

DENON

Hi-Fi AM-FM Stereo Tuner

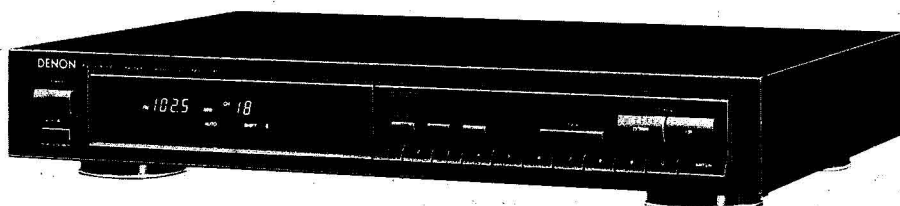
SERVICE MANUAL MODEL TU-460/460L

TU-460

2-BAND (AM-FM) STEREO TUNER

TU-460L

3-BAND (LW-MW-FM) STEREO TUNER



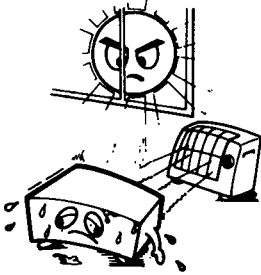
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NIPPON COLUMBIA CO., LTD.

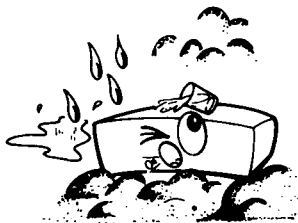
Except U.S.A. and Canada Version

**NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION
NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA**

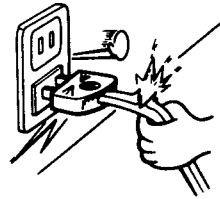


- Be careful of high temperatures.
- Vor hohen Temperaturen schützen.
- Prendre garde aux fortes températures.
- Evitate alte temperature.
- Tenga cuidado de las altas temperaturas.
- Vermijd hoge temperaturen.
- Undvik höga temperaturer.

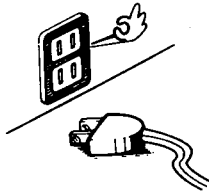
- Installation in a cabinet.
- Aufstellung in einem Schrank oder Regal.
- Installation dans un coffret.
- Installazione in un mobile.
- Instalación en un gabinete.
- Installatie in een rek.
- Installerings i skåp.



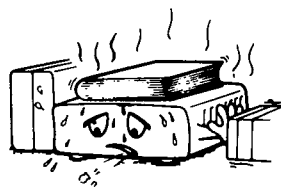
- Humidity, water and dust must be prohibited.
- Vor Feuchtigkeit, Nässe und Staub schützen!
- L'humidité, l'eau et la poussière sont à éviter.
- Evitate ogni contatto con umidità, acqua o polvere.
- Humedad, agua y polvo deben ser evitados.
- Vermijd vochtigheid, water en stof.
- Undvik fukt, vatten och damm.



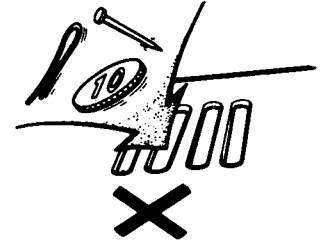
- Be careful with the power supply cord.
- Vorsicht bei der Handhabung des Netzkabels!
- Manipuler le cordon d'alimentation avec soin.
- Maneggiate con curail cavo d'alimentazione.
- Tenga cuidado con el cordón de alimentación.
- Wees voorzichtig met het spanningssnoer.
- Var aktsam om nätsladden.



- Disconnect the power plug during your absence.
- Trennen Sie den Netzstecker während Ihrer Abwesenheit ab.
- Déconnectez la prise d'alimentation pendant votre absence.
- Disinnestate il filo di alimentazione durante la vostra assenza.
- Deconecte la clavija de alimentación durante su ausencia.
- De stekker uit het stopcontact laten tijdens uw afwezigheid.
- Dra stickkontakten ur el-uttaget om du kommer att vara borta hemmaifrån under längre tid.



- Do not place objects on top of the ventilation holes.
- Keine Gegenstände auf bzw. vor die Entlüftungsöffnungen stellen!
- Ne pas placer d'objets sur les orifices de ventilation de l'appareil.
- Non sistemate oggetti sulle aperture di ventilazione.
- No coloque objetos sobre las ranuras de la ventilación.
- Geen voorwerpen boven op de ventilatieopeningen plaatsen.
- Täck inte över ventilationshålen.



- Do not allow foreign matter to get inside the equipment.
- Keine Fremdkörper ins Geräteinnere gelangen lassen!
- Éviter l'entrée de matériaux étrangers dans l'appareil.
- Fate attenzione che oggetti estranei non penetrino all'interno dell'unità.
- No permita que materias extrañas se introduzcan dentro del equipo.
- Laat geen vreemd materiaal in de apparatuur binnendringen.
- Inga främmande föremål i apparaten.



- Be sure to read and follow the instructions before using chemically treated cloth.
- Lesen und folgen Sie in jedem Fall den Anweisungen, bevor Sie ein chemisch behandeltes Tuch anwenden.
- Assurez-vous de lire et suivre les instructions avant d'utiliser un chiffon traité chimiquement.
- Fate attenzione di leggere e seguire le istruzioni prima di usare un panno che è stato preparato con dei prodotti chimici.
- Asegúrese de leer y seguir las siguientes instrucciones antes de usar un paño con tratamiento químico.
- Instrukties lezen en opvolgen alvorens chemisch behandelde doeken te gebruiken.
- Läs och följ anvisningarna noggrant innan en kemiskt behandlad torkduk används.



- Do not open the cabinet.
- Das Gehäuse nicht öffnen!
- Ne pas ouvrir le boîtier.
- Non aprite l'involucro.
- No abra el gabmete.
- De behuizing niet openen.
- Öppna inte apparatens hölje.

● FOR UNITED KINGDOM MODEL ONLY

WARNING:

As the colours of the wires in the mains lead of this appliance 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.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

FÜR DEUTSCHE MODELL NUR

Die Deutsche Bundespost informiert

Sehr geehrter Rundfunkteilnehmer,

Dieses Gerät ist von der Deutschen Bundespost als Ton- bzw. Fernseh-Rundfunkempfänger zugelassen. Es entspricht den zur Zeit geltenden Technischen Vorschriften der Deutschen Bundespost und ist zum Nachweis dafür mit der DBP-Prüfnummer... gekennzeichnet. Bitte überzeugen Sie sich selbst.

Dieses Gerät darf im Rahmen der nachstehend abgedruckten „Allgemeinen Genehmigung für Ton- und Fernseh-Rundfunkempfänger“ in der Bundesrepublik Deutschland betrieben werden. Beachten Sie aber bitte, daß aufgrund dieser Allgemeinen Genehmigung nur Sendungen des Rundfunks empfangen werden dürfen. *) Wer unbefugt andere Sendungen (z.B. des Polizeifunks, des Seefunks, der öffentlichen beweglichen Landfunkdienste) empfängt, verstößt gegen die Genehmigungsaufgaben und macht sich daher nach § 15 Absatz 2a des Gesetzes über Fernmeldeanlagen strafbar.

Die Kennzeichnung mit der DBP-Prüfnummer bietet Ihnen die Gewähr, daß dieses Gerät keine anderen Fernmeldeanlagen einschließlich Funkanlagen stört. Die Zusatzbuchstaben S, SE oder SK bei der DBP-Prüfnummer besagen außerdem, daß das Gerät gegen störende Beeinflussungen durch andere Funkanlagen (z.B. des Amateurfunks, des CB-Funks) weitgehend unempfindlich ist. Sollten ausnahmsweise trotzdem Störungen auftreten, so wenden Sie sich bitte an die örtlich zuständige Funkstörungsmeßstelle.

Allgemeine Genehmigung für Ton- und Fernseh-Rundfunkempfänger

Die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970 (veröffentlicht im Bundesanzeiger Nr. 234 vom 16.12.1970) wird unter Bezug auf Abschnitt III der Genehmigung durch folgende Fassung der Allgemeinen Genehmigung für Ton- und Fernseh-Rundfunkempfänger gemäß den §§ 1 und 2 des Gesetzes über Fernmeldeanlagen ersetzt.

Genehmigung für Ton- und Fernseh-Rundfunkempfänger

- Die Errichtung und der Betrieb von Ton- und Fernseh-Rundfunkempfängern werden nach §§ 1 und 2 des Gesetzes über Fernmeldeanlagen in der Fassung der Bekanntmachung vom 17.3.1977 (BGBl. I, S. 459) allgemein genehmigt.
- Ton- und Fernseh-Rundfunkempfänger im Sinne dieser Genehmigung sind Funkanlagen gemäß § 1 Abs. 1 des Gesetzes über Fernmeldeanlagen, die ausschließlich die für Rundfunkempfänger zugelassenen Frequenzabstimmbereiche**) aufweisen und zum Aufnehmen und gleichzeitigen Hör- oder Sichtbarmachen von Ton- oder Fernseh-Rundfunksendungen bestimmt sind. Zum Empfänger gehören auch eingebaute oder mit ihm fest verbundene Antennen sowie bei Unterteilung in mehrere Geräte die funktionsmäßige zugehörigen Geräte. Außer für den Empfang von Rundfunksendungen dürfen Ton- und Fernseh-Rundfunkempfänger nur mit besonderer Genehmigung der Deutschen Bundespost für andere Fernmeldezwecke zusätzlich benutzt werden. In den Empfängern eingebaute oder sonst mit ihm verbundene Zusatzgeräte (z.B. Ultraschallfernmeldeanlagen, Infrarotfernmeldeanlagen) werden von dieser Genehmigung nicht erfaßt (ausgenommen die Einrichtungen zum Empfang des Verkehrsfunks). Desgleichen sind andere technische Empfängerereigenschaften, die über den eigentlichen Zweck eines Rundfunkempfängers hinausgehen (z.B. zum Empfang anderer Funkdienste, für die Weitergabe im Rahmen von Textübertragungsverfahren) hierdurch nicht genehmigt. Hierfür gelten besondere Regelungen.

II.

Diese Genehmigung wird unter nachstehenden Auflagen erteilt.

- Ton- und Fernseh-Rundfunkempfänger müssen den jeweils geltenden Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger entsprechen. Eingebaute Zusatzgeräte müssen den für sie geltenden Bestimmungen und technischen Vorschriften genügen. Änderungen der Technischen Vorschriften, die im Amtsblatt des Bundesministers für das Post- und Fernmeldewesen veröffentlicht werden, muß bei schon errichteten und in Betrieb genommenen Ton- und Fernseh-Rundfunkempfängern nachgekommen werden, wenn durch den Betrieb dieser Rundfunkempfänger andere elektrische Anlagen gestört werden. Serienmäßig hergestellte Ton- und Fernseh-Rundfunkempfänger müssen zum Nachweis dafür, daß sie den Technischen Vorschriften entsprechen, mit einer DBP-Prüfnummer gekennzeichnet sein.**) Die DBP-Prüfnummer sagt über die elektrische und mechanische Sicherheit und die Einhaltung der Strahlenschutzbestimmungen nichts aus.

- Ton- und Fernseh-Rundfunkempfänger dürfen an ortsfesten oder nichtortsfesten Rundfunk-Empfangsantennenanlagen, -Verteilanlagen oder Kabelfernsehanlagen betrieben und im Rahmen der Bestimmungen über private Drahtfernmeldeanlagen mit Drahtfernmeldeanlagen verbunden werden. Auf demselben Grundstück oder innerhalb eines Fahrzeuges dürfen Ton- und Fernseh-Rundfunkempfänger mit anderen Geräten oder sonstigen Gegenständen (z.B. Plattenspieler, Magnetlaufzeichnungs- und -Wiedergabegeräte, Antennen) verbunden werden, sofern diese Geräte von der Deutschen Bundespost genehmigt sind oder keiner Genehmigung bedürfen. Die räumliche Kombination von Funkanlagen mit Ton- oder Fernseh-Rundfunkempfängern ist nur dann zulässig, wenn die betreffenden Funkanlagen je für sich genehmigt sind.
- Mit Ton- oder Fernseh-Rundfunkempfängern dürfen aufgrund dieser Genehmigung nur Sendungen des Rundfunks empfangen werden, also übertragene Tonsignale (Musik, Sprache) und Fernsehsignale (nur Bildinformationen). Andere Sendungen (z.B. des Polizeifunks, der öffentlichen beweglichen Landfunkdienste, Datenübertragungen) dürfen nicht aufgenommen werden, werden sie jedoch unbeabsichtigt empfangen, so dürfen sie weder aufgezeichnet, noch anderen mitgeteilt, noch für irgendwelche Zwecke ausgewertet werden. Das Vorhandensein solcher Sendungen darf auch nicht anderen zur Kenntnis gebracht werden.
- Durch Ton- oder Fernseh-Rundfunkempfänger darf der Betrieb anderer elektrischer Anlagen nicht gestört werden.
- Änderungen der Ton- oder Fernseh-Rundfunkempfänger, die die zulässigen Frequenzabstimmbereiche der Empfänger erweitern, gehen über den Umfang dieser Genehmigung hinaus und bedürfen vor ihrer Ausführung einer besonderen Genehmigung der Deutschen Bundespost. Wer aufgrund dieser Genehmigung einen Ton- oder Fernseh-Rundfunkempfänger betreibt, hat bei einer Änderung der kennzeichnenden Merkmale von Ton- oder Fernseh-Rundfunksendern (insbesondere bei Änderung des Senderverfahrens oder bei Frequenzwechsell) die ggf. notwendig werdenden Änderungen an den Rundfunkempfängern auf seine Kosten vornehmen zu lassen.
- Die Deutsche Bundespost ist berechtigt, Rundfunkempfänger und mit ihnen verbundene Geräte darauf zu prüfen, ob die Auflagen der Genehmigung und die Technischen Vorschriften eingehalten werden. Den Beauftragten der Deutschen Bundespost ist das Betreten der Grundstücke oder Räume, in denen sich Ton- oder Fernseh-Rundfunkempfänger befinden, zu den verkehrsüblichen Zeiten zu gestatten. Befinden sich die Rundfunkempfänger oder mit ihnen verbundene Geräte nicht im Verfügungsbereich desjenigen, der die Empfänger betreibt, so hat er den Beauftragten der Deutschen Bundespost Zutritt zu diesen Teilen zu ermöglichen.

III.

Bei Funkstörungen die nicht durch Mängel der Rundfunkempfänger oder der mit ihnen verbundenen Geräte verursacht werden, können die Funkmeßdienste der Deutschen Bundespost zur Feststellung der Störung in Anspruch genommen werden.

IV.

- Diese Genehmigung kann allgemein oder durch die örtlich zuständige Oberpostdirektion einem einzelnen Betreiber gegenüber für einen bestimmten Rundfunkempfänger widerrufen werden. Ein Widerruf ist insbesondere zulässig, wenn die unter Abschnitt II aufgeführten Auflagen nicht erfüllt werden. Anstatt die Genehmigung zu widerrufen, kann die Deutsche Bundespost anordnen, daß bei einem Verstoß gegen eine Auflage ein Ton- oder Fernseh-Rundfunkempfänger außer Betrieb zu setzen ist und erst bei Einhaltung der Auflagen wieder betrieben werden darf. Die Auflagen dieser Genehmigung können jederzeit ergänzt oder geändert werden.
- Diese Genehmigung ersetzt die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970, sie gilt ab 1.7.1979.

Bonn, den 14.5.1979

Der Bundesminister
für das Post- und Fernmeldewesen
Im Auftrag
Haist

*) Zum Empfang anderer Sendungen darf dieses Gerät nur mit Genehmigung der Deutschen Bundespost benutzt werden. Allgemein genehmigt ist zur Zeit der Empfang der Aussendungen von Amateurfunkstellen und der Normalfrequenz- und Zeitzeichensendungen.

**) Siehe Technische Vorschriften für Ton- und Fernseh-Rundfunkempfänger, veröffentlicht im Amtsblatt des Bundesministers für das Post- und Fernmeldewesen.

***) Für ausnahmsweise noch nicht gekennzeichnete, vor dem 1.7.1979 errichtete und in Betrieb genommene Ton-Rundfunkempfänger wird die Kennzeichnung nicht verlangt.

**CONNECTIONS
ANSCHLUSS
CONNEXION**

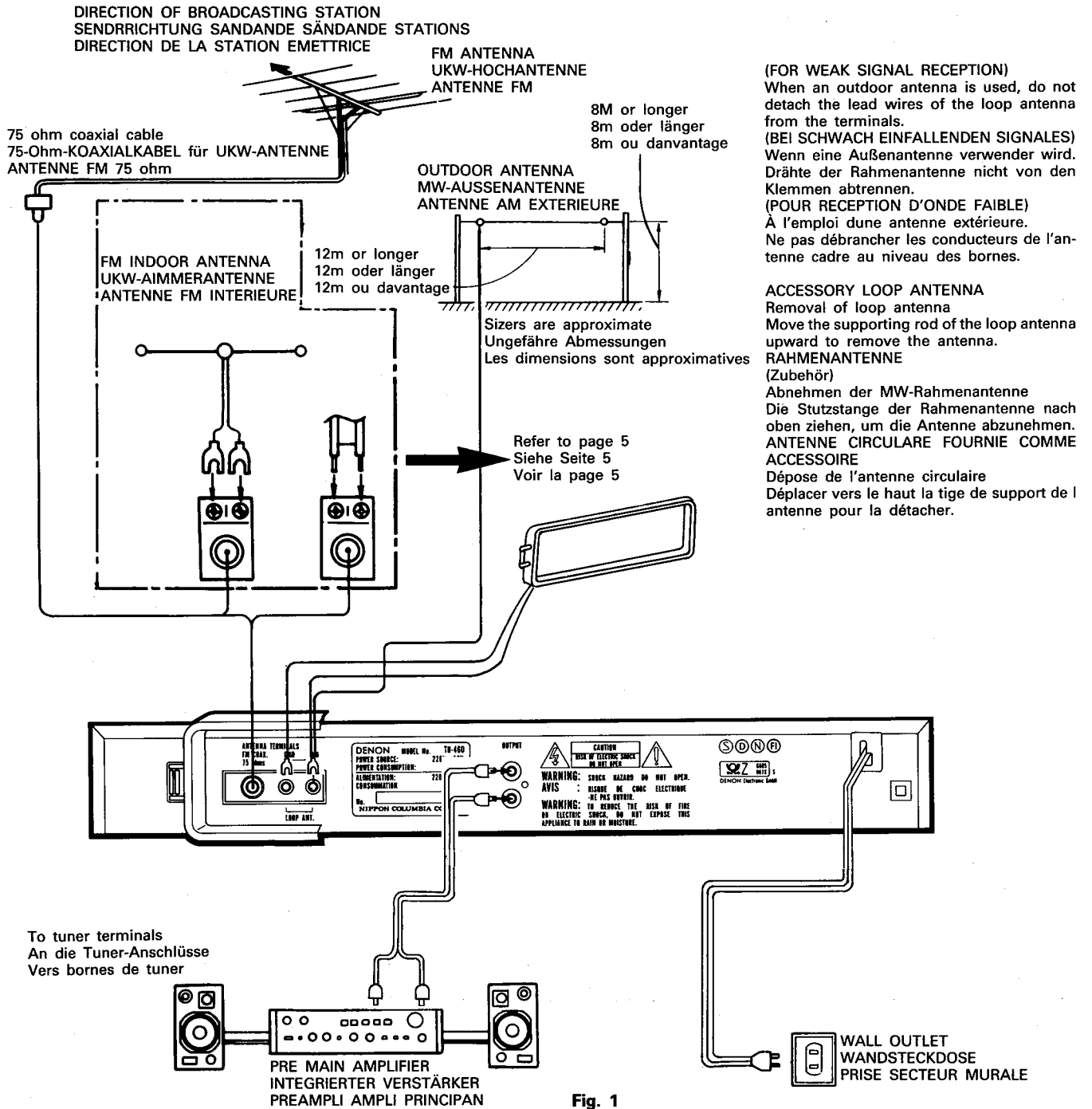
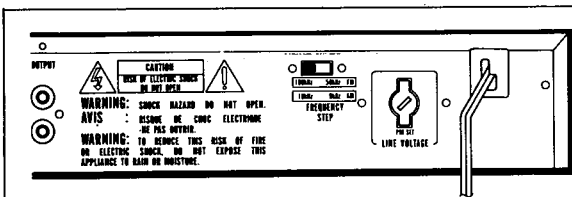


Fig. 1
Abb. 1

• **MULTI-VOLTAGE MODEL ONLY**



Setting the line voltage

- The customer can set the VOLTAGE SELECTOR KNOB on the back panel for appropriate line voltage by using a screwdriver.
- Do not use excessive force in setting the VOLTAGE SELECTOR KNOB – you may damage it.
- If the VOLTAGE SELECTOR KNOB does not turn smoothly, call qualified service personnel.

● ANTENNA INSTALLATION
 ● ANTENNEN
 ● MISE EN PLACE D'UNE ANTENNE

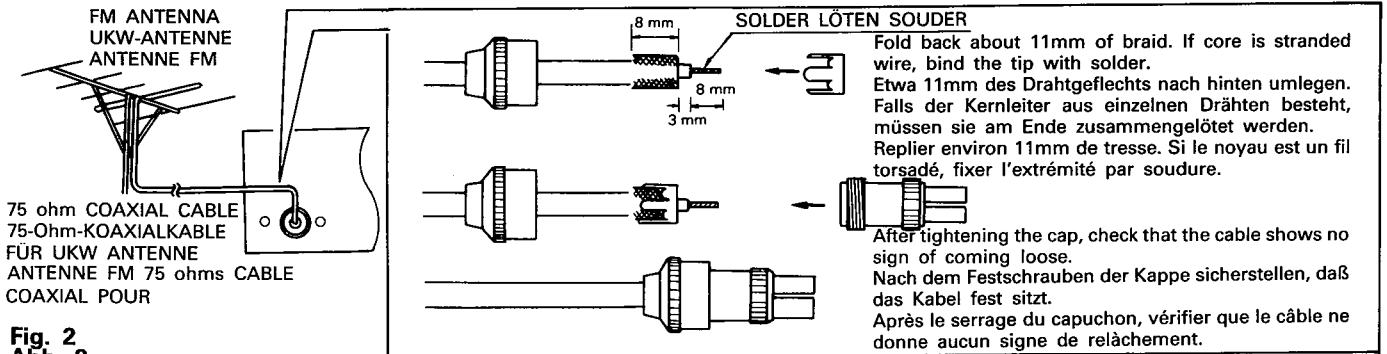


Fig. 2
Abb. 2

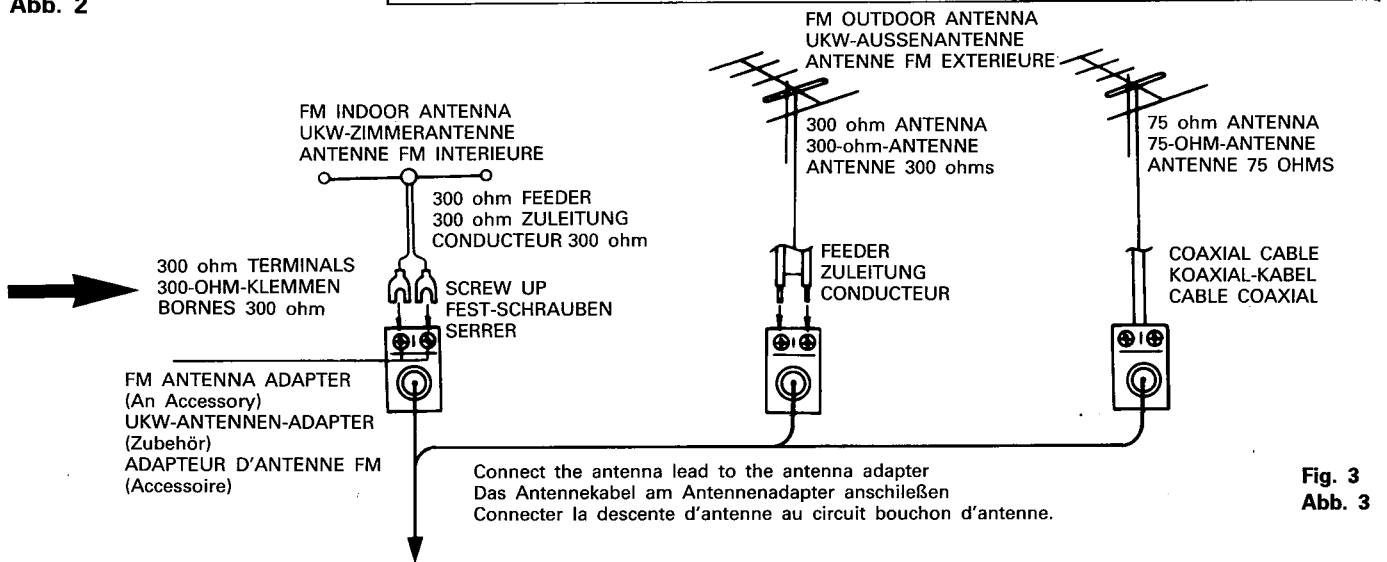
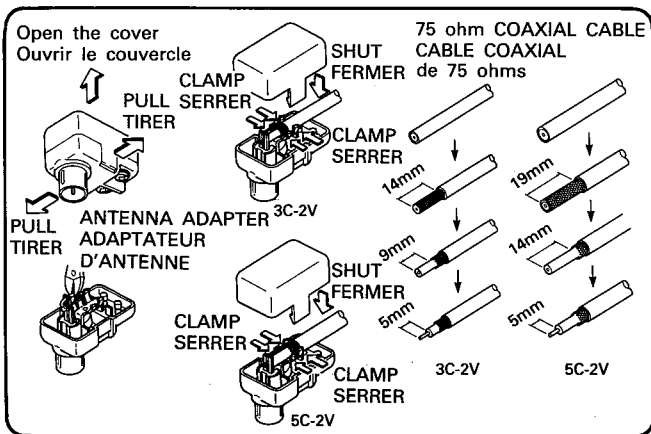
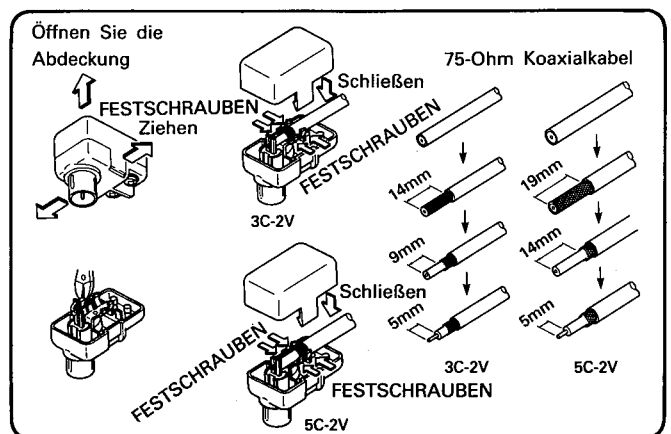


Fig. 3
Abb. 3



For English Readers/Pour les lecteurs (Français)



Für Deutsche Leser

Note:

- Please keep away AM loop antenna lead terminals from the metal parts of the back panel.

Bitte beachten:

- Die Anschlüsse der MW/KW/LW-Wurfantenne (AM) dürfen die Metallteile der Geräte-Rückseite nicht berühren.

Remarque:

- Eloigner les bornes de l'antenne en boucle AM de toute partie métallique du panneau arrière.

FRONT PANEL

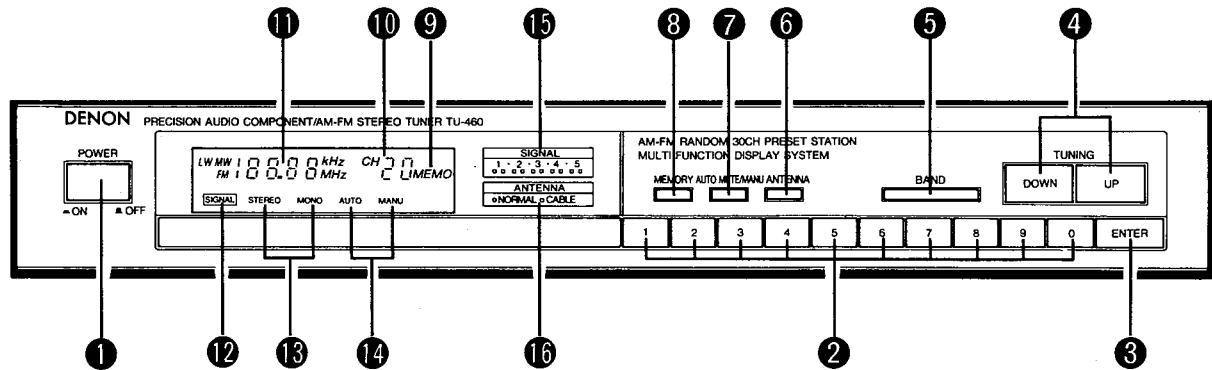
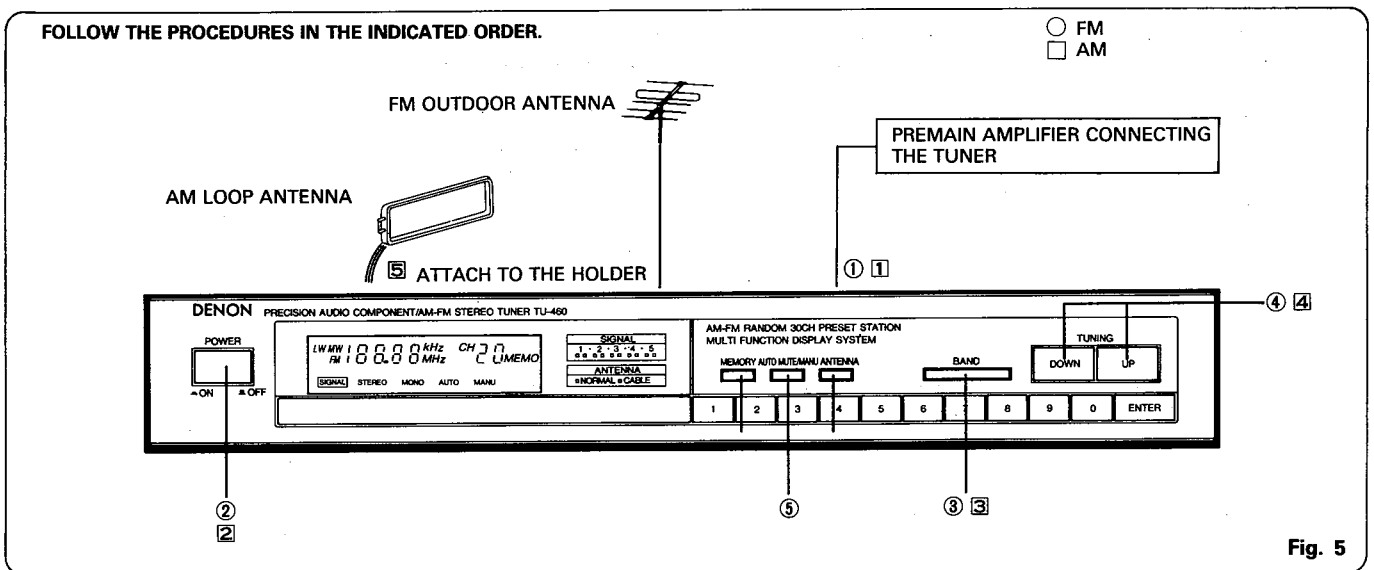


Fig. 4

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

- 1 POWER (Power ON/OFF Switch)**
The unit works 2-3 seconds after this switch is turned on.
- 2 TEN KEYS (Ten Key Buttons)**
Used to specify numbers for Memory, Auto Memory and Preset Call. Channels 1-30 can be specified using these buttons.
Preset Call Setting Method
A station that has already been preset can be fetched by the following method.
Pressing **1**, **2**, **ENTER** in order fetches the station present in memory for channel 12.
- 3 ENTER (Enter Button)**
Used for setting Memory, and preset Call.
- 4 TUNING (Tuning Buttons)**
Used to change the received frequency to a higher frequency (UP) or a lower frequency (DOWN).
- 5 BAND (Band Button)**
Selects between FM or AM.
TU-460L: Pressing this button changes the tuner from FM to MW to LW, then back to FM, in that order.
- 6 ANTENNA (Antenna Switching Button)**
Use this button to switch the antenna to receive a cable station or a regular station.
The antenna modes can be stored in the memory.
- 7 AUTO MUTE/MANU (Tuning Mode Button)**
This switches between auto and manual tuning.
Auto tuning: When the UP key is pressed, the radio is tuned automatically to a higher frequency. Press the DOWN key to tune to a lower frequency. Use this position to eliminate noise when no signals or weak signals are being received.
Manual tuning: In this position, the radio can be tuned manually.
TU-460L: Not available in this model, during reception of LW only.
- 8 MEMORY (Memory Button)**
Used to store the frequency of the station currently received.
Pressing **MEMORY**, **1**, **2**, **ENTER** in order stores the station on channel 12 in memory. Up to 30 channels of either FM or AM can be stored in memory.
- 9 MEMORY (Memory Indicator)**
This indicator lights when the MEMORY button **8** is pressed.
- 10 CHANNEL (Channel Indicator)**
This displays the number of the channel at which the station is stored.
- 11 DIGITAL FREQUENCY INDICATOR**
Reception frequencies are digitally indicated with numbers. The FM frequency unit is MHz; the AM frequency unit is kHz.
- 12 SIGNAL (Signal Indicator)**
This lights when a station can be received.
- 13 STEREO/MONO (Stereo/Mono Indicator)**
"STEREO" lights automatically when receiving a stereo broadcast.
"MONO" lights when receiving a monaural broadcast or no broadcast at all.
- 14 TUNING MODE (AUTO/MANUAL)**
Pressing MODE **7** causes "AUTO" and "MANUAL" to light up alternately.
TU-460L: Pressing this button does not switch the tuner to Auto Tuning Mode, during reception of LW only.
- 15 SIGNAL (Signal-Strength Indicators)**
The number of LEDs that light increases in correspondence with the strength of the signal being picked up by the antenna.
- 16 ANTENNA (Antenna Indicator)**
The "NORMAL" or "CABLE" LED lights to indicate whether in the normal or cable mode (controlled by key **6**).



OPERATION INSTRUCTIONS

PREPARATION

CHECKING CONNECTIONS

- Check all the connections by referring to connection diagram (Fig. 1).
 - Check that the right (R) and left (L) channels of the speakers are connected to the corresponding right (R) and left (L) plugs, and check that polarities (positive and negative) are correctly matched.
 - Check that the right (R) and left (L) pins are correctly inserted to the corresponding jacks.
 - Check that all the cords are firmly connected.
- * Turn on the power with the POWER switch after checking all the connections.

CHECKING ANTENNA

1. Do not incorrectly connect the loop antenna. If you are not sure how to connect the loop antenna, refer to Fig. 1
2. Use of loop antenna: Keep the loop antenna away from the main body.; If the antenna contacts a metal body, reception sensitivity is degraded, thus resulting in unclear reproduction.

Multi-voltage model only

Setting the frequency step

Set the FREQUENCY STEP switch as described below.

- In the U.S.A. and Canada – set the switch to 100 kHz/10 kHz side.
With this setting, the frequency varies in 100 kHz steps in the range of 87.5 to 108.0 MHz (FM) and in 10 kHz steps in 520 to 1710 kHz (AM).
- Elsewhere – set the switch to 50 kHz/9 kHz side.
With this setting, the frequency varies in 50 kHz steps in the range of 87.50 to 108.00 MHz (FM) and in 9 kHz steps (AM) in 522 to 1611 kHz (AM).

CAUTION

1. Noise may be generated if a near-by television set is on during AM broadcasting reception. The tuner should be used as far away from a television as possible.
2. Effective period of memory back-up is about a month under normal temperature. If the memorized stations cannot be called back, preset the stations again.

Technical Data (typical value)	Technische Daten (typische Werte)	Caractéristiques techniques (valeur caractéristique)	
●FM SECTION Frequency Range Antenna Terminals Usable Sensitivity S/N 50 dB Sensitivity Monaural Stereo (μV is at 75 ohm) (0 dBf = 10^{-15}W) [New IHF Standard] Image Interference Ratio IF Interference Ratio AM Suppression Ratio Effective Selectivity Capture Ratio Frequency Characteristics Signal-to-noise Ratio Monaural Stereo Total Harmonic Distortion Mono 1 kHz (at 75 kHz dev.) Stereo 1 kHz (at 67.5 kHz dev.) Stereo Separation 1 kHz	●UKW-EMPFANGSTEIL Abstimmbereich Antennenklemmen Nutzbare Empfindlichkeit (DIN) Empfindlichkeit bei 50 dB Störabstand Mono Stereo (Gemessen bei 75 Ohm) (0 dBf = 10^{-15}W) [Nach neuem IHF-Standard] Spiegelfrequenzdämpfung ZF-Unterdrückung AM-Unterdrückung Effektive Selektivität Gleichwellenselektion Frequenzgang Geräuschspannungsabstand Mono Stereo Klirrfaktor Mono 1 kHz (bei 75 kHz Hub) Stereo 1 kHz (bei 67,5 kHz Hub) Kanaltrennung 1 kHz	●SECTION FM Plage de fréquence Bornes d'Antenne Sensibilité Pratique Sensibilité S/B à 50 dB Mono Estéréo (μV à 75 ohms) (0 dBf = 10^{-15}W) [Nouveau Standard IHF] Rapport d'Interférence Image Rapport d'Interférence IF Rapport de Suppression AM Sélectivité Effective Rapport de Captage Caractéristique de Fréquence Rapport de Signal-à Bruit Mono Stéréo Distorsion Harmonique Table Mono 1 kHz (2a unedév, de 75 kHz) Stéréo 1 kHz (à une dév. des 67,5 kHz) Séparation Stéréo 1 kHz	87.5 MHz~108.0 MHz 75 ohm Unbalanced 0.8 μV (9.3 dBf) (DIN) 1.0 μV (11.2 dBf) (IHF) 1.7 μV (15.9 dBf) 23 μV (38.5 dBf) 65 dB 80 dB 50 dB 75 dB (± 400 kHz) 1.5 dB 20 Hz ~ 15 kHz ± 0.5 dB DIN 77 dB, 82 dB DIN 73 dB, 78 dB (IHF-A) 0.3% 0.7%, 0.2% (DIN) 40 dB
●AM SECTION (MW and LW) MEDIUM WAVE Frequency Range Antenna Terminals Usable Sensitivity Signal-to-noise Ratio LONG WAVE Frequency Range Usable Sensitivity Signal-to-noise Ratio	●EM-EMPFANGSTEIL MW-EMPFANGSTEIL Abstimmbereich Antennenklemme Nutzbare Empfindlichkeit Geräuschspannungsabstand LW-EMPFANGSTEIL Abstimmbereich Nutzbare Empfindlichkeit Geräuschspannungsabstand	●SECTION AM PETITES ONDES Plage de fréquence Bornes d'Antenne Sensibilité Utilisable Rapport de signal-à-Bruit GRANDES ONDES Plage de fréquence Sensibilité Utilisable Rapporte de Signal-à-Bruit	522 kHz ~ 1611 kHz (For Europe) 520 kHz ~ 1710 kHz (For U.S.A., Canada) Terminal Type with Loop Ant. 18 μV 53 dB 153 kHz ~ 281 kHz 30 μV 50 dB
●OTHERS Power Supply Power Consumption Dimensions (W)×(H)×(D) Net Weight	●SONTIGENS Netzspannung und frequenz Leistung saufnahme Abmessungen (L)×(H)×(T) Nettogewicht	●AUTRES Alimentation Puissance absorbée Dimensions (L)×(H)×(D) Poids	AC 220V or 240V 50 Hz, AC 120V 60 Hz AC 110/120/220/240V 50/60 Hz (Multiple) 12 W 434 (17-3/32")(W) × 73 (2-7/8")(H) × 287 (11-19/64") mm 3.1 kg (6 lbs 13 oz)

- Specifications and contents are subject to change without notice for purposes of improvement.
- Änderungen des Inhalts und der technischen Daten zum Zwecke der Verbesserung vorbehalten.
- Spécifications et contenu sont sujets à modification sans préavis.

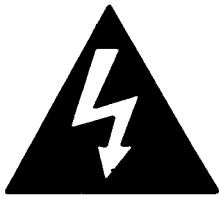
U.S.A. and Canada Version

ADVICE FOR USE

- Do not place the set in direct sunlight, in hot areas such as near heating equipment, with high humidity or dust levels. This may cause damage to the unit.
- Check that all parts are connected correctly before turning on the power source.
- When user is absent for long periods, be sure to remove plug from wall socket.
- Do not use insecticide, benzene or thinner near the unit, or the cabinet color will fade. Avoid using polish: use a soft cloth (e.g. silicon cloth).
- It is not recommended to place players, decks and other objects on the this appliance so that the ventilation openings are blocked.
This will cause internal temperature rise and equipment failure. Do not use this appliance in a closed cabinet or container. This will cause internal temperature rise abnormally.

Technical Data (typical value)	Caractéristiques techniques (valeur caractéristiques)	
<ul style="list-style-type: none"> • FM SECTION Frequency Range Antenna Terminals Usable Sensitivity S/N 50 dB Sensitivity Stereo Monaural μV at 75 ohm 0 dBf=10^{-15} W Signal-to-noise Ratio (A-Weighted) Monaural Stereo Total Harmonic Distortion Mono 1 kHz (at 75 kHz dev.) Stereo 1 kHz (at 67.5 kHz dev.) Capture Ratio AM Suppression Ratio Image Interference Ratio IF Interference Ratio Effective Selectivity Frequency Characteristics Stereo Separation 1 kHz • AM SECTION Frequency Range Antenna Terminals Usable Sensitivity Signal-to-noise Ratio • OTHERS Large Fluorescent Indicator Power Supply Power Consumption Dimensions (W)×(H)×(D) Net Weight 	<ul style="list-style-type: none"> • SECTION FM Plage de fréquence Bornes d'Antenne Sensibilité Pratique Sensibilité S/B à 50 dB Stéréo Mono μV à 75 ohms 0 dBf=10^{-15} W Rapport de Signal-à Bruit (A pondéré) Mono Stéréo Distortion Harmonique Table Mono 1 kHz (2a unedév, de 75 kHz) Stéréo 1 kHz (à une dév. des 67.5 kHz) Rapport de Captage Rapport de Suppression AM Rapport d'Interférence Image Rapport d'Interférence IF Sélectivité Effective Caractéristiques de Fréquence Séparation Stérééo 1 kHz • SECTION AM Plage de fréquence Bornes d'Antenne Sensibilité Utilisable Rapport designal-à-Bruit • AUTRES Indicateur fluorescent de grandes dimensions Alimentation Puissance absorbée Dimensions (W)×(H)×(D) Poids 	<p>87.5 MHz~108.0 MHz 75 ohm Unbalanced 0.9 μV (10.3 dBf)</p> <p>23 μV (38.5 dBf) 1.6 μV (15.3 dBf)</p> <p>82 dB 78 dB</p> <p>0.08% 0.15%</p> <p>1.5 dB 50 dB 45 dB 85 dB 50 dB (± 400 kHz) 20 Hz~15 kHz $^{+0.5}_{-1.5}$ dB 45 dB</p> <p>520 kHz~1710 kHz Terminal Type with Loop Ant. 18 μV 53 dB</p> <p>AC 120V 60 Hz 12W 434(W)×73(H)×287(D)mm (17-3/32"×2-7/8"×11-19/64") 3.1 kg (6 lbs 13 oz)</p>

Design and Specifications are subject to change without prior notice.
Conception et Spécifications sujettes à modifications sans préavis.



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.


CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION

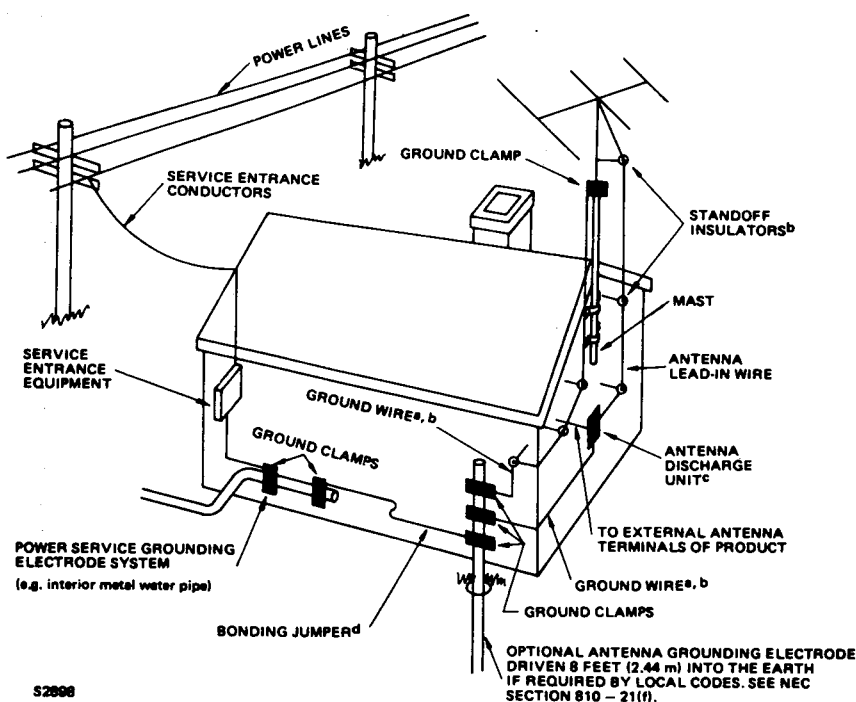
POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

SAFETY INSTRUCTIONS

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.
 - 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
 
7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Grounding or Polarization** – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Protective Attachment Plug** – The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.
14. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.
15. **Power Lines** – An outdoor antenna should be located away from power lines.
16. **Outdoor Antenna Grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
17. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
20. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING ACCORDING
TO NATIONAL ELECTRICAL CODE INSTRUCTIONS
CONTAINED IN ARTICLE 810 – "RADIO AND
TELEVISION EQUIPMENT"



a Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as a ground wire.

b Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

c Mount antenna discharge unit as close as possible to where lead-in enters house.

d Use jumper wire not smaller than No. 6 AWG (13.3 mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).

**CONNECTIONS
CONNEXION**

DIRECTION OF
BROADCASTING STATION
DIRECTION DE LA STATION
EMETTEUR

USA MODEL ONLY

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FM ANTENNA
ANTENNE FM

8m or longer
8m ou davantage

OUTDOOR ANTENNA
ANTENNE AM EXTERIEURE

FM INDOOR ANTENNA
ANTENNE FM INTERIEURE
(Accessoire)

12m or longer
12m ou davantage

300 ohm

FEEDER
FEEDER

300 ohm
TERMINALS
FM ANTENNA
ADAPTER
(An Accessory)
ADAPTER
D'ANTENNE FM
(Accessoire)

SCREW UP
SERRER

sizes are approximate
Les dimensions sont approximatives

(FOR WEAK SIGNAL RECEPTION)

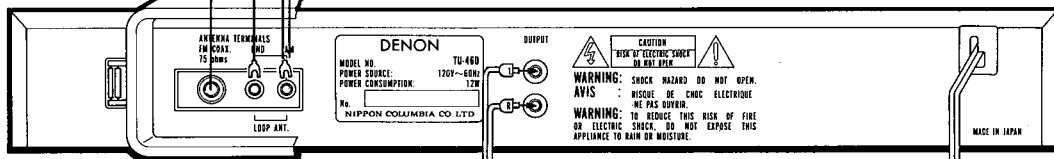
When an outdoor antenna is used, do not detach the lead wires of the loop antenna from the terminals.
(POUR RECEPTION D'ONDE FAIBLE)
Lorsqu'une antenne extérieure est utilisée, ne pas détacher les fils de l'antenne en boucle de ses bornes.

ACCESSORY LOOP ANTENNA

Removal of loop antenna
Move the supporting rod of the loop antenna upward to remove the antenna.

ANTENNE CIRCULAIRE FOURNIE COMME ACCESSOIRE

Dépose de l'antenne circulaire. Déplacer vers le haut la tige de support de l'antenne pour la détacher.



To "tuner" terminals
Vers les borners de "tuner"

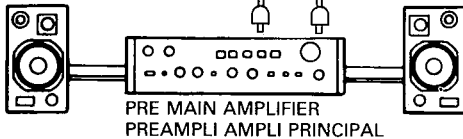


Fig. 1

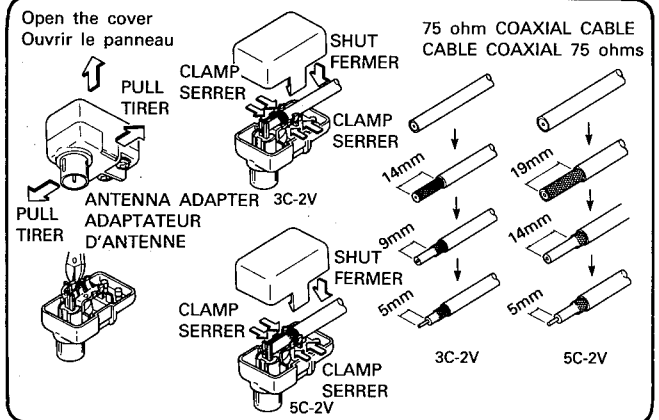
WALL OUTLET
PRISE SECTEUR MURALE

POWER OUTLET OF AMPLIFIER
PRISE SECTEUR DU PREAMPLI
AMPLI PRINCIPAL

75 ohm Coaxial Terminal • Borne coaxiale 75 ohms

- Cut off the shield and remove the core wire insulation. Couper le fil blindé et retirer l'isolant du fil de noyau.
- If the core wire is stranded, solder it. Si le fil de noyau est torsadé, le souder.
- Spread out the shield wire with the ring and install the connector. Etaler le fil blindé avec l'anneau et installer le connecteur.
- Core Wire Insulation / Isolant de fil de noyau

- Cut off the excess shield wire. Couper le fil blindé en excès.
- Ring / Anneau
- Tighten the ring / Serrer l'anneau.
- Cut off the excess core wire. Couper le fil de noyau en excès.



**FRONT PANEL
PANNEAU AVANT**

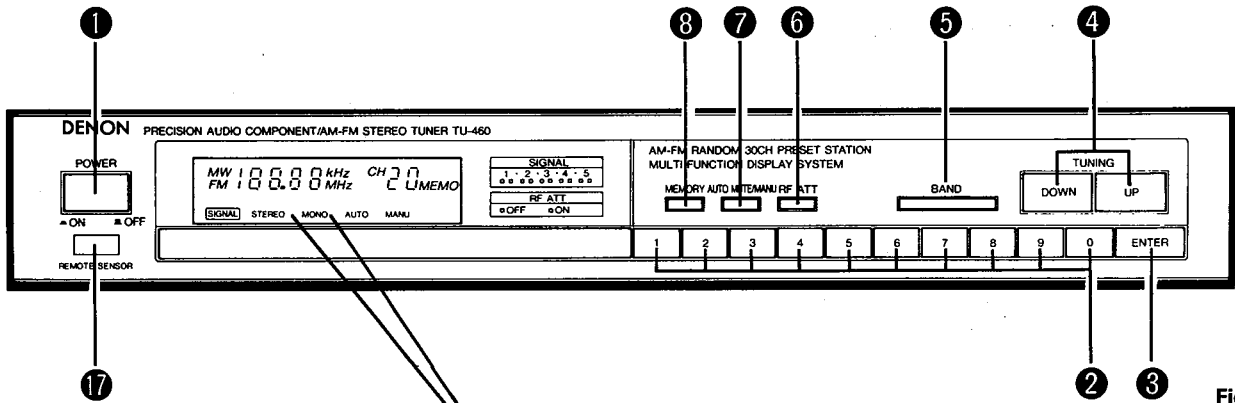


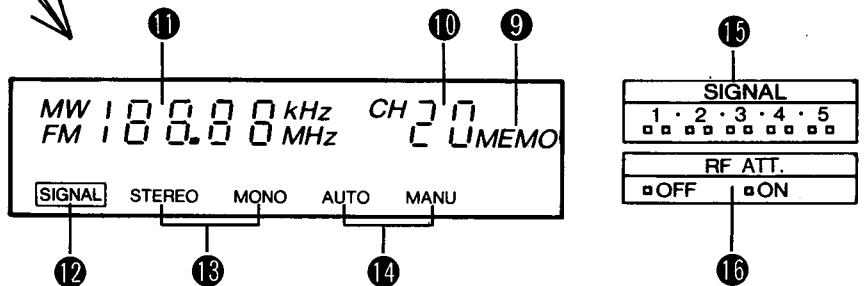
Fig. 2

Note:

- Please keep away AM Loop antenna lead terminals from the metal parts of the back panel

Note:

- Éloigner les bornes de l'antenne en boucle AM de toute partie métallique du panneau arrière.



**FOLLOW THE PROCEDURES IN THE INDICATED ORDER.
SUIVRE LES DEMARCHES DANS L'ORDRE INDIQUE.**

FM
 AM

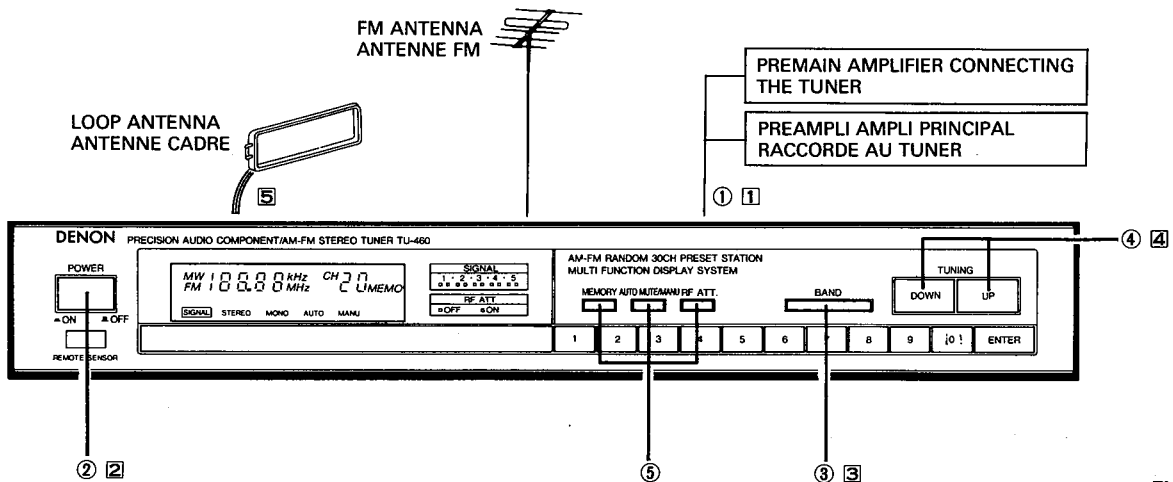


Fig. 3

CAUTION:

1. Noise may be generated if a near-by television set is on during AM broadcasting reception. The tuner should be used as far away from a television as possible.
2. Effective period of memory back-up is about a month under normal temperature. If the memorized stations cannot be called back, preset the stations again.

PRECAUTION:

1. Il y aura des bruits si un téléviseur situé à proximité est allumé lors de la réception d'émissions AM. Le tuner devrait être utilisé le plus loin possible d'un téléviseur.
2. La période effective de référence en mémoire est d'environ un mois dans les conditions de température normale. Si les stations mises en mémoire ne peuvent pas être captées, recommencer le pré-réglage.

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

- 1 POWER (Power ON/OFF Switch)**
The unit works 2-3 seconds after this switch is turned on.
- 2 TEN KEYS (Ten Key Buttons)**
Used to specify numbers for Memory and Preset Call. Channels 1-30 can be specified using these buttons.
Preset Call Setting Method
A station that has already been preset can be fetched by the following method.
Pressing **1**, **2**, **ENTER** in order fetches the station present in memory for channel 12.
- 3 ENTER (Enter Button)**
Used for setting Memory and Preset Call.
- 4 TUNING (Tuning Buttons)**
Used to change the received frequency to a higher frequency (UP) or a lower frequency (DOWN).
- 5 BAND (Band Button)**
Selects between FM or AM.
- 6 RF ATT. (RF Attenuator)**
This turns the antenna's attenuator on and off.
For clear reception, turn the attenuator off when signals are weak, on when signals are strong. The RF attenuator mode (on or off) can be stored in the memory.
- 7 AUTO MUTE/MANU (Tuning mode Button)**
This switches between auto and manual tuning.
Auto tuning: When the UP key is pressed, the radio is tuned automatically to a higher frequency. Press the DOWN key to tune to a lower frequency. Use this position to eliminate noise when no signals or weak signals are being received.
Manual tuning: In this position, the radio can be tuned manually.
- 8 MEMORY (Memory Button)**
Used to store the frequency of the station currently received.
Pressing **MEMORY**, **1**, **2**, **ENTER** in order stores the station on channel 12 in memory. Up to 30 channels of either FM or AM can be stored in memory.
- 9 MEMORY (Memory Indicator)**
This indicator lights when the MEMORY button **8** is pressed.
- 10 CHANNEL (Channel Indicator)**
This displays the number of the channel at which the station is stored.
- 11 DIGITAL FREQUENCY INDICATOR**
Reception frequencies are digitally indicated with numbers. The FM frequency unit is MHz; the AM frequency unit is kHz.
- 12 SIGNAL (Signal Indicator)**
This lights when a station can be received.
- 13 STEREO/MONO (Stereo/Mono Indicator)**
"STEREO" lights automatically when receiving a stereo broadcast.
"MONO" lights when receiving a monaural broadcast or no broadcast at all.
- 14 TUNING MODE (AUTO/MANUAL)**
Pressing MODE **7** causes "AUTO" and "MANUAL" to light up alternately.
- 15 SIGNAL (Signal-Strength Indicators)**
The number of LEDs that light increases in correspondence with the strength of the signal being picked up by the antenna.
- 16 RF ATT. (RF Attenuator Indicator)**
The "OFF" or "ON" LED lights to indicate whether the attenuator is on or off (controlled by key **6**).
- 17 REMOTE SENSOR (Remote Control Photosensitive Window)**
This sensor receives the infrared light transmitted from the wireless remote control unit.
When operating the wireless remote control unit, point it towards this sensor.
The wireless remote control unit included with the DENON AVC-2000, AVC-700 or DAP-2500 can be used to switch the preset channels up or down.

OPERATION INSTRUCTIONS

PREPARATION

CHECKING CONNECTIONS

- Check all the connections by referring to connection diagram (Fig. 1).
- Check that the right (R) and left (L) channels of the speakers are connected to the corresponding right (R) and left (L) plugs, and check that polarities (positive and negative) are correctly matched.
- Check that the right (R) and left (L) pins are correctly inserted to the corresponding jacks.
- Check that all the cords are firmly connected.
 - * Turn on the power with the POWER switch after checking all the connections.

CHECKING ANTENNA

1. Do not incorrectly connect the loop antenna. If you are not sure how to connect the loop antenna, refer to Fig. 1.
2. Use of loop antenna: Keep the loop antenna away from the main body.; If the antenna contacts a metal body, reception sensitivity is degraded, thus resulting in unclear reproduction.

FRANCAIS

DESIGNATIONS ET FONCTIONS DES ELEMENTS DU PANNEAU DE COMMANDE

- 1 POWER (Interrupteur d'alimentation)**
Cet appareil commence à fonctionner 2 à 3 secondes après sa mise sous tension.
- 2 TEN KEYS (Touches numériques)**
Servent à indiquer le numéro d'ordre pour la mise en mémoire et le rappel des stations préréglées. Les canaux de 1 à 30 peuvent être spécifiés à l'aide de ces touches. Procédé de rappel des stations en mémoire. Une station mise en mémoire peut être rappelée comme suit:
Par exemple, presser successivement **1**, **2**, **ENTER** pour rappeler la station mise en mémoire sous le numéro 12.
- 3 ENTER (Touche d'entrée)**
Sert à la mise en mémoire et le rappel des stations en mémoire.
- 4 TUNING (Commandes d'accord)**
Permettent de passer à une fréquence plus élevée (UP) ou plus basse (DOWN) que celle en cours de réception.
- 5 BAND (Sélecteur de bande)**
Permet de choisir entre FM et AM.
- 6 RF ATT. (Atténuateur RF)**
Active et désactive l'atténuateur de l'antenne. Pour obtenir une réception claire, mettre l'atténuateur hors service lorsque les signaux sont faibles et en service lorsque les signaux sont puissants. Le mode atténuateur RF (en service ou hors service) peut être conservé en mémoire.
- 7 AUTO MUTE/MANU (Touche de mode de syntonisation)**
Commute entre la syntonisation automatique et manuelle. Syntonisation automatique: Lorsque la touche vers le haut (UP) est enfoncée, la radio est automatiquement syntonisée sur une fréquence plus élevée. Appuyer sur la touche vers le bas (DOWN) pour syntoniser sur une station plus basse. Utiliser cette position pour éliminer les parasites lorsqu'il n'y a aucune réception de signaux ou de signaux faibles. Syntonisation manuelle: Dans cette position, la radio peut être syntonisée manuellement.
- 8 MEMORY (Commande de mise en mémoire)**
Sert à mise en mémoire de la station en cours de réception. Par exemple, presser successivement **MEMORY**, **1**, **2**, **ENTER** pour mettre la station 12 en mémoire.
- 9 MEMORY (Témoin de mémoire)**
Ce témoin s'allume quand la touche MEMORY **8** est pressée.
- 10 CHANNEL (Indicateur de canal)**
Affiche le numéro de canal sur lequel la station est enregistrée.
- 11 DIGITAL FREQUENCY INDICATOR (Indicateur de fréquence numérique)**
Les fréquences captées sont indiquées numériquement. L'unité en fréquence FM est MHz, celle en AM kHz.
- 12 SIGNAL (Indicateur de signal)**
S'allume lorsqu'une station peut être reçue.
- 13 STEREO/MONO (Indicateur stéréo/mono)**
"STEREO" s'allume automatiquement lors de la réception d'une émission stéréo.
"MONO" s'allume lors de la réception d'une émission mono ou lorsque aucune émission n'est reçue.
- 14 TUNING MODE (Indicateur auto/manuel)**
La pression de la touche MODE **7** provoque alternativement l'illumination de "AUTO" et "MANUAL".
- 15 SIGNAL (Indicateur de puissance de signal)**
Le nombre de DEL allumées augmente en fonction de la puissance du signal capté par l'antenne.
- 16 RF ATT. (Indicateur de l'atténuateur RF)**
La diode électro-luminescente "OFF" ou "ON" s'allume pour indiquer si l'atténuateur est en service ou pas. (commandé par la touche **6**).
- 17 CAPTEUR DE TELECOMMANDE (Fenêtre photosensible de la télécommande)**
Ce capteur reçoit la lumière infrarouge transmise par la télécommande sans fil. Lorsqu'on utilise la télécommande, la pointer en direction du capteur. La télécommande fournie avec les amplificateurs d'ambiance DENON AVC-2000, AVC-700 ou DAP-2500 peuvent être utilisés pour commuter les stations préréglées vers le haut ou vers le bas.

INSTRUCTIONS

PREPARATION

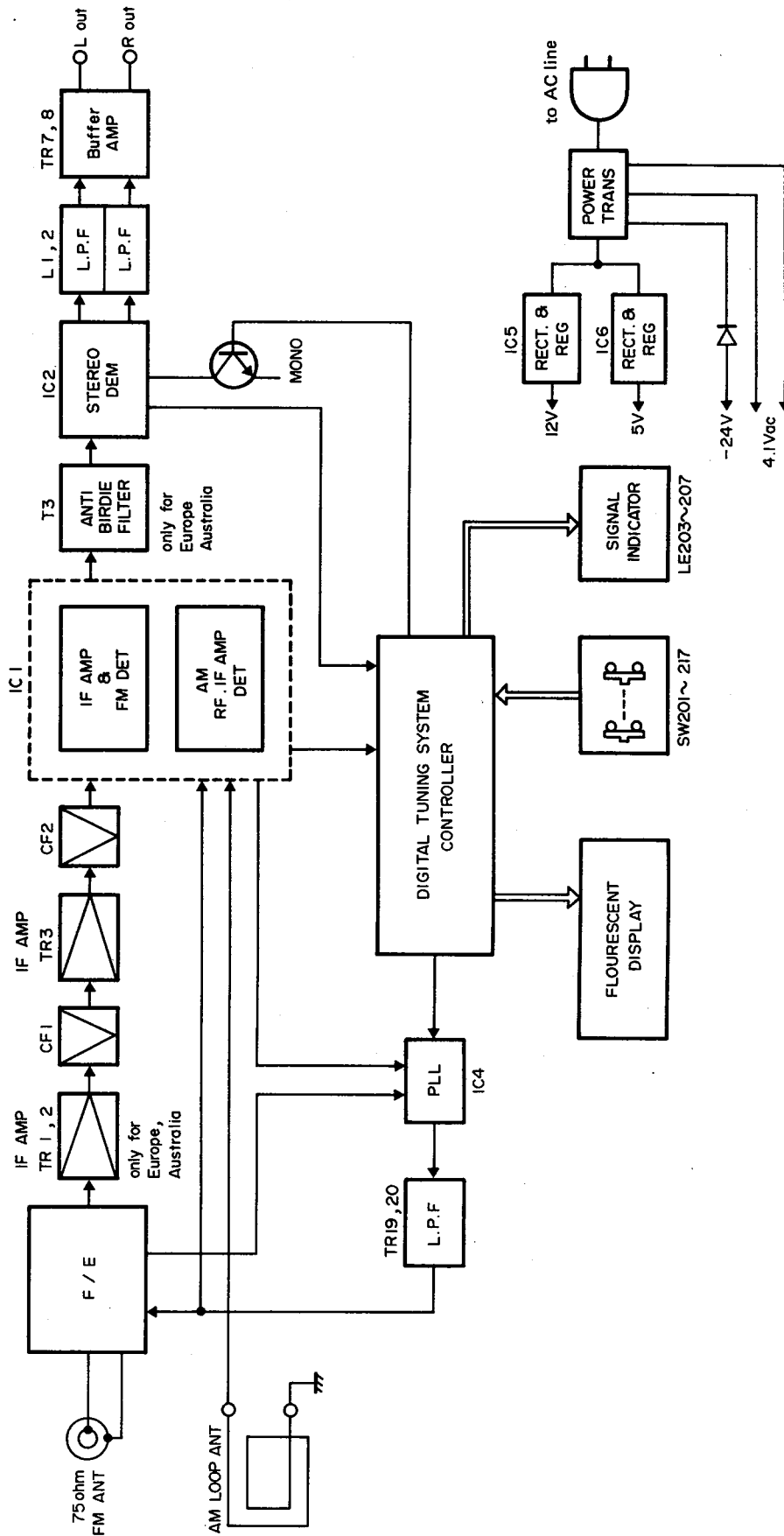
CONTROLE DES CONNEXIONS

- Vérifier toutes les connexions en se référant au schémades connexions (Fig. 1).
- Vérifier si les canaux droit (R) et gauche (L) des hautparleurs sont connectés aux prises droite (R) et gauche (L) correspondantes, et que les polarités (positive et négative) sont correctes.
- Vérifier si les broches droite (R) et gauche (L) sont convenablement insérées dans les fiches correspondantes.
- Vérifier si tous les cordons sont solidement connectés.
 - * Ouvrir l'alimentation à l'aide du commutateur POWER après la vérification de toutes les connexions.

CONTROLE DE L'ANTENNE

1. Prendre soin de bien connecter l'antenne cadre. Si l'on est pas sûr de la manière de la connecter, se reporter à la Fig. 1.
2. Utilisation de l'antenne cadre: Maintenir l'antenne loin du corps principal de l'appareil. Si l'antenne est en contact avec un corps métallique, sa sensibilité de réception baissera, d'où une reproduction peu claire.

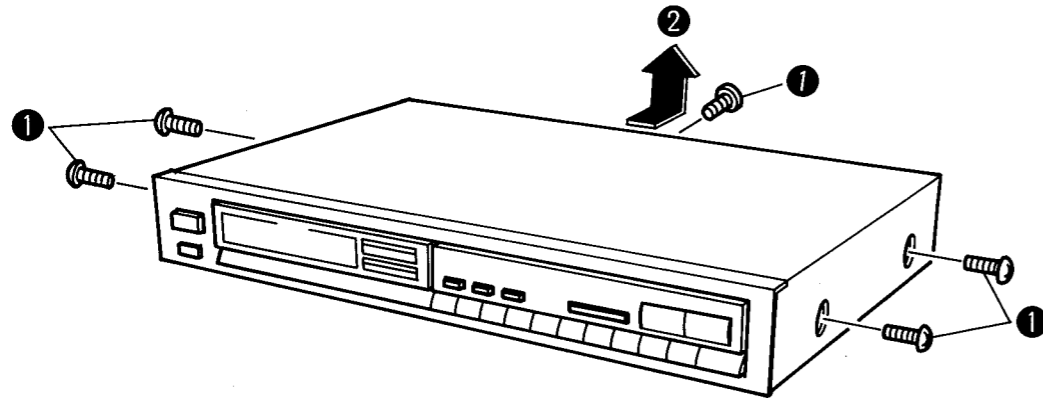
BLOCK DIAGRAM



REMOVAL OF EACH SECTION

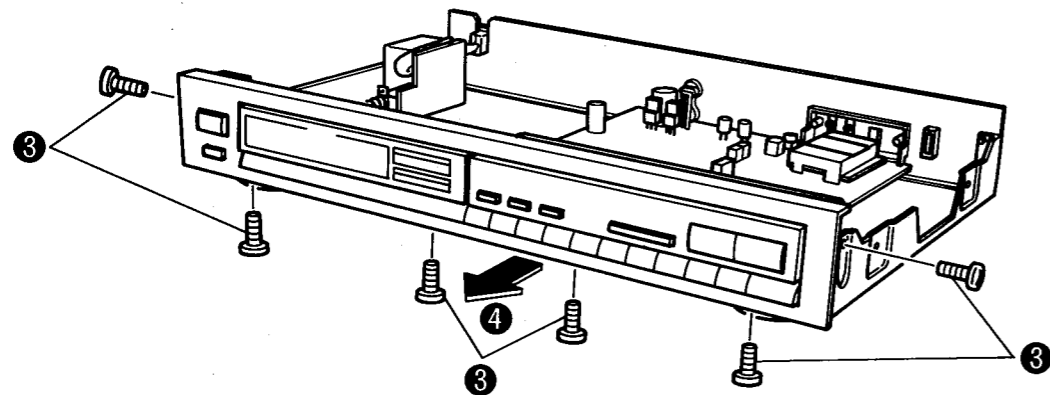
1. Removing the Top Cover

- ① Remove the five top cover installation screws (four on the sides, one on the rear).
- ② Slip the top cover slightly to the rear in the direction of the arrow, then lift it off.



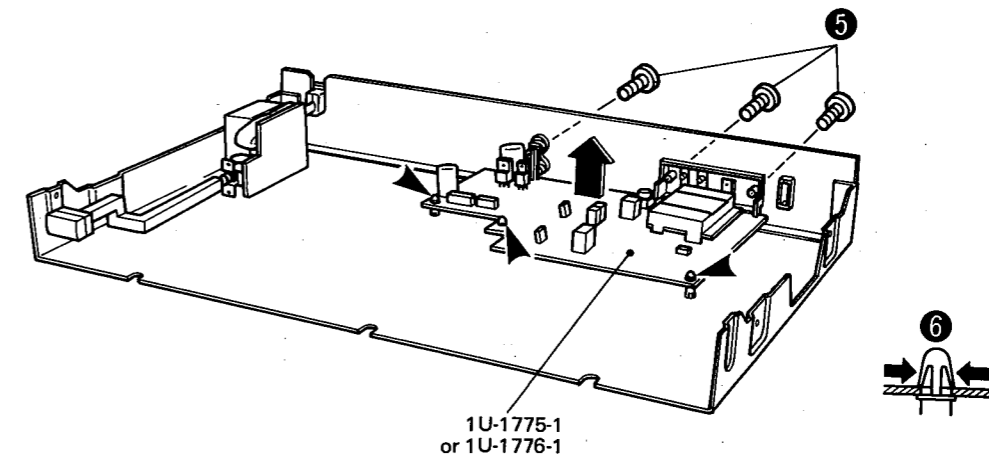
2. Removing the Front Panel Assembly

- ③ Remove the six front panel assembly installation screws (two on the sides, four on the bottom).
- ④ Pull the front panel assembly forward and off in the direction of the arrow.



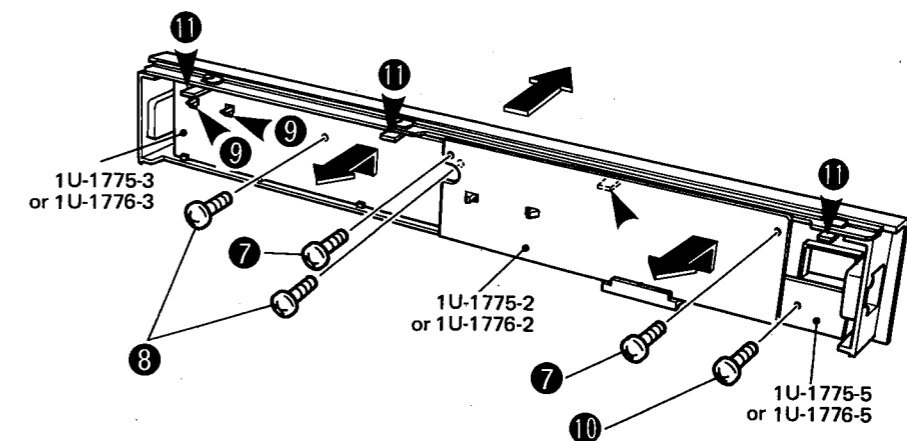
3. Removing each Circuit Board

- ⑤ Remove the three installation screws securing the terminals of the 1U-1776-1 or 1U-1775-1 board.
- ⑥ Use radio pliers to grasp the PCB holder (shown by the arrow) securing the 1U-1776-1 or 1U-1775-1 board, then remove the 1U-1776-1 or 1U-1775-1 board.
- ⑦ Remove the two installation screws from the 1U-1776-2 or 1U-1775-2 board, lift slightly up in the direction of the arrow, then pull forward and remove the 1U-1776-2 or 1U-1775-2 board.
- ⑧ Remove the two installation screws from the 1U-1776-3 or 1U-1775-3 board.
- ⑨ Unclasp the two installation hooks from the 1U-1776-3 or 1U-1775-3 board, lift the 1U-1776-3 or 1U-1775-3 board slightly up, then pull forward and remove.
- ⑩ Remove the installation screw from the 1U-1776-5 or 1U-1775-5 board, then pull forward and remove the 1U-1776-5 or 1U-1775-5 board.



4. Removing the Front Panel

- ⑪ Use a screwdriver to press the four hooks on the front panel (shown by arrows), then pull the front panel forward and remove.

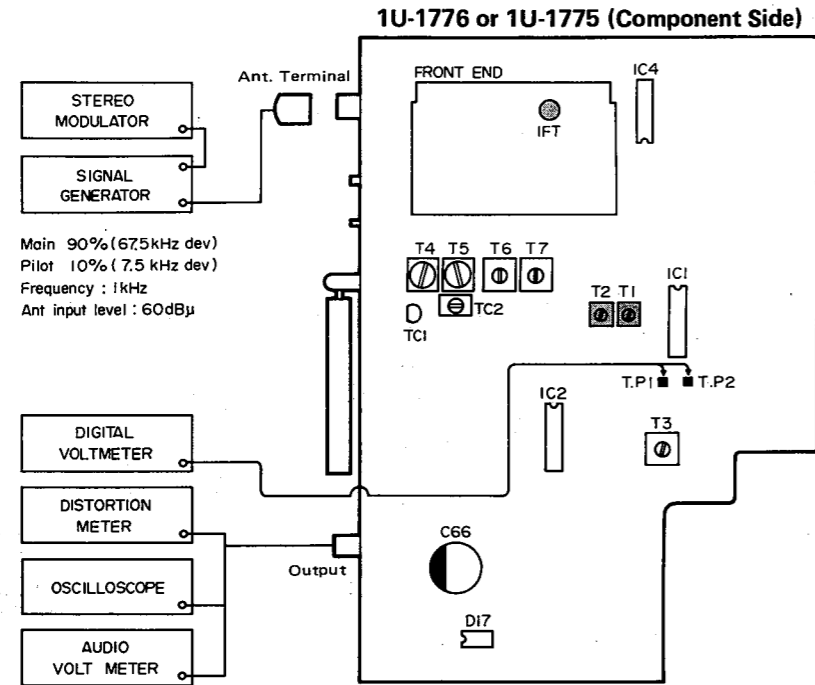


METHOD OF ADJUSTMENT

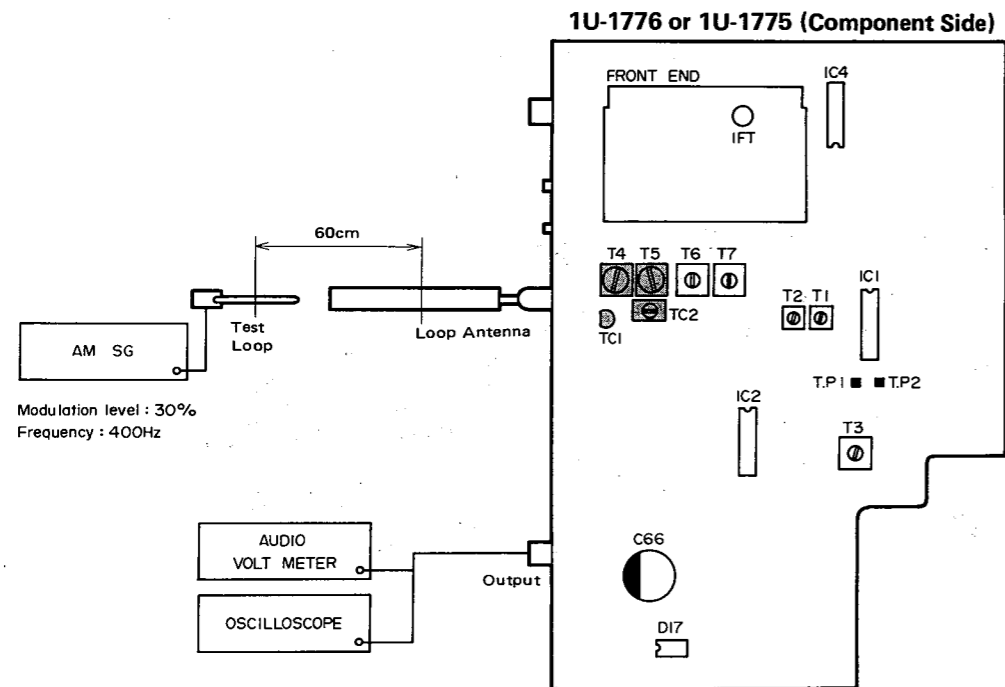
CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

When making adjustments, be sure the power supply is at the rated voltage and the room air is on normal conditions with respect to temperature and humidity.

• **FM**

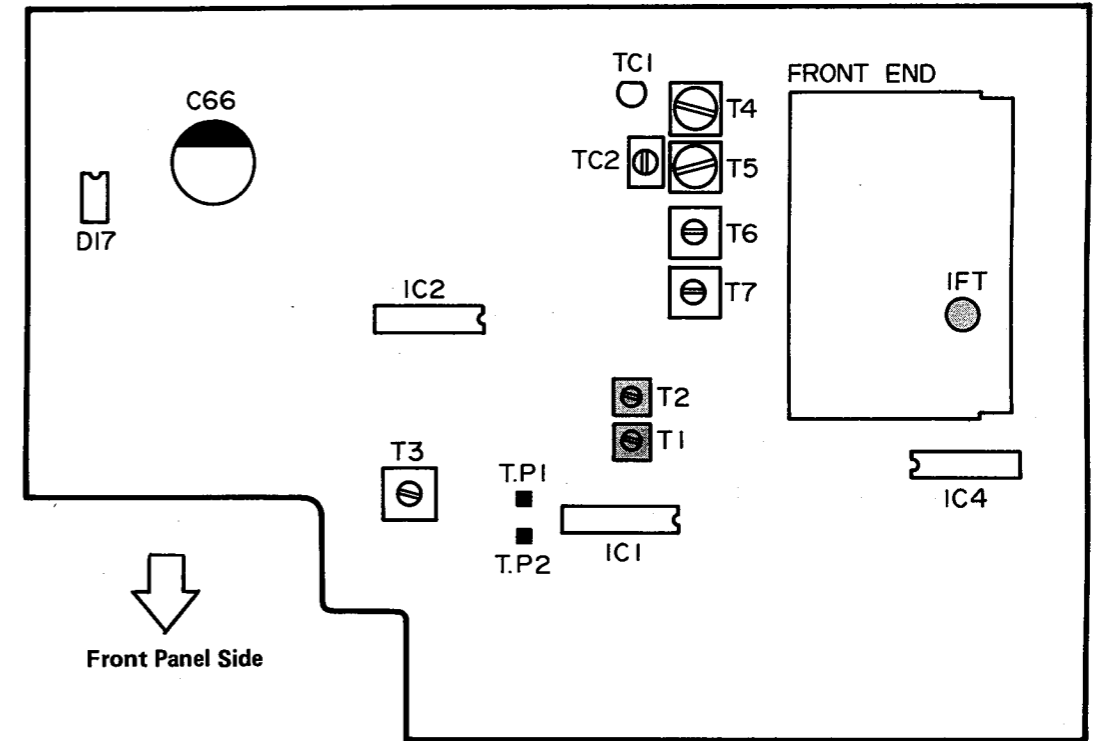


• **AM**



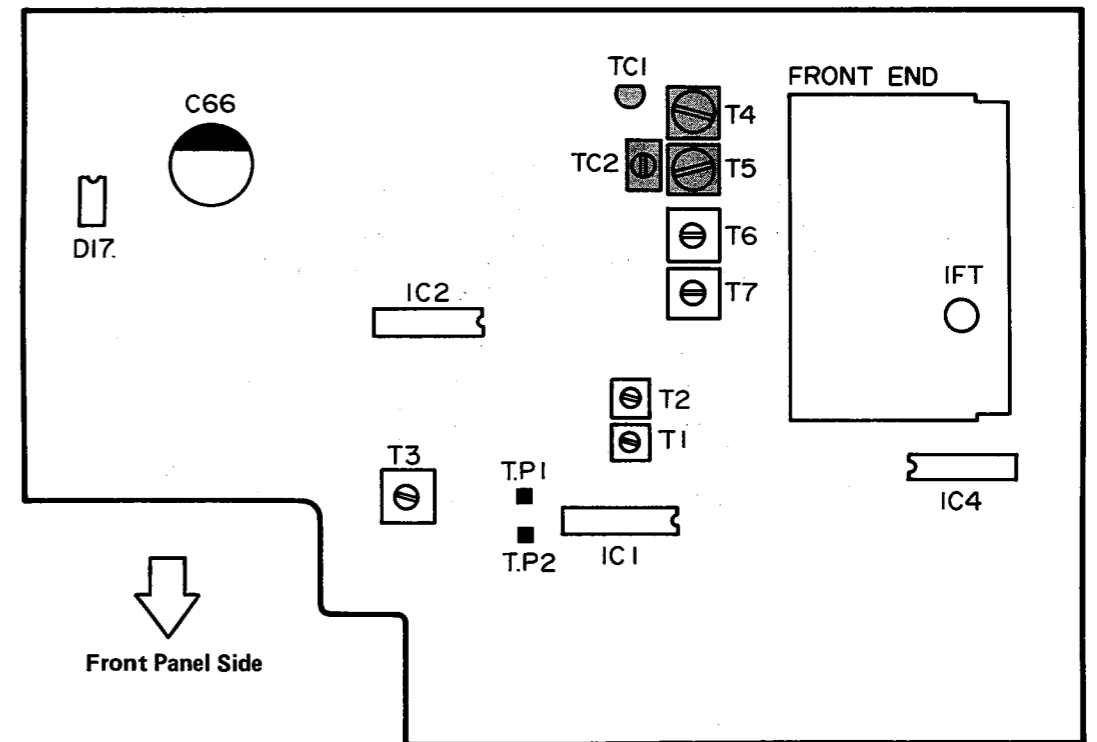
1U-1776 or 1U-1775B TUNER UNIT FM Alignment Points

(Component Side)



1U-1776 or 1775B TUNER UNIT AM (MW, LW Alignment Points)

(Component Side)



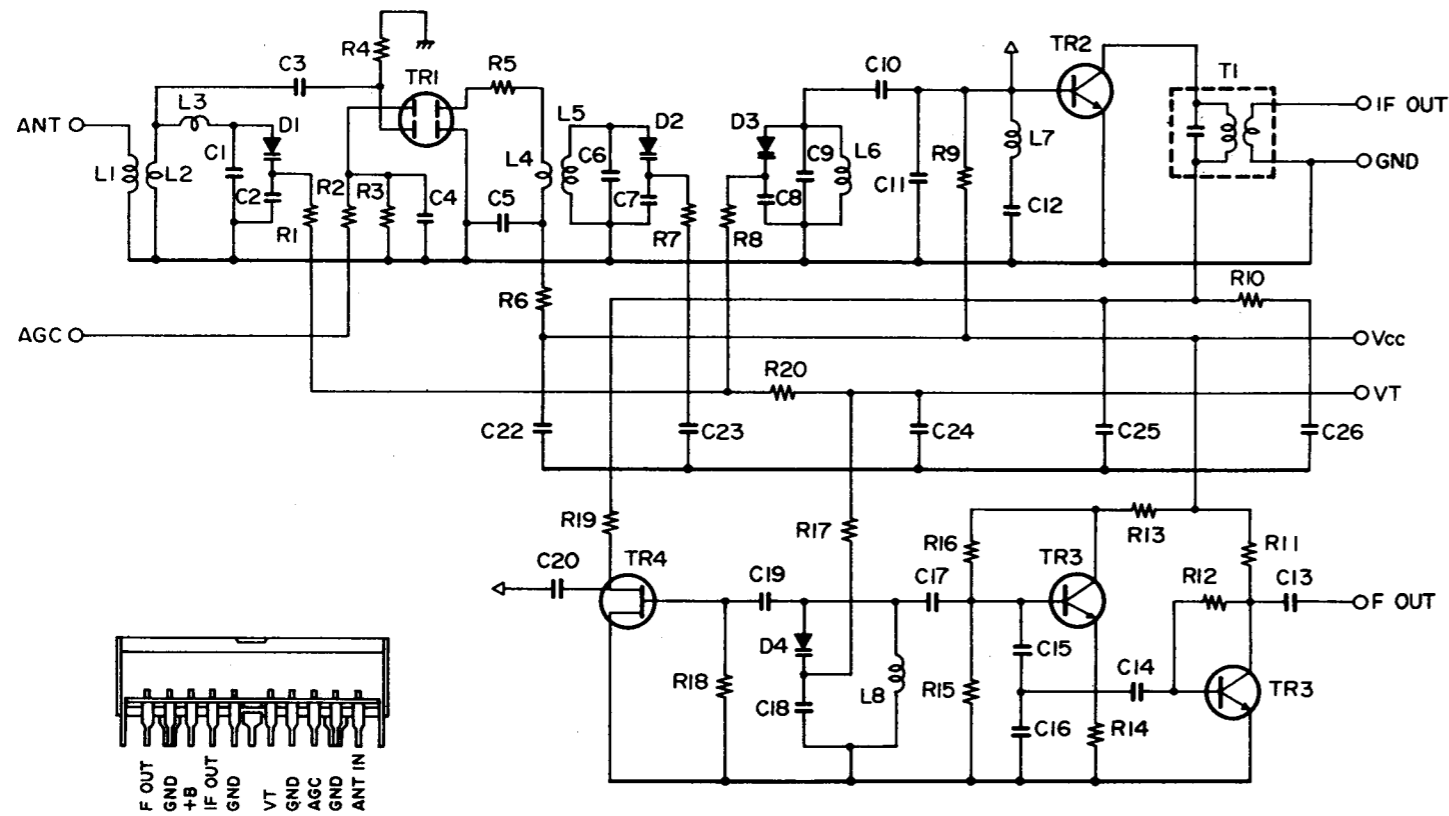
FM ALIGNMENT

Step	Alignment Item	Frequency	Input	Output		Adjustment		Remarks
				Type	Connect to	Points	Adjust to	
1	Tuning Center	98 MHz	FM SSG Mono	Digital Voltmeter	T.P. 1, 2	T1	±50MV	
2	Distortion (Mono)	98 MHz	FM SSG Mono	Distortion Meter	Output Terminal (L)	T2	Minimum Distortion	
3	Distortion (Stereo)	98 MHz	FM SSG Stereo (L)	Distortion Meter	Output Terminal (L)	IFT on Front End	Minimum Distortion	
4	Central & Distortion	Repeat 1 ~ 3 to obtain minimum distortion and tuning center						

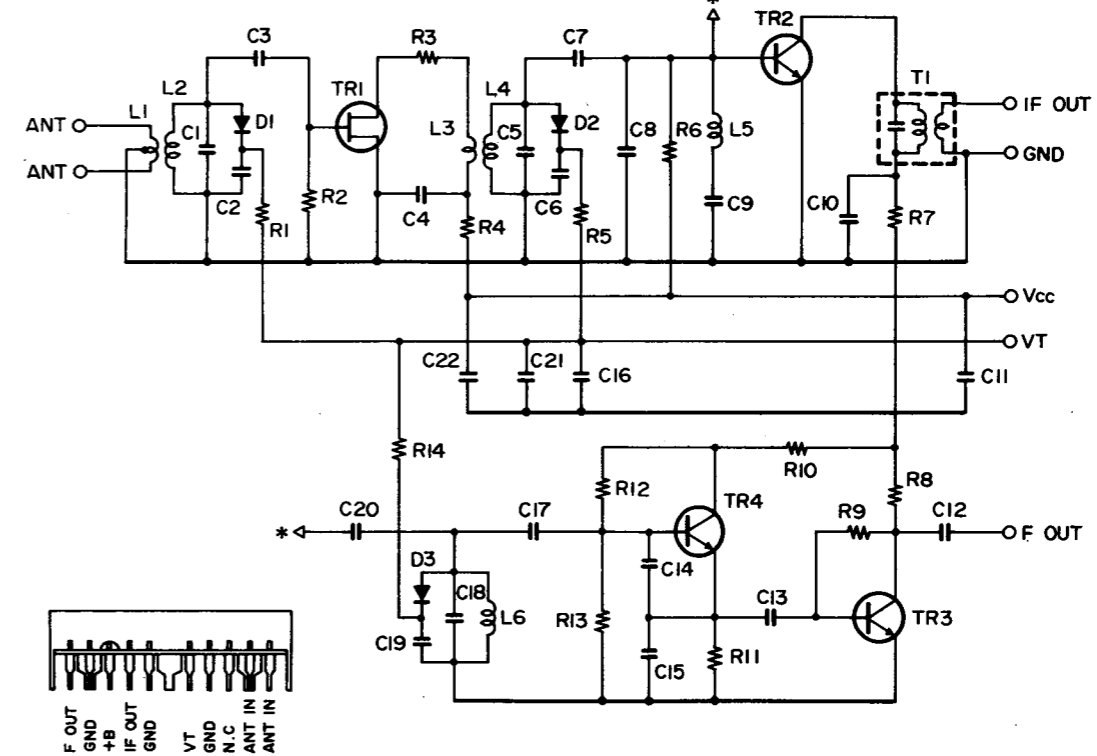
MW AND LW ALIGNMENT

1	Tracking Alignment of MW	600 kHz	AM SG	Audio Voltmeter	Output Terminal (L)	T5	Maximum Output	Input level is not over to work AGC
		1500 kHz				TC2	Maximum Output	
2	Tracking Alignment of LW	163 kHz	AM SG	Audio Voltmeter	Output Terminal (L)	T4	Maximum Output	Input level is not over to work AGC
		330 kHz				TC1	Maximum Output	

FRONT END (for Europe)
(2160065006)



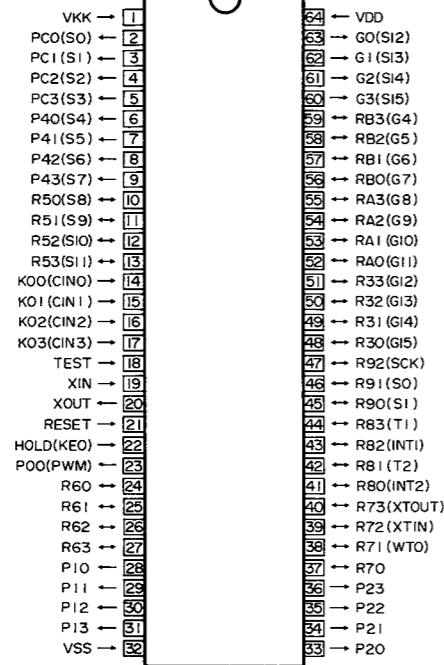
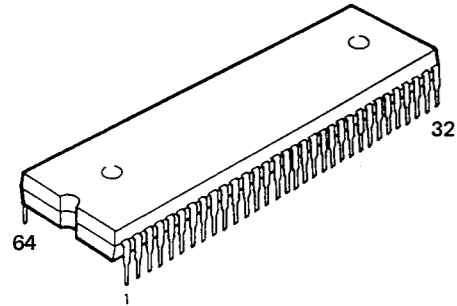
FRONT END (For U.S.A. & CANADA)
(2160064007)



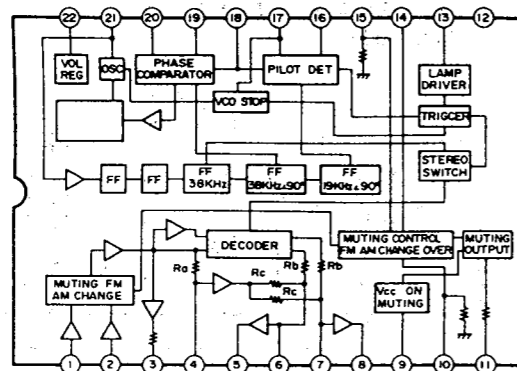
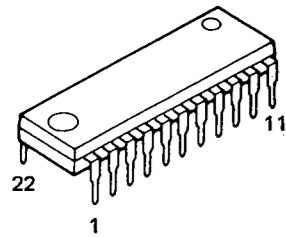
SEMICONDUCTORS

• IC's

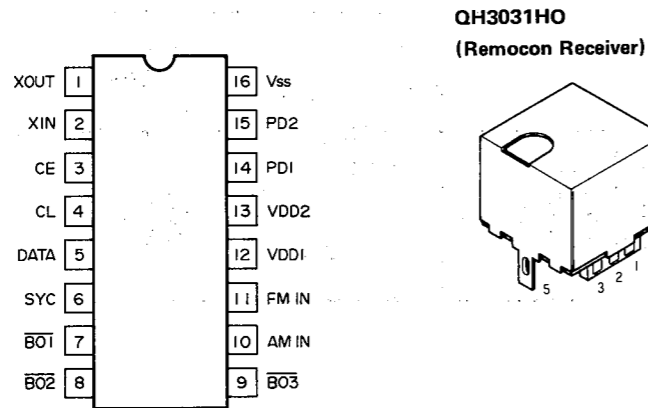
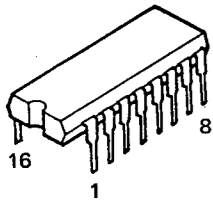
TMP47C670N-1284Z



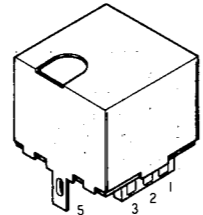
LA3401



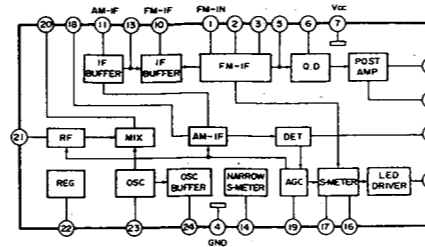
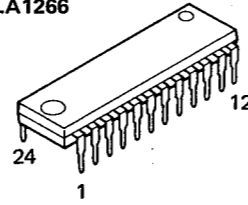
LM7001



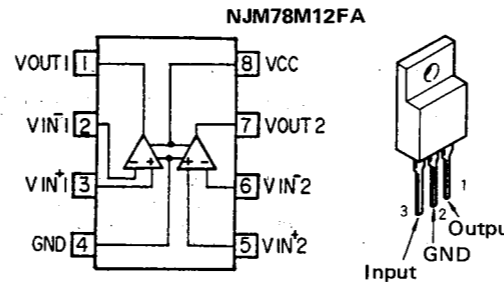
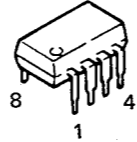
QH3031HO (Remocon Receiver)



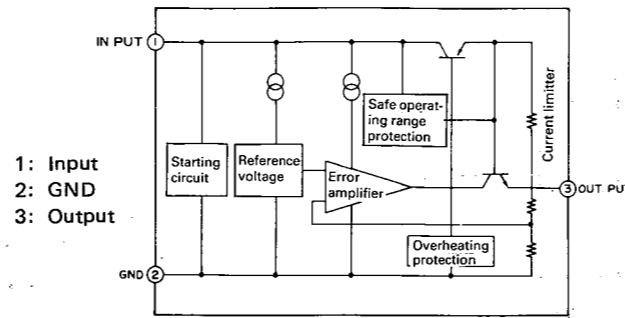
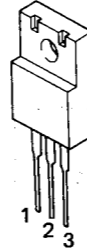
LA1266



LA6358

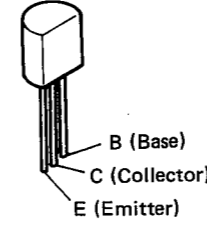


NJM78M06FA

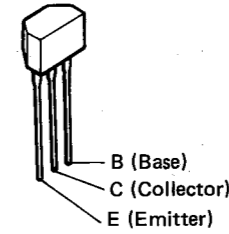


• TRANSISTORS

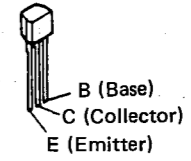
- 2SA1015 (GNY)
- 2SC2878 (A/B)
- JC556 A/B
- JC547 A/B



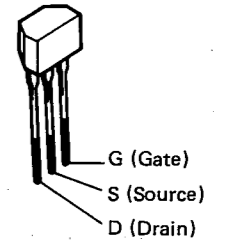
- 2SA1048 (Y/GR)
- 2SC2458 (BL)



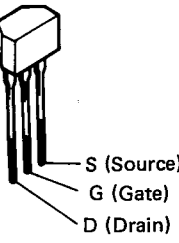
- 2SC2839 (E)



- 2SK161 (GR)

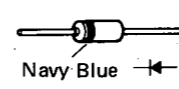


- 2SK365 (BL/GR)

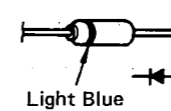


• DIODES

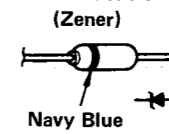
- ISS270A



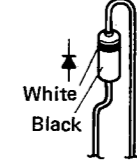
- IS2076



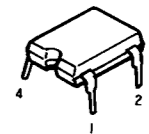
- HZ6B-1
- HZ11A-1 (Zener)



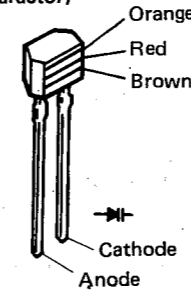
- DSM1D2



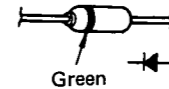
- SIWB(A) 10



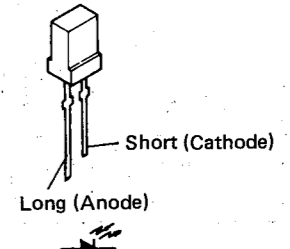
SVC321D2-SP (Varactor)



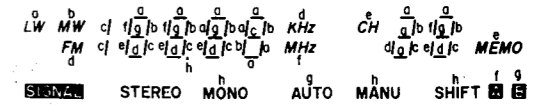
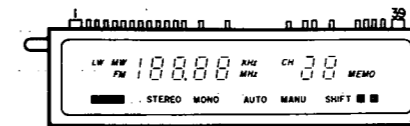
ISS110



(LED) SEL1321G (Green)

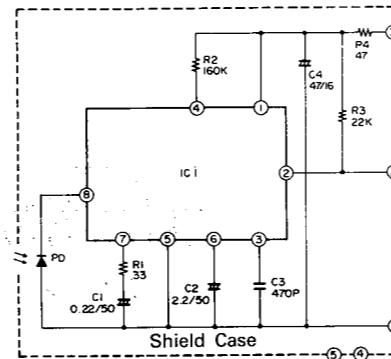


FLD (FIP10TM7)



TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ELECTRODE	F	F	BG	P(h)	P(g)	P(f)	P(e)	P(d)	BG	P(c)	7G	P(b)	P(a)	6G	NP	5G	NP	NP	4G	NP
TERMINAL NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
ELECTRODE	NP	NP	NP	NP	NP	4G	NP	(Z)	3G	NP	2G	NP	NP	(Z)	1G (Stereo)	(Signal)	F	F		

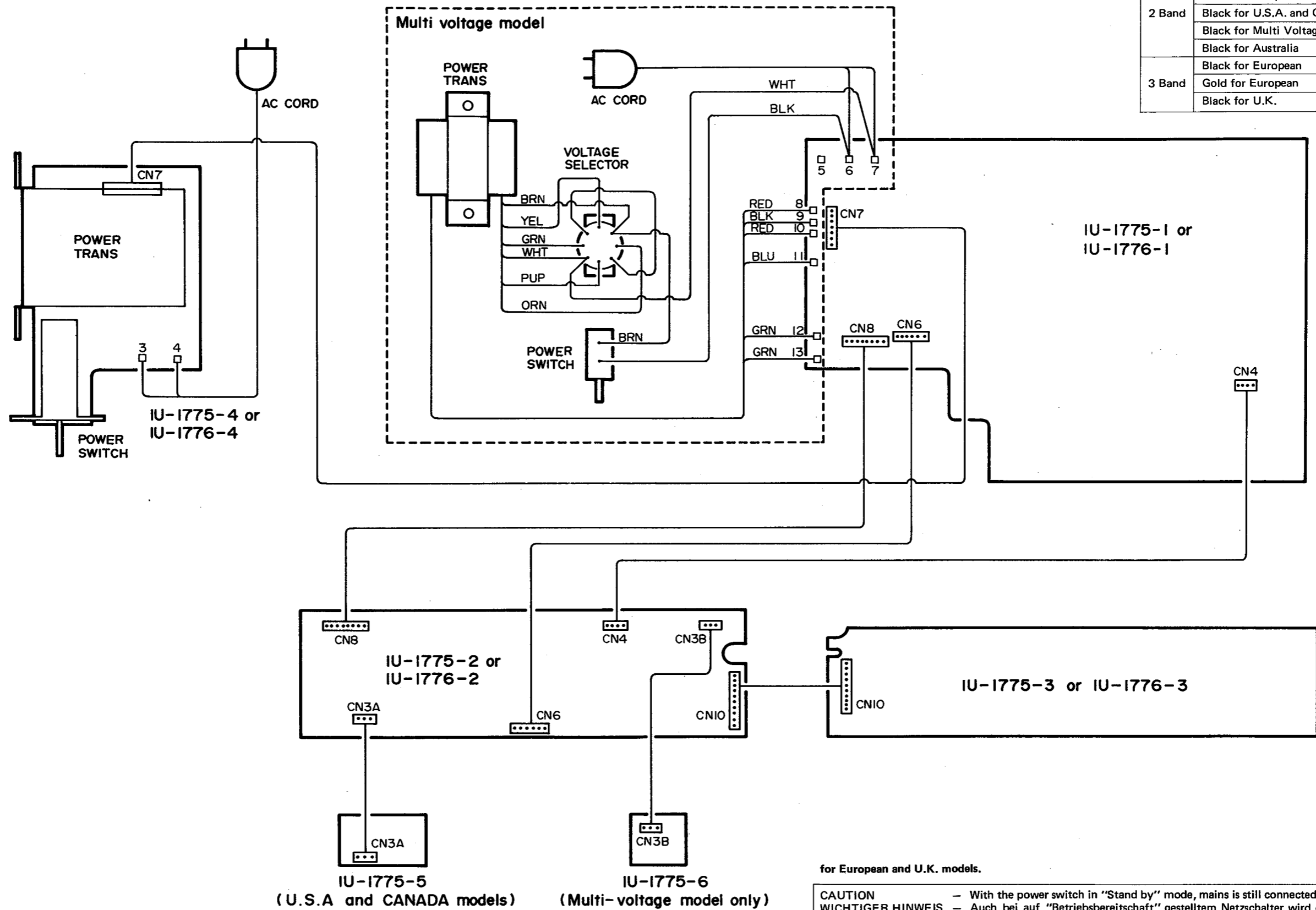
Notes F: Filament NP: No Pin
G: Grid
P: Anode



IC1: μ PC1490G ① GND
PD: Equivalent ② V_{OUT}
PD410P1 ③ V_{CC}
④ Case fin
⑤ Case fin

WIRING DIAGRAM

	Model Name	Tuner Unit No.
2 Band	Black for European	1U-1776
	Gold for European	1U-1776
	Black for U.S.A. and Canada	1U-1775B
	Black for Multi Voltage	1U-1775C
3 Band	Black for European	1U-1776B
	Gold for European	1U-1776B
	Black for U.K.	1U-1776C



for European and U.K. models.

- CAUTION** - With the power switch in "Stand by" mode, mains is still connected.
WICHTIGER HINWEIS - Auch bei auf "Betriebsbereitschaft" gestelltem Netzschalter wird das Gerät noch mit strom versorgt.
PRECAUTION - L'interrupteur d'alimentation sur "stand by" (attente), l'alimentation n'est pas coupée.
OBS! - Näströmtillförseln kopplas inte ur när strömbrytaren står i beredskapsläget (Stand by).

PRINTED WIRING BOARD (Pattern Side) 1U-1775, 1776 Tuner Unit (for 2 Band Model)

1 2 3 4 5 6 7 8

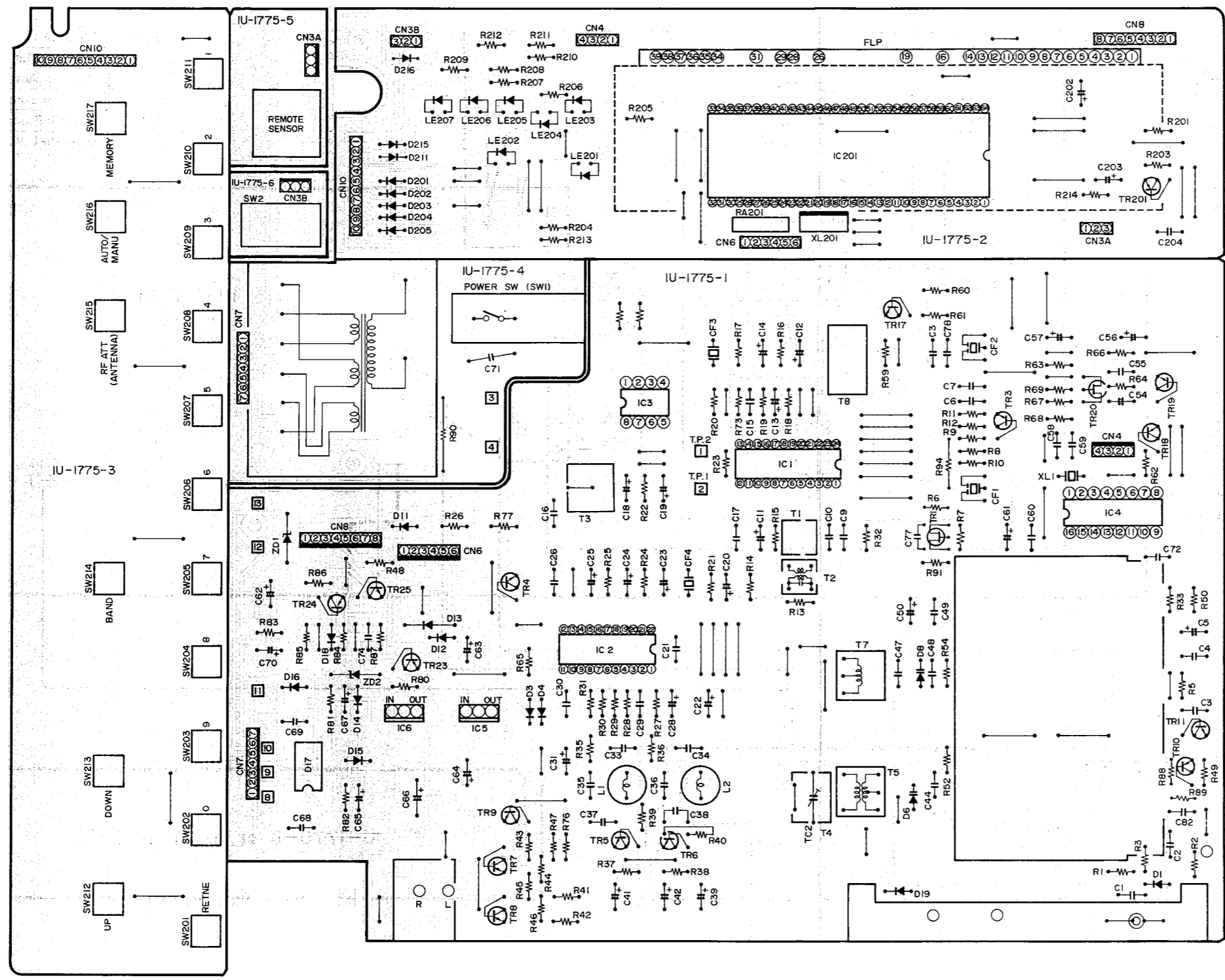
A

B

C

D

E



Area	Unit No.
European	1U-1776
U.S.A. and Canada	1U-1775B
Multi Voltage	1U-1775C
Australia	1U-1776

Note:

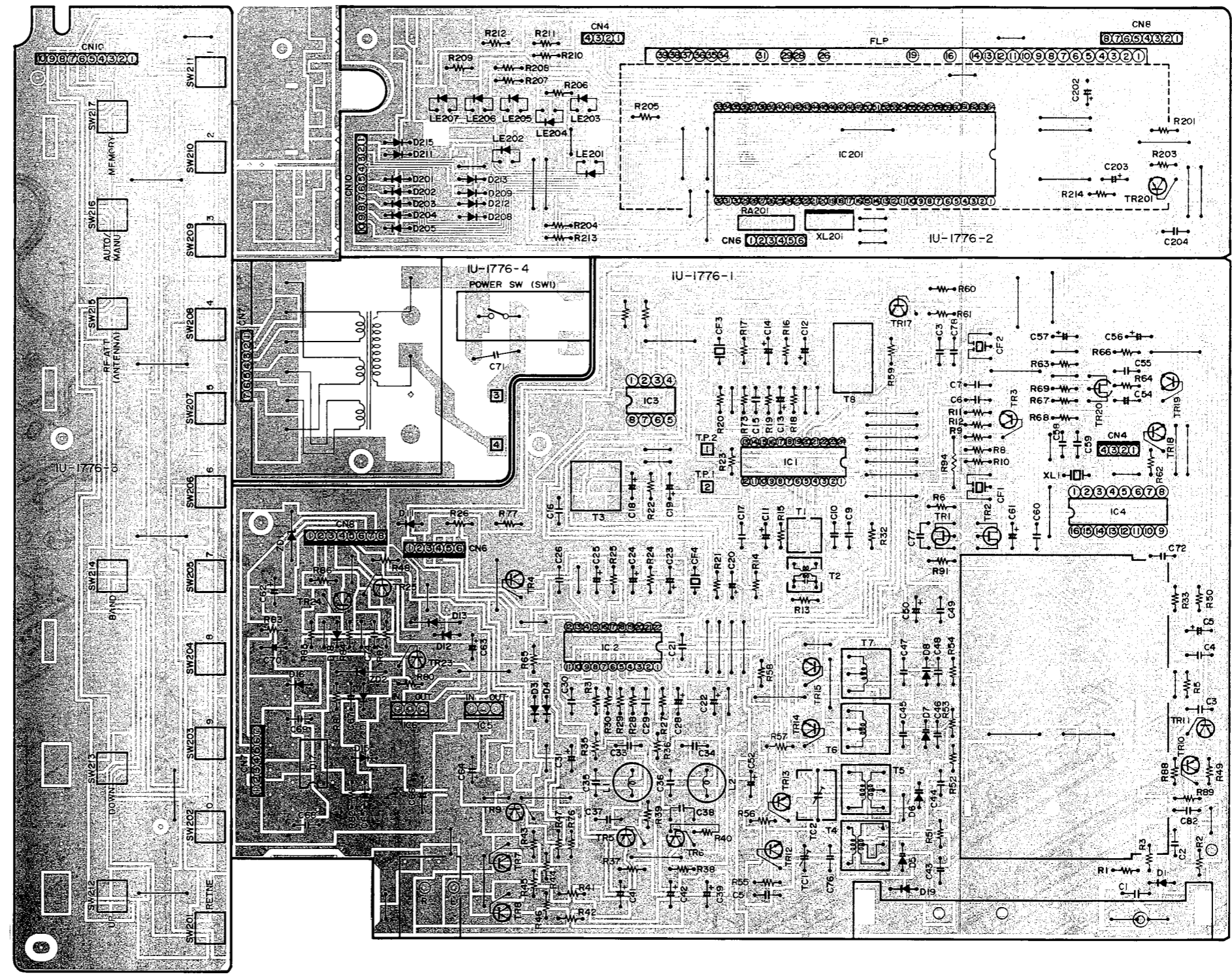
Unit No.	TR1, 2	TR9,10,17,18,24	TR4,5,6,11,19,23,25,201	D211	C215	D216	R3	R6	R7	R19	R22	R23	R27	R28,31	R29,30	R38,40	R88	R89	R94	R214	C18	C20	C29,30	C77	T3	T7	CF1, 2	POWER TRANS	FRONT END	SLIDE (SW218)	REMOTE SENSOR	CN3A	CN3B	CN7	
Europe	1U-1776	2SK161 (GR)	JC556 (A/B)	JC547 (A/B)	YES	YES	NONE	100Ω	330Ω	NONE	18k	1.2k	39k	43k	150k	200k	15k	10k	5.6k	100Ω	10k	22/16	22/16	330p	0.01	○	2311118003	SFT10.7MS ₂	2335720008	2160065006	NONE	NONE	NONE	YES	
USA & Canada	1U-1775B	NONE	2SA1048 (Y/GR)	2SC2458 (Y/GR)	NONE	JUMPER	NONE	180Ω	NONE	100Ω	20k	JUMPER	18k	51k	100k	120k	12k	-	NONE	NONE	-	10/16	JUMPER	750p	NONE	JUMPER	2314901000	SFE10.7MA8	2335724003	2160064007	NONE	YES	YES	NONE	YES
U.K. & Australia	1U-1776	2SK161 (GR)	JC556 (A/B)	JC547 (A/B)	YES	YES	NONE	100Ω	330Ω	NONE	18k	1.2k	39k	43k	150k	120k	15k	10k	5.6k	100Ω	10k	22/16	22/16	330p	0.01	○	2311118003	SFT10.7MS ₂	233572008	2160065006	NONE	NONE	NONE	YES	
Multi-Voltage	1U-1775C	NONE	2SA1048 (Y/GR)	2SC2458 (Y/GR)	NONE	YES	YES	180Ω	NONE	100Ω	18k	JUMPER	33k	51k	100k	120k	12k	-	NONE	NONE	-	10/16	JUMPER	510p	NONE	JUMPER	2314901000	SFE10.7MA8	NONE	2124293005	YES	YES	YES	NONE	

Other • 1. Europe TR4, 5, 6, 11, 19, 23, 25, 201 2SC2458 (Y/GR) or JC547 (A/B)
 TR9, 10, 17, 18, 24 2SA1048 (Y/GR) or 556 (A/B)
 2. U.S.A. Canada TR4, 5, 6, 11, 19, 23, 25, 201 2SC2458 (Y/GR)
 & Multi Voltage TR9, 10, 17, 18, 24 2SA1048 (Y/GR)
 • D211, 215, 216 : 1SS270A

1U-1776 Tuner Unit (for 3 Band Model)

1 2 3 4 5 6 7 8

Area	Unit No.
Europe	1U-1776B
U.K.	1U-1776C



A

B

C


D

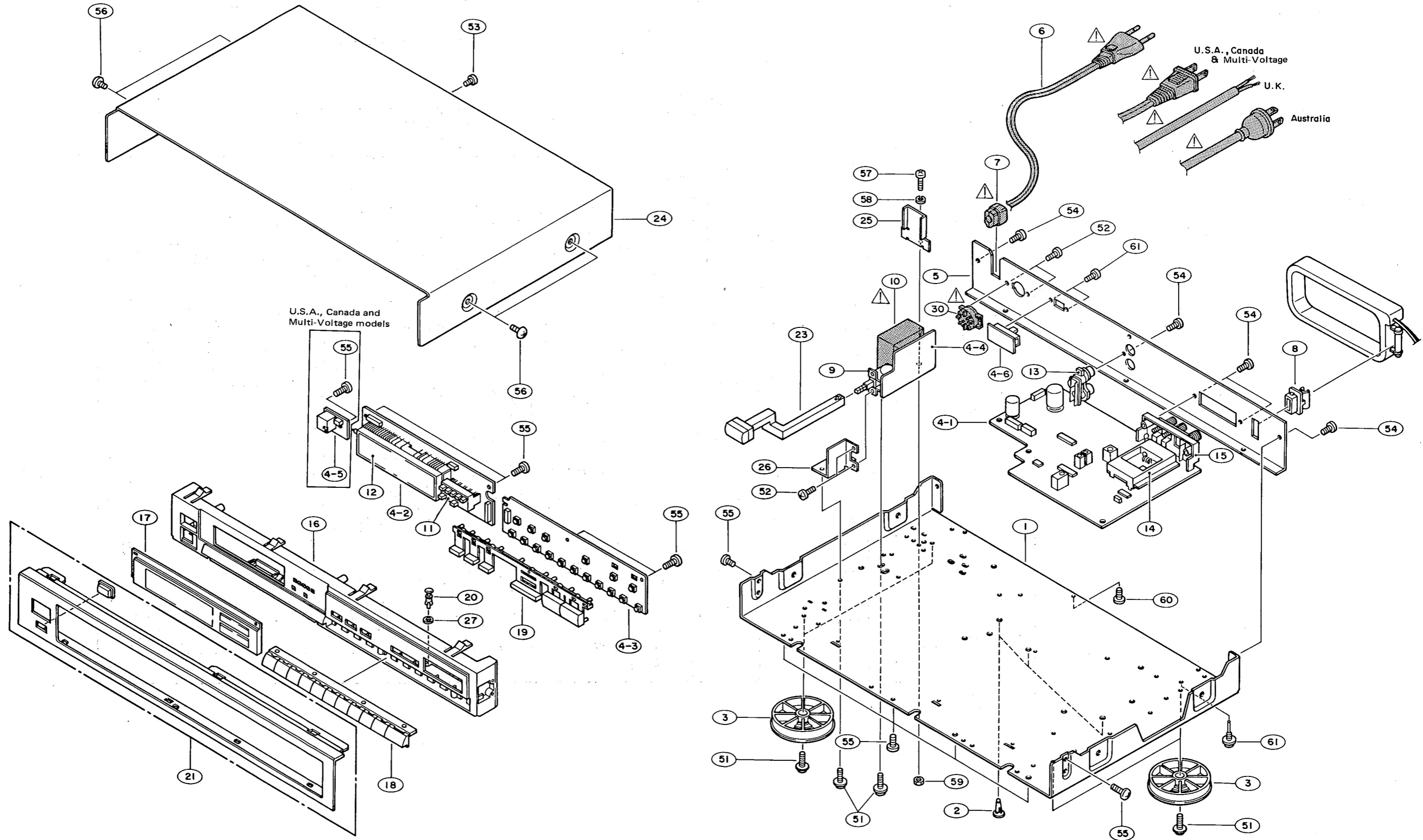
E

EXPLODED VIEW OF CHASSIS AND CABINET

1 2 3 4 5 6 7 8

A
B
C
D
E

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



1U-1776C TUNER UNIT PARTS LIST for U.K.

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS				(Electrolytic Capacitor)			
IC001	263 0438 008	LA1266	IC	△C071	253 8014 003	CK45F2GAC103M	0.01μF/400V (AC)
IC002	263 0439 007	LA3401	IC	C072,073	253 1024 003	CK45F1H103Z	0.01μF/50V
IC003	263 0237 005	LA6358	IC	C075	253 1024 003	CK45F1H103Z	0.01μF/50V
IC004	262 0719 009	LM7001	IC	C076	253 3605 006	CC45SL1H120J	12pF/50V
IC005	263 0571 004	NJM78M12FA	IC	C007	253 1024 003	CK45F1H103Z	0.01μF/50V
IC006	263 0586 002	NJM78M06FA	IC	C078	253 3627 000	CC45SL1H101J	100pF/50V
IC201	262 1134 007	TMP47C670N-1284	IC	C079	253 1024 003	CK45F1H103Z	0.01μF/50V
TR001,002	275 0051 909	2SK161 (GR)	FET	C082	253 1024 003	CK45F1H103Z	0.01μF/50V
TR003	273 0357 908	2SC2839 (E)	Transistor	C201	253 1024 003	CK45F1H103Z	0.01μF/50V
TR004~006	273 0381 903	JC547A/B AMMO	Transistor	C204	253 1004 007	CK45B1H102K	1000pF/50V
TR007,008	273 0253 015	2SC2878 (A/B)	Transistor	(Plastic Film Capacitor)			
TR009,010	271 0233 903	JC556A/B AMMO	Transistor	C005	254 4254 006	CE04W1C100M	10μF/16V
TR011	273 0381 903	JC547A/B AMMO	Transistor	C011	254 4254 035	CE04W1C470M	47μF/16V
TR012,018	271 0233 903	JC556A/B AMMO	Transistor	C012	254 4258 002	CE04W1V4R7M	4.7μF/35V
TR019	273 0381 903	JC547A/B AMMO	Transistor	C013	254 4254 006	CE04W1C100M	10μF/16V
TR020	275 0053 907	2SK365 (BL/GR)	FET	C014	254 4260 061	CE04W1H3R3M	3.3μF/50V
TR023	273 0381 903	JC547A/B AMMO	Transistor	C018	254 4254 019	CE04W1C220M	22μF/16V
TR024	271 0233 903	JC556A/B AMMO	Transistor	C019	254 4260 045	CE04W1H010M	1μF/50V
TR025	273 0381 903	JC547A/B AMMO	Transistor	C020	254 4254 019	CE04W1C220M	22μF/16V
TR201	273 0381 903	JC547A/B AMMO	Transistor	C022	254 4254 035	CE04W1C470M	47μF/16V
D001,002	276 0546 909	1SS110	Diode	C023	254 4260 045	CE04W1H010M	1μF/50V
D003	276 0049 008	1S2076	Diode	C024	254 4260 016	CE04W1HR22M	0.22μF/50V
D004	276 0432 000	1SS270A	Diode	C025	254 4260 045	CE04W1H010M	1μF/50V
D005	276 0302 004	SVC321D2-SP	Varactor (Replase in pairs)	C028	254 4254 006	CE04W1C100M	10μF/16V
D009~012	276 0432 000	1SS270A	Diode	C031	254 4258 002	CE04W1V4R7M	4.7μF/35V
D013	276 0049 008	1S2076	Diode	C039	254 4254 035	CE04W1C470M	47μF/16V
D014	276 0432 000	1SS270A	Diode	C041,042	254 4260 045	CE04W1H010M	1μF/50V
D015,016	276 0548 910	DSM1D2	Diode Type-3	C050	254 4254 035	CE04W1C470M	47μF/16V
D017	276 0405 901	S1WB (A) 10	Diode	C054	254 3056 014	CE04D1H010MBP	1μF/50V (By Pole)
D018,019	276 0432 000	1SS270A	Diode	C056	254 4260 045	CE04W1H010M	1μF/50V
D201~205	276 0432 000	1SS270A	Diode	C057	254 4254 035	CE04W1C470M	47μF/16V
D208,209	276 0432 000	1SS270A	Diode	C061	254 4260 045	CE04W1H010M	1μF/50V
D211~213	276 0432 000	1SS270A	Diode	C063,064	254 4254 006	CE04W1C100M	10μF/16V
D215	276 0432 903	1SS270A	Diode	C065	254 4260 045	CE04W1H010M	1μF/50V
D301	276 0432 903	1SS270A	Diode	C066	254 4256 790	CE04W1E222MC	2200μF/25V
ZD001,002	276 0218 910	HZ9A-2	Zener	C067	254 4260 045	CE04W1H010M	1μF/50V
LE201~207	393 9261 027	SEL1321G (D2/3)	LED	C070	254 4258 057	CE04W1V101M	100μF/35V
RESISTORS (not included Carbon Film ±5%,1/4W Type)				C074	254 3056 014	CE04D1H010MBP	1μF/50V (By Pole)
RA201	246 2053 001	RK99==103JP5	Array 10KΩ×5	C202	254 4250 055	CE04W0J471M	470μF/6.3V
CAPACITORS				C203	254 4195 039	CE04W1V220M	22μF/35V
(Ceramic Capacitor)				C204	254 4260 045	CE04W1H016M	1μF/50V
C001,002	253 1004 007	CK45B1H102K	100pF/50V	C301	254 4258 002	CE04W1V4R7M	4.7μF/35V
C003,004	253 1024 003	CK45F1H103Z	0.01μF/50V	(Metalized Capacitor)			
C006~010	253 1024 003	CK45F1H103Z	0.01μF/50V	C045	255 4200 969	CQ93P1H181J	180pF/50V
C015	253 1182 000	CK45F==473Z	0.047μF/25V D=3	C047	255 4201 942	CQ93P1H391J	390pF/50V
C017	253 1055 072	CK45B1H121K	120pF/50V	(Other Capacitor)			
C026	253 1024 003	CK45F1H103Z	0.01μF/50V	C016	256 1034 047	CF93A1H563J	0.056μF/50V
C029,030	253 3639 001	CC45SL1H331J	330pF/50V	C021	256 1034 034	CF93A1H473J	0.047μF/50V
C033,034	253 1061 008	CK45B1H272K	270pF/50V	(E.U. PARTS)			
C035,036	253 1060 009	CK45B1H182K	180pF/50V	C062	259 0007 003	SB CAP==822=	8200μF
C037,038	253 1059 007	CK45B1H122K	120pF/50V	TC001	213 0037 006	Trimmer Condencer	
C043,044	253 1024 003	CK45F1H103Z	0.01μF/50V	TC002	213 0022 008	Trimmer Condencer	
C046	253 3625 002	CC45SL1H820J	82pF/50V	E.U. PARTS			
C048	253 3607 004	CC45SL1H150J	15pF/50V	L001,002	235 0020 097	Inductor	39mH
C049	253 1024 003	CK45F1H103Z	0.01μF/50V	SW001	212 0286 003	Power Switch	2
C055	253 1025 002	CK45F1H223Z	0.022μF/50V	S201~217	212 4388 004	Tact Switch	17
C058,059	253 3608 003	CC45SL1H160J	16pF/50V	XL001	399 0075 003	X'tal (7.2MHz)	1
C060	253 1024 003	CK45F1H103Z	0.01μF/50V	XL201	399 0034 002	OSC Element (CST4.00MG)	1
C068,069	253 1024 003	CK45F1H103Z	0.01μF/50V		393 4043 004	FIP10TM7	FLD
					205 0274 004	2P Connector Base	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
	216 0065 006	Front End (J)		1		417 0043 100	Radiator		1
	205 0433 007	3P Ant.Terminal (DIN)		1		204 2341 000	10P SAN-SAN Con. Cord		1
COIL TRANS					Q'ty				
T001	231 2076 005	FM IF DFT Trans (P)		1		204 2243 043	7P KR-DA Con. Cord		1
T002	231 2077 004	FM IF DFT Trans (S)		1		203 6215 058	4P KR-DA Con. Cord		1
T003	232 0096 006	Anti Birdie Filter		1		204 0265 007	6P KR-DA Con. Cord		1
T004	231 1133 004	LW Ant.Trans		1		204 2244 071	8P KR-DA Con. Cord		1
T005	231 1911 103	MW Ant.Trans		1		203 4456 068	3P KR-DA Con. Cord		1
T007	231 1118 003	MW OSC Coil		1					
T006	231 1135 002	LW OSC Coil		1					
T008	231 1132 005	AM IFT	SFL450J3	1					
CF001,002	261 0064 007	Cermic Filter	SFT10.7MS2	2					
CF003	261 0101 009	AM Cermic Filter	BFU450C4	1					
CF004	261 0103 007	AM Cermic Filter	CSB456F11	1					
▲	237 5748 006	Power Trans		1					
OTHER PARTS					Q'ty				
●	—	(P.W. Board)		1					
	146 1019 008	LED Holder		1					
	412 2268 205	FLD Bracket		1					
	205 0343 045	4P Connector Base	KR-PH	1					
	205 0343 061	6P Connector Base	KR-PH	2					
	205 0343 074	7P Connector Base	KR-PH	1					
	205 0343 087	8P Connector Base	KR-PH	1					
	473 7002 021	Tapping Screw (S) 3X8	BLACK	1					
	415 0299 000	Condenser Cover		1					

NOTE FOR PARTS LIST

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

WARNING:

Parts marked with this symbol ▲ [hatched box] have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

SCHEMATIC DIAGRAM (for 2 Band Model)

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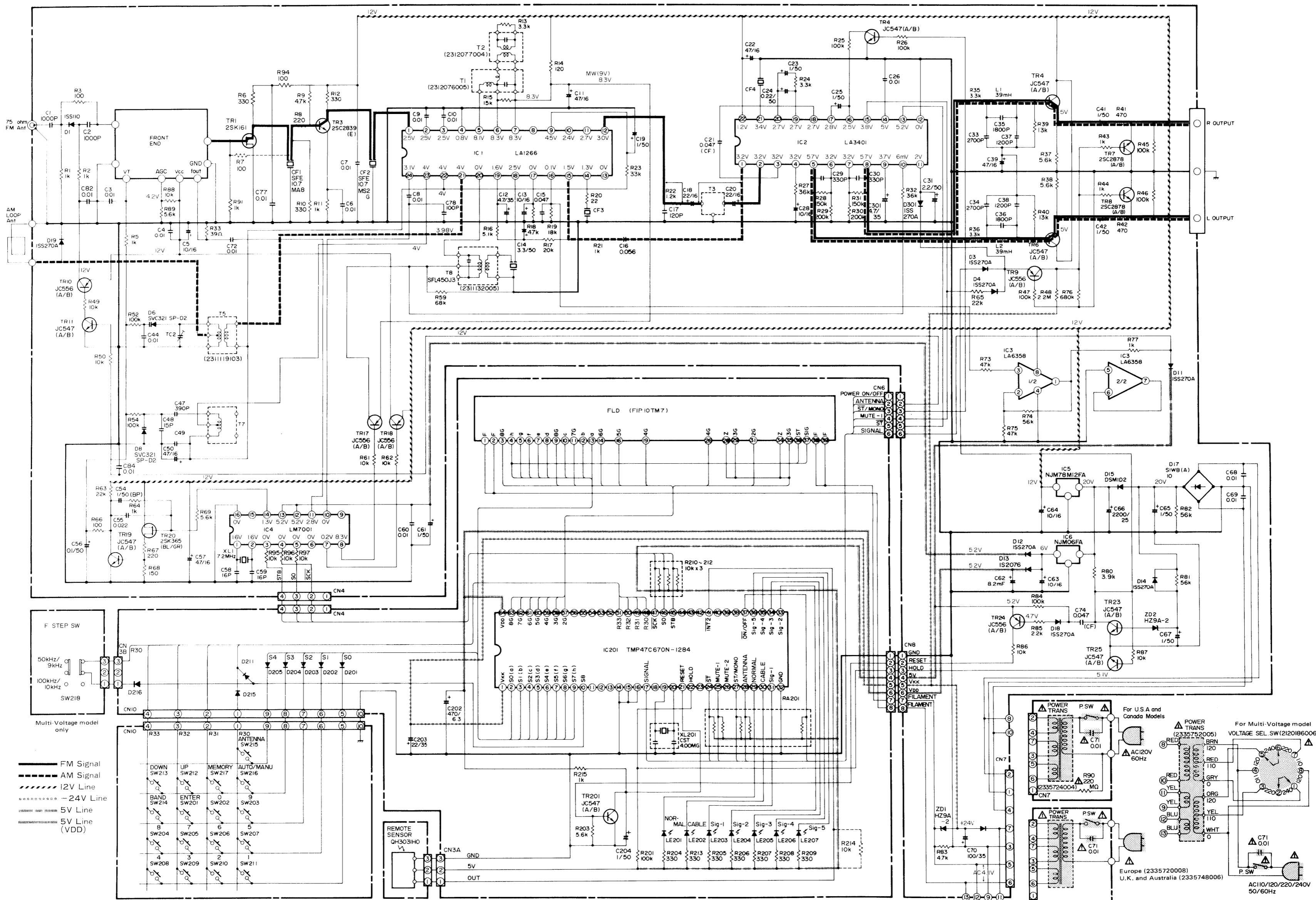
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Note:

Unit No.	TR1, 2	TR9,10,17,18,24	TR4,5,6,11,19,23,25,201	D211	D215	D216	R3	R6	R7	R19	R22	R23	R27	R28,31	R29,30	R39,40	R88	R89	R94	R214	C18	C20	C29,30	C77	T3	T7	CF1,2	POWER TRANS	AC CORD	FRONT END	SLIDE SW	REMOTE SENSOR	
Europe	1U-1776	2SK161 (GR)	JC556 (A/B)	JC547 (A/B)	YES	YES	NONE	100	330	NONE	18k	1.2k	39k	43k	150k	200k	15k	10k	5.6k	100	10k	22/16	22/16	330p	0.01	○	231 1118 003	SFT10.7MS ₂	233 5720 008	206 2063 009	216 0065 006	-	NONE
USA & Canada	1U-1775B	NONE	2SA1048 (Y/GR)	2SC2458 (Y/GR)	NONE	JUMPER	NONE	180	NONE	100	20k	JUMPER	18k	51k	100k	120k	12k	NONE	NONE	NONE	-	10/16	JUMPER	750p	NONE	JUMPER	231 4901 000	SFE10.7MA8	233 5724 004	206 2060 002	216 0064 007	-	YES
U.K. & Australia	1U-1776	2SK161 (GR)	JC556 (A/B)	JC547 (A/B)	YES	YES	NONE	100	330	NONE	18k	1.2k	39k	43k	150k	120k	15k	10k	5.6k	100	10k	22/16	22/16	330p	0.01	○	231 1118 003	SFT10.7MS ₂	233 5748 006	206 2063 009	216 0065 006	-	NONE
Multi-Voltage	1U-1775C	NONE	2SA1048 (Y/GR)	2SC2458 (Y/GR)	NONE	YES	YES	180	NONE	100	18k	JUMPER	33k	51k	100k	120k	12k	NONE	NONE	NONE	-	10/16	JUMPER	510p	NONE	JUMPER	231 4901 000	SFE10.7MA8	233 5752 005	200 6031 026	216 0064 007	212 4293 005	YES

Other: 1. Europe TR4, 5, 6, 11, 19, 23, 25, 201 2SC2458 (Y/GR) or JC547 (A/B)
 TR9, 10, 17, 18, 24 2SA1048 (Y/GR) or 556 (A/B)
 2. U.S.A. Canada TR4, 5, 6, 11, 19, 23, 25, 201 2SC2458 (Y/GR)
 & Multi Voltage TR9, 10, 17, 18, 24 2SA1048 (Y/GR)
 • D211, 215, 216: 1SS270A

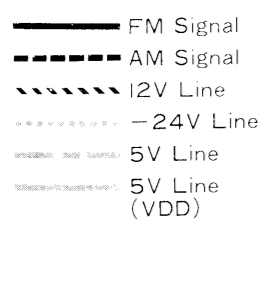
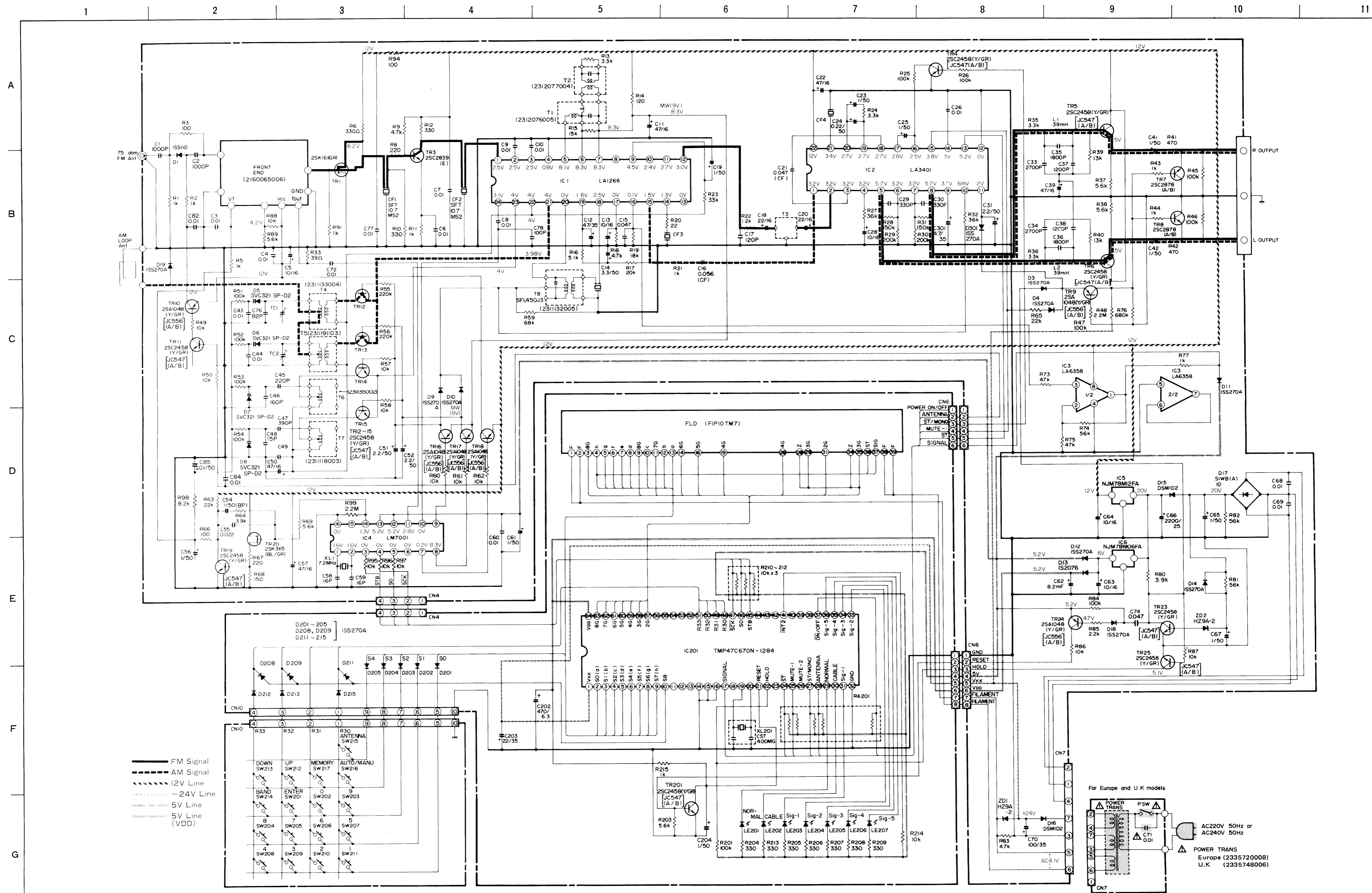
WARNING:
 Parts marked with this symbol have critical characteristics.
 Use ONLY replacement parts recommended by the manufacturer.

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 milliamperes, 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 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 (for 3 Band Model)



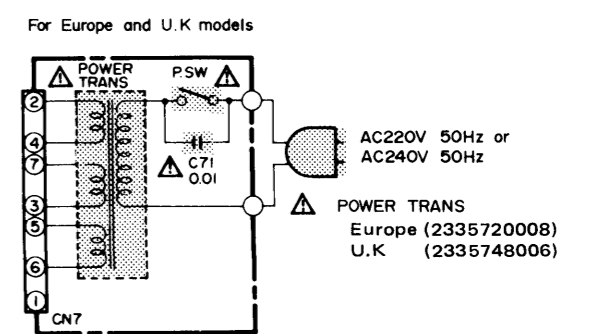
Note:

Unit No.	POWER TRANS	AC CORD
Europe 1U-1776B	233 5720 008	206 2063 009
U.K. 1U-1776C	233 5748 006	206 2024 006

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 k ohms, 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 K11,000 OHM M11,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P1MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDIT
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

DENON

NIPPON COLUMBIA CO. LTD.

14-14, 4-CHOME AKASAKA,
MINATO-KU, TOKYO 107-11, JAPAN

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