettivo dell'amplificatore.

1 ANTES DE USAR LA UNIDAD

Antes de usar el amplificador, lea detenidamente las siguientes recomendaciones:

- Traslado del equipo
  Para evitar cortocircuitos o daños a los cables de conexión, asegúrese de desenchufar el cable de alimentación y de desconectar todos los cables usados para la conexión del amplificador a otros sistemas de audio, antes de trasladar el amplificador.
- Antes de conectar la alimentación
  Asegúrese de que todas las conexiones hayan sido efectuadas de manera correcta y que los cables de conexión no presenten problemas. Ponga siempre el interruptor de alimentación en la posición STANDBY antes de desconectar o conectar los cables de conexión.
- Conserve este manual de instrucciones
  Una vez que haya leido este manual, guárdelo en un lugar seguro.
- Las ilustraciones usadas en este manual pueden diferir ligeramente del aspecto real del amplificador.

1 VOOR GEBRUIK

Lees de volgende waarschuwingen zorgvuldig door voordat u de versterker in gebruik neemt:

- Verplaatsen van het toestel
  Trek het netsnoer uit en verwijder andere snoeren die de versterker op andere geluidstoestellen aansluiten voor u de versterker verplaatst om schade of kortsluiting aan de snoeren te voorkomen.
- Voor u de spanningsschakelaar inschakelt.
  Kontroleer nogmaals of alles korrekt is aangesloten en dat er geen problemen zijn met de verbindingssnoeren. Zet de spanning STANDBY voor u de verbindingssnoeren losmaakt of aansluit.
- Bewaar de gebruiksaanwijzing
  Berg deze handleiding op een veilige plaats op, nadat u ze heeft doorgelezen.
- De afbeeldingen die in deze handleiding staan dienen ter referentie en kunnen enigszins afwijken van de echte versterker.

1 FÖRE ANVÄNDNING

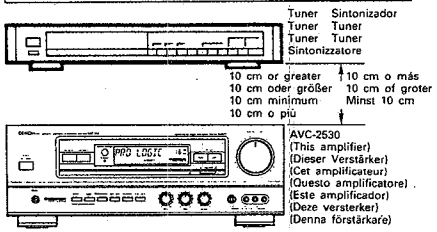
Läs noga igenom följande punkter innan du använder förstärkaren:

- När du flyttar utrustningen
  Var noga med att dra ur nätkabeln och koppla loss alla andra kablar mellan förstärkaren och annan audioutrustning innan du flyttar förstärkaren. Detta är nödvändigt för att skydda förstärkaren mot skador eller kortslutning av kablarna.
- Innan du slår på strömbrytaren.
  Kontrollera en extra gång att alla anslutningar är rätt gjorda och att inget är fel med kablarna.
  Var noga med att ställa strömbrytaren i beredskapsläge (STANDBY) innan du tar loss eller ansluter några kablar.
- Spara bruksanvisningen
  Lägg bruksanvisningen på en säker plats när du har läst den.
- Bruksanvisningens bilder kan skilja sig en aning från din förstärkarmodell.

2 INSTALLATION PRECAUTIONS

Using this amplifier or other electronic equipment containing microprocessors simultaneously with a tuner or TV may result in noise in the sound or picture.
If this should happen, take the following steps:
- Install the amplifier as far as possible from the tuner or TV set.
- Keep the antenna lines of the tuner or TV as far as possible from the amplifier's power cord and connection cables.
- This problem is especially frequent when using indoor antennas or 300 ohm feeder lines. We recommend using outdoor antennas and 75 ohm coaxial cables.
- For cooling purposes, do not place another AV component directly on top of the amplifier. Be sure to leave a space of at least 10 cm.

A note on stacking / Ein Hinweis zum Aufeinanderstapeln von Komponenten / Remarque sur la juxtaposition / Nota riguardante la sovrapposizione dei componenti / Apilamiento / Een opmerking i.v.m. het op elkaar plaatsen van de toestellen / Tänk på följande vid placeringen



2 WICHTIGE HINWEISE ZUR INSTALLATION

Bei der gleichzeitigen Benutzung dieses Verstärkers (oder sonstiger elektronischer Geräte mit eingebauten Mikroprozessoren) und einés in der Nähe aufgestellten Tuners oder Fernsehgeräts können Ton- oder Bildstörungen auftreten.
Sollte das geschehen, gehen Sie wie folgt vor:
- Stellen Sie den Verstärker so weit entfernt wie möglich vom Fernsehgerät auf.
- Verlegen Sie die Antennenkabel des Tuners oder Fernsehgerätes so weit wie möglich von den Stromversorgungskabeln des Verstärkers und den Verbindungskabeln entfernt.
- Dieses Problem tritt besonders häufig bei der Benutzung von Innenantennen oder Antennenkabeln mit 300 Ohm Impedanz auf. Wir empfehlen die Benutzung von Außenantennen und Koaxialkabeln mit 75 Ohm Impedanz.
- Aus Kühlungsgründen sollten Sie keine anderen audiovisuellen Komponenten direkt auf den Verstärker stellen. Vergewissern Sie sich, daß der Abstand zu anderen Geräten mindestens 10 cm beträgt.

2 PRECAUTIONS D'INSTALLATION

L'utilisation simultanée de cet amplificateur avec d'autres appareils électroniques à microprocesseur avec un tuner ou un téléviseur peut produire des parasites dans le son ou l'image.
Si cela se produit, prendre les mesures suivantes:
- Installer l'amplificateur aussi loin que possible du tuner ou du téléviseur.
- Eloigner les câbles d'antenne du tuner ou du téléviseur aussi loin que possible du cordon d'alimentation et des câbles de connexion de l'amplificateur.
- Ce problème est fréquemment rencontré lors de l'utilisation d'antennes intérieures ou de descentes d'antenne de 300 ohms. L'utilisation d'antennes extérieures et de câbles coaxiaux de 75 ohms est recommandée.
- Pour permettre la dissipation de la chaleur, ne pas placer un autre appareil audio/vidéo directement sur le dessus de l'amplificateur. S'assurer de laisser un espace d'au moins 10 cm.

2 PRECAUZIONI RIGUARDANTI L'INSTALLAZIONE

L'uso di questo amplificatore o di un altro componente elettronico che contiene dei microprocessori insieme ad un sintonizzatore o un televisore potrebbe causare rumore nel suono o nell'immagine.
In tal caso, procedete come segue:
- Installate l'amplificatore il più lontano possibile dal sintonizzatore o dal televisore.
- Tenete i fili per l'antenna del sintonizzatore o del televisore il più lontano possibile dal filo di alimentazione e dai cavi di connessione dell'amplificatore.
- Questo problema è particolarmente comune quando si usano delle antenne interne o dei cavi alimentatori di 300 ohm. Si raccomanda l'uso di antenne esterne e di cavi coassiali di 75 ohm.
- Per motivi di raffreddamento dell'unità, non collocate mai un altro componente AV direttamente sopra l'amplificatore. Assicuratevi di lasciare uno spazio di almeno 10 cm.

2 PRECAUCIONES DURANTE LA INSTALACION

El uso simultáneo de este amplificador o de otros equipos electrónicos que contengan microprocesadores, con un sintonizador o televisor, podrá ser causa de interferencia en el sonido o imagen.
Si esto sucediera, tome las siguientes medidas:
- Instale el amplificador tan lejos como sea posible del sintonizador o televisor.
- Mantenga los cables de antena del sintonizador o televisor lo más lejos posible del cable de alimentación y cables de conexión del amplificador.
- Este problema será especialmente frecuente al usar antenas interiores o cables alimentadores de 300 ohmios. Le recomendamos emplear antenas exteriores y cables coaxiles de 75 ohmios.
- A fin de mantener una buena ventilación, no coloque otro componente AV directamente encima del amplificador. Asegúrese de dejar un espacio de por lo menos 10 cm.

2 VOORZORGSMAATREGELEN VOOR INSTALLATIE

Bij gebruik van deze versterker of andere elektronische apparatuur die microprocessors bevat, terwijl tegelijk ook een tuner of TV aan staat, kunnen storingen in het geluid of het beeld optreden.
Neem de volgende maatregelen als dit gebeurt:
- Installeer de versterker zo ver mogelijk uit de buurt van de tuner of TV.
- Houd de antennedraden van de tuner of de TV zo ver mogelijk uit de buurt van het netsnoer en de verbindingskabels van de versterker.
- Dit probleem stelt zich vooral bij gebruik van binnenantennes of voedingsdraden van 300 ohm. Wij raden u aan gebruik te maken van buitenantennes en koaxkabels van 75 ohm.
- Zet geen andere audio/video-komponent direkt bovenop de versterker met het oog op afkoelen van de apparatuur. Wij raden u aan een ruimte open te laten van minstens 10 cm.

2 FÖRSIKTIGHET VID INSTALLATIONEN

När den här förstärkaren eller annan elektronisk utrustning, som innehåller mikroprocessorer, används i närheten av en tuner eller TV kan ljud- eller bildstörningar uppstå.
Gör på följande sätt om detta händer:
- Placera förstärkaren så långt från tunern eller TV:n som möjligt.
- Dra tunerns eller TV:ns antennkablar så långt som möjligt från förstärkarens nät- och anslutningskablar.
- Problemet uppstår särskilt när inomhusantenner eller 300 ohms matarkablar används. Vi rekommenderar att du använder utomhusantenner och 75 ohms koaxialkablar.
- För kylningens skull får ingen annan AV-utrustning ställas direkt på förstärkaren. Se till att lämna ett mellanrum på åtminstone 10 cm.

3 CONNECTIONS

Speaker System Connections
- This amplifier can accommodate connections of a total of five speakers including one set of front speakers, one set of rear speakers, and one center speaker.
- Connect the speaker terminals with the speakers making sure that polarities are matched (⊕ with ⊕, ⊖ with ⊖). Mismatching of polarities will result in weak central sound, unclear orientation of the various instruments, and the sense of direction of the stereo being impaired.
- When making connections, take care that none of the individual conductors of the speaker cord come in contact with adjacent terminals, with other speaker cord conductors, or with the rear panel.
- **Speaker Impedance**
  - Speakers with an impedance of 6 to 16 ohms can be connected for use as front, center and rear speakers.
  - The protection circuit may operate or damage may occur when speakers with an impedance outside of the above range are used.

3 GERÄTEANSCHLÜSSE

Anschluß der Lautsprecher
- An diesen Verstärker können bis zu fünf Lautsprecherpaare angeschlossen werden. Darin eingeschlossen sind ein Vorderkanal-, ein Hinterkanal-und ein Mittenkanal-Lautsprecherpaar.
- Verbinden Sie die Lautsprecheranschlüsse mit den Lautsprechern. Stellen Sie ausschließlich eine Verbindung zwischen den Anschlüssen mit gleicher Polarität (Pluspol (⊕) an Pluspol (⊕) und Minuspol (⊖) an Minuspol (⊖)) her. Bei Mißbeachtung der Polarität kann das zu einem schwachen Klangbild des Mittenkanals führen. Außerdem kann es schwer auszumachen sein, aus welcher Richtung die verschiedenen Instrumente zu hören sind. Sogar der Stereoeindruck kann dabei mehr oder weniger verlorengehen.
- Beim Anschluß beachten Sie bitte, daß keines der Kabel mit benachbarten Kabeln oder Anschlüssen an der Rückseite in Berührung kommt.
- **Impedanz der Lautsprecher**
  - Als Vorderkanal-, Hinterkanal- und Mittenkanal-Lautsprecher können alle Lautsprecher mit einer Impedanz von 6 bis 16 Ohm angeschlossen werden.
  - Die Schutzschaltung kann aktiviert werden bzw. ein Schaden entstehen, wenn Lautsprecher mit einer Impedanz außerhalb der oben angegebenen Grenzwerte verwendet werden.

3 CONNEXIONS

Connexions du système d'enceinte
- Cet amplificateur peut accepter des connexions de cinq enceintes au total, y compris une paire d'enceintes avant, une paire d'enceintes arrière et une enceinte centrale.
- Connecter les bornes d'enceinte aux enceintes en respectant les polarités (⊕ au ⊕, ⊖ au ⊖). Si les polarités ne sont pas respectées, un son central faible est entendu, l'orientation des divers instruments n'est pas correcte et le sens de la direction du son stéréo est détérioré.
- Lors de la réalisation des connexions, prendre soin de ne mettre en contact aucun des conducteurs individuels du cordon d'enceinte avec les bornes adjacentes, avec des conducteurs d'autres cordons d'enceinte ou avec le panneau arrière.
- **Impédance d'enceinte**
  - Des enceintes avec une impédance de 6 à 16 ohms peuvent être utilisées comme enceintes frontales, centrales et arrière.
  - Le circuit de protection peut fonctionner ou une détérioration peut avoir lieu lorsque des enceintes d'une impédance différente de celle citée ci-dessus sont utilisées.

3 COLLEGAMENTI

Collegamento del sistema degli altoparlanti
- Questo amplificatore può essere usato con un totale di cinque altoparlanti, comprendente un paio di altoparlanti anteriori, un paio di altoparlanti posteriori ed un altoparlante centrale.
- Collegate i terminali degli altoparlanti con gli altoparlanti assicurandovi che le polarità corrispondono (⊕ con ⊕, ⊖ con ⊖). La scorretta polarizzazione può causare un suono centrale debole, un orientamento poco chiaro dei vari strumenti musicali e un senso di direzione errato del suono stereo.
- Quando effettuate i collegamenti, fate attenzione a chè nessuno dei conduttori singoli del cavo dell'altoparlanti venga in contatto con i terminali adiacenti, con altri conduttori dei cavi degli altoparlanti o con il pannello posteriore.
- **Impedenza degli altoparlanti**
  - Potete collegare degli altoparlanti anteriori, centrale e posteriori con un'impedenza da 6 a 16 ohm.
  - Il circuito di protezione sarà attivato o si verificheranno dei danni se vengono usati degli altoparlanti con un'impedenza che rimane al di fuori della gamma sopraindicata.

3 CONEXIONES

Conexión de los sistemas de altavoces
- A este amplificador se le pueden conectar cinco altavoces en total, incluyendo un juego de altavoces delanteros, un juego de altavoces traseros, y un altavoz central.
- Conecte los altavoces a los terminales de altavoces, asegurándose de que las polaridades correspondan (⊕ con ⊕, ⊖ con ⊖). Una no correspondencia entre las polaridades dará por resultado un sonido central débil, una orientación poco clara de los diversos instrumentos, y una sensación de desmejoramiento del efecto estereofónico.
- Al hacer las conexiones, asegúrese de que ninguno de los conductores individuales del cable del altavoz haga contacto con los terminales adyacentes, con los conductores de otro cable de altavoz, o con el panel trasero.
- **Impedancia de los altavoces**
  - Usted podrá conectar altavoces de 6 a 16 ohmios de impedancia para emplearlos como altavoces delanteros, centrales y traseros.
  - Cuando se empleen altavoces que se encuentren fuera de la gama de impedancia arriba mencionada, el circuito de protección podrá activarse o podrán producirse daños.

3 AANSLUITINGEN

Aansluitingen luidsprekersysteem
- Deze versterker is voorzien van aansluitingen voor in totaal vijf luidsprekers, te weten een paar voorste luidsprekers, een paar achterste luidsprekers en een middenluidspreker.
- Sluit de luidsprekeraansluitpunten op de luidsprekers aan met de polariteiten bij elkaar passend (⊕ bij ⊕, ⊖ bij ⊖). Wanneer de polariteiten niet bij elkaar passen, resulteert dit in een zwak middengeluid, een onduidelijke oriëntatie van de diverse instrumenten en een onregelmatig richtinggevoel van de stereo.
- Let erop dat geen van de afzonderlijke geleiders van het luidsprekersnoer in kontakt komt met aangrenzende aansluitpunten, met andere luidsprekersnoergeleiders, of met het achterpaneel, als u aansluitingen tot stand brengt.
- **Luidsprekerimpedantie**
  - Luidsprekers met een impedantie tussen 6 en 16 ohm kunnen worden aangesloten als voorste, midden- en achterste luidsprekers.
  - Het beschermingscircuit kan in werking treden of schade kan ontstaan als luidsprekers met een impedantie buiten het bovengenoemde bereik worden gebruikt.

3 ANSLUTNINGAR

Anslutning av högtalarsystem
- Till den här förstärkaren kan totalt fem högtalare anslutas: ett främre högtalarpar, ett bakre högtalarpar samt mitthögtalare.
- Anslut högtalarutgångarna till högtalarna så att polariteten bibehålls (⊕ till ⊕, ⊖ till ⊖). Om kablarna vänds fel låter ljudet tunt i mitten, känslan för instrumentens placering försvinner och stereoeffekten försämras.
- Var noga med att ingen av högtalarkablarnas ledare kommer i kontakt med andra anslutningar, andra högtalarkablar eller med bakpanelen vid anslutningen.
- **Högtalarimpedans**
  - Högtalare med impedans mellan 6 och 16 ohm kan användas som främre, bakre eller mitthögtalare.
  - Skyddskretsen kan utlösas eller skador uppstå om högtalare med annan impedans än ovan används.

– CONTENTS –

– INHALT –

– TABLE DES MATIERES –

– INDICE –

– INDICE –

– INHOUD –

– INNEHÅLL –

Check that the following items are included in the package in addition to the main unit:
① Operating Instructions 1
② Remote control unit (RC-163) 1
③ R6P/AA batteries 2

Prüfen Sie, ob außer dem Hauptgerät die folgenden Teile im Lieferkarton enthalten sind:
① Bedienungsanleitung 1
② Fernbedienung (RC-163) 1
③ Batterien (R6P/AA) 2

Vérifier que les articles suivants sont inclus dans le carton en plus de l'unité principale:
① Mode d'emploi 1
② Télécommande (RC-163) 1
③ Piles R6P/AA 2

Controllate che i seguenti componenti siano stati inclusi nella scatola di imballaggio dell'unità principale:
① Libretto delle istruzioni 1
② Telecomando (RC-163) 1
③ Batterie R6P/AA 2

Verifique que los siguientes accesorios vengan incluidos en el embalaje junto con la unidad principal:
① Manual de instrucciones 1
② Unidad de control remoto (RC-163) 1
③ Pilas R6P/AA 2

Kontroleer of de volgende onderdelen in de verpakking bij het hoofdtoestel zitten:
① Gebruiksaanwijzing 1
② Afstandsbediening (RC-163) 1
③ R6P/AA batterijen 2

Kontrollera att följande tillbehör medföljer i kartongen bortsett från huvudenheten:
① Bruksanvisning 1
② Fjärrkontroll (RC-163) 1
③ R6P/AA batterier 2

Audio Section

- Do not plug in the power cord until all connections have been completed.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Insert the plugs securely. Incomplete connections will result in the generation of noise.
- Note that binding pin plug cords together with power cords or placing them near a power transformer will result in the introduction of hum or other noise.

Connecting a turntable

Plug the output cable of the turntable into the PHONO jack of the amplifier, the L plug into the left (L) jack and the R plug into the right (R) jack.
If the turntable is equipped with a ground wire, connect it to the GND terminal.
- If hum or other noise is produced when the ground wire is connected, disconnect it.

NOTE:
The amplifier cannot be used with MC cartridges directly. Use a separate head amplifier or step-up transformer.

Ground wire

Turntable (MM cartridge)

- **MONO**
  Use these jacks to connect a subwoofer with a built-in amplifier (super-woofer), etc.

Connecting a CD player

Use pin plug cords to connect the analog output jacks of the CD player to the CD jacks of the amplifier.

CD player

ANALOG OUTPUT

Connecting a tuner

Use pin plug cords to connect the output jacks of the tuner to the TUNER jacks of the amplifier.

Tuner

DAT (for recording and playback)

Tape deck

Connecting a DAT (Digital Audio Tape Recorder)

Connections for recording: Connect the DAT's analog recording input jacks (LINE IN or REC) to the amplifier's tape recording (OUTPUT) jacks using pin plug cords.
Connections for playback: Connect the DAT's analog playback output jacks (LINE OUT or PB) to the amplifier's tape playback (INPUT) jacks using pin plug cords.

Connecting tape decks

Connections for recording: Connect the tape deck's recording input jacks (LINE IN or REC) to the amplifier's tape recording (OUTPUT) jacks using pin plug cords.
Connections for playback: Connect the tape deck's playback output jacks (LINE OUT or PB) to the amplifier's tape playback (INPUT) jacks using pin plug cords.

PRE OUT jacks

- **FRONT/REAR**
  Use these jacks when using another pre-main amplifier or a separate amplifier.
- **CENTER**
  Use these jacks to use a TV equipped with external audio input jacks as the center channel.

CENTER SPEAKER SYSTEM

- For a single center output (when only using one speaker for the center channel), connect the speaker to the [L] (left) "+" terminal and the [R] (right) "–" terminal.
- When two speakers are connected as dual center outputs a better effect will be obtained when speakers having uniform characteristics are used.

L R

Center speakers

POWER OUTLET
AC 230 V, 50 Hz

Rear L Rear R

Rear speaker system (surround)

Front L Front R

Front speaker system

Connecting speaker systems

Connect the speaker systems for the left channel (the left side as seen from the front) to the L terminals, and the speaker systems for the right channel to the R terminals.

- **Precautions when connecting speakers**
  If a speaker is placed near a TV or video monitor, the colors on the screen may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.

Video Section

Connecting a video disc player (VDP), BS (DBS) tuner

(VDP, CDV, BS (DBS), etc.)

- Connect the video disc player's S-output jack to the amplifier's S-VIDEO VDP/DBS IN jack using an S-jack connection cord.
- Connect the video disc player's video output jacks to the amplifier's VIDEO VDP/DBS (yellow) jack using a 75-ohm video coaxial cable pin plug cord.
- Connect the video disc player's analog audio output jacks to the amplifier's AUDIO VDP/DBS jacks using pin plug cords.

A note on the S input jacks

- The input selectors for the S inputs and for the pin jack inputs work in conjunction with each other.

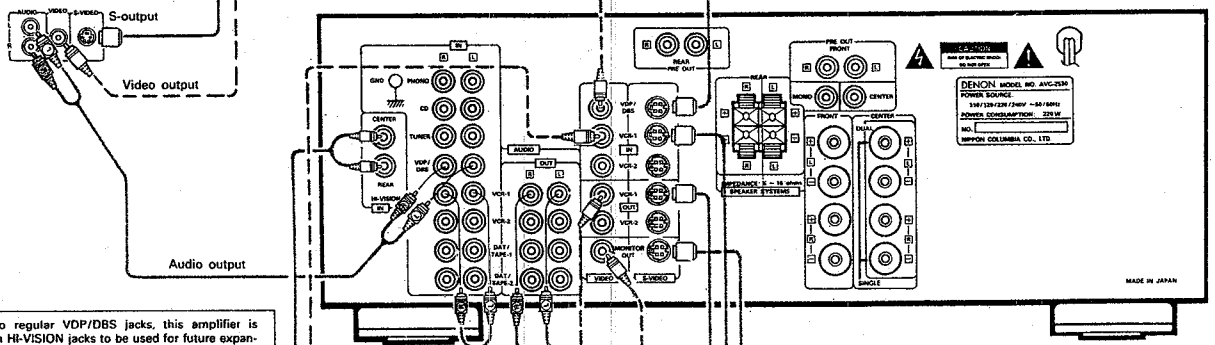
NOTE:
This unit is designed for use with PAL system components only.
Connect PAL system equipment to the VIDEO jacks.

Precaution when using S-jacks

This amplifier's S-jacks (input and output) and video pin jacks (input and output) have independent circuit structures, so that video signals input from the S-jacks are only output from the S-jack outputs and video signals input from the pin jacks are only output from the pin jack outputs.
When connecting the amplifier with equipment that is equipped with S-jacks, keep the above point in mind and make connections according to the equipment instruction manuals.

The AVC-2530 is equipped with VIDEO AUX jacks on the front panel for playback of video equipment. This permits video cam-corders with playback functions as well as other equipment to be connected.

LD player, CDV player, BS (DBS) tuner. etc.



In addition to regular VDP/DBS jacks, this amplifier is equipped with HI-VISION jacks to be used for future expansion purposes.
When FUNCTION is set to VDP/DBS, switching the HI-VISION switch on the front panel will provide output of the signals connected to the CENTER and REAR jacks directly from the center and rear speakers.

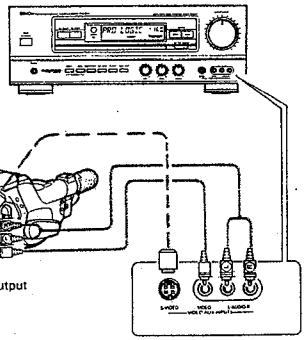
Connecting a camcorder (V-AUX)

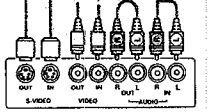
Connections for the video input and output:

- Connect the camcorder's video output jack to the amplifier's VIDEO (yellow) V-AUX IN jack and the video deck's video input jack to the amplifier's VIDEO (yellow) V-AUX OUT jack using 75-ohm video coaxial cables with pin plugs.

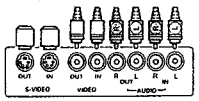
Connecting the audio input and output jacks

- Connect the camcorder's audio output jacks to the amplifier's AUDIO V-AUX IN jacks and the video deck's audio input jacks to the amplifier's AUDIO V-AUX OUT jacks using pin plug cords.





Video deck 1 equipped with S-jack



Video deck 2 equipped with S-jacks

Connect to VCR-2 jacks in the same way as for video deck 1.

Connecting a VCR

- There are two sets of VCR jacks, allowing connection of two video decks for simultaneous recording and video copying.
- Connect the VCR S-output jack to the amplifier's S-VIDEO in jack using a S-jack connection cord.

Connections for video input and output:
Connect the VCR video output jack to the amplifier's VIDEO (yellow) VCR-1 IN jack and the VCR video input jack to the amplifier's VIDEO (yellow) VCR-1 OUT jack using 75-ohm video coaxial cables with pin plugs.

Connecting the audio input and output jacks

- Connect the video deck's audio output jacks to the amplifier's AUDIO VCR-1 IN jacks and the video deck's audio input jacks to the amplifier's AUDIO VCR-1 OUT jacks using pin plug cords.
- A second video deck may be connected to the VCR-2 jacks in the same way.

Connecting a monitor TV

- Connect the TV's S-video input jack to the amplifier's S-VIDEO MONITOR OUT jack using an S-jack connection cord.
- Connect the TV's video input jack to the amplifier's VIDEO MONITOR OUT jack using a 75-ohm video coaxial cables with pin plugs.

Monitor TV

4 PART NAMES AND FUNCTIONS

(Refer to the figures on page 3.)

❶ POWER switch

• ON

When this switch is pressed once, the power turns on and the STANDBY LED ❹ flashes. (The muting circuit is activated while "MUTING" is flashing to prevent noise when the POWER switch is operated.) After several seconds, the LED stops flashing, remaining lit and the muting circuit turns off. The set is now in the normal operating mode.

• STANDBY

When the POWER switch is pressed once again, the power turns off and the standby mode is set. The STANDBY LED ❹ remains lit. In addition, when the power turns off, the power supply from the SWITCHED AC outlets on the rear panel also turns off.

❷ REC SELECT

(independent VCR recording output selector button)

This button is used to select the signals output to the VCR-1 and VCR-2 video and/or audio recording output jacks, independent of the mode selected with the function selector buttons.

When this button is pressed once, the recording select mode is turned on and off. If the button is held in, the audio/video recording output switches in the order shown below. Release the button when the desired audio/video recording output appears on the MFD ❻.

Press the REC SELECT button again to cancel this mode.

VDP/DBS → VCR-1 → VCR-2 → SOURCE ← V-AUX ←

NOTE:

- If the "V-AUX" inputs is selected with the REC SELECT mode when the AUDIO function has been selected, the VIDEO AUX video signals are output to the monitor.
- If the CD DIRECT button is selected, the audio and video recording output is automatically prohibited, so it is advisable to use the REC SELECT button ❷ to prevent accidentally interrupting the recording.

❸ CD DIRECT button

This button is used to enjoy the audio signals input from the component connected to the CD jacks on the rear panel with higher sound quality. In the CD direct mode, the audio signals bypass such circuitry as the surround and tone control circuits, and are output directly to the front speakers for higher sound quality.

※ Cancelling the CD direct mode

When in the CD direct mode, either press the CD DIRECT button once again, or press the AUDIO FUNCTION selector button ❼ or VIDEO FUNCTION selector button ❽ or BYPASS button ⓫ or SURROUND MODE selector button ⓬ to cancel the CD direct mode.

NOTE:

- When the CD DIRECT button ❸ is selected, the output of signals to the audio and video output jacks is automatically prohibited, so the REC SELECT (independent audio/video recording) and VIDEO SELECT (independent video signal selector) buttons do not work. Also, if the REC SELECT button is selected or when using the tape monitor button, the CD DIRECT button will not function.

❹ STANDBY LED

This LED remains lit when the set is in the normal operating mode or in the standby mode, and flashes when in the muting mode.

❺ REMOTE SENSOR

This is where the signals from the wireless remote control unit are received.

Point the remote control unit at this sensor when operating it.

❻ MFD (multi-function fluorescent display)

Information such as the surround mode and the input and output are displayed here when the power is turned on.

Normally the surround mode is displayed. If another button is pressed, a display pertaining to that button is shown for approximately 5 seconds (this time differs according to the display), after which the surround mode is once again displayed.

Refer to pages 9 to 10 for details on the MFD displays.

❼ AUDIO FUNCTION selector button

This button is used to switch the audio input. Press this button repeatedly or hold it in to change the input in the following order:

PHONO → CD → TUNER

(All the video outputs are off unless a video function is selected with the VIDEO SELECT button or the REC SELECT button.)

❽ VIDEO FUNCTION selector button

This button is used to switch the video input. Press this button repeatedly or hold it in to change the input in the following order:

VDP/DBS → VCR-1 → V-AUX ← VCR-2 ←

➡ Continued

❾ MASTER VOLUME control

Turn the control clockwise (↻) to increase the volume, counterclockwise (↺) to decrease it.

❿ PHONES jack

This jack is for connecting headphones.

To cut the sound from the speakers, either turn off the output (speakers) from the remote control unit or turn off the output of the component connected to the PRE OUT jacks.

⓫ BYPASS (surround bypass) button

When this button is pressed, the surround mode is bypassed and the normal stereo sound is produced. No signals are output to the rear channel.

If the SURROUND MODE button is pressed when in the bypass mode, the mode returns to the mode which was set before the bypass mode was turned on.

* In the initial setting the center output is turned off.

⓬ SURROUND MODE selector button

Use this button to select the surround mode.

Either press it repeatedly or hold it in to change the surround mode in the order shown below.

For details, refer to pages 15 to 16.

DOLBY PRO LOGIC
↓
WIDE SCREEN
↓
LIVE
↓
MONO MOVIE
↓
CLASSIC CONCERT
↓
ROCK CONCERT
↓
CHURCH
↓
JAZZ
↓
STADIUM
↓
MATRIX

⓭ CENTER MODE selector button

This button is used to select the center mode when in the Dolby Pro Logic, WIDE SCREEN or LIVE modes. Select the mode according to the speaker system you are using.

→ ① NORMAL → ② PHANTOM → ③ WIDE →

The mode switches as follows in the Dolby 3CH Logic mode:

① NORMAL ⟷ ② WIDE

* If this button is pressed in a mode other Dolby Pro Logic, live and wide screen, the Dolby Pro Logic mode is set automatically.

For details, refer to page 16.

⓮ 3CH LOGIC

(three-channel logic) button

This button only functions when in the Dolby Pro Logic mode. When pressed again, the three-channel logic mode turns off and the normal Pro Logic mode is set.

The 3CH LOGIC key does not function when in the Dolby Pro Logic Phantom mode.

For details, refer to page 16.

⓯ HI-VISION

((Hi-Vision input switch for use with BS (broadcast satellite) broadcasts))

This function is to be used with future satellite broadcasts. The signals connected to the CENTER and REAR of the HI-VISION jacks on the rear panel do not pass through the surround circuits, but are output directly to the center and rear speakers.

NOTE:

The mode automatically switches to the bypass mode when using the tape monitor function in the Hi-Vision mode.

⓰ VIDEO SELECT

(independent video signal selector) button

This button is used to select the video signal independently of the audio signal. When pressed once, the video selector function turns on. When the button is held in, the video input signal changes in the order shown below. Release the button when the desired video input signal is displayed on the MFD. After this is done, the video signal will not change even if the AUDIO FUNCTION selector button ❼ is pressed and the audio input is changed.

To cancel the independent video signal selection mode, either press the VIDEO SELECT button again, or press the VIDEO FUNCTION selector button ❽.

VDP/DBS → VCR-1 → V-AUX ← VCR-2 ←

⑰ **BASS control**
Use this to adjust the bass sound of the front speaker output or PRE-OUT FRONT jacks. The bass sound is emphasized when turned clockwise (∩) from the center position, reduced when turned counterclockwise (∩) from the center position.

⑱ **TREBLE control**
Use this to adjust the treble sound of the front speaker output or PRE-OUT FRONT jacks. The treble sound is emphasized when turned clockwise (∩) from the center position, reduced when turned counterclockwise (∩) from the center position.

⑲ **BALANCE control**
Use this to adjust the left/right balance of the front speakers (PRE-OUT FRONT jacks).

⑳ **VIDEO AUX INPUTS**
These are auxiliary inputs for connecting camcorder's or video cameras or other AV equipment.
S-VIDEO: Connect the S-jack output of the other component here.
VIDEO: Connect the video output of the other component here. (Use a 75 ohm video coaxial cable pin-plug cord.)
AUDIO L and R: Connect the audio output of the other component here.

㉑ **DAT/TAPE MONITOR**
This button is used to play the audio signals input from the component connected to the DAT/TAPE-1, DAT/TAPE-2 jacks on the rear panel over the speakers, or to monitor the sound which was actually recorded on a three-head tape deck.
When the button is pressed once, the DAT/TAPE monitor mode is set. When the button is held in, the DAT/TAPE input signal changes in the order shown below. Release the button when the desired DAT/TAPE input signal is displayed on the MFD.

→ DAT/TAPE-1 → DAT/TAPE-2 → SOURCE →

When the DAT/TAPE monitor mode is set, the audio (video) signals selected with the VIDEO or AUDIO FUNCTION button are output to the VCR's video REC OUT jacks and the REC OUT jacks of the DAT/tape deck which is currently being monitored.
NOTE
- The mode automatically switches to the bypass mode when using the tape monitor function in the Hi-Vision mode.
- The DAT/TAPE MONITOR button will not function when the CD direct function is selected.

㉒ **GND (Grounding terminal)**
The grounding wire of the turntable is connected here.
- Hum or noise may be generated if the grounding wire is not connected.

㉓ **AUDIO IN (audio input) jacks**

㉔ **HI-VISION IN jacks**
Refer to page 7.

㉕ **AUDIO OUT (audio output) jacks**

㉖ **VIDEO (video input/output) jacks**

㉗ **S-VIDEO (video input/output) jacks**

㉘ **PRE OUT (FRONT, CENTER, REAR and MONO) jacks**
Refer to page 6.
Connect the monaural audio input jack of a separately sold subwoofer or TV here.

㉙ **REAR SPEAKER SYSTEMS terminals**

㉚ **FRONT SPEAKER SYSTEMS terminals**

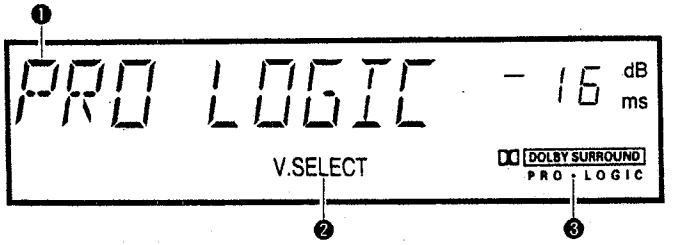
㉛ **CENTER SPEAKER SYSTEMS terminals**

Note on the center speaker terminals:
The center channel output on the AVC-2530 is dual center compatible, so two center speakers can be used.
For details, refer to pages 4 and 6.

㉜ **AC cord (power cord)**

➡ Continued

Display



❶ **MULTI FUNCTION DISPLAY**
This displays a maximum of 9 characters.
Normally the reception frequency is displayed when the function is set to tuner, and the surround mode is displayed when the function is set to other positions.
The display also indicates various other information according to the buttons pressed, as shown in the examples on the pages 9 to 10.

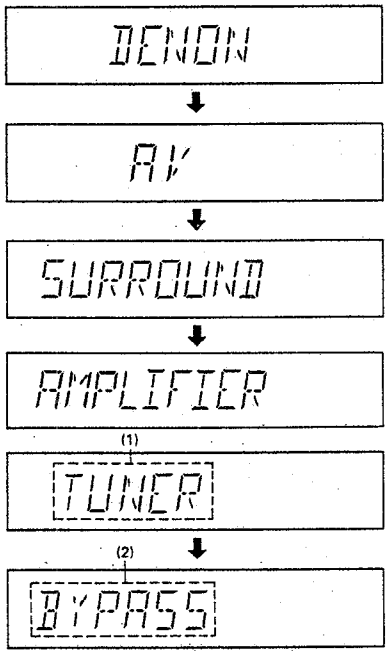
❷ **V. SELECT (VIDEO INPUT SELECT Indicator)**
This indicator lights when the video monitor output is fixed in the video input select mode.

❸ **DOLBY SURROUND Indicator**
This indicator lights when DOLBY PRO LOGIC is selected by pressing the SURROUND MODE button.

Multi-function Display (MFD)
The multi-function display indicates the status of the mode which has been operated by pressing the buttons on the front panel or on the remote control unit.

Display pattern examples

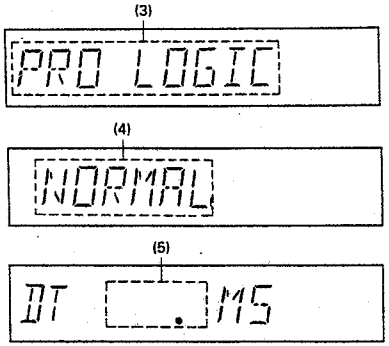
1. **When the power is turned on**



(1) The function name is displayed.

(2) The surround mode name is displayed.

2. Surround mode display

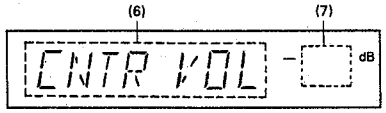


(3) "DOLBY PRO LOGIC", "DOLBY 3CH LOGIC", "WD SCREEN", "LIVE", "MNO MOVIE", "CLASSIC", "ROCK", "CHURCH", "JAZZ", "STADIUM", "MATRIX" or "BYPASS" is displayed.

(4) "NORMAL", "PHANTOM" or "WIDE" is displayed.
* These are not displayed in modes not using the Dolby center modes or when the adaptive matrix is off in the WIDE SCREEN or LIVE modes.

(5) The delay time is displayed.
* The delay time is only displayed in the DOLBY PRO LOGIC, WIDE SCREEN, LIVE and MATRIX modes.

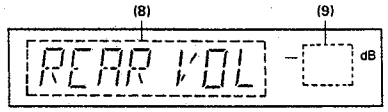
3. Center level display



(6) "CNTR VOL" is displayed when the one of the CENTER buttons is pressed.
(7) The level is displayed in steps of 2dB, from –24dB (minimum) to 0dB (maximum).

NOTE:
This is not displayed in modes in which no signals are output to the center speaker(s).

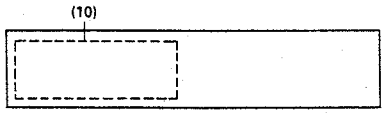
4. Rear level and balance display



(8) This is displayed when one of the REAR buttons is pressed.
(9) The level is displayed in steps of 2dB, from –24dB (minimum) to 0dB (maximum).

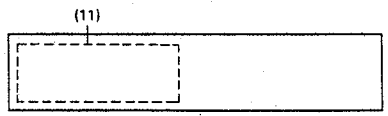
NOTE:
This is not displayed in modes in which no signals are output to the rear speakers.

5. Input display



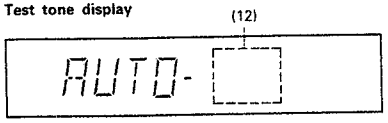
(10) This is displayed when one of the FUNCTION buttons (AUDIO or VIDEO) is pressed, and the name of the function is displayed in section (10). "D/TAPE-1" or "D/TAPE-2" is displayed if the TAPE MONITOR button or the remote control unit's DAT/TAPE-1 or DAT/TAPE-2 button is pressed. If the video signal has already been selected with the VIDEO SELECT button, the audio input and video input are displayed for 3 seconds when the AUDIO FUNCTION button is pressed.

6. Recording output display



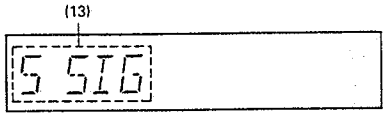
(11) This is displayed when the REC SELECT button is pressed.
The name of the function ("VDP/DBS", "VCR-1", "VCR-2", or "V-AUX") is displayed.
Normally the source is displayed.
When the recording output selection function is off and the video selection function is on, the source is displayed for the audio output and the selected signal ("VDP/DBS", "VCR-1", "VCR-2", or "V-AUX") is displayed for the video output.

7. Test tone display



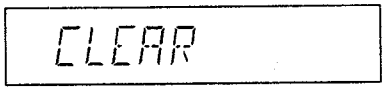
This is displayed when the T.TONE button on the remote control unit is pressed.
(12) The speaker from which the test tone is being output is displayed here.
This message is displayed until the test tone function is turned off.

8. DSP parameter display, etc.



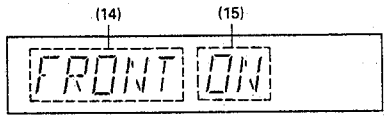
(13) The following are displayed in modes for which the PARAMETER key is effective:
"S.SIG"
"INITIAL D."
"ROOM SIZE"
"EFFECT (LEVEL)"
"EFFECT (ON/OFF)"
Also, "AVSE" or "CINEMA" is displayed when the remote control unit's AVSE or CINEMA button is pressed.
• The parameter settings are displayed here.

9. Clear display



This is displayed when the CLEAR button is pressed.

10. Outputs display



"FRONT" is displayed at section (14) when the remote control unit's FRONT button is pressed, "CNTR" when the CENTER button is pressed, and "REAR" when the REAR button is pressed. "ON" or "OFF" is displayed at section (15).

11. Muting display

This is displayed when the MUTING button on the included remote control unit is pressed, and remains displayed until the muting function turns off.

12. Protection display

This is displayed when the protection circuit is on. For details, refer to page 22.

13. No display (MFD off)

Use this when you do not need or do not want to use the MFD.
When the PANEL key on the remote control unit is pressed and held in, the display on the MFD changes continuously and finally turns off. After this is done, when a button is pressed, the corresponding display appears for several seconds, but the MFD then automatically turns back off. To turn the MFD back to the normal display mode, press the PANEL button on the remote control unit once again.

5 REMOTE CONTROL UNIT

Following the procedure outlined below, insert the batteries before using the remote control unit.

■ Cautions for batteries

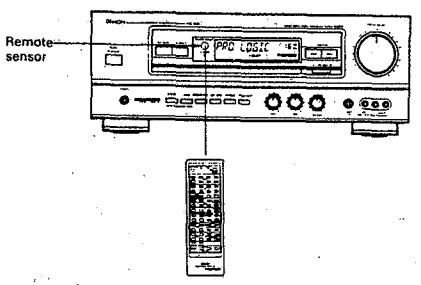
- Use R6P/AA batteries in the remote control unit.
- Replace the batteries with new ones approximately once each year, though this depends on the frequency with which the remote control unit is operated.
- If the remote control unit does not operate from close to the main unit, replace the batteries with new ones, even if less than one year has passed since the new batteries were inserted.
- Be sure that the ⊕ and ⊖ ends of the batteries match the marks on the battery case of the remote control unit.
- Replace weak batteries as soon as possible.
- Do not mix new batteries with used ones.
- Do not use batteries of different types together. Note that some batteries of the same shape and size may provide different performance.
- Some batteries are rechargeable, others are not. Read the battery instructions carefully.
- Do not connect the ⊕ and ⊖ ends of the batteries directly with metal objects. (Do not short-circuit the batteries.)
- Do not disassemble, heat, or dispose of batteries in a fire. If the batteries should leak, carefully wipe off any fluid from the battery case, then insert new batteries.

■ Using the remote control unit

The remote control unit uses highly linear infrared rays. Point it at the amplifier's remote sensor when operating it. The amplifier will not operate if the remote sensor is covered or if there is an obstacle between the remote control unit and the sensor.

Also note that strong light shining on the remote sensor may result in mistaken operations. In addition, using the amplifier near neon signs which generate pulse type noise may result in mistaken operations, so keep the amplifier as far as possible from such neon signs.

■ Range of operation of the remote control unit

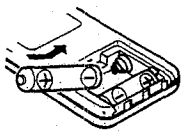


Point the remote control unit at the remote sensor when operating it, as shown on the diagram.

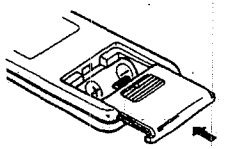
The remote control unit can be used at a direct distance of approximately 7 meters from the main unit, though this distance will be shorter if there is an obstacle between the remote control unit and main unit or if the remote control unit is operated from an angle.

1. Open the bottom cover of the remote control unit and remove the battery cover.

2. Insert the two R6P/AA batteries, matching the ⊕ and ⊖ marks on the batteries with those in the case.



3. Close the bottom cover until it clicks shut.



■ A note on battery replacement

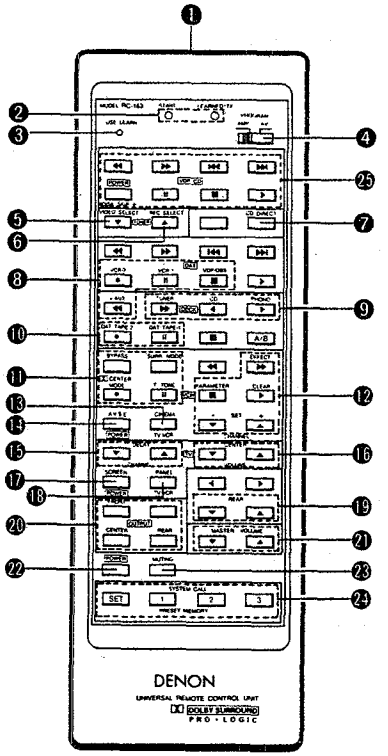
Have replacement batteries on hand so that the old batteries can be replaced as quickly as possible when the time comes.

The codes that have been learned may be lost if removed batteries are not replaced within about 5 minutes.

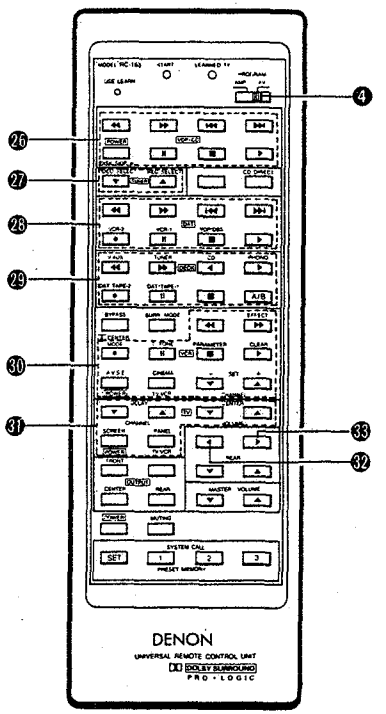
➡ Continued

Part names and functions of the remote control unit

AVC-2530 codes



System codes



AVC-2530 Codes

Use with the PROGRAM switch ❹ set to the AMP side.

❶ **Transmitting window**
The remote control signals (infrared rays) are sent from this window.

❷ **Indicator section (START, LEARNED/TX)**

❸ **USE/LEARN**
(normal use/learn mode) selector button
Press this button with the tip of a pen, etc., to set the learn mode. Both the START and LEARNED/TX indicators in the indicator section ❷ flash and codes can be learned.

❹ **PROGRAM switch**

❺ **VIDEO SELECT button**
(Same function as on amplifier.)

❻ **REC SELECT btuuon**
(Same function as on amplifier.)

❼ **CD DIRECT btuuon**
(Same function as on amplifier.)

❽ **Video function selector buttons**
These buttons are used to select the video input signals directly. They select the input signals and switch the video signals.
VDP/DBS: Use this to play the VDP or BS tuner connected to the VDP/DBS jacks.
VCR-1: Use this to play the video deck connected to the VCR-1 jacks.
VCR-2: Use this to play the video deck connected to the VCR-2 jacks.
V-AUX: Use this to play the cam corder with playback function, etc., connected to the V-AUX jacks on the front panel.

❾ **Audio function selector buttons**
These buttons select the audio input signal directly.
PHONO: Use this to play the record player connected to the PHONO jacks.
CD: Use this to play the CD player connected to the CD jacks.
TUNER: Use this to play the tuner.

❿ **DAT/TAPE button**
This button is used to monitor the sound of the component connected to the DAT/TAPE-1 or DAT/TAPE-2 jacks.
Press again to turn the monitor function off.

⓫ **SURROUND MODE button**
- **BYPASS (Surround bypass) button**
- **SURR. MODE (Surround mode) button**
- **CENTER MODE Selector button**
(Same function as on amplifier.)
- **T.TONE (test tone) button**
To obtain the maximum Dolby Pro Logic surround effect, the volume of all the speakers must be adjusted to the same level. When this button is pressed, test tones are produced from each of the speakers in the following order:

Front left → Center → Front right → Rear

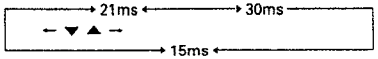
In addition, there are two modes, auto and manual. The speaker volume balance can be adjusted in either of these modes.
For details, refer to page 16.

⓬ **DSP parameter adjustment buttons**
- **EFFECT selector button**
This button turns the effect of the DSP (digital signal processor) on and off. When turned off, only direct sounds are played on the front left and right speakers. This function can be used to check the effect of the sound processor.
  * The effect turns back on if this button is pressed once again when the effect is off, or when a parameter is selected and data is changed with the "–" or "+" keys.
  * If the power is turned off when the effect is off, that mode is stored in the memory, so only the direct sound is played when the power is turned back on.
- **PARAMETER**
(DSP parameter selector) button
Use this to select the parameter.
For details, refer to page 19.
- **"–" and "+" SET**
(parameter setting) buttons
Use these to change the parameter selected with the PARAMETER button.
For details, refer to page 19.
- **CLEAR (user preset clear) button**
When this button is pressed, the parameters for the selected mode are reset to the values preset upon shipment from the factory.
For details, refer to page 23.

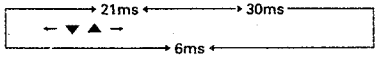
⓭ **CINEMA**
(Treble correction button)
This button is used when playing back movie video software and the speech portion is felt to be harsh upon the ears.
The output frequency response of the center and front speakers becomes closer to that in a theater and the sound becomes more pleasant to the ears.
* This function connot be used in the CD direct mode.

⓮ **A.V.S.E**
(Bass correction button)
This button is used to emphasize the bass range of the fromt speakers.
Setting this switch to ON when using movie video software provides even greater impressiveness. Use this function as desires.
* This function connot be used in the CD direct code.

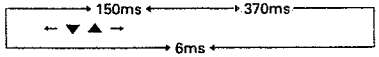
⓯ **DELAY time buttons**
When these buttons are pressed, the delay time changes in steps of 1.5ms from 6ms to 60ms, 10.0ms from 60ms to 370ms.
The delay time increases when the ▲ button is pressed.
The delay time decreases when the ▼ button is pressed.
In the Dolby Pro Logic mode:
(setting range – 15.0ms to 30.0ms)



In the wide screen and live modes:
(setting range – 6.0ms to 30.0ms)



In the matrix mode:
(setting range – 6.0ms to 370.0ms)



⓰ **CENTER level adjustment buttons**

⓱ **SCREEN button**
When this button is pressed, the current settings are displayed on the monitor screen.
Operate this button to switch the on-screen display for details on the on-screen display, refer to page 21.

⓲ **PANEL button**
When this button is pressed, the current settings are displayed on the MFD. Operate this button to switch the on-screen display.
For details on the MFD, refer to pages 9 to 10.
* This button does not function in the test tone and muting modes.

⓳ **REAR level adjustment buttons**

⓴ **OUTPUT (speaker output selector) buttons**
Use these buttons to turn the speaker outputs on and off.
The settings are displayed on the MFD.
FRONT: The speaker systems connected to the FRONT speaker output terminals and the PRE OUT FRONT terminals operates.
CENTER: The speaker system(s) connected to the CENTER speaker output terminals and the PRE OUT CENTER terminal operate(s).
REAR: The speaker systems connected to the REAR speaker output terminals and the PRE OUT REAR terminals operates.

㉑ **MASTER VOLUME buttons**
These button functions in the same way as the MASTER VOLUME control on the main unit.
When the ▲ button is pressed, the MASTER VOLUME control on the main unit turns clockwise and the overall volume increases.
When the ▼ button is pressed, the MASTER VOLUME control on the main unit turns counterclockwise and the overall volume decreases.

㉒ **POWER button**
(Same function as on amplifier.)

㉓ **MUTING button**
When this button is pressed, the output from the PRE OUT jacks and SYSTEM SPEAKERS terminals is cut. The STANDBY LED flashes when the muting mode is set. Press this button again to cancel the muting mode.

㉔ **SYSTEM CALL buttons**
For details, refer to page 13.

System Code Buttons

Different system codes for DENON components are stored at the buttons in section ㉕ when the PROGRAM switch ㊹ is set to the AMP side, the buttons in sections ㉕ through ㉚ when the PROGRAM switch ㊹ is set to the AV side.

When the PROGRAM switch ㊹ is set to the AMP side:

㉕ **VDP system buttons**
With these buttons, a Denon remote controllable LD player can be controlled directly.
For details, refer to the LD player's operating instructions. Note that operation may not be possible for some models.
POWER: Power on/off
▶: Play
⏸: Pause
■: Stop
◀◀ and ▶▶: Manual search (reverse and forward)
⏮ and ⏭: Auto search (reverse and forward)

When the PROGRAM switch ㊹ is set to the AV side:

㉖ **CD system buttons**
With these buttons, a Denon remote controllable CD player can be controlled directly.
For details, refer to the CD player's operating instructions. Note that operation may not be possible for some models.
▶: Play
⏸: Pause
■: Stop
◀◀ and ▶▶: Manual search (reverse and forward)
⏮ and ⏭: Auto search (reverse and forward)
DISC SKIP +: CD changer, disc skip

㉗ Tuner system buttons
With these buttons, a Denon remote controllable tuner can be controlled directly.
For details, refer to the tuner's operating instructions. Note that operation may not be possible for some models.
[▲] : Preset (preset channel up)
[▼] : Preset (preset channel down)

㉘ DAT system buttons
With these buttons, a Denon remote controllable DAT can be controlled directly.
For details, refer to the DAT's operating instructions. Note that operation may not be possible for some models.
[▶] : Play
[⏸] : Pause
[■] : Stop
[●] : Record
[◀◀] and [▶▶] : Manual search (reverse and forward)
[⏮] and [⏭] : Auto search (reverse and forward)

㉙ Tape deck system buttons
With these buttons, a Denon remote controllable tape deck can be controlled directly.
For details, refer to the tape deck's operating instructions. Note that operation may not be possible for some models.
[▶] : Forward play
[◀] : Reverse play
[⏸] : Pause
[■] : Stop
[●] : Record
[◀◀] : Rewind
[▶▶] : Fast-forward
[A/B] : Switching between decks A and B for double decks

㉚ VCR system buttons
No system codes are stored here.

㉛ TV system buttons
No system codes are stored here.

System Call Buttons

The system call function is a function which allows you to store a series of remote control operations consisting of the operations of up to a maximum of ten buttons, then perform this series of operations by pressing a single button.

• Storing the System Call Operations

1. Press the [SET] button.
   The START LED in the indicator section flashes.
2. Set the PROGRAM switch ❹ to the desired side, then press the buttons for the system call operations in the order you want to send the signals (up to a maximum of ten buttons). The LEARNED/TX LED lights each time a button is pressed.
   It is not possible to store the codes of more than ten buttons. If the button which has been pressed is a non-storable button or if an 11th button is pressed, the START LED will turn off while that button is pressed.
3. Press one of buttons [1] to [3] at which you want to store the system call series.
4. The START LED turns off. The system call series has now been stored.
5. Three system call series can be stored, one each at buttons [1] to [3].

To continue storing another series, repeat steps 1 to 4.

NOTE:
Signals are sent from the remote control unit when buttons are pressed while storing the system call series, so prevent the components from operating by covering the transmitting window, etc.

• Clearing the System Call Series

1. Press the [SET] button. The START LED starts flashing.
2. Press the button, [1] to [3], which you want to clear.
3. The START LED turns off and the system call series is cleared.
4. To clear another button, repeat steps 1 to 3.

• Using the System Call Buttons

1. Press the desired button, [1] to [3], once.
2. The LEARNED/TX LED lights, and the remote control codes are sent in the order in which they were stored at a speed of approximately one second per code.
3. The LEARNED/TX LED turns off once all the codes have been sent.

Remote Control Unit Learning Function

Follow the procedures explained below to use the remote control unit's learning function.

• Operation

1. Press the USE/LEARN (normal use/learn mode) selector button ❸ with the tip of a pen, etc., to set the learn mode. Both the START and LEARNED/TX indicators in the indicator section ❷ flash, indicating that codes can be "learned".
2. Set the PROGRAM switch ❹ to the desired side, AMP or AV.
3. Point the heads (transmitting window) of the RC-163 and the other remote control unit at each other at a distance of approximately 5cm.
4. Press the button on the RC-163 at which you want to store the code for one or two seconds, then release it. The LEDs stop flashing, and only the START LED remains lit.
   (If a non-learnable button is pressed or if two or more buttons are pressed, both the LEDs will stop flashing, remaining lit, when the button(s) is (are) released.)
5. Check that the START LED ❷ is lit, then press in the button on the other remote control unit whose code you want to store in the RC-163.
6. When the START LED ❷ turns off and the LEARNED LED lights, release the button. That code is now stored. Both LEDs once again start flashing. This operation can now be repeated to store other codes in the RC-163.

NOTE:
- If the code was not stored in the RC-163, the LEARNED LED will light after the START LED turns off. For a very limited number of models, codes cannot be stored in the RC-163.
- If after the START LED lights both LEDs start flashing rapidly, this means that the memory is full. The code you just tried to store in the RC-163 was not registered.
  To store a different code at a certain button, first used the "Resetting Procedure".

7. To store codes at other buttons, repeat steps 4 to 6.
8. After you finish storing all the codes you want, press the USE/LEARN (normal use/learn mode) selector button ❸ again. Both LEDs stop flashing and the sending (use) mode is set.
   Check that the stored codes work properly.

Learnable buttons:
When the PROGRAM switch is at the AMP side ..... 14 buttons
When the PROGRAM switch is at the AV side ..... 58 buttons
Maximum of 35 codes in 72 buttons

NOTE:
Depending on the types of codes stored, it may not be possible to store 35 codes.

• Resetting (Clearing) Procedure

1. Press the USE/LEARN (normal use/learn mode) selector button ❸ with the tip of a pen, etc., to set the learn mode.
2. Set the PROGRAM switch ❹ to the side whose codes you want to clear, AMP or AV.
3. Press the POWER button ㉗ and REAR ▼ button ⑲ simultaneously, and hold them in for at least four seconds.
4. When both the START and LEARNED LEDs ❷ light simultaneously, all the learned codes for the selected source are cleared.

• Remote Control Operation

1. Check that both the LEDs are off. If they are flashing or lit, press the USE/LEARN (normal use/learn mode) selector button ❸ so that the LEDs turn off.
2. When a button at which a code was "learned" is pressed, the LEARNED/TX LED lights and the remote control code is sent.

6 OPERATION

Preparations for playback

1. Checking connections

- Referring to the connection diagrams (Pages 6 to 7) check to make sure that the connections are made properly.
- Check that the left and right speakers are connected properly and also that the polarity (⊕, ⊖) is correct.
- Check that the left and right sides of the pin plug cords are connected properly.
- Check that each cord is securely connected.
- Check that each cord is of the proper type.

2. Checking the positions of the controls
(See Pages 8 to 10 for a reference to the circled numbers.)

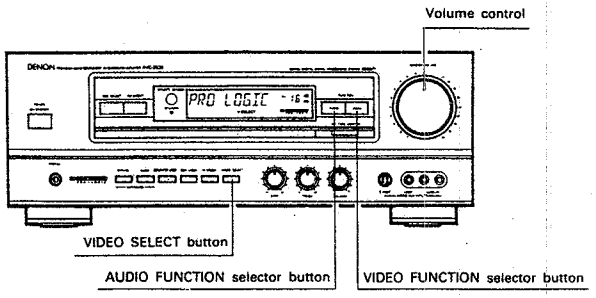
- Turn the MASTER VOLUME control fully counterclockwise to the "0" position.
- Set the BALANCE ⑲, BASS ⑰, and TREBLE ⑱ controls to their center positions.

After making the above checks, press POWER switch ❶ to switch on the power.
The amplifier will be operable when the LED of the STANDBY control stops flashing after several seconds of muting.

Note on playback
The sound will be interrupted if one of the FUNCTION selector buttons ❼ is pressed during playback. This is due to the operation of the muting circuit which prevents noise from being amplified at the time of switching, and is not a malfunction.

- When using the accompanying remote control unit, press the corresponding button.
  For details, see Page 11 of Section 5 REMOTE CONTROL UNIT.

Playback



1. Playing a program source
(Normal playback)

1 Select the desired program source by pressing the AUDIO FUNCTION selector button or the VIDEO FUNCTION selector button.

- AUDIO FUNCTION SELECTOR
  (Setting the program source)

Program source	MFD display
To listen to a record	PHONO
To listen to a CD	CD
To listen to FM or AM broadcasts	TUNER

- VIDEO FUNCTION SELECTOR
  (Setting the video program source)

Video program source	MFD display
To play the video disc player connected to the VDP/DBS jacks or to watch satellite broadcasts	VDP/DBS
To watch the video deck connected to the VCR-1 jacks	VCR-1
To watch the video deck connected to the VCR-2 jacks	VCR-2
To watch the video camcorder's equipped with playback function or another component connected to the (front panel) VIDEO-AUX jacks	V-AUX

MFD display

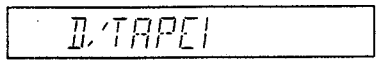
2 Begin playback of the program source.
For operating details, see the manual of the respective component.

3 Adjust the volume and tone.

2. TAPE MONITOR
(Listening to the sound of the DAT or tape deck connected to the DAT/TAPE-1 or DAT/TAPE-2 jacks)

1 Press the TAPE MONITOR button or the DAT/TAPE-1 or DAT/TAPE-2 button on the remote control unit.

MFD display



* This is displayed when DAT/TAPE-1 is selected.

2 Begin playback of the program source.
For instructions on operation, refer to the manual of the corresponding component.

3 Adjust the volume.

Copying tapes
When the deck for playback is set to DAT/TAPE-1, the DAT/TAPE-1 audio signals are automatically output from the DAT/TAPE-2 jacks.
Also, when the deck for playback is set to DAT/TAPE-2, the DAT/TAPE-2 audio signals are automatically output from the DAT/TAPE-1 jacks. When this is done, the sound being recorded cannot be monitored.

NOTES:

- When monitoring tapes, the audio (video) signals selected with the VIDEO or AUDIO FUNCTION selector button are output to the VCR-1 and VCR-2 VIDEO REC OUT jacks and the REC OUT jacks of the DAT/tape deck which is currently being monitored.
- The mode automatically switches to the bypass mode when using the tape monitor function in the Hi-Vision mode.
- Do not press the TAPE MONITOR, DAT/TAPE-1 or DAT/TAPE-2 buttons during tape monitoring or tape copying, as doing so switches the recording source.
- The CD direct function cannot be used when monitoring tapes.

3. Simulcast playback
(Playing video and audio sources)

1 Select the program source you wish to listen to with the AUDIO FUNCTION selector or the VIDEO FUNCTION selector.

MFD display

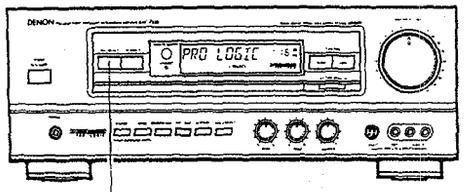
2 Hold down the VIDEO SELECT button for the video program source you wish to watch.

MFD display

3 Begin playback of the program source.
For operating details, see the manual of the respective component.

4 Adjust the volume and tone.
* Note that when the VIDEO FUNCTION button is again used to select the video program source during Simulcast playback, the Simulcast playback will be cancelled automatically.

Recording (Audio and Video)



REC SELECT button

1. Recording program sources
(Recording the sound and picture of the source currently being monitored)

1 Follow the playback instructions for program sources (page 14).

2 Start recording on the tape deck, DAT (analog) or video deck.
For instructions on operation, refer to the manual for the corresponding component.
* The audio signals selected with the AUDIO FUNCTION or VIDEO FUNCTION button are always output from the DAT/TAPE-1 and DAT/TAPE-2 REC OUT jacks, when the REC SELECT mode and tape monitor function are off.
* Note that if the AUDIO FUNCTION, VIDEO FUNCTION buttons are pressed during recording (audio or video), recording may be interrupted or switch to another recording source, so be careful not to press these buttons.
* If "PHONO", "CD", "TUNER", is selected, no video signals will be output to the video REC OUT jacks.

Simultaneous recording (audio and/or video)
When no function has been selected with the REC SELECT button
The source selected with the FUNCTION SELECTOR button is output simultaneously to the DAT/TAPE-1, DAT/TAPE-2,VCR-1 and VCR-2 REC OUT jacks. If a total of four decks – Two tape decks and two video decks – are connected and all four are set to the recording mode, the same source can be recorded simultaneously on all for decks.
NOTE: Do not press the TAPE MONITOR, DAT/TAPE-1 or DAT/TAPE-2 buttons during simultaneous recording.

Monitoring the recording

The sound which was actually recorded can be monitored when using a three-head tape deck.
To use the tape monitor function, select the position at which the three-head deck is connected using the TAPE MONITOR or DAT/TAPE-1, DAT/TAPE-2 button.

2. Recording program sources independently and copying videos independently
(Recording an video source onto VCR-1 and VCR-2 other than the one currently being monitored)

1 Press in the REC SELECT (independent recording selector) button, then release the button when the program source you want to record is displayed. The display changes in the following order:

→ VDP/DBS
SOURCE ← V-AUX ← VCR-2 ← VCR-1

MFD display

2 Start playback of the program source you want to record.

3 Start recording on the video deck.
For instructions on operation, refer to the manual for the corresponding component.
* This mode is cancelled if the REC SELECT button is pressed again.

NOTE:
- The REC SELECT button does not function in the CD direct mode.
- If "VIDEO AUX" is set with the REC SELECT button when the "PHONO", "CD", or "TUNER" function is selected, the VIDEO AUX video signals are output to the monitor.

➡ Continued

7 USING THE DSP (DIGITAL SIGNAL PROCESSOR)

DSP Modes

The AVC-2530 includes a DSP (Digital Signal Processor) for adjusting the sound field using digital signals. This DSP offers an excellent S/N ratio, channel separation, distortion characteristic, etc. The various parameters can be set according to conditions in the listening room to create a more realistic sound.
The sound field processing modes are as follows:

1. Modes not using the DSP
- Bypass: In this mode, the surround mode (DSP) is bypassed and the normal stereo sound is produced.

2. Modes using the DSP
- Surround modes: In these mode, signals are output to the center and rear speakers as well for four- or five-channel playback.

The surround modes are as follows:

1	Dolby Pro Logic	Use this when playing program sources recorded in Dolby Surround.
2	Wide Screen	Use this to enjoy program sources with the atmosphere of a movie theater, recorded in Dolby Surround.
3	Live	Use this to enjoy program sources with the atmosphere of a live performance, recorded in Dolby Surround.
4	Mono movie	In this mode, a sense of expansion is added to monaural audio sources. This mode is best suited for playing old movies or movie tapes recorded in monaural.
5	Classic concert	This mode simulates the sound of a large concert hall. It is suited for classical music, etc.
6	Rock concert	This mode is best for playing rock, popular music, etc.
7	Church	Use this mode when playing religious music, pipe organ music, etc.
8	Jazz	This mode recreates the sound of a live music house with a low ceiling and strong vibrations.
9	Stadium	This mode simulates the sound field of an outdoor stadium.
10	Matrix	Use this to create a sense of expansion with sources recorded in stereo. The differential components of the input signals are output from the rear channel.

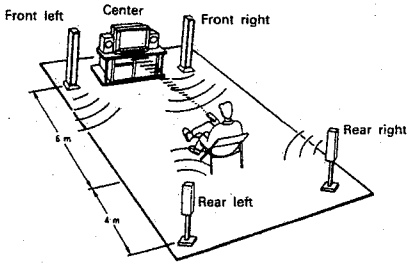
*** These effects may not be very pronounced for some sources. If this is the case, try other modes, not relying too much on their names, and find the mode you like best. Also, if the sound seems distorted, Either lower the effect level or press the CLEAR button and readjust the parameters.**

*** To adjust the speaker balance for the different surround modes, first adjust for the Dolby Pro Logic Surround mode as explained on page 16, then use the position of the center level and rear level controls at this time as a guide to adjust the balance for that surround mode.**

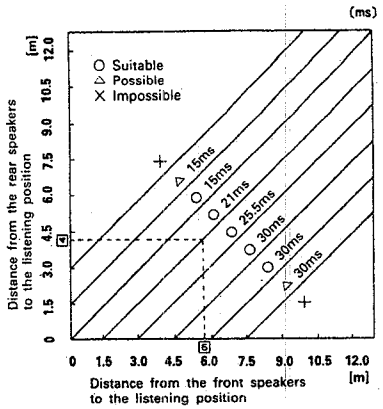
DOLBY PRO LOGIC SURROUND

- **Setting the delay time**

The optimum delay time will differ depending on the listening position. Referring to the chart at right, set the optimum delay time for your room's space and setting position. For example, when the distance from the front speakers to the listening position is 6 m and that from the rear speakers to the listening position is 4 m, the optimum delay time will be 21 ms.
The variable range of the delay time differs depending on the mode.
For details about the variable range, see Page 12.

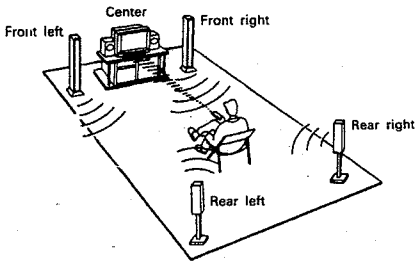


Listening position and optimum delay time for playback with Dolby Pro Logic surround



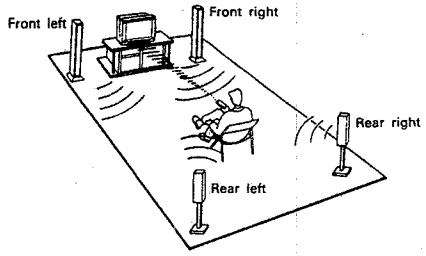
- **Speaker arrangement and Dolby Pro Logic and the center mode**

Ideally, center speakers are used for playback of Dolby Pro Logic surround.



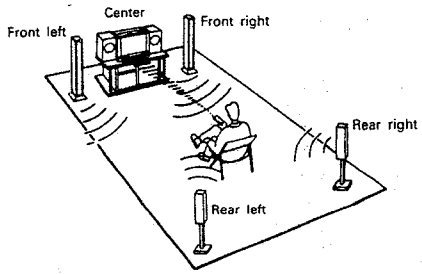
NORMAL mode

Normal mode: This mode is suited for an arrangement in which the center channel speakers are smaller than the left and right speakers. Signals below 100 Hz which have almost no effect on directional orientation are distributed to the left and right channels, whereas the center channel outputs signals greater than 100 Hz. As a result, the bass of the left and right channels increases the apparent deepness of the sound.



PHANTOM mode

Phantom mode: Use this mode when center channel speakers are not used. A directional emphasis circuit provides signal reproduction which is electrically oriented to the center and this provides an exciting sound field for your enjoyment.



WIDE mode

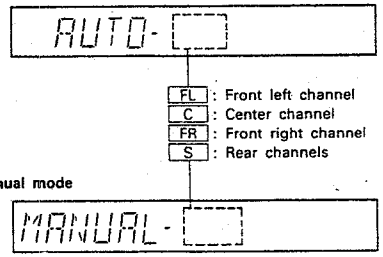
Wide mode: This mode is suited for an arrangement in which the center channel speakers are of the same grade as the left and right speakers. The entire sound band from low region to high is output to the center channel to provide an exciting sound field for your enjoyment.

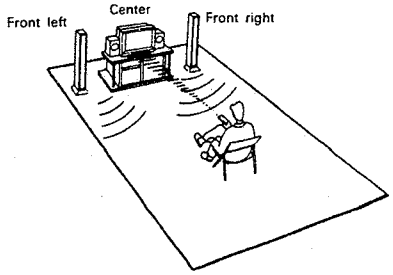
Test Tones

This function emits test signals for adjusting the levels of the different channels for Dolby Pro Logic surround. When the T.TONE button on the remote control unit is pressed, test tones are emitted from the speakers, starting from the front left speaker.
Before playing sources recorded in Dolby Pro Logic surround, arrange the speakers as shown on the diagram above, then use the test tones to adjust the balance between the volumes of the speakers to achieve the most appropriate balance for the listening position, and adjust so that the level of the sound from all the speakers seems to be the same.
To stop emitting the test tones, press the T.TONE button once again. There are two test tone patterns, automatic and manual, selected with the PARAMETER button.
In addition, enjoy other surround modes using the volume balance adjusted in the Dolby Pro Logic mode as the basis. For some playback sources the volume balance may not be optimal, so readjust it to suit your tastes.

MFD display

Automatic mode



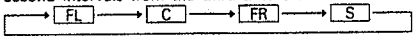


3CH LOGIC

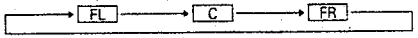
Three-channel logic mode: Use this mode when rear channel speakers are not used. The rear channel information is reproduced by the front speakers.
NOTE: The Phantom mode cannot be set when in the 3CH Logic mode.

Automatic mode

The test tones are emitted in the order shown below, at four second intervals the first two times around, two second intervals from the third time around on.



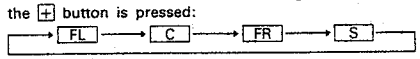
(In the Dolby 3ch. Logic mode:)



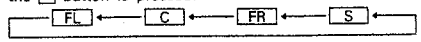
* The test tone is always emitted from the front left channel first.
* The tone will not switch to the next channel when adjusting the center level for the center channel output or when adjusting the rear level for the rear channel output. The tone switches to the next channel two seconds after the level key is released.

Manual mode

In this mode, the channels from which the test tones are emitted are selected manually.
Use the [−] and [+] buttons to select the channels.
The test tones are emitted in the following order each time the [+] button is pressed:



The test tones are emitted in the following order each time the [−] button is pressed:



* When switched from the automatic mode to the manual mode, test tones are emitted starting from the channel from which they were being output in the automatic mode.

DSP Operation

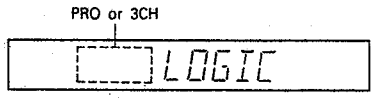
1. Surround modes

SURROUND MODE button — Main unit and remote control unit

The DSP surround mode switches in order each time this button is pressed.

(1) Dolby Pro Logic and 3ch Logic
Modes for playing program sources recorded in Dolby surround

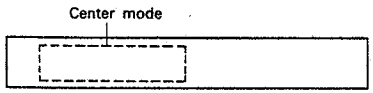
MFD display



①□□CENTER MODE button — Main unit and remote control unit

Set the Dolby center mode according to the center speaker(s) being used.
Refer to page 16.

MFD display



②T.TONE button — Remote control unit

Use this to adjust the speaker levels and balance.
Refer to page 16.

PARAMETER button — Remote control unit

Automatic mode ⟷ manual mode (Refer to page 16.)

③DELAY buttons (▲ and ▼) — Remote control unit

Use these to set the delay time (between 15 and 30msec).

④Start playing the source.

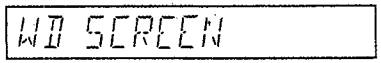
⑤A.V.S.E. button — Remote control unit

CINEMA button — Remote control unit

Set these to suit your tastes.
(Refer to page 12.)

(2) WIDE SCREEN

MFD display



LIVE

MFD display

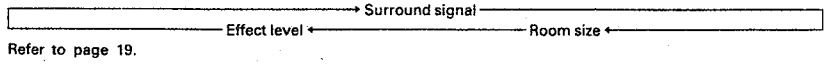
- The usable parameters are the same for the above two modes.

①□□CENTER MODE button — Main unit and remote control unit

Same as for the Dolby Pro Logic mode.

②PARAMETER button — Remote control unit

Use this to select and set the parameters.



Refer to page 19.

③DELAY buttons (▲ and ▼) — Remote control unit

Use these to set the delay time (between 6.0 and 30.0msec).

④Start playing the source.

⑤A.V.S.E. button — Remote control unit

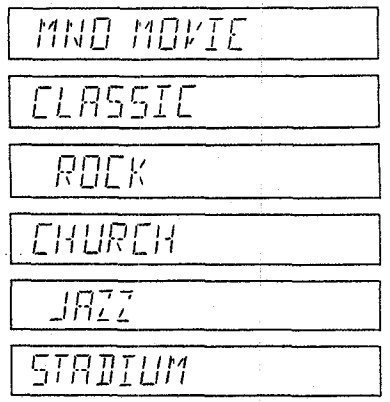
CINEMA button — Remote control unit

Set these to suit your tastes.
(Refer to page 12.)

(3)

MFD display

Mono Movie
↓
Classic Concert
↓
Rock Concert
↓
Church
↓
Jazz
↓
Stadium



- The usable parameters are the same for the above six DSP surround modes.
- Set the parameters according to the DSP surround mode.
- Even if the parameters are set to the same values for all the surround modes, there are also internally fixed parameters, so the effects created with the various modes will be different.

①PARAMETER button — Main unit and remote control unit

Use this to select and set the parameters.

→ Initial delay → Room size → Effect level →

(Refer to page 19.)

②Start playing the source.

③EFFECT button — Remote control unit

Use this to check the effect.

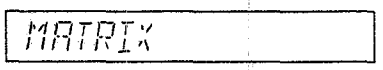
④A.V.S.E. button — Remote control unit

CINEMA button — Remote control unit

Set these to suit your tastes.
(Refer to page 12.)

(4) Matrix

MFD display



①DELAY buttons (▲ and ▼) — Remote control unit

Use these to set the delay time (between 6.0 and 370.0msec).

②Start playing the source.

③A.V.S.E. button — Remote control unit

CINEMA button — Remote control unit

Set these to suit your tastes.
(Refer to page 12.)

Operations in the Different Modes

		FRONT SP/PRE*1	CENTER SP/PRE*1	REAR SP/PRE*1	CENTER LEVEL	REAR LEVEL	CENTER MODE	TEST TONE	DELAY TIME	SURR. SIGNAL
CD-DIRECT		○	×	×	×	×	×	×	×	×
BYPASS		○	○	×	○	×	△*2	×	×	×
HI-VISION*3		○	○	○	○	○	△*2	×	×	×
DOLBY PRO LOGIC	NORMAL	○	○	○	○	○	○	○	○	×
	PHANTOM	○	×	○	×	○	○	○	○	×
	WIDE	○	○	○	○	○	○	○	○	×
DOLBY 3CH LOGIC	NORMAL	○	○	×	○	×	○	○	×	×
	WIDE	○	○	×	○	×	○	○	×	×
WIDE SCREEN & LIVE*4	S.SIG.L-R (A. MATRIX ON) NORMAL	○	○	○	○	○	○	×	○	○
	S.SIG.L-R (A. MATRIX ON) PHANTOM	○	×	○	×	○	○	×	○	○
	S.SIG.L-R (A. MATRIX ON) WIDE	○	○	○	○	○	○	×	○	○
	S.SIG.L+R (A. MATRIX OFF)	○	×	○	×	○	×	×	○	○
MONO MOVIE		○	×	○	×	○	△*2	×	×	×
CLASSIC CONCERT		○	×	○	×	○	△*2	×	×	×
ROCK CONCERT		○	×	○	×	○	△*2	×	×	×
CHURCH		○	×	○	×	○	△*2	×	×	×
JAZZ		○	×	○	×	○	△*2	×	×	×
STADIUM		○	×	○	×	○	△*2	×	×	×
MATRIX		○	×	○	×	○	△*2	×	○	×

		INIT DELAY	ROOM SIZE	EFFECT LEVEL	EFFECT ON/OFF	A.V.S.E.	CINEMA	CLR	TAPE MONITER
CD-DIRECT		×	×	×	×	×	×	×	×
BYPASS		×	×	×	×	○	○	○	○
HI-VISION*3		×	×	×	×	○	○	○	○
DOLBY PRO LOGIC	NORMAL	×	×	×	×	○	○	○	○
	PHANTOM	×	×	×	×	○	○	○	○
	WIDE	×	×	×	×	○	○	○	○
DOLBY 3CH LOGIC	NORMAL	×	×	×	×	○	○	○	○
	WIDE	×	×	×	×	○	○	○	○
WIDE SCREEN & LIVE*4	S.SIG.L-R (A. MATRIX ON) NORMAL	×	○	○	×	○	○	○	○
	S.SIG.L-R (A. MATRIX ON) PHANTOM	×	○	○	×	○	○	○	○
	S.SIG.L-R (A. MATRIX ON) WIDE	×	○	○	×	○	○	○	○
	S.SIG.L+R (A. MATRIX OFF)	×	○	○	×	○	○	○	○
MONO MOVIE		○	○	○	○	○	○	○	○
CLASSIC CONCERT		○	○	○	○	○	○	○	○
ROCK CONCERT		○	○	○	○	○	○	○	○
CHURCH		○	○	○	○	○	○	○	○
JAZZ		○	○	○	○	○	○	○	○
STADIUM		○	○	○	○	○	○	○	○
MATRIX		×	×	×	×	○	○	○	○

○: Operation possible
×: Operation not possible

*1 When the power is turned on and when switching from other modes, the front and center speaker pre-outputs, rear speaker are automatically turned on, even if they were off. In the bypass mode, however, the center speaker pre-outputs do not change.
*2 Switches to the Dolby Pro (3CH) Logic mode for any modes other than Dolby Pro (3CH) Logic, Wide Screen and LIVE.
*3 The mode automatically switches to the bypass mode when using the tape monitor function in the Hi-Vision mode.
*4 When the surround signal is L–R, the adaptive matrix turns on automatically and the directivity is stressed, and when the surround signal is L+R, the adaptive matrix turns off automatically and the directivity is not stressed.

2. PARAMETER button

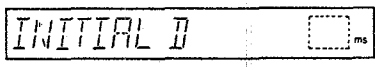
Use this button to select the parameter.
The normal procedure for setting parameters is to first select the parameter with the PARAMETER button, then use the ⊕ and ⊖ buttons to set the selected parameter. Remote control unit

If no button is pressed for approximately 15 seconds, the parameter setting mode is automatically cancelled.

(1) Initial delay
This parameter sets the distance (delay time) from the sound source to the reflecting walls.
The larger the value, the further away the sound source seems.

⊖ ⊕
0 ~ 50msec
(10msec. STEP)

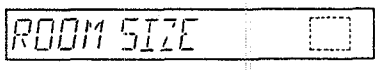
MFD display



(2) Room size
This parameter sets the time interval between the initial reflected sounds.
The larger the value, the larger the sound field seems to be, and the greater the sense of expansion.

⊖ ⊕
4 ~ 20
(2 STEP)

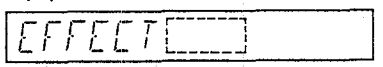
MFD display



(3) Effect level
This parameter adjusts the level of the reflected sound.
The larger the value, the greater the level of the reflected sound.

⊖ ⊕
0 ~ 15

MFD display



(4) Surround signal
This parameter is only for the WIDE SCREEN and LIVE modes.
Select the surround input signal.

⊖ ⊕
L–R ⟷ L+R

MFD display

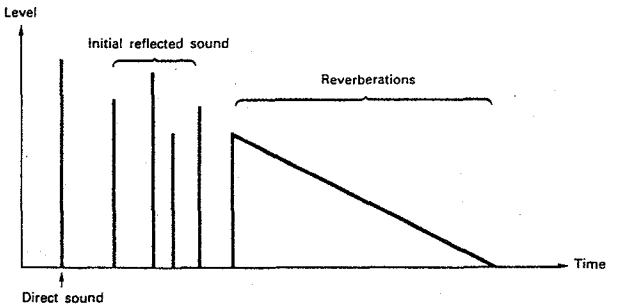
NOTE:
The sound is interrupted momentarily when the delay, initial delay, room size and effect level parameters are changed, but this is normal.
For some playback sources, noise may be generated if the DSP parameters are changed.

➡ Continued

Technical Advice

1. "Sound field"

The sounds we hear normally or in concert halls, etc., does not only consist of sounds heard directly from the sound source (direct sound). Sound disperses in all directions and is reflect repeatedly off the walls and ceilings, and these reflected sounds reach our ears with a certain delay.
Reflected sounds can be classified into two main categories. The first is initial reflected sound, and this is sound which we hear after it has reflected once or a few times off of walls. This creates an echo-like effect, but as the time difference with respect to the direct sound is short, we do not perceive this initial reflected sound as a distinct sound. Rather, it has the effect of increasing the sense of expansion or depth of the direct sound. The second category of reflected sound is called reverberations. These are sounds which reach our ears after an elaborate series of reflections. These reverberations are responsible for the richness of the overall sound.
These different sounds can be graphed as follows:



The above is only one example. Actually the reflected sound takes on a particular form depending on the environment surrounding the sound source, that is such conditions as the size of the room, the distance to the walls, the shape and material of the walls, and our position within the room. This reflected sound combines with the direct sound, and we recognize as it as the particular sound to the listening environment. This particular sound is called the sound field. Normally we hear it without paying special attention to it.
The AVC-2530 uses an advanced DSP (digital signal processor) to create various sound fields.

2. DSP sound fields

We now have access to many types of music and movie sources, including LDs, CD, videos, satellite broadcasts, and so on. In most cases, some sort of sound field has already been added to these sound sources. For live recordings, of course, but also for studio recordings, the reflected sounds are recorded along with the direct sound. But when we listen to them, we sometimes feel we would like a richer sound, or for example that we would like to recreate the exciting sense of presence at a live concert. By adding the DSP sound fields to the sources, we can create a more real sound with greater atmosphere.
The sound fields created by the DSP are created based on the sound source. Because of this, some adjustments are necessary to achieve an effect which fits the source, including the sound field already included in the source. The AVC-2530 offers various parameters so that the user can make these adjustments. Values have already been preset for the different parameters in the various modes upon shipment from the factory, they can be adjusted to create your own original sound fields.
The parameters which the AVC-2530 includes for adjusting the sound field are as follows:

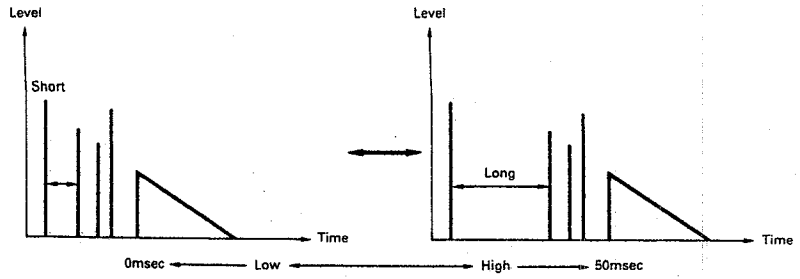
① Initial delay
② Room size
③ Effect level
④ Effect

3. Description of parameters

(1) Initial delay

This parameter sets the distance (delay) time from the sound source to the reflecting walls.

Variable range: 0 to 50msec (in 10msec steps)



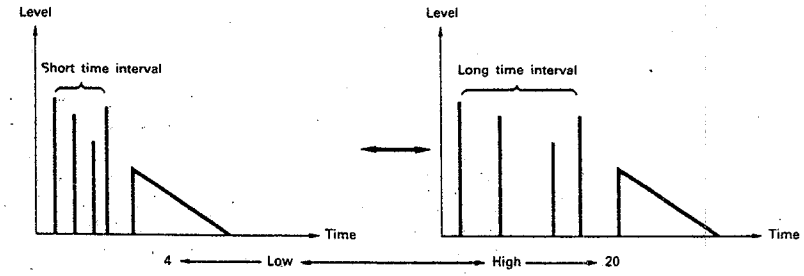
This adjusts the time difference between the direct sound and the initial reflected sound. Think of it like changing the distance from the sound source to the wall behind the stage.

The higher the value, the deeper the stage seems to be.

(2) Room size

This parameter sets the time interval between initial reflected sounds.

Variable range: 4 to 20 (in 2 steps)



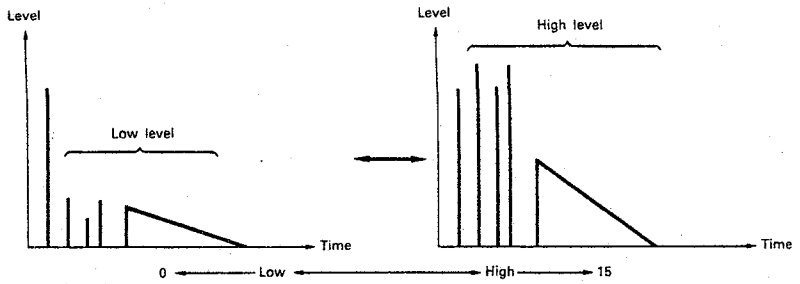
This parameter controls the size of the room. The higher this value, the greater the time interval between initial reflected sounds, and the greater the time difference between the direct sound and the initial reflected sounds. In other words, the time until which the sound reaches the listeners ears after reflecting off walls increases, as if the size of the room increased. Inversely, the lower the value, the smaller the room. This parameter has a strong effect, so if changed the sound may seem unnatural with some sources. If so, either lower the effect level or decrease the room size parameter.

(3) Effect level

This parameter adjusts the level of the reflected sound.

The higher the value, the greater the level of the reflected sound.

Variable range: 0 to 15



Normally the number of reflected sounds runs from several sounds to several tens of sounds, and specific data is set for each of these in the different modes. For some sources, the level of the reflected sound may be too high, making the sound harsh to listen to. In other cases, the effect will be too low and not perceivable. In such cases, use this parameter to change the overall level of the reflected sounds without changing the balance between the level of the different reflected sounds, that is without changing the specific character of the sound field.

If this parameter is set too high or too low, the resulting sound may be bizarre. At level 0, in particular, there is no reflected sound at all.

Lower the effect level if the sound seems distorted.

(4) Effect

This parameter turns the DSP sound field effect on and off.

When turned off, the sound is the same as in the bypass mode, and only the direct sound is played.

4. Creating original sound fields

Here we offer a general example of how to create original sound fields.

(1) Select the surround mode to use as the base.

(2) Adjust the room size and initial delay parameters.

First adjust the room size parameter. At this stage, roughly determine the size of the sound field. After roughly adjusting the room size parameter, adjust the initial delay parameter. If the room size and initial delay values are too high, the result may be an unnatural sound for some sources. Find the sound you like.

(3) Overall adjustment

Use the effect level parameter to adjust the balance between the direct sound and the reflected sound. The atmosphere changes substantially just by changing this balance.

If you cannot achieve the desired effect, try returning to the previous step. In particular, the relationship between steps 2 and 1 is important, so it may be a good idea to try something else. Sometimes you might discover surprising effects through different combinations.

The preset modes have been given names indicating sound fields appropriate for different types of music sources, but when creating your own original sound fields there is no need to worry too much about these names. To create a sound field to your liking, it may be best to try different variations.

* Press the CLEAR button to start over from scratch.

8 ON-SCREEN DISPLAY

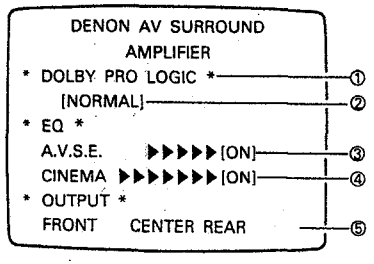
If the SCREEN button on the remote control unit is pressed when the power is turned on, the operating modes are displayed on the monitor TV's screen when buttons are operated, etc.
The displays shown below appear on the screen when the power is turned on and the SCREEN button is operated. The mode changes between screen 1, screen 2, screen 3, screen 4 and off each time the SCREEN button is pressed.
When the power is turned on, screens 1 to 3 are displayed for approximately 6 seconds, after which the on-screen display automatically turns off.
When other buttons are pressed, messages related to the button that was pressed are displayed for approximately 5 seconds, then automatically turn off.
(The normal picture is displayed under the message, but if no picture is being input, the background turns a color which is internally produced.)

NOTE

- The on-screen display signals are not output to the S-VIDEO MONITOR OUT jacks or the video output jacks for recording.
- If a video source is selected but no video signals are being input (when a color background is displayed), the color background turns off after the message is displayed.

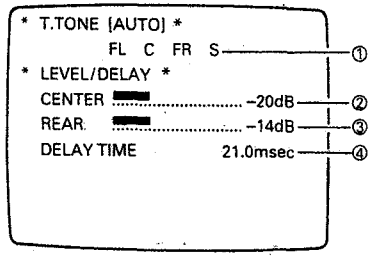
The following screens are examples of displays.

Screen 1 Surround mode display



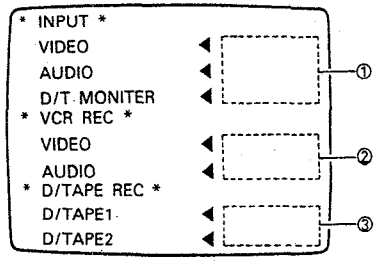
①Surround mode
②Center mode
③A.V.S.E. setting (on/off)
④Cinema setting (on/off)
⑤Output indicators
These indicators are displayed when signals are being output to these channels.

Screen 2 Level display, etc.



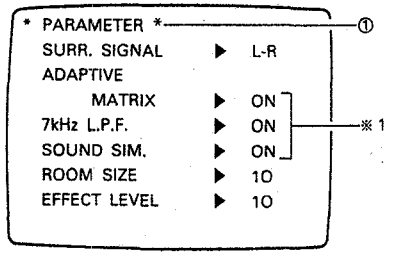
①Test tone display
This is displayed when the test tone mode is set.
②Center level
The level is displayed by a bar graph and by the decibel (dB) value.
If the level is increased, the bar becomes longer.
③Rear level and balance
The levels are displayed by a bar graph and by the decibel (dB) value.
If the level is increased, the bar becomes longer.
④Delay time
This displays the delay time.

Screen 3 Input/output display



①Input selector display
The set input is displayed here.
②VCR recording output selector display
The name of the source being output to the VCR is displayed here.
③DAT/TAPE recording output selector display
The name of the source being output to the DAT/TAPE-1 and DAT/TAPE-2 jacks is displayed here.

Screen 4 Parameter display, etc.

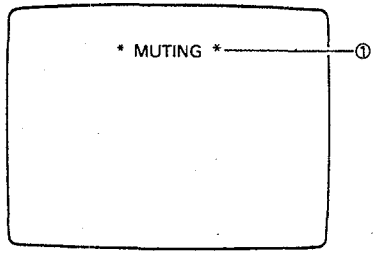


①Parameter display
This indicates the DSP parameters.
Displayed for approximately 15 seconds.

NOTE

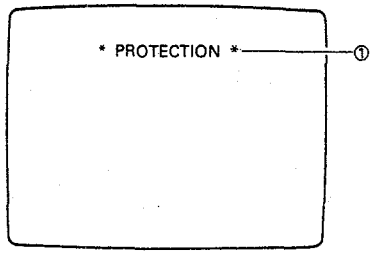
The parameters displayed at section "※1" of Screen 4 are only displayed on the screen and cannot be set. However, when the "SURR. SIGNAL" setting is switched from "L – R" to "L + R", the "ADAPTIVE MATRIX" display automatically switches from "ON" to "OFF".

Other 1



①Muting display
This flashes when in the muting mode.

Other 2



①Protection circuit display
This flashes when the protection circuit is activated.
For details, refer to page 22.

9 TROUBLESHOOTING

If a problem should arise, first check the following:

1. Are the connections correct?

2. Have you operated the amplifier according to the Operating Instructions?

3. Are the speakers, turntable, and other components operating properly?

If the amplifier is not operating properly, check the items listed in the table below. Should the problem persist, there may be a malfunction. Disconnect the power immediately and contact your store of purchase.

	Symptom	Cause	Measures	Page
Common problems arising when listening to the CD, records, tapes, and FM broadcasts, etc.	MFD not lit and sound not produced when power switch set to on.	• Power cord not plugged in securely.	• Check the insertion of the power cord plug.	6
	MFD lit but sound not produced.	• Speaker cords not securely connected. • OUTPUT button is off. • Improper position of the audio input selection button. • Volume control set to minimum. • MUTING is on.	• Connect securely. • Select FRONT, CENTER, or REAR of the remote control's OUTPUT button. • Set to a suitable position. • Turn volume up to suitable level. • Switch off MUTING.	4, 6 12 8, 9 8 12
	-PROTECT- display appears on multi-function display.	• Speaker terminals are short-circuited. • Blocking the ventilation holes of the set. • The unit is operating at continuous high power conditions and/or inadequate ventilation.	• Switch power off, connect speakers properly, then switch power back on. • Turn off the set's power, then ventilate it well to cool it down. Once the set is cooled down, turn the power back on.	4 2
	Sound produced only from one channel.	• Incomplete connection of speaker cords. • Incomplete connection of input/output cords. • Left/right balance is off.	• Connect securely. • Connect securely. • Adjust balance knob properly.	6, 7 6, 7 9
	Positions of instruments reversed during stereo playback.	• Reverse connections of left and right speakers or left and right input/output cords.	• Check left and right connections.	6, 7
	Sound seems distorted.	• Effect level parameter is high.	• Lower effect level parameter.	19, 20
	Sound seems strange.	• DSP parameter settings are poor.	• Press the CLEAR button then adjust the DSP parameters.	15
	Sound field effect cannot be heard.	• EFFECT is turned off.	• Turn EFFECT on.	19
	Recording (audio and/or video) is not possible.	• CD direct mode set.	• Cancel CD direct mode.	8
	CD direct mode does not work.	• REC SELECT is on.	• Cancel REC SELECT.	8

	Symptom	Cause	Measures	Page
When playing records	Humming noise produced when record is playing.	• Ground wire of turntable not connected properly. • Incomplete PHONO jack connection. • TV or radio transmission antenna nearby.	• Connect securely. • Connect securely. • Contact your store of purchase.	6 6 –
	Howling noise produced when volume is high.	• Turntable and speaker systems too close together. • Floor is unstable and vibrates easily.	• Separate as much as possible. • Use cushions to absorb speaker vibrations transmitted by floor. If turntable is not equipped with insulators, use audio insulators (commonly available).	– –
	Sound is distorted.	• Stylus pressure too weak. • Dust or dirt on stylus. • Cartridge defective.	• Apply proper stylus pressure. • Check stylus. • Replace cartridge.	– – –
	Volume is weak.	• MC cartridge being used.	• Replace with MM cartridge or use a head amplifier or step-up transformer.	6
Remote control unit	Amplifier does not operate properly when remote control unit is used. (When LEARNED/TX LED is lit)	• Batteries dead. • Remote control unit too far from amplifier. • Obstacle between amplifier and remote control unit. • Learning process to the button improper. • Different button is being pressed.	• Replace with new batteries. • Move closer. • Remove obstacle. • Set learning again. • Press the proper button.	11 11 11 13
	Amplifier does not operate properly when remote control unit is used. (When LEARNED/TX LED is not lit)	• Learning process to the button improper. • Learning process has not been applied to the button. • Batteries dead. • ⊕ and ⊖ ends of battery inserted in reverse. • Improper position of PROGRAM switch.	• Set learning again. • Apply learning process. • Replace with new batteries. • Insert batteries properly. • Set to desired position (AMPLIFIER, AV).	13 13 11 11

• INITIALIZATION OF THE MICROPROCESSOR

When the indication of the MFD display is not normal or when the operation of the unit does not shows the reasonable result, the initialization of the microprocessor is required by the following procedure.

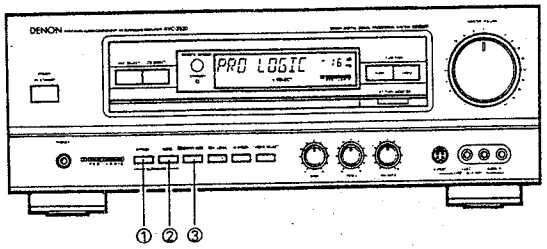
1 Switch off the unit and remove the AC power cord from the wall outlet.

2 Hold the following 3 buttons of the main unit at the same time (as illustrated in the diagram below, ① BYPASS button, ② SURROUND MODE button, and ③ □□ CENTER MODE button) plug the power cord into the outlet.

3 Check that the entire MFD display is flashing with an interval of about 1 second, and release your fingers from the 3 buttons.

4 Switch on the unit and the microprocessor will be initialized. The input function is set to tuner with the bypass mode automatically.

NOTE:
- When the unit does not show the result of above 3 and 4, repeat the procedure from 1 again.
- When the microprocessor is initialized, all the previous setting of the unit is released and is set to the shipping condition from the manufacturer.



Initial settings of parameters

The initial settings of the different parameters are as shown below.
When the CLEAR button is pressed, the settings are all reset to these values.

	FRONT SP/PRE	CENTER SP/PRE	REAR SP	CENTER LEVEL	REAR LEVEL	CENTER MODE	3CH. LOGIC	TEST TONE	DELAY TIME
BYPASS	ON	OFF	OFF	–12dB	–	–	–	–	–
HI-VISION	ON	ON	ON	–12dB	–12dB	–	–	–	–
DOLBY PRO LOGIC	ON	ON	ON	–12dB	–12dB	NORMAL	OFF	OFF	21msec
WIDE SCREEN	ON	ON	ON	–12dB	–12dB	NORMAL	–	–	21msec
LIVE	ON	ON	ON	–12dB	–12dB	NORMAL	–	–	21msec
MOVIE	ON	OFF	ON	–	–12dB	–	–	–	–
CLASSIC	ON	OFF	ON	–	–12dB	–	–	–	–
ROCK	ON	OFF	ON	–	–12dB	–	–	–	–
CHURCH	ON	OFF	ON	–	–12dB	–	–	–	–
JAZZ	ON	OFF	ON	–	–12dB	–	–	–	–
STADIUM	ON	OFF	ON	–	–12dB	–	–	–	–
MATRIX	ON	OFF	ON	–	–12dB	–	–	–	21msec

	SURR. SIGNAL	INIT DELAY	ROOM SIZE	EFFECT LEVEL	EFFECT ON/OFF	AVSE	CINEMA
BYPASS	–	–	–	–	–	OFF	OFF
HI-VISION	–	–	–	–	–	OFF	OFF
DOLBY PRO LOGIC	–	–	–	–	–	OFF	OFF
WIDE SCREEN	L–R	–	10	10	–	OFF	OFF
LIVE	L–R	–	10	10	–	OFF	OFF
MOVIE	–	0msec	10	10	ON	OFF	OFF
CLASSIC	–	0msec	10	10	ON	OFF	OFF
ROCK	–	0msec	10	10	ON	OFF	OFF
CHURCH	–	0msec	10	10	ON	OFF	OFF
JAZZ	–	0msec	10	10	ON	OFF	OFF
STADIUM	–	0msec	16	10	ON	OFF	OFF
MATRIX	–	–	–	–	–	OFF	OFF

10 LAST FUNCTION MEMORY

- This amplifier is equipped with a last function memory which stores the input and output setting conditions as they were immediately before the power is switched off.
  This function eliminates the need to perform complicated resettings when the power is switched on.
- This amplifier is also equipped with a back-up memory. This function provides approximately one month of memory storage with the power cord disconnected.

11 SPECIFICATIONS

- **Audio Section**

(Power amplifier)

Rated output: (All properties shown are only for the power amplifier stage.)
Front: 80 W + 80 W (20 Hz to 20 kHz 8 ohms 0.05% T.H.D.)
Center: 80 W (20 Hz to 20 kHz 8 ohms 0.05% T.H.D.)
Rear: 25 W + 25 W (1 kHz, 8 ohms, 0.5% T.H.D.)

Load impedance:
Front: 6 to 16 ohms
Center: 6 to 16 ohms
Rear: 6 to 16 ohms

(Pre-amplifier)

Line input (Each line input – FRONT PRE OUT)

Input sensitivity / impedance: 150 mV / 47 k ohms PHONO (MM): 2.5 mV / 47 kohms

Frequency response: 10 Hz to 50 kHz: ±3 dB (BYPASS mode)
5 Hz to 100 kHz: +0, –3dB (CD DIRECT)

Tone control range: BASS: ±10 dB at 100 Hz
TREBLE: ±10 dB at 10 kHz

Signal-to-noise ratio 92 dB (BYPASS mode)
94 dB (CD DIRECT)

Distortion factor: 0.01% 1 kHz 1 V (BYPASS mode)

Phono equalizer (PHONO input – REC OUT)

RIAA deviation: ±1 dB (20 Hz to 20 kHz)

Signal-to-noise ratio: 74 dB (A weighting, with 5 mV input)

Rated output / Maximum output: 150 mV / 8 V

Distortion factor: 0.03% (1 kHz, 3 V)

- **Video Section**

Standard video jacks

Input and output level / impedance: 1 Vp-p/75 ohms

Frequency response: 1 Hz to 8 MHz +0, –3 dB

S-video output jacks

Input and output level / impedance: Y (brightness) signal: 1 Vp-p/75 ohms
C (color) signal: 0.286 Vp-p/75 ohms

Frequency response: 1 Hz to 10 MHz +0, –3 dB

- **General**

Power supply: AC 230 V, 50 Hz

Power consumption: 250 W

Maximum external dimensions: 434 (W) × 161 (H) × 421 (D) mm (17-3/32" × 6-11/32" × 16-37/64")

Weight: 12.7 kg (28 lbs 1 oz)

- **Remote control unit**

System remote control with learning function

RC-163:
Total buttons: 62
DENON system code
DAT: 8 buttons
CD player: 8 buttons
Cassette deck: 8 buttons
VDP: 8 buttons
TUNER: 2 buttons
AVC-2530 fixed codes: 38 buttons
Learning buttons
System call buttons: 3 (maximum of 10 codes per button)
Program – AMP: 14 buttons
– AV: 58 buttons
Maximum total: 35 codes
Batteries: R6P/AA Type (two batteries)
External dimensions: 70 (W) × 215 (H) × 18 (D) mm (2-3/4" × 8-15/32" × 45/64")
Weight: 170 g (Approx. 6 oz) (including batteries)

* For purposes of improvement, specifications and design are subject to change without notice.

DENON SERVICE NETWORK

- **Please contact one of our overseas service centers, listed below, for follow-up service consultation.**
- **Wenden Sie sich für anfallende Wartungs- bzw. Reparaturarbeiten bitte an eine der folgend aufgeführten Kundendienststellen.**
- **Adressez-vous à nos centres de service d'outre-mer indiqués ci-dessous, pour le service après-vente.**
- **Per il servizio dopo vendita rivolgete Vi al nostro centro di servizio estero appropriato della lista seguente.**
- **Para consultas de servicio porfavor dirigirse a cualquiera de nuestros centros de servicio en el extranjero, enlistados abajo.**
- **Neem kontakt op met één van onze reparatie-inrichtingen in het buitenland, waarvan hier een lijst volgt, voor na-service.**
- **Ta kontakt med nedan angivna servicecentraler för rådfrågning om servicearbeten efter försäljningen.**
- **Favor contactar um de nossos centros de serviços internacionais, abaixo listados, para consulta de serviços de acompanhamento.**

Australia	AWA Limited. 112-118 Talavera Road, North Ryde NSW 2113, Australia, Postal Locked Bag No. 12, North Ryde. Tel: (02) 888-9000, Fax: (02) 888-9310, Telex: AA 22692
Austria	Boyd U, Haas Electronic-Bauelemente Vertriebsges, mbH & Co., KG Rupertusplatz 3 A-1170 Wien Tel: 0222-460288
Belgium	Transtel-Sabima P.V.B.A. Harmoniestraat 13, 2018 Antwerpen 1, België Tel: 03-237-3607
Canada	Denon Canada Inc. 17 Denison Street, Markham Ontario, Canada L3R 1B5 Tel: 416-475-4085
Denmark	Audionord Danmark A/S. Vester Alle 7, 8000 Århus C. Tel: 86-128811
Finland	Suomen Hi-Fi Klubi OY Nylandsgatan 4-6, Helsingfors Tel: 0644401
France	Denon France S.A. 3 Boulevard Ney, 75018 Paris Tel: (1) 40 35 14 14
F.R. Germany	Denon Electronic GmbH Halskestraße 32,4030 Ratingen 1 Tel: 02102-4985-0
Greece	Kinotechniki Ass. 47 Stournara Str., Athens Tel: 3606 998
Hong Kong	Tai Lin Radio Service Ltd. 310 Nathan Road, Kowloon, Hong Kong Tel: K-855005-8
Iceland	Japis Ltd. Brautarholt 2, Box 396, 101 Reykjavik, Iceland Tel: 27133
Indonesia	PT Autoaccindo Jaya. Cideng Barat No. 7 Jakarta, Indonesia Tel: 6016599
Italy	Melchioni S.P.A. Via P. Colletta 37-20135 Milano Tel: 02-57941
Malaysia	Pertama Audio Sdn. Bhd. 44-46 Jalan SS 22/21 Damansara Jaya, 47400 Selangor, Malaysia Tel: 719 3957
Mexico	Labrador, S.A. de C.V. Zamora No. 154 Col. Condesa 06140 Mexico, D.F. Tel: 286 55 09 Fax: 286 34 62
Netherlands	Penhoid B.V. Isarweg 6, 1043 AK Amsterdam Tel: 020-611-4957
New Zealand	Avalon Audio Corpn. Limited 119 Wellesley Street, Auckland 1, New Zealand Tel: 09-779-351, 09-775-370
Norway	Hi-Fi Klubben Box 70 Ankertorget, 0133 Oslo 1 Tel: 02-112218
Portugal	Videoacustica Qta. Do Paizinho-Armazém 5-Estrada De Circunvalação-Apart. 3127 1303 Lisboa Codex Tel: 2187004/2187096
Singapore	Pertama Audio Pte. Ltd. Alexandra Distripark Blk 4, No. 03-39 Pasir Panjang Road, Singapore 0511 Tel: 278-4411
Spain	Gaplasa S.A. Conde de Torroja, 24, 28022 Madrid Tel: 747-7777
Sweden	Sveriges Hi-Fi Klubb Box 5116, S-402 23 Göteborg, Tel: 031-200040
Switzerland	Diethelm & Co., AG. Eggbühlstrasse 28, 8052 Zürich Tel: 01-3013030
Taiwan R.O.C.	Taiwan Kolin Co., Ltd. 8th Fl., 83, Sec. 1, Chung-king S. Rd., Taipei, Taiwan R.O.C. Tel: (02) 314-3151 (20 Lines), Fax:(886) 02-3614037 Telex: 11102 TKOLIN
Thailand	Mahajak Development Co., Ltd. 6th FL., Mahajak Building, 46 Sukhuhvit 3 (Nananua), Klongteoy, Prakranong, Bangkok 10110 Tel: 256-0000
United Kingdom & Eire	Hayden Laboratories ltd. Hayden House, Chiltern Hill, Chalfont St. Peter Gerrards Cross, Bucks. SL9 9UG Tel: 0753-888447
U.S.A.	Denon America Inc. 222 New Road Parsippany, NJ07054, U.S.A., Tel: 201-882-7490, Fax: 201-575-1213

* If there is no service center in your local area, consult the outlet where the equipment was purchased.
* Falls sich in Ihrer Nähe keine Kundendienststelle befindet, wenden Sie sich an das Geschäft, wo das Gerät gekauft wurde.
* S'il n'y a aucun centre de service dans votre région, consultez votre revendeur.
* Se nella Vostra zona non c'è il centro di servizio, rivolgete Vi al negozio dove avete acquistato l'apparecchio.
* Si no hay centros de servicio en su área local, consulte en donde haya comprado su equipo.
* Als er in uw streek geen reparatie-inrichting is, neemt u kontakt op met de vestiging waar u de apparatuur gekocht heeft.
* Saknas servicecentral i närheten där du bor, bör kontakt tas medåterförsäljaren för apparaten.
* Se não existir um centro de serviços em sua área local, consulte o estabelecimento onde o equipamento foi adquirido.

H20701

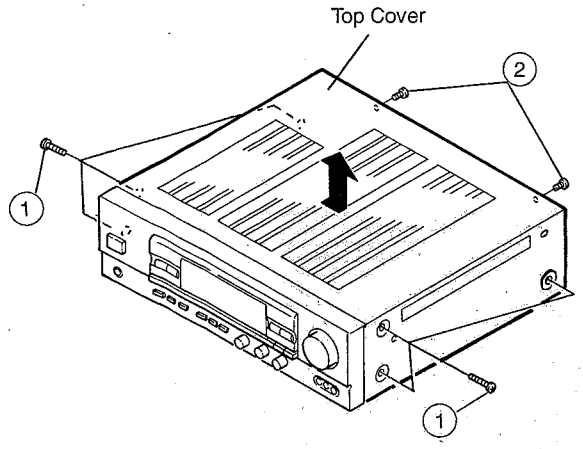
MEMO

DISASSEMBLY

(To reassemble reverse disassembly)

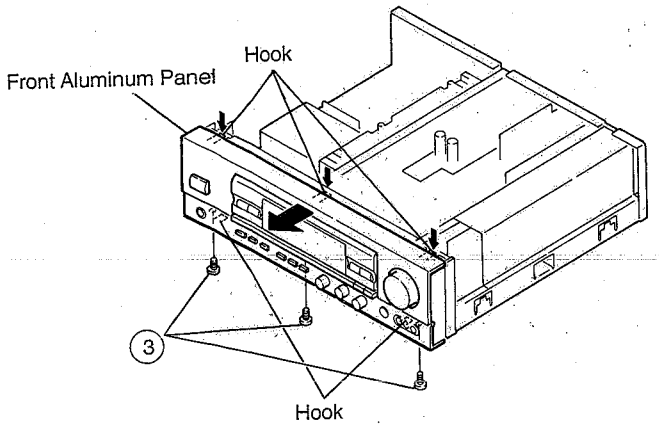
1. Top Cover

Remove 2 screws (2) and 6 screws (1) .



2. Front Aluminium Panel

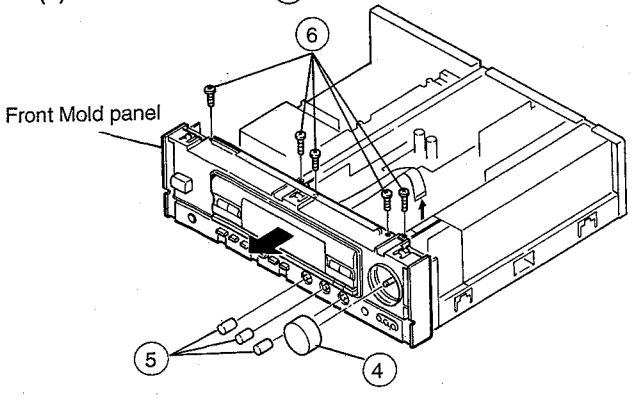
Remove 3 screws (3) and undo Hooks at 5 upper and lower places.



3. Front Mold Panel

(1) Pull out Master Volume knob (4) and 3 Round knobs (5) .

(2) Remove 5 screws (6) .

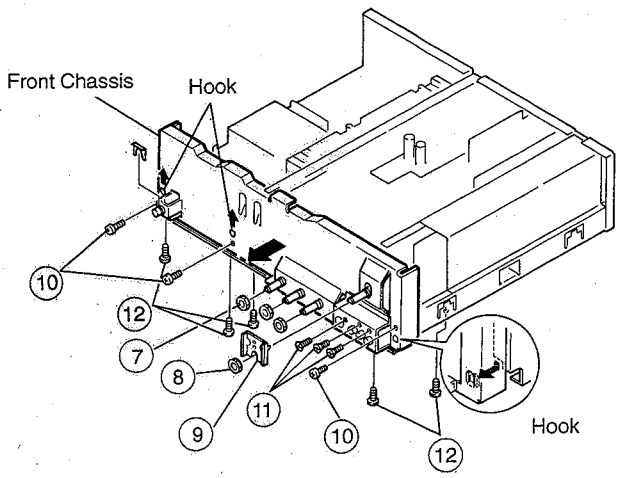


4. Front Chassis

(1) Remove 3 nuts (7) , nut (8) , and Bracket (9) .

(2) Remove 3 lower screws (10) , 3 lower screws (11) , and 5 bottom screws (12) .

(3) Remove Hooks at 3 places in arrow direction.

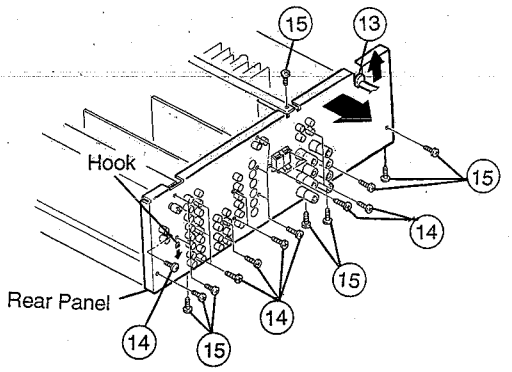


5. Rear Panel

(1) Disconnect Cord Bush (13) .

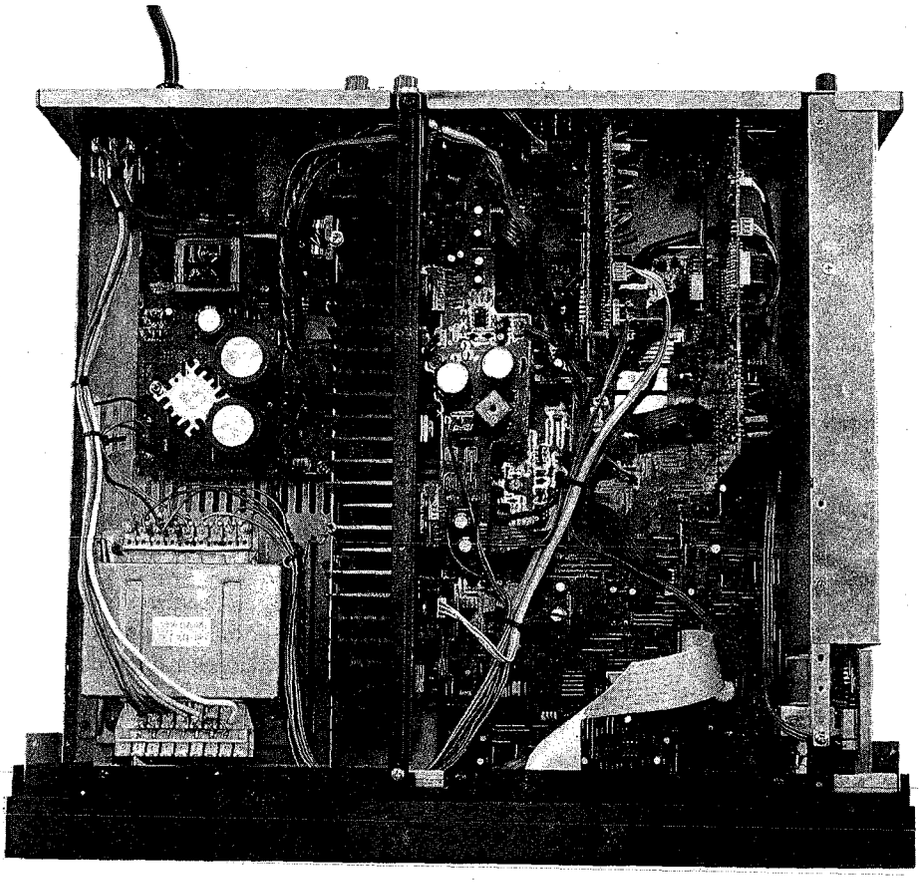
(2) Remove 16 screws (14) fixing terminals, and 10 screws (15) fixing panel.

(3) Remove Hooks in arrow direction.



WIRE ARRANGEMENT

In case wires require unclamping or loosening to move the location to perform adjustment or part replacement, be sure to arrange them neatly to restore properly in the same location as they were originally placed. Or, it may occasionally cause to occur a noise.



ADJUSTMENT

● Initiating (Memory clearing) Method

To clear memory contents of microcomputer and restore to the initial state, take the following steps;

1. Press power switch, turn off power of the unit, and set to standby mode.
2. Pull out power cord from wall outlet temporarily.
3. Insert power cord into outlet while simultaneously pressing three keys of BYPASS, MODE and ◻◻ CENTER MODE.
4. Press power switch to confirm that memory contents are cleared.

By completion of the above, the initial state is restored. In case the memory can not be cleared due to some reasons, repeat steps 1 through 3.

● AUDIO SECTION

Idling Current (1U-2540D-1)

Required measurement equipment: DC Voltmeter

Arrangement

(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room temperature 15°C ~ 30°C. (59°F ~ 86°F).

(2) Presetting

- POWER (Power source switch) → OFF
- MODE (Mode buttton) → BY PASS
- FUNCTION (Function button) → CD
- VOLUME (Volume control) → 0: fully counterclockwise (↶ min.)
- CENTER VOLUME (Center volume control) → −12dB
- BASS, TREBLE (Tone control) → 0: (Controls to center)
- SPEAKERS (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

Adjustment

(1) Remove top cover and set VR201, VR301 and VR302 of 1U-2540D-1 (Main Unit) at counterclockwise fully.

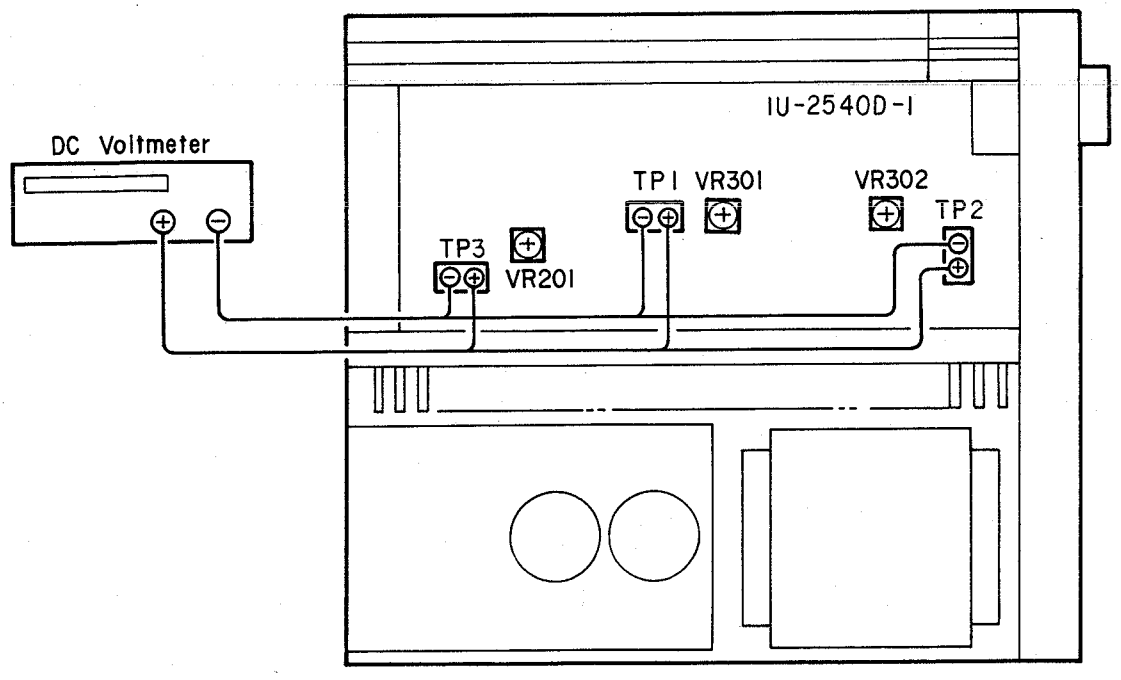
(2) Connect DC Voltmeter to test points (Lch T.P.1, Rch T.P.2, CENTER ch T.P.3).

(3) Connect power cord to AC Line, and turn power switch "ON".

(4) Allow 15 minutes, and turn VR301, VR302 and VR201 clockwise (↷) and adjust the TEST POINTS voltage to 1.5 mV ± 1.0 mV DC.

(5) After 2 minutes from preset, turn VR301, VR302 and VR201 to set the voltage to 3 mV ± 1.0mV DC.

1U-2540D-1 Main Unit (Component Side)



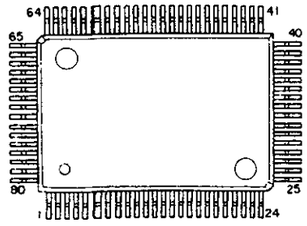
SEMICONDUCTORS

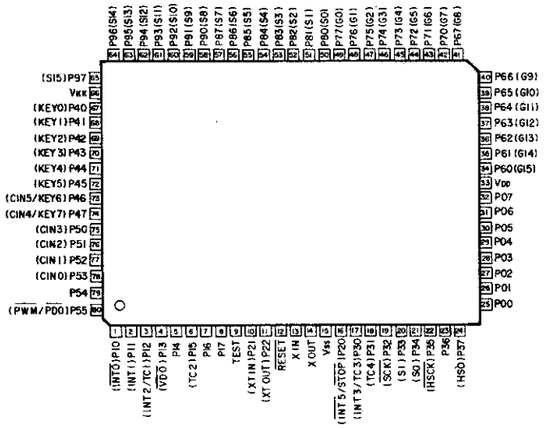
• IC's

Note)
Indications before IC numbers denote P.W.B. Name.

MA : Main Amp P.W.B. Unit
PO : Power Input P.W.B. Unit
VI : Video P.W.B. Unit
SU : Surround P.W.B. Unit

TMP87CM70AF-6073
(MA:IC802)





TMP87CM70AF Terminal Function

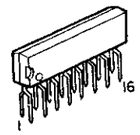
Pin	Terminal Name	I/O	Logic	Initial Setting	Usage
1	P10(INT0)	I	L*	—	Power breakdown; Break down detect input (*L at Breakdown)
2	P11(INT1)	I	H*	—	PROTECTION: PROTECTION INPUT (*H at detect mode)
3	P12(INT2/TC1)	O	H*	L	RESET; FL control (*H' at Reset) FL Driver control
4	P13(DV0)	I	—	—	MODE Shift 1 (Shift of AVC/AVR MODE)
5	P14	O	H	L	DM1
6	P15(TC2)	O	H	L	DM2 Dolby-Prologic Control
7	P16	O	H	L	DM3 SSM2126
8	P17	O	H	L	DM4
9	TEST	I	—	—	Connect to GND
10	P21(XTIN)	O	H	L	CM1 Dolby-Prologic Control
11	P22(XTOUT)	O	H	L	CM2 SSM2126
12	RESET	I	L	—	RESET; Microcomputer reset Input
13	XIN	I	—	—	Oscillator connection (8MHz)
14	XOUT	O	—	—	
15	Vss	PW	—	—	0V (GND)
16	P20 (INT5/STOP)	I	—	—	MODE Shift 2 (Shift of OEM MODE)
17	P30 (INT3/TC3)	I	L	—	REMOTE: REMOTE Control reception signal input
18	P31(TC4)	O		Z	Not used
19	P32(SCK)	O		Z	Not used
20	P33(SI)	O		Z	Not used
21	P34(SO)	O		Z	Not used
22	P35(HSCK)	O	L	H	BCK
23	P36	O	H	L	WCK DSP Control (F71002B)
24	P37(HSO)	O	L	H	CD
25	P00	O	H	L	CK
26	P01	O	H*	L	CE Audio I/O, Surround (*H at inhibit Mode)
27	P02	O	H	L	DATA (LC7821,7822)
28	P03	O	H	L	CK
29	P04	O	H	L	DATA Electronic Volume control (TC9176P) CENTER CH
30	P05	O	H	L	ST1
31	P06	O	L	H	CK FL Driver Control
32	P07	O	L	H	DATA (*L at data send mode) (MSC1937)
33	VDD	PW	—	—	+5V
34	P60(G15)	O	H	L	VOL.UP Motor drive control
35	P61(G14)	O	H	L	VOL.DOWN LB1639
36	P62(G13)	O	H*	H	LED STAND BY LED (*H at lit time)
37	P63(G12)	O	H	L	AVSE AVSE Control
38	P64(G11)	O	L	H	CINEMA; CINEMA Equalizer control
39	P65(G10)	O	—	Z	Not used
40	P66(G9)	O	—	L	Not used
41	P67(G8)	O	—	Z	Not used
42	P70(G7)	O	—	Z	Not used
43	P71(G6)	O	—	Z	Not used
44	P72(G5)	O	H	L	FRONT Speaker relay control
45	P73(G4)	O	—	Z	Not used
46	P74(G3)	O	H	L	SP-REAR Speaker relay control
47	P75(G2)	O	H	L	SP-CENTER
48	P76(G1)	O	H	L	HP, PRE MUTE Premute control
49	P77(G0)	O	—	L	Not used
50	P80(S0)	O	H	L	POWER Power relay control
51	P81(S1)	O	—	L	Not used
52	P82(S2)	O	L	H	KS1
53	P83(S3)	O	L	H	KS2
54	P84(S4)	O	L	H	KS3 Key Scan Strobe
55	P85(S5)	O	L	H	KS4
56	P86(S6)	O	L	H	KS5
57	P87(S7)	O	L	H	KS6

Pin	Terminal Name	I/O	Logic	Initial Setting	Usage
58	P90(S8)	I	L	—	KA1
59	P91(S9)	I	L	—	KA2
60	P92(S10)	I	L	—	KA3 Key Scan Receive
61	P93(S11)	I	L	—	KA4
62	P94(S12)	I	L	—	KA5
63	P95(S13)	O	—	Z	Not Used
64	P96(S14)	O	—	Z	Not Used
65	P97(S15)	O	—	Z	Not Used
66	Vxx	PW	—	—	Vxx -15V
67	P40(KEY0)	O	L	H	A VIDEO INPUT CONTROL
68	P41(KEY1)	O	L	H	B (BA7625, 7626)
69	P42(KEY2)	O	L	H	C VIDEO REC OUT CONTROL
70	P43(KEY3)	O	L	H	D (BA7625, 7626)
71	P44(KEY4)	O	L	H	E VIDEO INPUT/REC CONTROL
72	P45(KEY5)	O	L	H	Not Used
80	P55(PWM/PD0)	I	H*	—	Not Used

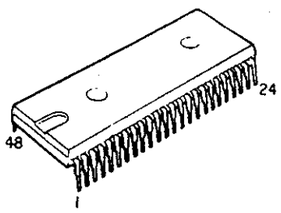
AVR MODE

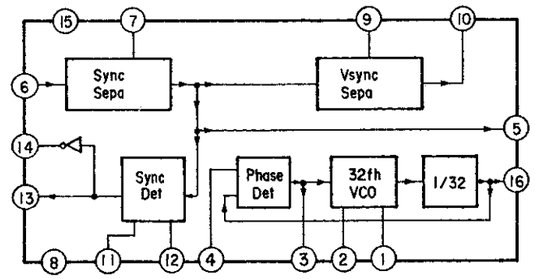
Pin	Terminal Name	I/O	Logic	Initial Setting	Usage
73	P46(CIN5/KEY6)	O	H	L	CK TUNER PLL Control
74	P47(CIN4/KEY7)	O	H	L	ST (LM7001)
75	P50(CIN3)	O	H	L	DATA
76	P51(CIN2)	I	L*	—	TUNED signal input (* L at reception)
77	P52(CIN1)	I	L*	—	STEREO signal input (* L at STEREO reception)
78	P53(CIN0)	O	L*	L	ST/MONO TUNER STEREO/MONO Switching (*L at STEREO reception) "L" during auto tuning "H" during manual tuning
79	P54	O	H*	L	TUNER MUTE (*H at MUTE mode)

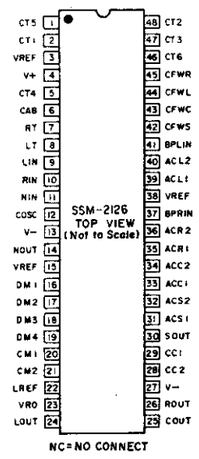
NJM2229 (VI: IC302)



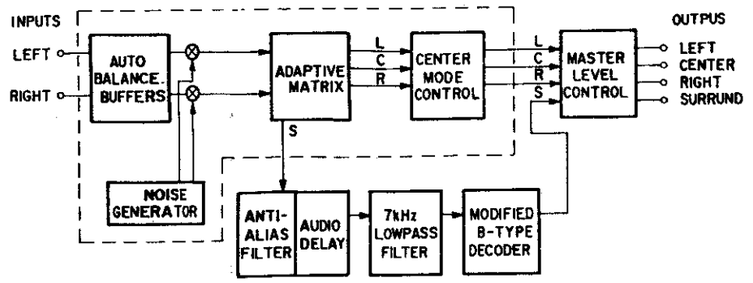
SSM-2126 (SU: IC601)



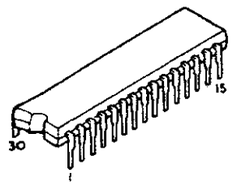




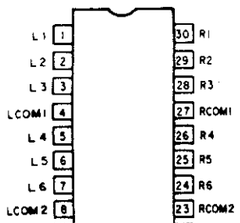
NC=NO CONNECT



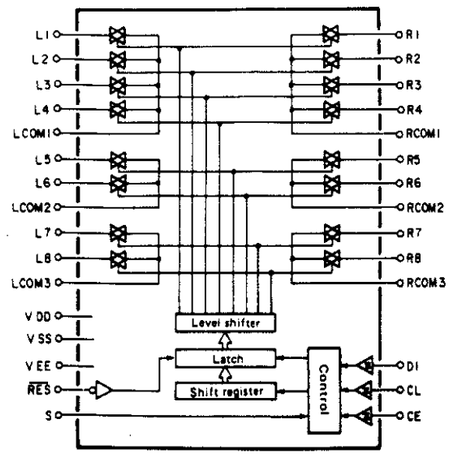
LC7821 (PO: IC153, 155)
LC7822 (PO: IC154)(SU: IC602)



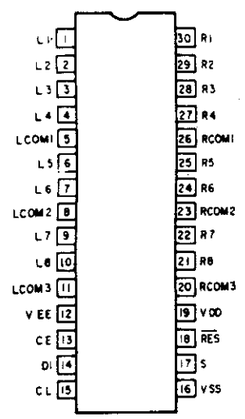
LC7821



LC7821



LC7822



LC7822

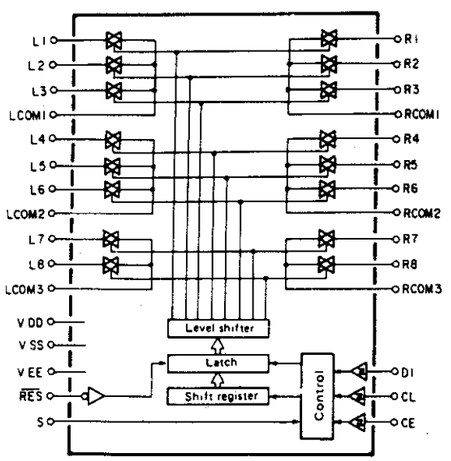
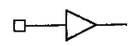
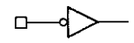
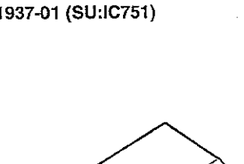


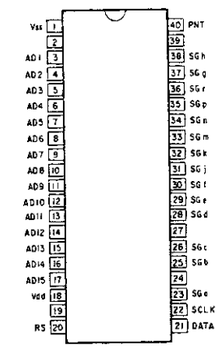
Table of LC7821, LC7822 Terminal Function

Name of Terminal	I/O	Equivalent Internal Circuit	Function of Terminal
VDD, VSS, VEE			Power terminal.
L1 ~ L8, R1 ~ R8 LCOM1 ~ LCOM4, BCOM1 ~ BCOM4		Refer to block diagram	In/Out terminal of analog switch.
CL, DI, CE	I		Serial data input terminal (Schmidt buffer). CL = Clock input terminal. DI = Data input terminal. CE = Chip enable terminal.
S	I		Selection terminal for using of two. Address will be shifted as per below table when switching S terminal to L or H.
$\overline{RES}$	I		Reset terminal. Condition of analog switch is not fixed at the time of turning on the power. When shift this termnal to L, all analog switches become OFF.

Name of Item	S Terminal	Address			
		A0	A1	A2	A3
LC7821	L	0	1	0	1
	H	1	1	0	1
LC7822	L	0	0	1	1
	H	1	0	1	1

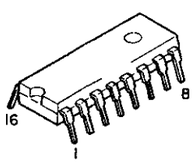
MSC1937-01 (SU:IC751)

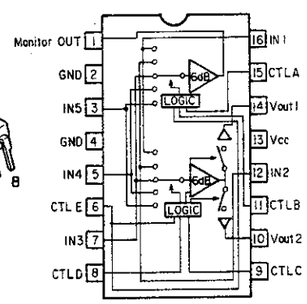




Pin No.	Terminal Function
1	Power Supply (+5V)
3	Digit 1 Output
↓	↓
17	Digit 17 Output
18	GND
19	—
20	POWER-ON-RESET
21	Data Input
22	Shift Clock Input
23	Segment a Output
↓	↓
38	Segment h Output
39	—
40	POINT Output

BA7625 (VI: IC901, 952)
BA7626 (VI: IC951)





A	B	E	MONITOR OUT
L	L	*	IN 1
H	L	*	IN 2
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

C	D	E	V OUT 1
L	L	*	—
H	L	*	IN 2
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

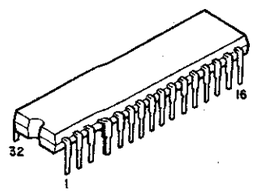
C	D	E	V OUT 2
L	L	*	IN 1
H	L	*	—
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

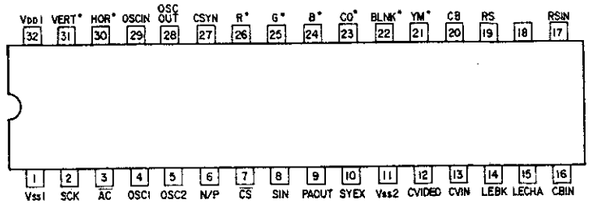
Truth value table

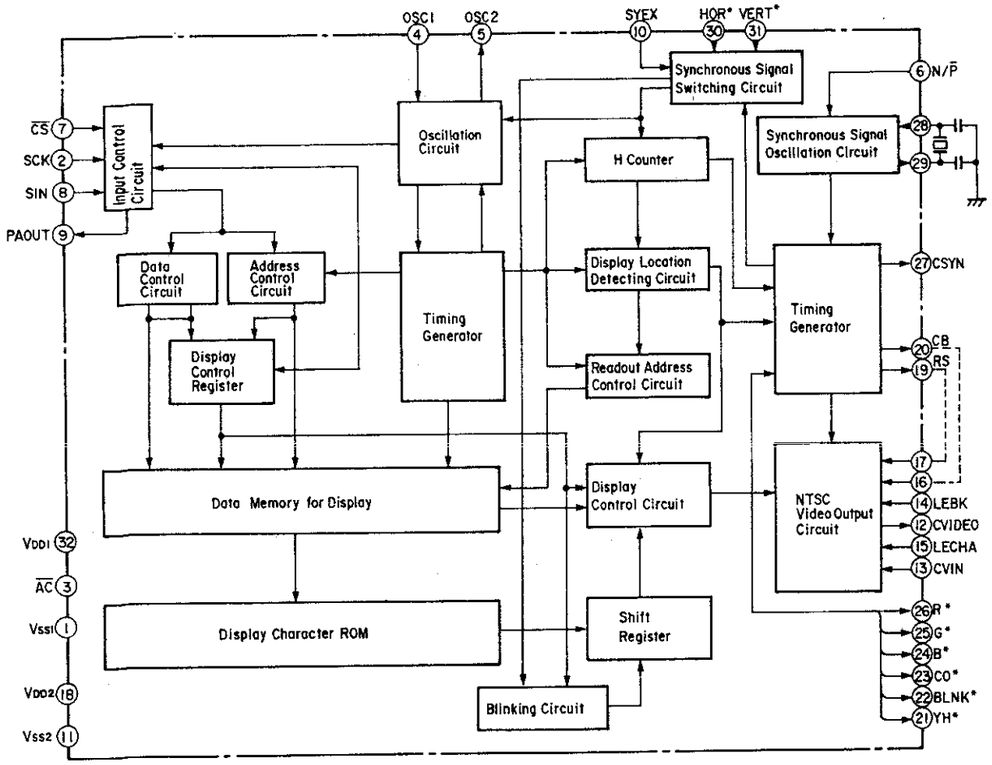
Note 1: * mark means that feasible for either H or L.

Note 2: Each input terminal is provided with sink chip clamp (BA7625)
Each input terminal takes 20kohm at the end. (BA7626)

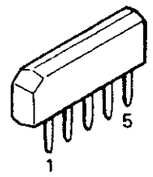
M50554-001SP (VI: IC903)

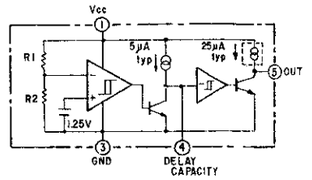




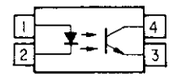


M51953B (MA: IC801)



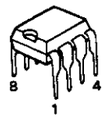


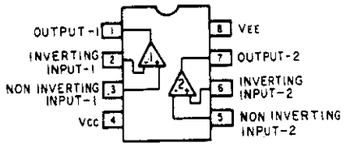
TLP521-1 (BL) (MA: 201, 301, 302)
INFRARED LED + PHOTO TRANSISTOR



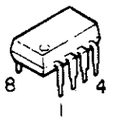
1. Anode
2. Cathode
3. Emitter
4. Collector

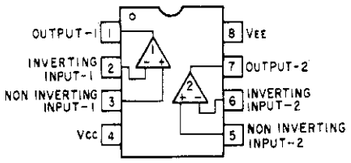
M5218AP
(MA: IC303, 262)
(SU: IC608–610, 701, 702, 703, 706, 705)
(PO: IC152, 407, 551)



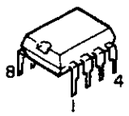


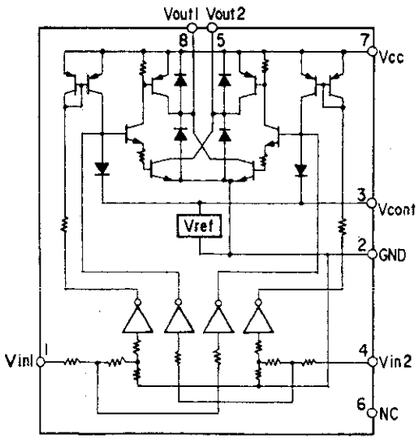
NJM2068DDC (PO: IC151)
NJM2082D (SU: IC606, 607) (MA: IC262)



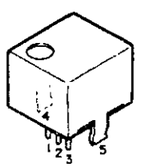


LB1639 (SU: IC704)

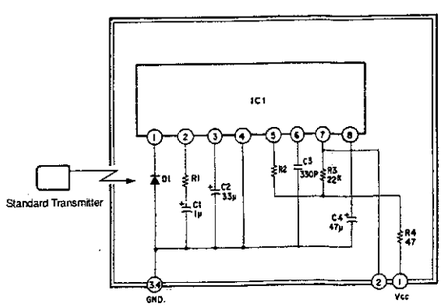




• OTHERS
SBX1610-52 (Remote Control Receiver)
(VI: IC752)

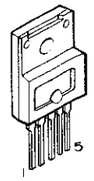


1. Vcc
2. Output
3. GND
4. Case fin
5. Case fin



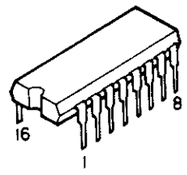
IC1	: CX20106A chip
D1	: Pin photodiode chip
C1; C2, C4	: Aluminum electrolytic capacitor
C3	: SL characteristic ± 5%
R1	: Gain control resistor
R2	: fo control resistor (using ± 1%)
R (Other than above items)	: ± 5%

SI-18752 (PO: IC401, 402)

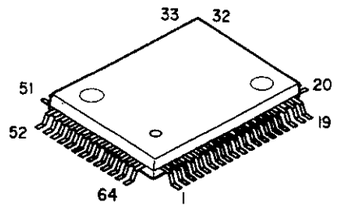


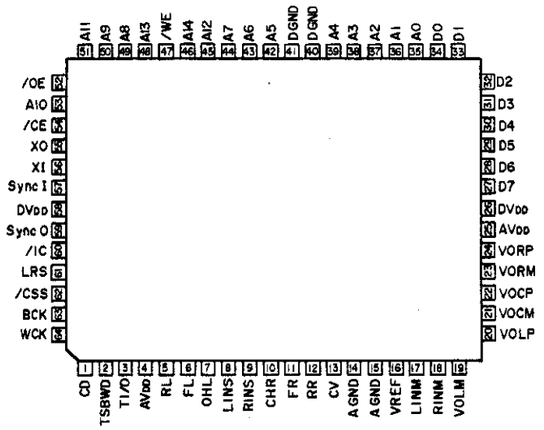
1. +IN
2. −IN
3. −VEE
4. Output
5. +Vcc

TC9176P (SU: IC605)

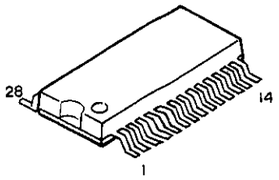


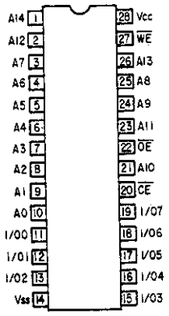
F71002B
(SU: IC603)

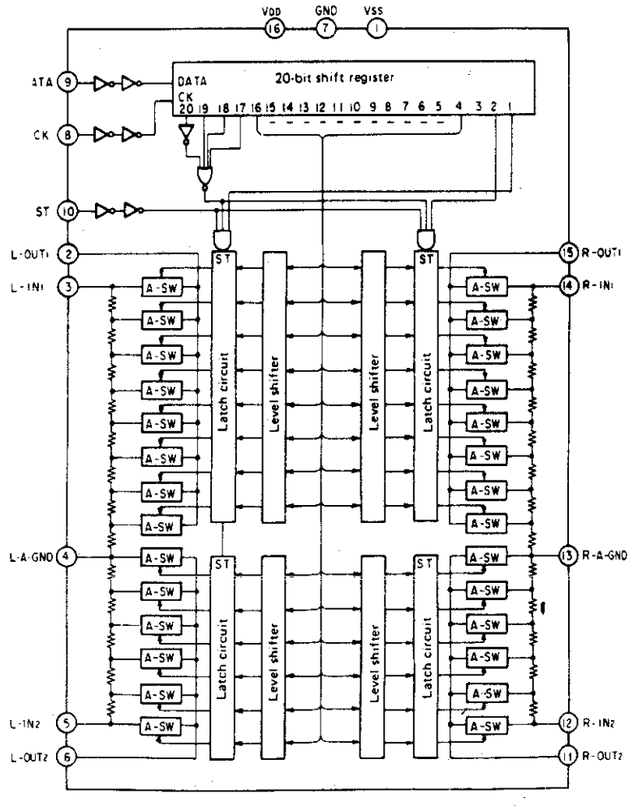




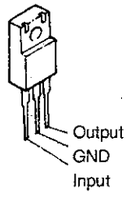
HM65256BLFP-10T
(SU: IC604)



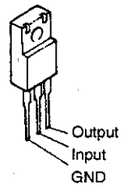




NJM7805FA(S) (SU: IC611) (VI: IC904)
NJM7815FA(S) (PO: IC405)
NJM7812FA(S) (TU: IC005)
NJM7806FA(S) (PO: IC501)



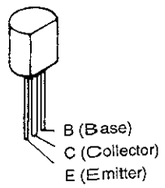
NJM7915FA (PO: IC406)



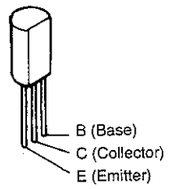
BLOCK DIAGRAM

● TRANSISTORS

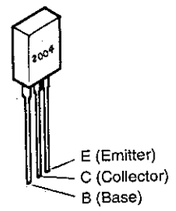
2SA970 (BL)
2SA988 (E/F)
2SC1015 (GR/Y),(GR)
2SC1815 (Y),(BL)
2SC1841 (E/F)
2SC2878 (A/B)



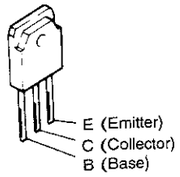
2SB647A (C)
2SD667A (C)



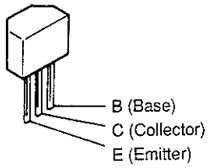
2SB1328 (P)
2SD2004 (P)



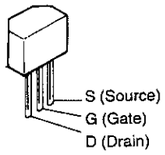
2SA1491 (O/P/Y) (Z)
2SC3855 (O/P/Y) (Z)



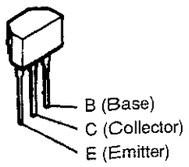
2SA1048 (GR),(Y/GR)
2SC2458 (BL)



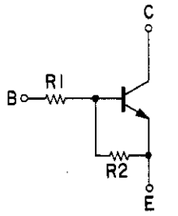
2SK184 (GR)/(BL)



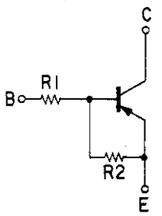
RN1202
RN1204
RN2201



RN1202
RN1204



RN2201

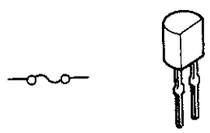


	R1	R2
RN1202	10 kohm	10 kohm
RN1204	47 kohm	47 kohm

	R1	R2
RN2201	4.7 kohm	4.7 kohm

● IC PROTECTORS

ICP-N15 (PO: IC503)
ICP-N20 (PO: IC403, 404) (VI: IC905)

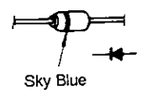


● POSISTOR

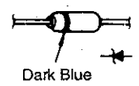
PTH9M04BB222TS2F333
(PO: P460)

● DIODES (included LED)

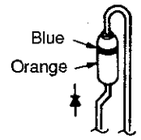
1SS270A
1S2076A



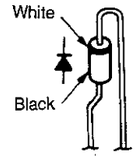
HZS7C-1 HZS9A-1
HZS7B-1 HZS12B-1
HZS20-1



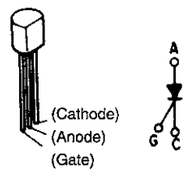
1SR35-200A



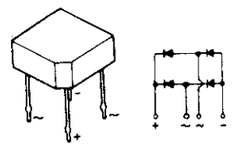
DSM1D2 (Type 3)



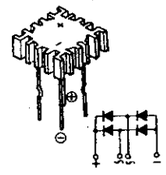
SFOR1A42 (Thyristor)



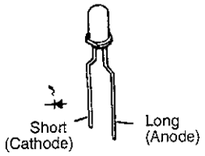
S4VB20F
(VI: D401)



D5FB20 (4001)
(PO: D509)

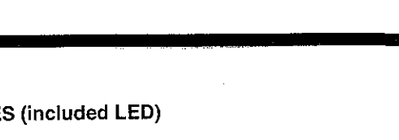


SEL1210R (Red)
(SU: LD751)



● FL DISPLAY FIP14PM8

(Part No.: 3934181000)(FL751)



11	21	31	41	51
12	22	32	42	52
13	23	33	43	53
14	24	34	44	54
15	25	35	45	55
16	26	36	46	56
17	27	37	47	57

5 × 7 Dot inner connections.

(UPPER)

TERMINAL No. ELECTRODE	82 F1	81 F1	80 F1	79 NP	78 P DP	77 P h	76 P g	75 P r	74 P p	73 P n	72 P m											
TERMINAL No. ELECTRODE	71 P k	70 P j	69 P f	68 P e	67 P d	66 P c	65 P b	64 P a	63 15G	62 14G	61 13G	60 12G	59 11G	58 10G	57 9G	56 8G	55 7G	54 6G	53 5G	52 4G
TERMINAL No. ELECTRODE											51 3G	50 2G	49 1G	48 NP	47 NP	46 NP	45 NP	44 F2	43 F2	42 F2

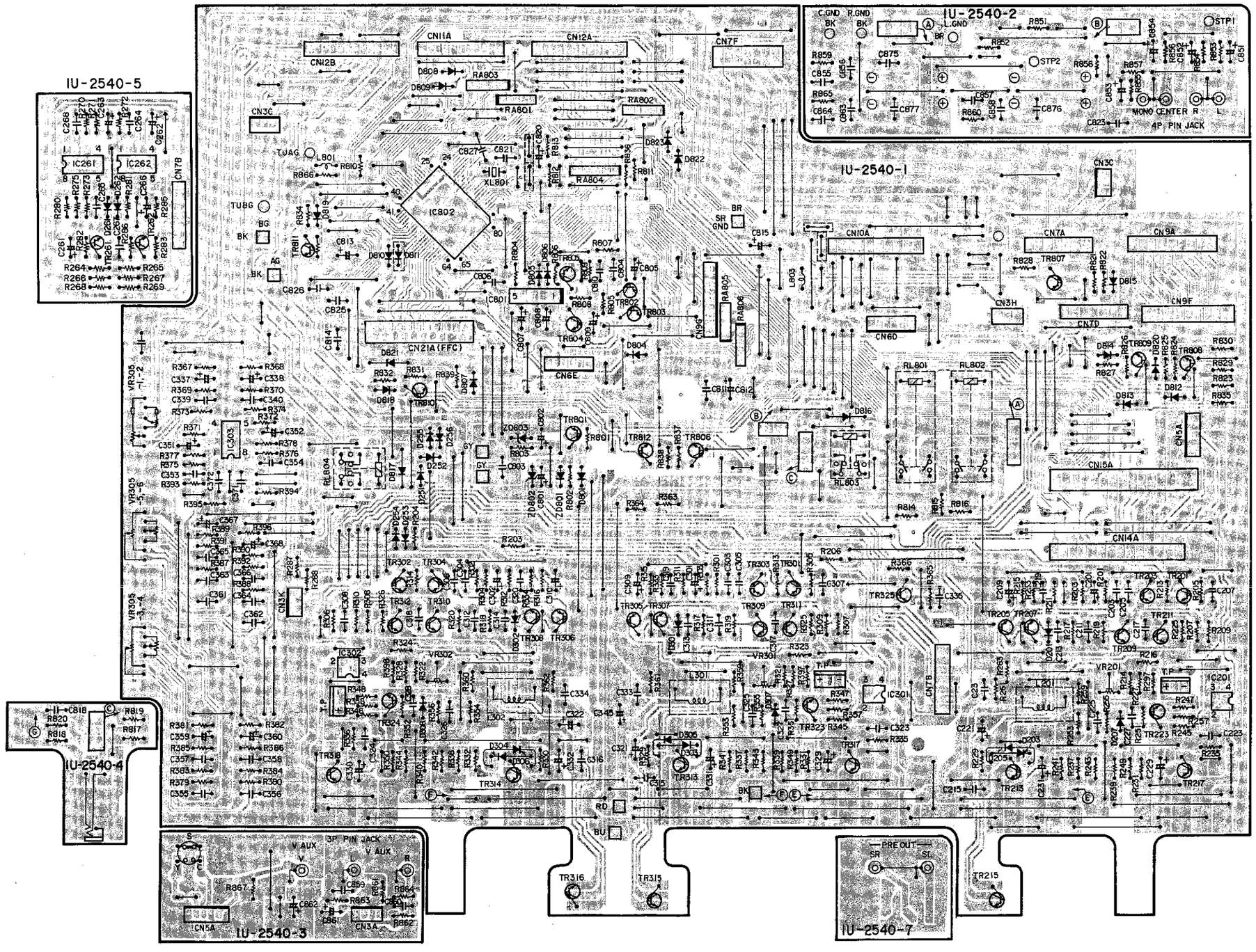
(LOWER)

TERMINAL No. ELECTRODE									(27)	(37)	32 NP (47)	33 NP (57)	34 NP	35 NP	36 NP	37 NP	38 NP	39 F2	40 F2	41 F2
TERMINAL No. ELECTRODE	12 NP	13 NP	14 NP	15 NP	16 NP	17 NP	18 NP	19 NP	20 NP	21 NP	22 NP	23 NP	24 NP	25 NP	26 NP	27 NP	28 NP	29 NP	30 NP	31 NP
TERMINAL No. ELECTRODE	1 F1	2 F1	3 F1	4 NP	5 NP	6 NP	7 NP	8 NP	9 NP	10 NP	11 NP	12								

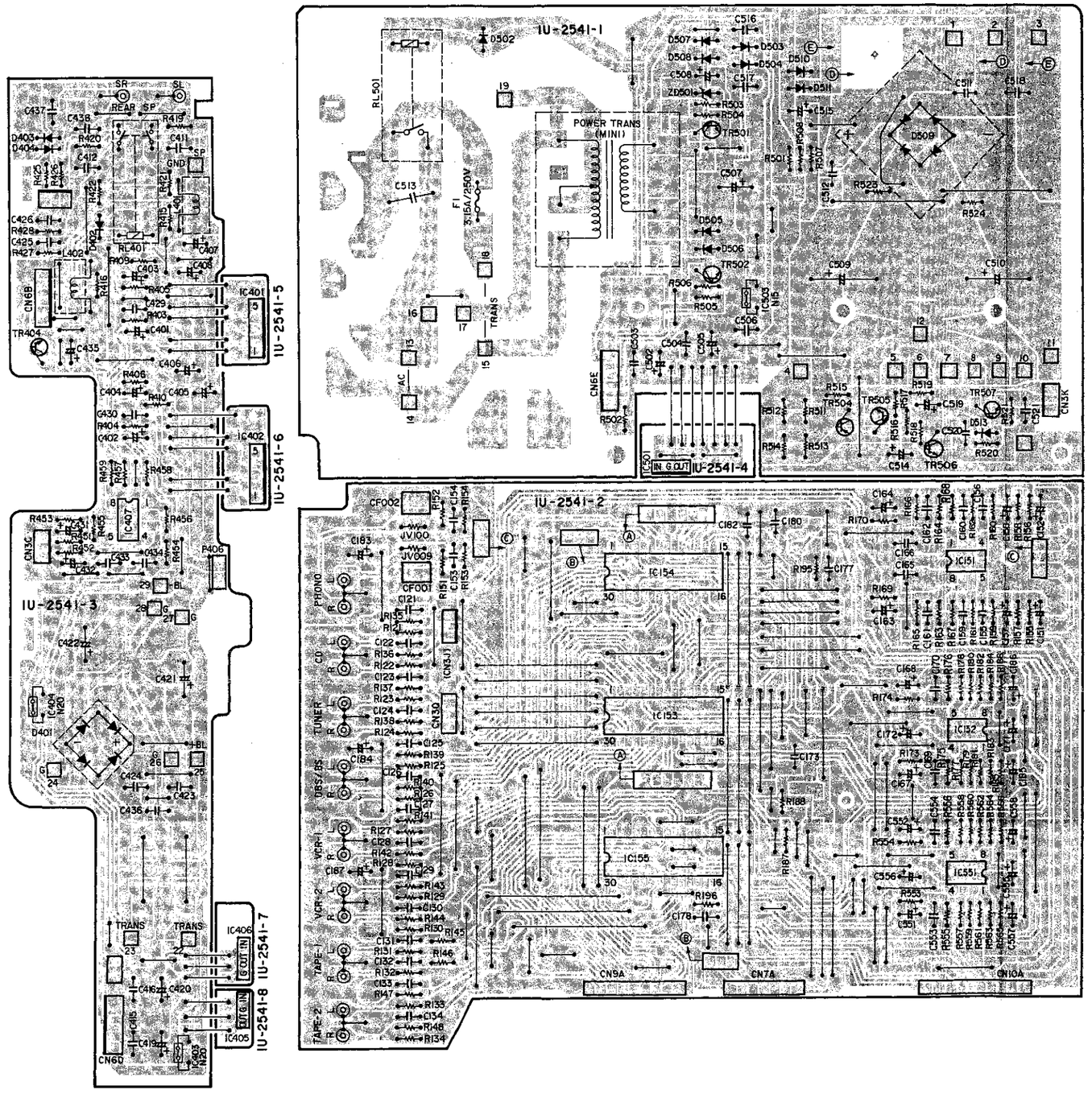
Notes: F: Filament NP: No-Pin
G: Grid
P: Anode

PRINTED WIRING BOARD (Pattern side)

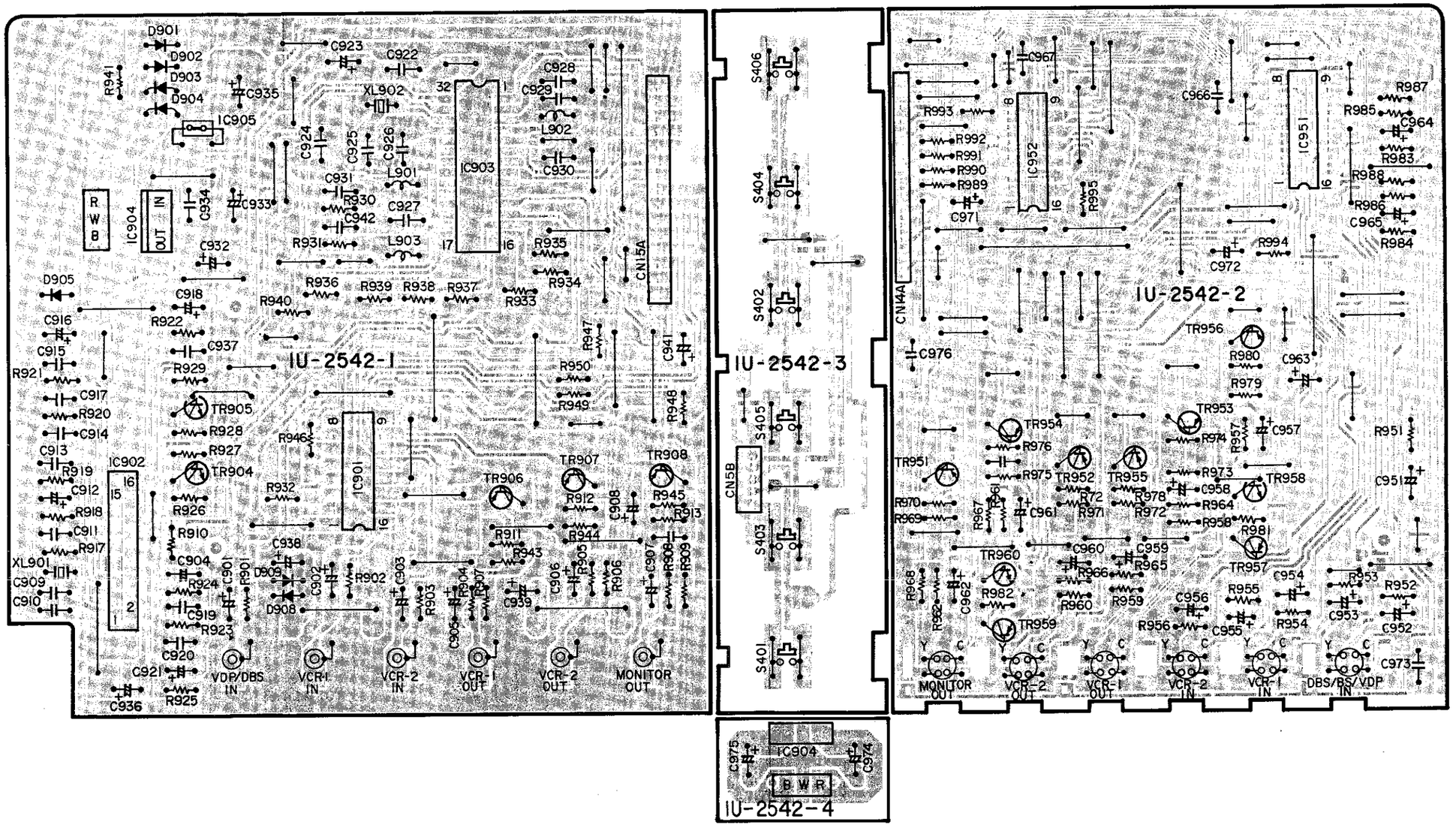
1U-2540D MAIN AMP. UNIT ASS'Y



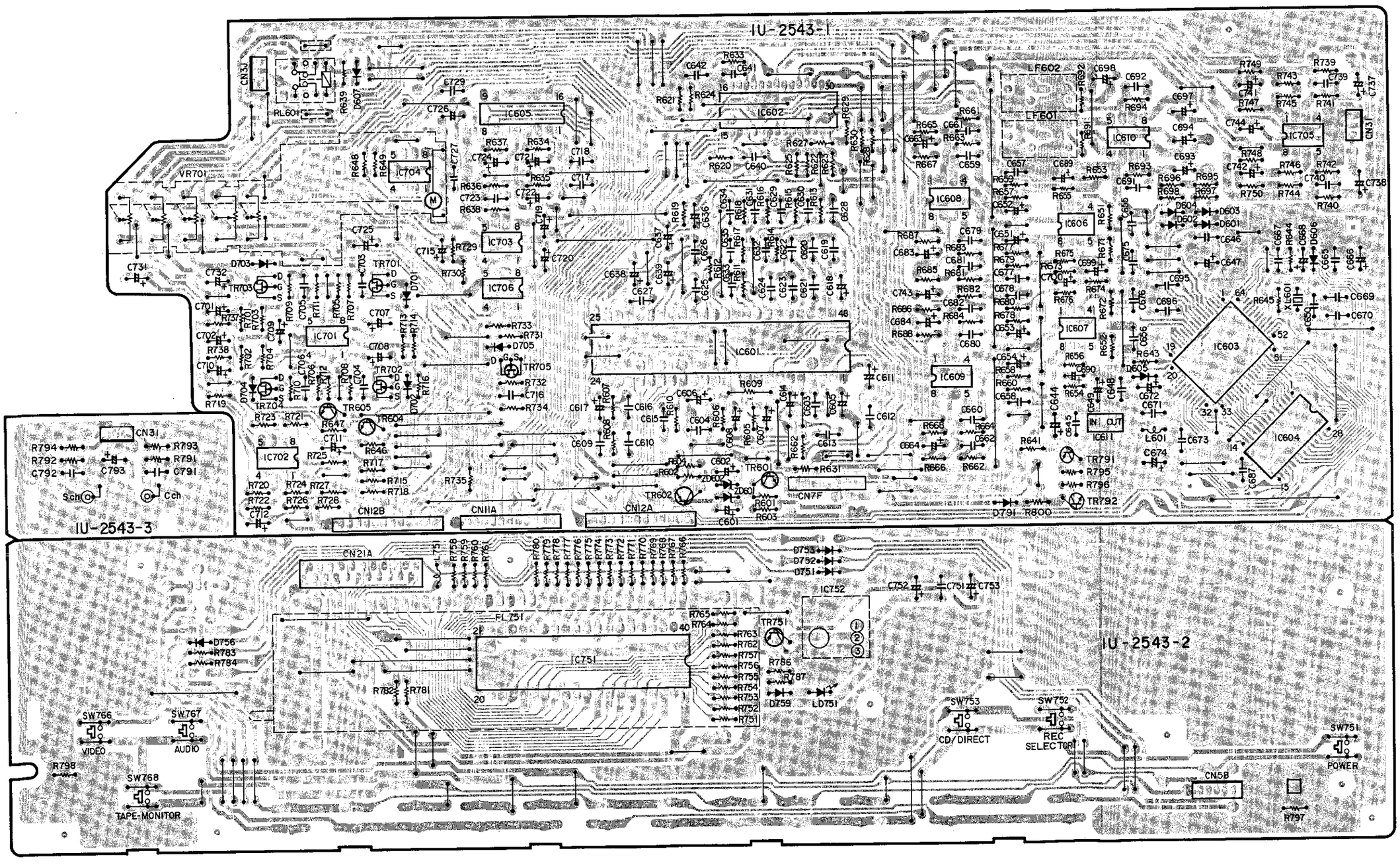
1U-2541D POWER INPUT UNIT ASS'Y



1U-2542D VIDEO UNIT ASS'Y



1U-2453D SURROUND UNIT ASS'Y



1 2 3 4

A

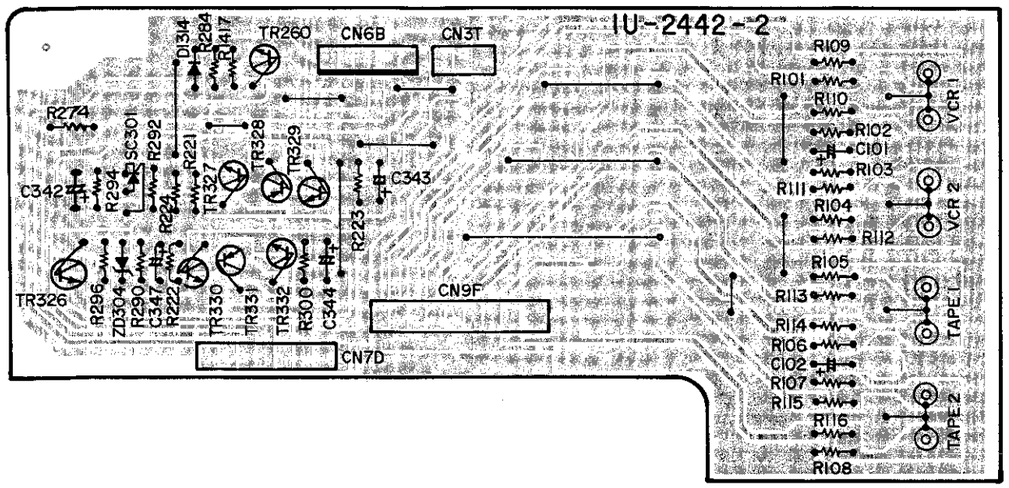
B

C

D

E

1 U-2442B AUDIO, REC UNIT ASS'Y



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 "l" (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 (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

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

* **Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.
• Units: ohm

1 R 2 ⇒ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: ohm

* **Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
Indicates number of zeros after effective number.
2-digit effective number.
• Units: μF.

2 R 2 ⇒ 2.2μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: μF.

● Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

* **Capacity (except electrolyte)**

2 2 2 ⇒ 2200μμF = 0.0022μF
(More than 2) Indicates number of zeros after effective number.
2-digit effective number.
• Units: μF.

2 2 1 ⇒ 220PF
(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 dieelectric strength value.

PARTS LIST OF P.W. BOARD
1U-2540D MAIN AMP UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC201	262 0874 009	IC TLP521-1 (BL)	
IC261	263 0654 002	IC NJM2082D	
IC262	263 0711 000	IC M5218AP	
IC301,302	262 0874 009	IC TLP521-1 (BL)	
IC303	263 0711 000	IC M5218AP	
IC801	263 0423 000	IC M51953B	
IC802	262 1756 100	IC TMP87CM70AF-6073	μ-com
TR201	271 0094 919	Transistor 2SA970(BL)	
TR203	271 0094 919	Transistor 2SA970(BL)	
TR205	271 0131 924	Transistor 2SA988(E/F)	
TR207	273 0235 923	Transistor 2SC1841(E/F)	
TR209	273 0235 923	Transistor 2SC1841(E/F)	
TR211	273 0235 923	Transistor 2SC1841(E/F)	
TR213	274 0151 000	Transistor 2SD2004(P)	
TR215	273 0198 905	Transistor 2SC1815(Y)	
TR217	272 0107 906	Transistor 2SB1328(P)	
TR223	273 0235 923	Transistor 2SC1841(E/F)	
TR261,262	273 0317 906	Transistor 2SC2458(BL)	
TR301~304	271 0094 919	Transistor 2SA970(BL)	
TR305,306	271 0131 924	Transistor 2SA988(E/F)	
TR307~312	273 0235 923	Transistor 2SC1841(E/F)	
TR313,314	274 0151 000	Transistor 2SD2004(P)	
TR315,316	273 0198 905	Transistor 2SC1815(Y)	
TR317,318	272 0107 906	Transistor 2SB1328(P)	
TR323,324	273 0235 923	Transistor 2SC1841(E/F)	
TR325	271 0131 924	Transistor 2SA988(E/F)	
TR801	272 0053 908	Transistor 2SB647A(C)	
TR802	269 0024 902	Transistor RN2201	Built in Resistor
TR803	269 0029 907	Transistor RN1204	Built in Resistor
TR804,805	273 0317 906	Transistor 2SC2458(BL)	
TR806	273 0253 918	Transistor 2SC2878(A/B)	
TR807	271 0102 937	Transistor 2SA1015(GR/Y)	
TR808~811	273 0317 906	Transistor 2SC2458(BL)	
TR812	269 0025 901	Transistor RN1202(10k-10k)	
D201	276 0432 903	Diode 1SS270A	
D203	276 0049 914	Diode 1S2076A	
D205	276 0049 914	Diode 1S2076A	
D207	276 0432 903	Diode 1SS270A	
D251~256	276 0432 903	Diode 1SS270A	
D261,262	276 0432 903	Diode 1SS270A	
D301,302	276 0432 903	Diode 1SS270A	
D303~306	276 0049 914	Diode 1S2076A	
D307,308	276 0432 903	Diode 1SS270A	
D801	276 0553 905	Diode 1SR35-200A	
D804~810	276 0432 903	Diode 1SS270A	
D812~815	276 0432 903	Diode 1SS270A	
D816,817	276 0049 914	Diode 1S2076A	
D818~820	276 0432 903	Diode 1SS270A	
D821	276 0049 914	Diode 1S2076A	
D822,823	276 0432 903	Diode 1SS270A	
D825~830	276 0432 903	Diode 1SS270A	
ZD801	276 0479 908	Zener Diode HZS20-1	20V
ZD802	276 0474 903	Zener Diode HZS12B-1	12V
ZD803	276 0467 907	Zener Diode HZS9A-1	9V
RESISTORS GROUP			
(Not included Carbon Film ±5%1/4W Type. Refer to the Schematic Diagram for those Parts.)			
⚠ R207	241 2380 963	Carbon Film 2.2kohm1/4W(NB)	RD14B2E222JNBS

Ref. No.	Part No.	Part Name	Remarks
⚠ R209	241 2380 963	Carbon Film 2.2kohm1/4W(NB)	RD14B2E222JNBS
⚠ R217	241 2377 976	Carbon Film 130ohm 1/4W(NB)	RD14B2E131JNBS
⚠ R219	241 2377 976	Carbon Film 130ohm 1/4W(NB)	RD14B2E131JNBS
⚠ R225	241 2315 967	Fusible 68ohm 1/4W	RD14B2E680GFRS
⚠ R231	241 2378 920	Carbon Film 220ohm 1/4W(NB)	RD14B2E221JNBS
⚠ R237	244 2043 982	Metal Oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠ R239	244 2043 982	Metal Oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠ R241	244 2043 982	Metal Oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠ R243	244 2043 982	Metal Oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠ R249	241 2380 950	Carbon Film 2kohm 1/4W(NB)	RD14B2E202JNBS
⚠ R251	241 2380 950	Carbon Film 2kohm 1/4W(NB)	RD14B2E202JNBS
⚠ R253	244 2051 987	Metal Oxide 4.7ohm 1W	RS14B3A4R7JNBS(S)
⚠ R307~310	241 2380 963	Carbon Film 2.2kohm1/4W(NB)	RD14B2E222JNBS
⚠ R317~320	241 2377 976	Carbon Film 130ohm 1/4W(NB)	RD14B2E131JNBS
⚠ R325,326	241 2315 967	Fusible 68ohm 1/4W	RD14B2E680GFRS
⚠ R331,332	241 2378 920	Carbon Film 220ohm 1/4W(NB)	RD14B2E221JNBS
⚠ R337~344	244 2043 982	Metal Oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠ R349~352	241 2380 950	Carbon Film 2kohm 1/4W(NB)	RD14B2E202JNBS
⚠ R353,354	244 2051 987	Metal Oxide 4.7ohm 1W	RS14B3A4R7JNBS(S)
⚠ R801	241 2376 964	Carbon Film 47ohm 1/4W(NB)	RD14B2E470JNBS
⚠ R817~820	244 2051 958	Metal Oxide 220ohm 1W	RS14B3A221JNBS(S)
⚠ R823	241 2378 920	Carbon Film 220ohm 1/4W(NB)	RD14B2E221JNBS
⚠ R829,830	244 2055 996	Metal Oxide 1.2kohm 1W	RS14B3A122JNBS(S)
⚠ R835	241 2378 920	Carbon Film 220ohm 1/4W(NB)	RD14B2E221JNBS
⚠ R839	241 2387 940	Carbon Film 4.7ohm1/4W(NB)	RD14B2E4R7JNBS
⚠ R859,860	244 2043 937	Metal Oxide 10ohm 1W	RS14B3A100JNBS(S)
⚠ R865	244 2043 937	Metal Oxide 10ohm 1W	RS14B3A100JNBS(S)
VR201	211 6093 909	Semi Fixed Resistor 6.8kohm	V06PB682
VR301,302	211 6093 909	Semi Fixed Resistor 6.8kohm	V06PB682
VR305	211 0760 005	Variable Resistor	V1603V25F----K
RA801	246 2052 063	Resistor Array 1.5k×4	RK99==152JP4
RA802	246 2053 033	Resistor Array 4.7k×5	RK99==472JP5
RA803	246 2053 004	Resistor Array 10k×5	RK99==103JP5
RA804	246 2044 013	Resistor Array 47k×6	RK99==473JP6
RA805	246 2052 005	Resistor Array 10k×4	RK99==103JP4
RA806	246 2053 017	Resistor Array 47k×5	RK99==473JP5
CAPACITORS GROUP			
C201	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C203	253 1179 987	Ceramic 470pF/50V	CK45B1H471K
C205	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C207	255 1264 966	Plastic Film 0.0033μF/50V	CQ93M1H332J(B)
C209	254 4256 949	Electrolytic 100μF/25V	CE04W1E101M
C211	255 1264 940	Plastic Film 0.0022μF/50V	CQ93M1H222J(B)
C213	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C215	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C217	253 4470 900	Ceramic 10pF/500V	CC45SL2H100D
C219	253 4536 909	Ceramic 10pF/50V	CC45SL1H100D
C221	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C223	253 1128 909	Ceramic 220pF/500V	CK45B2H221K
C225	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C227	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C229	254 4262 917	Electrolytic 10μF/63V	CE04W1J100M
C231	254 4262 917	Electrolytic 10μF/63V	CE04W1J100M
C261,262	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C263	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C264	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C265	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C266	254 4260 993	Electrolytic 22μF/50V	CE04W1H220M
C267	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C268	253 4536 909	Ceramic 10pF/50V	CC45SL1H100D
C301,302	254 4260 980	Electrolytic 10μF/50V	CE04W1H100 M

Ref. No.	Part No.	Part Name	Remarks
C303,304	253 1179 987	Ceramic 470pF/50V	CK45B1H471K
C305,306	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C307,308	255 1264 966	Plastic Film 0.0033μF/50V	CQ93M1H332J(B)
C309,310	254 4256 949	Electrolytic 100μF/25V	CE04W1E101M
C311,312	255 1264 940	Plastic Film 0.0022μF/50V	CQ93M1H222J(B)
C313,314	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C315,316	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C317,318	253 4470 900	Ceramic 10pF/500V	CC45SL2H100D
C319,320	253 4536 909	Ceramic 10pF/50V	CC45SL1H100D
C321,322	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C323,324	253 1128 909	Ceramic 220pF/500V	CK45B2H221K
C325,326	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C327,328	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C329~332	254 4262 917	Electrolytic 10μF/63V	CE04W1J100M
C335	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C337,338	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C339,340	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C345	254 4262 917	Electrolytic10μF/63V	CE04W1J100M
C351,352	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V4R7M
C353,354	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C355,356	255 1264 908	Plastic Film 0.001μF/50V	CQ93M1H102J(B)
C357,358	256 1034 995	Metalized 0.15μF/50V	CF93A1H154J
C359,360	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C361,362	255 1264 937	Plastic Film 0.0018μF/50V	CQ93M1H182J(B)
C363,364	255 1265 949	Plastic Film 0.012μF/50V	CQ93M1H123J(B)
C365,366	256 1034 953	Metalized 0.068μF/50V	CF93A1H683J
C367,368	254 4260 935	Electrolytic 0.47μF/50V	CE04W1HR47M
C371,372	253 1181 917	Ceramic 0.022μF/50V	CK45F1H223Z
C801,802	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C803	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C804	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C805	254 4250 932	Electrolytic 220μF/6.3V	CE04W0J221M
C806	256 1034 982	Metalized 0.12μF/50V	CF93A1H124J
C807	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
C808	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C810	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103J(B)
C813	259 0007 702	Back up 8200μF/5.5V	SB CAP=-822=C
C814	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C815	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C818	253 1146 907	Ceramic 0.01μF/50V	CK45F1H103Z
C820	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C821	253 1146 907	Ceramic 0.01μF/50V	CK45F1H103Z
C823	253 1146 907	Ceramic 0.01μF/50V	CK45F1H103Z
C851~854	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
C855	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C856	255 1264 982	Plastic Film 0.0047μF/50V	CQ93M1H472J(B)
C857	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C858	255 1264 982	Plastic Film 0.0047μF/50V	CQ93M1H472J(B)
C861,862	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C863	255 1264 982	Plastic Film 0.0047μF/50V	CQ93M1H472J(B)
C864	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C870	255 1265 936	Plastic Film 0.01μF/50V	CQ93M1H103JT(B)
C875~877	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER PARTS GROUP				
	—	(P.W.Board)		(1)
L201	235 0068 004	Inductor 1mH		1
L301	235 0068 004	Inductor 1mH		1
L302	235 0068 004	Inductor 1mH		1
RL801,802	214 9003 005	Relay	Front , Center	2
RL803,804	214 0162 000	Relay(A12W-K)	Head Phone	2
	204 8341 004	Head Phone Jack	Gold Flash	1
	204 8342 003	3P Pin Jack(C-GND)	Gold Flash	1
	204 8393 007	4P Pin Jack(S-GND)	Pre out	1
	205 0484 014	8P SP Terminal		1
XL801	399 9018 003	Ceramic Vibrator	CST4.00MGW	1
	204 8427 009	S-Terminal (3.5)	V-AUX-S	1
	204 8433 006	2P Pin Tack (C-GND)	Rear Rec	1
	205 0190 036	3P NH Conn. Base	For Test Point	3
CN3A	205 0343 032	3P Conn. Base(KR-PH)		1
CN3A	205 0343 032	3P Conn. Base(KR-PH)		1
CN3C	205 0343 032	3P Conn. Base(KR-PH)		1
CN3K	205 0343 032	3P Conn. Base(KR-PH)		1
	205 0343 032	3P Conn. Base(KR-PH)	For Rear Pre	1
CN11A	205 0535 099	11P Conn. Base		1
CN12A,B	205 0535 028	12P Conn. Base		2
CN5A	205 0343 058	5P Conn. Base(KR-PH)		2
CN14A	205 0809 013	14P Conn. Base(9130)		1
CN6D	205 0343 061	6P Conn. Base(KR-PH)		1
CN6E	205 0343 061	6P Conn. Base(KR-PH)		1
CN7A	205 0666 078	7P Conn. Base(9130)		1
CN7B	205 0666 078	7P Conn. Base(9130)		1
CN7D	205 0666 078	7P Conn. Base(9130)		1
CN7F	205 0696 077	JL Conn.(BT-E)	7P	1
CN15A	205 0808 014	15P JL Conn.(BT-E)	15P	1
CN7B	205 0667 077	7P Conn. Base-L (9130)	7P	1
CN9F	205 0696 093	JL Conn.(BT-E)	9P	1
CN10A	205 0666 007	10P Conn. Base (9130)	10P	1
CN9A	205 0666 094	9P Conn. Base (9130)		1
CN21A	205 0491 049	21P FFC Conn.		1
CN3B	205 0185 038	3P Wire Holder		1
CN3B	205 0185 038	3P Wire Holder		1
CN3D	205 0185 038	3P Wire Holder		1
CN3D	205 0185 038	3P Wire Holder		1
CN2A	205 0185 025	2P Wire Holder		1
CN2A	205 0185 025	2P Wire Holder		1
	205 0452 004	Style Pin	STP1,2	2
	002 0012 078	2C Ribbon Cable	B-B L=320	1
	002 0013 080	3C Ribbon Cable	A-A L=360	1
	002 0013 093	3C Ribbon Cable	C-C L=440	1
	203 0482 081	1P Sin Con Cord	Brown L=320	2
	203 0482 094	1P Sin Con Cord	Black L=320	1
	203 0542 002	1P Sin Con Cord	Black L=60	1

1U-2541B POWER INPUT UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC151	263 0609 002	IC NJM2068DDC	
IC152	263 0711 000	IC M5218AP	
IC153	262 1227 008	IC LC7821	
IC154	262 1228 007	IC LC7822	
IC155	262 1227 008	IC LC7821	
IC401,402	263 0855 005	IC SI-18752	
IC403,404	268 0074 904	IC ICP-N20	IC Protector 20V
IC405	263 0812 006	NJM7815FA(S)	Regulator +15V
IC406	263 0561 001	NJM7915FA(S)	Regulator –15V
IC407	263 0711 000	IC M5218AP	
IC501	263 0793 002	IC NJM7806FA(S)	Regulator +6V
IC503	268 0073 905	IC ICP-N15	IC Protector 15V
IC551	263 0711 000	IC M5218AP	
TR404	273 0198 918	Transistor 2SC1815(BL)	
TR501,502	273 0317 906	Transistor 2SC2458(BL)	
TR504,505	271 0131 924	Transistor 2SA988(E/F)	
TR506	273 0235 923	Transistor 2SC1814(E/F)	
TR507	271 0131 924	Transistor 2SA988(E/F)	
⚠ D401	276 0338 007	Diode S4VB20F	Bridge
D402~404	276 0432 903	Diode 1SS270A	
D503~508	276 0553 905	Diode 1SR35-200A	
⚠ D509	276 0356 005	Diode D5FB20(4001)	Bridge
D513	276 0432 903	Diode 1SS270A	
ZD501	276 0465 909	Zener Diode HZS7B-1	7V
ZD502	276 0475 902	Zener Diode HZS12C-1	2V
P460	279 0034 067	Posistor PTH9M04BB222TS2F333	
RESISTORS GROUP			
(Not included Carbon Film ±5%1/4W Type. Refer to the Schematic Diagram for those Parts.)			
⚠ R419,420	244 2051 987	Metal Oxide 4.7ohm 1W(NB)	RS14B3A4R7JNBS(S)
⚠ R511~514	244 2043 982	Metal Oxide 0.22ohm 1W(NB)	RS14B3AR22JNBS(S)
CAPACITORS GROUP			
C121~134	253 4537 982	Ceramic 56pF/50V	CC45SL1H560J
C151,152	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C153,154	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C155,156	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C157,158	254 4250 932	Electrolytic 220μF/6.3V	CE04W0J221M
C159,160	255 4199 999	Plastic Film 0.024μF/50V	CQ92M1H243J(MRZ)
C161,162	255 1265 907	Plastic Film 0.0068μF/50V	CQ93M1H682J(B)
C163,164	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C165,166	255 1265 978	Plastic Film 0.022μF/50V	CQ93M1H223J(B)
C167,168	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C169,170	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C171,172	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C173	253 1181 917	Ceramic 0.022μF/50V	CK45F1H223Z
C177,178	253 1181 917	Ceramic 0.022μF/50V	CK45F1H223Z
C180	253 1181 917	Ceramic 0.022μF/50V	CK45F1H223Z
C182	253 1116 908	Ceramic 2200pF/50V	CK45B1H222K
C183,184	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C185,186	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
C187	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C195,196	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C401,402	254 4260 951	Electrolytic 2.2μF/50V	CE04W1H2R2M
C403,404	254 4258 905	Electrolytic 4.7μF/35V	CE04WIV4R7M

Ref. No.	Part No.	Part Name	Remarks
C405~408	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C411,412	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C415,416	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C419,420	254 4356 739	Electrolytic 47μF/50V (ARS)	CE04W1H470MC
C421,422	254 4259 726	Electrolytic 4700μF/35V	CE04W1V472MC
C423,424	253 1151 905	Ceramic 0.0047μF/500V	CK45E2H472P
C429,430	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C431,432	254 4254 909	Electrolytic10μF/16V	CE04W1C100M
C433,434	253 1181 917	Ceramic 0.022μF/50V	CK45F1H223Z
C435	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C436	256 1042 903	Metalized 0.1μF/250V	CF93A2E104K
C437,438	253 1146 907	Ceramic 0.01μF/50V	CK45F1H103Z
C441,442	253 4537 966	Ceramic 47pF/50V	CC45SL1H470J
C443,444	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C502	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C503,504	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C507	254 4256 790	Electrolytic 2200μF/25V	CE04W1E222MC
C508	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C509,510	254 4365 720	Electrolytic 12000μF/56V	CE04W==123MC(DL)
C511,512	253 1151 905	Ceramic 4700pF/500V	CK45E2H472P
⚠ C513	253 8014 702	Ceramic 0.01μF/400V(AC)	CK45F2GAC103MC
C514	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C516,517	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C518	256 1042 903	Metalized 0.1μF/250V	CE93A2E104K
C519	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C520,521	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C551,552	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C553,554	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C555,556	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C557,558	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
C561,562	253 1179 903	Ceramic 100pF/50V	CK45B1H101K

OTHER PARTS GROUP			Q'ty
	—	(P.W.Board)	(1)
L401,402	235 0068 004	Inductor 1mH	2
RL401	214 9003 005	Relay	1
⚠ RL501	214 0120 000	Relay (TV-8)	1
	202 0022 008	Fuse Holder	2
⚠ F001	206 1015 074	Fuse 3.15A	1
⚠	233 6058 009	Power Trans(Mini)	1
	204 8312 004	4P Pin Jack(AU)	Gold Flash 1
	204 8378 006	6P Pin Jack (S-GND)	Gold Flash 2
	205 0592 003	4P Push Terminal	Rear SP 1
	235 9003 002	FTZ Choke Coil	2
CN7A	205 0731 071	7P Conn. Base-L(9131)	1
CN9A	205 0731 097	9P Conn. Base-L(9131)	1
CN6E	205 0343 061	6P Conn. Base(KR-PH)	1
CN3K, 3C	205 0343 032	3P Conn. Base(KR-PH)	2
CN6B, 6D	205 0343 061	6P Conn. Base(KR-PH)	2
A	205 0243 064	6P Wire Holder	2
CN10A	205 0667 006	10P Conn. Base-L (9130)	1
A	002 0048 000	6P WH-WH Ribbon	1
C	203 4870 013	3P SCN-SCN Con Cord	1
B	203 4721 049	3P SCN-SCN Con Cord	1
	415 0309 026	P.V.C Tube (L=20)	for Posistor 2
	513 0654 059	Fuse Label	for F001(T3.15A) 1
	205 0692 000	2P Wrapping Terminal	for AC Cord 1

1U-2542D VIDEO UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC901	263 0856 004	IC BA7625	
IC902	263 0682 003	IC NJM2229S	
IC903	262 1403 000	IC M50554-001SP	
IC904	263 0809 006	IC NJM7805FA(S)	Regulator +5V
IC905	268 0074 904	IC ICP-N20	IC Protector 20V
IC951	263 0857 003	IC BA7626	
IC952	263 0856 004	IC BA7625	
TR904,905	273 0317 906	Transistor 2SC2458(BL)	
TR906~908	271 0102 924	Transistor 2SA1015(GR)	
TR951	271 0102 924	Transistor 2SA1015(GR)	
TR952~956	271 0102 924	Transistor 2SA1015(GR)	
D901~904	276 0548 910	Diode DSM1D2	Type-3
D905	276 0432 903	Diode 1SS270A	
D908,909	276 0432 903	Diode 1SS270A	
RESISTORS GROUP			
(Not included Carbon Film ±5% 1/4W Type. Refer to the Schematic Diagram for those Parts.)			
CAPACITORS GROUP			
C901~903	254 4260 977	Electrolytic 4.7µF/50V	CE04W1H4R7M
C904	254 3056 917	Electrolytic 1µF/50V (Bi-Pole)	CE04D1H010MBP
C905~907	254 4250 958	Electrolytic 470µF/6.3V	CE04W0J471M
C908	254 4252 930	Electrolytic 100µF/10V	CE04W1A101M
C909	255 1264 966	Plastic Film 0.0033µF/50V	CQ93M1H332J(B)
C910	253 1179 987	Ceramic 470pF/50V	CK45B1H471K
C911	256 1034 953	Metalized 0.068µF/50V	CF93A1H683J
C912	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C913	253 1179 929	Ceramic 150pF/50V	CK45B1H151K
C914	255 1264 911	Plastic Film 0.0012µF/50V	CQ93M1H122J(B)
C915	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C916	254 4252 930	Electrolytic 100µF/10V	CE04W1A010M
C917	255 1264 908	Plastic Film 0.001µF/50V	CQ93M1H102J(B)
C918	254 4254 909	Electrolytic 10µF/16V	CE04W1C0100M
C920	253 4538 949	Ceramic 100pF/50V	CC45SL1H101J
C921	254 4260 977	Electrolytic 4.7µF/50V	CE04W1H4R7M
C922	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C923	254 4252 930	Electrolytic 100µF/10V	CE04W1A101M
C924,925	253 4536 967	Ceramic 18pF/50V	CC45SL1H180J
C926,927	253 4536 983	Ceramic 22pF/50V	CC45SL1H220J
C928	255 1265 978	Plastic Film 0.022µF/50V	CQ93M1H223J(B)
C929	253 4537 966	Ceramic 47pF/50V	CC45SL1H470J
C930	253 4533 911	Ceramic 30pF/50V	CC45SL1H300J
C931	255 1265 936	Plastic Film 0.01µF/50V	CQ93M1H103J(B)
C932,933	254 4260 980	Electrolytic 10µF/50V	CE04W1H100M
C935	254 4254 792	Electrolytic 2200µF/16V	CE04W1C222MC
C936	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C937	253 4447 904	Ceramic 300pF/50V	CC45SL1H301J
C938,939	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C941	254 4260 977	Electrolytic 4.7µF/50V	CE04W1H4R7M
C942	255 1265 936	Plastic Film 0.01µF/50V	CQ93M1H103J(B)
C951~956	254 4260 977	Electrolytic 4.7µF/50V	CE04W1H4R7M
C957	254 4250 932	Electrolytic 220µF/6.3V	CE04W0J221M
C958	254 4250 958	Electrolytic 470µF/6.3V	CE04W0J471M
C959	254 4250 932	Electrolytic 220µF/6.3V	CE04W0J221M
C960	254 4250 958	Electrolytic 470µF/6.3V	CE04W0J471M
C961	254 4250 932	Electrolytic 220µF/6.3V	CE04W0J221M
C962	254 4250 958	Electrolytic 470µF/6.3V	CE04W0J471M
C966,967	253 1181 917	Ceramic 0.022µF/50V	CK45F1H223Z
C971,972	254 4260 977	Electrolytic 4.7µF/50V	CE04W1H4R7M
C973	253 1146 907	Ceramic 0.01µF/50V	CK45F1H103Z
C976	253 1181 917	Ceramic 0.022µF/50V	CK45F1H223Z

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER PARTS GROUP				
	—	(P.W.Board)		(1)
	204 8394 006	3P Pin Jack(C-GND)	Composite	2
	204 8415 008	3P S-Terminal		2
S401~406	212 4388 907	Tact Switch		6
XL901	399 0105 009	Ceramic Resonator	CSB503F2	1
XL902	399 0114 003	Cristal Resonator (17.73MHz)		1
L901	235 0070 924	Inductor 27µH		1
L902	235 0060 963	Inductor 15µH		1
L903	235 0070 924	Inductor 27µH		1
CN14A	205 0810 015	14P Conn. Base-L(9130)		1
CN15A	205 0807 015	15P JL Conn.(F-E)	15P	1
CN2B	205 0075 025	2P Terminal		1
CN5B	203 8355 000	5P KR-DS Con Cord		1
	205 0233 032	3PEH Conn. Base		1
	203 4304 042	3P EH Conn. Cord		1
	205 0185 038	3P Wire Holder		2

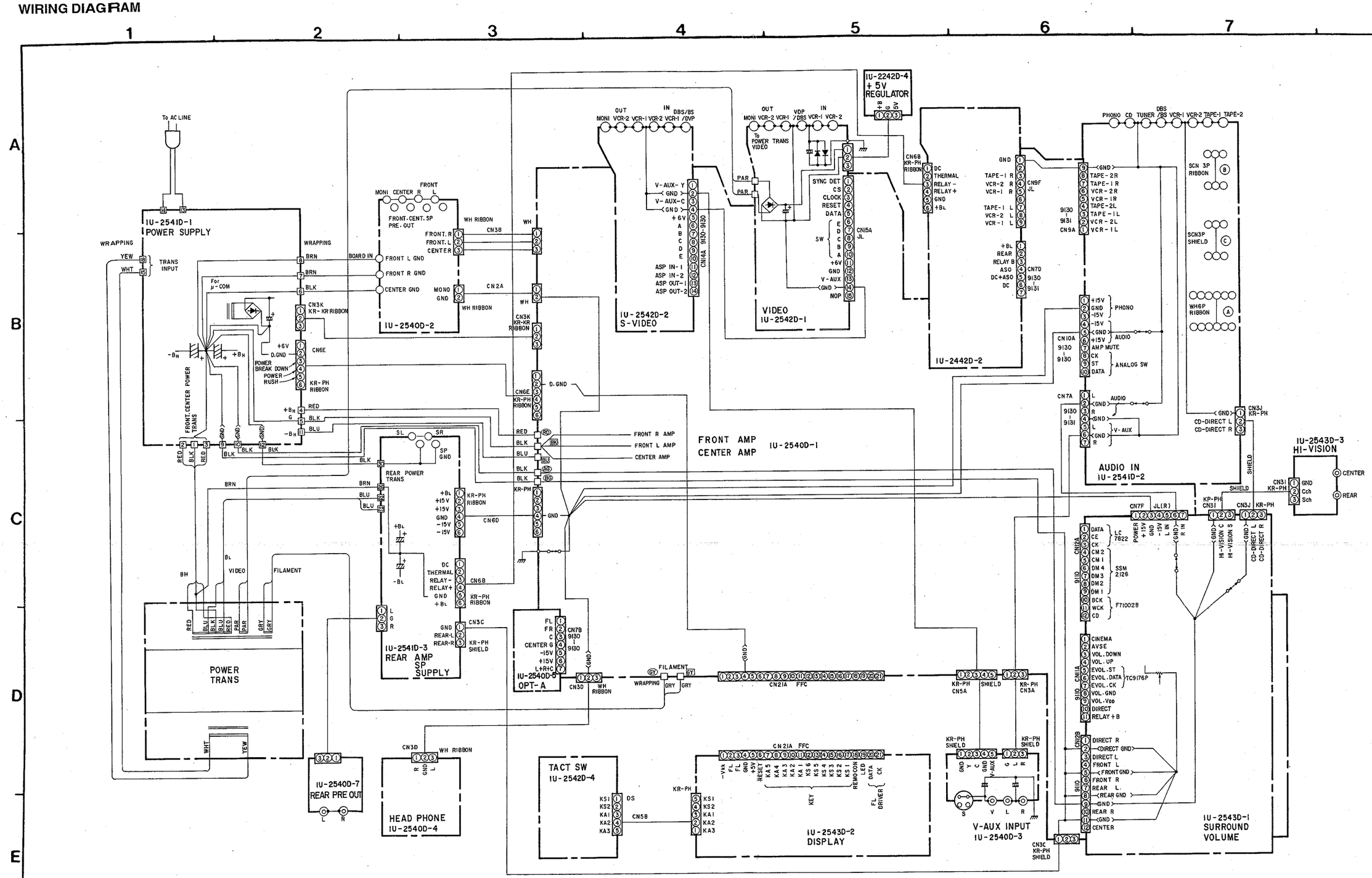
1U-2543D SURROUND UNIT ASS'Y

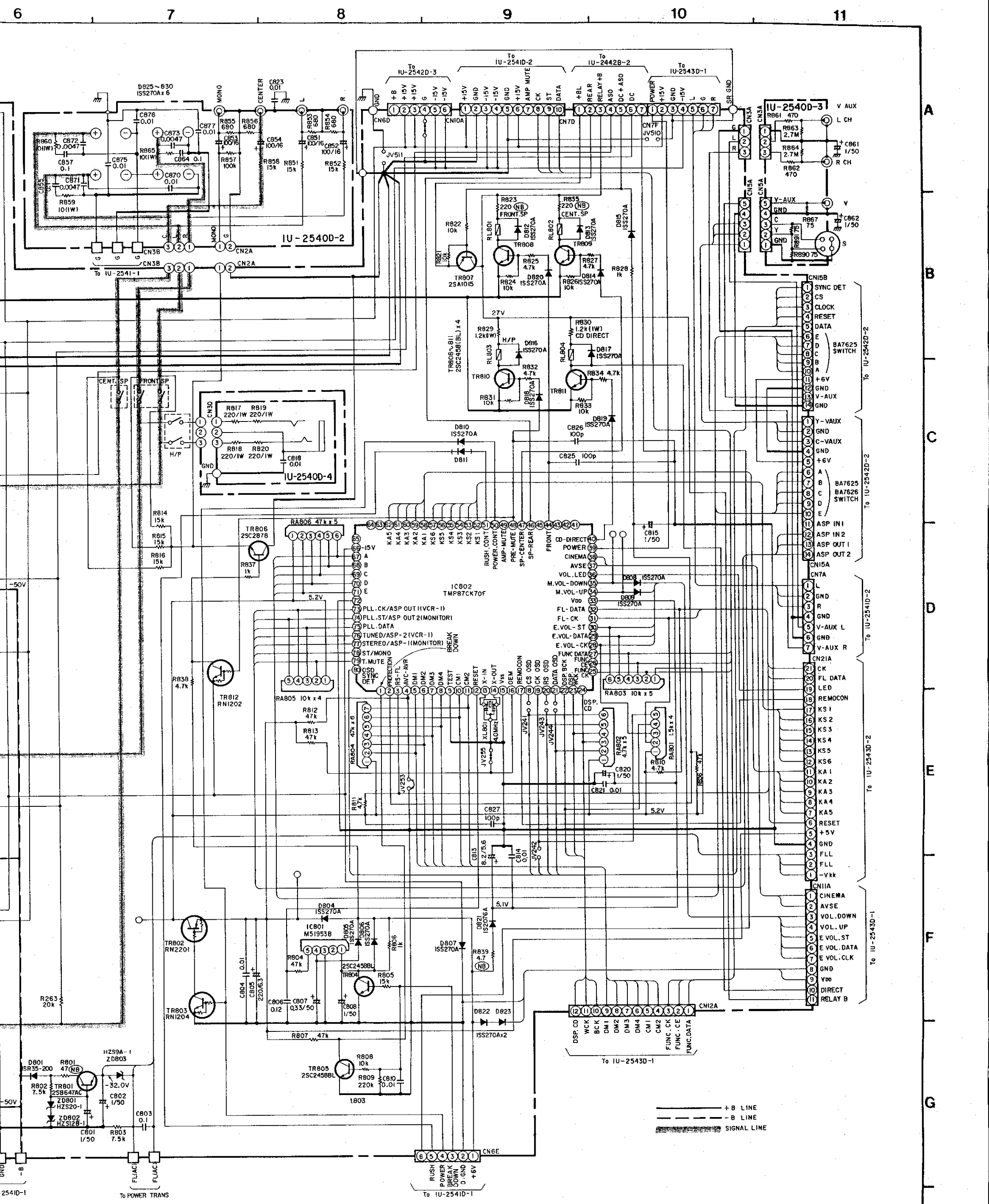
Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC601	263 0828 003	IC SSM2126	
IC602	262 1228 007	IC LC7822	
IC603	262 1609 105	IC F71002B	DSP
IC604	262 1610 000	IC HM65256BLFP-10T	PSRAM
IC605	262 0625 009	IC TC9176P	
IC606,607	263 0654 002	IC NJM2082D	
IC608~610	263 0711 000	IC M5218AP	
IC611	263 0809 006	IC NJM7805FA(S)	Regulator +5 V
IC701~703	263 0711 000	IC M5218AP	
IC704	263 0476 002	IC LB1639	
IC705,706	263 0711 000	IC M5218AP	
IC751	262 1564 004	IC MSC1937-01	
IC752	499 0150 008	IC SBX1610-52	Remocon Receiver
TR601	274 0060 900	Transistor 2SD667A(C)	
TR602	272 0053 908	Transistor 2SB647A(C)	
TR604,605	269 0025 901	Transistor RN1202(10k-10k)	Built in Resistor
TR701~705	275 0061 902	FET 2SK184(GR)/(BL)	
TR751	269 0024 902	Transistor RN2201(4.7k-4.7k)	Built in Resistor
TR791	272 0053 908	Transistor 2SB647A(C)	
TR792	269 0023 903	Transistor RN1201(4.7k-4.7k)	Built in Resistor
D601~607	276 0432 903	Diode 1SS270A	
D701~705	276 0432 903	Diode 1SS270A	
D751~756	276 0432 903	Diode 1SS270A	
D759	276 0432 903	Diode 1SS270A	
D791	276 0432 903	Diode 1SS270A	
ZD601,602	276 0466 908	Zener Diode HZS7C-1	7 V
LD751	393 9434 906	LED SEL1210S	Red
RESISTORS GROUP			
(Not included Carbon Film ±5% 1/4W Type. Refer to the Schematic Diagram for those Parts.)			
⚠ R603,604	241 2387 940	Carbon Film 4.7ohm 1/4W(NB)	RD14B2E4R7JNBS
⚠ R609	242 0203 003	Carbon Compotiion 10 Mohm 1/4W	RC05GF2E106K
⚠ R639	244 2055 996	Metal Oxide 1.2kohm 1W	RS14B3A122JNBS(S)
⚠ R641	241 2387 940	Carbon Film 4.7ohm 1/4W(NB)	RD14B2E4R7JNBS
VR701	211 0759 003	Variable VR	100kohm
CAPACITORS GROUP			
C601,602	254 4261 918	Electrolytic 47µF/50V	CE04W1H470M
C603,604	256 1034 979	Metalized 0.1µF/50V	CF93A1H104J
C605,606	254 4254 941	Electrolytic 100µF/16V	CE04W1C101M
C607,608	254 4260 980	Electrolytic 10µF/50V	CE04W1H100M
C609,610	255 1265 936	Plastic Film 0.01µF/50V	CQ93M1H103J(B)
C611	254 4258 905	Electrolytic 4.7µF/35V	CE04W1V4R7M
C612,613	256 1035 910	Metalized 0.22µF/50V	CF93A1H224J
C614	254 4260 980	Electrolytic 10µF/50V	CE04W1H100M
C615	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C616	255 1265 936	Plastic Film 0.01µF/50V	CQ93M1H103J(B)
C617	254 4256 949	Electrolytic 100µF/25V	CE04W1E101M
C618	254 4258 905	Electrolytic 4.7µF/35V	CE04W1V4R7M
C619,620	256 1035 910	Metalized 0.22µF/50V	CF93A1H224J
C621~624	256 1035 936	Metalized 0.33µF/50V	CF93A1H334J
C625,626	255 1265 978	Plastic Film 0.022µF/50V	CQ93M1H223J(B)
C627~631	256 1034 979	Metalized 0.1µF/50V	CF93A1H104J
C632	253 1180 905	Ceramic 680pF/50V	CK45B1H681K
C633,634	255 1265 978	Plastic Film 0.022µF/50V	CQ93M1H223J(B)
C635	253 1180 905	Ceramic 680pF/50V	CK45B1H681K
C636~639	254 4258 905	Electrolytic 4.7µF/35V	CE04W1V4R7M
C640~642	253 1181 917	Ceramic 0.022µF/50V	CK45F1H223Z
C644	254 4256 949	Electrolytic 100µF/25V	CE04W1E101M
C645,646	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C647	254 4254 941	Electrolytic 100µF/16V	CE04W1C101M
C648	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C649	254 4254 938	Electrolytic 47µF/16V	CE04W1C470M
C651~654	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C655,656	255 6177 964	Plastic Film 150pF/50V	CQ09S1H151J(SMT)
C657,658	253 9030 918	BC Ceramic 1500pF/25V	CK45=1E152K
C659,660	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C661,662	253 9031 975	BC Ceramic 3900pF/25V	CK45=1E392K
C663,664	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C665	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C666	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C667	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C668	254 4254 941	Electrolytic 100µF/16V	CE04W1C101M
C669,670	253 4536 970	Ceramic 20pF/50V	CC45SL1H200J
C671	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C672	254 4252 943	Electrolytic 220µF/10V	CE04W1A221M
C673	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C674	254 4252 927	Electrolytic 47µF/10V	CE04W1A470M
C675,676	255 6177 919	Plastic Film 56pF/50V	CQ09S1H560J
C677,678	253 9030 918	BC Ceramic 1500pF/25V	CK45=1E152K
C679,680	253 1179 945	Ceramic 220pF/50V	CK45B1H221K
C681,682	253 9031 975	BC Ceramic 3900pF/25V	CK45=1E392K
C683,684	254 4260 906	Electrolytic 0.1µF/50V	CE04W1H0R1M
C687	253 9039 906	BC Ceramic 0.1µF/25V	CK45=1E104Z
C689,690	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C691,692	253 1179 916	Ceramic 120pF/50V	CK45B1H121K
C693,694	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C695,696	255 1264 966	Plastic Film 0.0033µF/50V	CQ93M1H332J(B)
C697,698	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C699~702	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C703,704	256 1034 982	Metalized 0.12µF/50V	CF93A1H124J
C705,706	255 1265 965	Plastic Film 0.018µF/50V	CQ93M1H183J(B)
C707,708	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C709~712	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C715	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C716	255 1264 940	Plastic Film 0.0022µF/50V	CQ93M1H222J(B)
C717,718	253 1181 917	Ceramic 0.022µF/50V	CK45F1H223Z
C719,720	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C721,722	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C723	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C724	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C725	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C726	254 3056 917	Electrolytic 1µF/50V (Bipole)	CE04D1H010MBP
C727	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C729	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C731,732	254 4356 001	Electrolytic 10µF/50V	CE04W1H100M(ARS)
C737,738	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C741,742	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C743,744	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C751	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C752	254 4250 945	Electrolytic 330µF/6.3V	CE04W0J331M
C753	254 4261 921	Electrolytic 100µF/50V	CE04W1H101M
C761~764	253 1179 903	Ceramic 100pF/50V	CK45B1H101K
C791,792	253 1179 987	Ceramic 470pF/50V	CK45B1H471K
C793	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C797	254 4260 951	Electrolytic 2.2µF/50V	CE04W1H2R2M
OTHER PARTS GROUP			
	—	(P.W.Board)	(1)
XL601	399 0162 000	Crystal Vibrator	11.2896MHz 1
FL751	393 4131 000	FLD (FIP14PM8)	1
LF601,602	232 0168 002	LC Filter	2
S751~753	212 4388 907	Tact Switch	3
S766~768	212 4388 907	Tact Switch	3
L601	235 0060 989	Inductor 120mH	1
L751	235 0060 989	Inductor 120mH	1
	214 0162 000	Relay (A12W-K)	1
	204 8410 003	2p Pin Jack (C-GND)	Hi-Vision 1
CN7F	205 0748 077	JL Conn.(R)	7P 1
CN11A	205 0536 098	11P Conn. Socket	2
CN12A,B	205 0536 027	12P Conn. Socket	2
CN3I-J	205 0343 032	3P Conn. Base(KR-PH)	3
CN5B	205 0343 058	5P Conn. Base(KR-PH)	1
CN21A	205 0673 016	21P FFC SID Conn. Base	1

1U-2442B AUDIO REC UNIT ASS'Y

Ref.No.	Part. No	Part Name	Remaks
SEMICONDUCTORS GROUP			
TR260	273 0317 906	Transistor 2SC2458(BL)	
TR326	273 0317 906	Transistor 2SC2458(BL)	
TR327	273 0317 906	Transistor 2SC2458(BL)	
TR328	271 0191 906	Transistor 2SA1048(GR)	
TR329	273 0317 906	Transistor 2SC2458(BL)	
TR330	273 0317 906	Transistor 2SC2458(BL)	
TR331	271 0191 906	Transistor 2SA1048(GR)	
TR332	273 0317 906	Transistor 2SC2458(BL)	
D314	276 0432 903	Diode 1SS270A	
ZD304	276 0465 909	Zener Diode HZS7B-1	7V
SC301	279 0016 904	Thyristor SF0R1A42	
RESISTORS GROUP			
(Not included Carbon Film ±5 1/4W Type.Refer to the Scematic Diagram for those Parts.)			
⚠ R224	244 2043 940	Metal Oxide 2.2kohm 1W(NB)	RS14B3A222JNBS(S)
⚠ R274	241 2378 920	Carbon Film 220ohm 1/4W(NB)	RD14B2E221JNBS
CAPACITORS GROUP			
C101	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C102	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C342	254 4260 993	Electrolytic 22µF/50V	CE04W1H220M
C343	254 4250 945	Electrolytic 330µF/6.3V	CE04W0J331M
C344	254 4250 945	Electrolytic 330µF/6.3V	CE04W0J331M
C347	254 4261 905	Electrolytic 33µF/50V	CE04W1H330M
OTHER GROUP			**Q'ty**
	—	(P.W.Board)	(1)
	204 8393 007	4P Pin Jack(S-GND)	2
CN6B	205 0343 061	6 P Conn. Base(KR-PH)	1
CN7D	205 0731 071	7 P Conn. Base-L(9131)	1
CN9F	205 0748 093	9 P JL Connector(R)	1

WIRING DIAGRAM



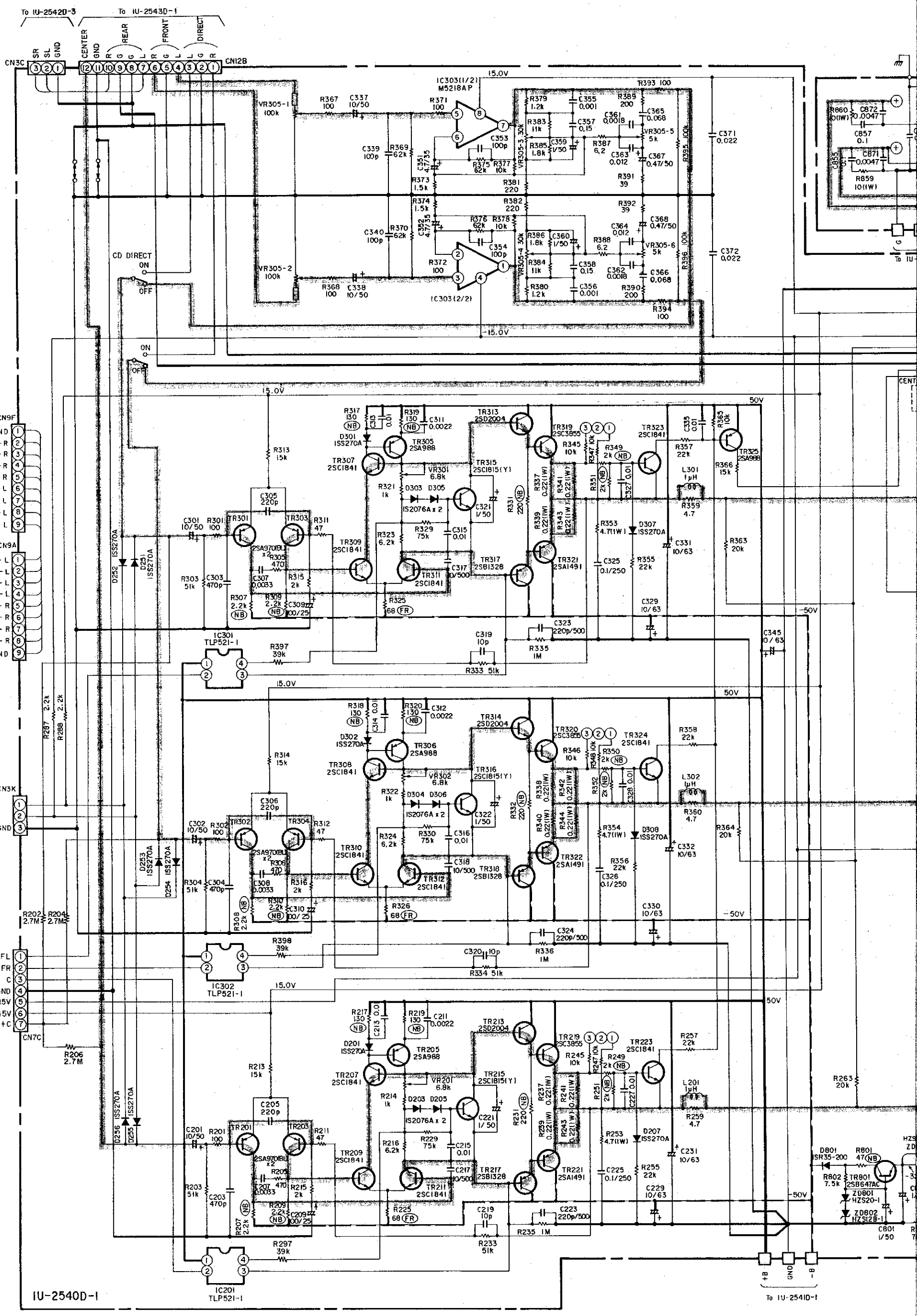


NOTES

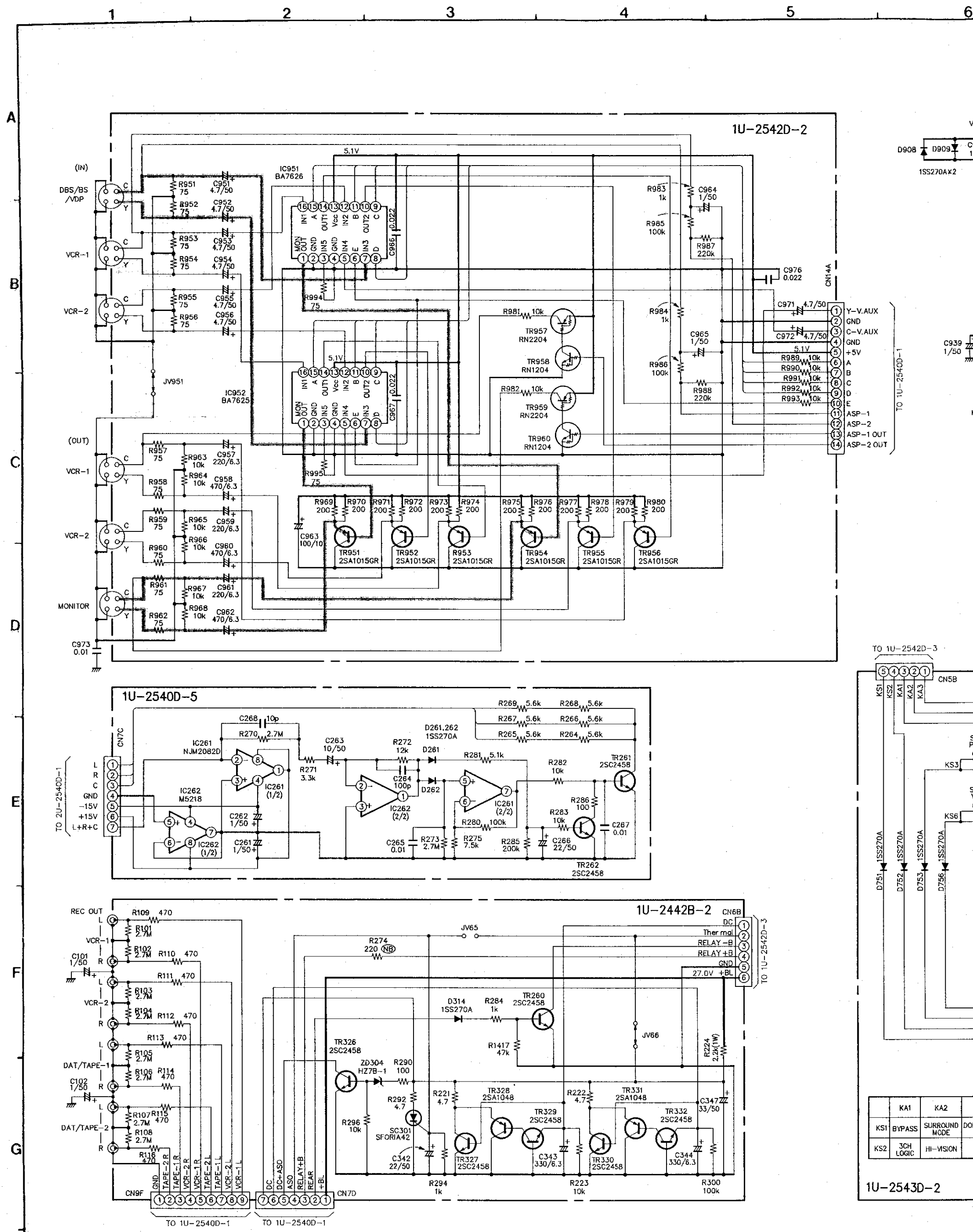
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAM -1/4

1 2 3 4 5 6



SCHEMATIC DIAGRAM -2/4



NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chas
leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 2

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

5 6 7 8 9 10

#2D-2

C976 0.022

CN14A

C971 4.7/50 — 1 Y-V.AUX
2 GND
C972 4.7/50 — 3 C-V.AUX
4 GND
5.1V — 5 +5V
R989 10k — 6 A
R990 10k — 7 B
R991 10k — 8 C
R992 10k — 9 D
R993 10k — 10 E
11 ASP-1
12 ASP-2
13 ASP-1 OUT
14 ASP-2 OUT

TO 1U-2540D-1

IC901 BA7625
JV903

(IN) VDP/DBS — C901 4.7/50 — R901 75
D908 D909 — C938 1/50 — 1SS270A×2
VCR-1 — C902 4.7/50 — R902 75
VCR-2 — C903 4.7/50 — R903 75

R932 75
MON OUT 1 — IN1 16
GND 2 — A 15
IN5 3 — OUT1 14
GND 4 — Vcc 13
IN4 5 — IN2 12
E 6 — B 11
IN3 7 — OUT2 10
D 8 — C 9

5.1V

(OUT) VCR-1 — C905 470/6.3 — R904 75 — R907 10k
C939 1/50
VCR-2 — C906 470/6.3 — R905 75 — R908 10k
MONITOR — C907 470/6.3 — R906 75 — R909 10k
C908 100/10

R911 200 — R943 200 — TR906 2SA1015GR
R912 200 — R944 200 — TR907 2SA1015GR
R913 200 — R945 200 — TR908 2SA1015GR

JV901
JV902

TO POWER TRANS

D901 D903 D904 D902
IC905 ICP-N20
D905 10V 1SS270A
C953 2200/16
C933 10/50
C932 10/50
C934 0.01
D901 904 DSM1D2×4

C941 4.7/50

+B GND +5V — 1 2 3

IC904 NJM7805

1U-2542D-4

C924 18p — C925 18p — XL902 17.73MHz
L901 27μH — C926 22p — C927 22p — R930 5.6k — C931 0.01
L903 27μH — R931 8.2k — C932 0.01

5.1V

IC903 M50554-001SP
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

C922 0.01 — C923 100/10
C928 0.022
C929 47p — L902 15μH — C930 30p

R937 3.6k — R938 1.8k — R939 2k — R940 2.2k
R933 1k — R934 1k — R935 1k — R936 1k

R927 10k — R929 10k — R922 33k
R910 560 — C904 1/50 BP — R924 1k — C921 4.7/50
R923 270k — C919 0.022 — C920 100p — R925 470k

TR904 2SC2458 — R926 10k
TR905 2SC2458 — R928 2.7k

C937 300p

C936 1/50
IC902 NJM2229S
1 3 5 7 9 11 13 15
2 4 6 8 10 12 14 16
C918 10/16

R917 390
XL901 CSB503F2
C909 3300p — C910 470p — C911 0.068 — C912 1/50
R918 1.5k — R919 10k
C913 150p — R920 51k — C914 1200p
C915 0.01 — C916 100/10
R921 7.5k — C917 1000p

CN15A
14 13 12 11 10 9 8 7 6 5 4 3 2 1
R950 10k — R949 10k — R948 10k — R947 10k — R946 10k
GND — V-AUX — GND — +5V — A B C D E SWITCH — DATA — RESET — CLOCK — CS — SYNC DET

TO 1U-2540D-1

1U-2542D-3

CN5B — 5 4 3 2 1
KS1 KS2 KA1 KA2 KA3

SW751 POWER — KS3
SW752 REC SELECTOR
SW753 CD/ DIRECT
SW766 VIDEO — KS6
SW767 AUDIO
SW768 TAPE MONITOR

KA1 KA2 KA3

D751 D752 D753 D756 1SS270A

R781 1k — R782 1k — R783 1k

-32.0V

FL751 FIP14PM8
PNT h g f p n m k j f e d c b a 15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7
1 2 3 4 5 6

C753 100/50
C752 330/6.3
C751 0.01
L751 120μH

R751 R752 R753 R754 R755 R756 R757 R758 R759 R760 R761 R762 R763 R764 R765 47k

IC751 MSC1937-01
1 VDD — PNT 40
2 — 39
3 1G — h 38
4 2G — g 37
5 3G — f 36
6 4G — p 35
7 5G — n 34
8 6G — m 33
9 7G — k 32
10 8G — j 31
11 9G — f 30
12 10G — e 29
13 11G — d 28
14 12G — 27
15 13G — c 26
16 14G — b 25
17 15G — 24
18 GND — a 23
19 — CK 22
20 RS — DATA 21

R766 R767 R768 R769 R770 R771 R772 R773 R774 R775 R776 R777 R778 R779 R780 47k

R786 100k
R787 330
D759 1SS270A
LD751 SEL1210S
IC752 SBX1610-52
+B 1 — SIG 2 — GND 3
TR751 RN2201

	KA1	KA2	KS3
KS1	BYPASS	SURROUND MODE	DOLBY CENTER MODE
KS2	3CH LOGIC	HI-VISION	VIDEO SELECT

1U-2543D-2

-Vkk FILAMENT FILAMENT GND +5V RS KA5 KA4 KA3 KA2 KA1 KS6 KS5 KS4 KS3 KS2 KS1 REMOTE LED DATA CK
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
CN21A

TO 1U-2540D-1

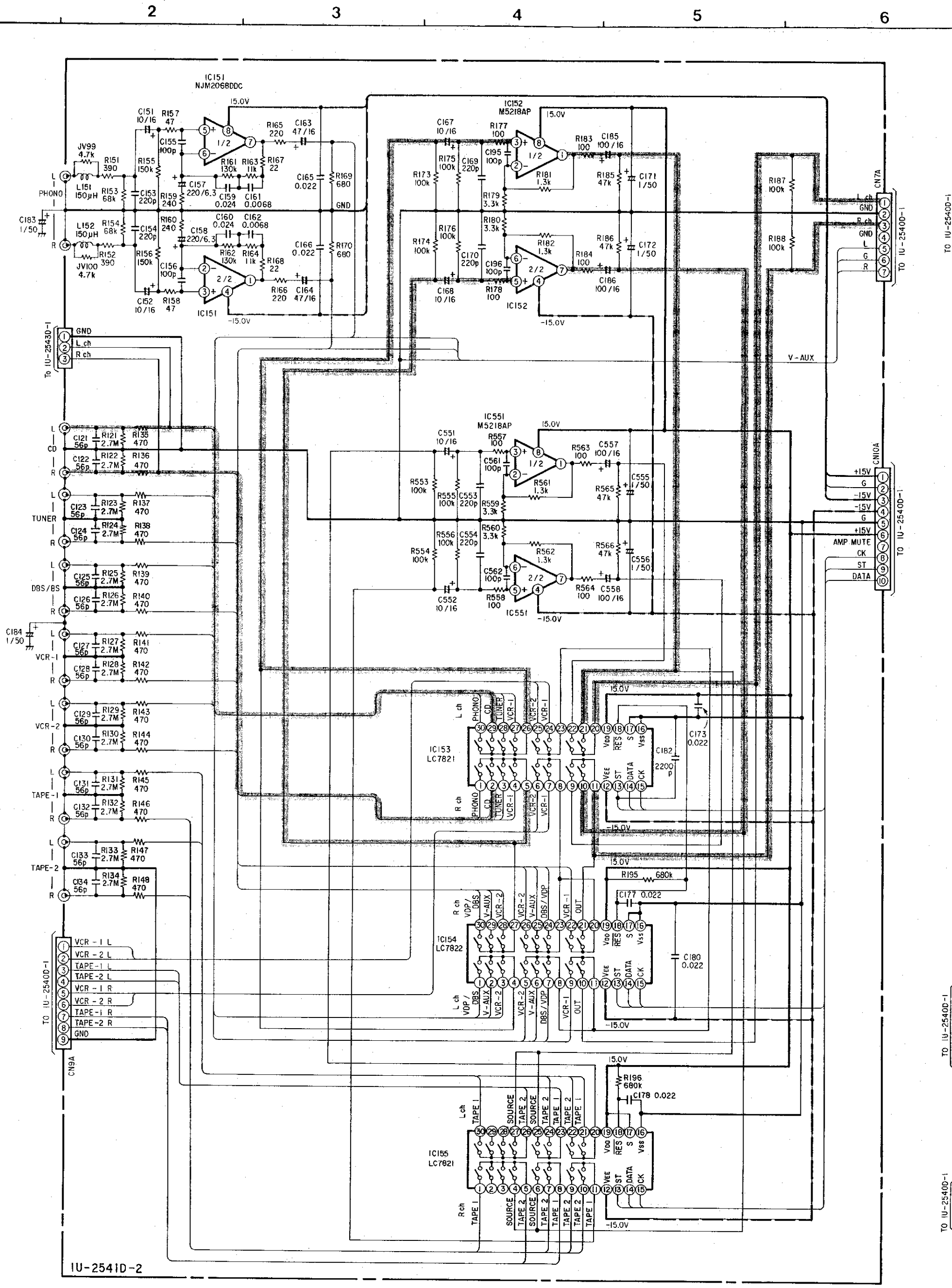
+B LINE
SIGNAL LINE

es.

er (1) a leakage current check or (2) a line to chassis resistance check. If the
assis to either side of the power cord is less than 240 kohms, the unit is defective.

l and corrected.

SCHEMATIC DIAGRAM -3/4



NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FA

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL IN

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR

6 7 8 9 10 11

A B C D E F G H

IU-2541D-3

IC401 SI-18752

IC407 M5218AP

IC405 NJM7815

IC403 ICP-N20

IC404 ICP-N20

IC406 NJM7915

IC402 SI-18752

TR404 2SC1815BL

D401 S4VB20

D403,404 ISS270A x 2

RELAY

RL-401

D402 ISS270A

IU-2542D-3

S401 BYPASS

S403 MODE

S405 DOLBY CENTER

S402 3CH. LOGIC

S404 Hi-Vision

S406 VIDEO SEL

To Speaker

PRE OUT

IU-2540D-7

IU-2541D-1

IC501 NJM7806FA(S)

IC503 ICP-N15

D503~508 ISR35-200A

TR501 2SC2458

TR502 2SC2458

TR507 2SA988(E)/(F)

TR506 2SC1841(E)/(F)

TR505 2SA988(E)/(F)

TR504 2SA988(E)/(F)

ZD501 HZS7B-1

D507

D508

D509 DSFB20

D513 1SS270A

F001 8A

RL-501

POWER TRANS

POWER TRANS (MIN1)

230V/50Hz

TO IU-2542-1

TO IU-2540-1

+B LINE

-B LINE

SIGNAL LINE

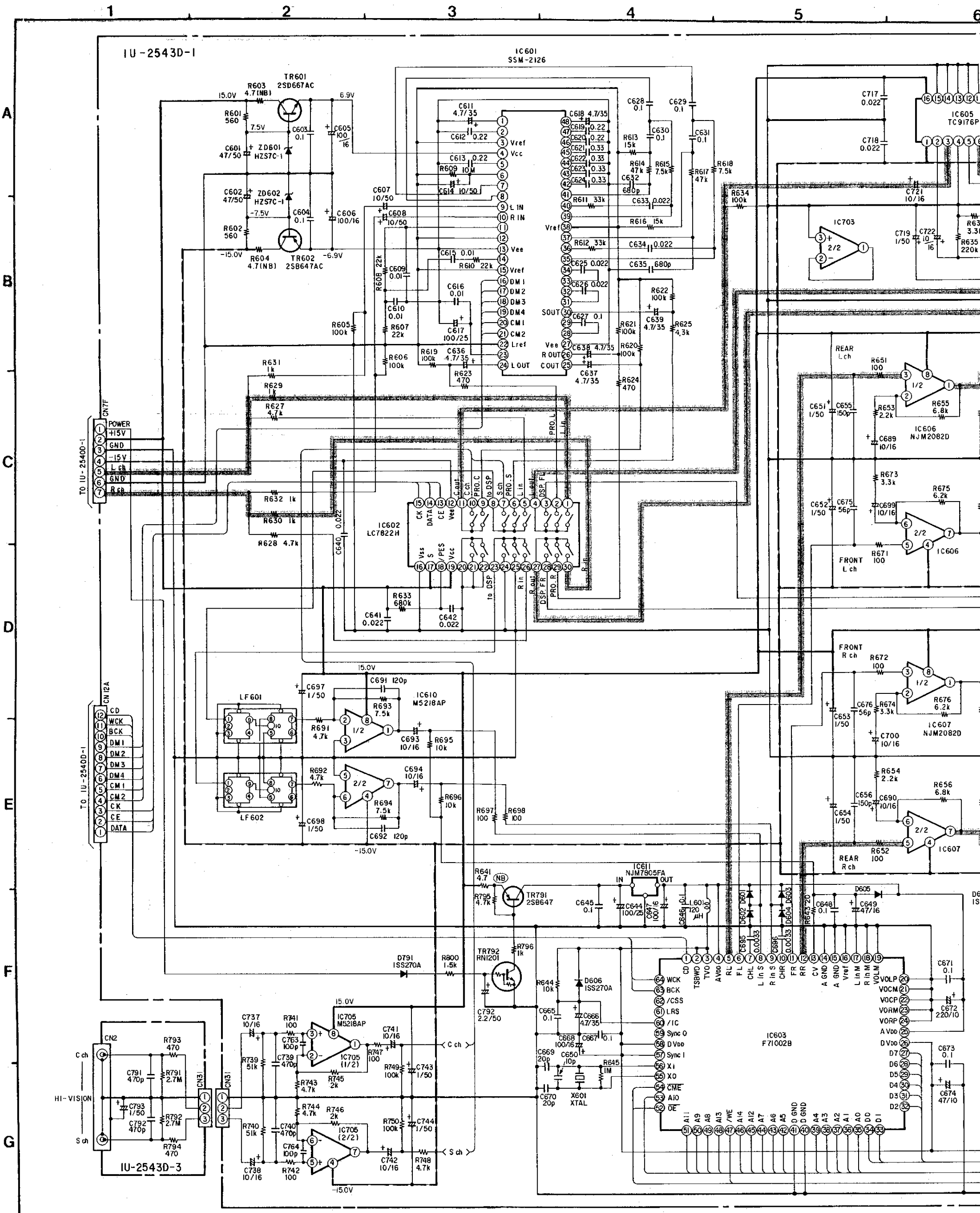
WARNING:
Parts marked with this symbol ⚠ ▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

00 OHM, M=1,000,000 OHM
RAD. P=MICRO-MICRO FARAD
ASURED AT NO SIGNAL INPUT CONDITION.
CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAM -4/4

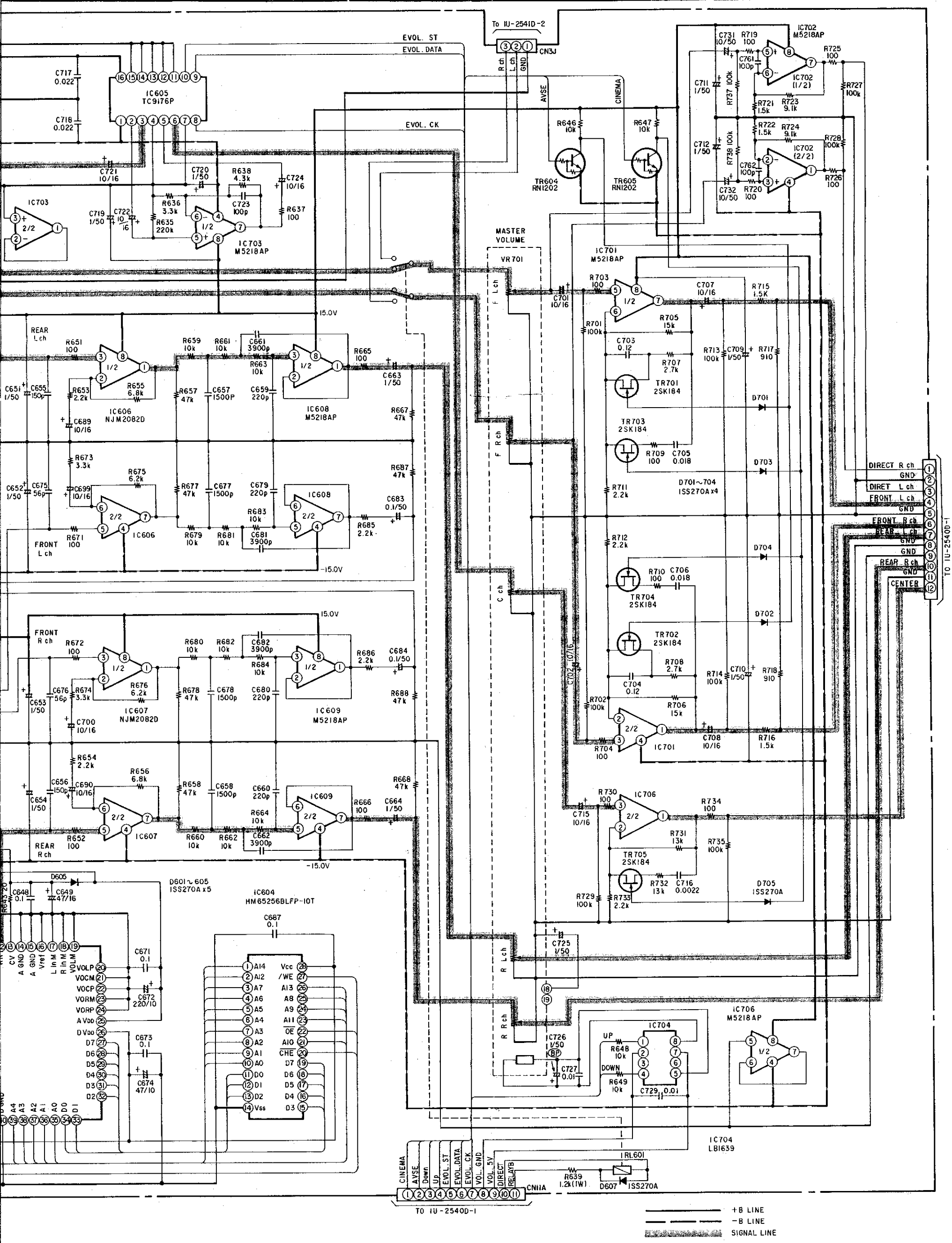


WARNING:
Parts marked with this symbol ⚠ ▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

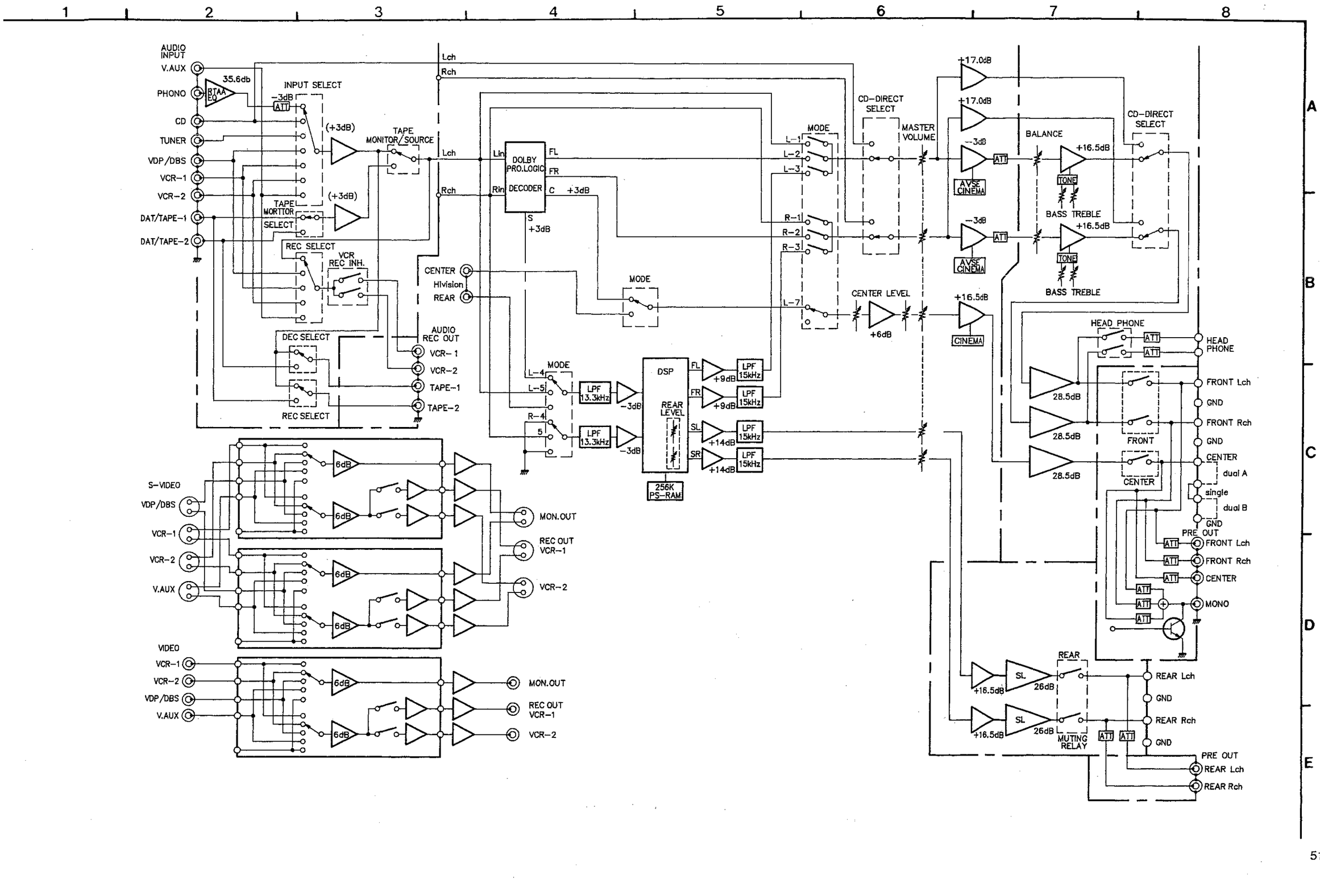
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 O
ALL CAPACITANCE VALUES IN MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUR
CIRCUIT AND PARTS ARE SUBJECT TO CHAN



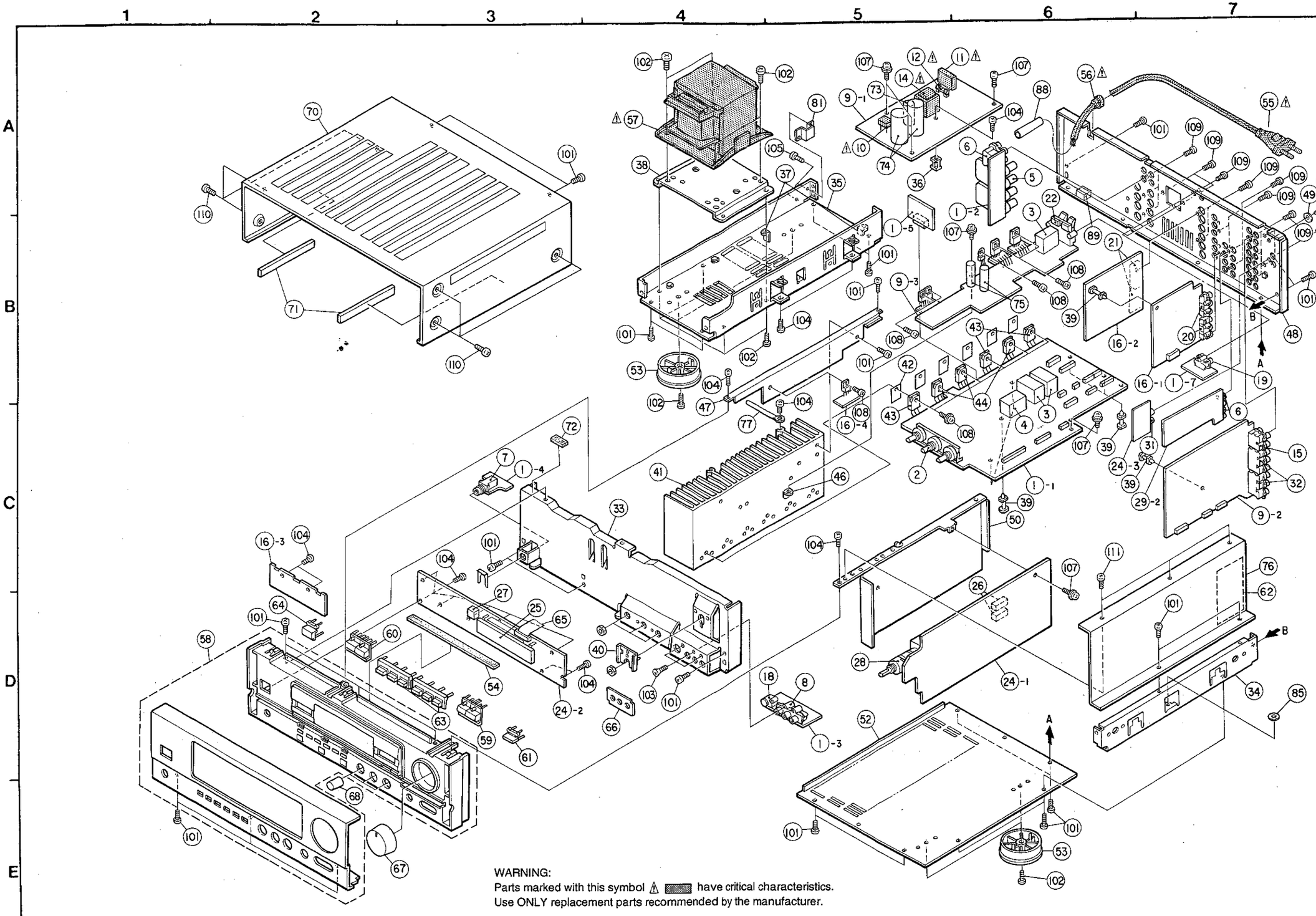
ES
RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
H VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

+B LINE
−B LINE
SIGNAL LINE

BLOCK DIAGRAM



EXPLODED VIEW OF CHASSIS AND CABINET



PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	1U-2540D	Main Amp Unit Ass'y		1S
1-1	—	Main Amp Unit		(1)
1-2	—	SP Pre out Unit		(1)
1-3	—	V-Aux Unit		(1)
1-4	—	Headphone Unit		(1)
1-5	—	OPT Unit		(1)
1-7	—	Rear Preout Unit		(1)
2	211 0760 005	Variable Resistor	Balance,Tone	1
3	214 9003 005	Relay		3
4	214 0162 000	Relay(A12W-K)		3
5	205 0484 014	8P SP Terminal		1
6	204 8393 007	4P Pin Jack(S-GND)		3
7	204 8341 004	Headphone Jack		1
8	204 8342 003	3P Pin Jack(C-GND)		1
◉ 9	1U-2541D	Power Input Unit Ass'y		1S
9-1	—	Power Supply Unit		(1)
9-2	—	Audio Input Unit		(1)
9-3	—	Rear Amp Unit		(1)
⚠ 10	276 0356 005	Diode D5FB20(4001)	D509	1
⚠ 11	214 0120 013	Relay(TV-8)		1
⚠ 12	206 1015 074	Fuse 3.15A	F001	1
13	—	—		
⚠ 14	233 6058 009	Power Trans(Mini)		1
15	204 8312 004	4P Pin Jack	Gold Flash	1
◉ 16	1U-2542D	Video Unit Ass'y		1S
16-1	—	Video Unit		(1)
16-2	—	S-Video Unit		(1)
16-3	—	Tact SW Unit		(1)
16-4	—	Video Reg. Unit		(1)
17	—	—		
18	204 8427 009	S-Terminal(3.5)		1
19	204 8433 006	2P Pin Jack(C-GND)		1
20	204 8394 006	3P Pin Jack(C-GND)	Gold Flash	2
21	204 8415 008	3P S-Terminal	Gold Flash	2
22	205 0592 003	4P Push Terminal	Rear SP	1
◉ 24	1U-2543D	Surround Unit Ass'y		1S
24-1	—	Surround Unit		(1)
24-2	—	VFD Unit		(1)
24-3	—	Hi-Vision Unit		(1)
◉ 25	393 4131 000	FLD (FIP14PM8)		1
26	232 0168 002	LC Filter		2
27	499 0150 008	Remocon Receiver	SBX1610-52	1
28	211 0759 003	Variable Resistor 100kohm	VR701	1
◉ 29	1U-2442B	Audio Rec Unit Ass'y		1S
29-1	—	—		
29-2	—	Audio Rec Unit		(1)
30	—	—		
31	204 8410 003	2P Pin Jack(C-GND)	Hi-Vision	1
32	204 8378 006	6P Pin Jack(S-GND)		2
◉ 33	411 1212 000	Front Chassis Ass'y		1
◉ 34	411 1095 214	Side Chassis		1
◉ 35	411 1094 613	Trans Chassis		1
36	415 9032 006	P.C.B Holder(T)		1
◉ 37	412 3451 105	P.W.B Bracket		2
◉ 38	412 9160 607	Trans Bracket		1
◉ 39	412 2814 028	Card Spacer(L=10)		7
◉ 40	412 2897 100	VR.Bracket		1
41	417 0458 533	Power Radiator(A)		1
42	415 0234 007	Insulating Sheet		6
43	271 0240 006	Transistor 2SA1491(O/P/Y)(Z)	Pair	3
44	273 0389 002	Transistor 2SC3855(O/P/Y)(Z)	Pair	3
45				
◉ 46	412 3427 003	L Bracket		1
◉ 47	412 3315 319	Radiator Bracket(A)		1
48	105 1074 372	Rear Panel		1
49	477 0018 001	Washer(P-87)		1
50	411 1177 200	Shield Chassis		1
51	205 0071 016	Terminal Ass'y		1
52	105 0965 107	Bottom Cover		1
53	104 0194 108	Foot Ass'y		4
54	122 0183 049	Spacer		1
⚠ 55	226 2063 009	AC Cord		1
⚠ 56	445 0056 008	Cord Bush		1
⚠ 57	233 6059 008	Power Trans		1
58	144 2268 522	Front Panel Ass'y		1
59	113 1535 029	Function Knob(B)		1
60	113 1535 061	Function Knob(B)		1
61	113 1465 021	Push Knob(P)		1
62	415 0445 045	Insulating Sheet	80×40×T0.5	1
63	113 1454 207	Tact Knob		2
64	113 1292 252	Push Knob(P)		1
65	002 0047 001	21C FF Cable(UL20624)		1
66	146 9045 207	Blind Sheet		1
67	112 0726 108	VR Knob Ass'y		1
68	112 0685 100	Knob(Round)		3
★ 69	445 8004 007	Wire Clamper		10
70	102 0406 531	Top Cover		1
71	461 9001 043	Rubber Sheet	10×70×T5	2
72	461 0334 052	Rubber Sheet	30×10×T10	1
73	254 4256 790	Chemicon 2200µF/25V	C507	1
74	254 4365 720	Chemicon 12000µF/56V	C509, 510	2
75	254 4259 726	Chemicon 4700µF/35V	C421, 422	2
76	414 0685 006	Shield Cover		1
77	445 0048 003	Cord Holder(L76)		1
78	—	—		
79	—	—		
80	—	—		
◉ 81	412 2955 107	Side Bracket		1
82	—	—		
83	—	—		
84	—	—		
85	477 0224 031	SP Washer		1
86	—	—		
87	—	—		
⚠ 88	415 0546 070	UL Tube(6.3)	160×8.3	1
89	461 0574 074	Rubber Sheet		1

SCREWS

101	473 7015 018	Tapping Screw(S)3x8	Black	31
102	473 7007 000	Tapping Screw(S)4x8	Black	12
103	473 7511 004	F.Tapping Screw(P)3x10		3
104	473 7501 001	Tapping Screw(P)3x10		20
105	473 7002 034	Tapping Screw (S) 3x6	Black	2
106	—	—		
107	473 8007 025	Cup Screw 3x8		4
108	473 8007 009	Cup Screw 3x12		11
109	477 0064 107	Fixing Screw		18
110	477 0263 003	3P. Swelling Screw		6
111	473 7009 011	F.H.Tapping Screw(S)3x10		3

Ref. No.	Part No.	Part Name	Remarks	Q'ty
PACKING AND ACCESSORIES (Not including EXPLODED VIEW)				
201	504 9102 029	Styrene Paper		1
202	505 9102 019	Poly Cover		1
◉ 203	503 0915 306	Cushion Ass'y		1
◉ 204	501 1685 011	Carton Case		1
205	GEN 2284-3	Envelope Sub Ass'y		1S
205-1	505 8006 019	Envelope		1
205-2	511 2512 009	Inst.Manual		1
205-5	—	Battery	R6P/AA	2
206	499 0267 001	Remote Controller	RC-163	1
207	504 0092 060	Stylene Paper	for AC Cord	1
208	513 9111 001	Color Label(Gold)		2

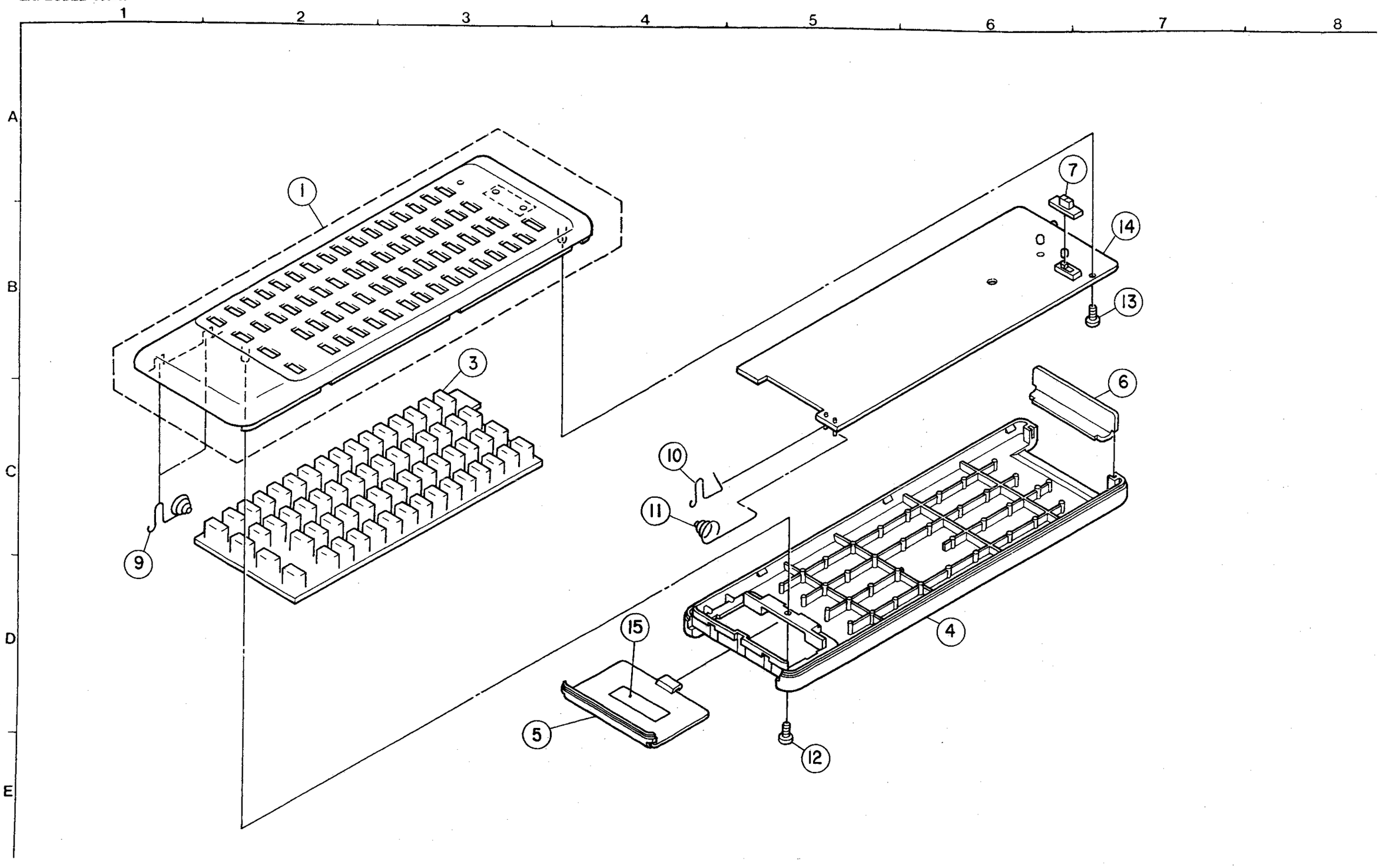
NOTE FOR PARTS LIST

- 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 "l" (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%, 1/6W, 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.

REMOTE CONTROL UNIT
EXPLODED VIEW



REMOTE CONTROL UNIT ASS'Y (RC-163)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC1	9H3 1000 157	IC μPD17203AGC-701	μ-Com
IC2	9H3 1000 158	IC RH5VA20AA	VOL. Detector
TR1	9H3 1000 070	Transistor 2SC3443BF/BG	Chip
or	9H3 1000 070	Transistor 2SC2982B/C	Chip
D1,2	9H3 1000 028	LED TLR124	Visible-Red
D3	9H3 1000 131	LED SE1003-C	Infrared
D5	9H3 1000 087	Diode 1SS281 (1)	
D6	9H3 1000 029	Diode PH310	Photo-PIN
D7	9H3 1000 071	Diode DA119/DA118	Chip
or		Diode 1SS196	
RESISTORS GROUP			
R1,2	247 0006 988	Chip Resistor 560ohm, 1/10W	RM73B--561J
R4	247 0001 909	Chip Resistor 2.2ohm, 1/10W	RM73B--2R2J
R6	247 0005 989	Chip Resistor 220ohm, 1/10W	RM73B--221J
R7	247 0012 927	Chip Resistor 100kohm, 1/10W	RM73B--104J
R8	247 0012 914	Chip Resistor 91kohm, 1/10W	RM73B--913J
R9	247 0009 901	Chip Resistor 4.7kohm, 1/10W	RM73B--472J
R10	247 0012 901	Chip Resistor 82kohm, 1/10W	RM73B--823J
R11	247 0009 969	Chip Resistor 8.2kohm, 1/10W	RM73B--822J
R12	247 0011 902	Chip Resistor 33kohm, 1/10W	RM73B--333J
R13	247 0009 901	Chip Resistor 4.7kohm, 1/10W	RM73B--472J
J7,8	247 0018 905	Chip Resistor 0ohm, 1/10W	RM73B--0R0K
CAPACITORS GROUP			
C1	254 4213 034	Electrolytic 100μF/6.3V	CE04W0J101M
C2	—	Chip Ceramic 0.33μF/25V	CK73F1E334Z
C3	254 4213 021	Electrolytic 47μF/6.3V	CE04W0J470M
C4	257 0014 935	Chip Ceramic 0.1μF/25V	CK73F1E104Z
C5,6	257 0003 946	Chip Ceramic 33PF/50V	CK73SL1H330J
C7	257 0014 935	Chip Ceramic 0.1μF/25V	CK73F1E104Z
C8	257 0004 961	Chip Ceramic 100PF/50V	CC73SL1H101J

OTHER GROUP				Q'ty
	—	(P.W. Board)		(1)
X1	9H3 1000 088	Ceramic Resonator	KBR4.0M503	1
SW1	9H3 1000 089	Slide Switch		1
	—	Port Wrapping		2

PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	9H3 1000 145	Case Top Ass'y		1
2	9H3 1000 148	IR Filter		1
3	9H3 1000 149	Switch Rubber		1
4	9H3 1000 150	Switch Button		1
5	9H3 1000 146	Case Bottom Ass'y		1
6	—	Tapping Screw 2×6		1
7	—	Tapping Screw 2×5		1
8	—	—		
8	9H3 1000 151	Spring Coil		1
9	9H3 1000 152	Spring Coil		1
10	9H3 1000 153	Spring Coil		1
11	9H3 1000 147	Cover Battery		1
13	9H3 1000 125	Poly Cover	100×300	1
14	9H3 1000 156	P.W.Unit Ass'y		1
15	—	Label		1
16	—	Sheet		1

KEY LAYOUT (RC-163)

↑ Transmitting direction (upper side)

K65	K6	K7	K8
K2	K1	K4	K3
K9	K12	K11	K10
K17	K18	K19	K20
K25	K26	K27	K28
K33	K34	K35	K36
K41	K42	K43	K44
K49	K50	K51	K52
K57	K58	K59	K60
K61	K62	K63	K64
K53	K54	K55	K56
K45	K46	K47	K48
K37	K38	K39	K40
K29	K30	K31	K32
K21	K22	K23	K24
K13	K14	K15	K16
K5	K6	K7	K8

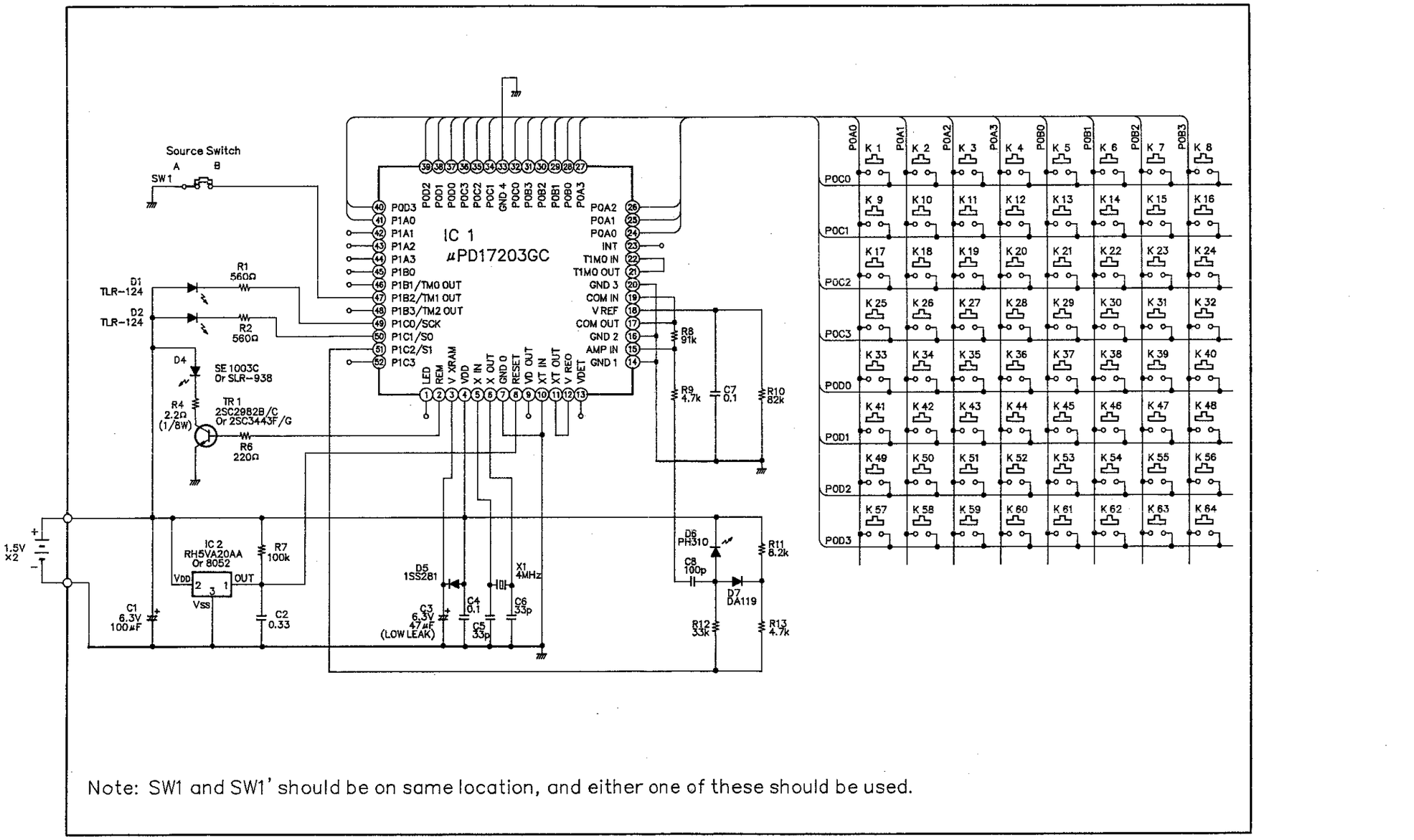
NOTE FOR PARTS LIST

- 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 "l" (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%, 1/6W, 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.

REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM (RC-163)



Note: SW1 and SW1' should be on same location, and either one of these should be used.

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.