

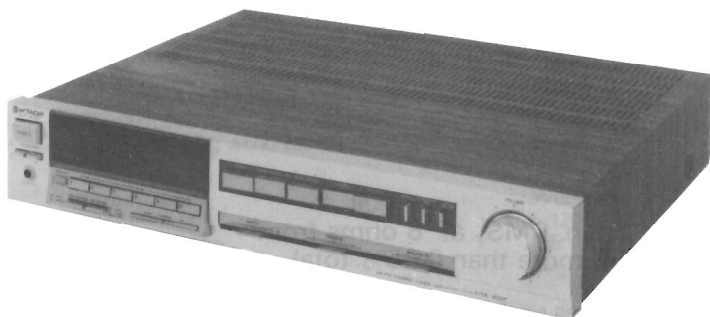
HITACHI **SERVICE MANUAL**

TY**No. 308 EGF**

HTA-3000

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CAUTION FOR U.S.A.

Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with Δ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SICHERHEITSMASSNAHMEN

Bei Wartungsarbeiten sind die folgend Sicherheitsmaßnahmen zu beachten:

1. Da verschiedene Teile dieses Gerätes Sicherheitsfunktionen aufweisen, nur Original-Hitachi-Ersatzteile verwenden. Kritische Teile im Netzteil sollten nicht durch ähnliche Teile anderer Hersteller ersetzt werden. Alle kritischen Teile sind im Schaltplan und im Diagramm der Schaltungsplanen mit dem Symbol Δ gekennzeichnet.
2. Vor der Auslieferung eines reparierten Gerätes an den Kunden muß der Wartungstechniker das Gerät einer gründlichen Prüfung unterziehen, um sicherzustellen, daß sicherer Betrieb ohne die Gefahr von elektrischen Schlägen gewährleistet ist.

PRÉCAUTIONS DE SÉCURITÉ

Les précautions suivantes doivent être observées chaque fois qu'une réparation doit être faite.

1. Etant donné que de nombreux composants de l'appareil possèdent des caractéristiques relatives à la sécurité, utiliser uniquement des pièces de rechange d'origine Hitachi pour effectuer un remplacement. Ceci se rapporte notamment aux pièces critiques du bloc d'alimentation qui ne doivent en aucun cas être remplacées par celles d'autres fabricants. Les pièces critiques sont accompagnés du symbole Δ dans le schéma de montage et sur le schéma de plaque de câblage.
2. Avant de retourner l'appareil réparé au client, le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

STEREO TUNER AMPLIFIER

January 1982

TOYOKAWA WORKS

SPECIFICATIONS

• FM SECTION	
Frequency range	Europe: 87.50 — 108.00 MHz (50 kHz steps) U.S.A.: 87.9 — 107.9 MHz (200 kHz steps)
Usable sensitivity	Mono: 1.0µV (75 ohms, IHF and DIN) 10.8 dBf (new IHF 300 ohms)
50 dB quieting sensitivity	Mono: 18.2 dBf (4.5µV)
Signal-to-noise ratio (at 65 dBf)	Mono: 74 dB (IHF) 70 dB (DIN)
Total harmonic distortion (at 65 dBf)	Mono: 0.15%
1 kHz	30 Hz — 12 kHz ±2 dB
Frequency response	53 dB (±400 kHz IHF)
Selectivity	48 dB (±300 kHz DIN)
• AM SECTION	
Frequency range	Europe: 522 — 1,611 kHz (9 kHz steps) U.S.A.: 530 — 1,620 kHz (10 kHz steps)
Sensitivity	15µV (IHF, ext. Antenna), 400µV/m (Loop)
Selectivity	30 dB (IHF ±10 kHz) 30 dB (DIN ±9 kHz)
Signal-to-noise ratio (at 50 mV/m)	50 dB
• AUDIO SECTION	
Output	30 Watts per channel, min. RMS, at 8 ohms from 20 Hz to 20 kHz, with no more than 0.05% total harmonic distortion.
RMS Power	30W + 30W (8 ohms, 1 kHz, T.H.D. 0.05% IHF and DIN)
(Both channels driven)	10 Hz — 40 kHz (1/2 RMS power, T.H.D. 0.05% at 8 ohms)
Power bandwidth	10 Hz — 40 kHz ±2 dB
Frequency response	Less than 0.05%
Total harmonic distortion	0.05%
(at rated output)	
Intermodulation distortion	
(at 1/2 rated output)	
Input sensitivity	2.5 mV (47 k-ohms)
(at 30W output, 1 kHz)	150 mV (35 k-ohms)
PHONO	140 mV (T.H.D. 0.05% at 1 kHz)
TAPE 1,2 ; AUX/VIDEO	150 mV (PHONO at rated input)
Phono overload level	150 mV (FM 400 Hz, 30% mod. input: 1 mV)
Output level	150 mV (AM 400 Hz, 30% mod. input: 5 mV/m)
TAPE OUT	
Signal-to-noise ratio	70 dB
(IHF, A network, rated power)	95 dB
PHONO	
TAPE 1,2 ; AUX/VIDEO	
• General	
Power requirements	AC 120 V 60 Hz, ~220 V 50/60 Hz, ~240 V 50/60 Hz or ~120 V/220 V/240 V 50/60 Hz
Dimensions	435 (W) x 83 (H) x 359 (D) mm 17-1/8 (W) x 3-1/4 (H) x 14-1/8 (D) in.
Weight	6kg

TECHNISCHE DATEN

• FM-TEIL	
Empfangsbereich	Europa: 87,50 MHz bis 108,00 MHz (50 kHz Raster) USA: 87,9 MHz bis 107,9 MHz (200 kHz Raster)
Nutzempfindlichkeit	Mono: 1,0µV (75 Ohm, IHF und DIN) 10,8 dBf (neue IHF 300 Ohm)
Grenzempfindlichkeit (bei 50 dB)	Mono: 18,2 dBf (4,5µV)
Fremdspannungsabstand (bei 65 dBf)	Mono: 74 dB (IHF) 70 dB (DIN)
Klirrfaktor (bei 65 dBf)	Mono: 0,15%
1 kHz	30 Hz — 12 kHz ±2 dB
Frequenzgang	53 dB (±400 kHz IHF)
Selektivität	48 dB (±300 kHz DIN)
• AM-TEIL	
Frequenzbereich	Europa: 522 — 1 611 kHz (9 kHz Raster) USA: 530 — 1 620 kHz (10 kHz Raster)
Empfindlichkeit	15µV (IHF, ext. Antenne), 400µV/m (Rahmenantenne)
Trennschärfe	30 dB (IHF ±10 kHz) 30 dB (DIN ±9 kHz)
Signal/Rausch-Abstand (bei 50 mV/m)	50 dB
• AUDIO-TEIL	
Ausgangleistung	30 W + 30 W (an 8 Ohm, 20 Hz — 20 kHz, Klirrgrad 0,05%) 30 W + 30 W (an 8 Ohm, 1 kHz, Klirrgrad 0,05% IHF und DIN)

Leistungsbandbreite	10 Hz — 40 kHz (1/2 RMS-Sinusleistung, T.H.D. 0,03% bei 8 Ohm)
Frequenzcharakteristiken	10 Hz — 40 kHz ± 2 dB
Klirrfaktor (bei Nennleistung)	Weniger als 0,05%
Intermodulationsverzerrung (bei 1/2 Nennleistung)	0,05%
Eingangsempfindlichkeit (bei 30 W Abgabeleistung, 1 kHz)	
PHONO	2,5 mV (47 kOhm)
Band (TAPE 1,2) ; AUX/VIDEO	150 mV (35 kOhm)
Phonoüberlastungspegel	140 mV (T.H.D. 0,05% bei 1 kHz)
Ausgangspegel	
Tonband-Ausgang (TAPE OUT)	150 mV (PHONO bei Nenneingang)
	150 mV (FM 400 Hz, 30% Mod. Eingang: 1 mV)
	150 mV (AM 400 Hz, 30% Mod. Eingang: 5 mV/m)
Geräuschspannungsabstand (IHF A Netz, Nennleistung)	
PHONO	70 dB
TAPE 1,2 ; AUX/VIDEO	95 dB
Strombedarf	Wechselstrom 120 V 60 Hz, ~ 220 V 50/60 Hz, ~ 240 V 50/60 Hz oder ~ 120 V/220 V/240 V 50/60 Hz
Abmessungen	435 (B) x 83 (H) x 359 (T) mm
Gewicht	6 kg

Änderungen der technischen Daten bleiben im Sinne der ständigen Verbesserung vorbehalten.

CARACTÉRISTIQUES TECHNIQUES

• SECTION FM

Bande de fréquences	Europe: 87,50 — 108,00 MHz (par paliers de 50 kHz) U.S.A.: 87,9 — 107,9 MHz (par paliers de 200 kHz)
Sensibilité utilisable	Mono: 1,0 μ V (75 ohms, IHF et DIN) 10,8 dBf (nouvelle IHF 300 ohms)
Seuil de sensibilité 50 dB	Mono: 18,2 dBf (4,5 μ V) Stéréo: 38,2 dBf (44,7 μ V)
Rapport signal/bruit (65 dBf)	Mono: 74 dB (IHF) Stéréo: 69 dB (IHF) 70 dB (DIN) 65 dB (DIN)
Distorsion harmonique (65 dBf) 1 kHz	Mono: 0,15% Stéréo: 0,25%
Réponse en fréquence	30 Hz — 12 kHz ± 2 dB
Sélectivité	53 dB (± 400 kHz IHF) 48 dB (± 300 kHz DIN)

• SECTION AM

Bande de fréquence	Europe: 522 — 1 611 kHz (par paliers de 9 kHz) U.S.A.: 530 — 1 620 kHz (par paliers de 10 kHz)
Sensibilité	15 μ V (Antenne ext., IHF), 400 μ V/m (Cadre)
Sélectivité	30 dB (IHF ± 10 kHz) 30 dB (DIN ± 9 kHz)
Rapport signal/bruit (50 mV/m)	50 dB

• SECTION AUDIO

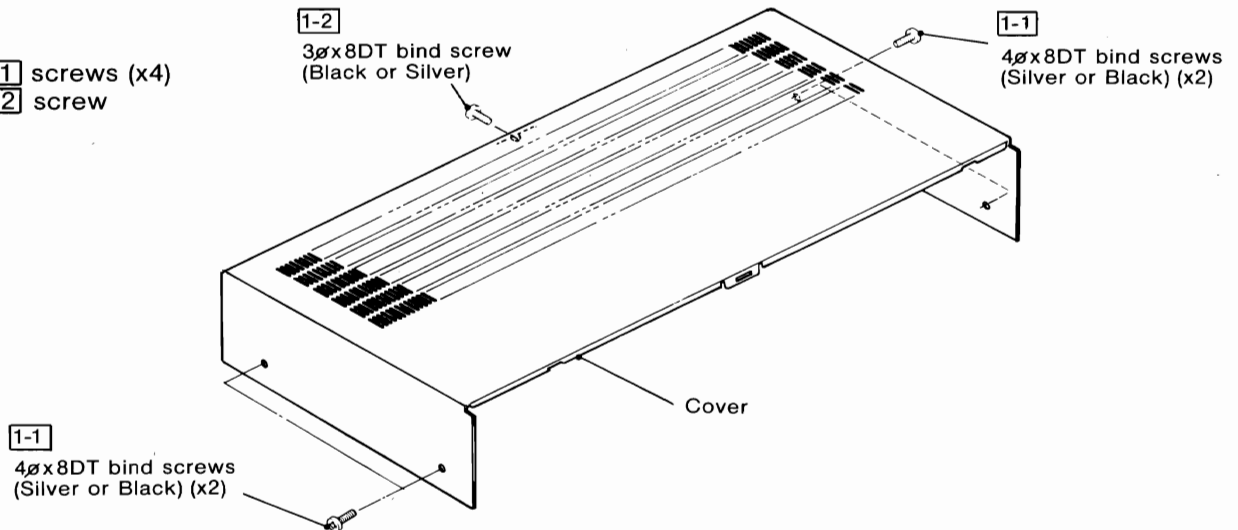
Sortie	30 W + 30 W (8 ohms, 20 Hz — 20 kHz, D.H.T. 0,05%) 30 W + 30 W (8 ohms, 1 kHz, D.H.T. 0,05% IHF et DIN)
Bande passante	10 Hz — 40 kHz (Puissance 1/2 RMS, D.H.T. 0,05% à 8 ohms.)
Courbe de fréquence	10 Hz — 40 kHz ± 2 dB
Distorsion harmonique (à la puissance réelle)	Inférieure à 0,05%
Distorsion d'intermodulation (à la moitié de la puissance réelle)	0,05%
Sensibilité d'entrée (sous 30 W 1 kHz de sortie)	
PHONO	2,5 mV (47 k ohms)
TAPE 1,2 ; AUX/VIDEO	150 mV (35 k ohms)
Niveau de surcharge phono	140 mV (avec une D.H.T. de 0,05% à 1 kHz)
Niveau de sortie	
TAPE OUT	150 mV (PHONO, à l'entrée nominale)
	150 mV (FM 400 Hz, 30% d'entrée mod.: 1 mV)
	150 mV (AM 400 Hz, 30% d'entrée mod.: 5 mV/m)
Rapport signal/bruit (IHF, réseau A, puissance nominale)	
PHONO	70 dB
TAPE 1,2 ; AUX/VIDEO	95 dB
Alimentation	C.A. 120 V 60 Hz, ~ 220 V 50/60 Hz, ~ 240 V 50/60 Hz ou ~ 120 V/220 V/240 V 50/60 Hz
Dimensions	435 (L) x 83 (H) x 359 (P) mm
Poids	6 kg

Les caractéristiques techniques et la présentation peuvent être modifiées sans préavis pour des raisons d'améliorations.

DISASSEMBLY AND REPLACEMENT · ZERLEGUNG UND AUSTUSCH · DEMONTAGE ET REMONTAGE

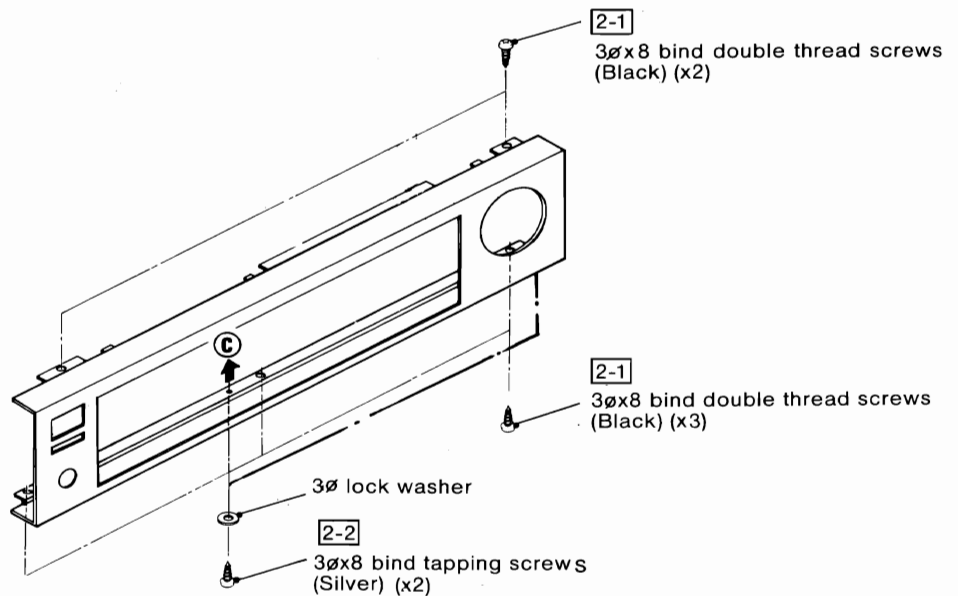
1. Cover

- Remove **1-1** screws (x4)
- Remove **1-2** screw



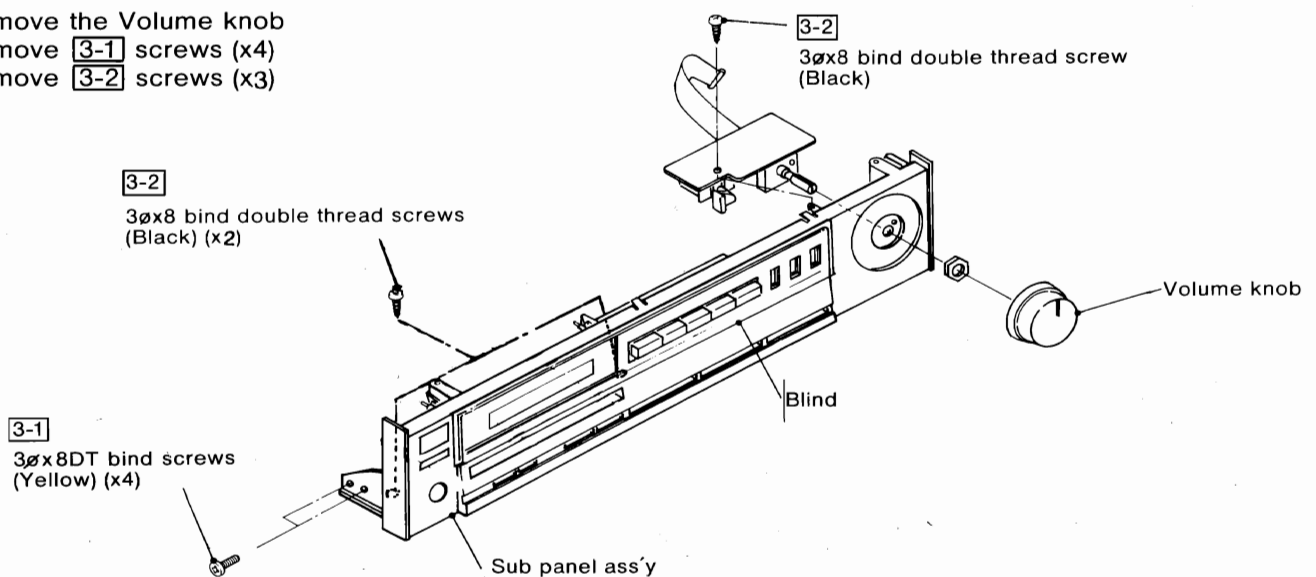
Escutcheon

- Remove **2-1** screws (x5)
- Remove **2-2** screws (x2)



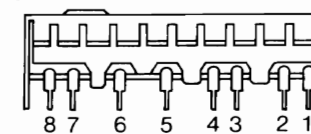
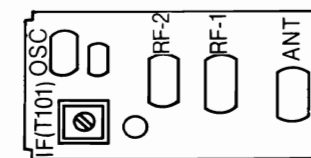
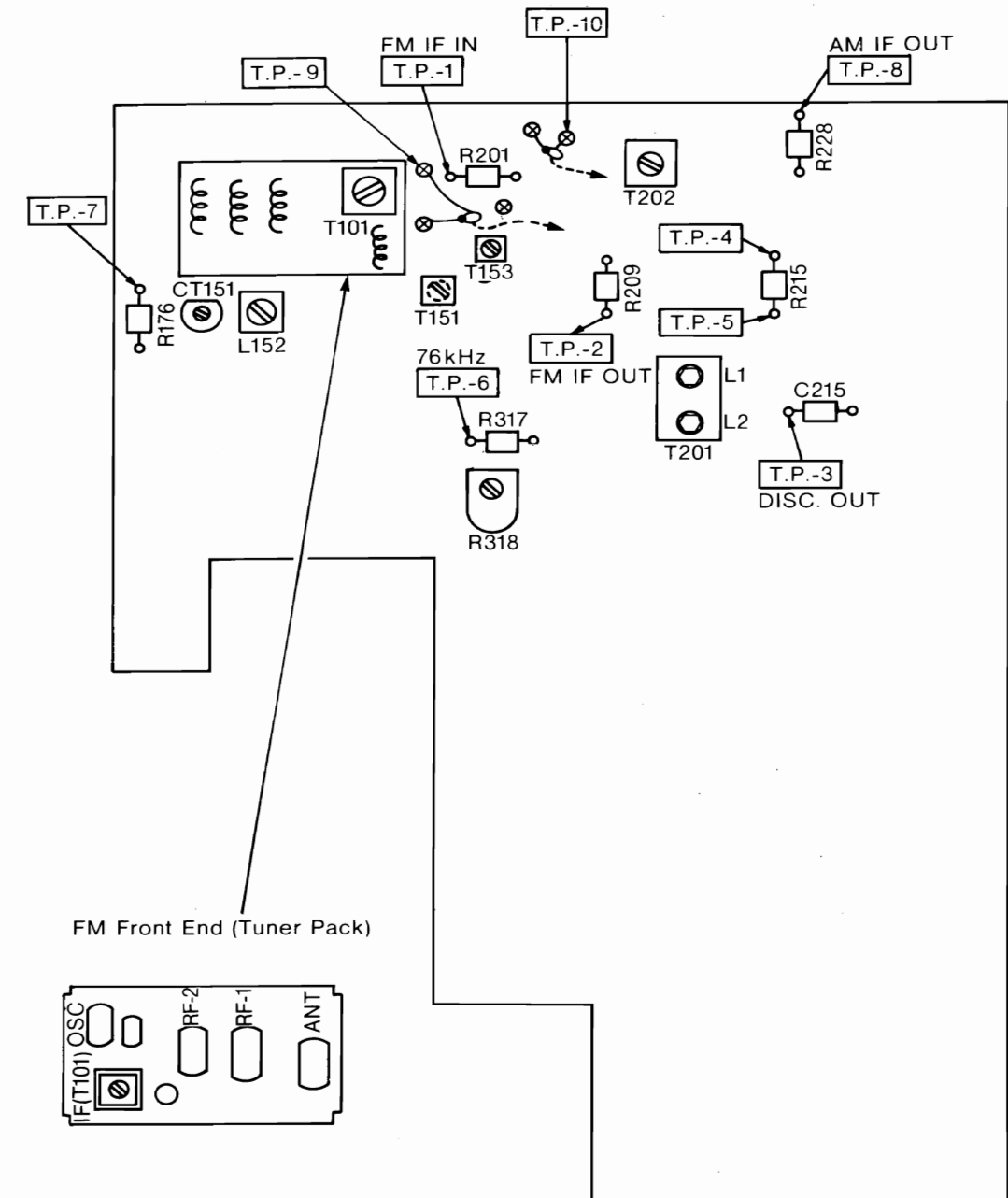
3. Sub panel

- Remove the Volume knob
- Remove **3-1** screws (x4)
- Remove **3-2** screws (x3)



GENERAL ALIGNMENT INSTRUCTION · ALLGEMEINE AUSRICHTANLEITUNG · INSTRUCTIONS GENERALES

- TA P.W.B.
- TA-Leiterplatte
- Plaque à circuits imprimés TA

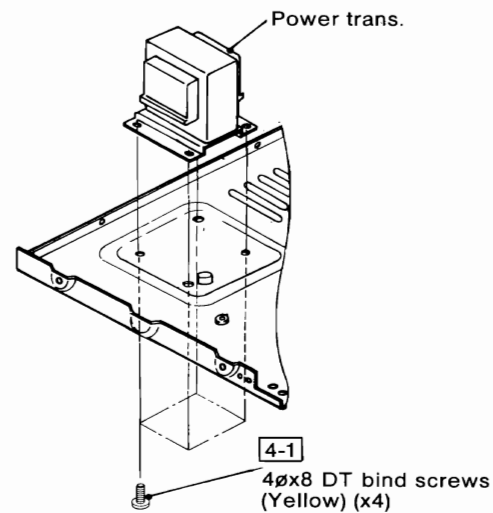


EXTERNAL TERMINALS

1. ANT
2. ANT
3. AGC
4. GND
5. Tuning Voltage
6. +B
7. IF OUT
8. OSC. OUT

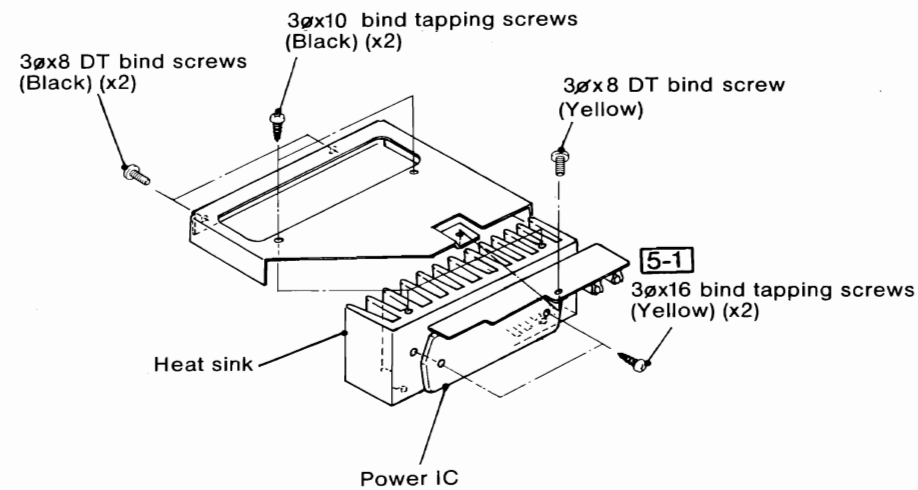
4. Power transformer

- Remove [4-1] screws (x4)



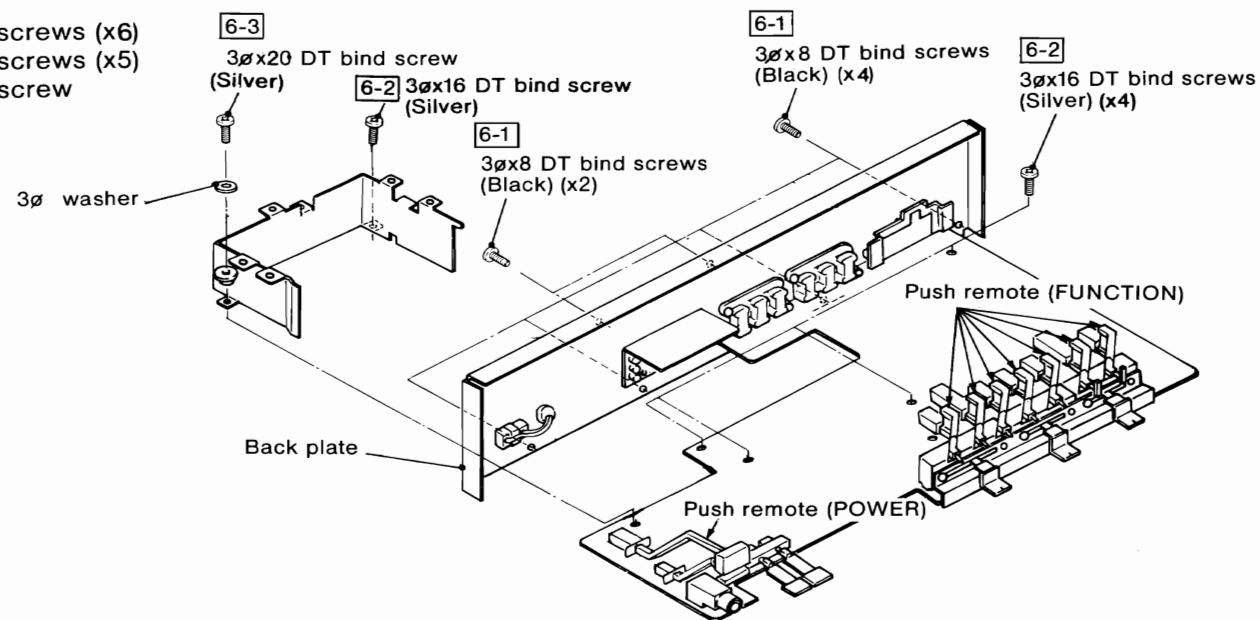
5. Power IC

- Remove [5-1] screws (x2)



6. TA P.W.B.

- Remove [6-1] screws (x6)
- Remove [6-2] screws (x5)
- Remove [6-3] screw

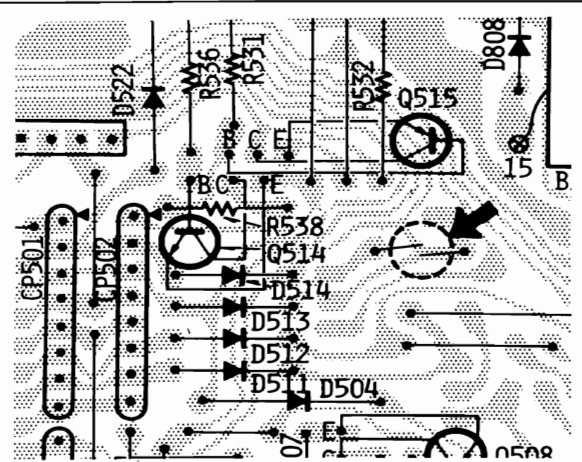


Notice for export models to the United States and Canada

In order to switch the AM broadcast frequencies channel spacing from 10 kHz to 9 kHz, connect the jumper wire as illustrated in the following figure.

Remarque concernant les modèles d'exportation pour les Etats-Unis et le Canada

Pour modifier l'espacement entre deux fréquences radio de la bande AM de 10 kHz à 9 kHz, relier le cable de connexion comme indiqué sur la figure.



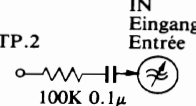
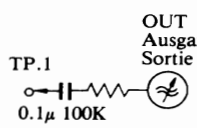
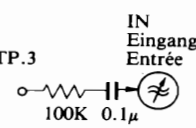
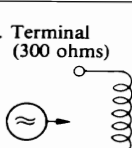
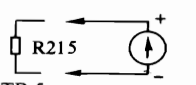
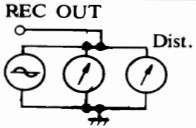
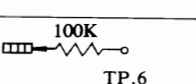
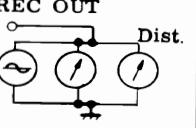
FM TUNER ALIGNMENT·ABGLEICH DES UKW-TUNERS·REGLAGE DE TUNER FM

FUNCTION: Tuner
Funktion: Tuner
FUNCTION: Tuner

VOLUME: MIN
Lautstärke: Minimum
VOLUME: min.

FM MODE : MONO

-  Sweep Generator
Wobbelgenerator
Générateur de balayage
-  Signal Generator
Signalgenerator
Générateur de signaux
-  Oscilloscope
Oszilloskop
Oscilloscope
-  + DC Null Meter
Gleichstrom-Nullmeter
Indicateur d'équilibrage à C.C.
-  VTVM
V.T.V.M.
Voltmètre électronique
-  Frequency Counter
Frequenzzähler
Fréquence-mètre
-  Dist. Distortion Meter
Klirrmesser
Distorsionmètre

Sequence Folge Ordre	Connection Anschlüsse Connexion		Setting Einstellung Montage		Adjust for Einstellung für Réglage pour	
	Input Eingang Entrée	Output Ausgang Sortie	Tuning Abstimm- anzeige Indicateur d'accord	Signal Signal Signal	Adjust Einstellpunkt Réglage	Indication Indikation Indication
1		TP.2 	—	10.7 MHz	T101 (Tuner Pack) (Ensemble Tuner)	(Note 2) (Hinweis 2)
2	TP.1 	TP.3 	—	10.7 MHz	T201 L1: "S" curve S-Kurve Courbe en forme de "S" L2: Straight Line Straight Linie Ligne droite	Straight line Gerade Linie Ligne droite (Note 3) (Hinweis 3)
3	ANT. Terminal (300 ohms) 	TP.4 	98.1 or 98.00 MHz	98.1 or 98.00 MHz	T201 (L1)	(Note 4) (Hinweis 4)
4	1 kHz, 60 dBµ 75 kHz (dev.) (for U.S.A. Canada) 40 kHz (dev.) (except U.S.A. Canada)	TP.5 	98.1 or 98.00 MHz	98.1 or 98.00 MHz	T201 (L2)	Distortion min. (Note 5) (Hinweis 5)
5	Covering Bereich Portée	—	—	—	—	(Note 6) (Hinweis 6)
6	Tracking Nachführung Alignement	—	—	—	—	(Note 6) (Hinweis 6)
7	76 kHz ANT. Terminal (300 ohms) 60 dBµ Non modulated Nicht moduliert Sans modulation		98.1 or 98.00 MHz	98.1 or 98.00 MHz	R318	76 kHz ± 100 Hz
8	Mute bandwidth Largeur de bande sourdine Stillabtimmungs- Bandbreite (except U.S.A. Canada)	ANT. Terminal 1 kHz, 40 kHz (Dev.) 60 dBµ	REC OUT 	98.00 MHz (Mute sw. on)	98.00 MHz ±30 kHz Detuning	Mute ON by ±30 ±5 kHz Detuning tolerance

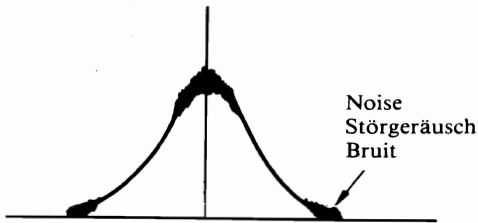


Fig. A Abb. A

- (Note 1)
Perform adjustment at least 3 minutes after the power has been switched on.
- (Note 2)
Using a sweep generator, apply low-input signals (with a small amount of noise superimposed as in fig. A), and adjust the T101 so that the waveforms are brought to their maximum in center marker frequency (10.7 MHz).
- (Note 3)
Adjust the T201-L1 coil and obtain an S-curve. Now adjust the T201-L2 coil and improve the linearity of the S-curve.
- (Note 4)
Connect a DC null meter across R215 on the TA P.W.B., and adjust T201-L1 core for a reading of 0 V ± 60 mV.
- (Note 5)
When the distortion adjustment is performed, there will be a slight deviation in the discriminator adjustment performed under 3. Therefore, repeat adjustments 3 and 4 several times and adjust for a reading of 0 V on the DC null meter with the distortion at its minimum.
- (Note 6)
FM Tuner pack is aligned before shipping, so it is not necessary to adjust covering and tracking.

- (Hinweis 1)
Den Abgleich frühestens 3 Minuten nach dem Einschalten des Netzschalters durchführen.
- (Hinweis 2)
Mit Hilfe eines Wobbelgenerators sind niederpegelige Signale (mit geringer Rauschstörung an der Anstiegsflanke der in Abb. A) anzulegen; T101 so abgleichen, daß Wellenform an der Mittenmarkierungsfrequenz (10,7 MHz) ein Maximum annimmt.
- (Hinweis 3)
T201-L1 abgleichen, um eine S-Kurve zu erhalten. Danach die Spule T201-L2 nachjustieren, um die gerade Linie in der S-Kurve zu verbessern.
- (Hinweis 4)
Einen Gleichspannungsmesser an R215 anschließen (auf der TA- Leiterplatte) und T201-L1 auf eine Anzeige von 0 V ± 60 mV einstellen.
- (Hinweis 5)
Wenn der Verzerrungsabgleich vorgenommen wird, kommt es zu einer kleinen Änderung der in Punkt 3 durchgeführten Diskriminator-Einstellung. Die Abgleiche 3 und 4 sind daher mehrmals zu wiederholen, bis der Spannungsmesser bei minimalen Verzerrungen 0 V anzeigt.
- (Hinweis 6)
Das UKW-Empfangsteil wurde vor dem Versand eingestellt, so daß der Bereich und die Nachführung nicht einjustiert werden müssen.

- (Note 1)
Effectuer ce réglage au moins 3 minutes après la mise sous tension.
- (Note 2)
Utiliser un générateur de balayage et appliquer des signaux d'entrée à faible niveau (avec un faible chevauchement de bruit comme représenté sur la figure A), et ajuster T101 pour amener les formes d'ondes à leur maximum de la fréquence nominale de repérage (10,7 MHz).
- (Note 3)
Ajuster la bobine T201-L1 pour obtenir une courbe en forme de "S". Ajuster ensuite la bobine T201-L2 et améliorer la linéarité de la courbe en forme de "S".
- (Note 4)
Raccorder un indicateur de zéro à courant continu entre R215 de la plaquette à circuits imprimés du TA et ajuster le noyau T201-L1 pour obtenir une lecture de 0 V ± 60 mV.
- (Note 5)
Quand le réglage de distorsion est réalisé, il existera un léger écart de réglage du discriminateur, opération qui est réalisée en en 3. Par conséquent, les réglages 3 et 4 doivent être faits à plusieurs reprises de façon à obtenir une indication de 0 V à l'indicateur de zéro à continu quand la distorsion est minimale.
- (Note 6)
L'étage tuner FM est réglé avant son envoi, il est donc inutile d'effectuer le réglage de portée et d'alignement.

AM TUNER ALIGNMENT·ABGLEICH DES AM-TUNERS·REGLAGE DE TUNER AM

Condition: Function: TUNER
Modulation: 400 Hz 30%

Bedingung: Funktion: TUNER
Modulation: 400 Hz 30%

Conditions: Fonction: TUNER
Modulation: 400 Hz 30%

Sequence Folge Ordre	Connection Anschlüsse Connexion		Setting Einstellung Montage		Adjust for Einstellung für Réglage pour	
	Input Eingang Entrée	Output Ausgang Sortie	Tuning Abstimm- anzeige Indicateur d'accord	Signal Signal Signal	Adjust Einstellpunkt Réglage	Indication Indikation Indication
1	IF Amp. ZF Verstärker Amplificateur de fréquence intermédiaire	Out Ausgang Sortie	IN Eingang Entrée	—	450 kHz	T153 T202
2	Covering Abgleich Guipage	Loop antenna Rahmenantenne Antenne en cardon	TP.9 GND	530 kHz or 522 kHz	—	T151
3	Tracking Vorstufe Alignement	REC OUT	600 kHz or 603 kHz	600 kHz or 603 kHz	L152	Output max. Caution 3 Vorsicht 3
			1400 kHz or 1404 kHz	1400 kHz or 1404 kHz	CT151	

Caution

1. Adjust black cores of T153 and T202 so that the waveform is as shown in Fig. B. After adjusting as above, increase the output level of the sweep generator and adjust T153 and T202 again so that the top of the waveform A (indicated in Fig. C) will be flat and wide.
2. Carry out this adjustment for final adjustment of the coil only when you have moved the core by mistake.
3. Set the input level to 74 dB/m in coarse adjustment. Reduce the input level to minimum (50 dB/m) as adjustment proceeds.

Vorsicht

1. Die schwarzen Kerne von T153 und T202 so einstellen, daß die Kurvenform der in Abb. B dargestellten entspricht. Nach der zuvor beschriebenen Einstellung den Ausgangspegel des Oszillators erhöhen und T153 und T202 abermals einstellen, so daß die Spitze der Kurvenform A (s. Abb. C) flach und breit wird.
2. Diese Einstellung zur abschließenden Angleichung der Spule nur vornehmen, wenn der Kern irrtümlich bewegt wurde.
3. Den Eingangspegel auf 74 dB/m grob einstellen. Auf minimal 50 dB/m nach Verlauf der Einstellung zurückstellen.

Attention

1. Régler les âmes noires de T153 et T202 de façon à obtenir une forme d'onde comme indiquée sur la fig. B. Après avoir réglé comme indiqué ci-dessus, augmenter le niveau d'entrée du générateur de balayage et régler T153 et T202 à nouveau de façon que le sommet de la forme d'onde A (voir Fig. C) soit aplati et large.
2. N'effectuer le dernier réglage de la bobine par ce réglage que si vous avez bougé l'âme par erreur.
3. Faire un réglage approximatif du niveau d'entrée à 74 dB/m. Réduire le niveau d'entrée jusqu'à un minimum de 50 dB/m à mesure que l'on effectue le réglage.

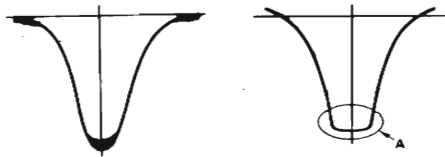
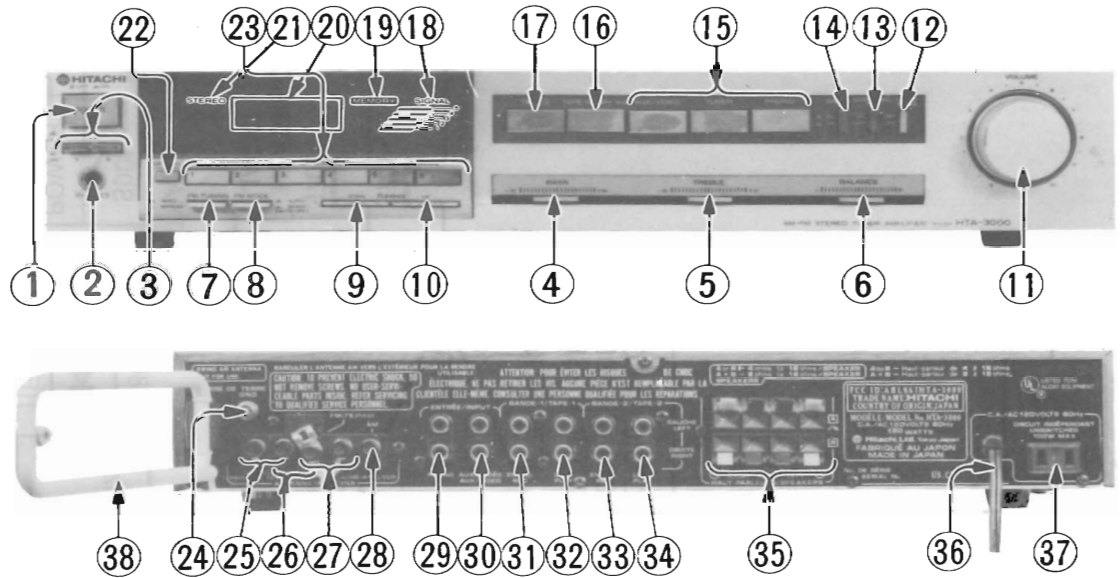


Fig. B·Abb. B Fig. C Abb. C

FRONT AND REAR PANEL·VORDERE UND HINTERE BEDIENUNGSTAEFL·PANNEAUX AVANT ET ARRIERE



- ① POWER switch
- ② PHONES jack
- ③ SPEAKERS switch
- ④ BASS control
- ⑤ TREBLE control
- ⑥ BALANCE control
- ⑦ FM TUNING switch
- ⑧ FM MODE switch
- ⑨ TUNING (DOWN) key
- ⑩ TUNING (UP) key
- ⑪ VOLUME control
- ⑫ LOUDNESS switch
- ⑬ SUBSONIC FILTER switch
- ⑭ BAND switch
- ⑮ FUNCTION switches
- ⑯ TAPE-1 (COPY 1D2) switch
- ⑰ TAPE-2 switch
- ⑱ SIGNAL indicators
- ⑲ MEMORY indicator
- ⑳ Frequency display
- ㉑ FM STEREO indicator
- ㉒ MEMORY write key
- ㉓ PRESET keys
- ㉔ GROUND terminal (GND)
- ㉕ FM ANTENNA terminal (300 ohms)
- ㉖ FM ANTENNA terminal (75 ohms)
- ㉗ AM LOOP Antenna terminals
- ㉘ AM ANTENNA terminal (EXTERNAL)
- ㉙ PHONO INPUT jacks
- ㉚ AUX/VIDEO INPUT jacks
- ㉛ TAPE-1 REC jacks
- ㉜ TAPE-1 PLAY jacks
- ㉝ TAPE-2 REC jacks
- ㉞ TAPE-2 PLAY jacks
- ㉟ SPEAKERS terminals
- ㊱ Power supply cord
- ㊲ AC outlet (for U.S.A., Canada, Asia & Latin American countries)
- ㊳ AM LOOP ANTENNA

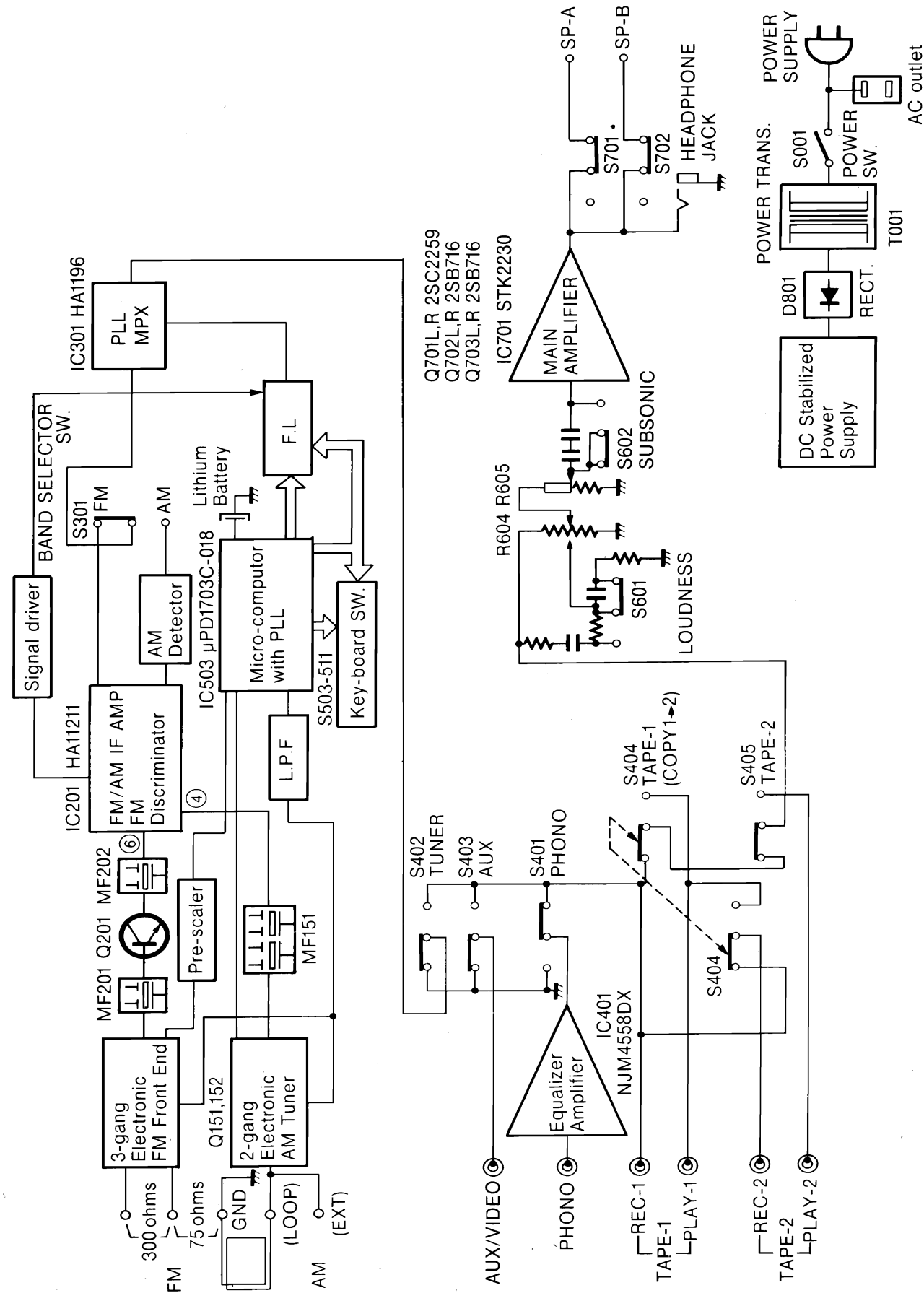
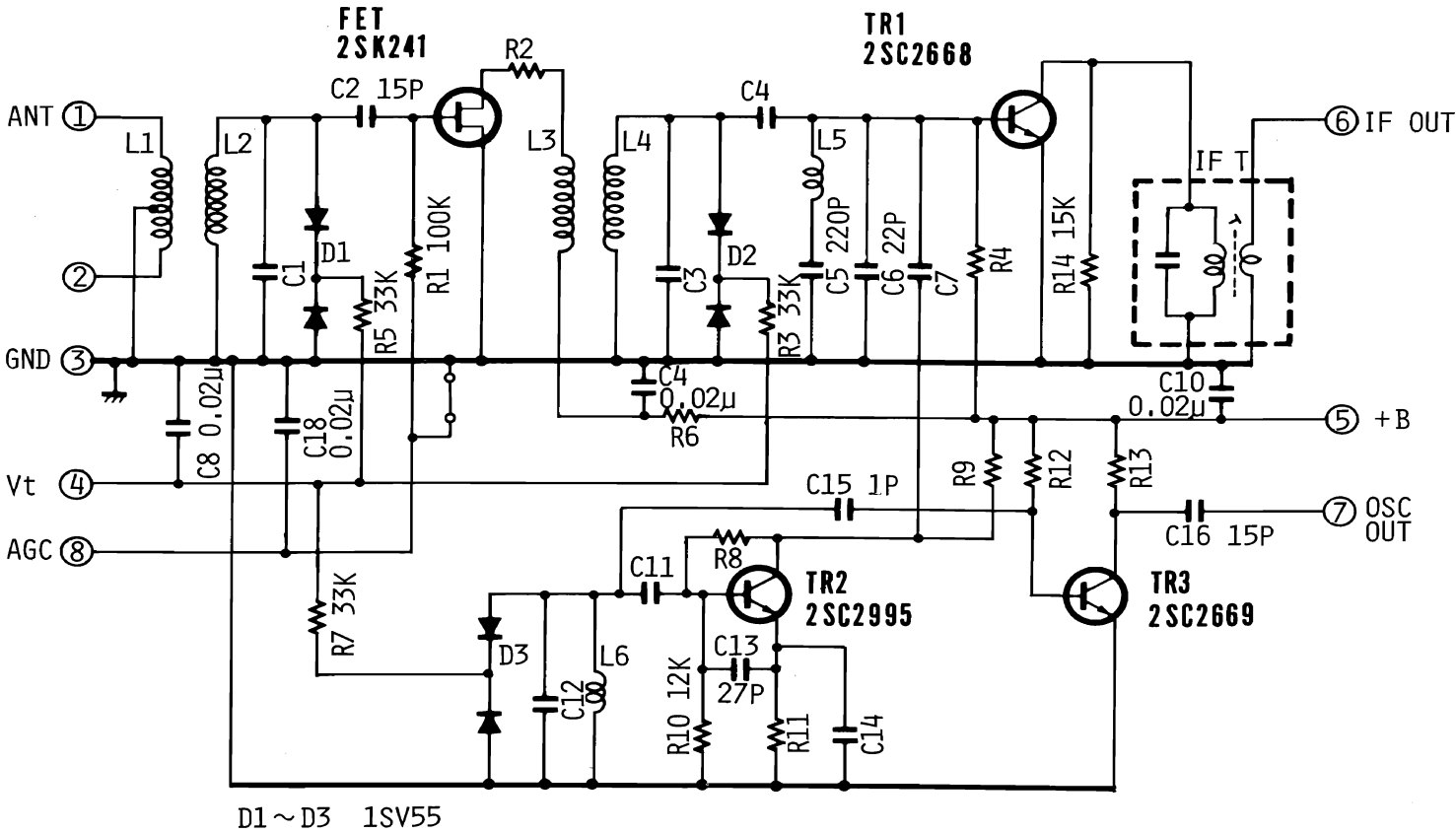
- ① Netzschalter (POWER)
- ② Kopfhörer-Buchse (PHONES)
- ③ Lautsprecherschalter (SPEAKERS)
- ④ Tiefenregler (BASS)
- ⑤ Höhenregler (TREBLE)
- ⑥ BALANCE-Regler
- ⑦ UKW-Abstimmumschalter (FM TUNING)
- ⑧ UKW-Betriebsartenschalter (FM MODE)
- ⑨ Abstimmaste(auf niedriger Frequenzen hin) (TUNING DOWN)
- ⑩ Abstimmaste(auf höhere Frequenzen hin) (TUNING UP)
- ⑪ Lautstärkereglern (VOLUME)
- ⑫ Schalter für gehörrichtige Lautstärke (LOUDNESS)
- ⑬ Schalter für Infrasschallfilter (SUBSONIC FILTER)
- ⑭ Band schalter (BAND)
- ⑮ Funktionsschalter
- ⑯ Schalter für Tonband-1 (COPY 1D2)
- ⑰ Schalter für Tonband-2 (TAPE-2)
- ⑱ Signalanzeigen (SIGNAL)
- ⑲ Speicheranzeige (MEMORY)
- ⑳ Frequenzanzeige
- ㉑ UKW-Stereoanzeige (FM STEREO)
- ㉒ Speichertaste (MEMORY)
- ㉓ Vorprogrammierungstasten (PRESET)
- ㉔ Erdungsklemme (GND)
- ㉕ UKW-Antennenklemme (300 Ohm)
- ㉖ UKW-Antennenklemme (75 Ohm)
- ㉗ MW-Rahmenantennenbuchse (AM LOOP)
- ㉘ MW Antennenklemme (Externe)
- ㉙ PHONO-Eingangsbuchse
- ㉚ AUX/VIDEO-Eingangsbuchse
- ㉛ Bandaufnahmebuchsen 1 (TAPE-1 REC)
- ㉜ Bandwiedergabebuchsen 1 (TAPE-1 PLAY)
- ㉝ Bandaufnahmebuchsen 2 (TAPE-2 REC)
- ㉞ Bandwiedergabebuchsen 2 (TAPE-2 PLAY)
- ㉟ Lautsprecher-klemmen (SPEAKERS)
- ㊱ Netzstromkabel
- ㊲ Wechselstromausgang (für USA, Kanada, Asien und Südamerika)
- ㊳ MW-Rahmenantenne

- ① Interrupteur d'alimentation (POWER)
- ② Prise de casque (PHONES)
- ③ Interrupteur d'enceintes (SPEAKERS)
- ④ Commande de graves (BASS)
- ⑤ Commande des aigues (TREBLE)
- ⑥ Commande d'équilibrage (BALANCE)
- ⑦ Commutateur d'accord FM (FM TUNING)
- ⑧ Commutateur de mode FM (FM MODE)
- ⑨ Touche d'accord descendant (TUNING DOWN)
- ⑩ Touche d'accord ascendant (TUNING UP)
- ⑪ Commande de VOLUME
- ⑫ Commutateur de correction physiologique (LOUDNESS)
- ⑬ Commutateur de filtre infrasonique (SUBSONIC FILTER)
- ⑭ Commutateur de bande (BAND)
- ⑮ Commutateurs de fonction
- ⑯ Commutateur de bande-1 (COPY 1D2)
- ⑰ Commutateur de bande-2
- ⑱ Témoins de SIGNAL
- ⑲ Témoin d'inscription en mémoire (MEMORY)
- ⑳ Affichage des fréquences
- ㉑ Témoin FM STEREO
- ㉒ Touche d'inscription en mémoire (MEMORY)
- ㉓ Touches de pré-réglage (PRESET)
- ㉔ Prise de terre (GND)
- ㉕ Bornes d'antenne FM (300 ohms)
- ㉖ Bornes d'antenne FM (75 ohms)
- ㉗ Bornes d'antenne AM (AM LOOP)
- ㉘ Borne d'antenne AM extérieure (EXTERNAL)
- ㉙ Prises d'entrée phono (PHONO INPUT)
- ㉚ Prises d'entrée AUX/VIDEO
- ㉛ Prises TAPE-1 REC
- ㉜ Prises TAPE-1 PLAY
- ㉝ Prises TAPE-2 REC
- ㉞ Prises TAPE-2 PLAY
- ㉟ Bornes d'enceintes (SPEAKERS)
- ㊱ Cordon d'alimentation
- ㊲ Borne C.A. (pour les E.U., le Canada, l'Asie et l'Amérique latine)
- ㊳ Antenne-cadre AM

BLOCK DIAGRAM · BLOCK SCHEMA · SCHEMA

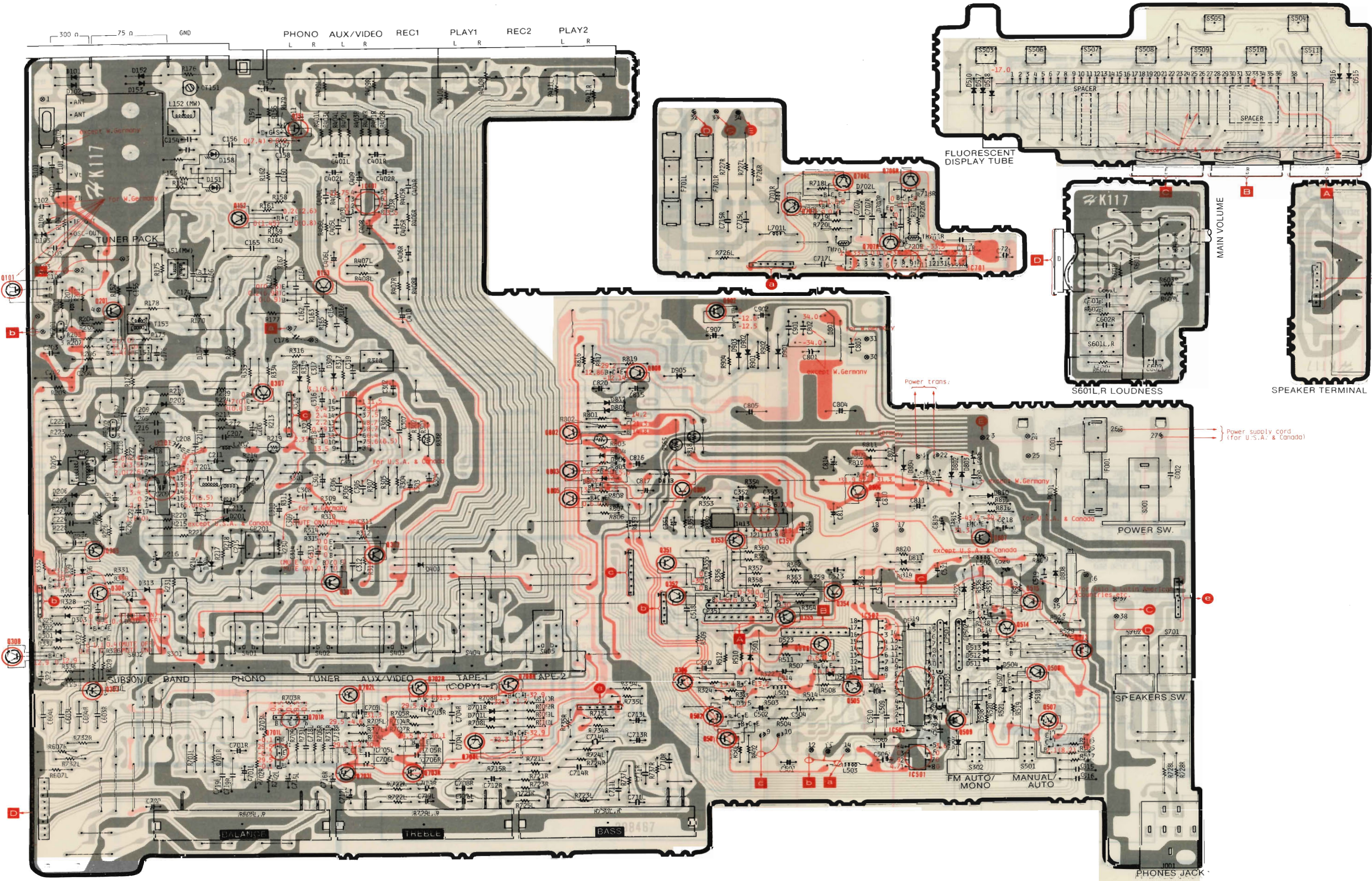
CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

Tuner pack



PRINTED WIRING BOARD · PRINTPLATTEN · PLAN DE BASE

[■ : +B, ■ : -B, ■ : Earth, ■ : Other]

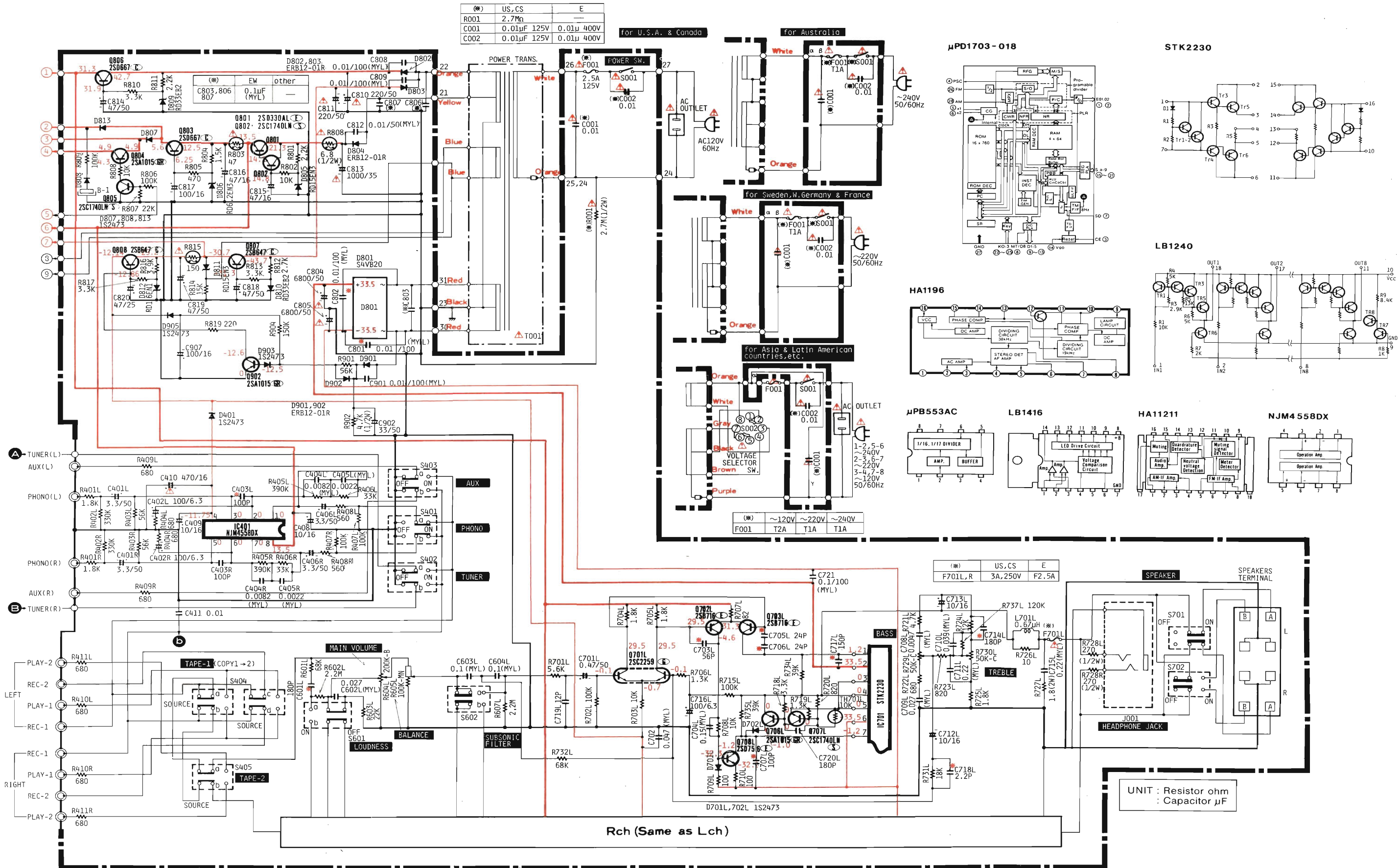


HA11211	2SC454 2SC460
HA1196	2SD330AL
LB1416	2SC2259
μPD1703C-018	1S2473
STK2230	KV-1226
LB1240	NJM4558DX μPB553AC
2SK104	2SC1740LN 2SB716 2SD756 2SB647 2SA1015 2SD667
2SK30A	1K60R, 1K34A HZ-7B ERB12-01R RD33EB2 RD15EN3 RD16EN1 RD8.2EN1 RD6.2EN3 RD10EN1
S4VB20	

CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

*: Axial lead cylindrical ceramic capacitor
*: Zylindrischer Keramik Kondensator mit axialer Zuleitung
*: Condensateur céramique cylindrique à conducteur axial

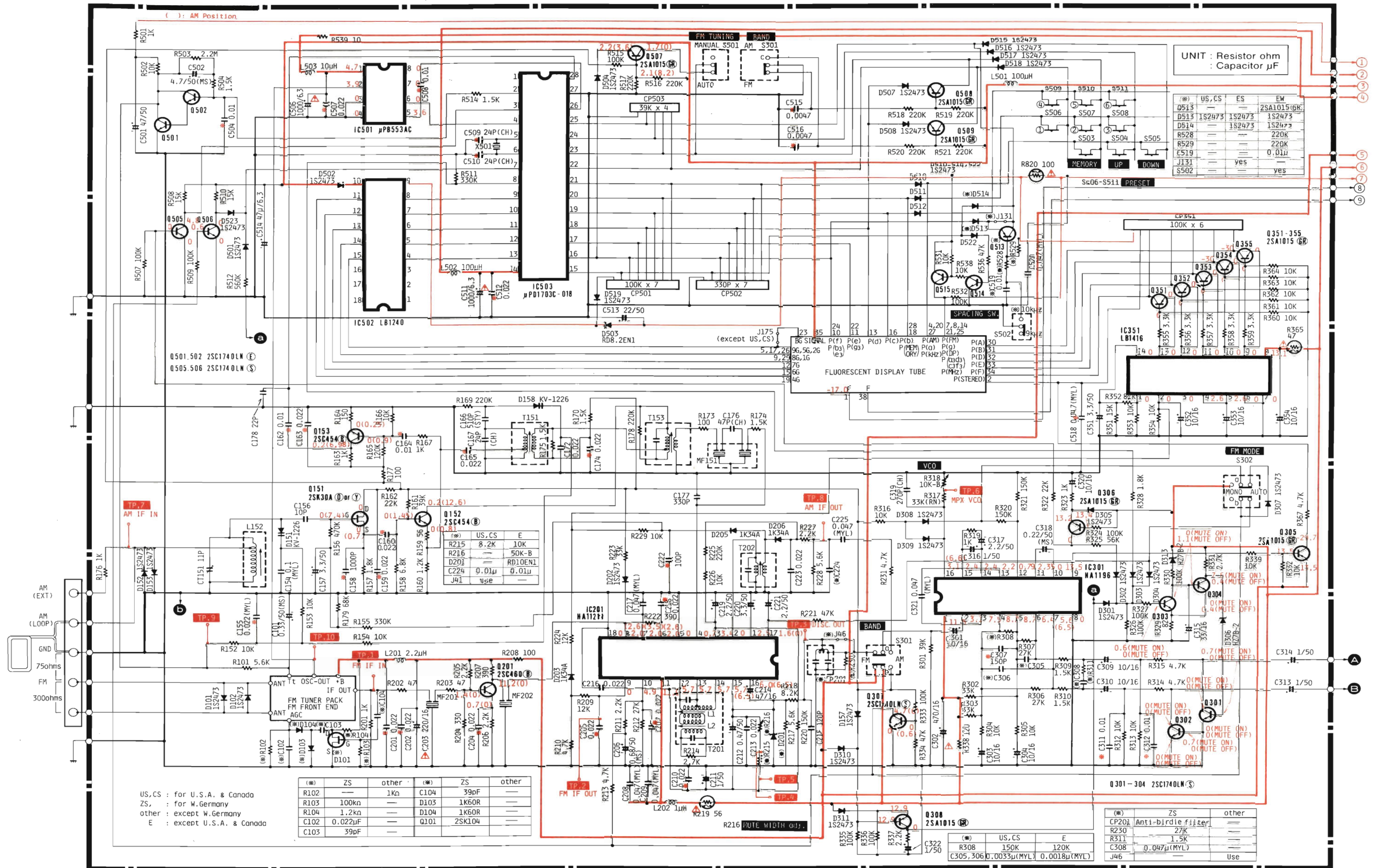
CAUTION
Use the electrolytic capacitors with explosion-proof valve when the diameter of them is more than 10mm φ.



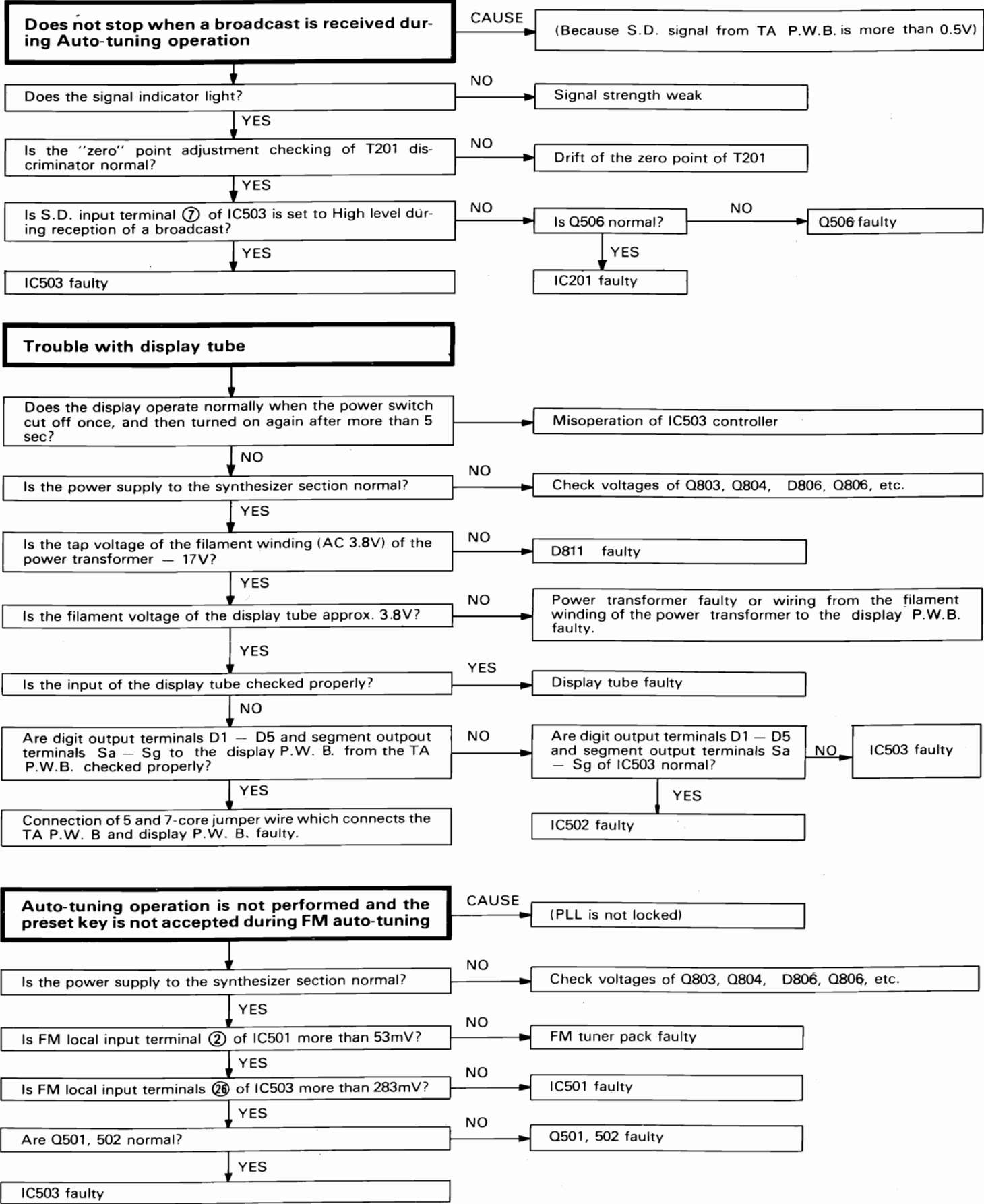
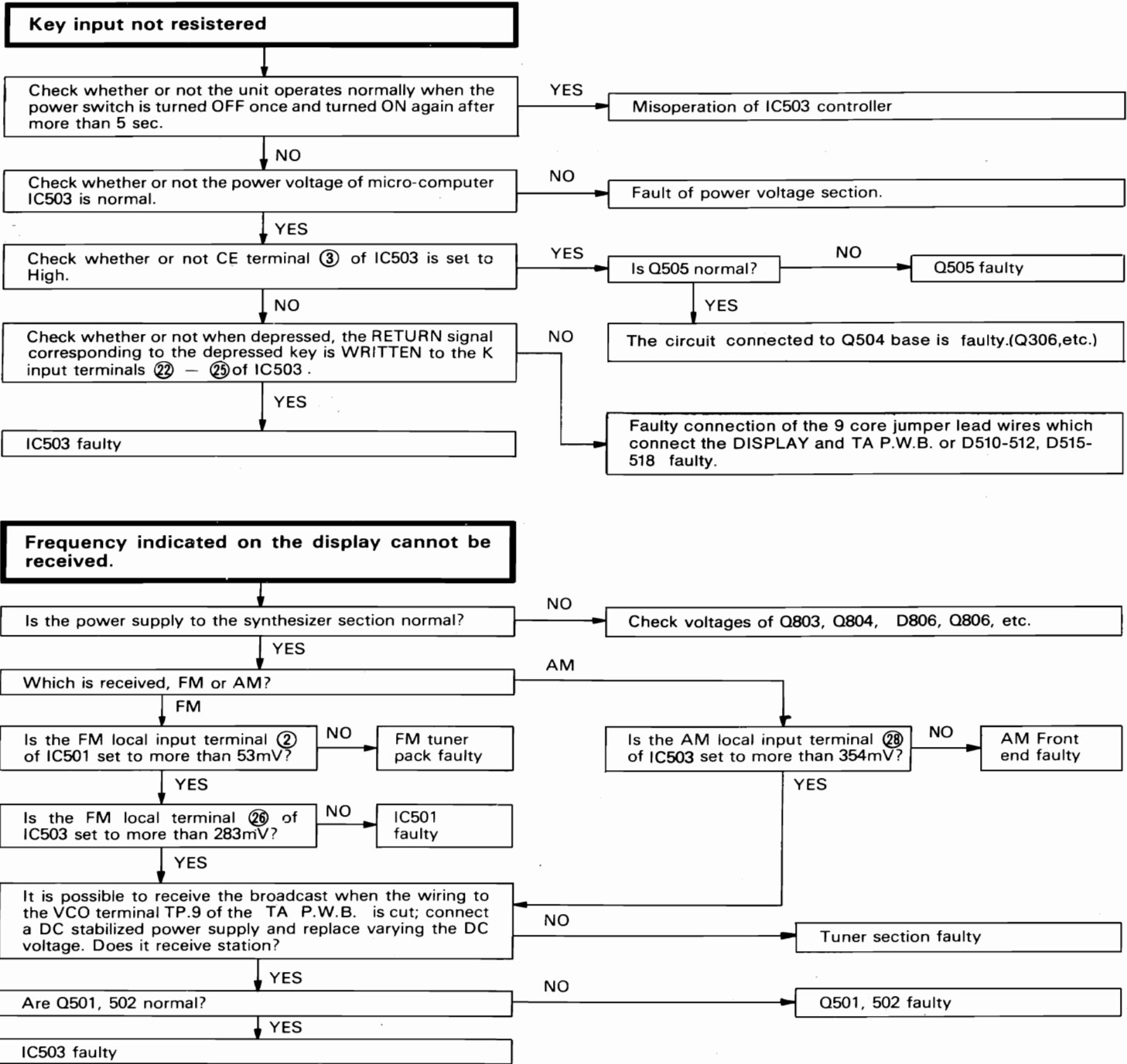
CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

CAUTION

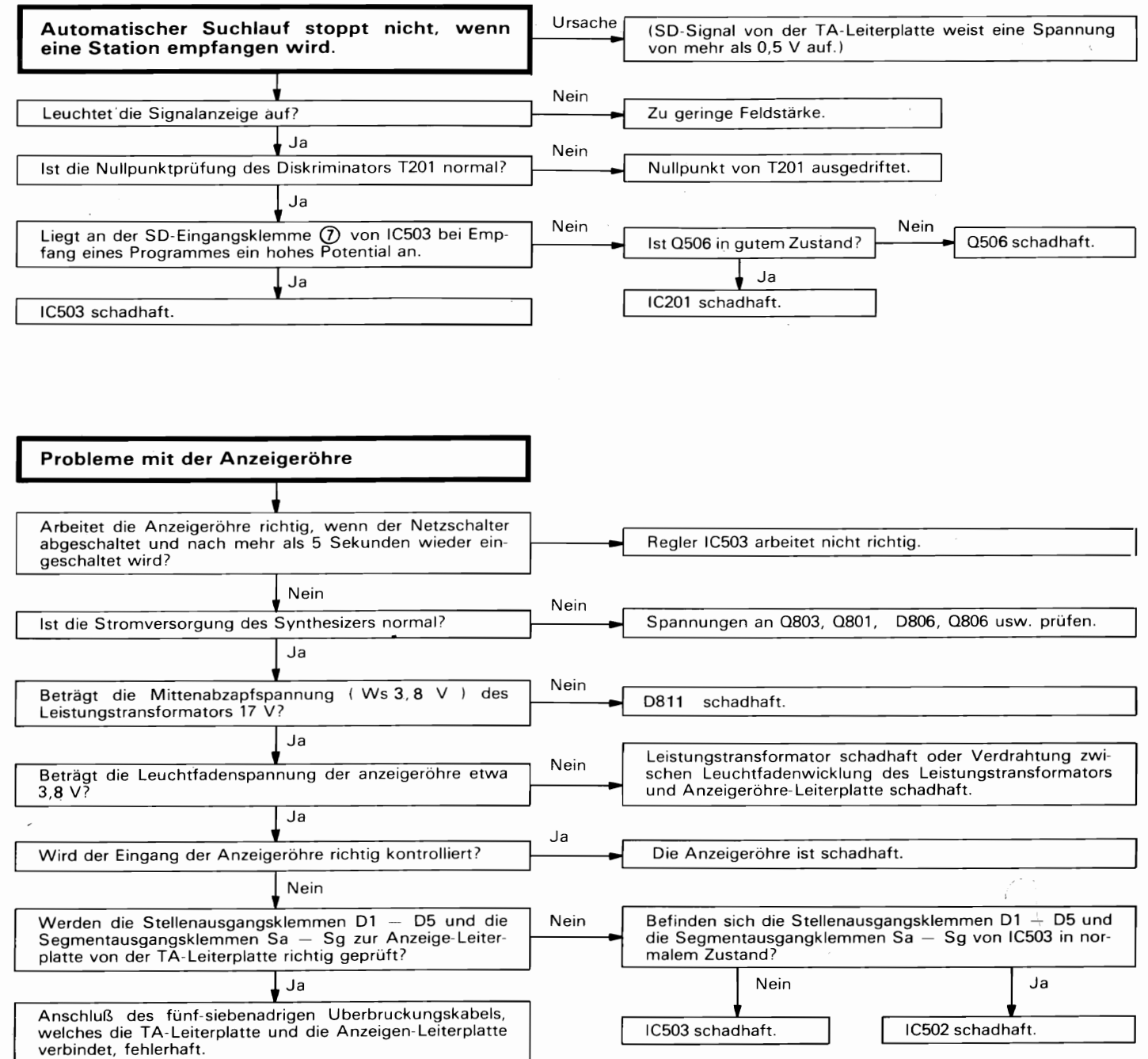
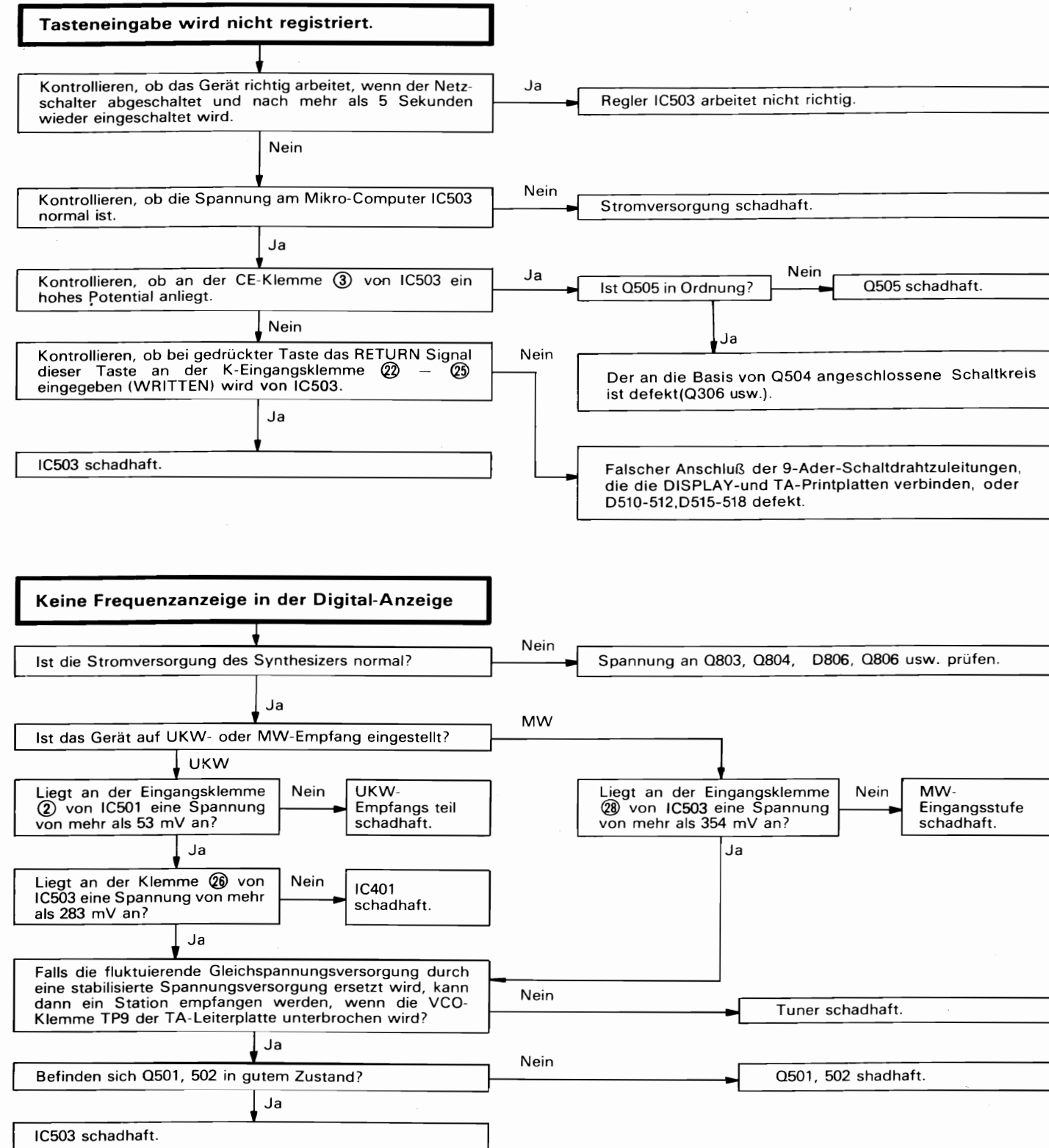
Use the electrolytic capacitors with explosion-proof valve when the diameter of them is more than 10mmφ.

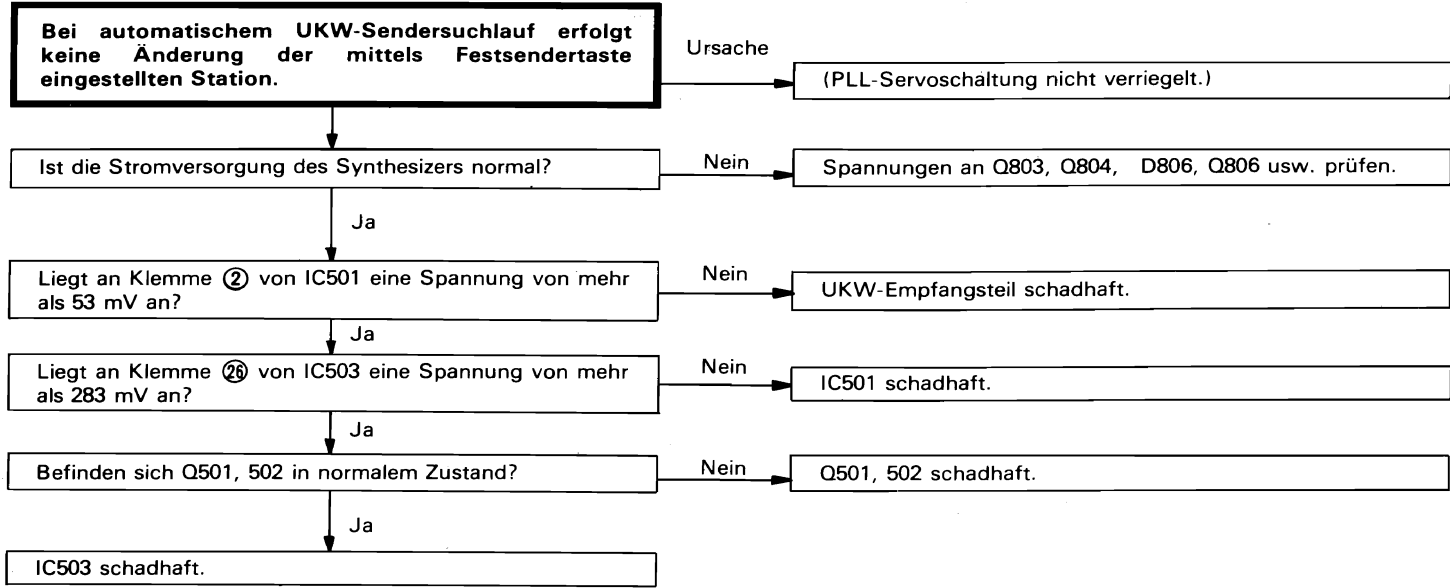


TROUBLE SHOOTING

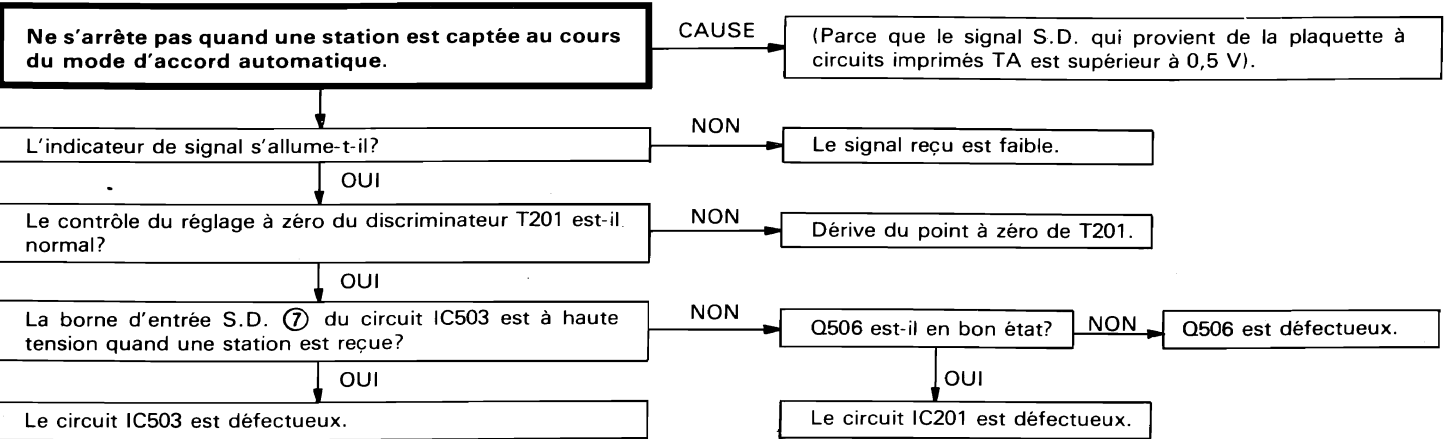
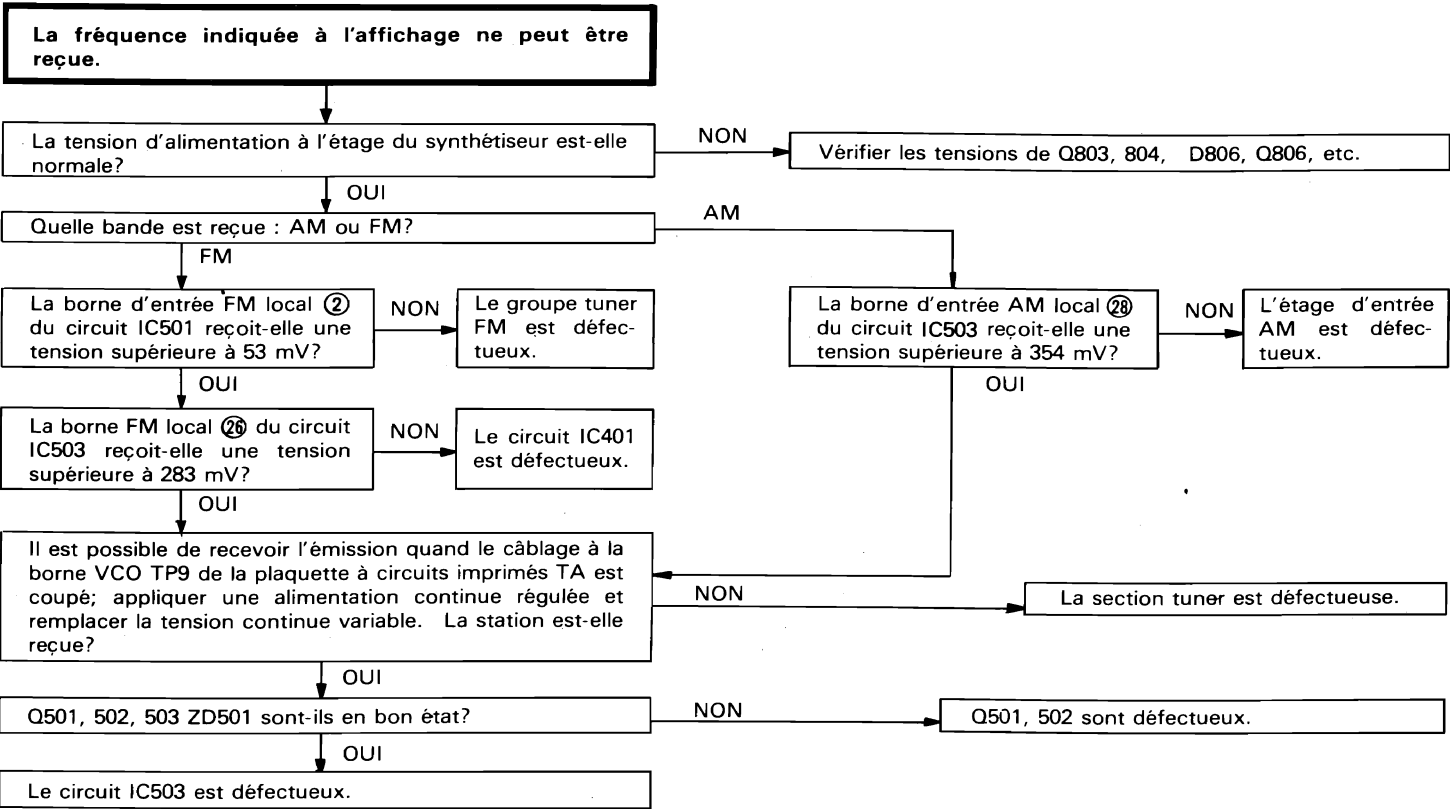
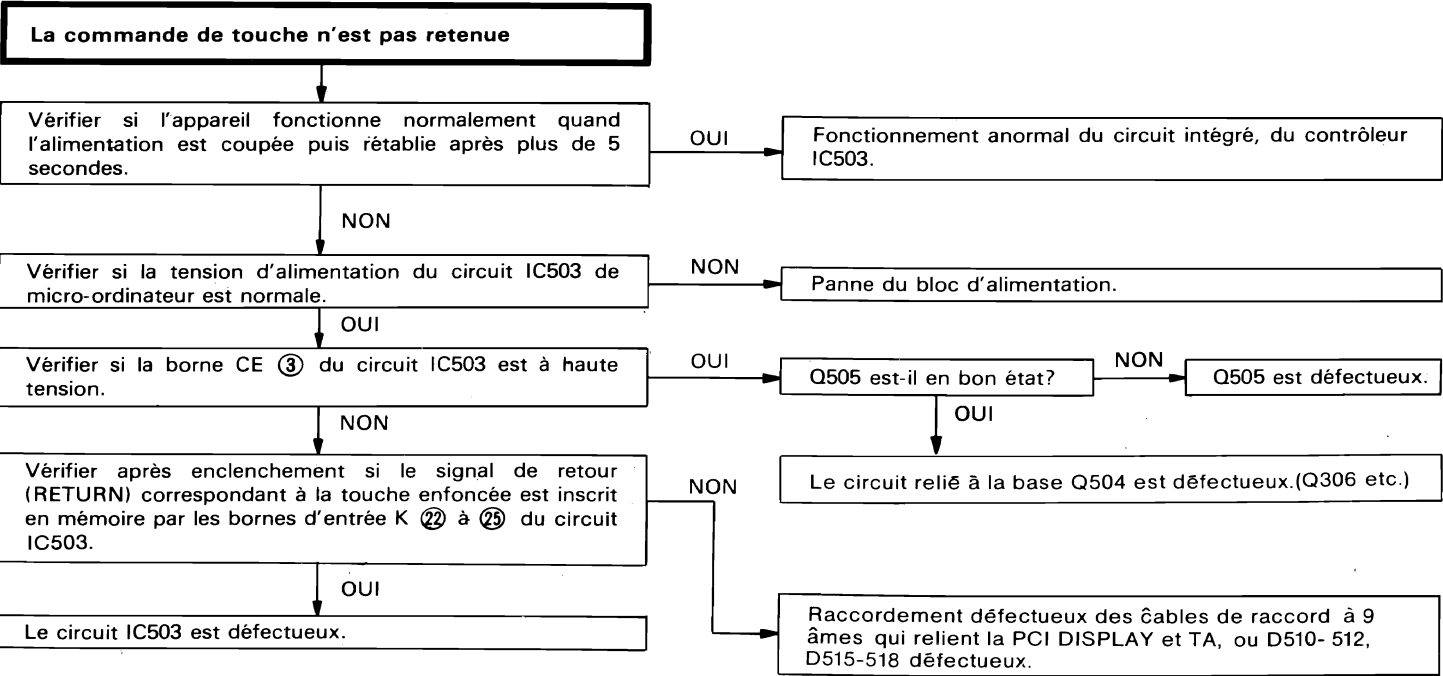


FEHLERSUCHE

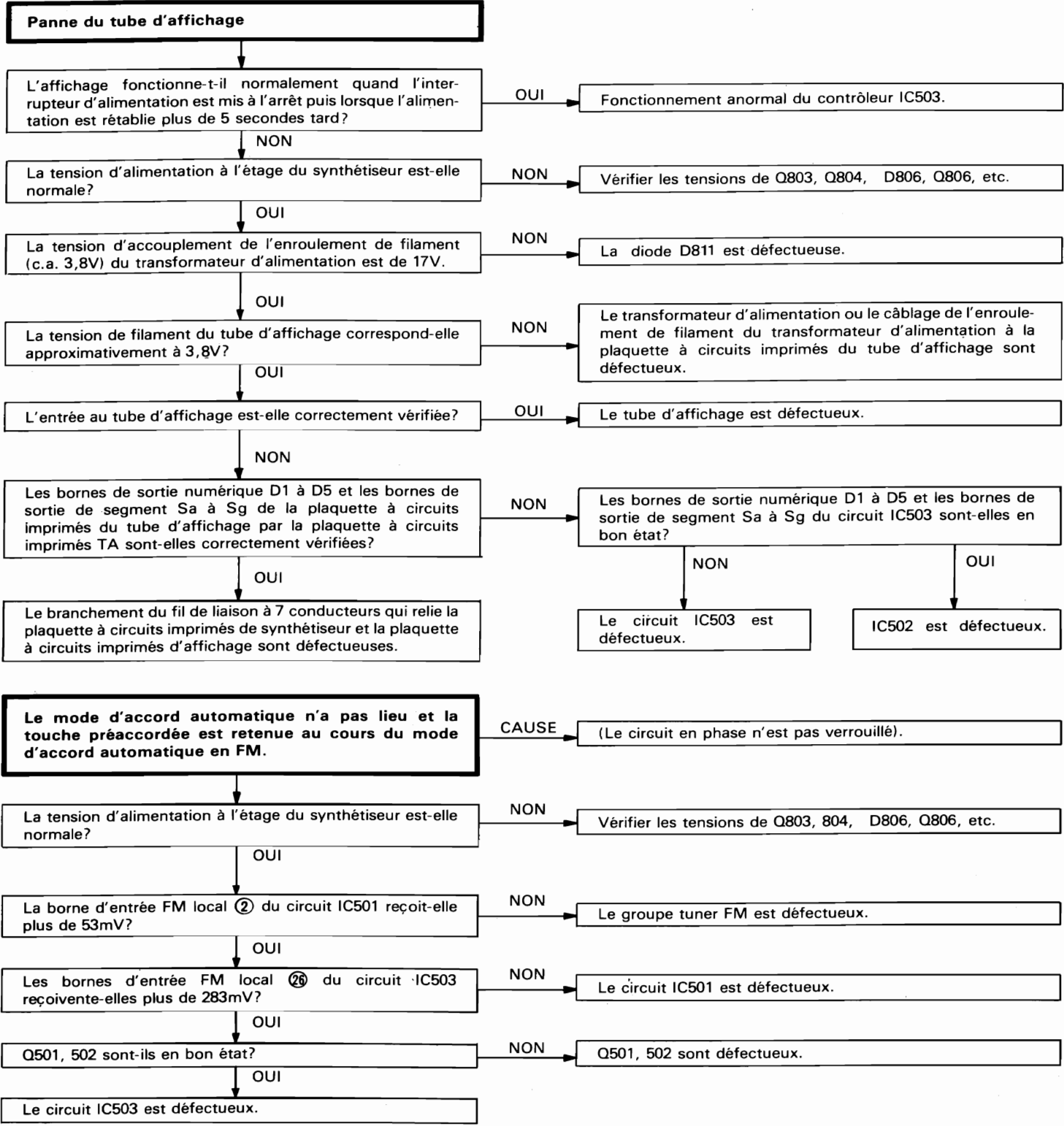




ANALYSE DE PANNES



REPLACEMENT PARTS LIST · ERSATZTEILLISTE · TABLEAU DES PIÈCE



SYMBOL No.	PART No.	DESCRIPTION			SYMBOL No.	PART No.	DESCRIPTION		
CAPACITORS					C305, C306	1274232	Mylar, film	1800pF ±5%	50V
C101	0252874	Electrolytic	0.33μF	50V				(except U.S.A. & Canada)	
C102	0245018	Ceramic, discal	0.022μF +80% -20%	25V	C307	0240002	Cylindrical ceramic	150pF ±10%	50V
C103	0248674	Ceramic, discal	39pF ±5%	50V	C308	0275015	Mylar, film	0.047μF ±10%	50V
C104	0248674	Ceramic, discal	39pF ±5%	50V				(for W. Germany)	
C154	0276011	Mylar, film	0.022μF ±10%	50V	C309	0252521	Electrolytic	10μF	16V
C155	0275013	Mylar, film	0.022μF +80% -20%	50V	C310	0252521	Electrolytic	10μF	16V
C156	0230012	Ceramic, discal	10pF ±5%	50V	C311	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C157	0252813	Electrolytic	3.3μF	50V	C312	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C158	0240020	Cylindrical ceramic	1000pF ±20%	50V	C313	0252811	Electrolytic	1μF	50V
C159	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C314	0252811	Electrolytic	1μF	50V
C160	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C315	0252523	Electrolytic	33μF	16V
C162	0240106	Cylindrical ceramic	0.01μF ±30%	25V	C316	0252811	Electrolytic	1μF	50V
C163	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C317	0252812	Electrolytic	2.2μF	50V
C164	0240106	Cylindrical ceramic	0.01μF ±30%	25V	C318	0252873	Electrolytic	0.22μF	50V
C165	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C319	0246470	Ceramic, discal	270pF ±5%	50V
C166	0228478	Styrol	510pF ±1%	50V	C320	0252521	Electrolytic	10μF	16V
C167	0230071	Ceramic, discal	24pF ±5%	50V	C321	0275015	Mylar, film	0.047μF ±10%	50V
C172	0245018	Ceramic, discal	0.022μF +80% -20%	25V	C322	0252811	Electrolytic	1μF	50V
C174	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C351	0252813	Electrolytic	3.3μF	50V
C176	0246456	Ceramic, discal	47pF ±5%	50V	C352	0252521	Electrolytic	10μF	16V
C177	0240006	Cylindrical ceramic	330pF ±10%	50V	C353	0252521	Electrolytic	10μF	16V
C178	0248668	Ceramic, discal	22pF ±5%	50V	C354	0252521	Electrolytic	10μF	16V
C201	0245018	Ceramic, discal	0.022μF +80% -20%	25V	C401L,R	0252813	Electrolytic	3.3μF	50V
C202	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C402L,R	0252231	Electrolytic	100μF	6.3V
ΔC203	0252532	Electrolytic	220μF	16V	C403L,R	0230036	Ceramic, discal	100pF ±5%	50V
C204	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C404L,R	1274236	Mylar, film	8200pF ±5%	50V
C205	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C405L,R	1274213	Mylar, film	2200pF ±5%	50V
C206	0252876	Electrolytic	0.68μF	50V	C406L,R	0252813	Electrolytic	3.3μF	50V
C207	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C408	0252521	Electrolytic	10μF	16V
C208	0275015	Mylar, film	0.047μF ±10%	50V	C409	0252521	Electrolytic	10μF	16V
C209	0275015	Mylar, film	0.047μF ±10%	50V	ΔC410	0252535	Electrolytic	470μF	16V
C210	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C411	0240106	Cylindrical ceramic	0.022μF ±30%	16V
C211	0252811	Electrolytic	1μF	50V	C501	0252825	Electrolytic	47μF	50V
C212	0252805	Electrolytic	0.47μF	50V	C502	0252880	Electrolytic	4.7μF	50V
C213	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C504	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C214	0252525	Electrolytic	47μF	16V	ΔC506	0252241	Electrolytic	1000μF	6.3V
C215	0230037	Ceramic, discal	120pF ±5%	50V	C507	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C216	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C508	0240106	Cylindrical ceramic	0.01μF ±30%	25V
C217	0275015	Mylar, film	0.047μF ±10%	50V	C509	0230071	Ceramic, discal	24pF ±5%	50V
C218	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C510	0230071	Ceramic, discal	24pF ±5%	50V
C219	0252812	Electrolytic	2.2μF	50V	ΔC511	0252241	Electrolytic	1000μF	6.3V
C220	0252813	Electrolytic	3.3μF	50V	C512	0240108	Cylindrical ceramic	0.022μF ±30%	16V
C221	0252812	Electrolytic	2.2μF	50V	C513	0252822	Electrolytic	22μF	50V
C222	0230036	Cylindrical ceramic	100pF ±5%	50V	C514	0252225	Electrolytic	47μF	6.3V
C223	0240108	Cylindrical ceramic	0.022μF ±30%	16V	C515	0240104	Cylindrical ceramic	4700pF ±30%	50V
C224	0240106	Cylindrical ceramic	0.01μF ±30%	25V	C516	0240104	Cylindrical ceramic	4700pF ±30%	50V
C225	0275015	Mylar, film	0.047μF ±10%	50V	C518	0275015	Mylar, film	0.047μF ±10%	50V
C301	0252521	Electrolytic	10μF	16V	C519	0244171	Ceramic, discal	0.01μF +80% -20%	50V
ΔC302	0252535	Electrolytic	470μF	16V				(for Asia & Latin American countries, etc.)	
C303	0252521	Electrolytic	10μF	16V	C520	0275015	Mylar, film	0.047μF ±10%	50V
C304	0252521	Electrolytic	10μF	16V	C601L,R	0240003	Cylindrical ceramic	180pF ±10%	50V
C305, C306	1274214	Mylar, film	3300pF ±5%	50V	C602L,R	0275033	Mylar, film	0.027μF ±10%	50V
			(for U.S.A. & Canada)		C603L,R	0276011	Mylar, film	0.1μF ±10%	50V
					C604L,R	0276011	Mylar, film	0.1μF ±10%	50V
					C701L,R	0252805	Electrolytic	0.47μF	50V
					C702L,R	0275015	Mylar, film	0.047μF ±10%	50V

SYMBOL No.	PART No.	DESCRIPTION			
C703L,R	0230030	Ceramic, discal	56pF	±5%	50V
C704L,R	0276012	Mylar, film	0.15μF	±10%	50V
C705L,R	0230021	Ceramic, discal	24pF	±5%	50V
C706L,R	0230021	Ceramic, discal	24pF	±5%	50V
C707L,R	0230036	Ceramic, discal	100pF	±5%	50V
C708L,R	0274015	Mylar, film	4700pF	±10%	50V
C709L,R	0275033	Mylar, film	0.027μF	±10%	50V
C710L,R	0275034	Mylar, film	0.039μF	±10%	50V
C711L,R	0276013	Mylar, film	0.22μF	±10%	50V
C712L,R	0252521	Electrolytic	10μF		16V
C713L,R	0252521	Electrolytic	10μF		16V
C714L,R	0240003	Cylindrical ceramic	180pF	±10%	50V
C715L,R	0276013	Mylar, film	0.22μF	±10%	50V
C716L,R	0252231	Electrolytic	100μF		6.3V
C717L,R	0240002	Cylindrical ceramic	150pF	±10%	50V
C718L,R	0230004	Ceramic, discal	2.2pF	±10%	50V
C719L,R	0230014	Ceramic, discal	12pF	±5%	50V
C720L,R	0240003	Ceramic, discal	180pF	±10%	50V
C721	0276511	Mylar, film	0.1μF	±10%	100V
C801, C802	0275511	Mylar, film	0.01μF	±10%	100V
C803	0276511	Mylar, film	0.1μF	±10%	100V (for W. Germany)
△C804	0259931	Electrolytic	6800μF		50V
△C805	0259931	Electrolytic	6800μF		50V
C806, C807	0276511	Mylar, film	0.1μF	±10%	100V (for W. Germany)
C808, C809	0275511	Mylar, film	0.01μF	±10%	100V
△C810	0252832	Electrolytic	220μF		50V
△C811	0252832	Electrolytic	220μF		50V
C812	0275011	Mylar, film	0.01μF	±10%	50V
△C813	0252741	Electrolytic	1000μF		35V
C814	0252825	Electrolytic	47μF		50V
C815	0252525	Electrolytic	47μF		16V
C816	0252525	Electrolytic	47μF		16V
△C817	0252531	Electrolytic	100μF		16V
C818	0252825	Electrolytic	47μF		50V
C819	0252825	Electrolytic	47μF		50V
C820	0252625	Electrolytic	47μF		25V
C901	0275511	Mylar, film	0.01μF	±10%	100V
C902	0252823	Electrolytic	33μF		50V
C907	0252531	Electrolytic	100μF		16V
△C001, C002	0243899	Ceramic, discal	0.01μF	$\pm \frac{+100}{-0} \%$	125V (for U.S.A. & Canada)
△C001, C002	0243901	Ceramic, discal	0.01μF	$\pm \frac{+100}{-0} \%$	400V (except U.S.A. & Canada)
RESISTORS					
R101	0129619	Carbon film	5.6kΩ	±5%	SRD1/8P
R102	0129870	Carbon film	1kΩ	±5%	SRD1/8P (except W. Germany)
R103	0129918	Carbon film	100kΩ	±5%	SRD1/8P (for W. Germany)
R104	0129603	Carbon film	1.2kΩ	±5%	SRD1/8P (for W. Germany)
R152	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R153	0129631	Carbon film	10kΩ	±5%	SRD1/8P

SYMBOL No.	PART No.	DESCRIPTION			
R154	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R155	0129673	Carbon film	330kΩ	±5%	SRD1/8P
R156	0129677	Carbon film	470kΩ	±5%	SRD1/8P
R157	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P
R158	0129621	Carbon film	6.8kΩ	±5%	SRD1/8P
R159	0129549	Carbon film	56Ω	±5%	SRD1/8P
R160	0129603	Carbon film	1.2kΩ	±5%	SRD1/8P
R161	0129645	Carbon film	39kΩ	±5%	SRD1/8P
R162	0129639	Carbon film	22kΩ	±5%	SRD1/8P
R163	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R164	0129565	Carbon film	150Ω	±5%	SRD1/8P
R165	0129663	Carbon film	120kΩ	±5%	SRD1/8P
R166	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R167	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R169	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R170	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R173	0129561	Carbon film	100Ω	±5%	SRD1/8P
R174	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R175	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R176	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R177	0129561	Carbon film	100Ω	±5%	SRD1/8P
R178	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R179	0129651	Carbon film	68kΩ	±5%	SRD1/8P
R201	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R202	0129547	Carbon film	47Ω	±5%	SRD1/8P
R203	0129547	Carbon film	47Ω	±5%	SRD1/8P
R204	0129573	Carbon film	330Ω	±5%	SRD1/8P
R205	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P
R206	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P
R207	0129575	Carbon film	390Ω	±5%	SRD1/8P
R208	0123621	Carbon film	100Ω	±5%	SRD1/8P
R209	0129633	Carbon film	12kΩ	±5%	SRD1/8P
R210	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R211	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P
R212	0129641	Carbon film	27kΩ	±5%	SRD1/8P
R213	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R214	0129611	Carbon film	2.7kΩ	±5%	SRD1/8P
R215	0129623	Carbon film	8.2kΩ	±5%	SRD1/8P (for U.S.A. & Canada)
R215	0129631	Carbon film	10kΩ	±5%	SRD1/8P (except U.S.A. & Canada)
R217	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R218	0129623	Carbon film	8.2kΩ	±5%	SRD1/8P
△R219	0110610	Metal (fuse resistor)	56Ω	±5%	RN1/4B
R220	0129665	Carbon film	150kΩ	±5%	SRD1/8P
R221	0129647	Carbon film	47kΩ	±5%	SRD1/8P
R222	0129575	Carbon film	390Ω	±5%	SRD1/8P
R223	0129643	Carbon film	33kΩ	±5%	SRD1/8P
R224	0129633	Carbon film	12kΩ	±5%	SRD1/8P
R225	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R226	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R227	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P
R228	0129619	Carbon film	5.6kΩ	±5%	SRD1/8P
R229	0129619	Carbon film	5.6kΩ	±5%	SRD1/8P
R230	0129904	Carbon film	27kΩ	±5%	SRD1/8P (for W. Germany)
R231	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R301	0129645	Carbon film	39kΩ	±5%	SRD1/8P
R302	0129643	Carbon film	33kΩ	±5%	SRD1/8P
R303	0129643	Carbon film	33kΩ	±5%	SRD1/8P
R304	0129631	Carbon film	10kΩ	±5%	SRD1/8P

SYMBOL No.	PART No.	DESCRIPTION			
R305	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R306	0129641	Carbon film	27kΩ	±5%	SRD1/8P
R307	0129641	Carbon film	27kΩ	±5%	SRD1/8P
R308	0129665	Carbon film	150kΩ	±5%	SRD1/8P (for U.S.A. & Canada)
R308	0129663	Carbon film	120kΩ	±5%	SRD1/8P (except U.S.A. & Canada)
R309	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R310	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R311	0129874	Carbon film	1.5kΩ	±5%	SRD1/8P (for W. Germany)
R312	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R313	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R314	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R315	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R316	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R317	0110823	Carbon film	33kΩ	±1%	RN1/4B
R319	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R320	0129665	Carbon film	150kΩ	±5%	SRD1/8P
R321	0129665	Carbon film	150kΩ	±5%	SRD1/8P
R322	0129902	Carbon film	22kΩ	±5%	SRD1/8P
R323	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R324	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R325	0129649	Carbon film	56kΩ	±5%	SRD1/8P
R326	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R327	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R328	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P
R329	0129553	Carbon film	82Ω	±5%	SRD1/8P
R330	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R331	0129611	Carbon film	2.7kΩ	±5%	SRD1/8P
R332	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R333	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R334	0129647	Carbon film	47kΩ	±5%	SRD1/8P
R335	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R336	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R337	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P
R338	0123622	Carbon film	120Ω	±5%	SRD1/8P
R339	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R351	0129635	Carbon film	15kΩ	±5%	SRD1/8P
R352	0129653	Carbon film	82kΩ	±5%	SRD1/8P
R353	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R354	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R355	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R356	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R357	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R358	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R359	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R360	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R361	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R362	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R363	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R364	0129631	Carbon film	10kΩ	±5%	SRD1/8P
△R365	0110609	Metal (fuse resistor)	47Ω	±5%	RN1/4B
R367	0129617	Carbon film	4.7kΩ	±5%	SRD1/8P
R401L,R	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P
R402L,R	0129673	Carbon film	330kΩ	±5%	SRD1/8P
R403L,R	0129649	Carbon film	56kΩ	±5%	SRD1/8P
R404L,R	0129581	Carbon film	680Ω	±5%	SRD1/8P
R405L,R	0129675	Carbon film	390kΩ	±5%	SRD1/8P
R406L,R	0129643	Carbon film	33kΩ	±5%	SRD1/8P

SYMBOL No.	PART No.	DESCRIPTION			
R407L,R	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R408L,R	0129579	Carbon film	560Ω	±5%	SRD1/8P
R409L,R	0129581	Carbon film	680Ω	±5%	SRD1/8P
R410L,R	0129581	Carbon film	680Ω	±5%	SRD1/8P
R411L,R	0129581	Carbon film	680Ω	±5%	SRD1/8P
R501	0129601	Carbon film	1kΩ	±5%	SRD1/8P
R502	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R503	0129709	Carbon film	2.2MΩ	±5%	SRD1/8P
R507	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R508	0129635	Carbon film	15kΩ	±5%	SRD1/8P
R509	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R510	0129635	Carbon film	15kΩ	±5%	SRD1/8P
R511	0129673	Carbon film	330kΩ	±5%	SRD1/8P
R512	0129679	Carbon film	560kΩ	±5%	SRD1/8P
R514	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P
R515	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R516	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R517	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R518	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R519	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R520	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R521	0129669	Carbon film	220kΩ	±5%	SRD1/8P
R528, R529	0129669	Carbon film	220kΩ (for Asia & Latin American countries, etc.)	±5%	SRD1/8P
R531	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R532	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R536	0129647	Carbon film	47kΩ	±5%	SRD1/8P
R538	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R539	0129531	Carbon film	10Ω	±5%	SRD1/8P
R601L,R	0129651	Carbon film	68kΩ	±5%	SRD1/8P
R602L,R	0129709	Carbon film	2.2MΩ	±5%	SRD1/8P
R603L,R	0129639	Carbon film	22kΩ	±5%	SRD1/8P
R607L,R	0129709	Carbon film	2.2MΩ	±5%	SRD1/8P
R701L,R	0129619	Carbon film	5.6kΩ	±5%	SRD1/8P
R702L,R	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R703L,R	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R704L,R	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P
R705L,R	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P
R706L,R	0129604	Carbon film	1.3kΩ	±5%	SRD1/8P
R707L,R	0129553	Carbon film	82Ω	±5%	SRD1/8P
R708L,R	0129631	Carbon film	10kΩ	±5%	SRD1/8P
R709L,R	0129561	Carbon film	100Ω	±5%	SRD1/8P
R710L,R	0129561	Carbon film	100Ω	±5%	SRD1/8P
R715L,R	0129661	Carbon film	100kΩ	±5%	SRD1/8P
R718L,R	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P
R719L,R	0129604	Carbon film	1.3kΩ	±5%	SRD1/8P
R720L,R	0129583	Carbon film	820Ω	±5%	SRD1/8P
R721L,R	0124617	Carbon film	4.7kΩ	±5%	SRD1/8P
R722L,R	0129581	Carbon film	680Ω	±5%	SRD1/8P
R723L,R	0129583	Carbon film	820Ω	±5%	SRD1/8P
R724L,R	0129633	Carbon film	12kΩ	±5%	SRD1/8P
R725L,R	0129607	Carbon film	1.8kΩ	±5%	SRD1/8P

SYMBOL No.	PART No.	DESCRIPTION				SYMBOL No.	PART No.	DESCRIPTION
R726L,R	0129531	Carbon film	10Ω	±5%	SRD1/8P	Q303	2328652	2SC1740LN Ⓢ
R727L,R	0119134	Metal	1.8Ω	±10%	RN2B	Q304	2328652	2SC1740LN Ⓢ
R728L,R	0134366	Composition	270Ω	±10%	RC1/2GF	Q305	2329183	2SA1015 Ⓔ
						Q306	2329183	2SA1015 Ⓔ
R731L,R	0129637	Carbon film	18kΩ	±5%	SRD1/8P	Q307	2328652	2SC1740LN Ⓢ
R732L,R	0129651	Carbon film	68kΩ	±5%	SRD1/8P	Q308	2329183	2SA1015 Ⓔ
R734L,R	0129645	Carbon film	39kΩ	±5%	SRD1/8P	Q351	2329183	2SA1015 Ⓔ
R735L,R	0129645	Carbon film	39kΩ	±5%	SRD1/8P	Q352	2329183	2SA1015 Ⓔ
					Q353	2329183	2SA1015 Ⓔ	
R737L,R	0129663	Carbon film	120kΩ	±5%	SRD1/8P	Q354	2319183	2SA1015 Ⓔ
					Q355	2329183	2SA1015 Ⓔ	
R801	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P			
R802	0129631	Carbon film	10kΩ	±5%	SRD1/8P	Q501	2328653	2SC1740LN Ⓔ
△R803	0110609	Metal (fuse resistor)	47Ω	±5%	RN1/4B	Q502	2328653	2SC1740LN Ⓔ
R804	0129605	Carbon film	1.5kΩ	±5%	SRD1/8P			
R805	0129577	Carbon film	470Ω	±5%	SRD1/8P	Q505	2328652	2SC1740LN Ⓢ
R806	0129661	Carbon film	100kΩ	±5%	SRD1/8P	Q506	2328652	2SC1740LN Ⓢ
R807	0129639	Carbon film	22kΩ	±5%	SRD1/8P	Q507	2329183	2SA1015 Ⓔ
R808	0129631	Carbon film	10kΩ	±5%	SRD1/8P	Q508	2329183	2SA1015 Ⓔ
R809	0129661	Carbon film	100kΩ	±5%	SRD1/8P	Q509	2329183	2SA1015 Ⓔ
R810	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P	Q513	2329183	2SA1015 Ⓔ (for Asia & Latin American countries, etc.)
R811	0129609	Carbon film	2.2kΩ	±5%	SRD1/8P			
R812	0129611	Carbon film	2.7kΩ	±5%	SRD1/8P	Q514	2328652	2SC1740LN Ⓢ
R813	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P	Q515	2329183	2SA1015 Ⓔ
R814	0129635	Carbon film	15kΩ	±5%	SRD1/8P			
△R815	0110623	Metal (fuse resistor)	150Ω	±5%	RN1/4B	Q701L,R	2367654	2SC2259 Ⓔ
R816	0129615	Carbon film	3.9kΩ	±5%	SRD1/8P	Q702L,R	2328862	2SB716 Ⓔ
R817	0129613	Carbon film	3.3kΩ	±5%	SRD1/8P	Q703L,R	2328862	2SB716 Ⓔ
△R818	0113827	Metal (fuse resistor)	6.8Ω	±5%	RN1/2B			
R819	0129569	Carbon film	220Ω	±5%	SRD1/8P	Q706L,R	2329183	2SA1015 Ⓔ
△R820	0110621	Metal (fuse resistor)	100Ω	±5%	RN1/4B	Q707L,R	2328652	2SC1740LN Ⓢ
					Q708L,R	2328872	2SD756 Ⓔ	
R901	0129649	Carbon film	56kΩ	±5%	SRD1/8P			
R902	0134381	Composition	4.7kΩ	±10%	RC1/2GF	Q801	2328973	2SD330AL Ⓔ
					Q802	2328652	2SC1740LN Ⓢ	
R904	0129665	Carbon film	150kΩ	±5%	SRD1/8P	Q803	2328635	2SD667 Ⓔ
					Q804	2329183	2SA1015 Ⓔ	
△R001	0139005	Composition	2.7MΩ	±10%	RC1/2GF	Q805	2328652	2SC1740LN Ⓢ
		(for U.S.A. & Canada)			Q806	2328635	2SD667 Ⓔ	
					Q807	2328625	2SB647 Ⓔ	
					Q808	2328625	2SB647 Ⓔ	
ICs & TRANSISTORS						Q902	2329183	2SA1015 Ⓔ
IC201	2367281	HA11211			DIODES & THERMISTORS			
IC301	2367271	HA1196			D101	2337601	1S2473	
IC351	2367901	LB1416			D102	2337601	1S2473	
IC401	2368041	NJM4558DX			D103, D104	2337931	1K60R (for W. Germany)	
IC501	2368741	μPB553AC						
IC502	2369041	LB1240			D151	2338541	KV-1226	
IC503	2369031	μPD1703C-018			D152	2337601	1S2473	
					D153	2337601	1S2473	
IC701	2369771	STK2230			D157	2337601	1S2473	
Q101	2328802	2SK104 Ⓔ (for W. Germany)			D158	2338541	KV-1226	
Q151	2327835	2SK30A Ⓔ or Ⓕ						
Q152	0573491	2SC454 Ⓔ			D201	2338617	RD10EN1 (except U.S.A. & Canada)	
Q153	0573491	2SC454 Ⓔ			D202	2337601	1S2473	
Q201	0573486	2SC460 Ⓔ			D203	2337921	1K34A	
Q301	2328652	2SC1740LN Ⓢ			D205	2337921	1K34A	
Q302	2328652	2SC1740LN Ⓢ						

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
D206	2337921	1K34A	COILS & TRANSFORMERS		
D301	2337601	1S2473	L152	2135062	MW RF coil
D302	2337601	1S2473	L201	2227354	Choke coil - 2.2 μ H
D303	2337601	1S2473	L202	2227351	Choke coil - 1 μ H
D304	2337601	1S2473	L501	2227353	Choke coil - 100 μ H
D305	2337601	1S2473	L502	2227353	Choke coil - 100 μ H
D306	2337545	HZ-7B-2	L503	2227356	Choke coil - 10 μ H
D307	2337601	1S2473	L701L,R	2227361	Audio trap coil - 0.67 μ H
D308	2337601	1S2473	T151	2135041	MW OSC coil
D309	2337601	1S2473	T153	2154491	AM IF transformer
D310	2337601	1S2473	T201	2135101	FM discriminating coil
D311	2337601	1S2473	T202	2154303	AM detection coil
D313	2337545	HZ-7B-2	MISCELLANEOUS		
D401	2337601	1S2473	CT151	0283126	Trimmer capacitor (11P)
D501	2337601	1S2473	CP201	2134931	Anti-birdie filter (for W. Germany)
D502	2337601	1S2473	CP351	0189001	Resistor array (100k $\times$ 6)
D503	2338611	RD8 2EN1	CP501	0189014	Resistor array (100k $\times$ 7)
D504	2337601	1S2473	CP502	0241892	Capacitor array (330P $\times$ 7)
D507	2337601	1S2473	CP503	0189031	Resistor array (39k $\times$ 4)
D508	2337601	1S2473	MF151	2154481	AM ceramic filter
D510	2337601	1S2473	MF201, MF202	2134992	FM ceramic filter (for U.S.A. & Canada)
D511	2337601	1S2473	MF201, MF202	2135002	FM ceramic filter (except U.S.A. & Canada)
D512	2337601	1S2473	AS001	2639512	Power switch (for U.S.A. & Canada)
D513	2337601	1S2473	AS001	2639513	Power switch (except U.S.A. & Canada)
D514	2337601	1S2473 (except U.S.A. & Canada)	S301, S401 - S405, S602	2639671	7 keys push switch (PHONO, TUNER, others)
D515	2337601	1S2473	S501, S302	2639582	2 keys push switch (FM TUNING, FM MODE)
D516	2337601	1S2473	S503 - S511	2639681	Tact switch (TUNING, MEMORY, AM-FM PRESET)
D517	2337601	1S2473	S601	2638481	Push switch (LOUDNESS)
D518	2337601	1S2473	S701, S702	2639451	Push switch (SPEAKERS)
D519	2337601	1S2473	X501	2787941	Crystal oscillator (4.5MHz)
D522	2337601	1S2473	B1	2810121	Lithium battery (LF1/2W)
D523	2337601	1S2473	J001	2677645	Headphone jack
D701L,R	2337601	1S2473	AF001	2727564	Fuse - 2.5A, 125V (for U.S.A. & Canada)
D702L,R	2337601	1S2473	AF001	2727191	Fuse - T1A (for W. Germany, etc.)
D801	2337461	S4VB20	AF701L,R	2727223	Fuse - 3A, 250V (for U.S.A. & Canada)
D802	2337762	ERB12-01R	AF701L,R	2727335	Fuse - F2.5A (except U.S.A. & Canada)
D803	2337762	ERB12-01R		2425381	FM tuner pack
D804	2337762	ERB12-01R		2788611	Fluorescent display tube
D805	2338632	RD15EN3		2688121	8P push terminal (SPEAKERS)
D806	2338604	RD6.2EN3		2688201	5P screw terminal (for U.S.A. & Canada)
D807	2337601	1S2473		2688202	5P screw terminal (except U.S.A. & Canada)
D808	2337601	1S2473		2677612	6P US pin jack
D809	2338660	RD33EB2		4432961	Slide volume holder
D810	2338660	RD33EB2		4744834	Spacer (for display tube)
D811	2338632	RD15EN3		4744835	Spacer (for display tube)
D812	2338633	RD16EN1		4561411	3 ϕ $\times$ 6DT bind screw (for slide volume)
D813	2337601	1S2473		4567412	3 ϕ $\times$ 8DT bind screw (for power transistor)
TH701L,R	2347114	Thermistor			
VARIABLE RESISTORS					
R216	0151334	50k Ω (B) (MUTE WIDTH adj.)(except U.S.A. & Canada)			
R318	0151333	10k Ω (B) (76kHz adj.)			
R604L,R	0151856	200k Ω (B) (MAIN VOLUME)			
R605L,R	0166274	100k Ω (MN) (BALANCE)			
R729L,R	0166273	50k Ω (C) (BASS)			
R730L,R	0166273	50k Ω (C) (TREBLE)			

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
for FINAL ASSEMBLY					
	4432872	Cover (Walnut) (for U.S.A. & Canada)		4573552	3φ × 16 bind tapping screw (for power IC fixing)
	4567442	4φ × 8DT bind screw		4574605	3φ × 8 bind double thread screw (for PWB others fixing)
	4567432	3φ × 8DT bind screw		4567451	3φ × 6DT bind screw
	4432871	Cover (Silver) (except U.S.A. & Canada)	ΔT001	2247771	Power trans. (AC120V) (for U.S.A. & Canada)
	4567462	4φ × 8DT bind screw	ΔT001	2247773	Power trans. (~ 220V) (for W. Germany, etc.)
	4567452	3φ × 8DT bind screw	ΔT001	2247774	Power trans. (~ 240V) (for Australia)
	4020291	Escutcheon ass'y	ΔT001	2247775	Power trans. (for Asia & Latin American countries, etc.)
	4574605	3φ × 8 bind double thread screw (for escutcheon fixing)			
	4784101	3φ × 8 bind tapping screw	for REAR PLATE ASSEMBLY		
	3292651	Knob ass'y (VOLUME)	Δ	0043793	Bushing (for power supply cord) (for U.S.A. & Canada)
	3945732	Blind (B)	Δ	3913006	Bushing (for power supply cord) (except U.S.A. & Canada)
for DIAL MECHANISM ASSEMBLY			Δ	2749471	Power supply cord (for U.S.A. & Canada)
	3951551	Sub panel ass'y	Δ	2748752	Power supply cord (except U.S.A. & Canada)
	3951532	Back plate	Δ	2658372	AC outlet (for Canada)
	3951991	Operating frame ass'y	Δ	2657721	AC outlet (for U.S.A., Asia & Latin American countries, etc.)
	3951611	Push connector (for speaker knob)		2677911	FM 75ohms DIN socket(except U.S.A.&Canada)
	3951561	Push connector (for subsonic function, others)		2757462	Loop antenna
	3291641	Push knob (SUBSONIC, SPEAKER, BAND)		3931571	Antenna holder
	3291751	Push knob ass'y (FM TUNING, MODE)	ΔF001	2727191	Fuse - T1A(for Asia & Latin American countries, etc.)
	3291631	Push knob (LOUDNESS)	ΔS502	2627185	Slide switch (AM SPACING) (for Asia & Latin American countries, etc.)
	3291651	Slide volume knob (BASS, TREBLE, BALANCE)	ΔS002	2618051	Voltage selector switch (for Asia & Latin American countries, etc.)
	3291711	FUNCTION knob ass'y		for ACCESSORIES	
	3293051	POWER button ass'y		2757522	FM antenna
	4567413	3φ × 10DT bind screw (for leg fixing)	Δ	2727193	Fuse - T2A } (for Asia & Latin American
	3916411	Leg (Yellow)	Δ	2658361	E socket adaptor } countries, etc.)
	4567412	3φ × 8DT bind screw (Yellow) (for sub panel, chassis fixing)			
	4567432	3φ × 8DT bind screw (Black) (for rear plate chassis fixing)			
	4567422	4φ × 8DT bind screw (for power trans. fixing)			
	4784106	3φ × 10 bind tapping screw (for heat sink, PWB holder, others fixing)			



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