



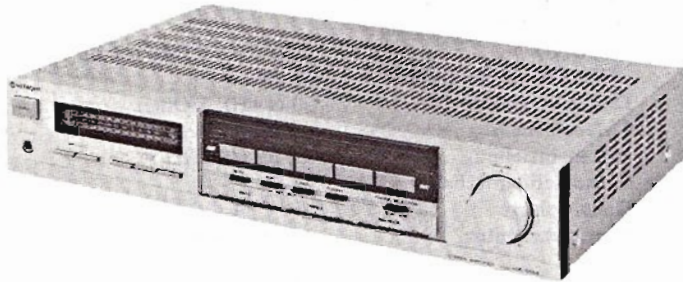
HITACHI

SERVICE MANUAL

TY

No.326 EGF

HA-M44



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SAFETY PRECAUTION

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.

SPECIFICATIONS

POWER output (Both channels driven)	60 watts* per channel, min. RMS, at 8 ohms from 20 Hz to 20 kHz, with no more than 0.02% total harmonic distortion.	Output level TAPE REC OUT	150 mV
RMS Rated Output power (Both channels driven)	60 Watts (1 kHz, 8 ohms T.H.D. 0.02%, SINUS) 60 Watts (20 Hz - 20 kHz, 8 ohms T.H.D. 0.02%)	Phono overload level (at 1 kHz) (MM) 120 mV (MC) 12 mV Signal-to-noise ratio (IHF, A network)	
Harmonic distortion (8 ohms) (at rated output)	0.02%	PHONO	(MM) 84 dB (MC) 66 dB
Intermodulation distortion (at 1/2 rated output)	0.02%	TUNER, AUX, TAPE 1,2	95 dB
Power bandwidth	10 Hz - 40 kHz (8 ohms, T.H.D. 0.05% 1/2 Rated)	Damping factor	30 (1 kHz, 8 ohms)
Frequency characteristics TUNER, AUX, TAPE 1,2	20 Hz - 40 kHz (± 1.0 dB) 30 Hz - 15 kHz, RIAA ± 0.5 dB	Bass control	± 8 dB (100 Hz)
PHONO		Treble control	± 8 dB (10 kHz)
Input sensitivity/Impedance PHONO	(MM) 2.5 mV/47 k-ohms (MC) 0.25 mV/100 ohms	Subsonic filter	20 Hz
TUNER, AUX	160 mV/45 k-ohms	Loudness control	+6 dB (100 Hz) +4 dB (10 kHz)
TAPE PLAY 1,2	160 mV/45 k-ohms	Power supply	AC 120V 60 Hz ~ 220 V 50/60 Hz, ~ 240 V 50/60 Hz $\sim 120/220/240$ V 50/60 Hz
		Power consumption	120 W (at 1/10 rated output) 190 W (at 1/3 rated output) 350 W (at rated output)
		Dimensions	435 (W) \times 83 (H) \times 290 (D) mm
		Weight	5.7 kg

* Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Output Claims for Amplifiers.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

STEREO AMPLIFIER

July 1982

TOYOKAWA WORKS

SICHERHEITSMASSNAHMEN

Bei Wartungsarbeiten sind die folgenden 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 Schaltplattinen 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.

TECHNISCHE DATEN

Ausgangsleistung Sinus	60 Watt/Kanal + 60 Watt/Kanal (1 kHz, 8 Ohm, T.H.D. 0,02%) 60 Watt (20 Hz - 20 kHz, 8 Ohm T.H.D. 0,02% SINUS)	Phonoüberlastungspegel (bei 1 kHz)	(MM) 120 mV (MC) 12 mV
Klirrfaktor (8 Ohm) (bei Nennleistung)	0,02%	Geräuschspannungsabstand (IHF, A-Netz)	PHONO (MM) 84 dB (MC) 66 dB
Intermodulations-Verzerrung (bei halber Nennleistung)	0,02%	TUNER, AUX, TAPE 1,2	95 dB
Leistungsbandbreite	10 Hz - 40 kHz (8 Ohms, T.H.D.m 0,05%, halber Nennleistung)	Dämpfungsfaktor	30 (1 kHz, 8 Ohm)
Frequenzcharakteristik TUNER, AUX, TAPE 1,2	20 Hz - 40 kHz ($+1,0$ / $-3,0$ dB)	Tiefeneinstellung	± 8 dB (100 Hz)
PHONO	30 Hz - 15 kHz	Höheneinstellung	± 8 dB (10 kHz)
	RIAA-Kennlinie $\pm 0,5$ dB	Subsonicfilter-Schalter	20 Hz
Eingangsempfindlichkeit/ Impedanz		Gehörrichtige Lautstärkekontur	+6 dB (100 Hz) +4 dB (10 kHz)
PHONO	(MM) 2,5 mV/47 k-Ohms (MC) 0,25 mV/100-Ohms	Netzspannung	Wechselstrom 120 V 60 Hz ~220V 50/60 Hz, ~240 V 50/60 Hz ~120/220/240 V 50/60 Hz
TUNER, AUX	160 mV/45 k-Ohm	Leistungsaufnahme	120 W (bei 1/10 Nennleistung) 190 W (bei 1/3 Nennleistung) 350 W (bei Nennleistung)
TAPE PLAY 1,2	160 mV/45 k-Ohm	Abmessungen	435 (B) \times 83 (H) \times 290 (T) mm
Ausgangspegel		Gericht	5,7 kg
TAPE REC OUT	150 mV	Änderungen der Konstruktion und technischen Daten bleiben im Sinne der ständigen Verbesserung.	

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 accompagnées 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.

CARACTÉRISTIQUES TECHNIQUES

Puissance de sortie Sinus	60 W/can. + 60W/can. (1 kHz, 8 ohms, D.H.T. 0,02%, 60 W/can. \times 60 W/can.) (20 Hz - 20 kHz, 8 ohms D.H.T. 0,05% SINUS)	Rapport signal/bruit (IHF, réseau A)	(MM) 84 dB (MC) 66 dB
Distorsion harmonique (8 ohms) (à la puissance nominale)	0,02%	PHONO	95 dB
Distorsion d'intermodulation (à la moitié de la puissance nominale)	0,02%	TUNER, AUX, TAPE 1,2	95 dB
Bande passante	10 Hz - 40 kHz (8 ohms, D.H.T., 0,05% moitié de la puissance nominale)	Facteur d'amortissement	30 (1 kHz, 8 ohms)
Caractéristiques de fréquence TUNER, AUX, TAPE 1, 2	20 Hz-40 kHz ($+1,0$ / $-3,0$ dB)	Réglage de graves	± 8 dB (100 Hz)
PHONO	30 Hz- 15 kHz, RIAA $\pm 0,5$ dB	Réglage des aigus	± 8 dB (10 kHz)
Sensibilité d'entrée/Impédance PHONO	(MM) 2,5 mV/47 k-ohms (MC) 0,25 mV/100-ohms	Filtre subsonique	20 Hz
TUNER, AUX	160 mV/45 k-ohms	Correction physiologique	+6 dB (100 Hz) +4 dB (10 kHz)
TAPE PLAY 1,2	160 mV/45 k-ohms	Alimentation	CA 120 V 60 Hz ~220 V 50/60 Hz, ~240 V 50/60 Hz ~120/220/240 V 50/60 Hz
Niveau de sortie TAPE REC OUT	150 mV	Consommation	120 W (a 1/10 de la puissance nominale) 190 W (a 1/3 de la puissance nominale) 350 W (a de la puissance nominale)
Niveau de surcharge phono (à 1 kHz)	(MM) 120 mV (MC) 12 mV	Dimensions	435 (L) \times 83 (H) \times 290 (P) mm
		Poids	5,7 kg

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

DISASSEMBLY AND REPLACEMENT · ZERLEGUNG UND AUSTAUCH · DEMONTAGE ET REMONTAGE

- Removing the cover, escutcheon & printed wiring board
- Ausbau der Abdeckung, Schildanbringung und der Leiterplatten
- Déposer le couvercle, cache-entrée et le plaquettes à circuit imprimé

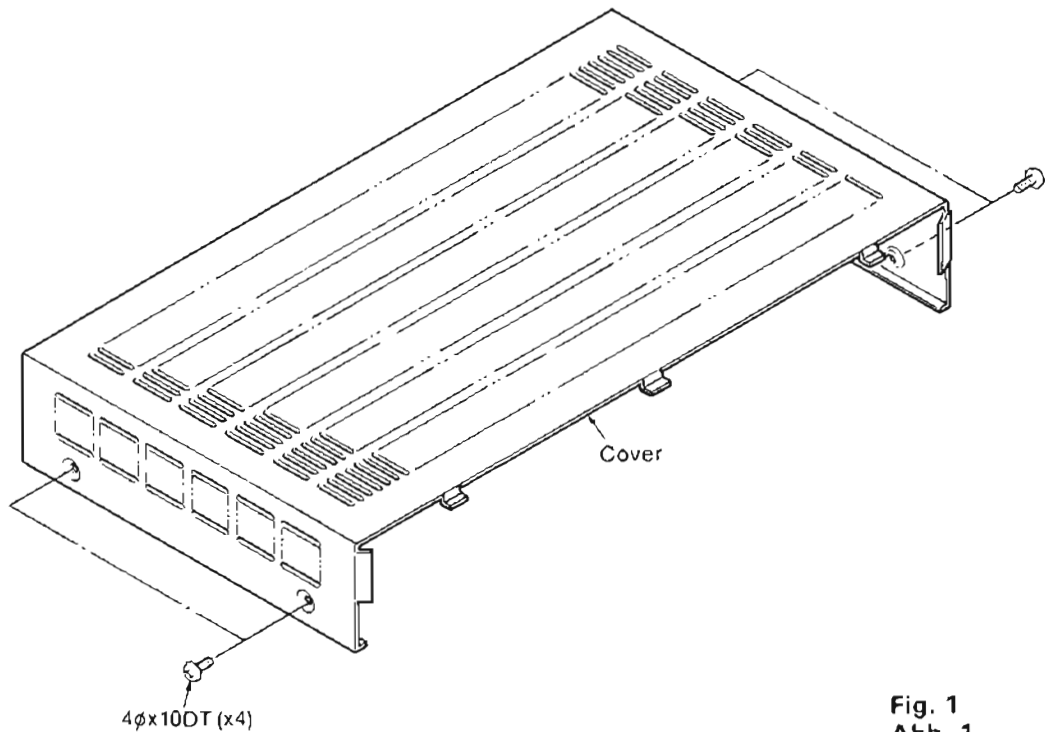


Fig. 1
Abb. 1

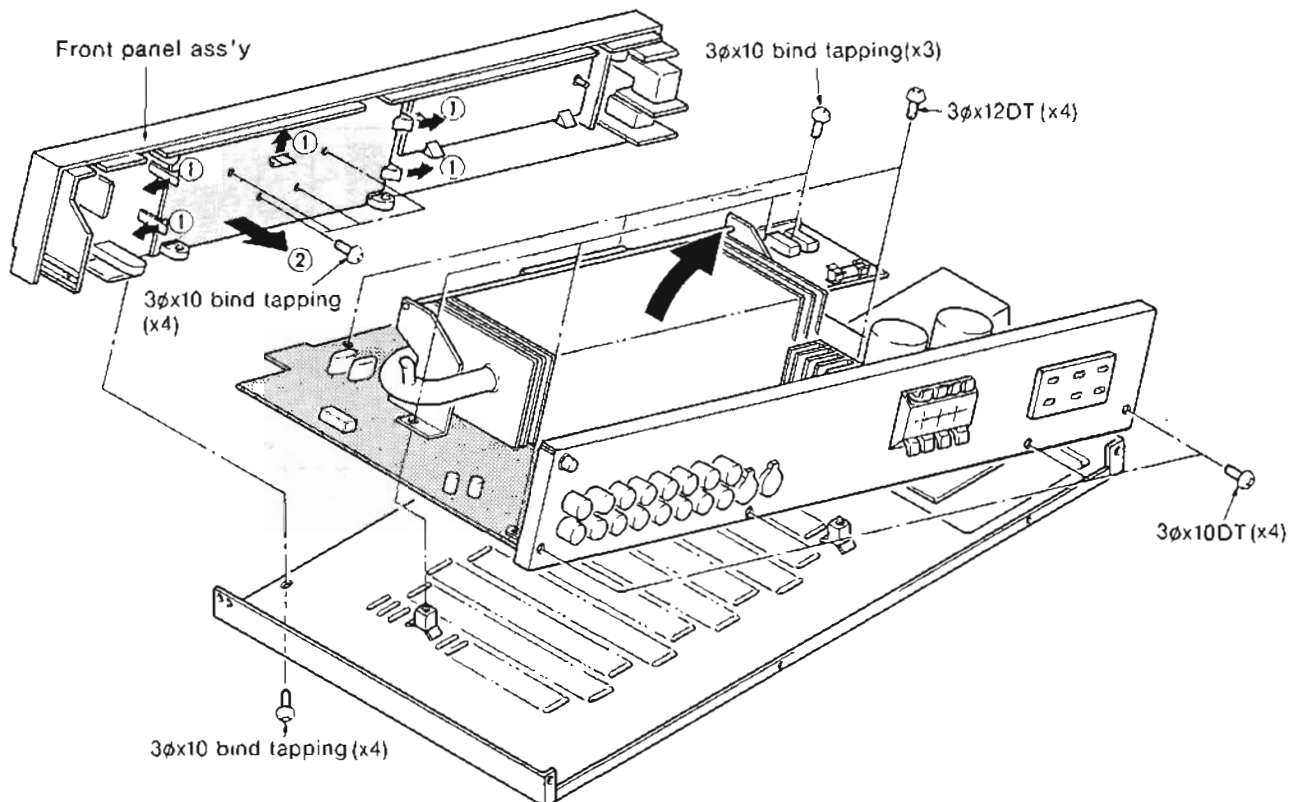
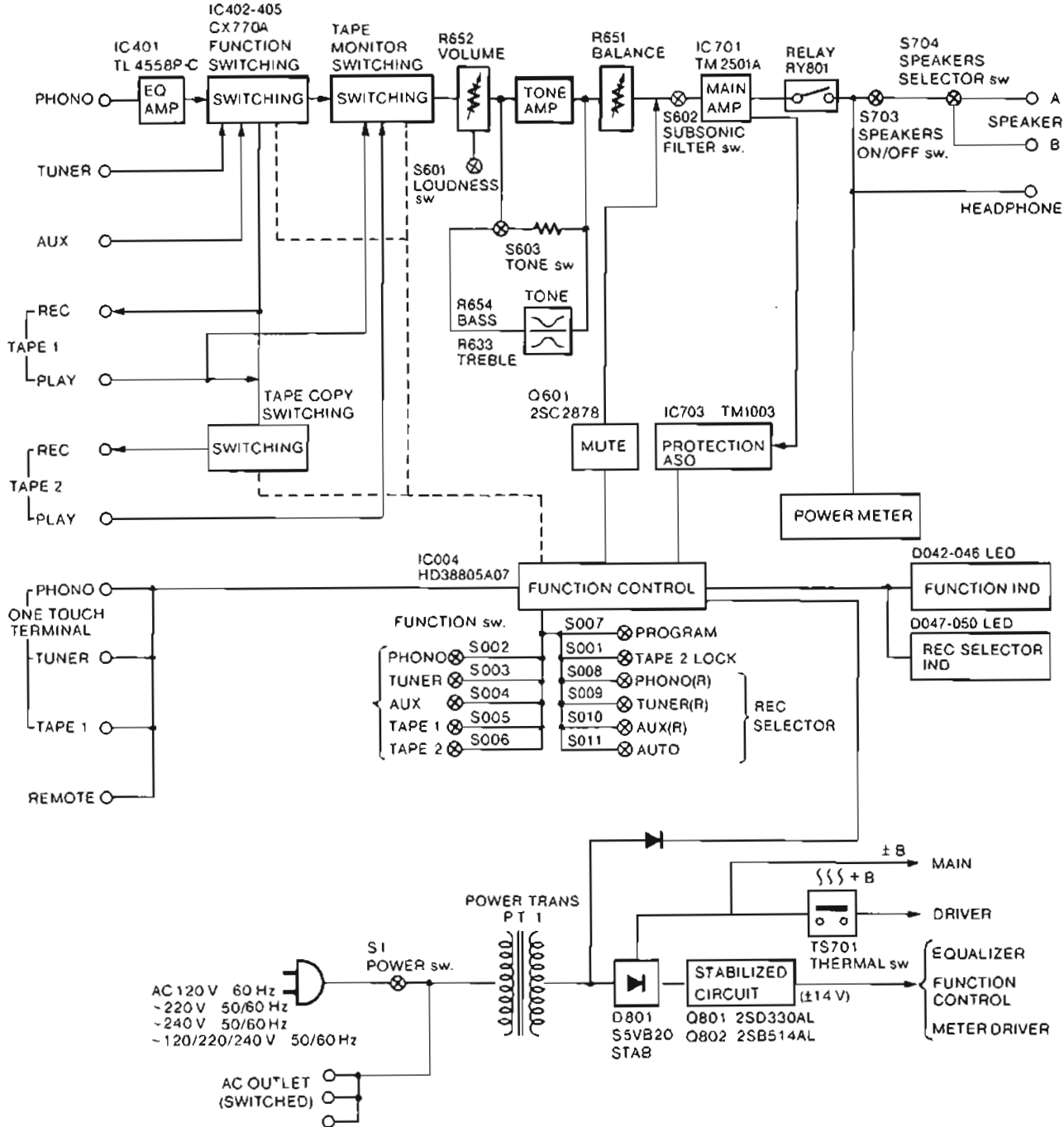


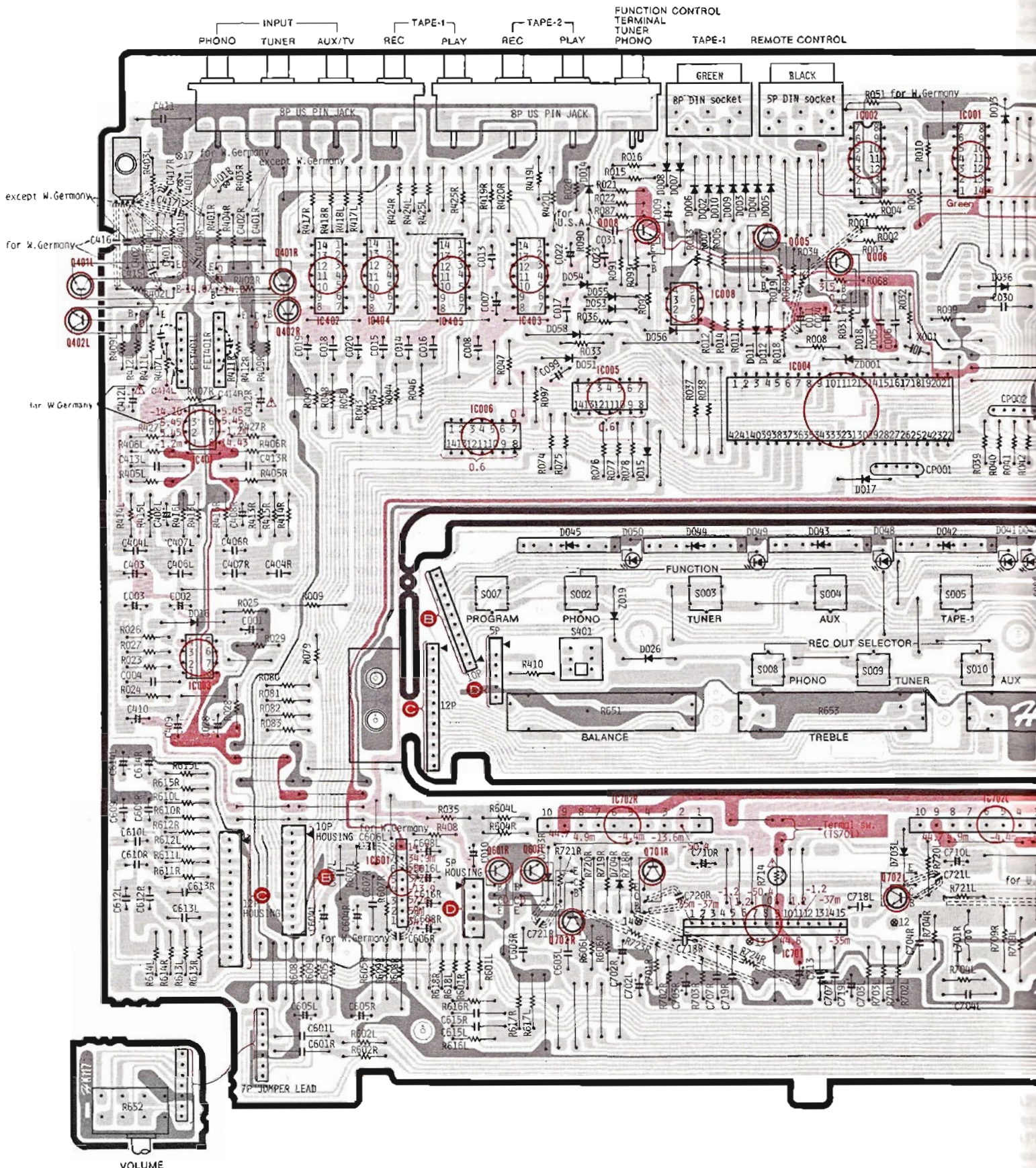
Fig. 2
Abb. 2

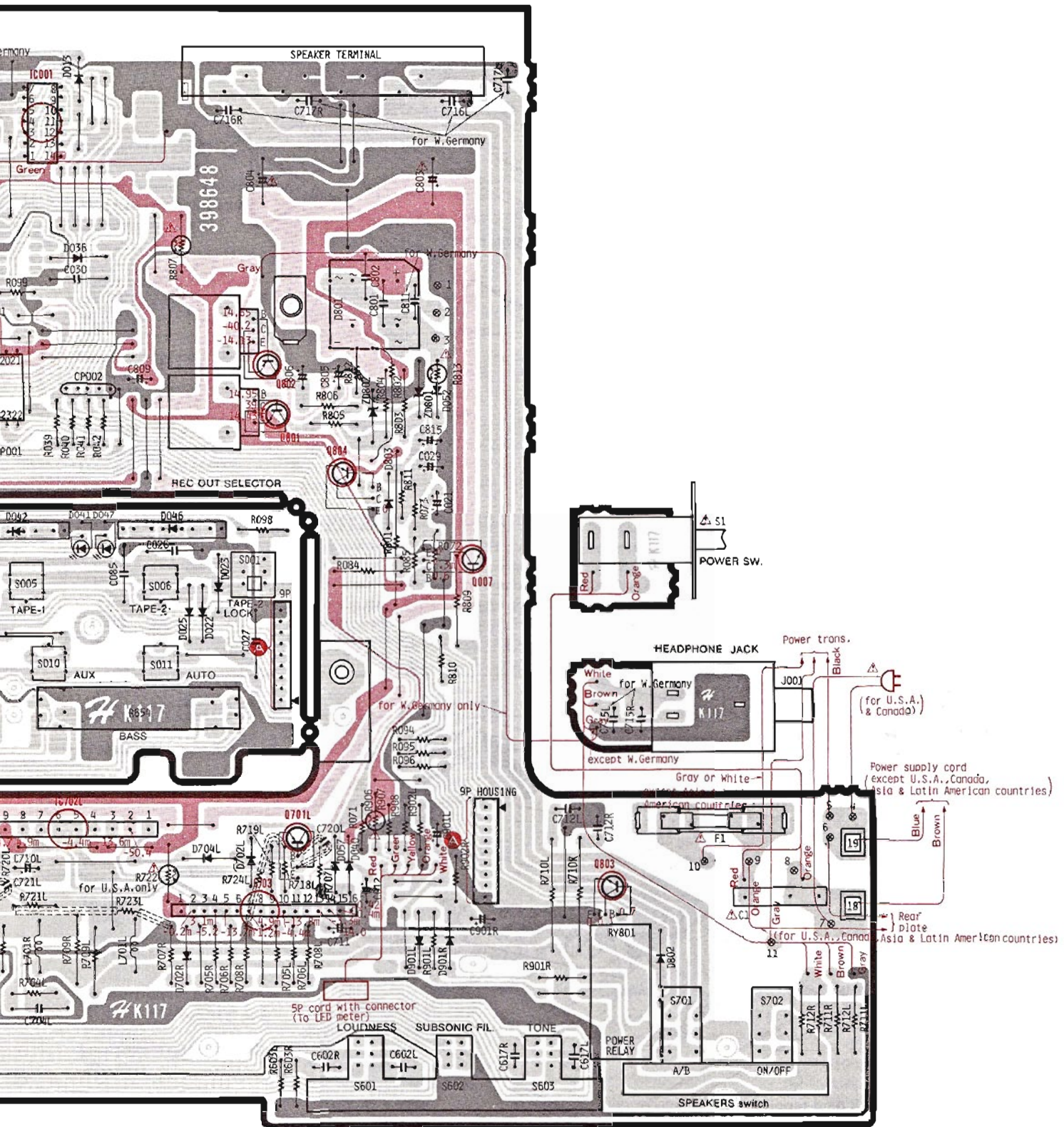
BLOCK DIAGRAM · BLOCK SCHEMA · SCHEMA



PRINTED WIRING BOARD · PRINTPLATTEN · PLAN DE BASE

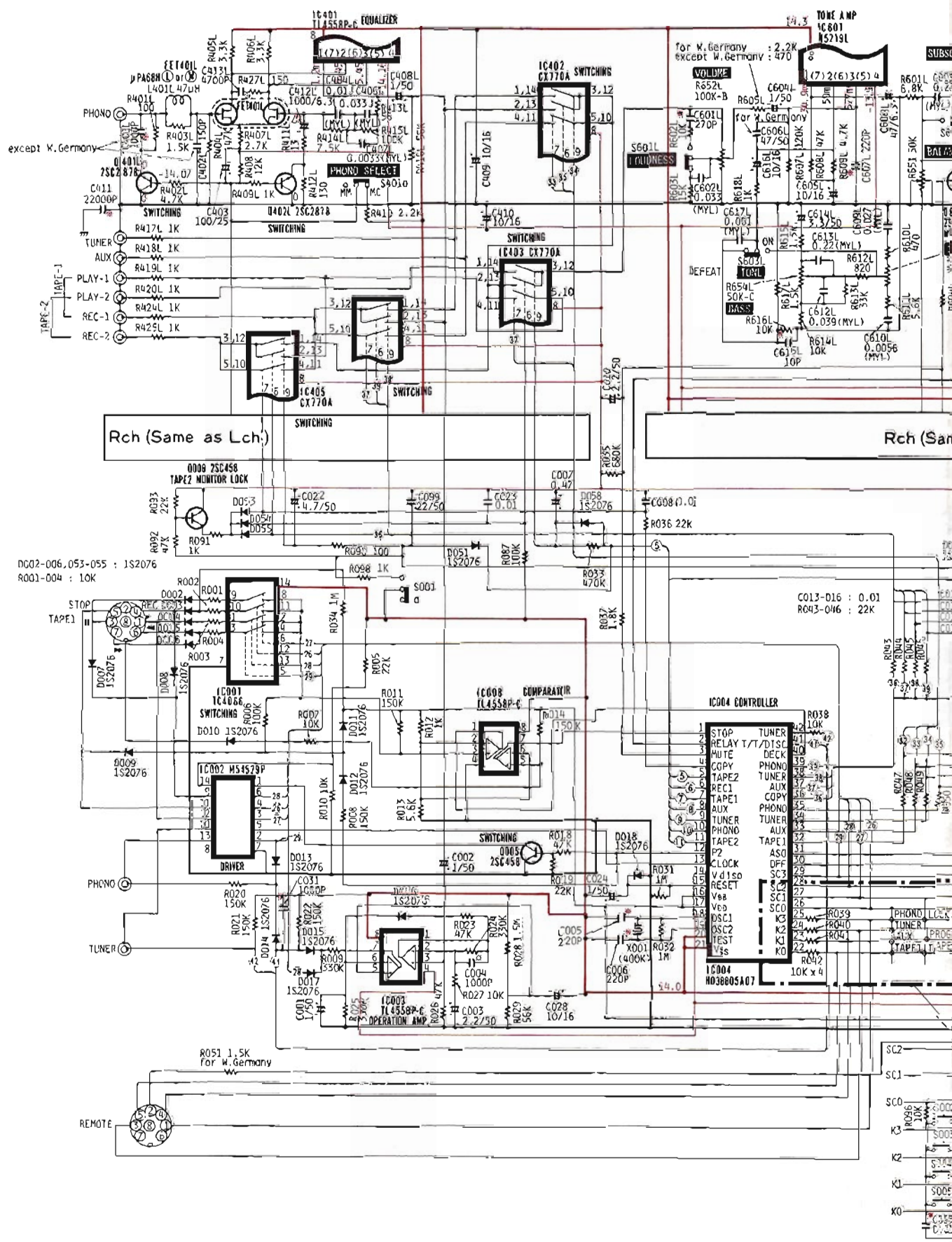
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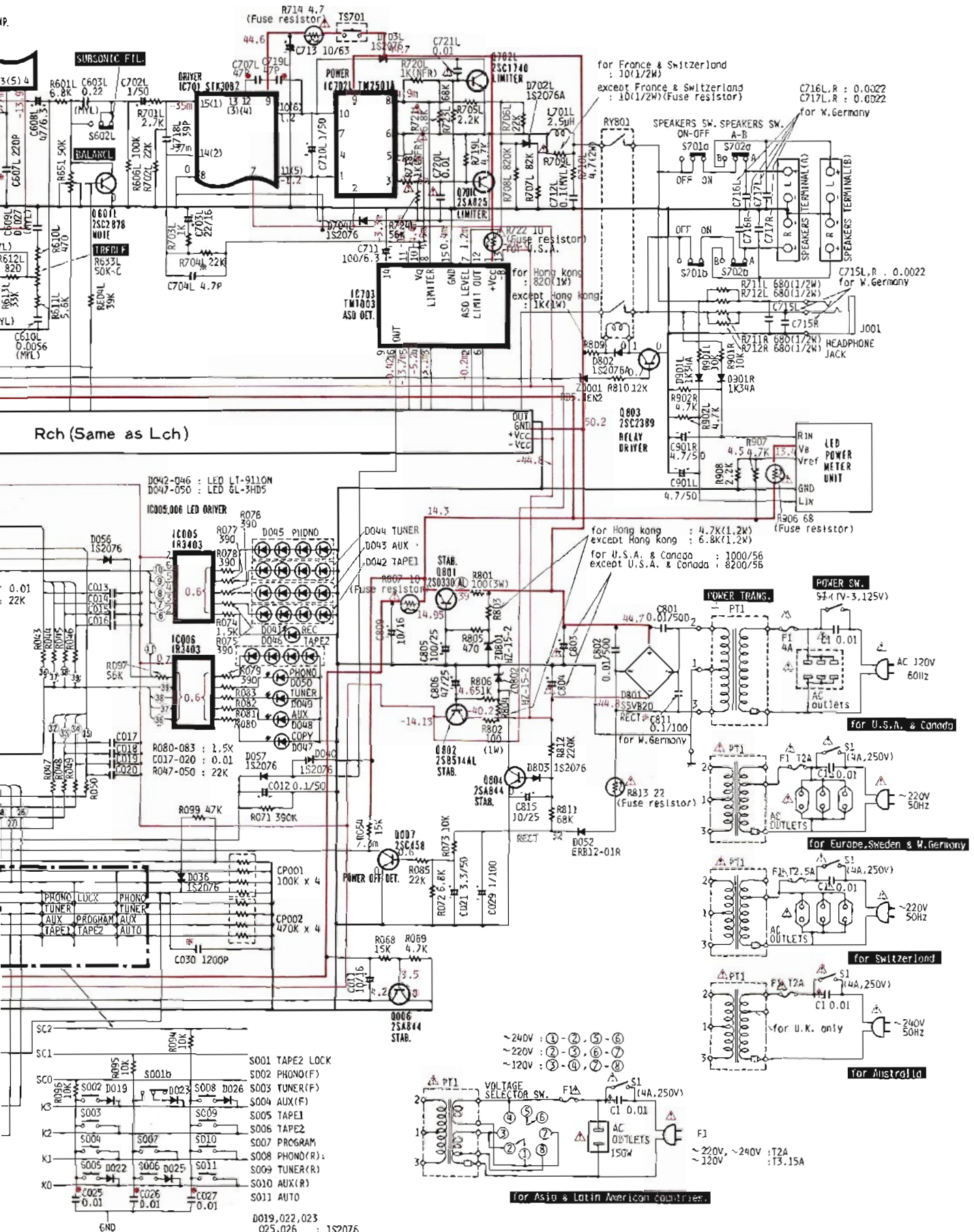
CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

- ※ : Axial lead cylindrical
- ※ : Zylindrischer Keramik
- ※ : Condensateur céram



1 cylindrical ceramic capacitor
 1 other Keramikkondensator mit axialer Zuleitung
 1 autre condensateur céramique cylindrique à conducteur axial

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



Rch (Same as Lch)

D019, 022, 023 : 1S2076
 025, 026 : 1S2076

REPLACEMENT PARTS LIST · ERSATZTEILLISTE · TABLEAU DES PIÈCE

SYMBOL No.		PART No.		DESCRIPTION	
CAPACITORS					
C001	0252811	Electrolytic	1 μ F		50 V
C002	0252811	Electrolytic	1 μ F		50 V
C003	0252812	Electrolytic	2.2 μ F		50 V
C004	0240020	Cylindrical ceramic	1000pF \pm 20%		50 V
C005	0230004	Cylindrical ceramic	220pF \pm 5%		50 V
C006	0240004	Cylindrical ceramic	220pF \pm 5%		50 V
C007	0252805	Electrolytic	0.47 μ F		50 V
C008	0244171	Ceramic, discal	0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C009	0252521	Electrolytic	10 μ F		16 V
C010	0252812	Electrolytic	2.2 μ F		50 V
C011	0252521	Electrolytic	10 μ F		16 V
C012	0252801	Electrolytic	0.1 μ F		50 V
C013	0244171	Ceramic, discal	0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
>	>	>	>	>	>
C020	0244171	Ceramic, discal	0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C021	0252813	Electrolytic	3.3 μ F		50 V
C022	0252811	Electrolytic	1 μ F		50 V
C023	0244171	Ceramic, discal	0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C024	0252815	Electrolytic	4.7 μ F		50 V
C025	0240106	Cylindrical ceramic	0.01 μ F \pm 30%		25 V
>	>	>	>	>	>
C027	0240106	Cylindrical ceramic	0.01 μ F \pm 30%		25 V
C028	0252521	Electrolytic	10 μ F		16 V
C029	0253011	Electrolytic	1 μ F		100 V
C030	0240021	Cylindrical ceramic	1200pF \pm 20%		50 V
C031	0240020	Cylindrical ceramic	1000pF \pm 20%		50 V
C099	0252822	Electrolytic	22 μ F		50 V
C401LR	0240020	Cylindrical ceramic (except W. Germany)	1000pF \pm 20%		50 V
C402LR	0240002	Cylindrical ceramic (except W. Germany)	150pF \pm 10%		50 V
C403	0252631	Electrolytic	100 μ F		25 V
C404LR	1275211	Mylar, film	0.01 μ F \pm 5%		50 V
C406LR	1275214	Mylar, film	0.033 μ F \pm 5%		50 V
C407LR	0274014	Mylar, film	3300pF \pm 10%		50 V
C408LR	0252811	Electrolytic	1 μ F		50 V
C409	0252521	Electrolytic	10 μ F		16 V
C410	0252521	Electrolytic	10 μ F		16 V
C411	0240108	Cylindrical ceramic	0.022 μ F \pm 30%		16 V
△C412LR	0252241	Electrolytic	1000 μ F \pm 30%		16 V
C413LR	0240104	Cylindrical ceramic	4700pF \pm 30%		50 V
C414LR	0248684	Ceramic, discal (for W. Germany)	100pF \pm 5%		50 V
C415LR	0244161	Ceramic, discal (for W. Germany)	1000pF $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C416	0244161	Ceramic, discal (for W. Germany)	1000pF $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C417LR	0244161	Ceramic, discal (for W. Germany)	1000pF $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$		50 V
C601LR	0240005	Cylindrical ceramic	270pF \pm 10%		50 V
C602LR	0275014	Mylar, film	0.033 μ F \pm 10%		50 V
C603LR	0276013	Mylar, film	0.22 μ F \pm 10%		50 V
C604LR	0252811	Electrolytic	1 μ F		50 V
C605LR	0252521	Electrolytic	10 μ F		16 V
C606LR	0248676	Ceramic, discal (for W. Germany)	47pF \pm 5%		50 V
C607LR	0230004	Cylindrical ceramic	220pF \pm 5%		50 V
C608LR	0252225	Electrolytic	47 μ F		6.3 V
C609LR	0275033	Mylar, film	0.027 μ F \pm 10%		50 V
C610LR	0274035	Mylar, film	5600pF \pm 10%		50 V
C612LR	0275034	Mylar, film		0.039 μ F \pm 10%	50 V
C613LR	0276013	Mylar, film		0.22 μ F \pm 10%	50 V
C614LR	0252813	Electrolytic		3.3 μ F	50 V
C615LR	0230012	Cylindrical ceramic		10pF \pm 5%	50 V
C616LR	0252521	Electrolytic		10 μ F	16 V
C617LR	0274011	Mylar, film		1000pF \pm 10%	50 V
C702LR	0252811	Electrolytic		1 μ F	50 V
C703LR	0252522	Electrolytic		22 μ F	16 V
C704LR	0230008	Cylindrical ceramic		4.7pF \pm 5%	50 V
C707LR	0230028	Cylindrical ceramic		47pF \pm 5%	50 V
C710LR	0252811	Electrolytic		1 μ F	50 V
C711	0252231	Electrolytic		100 μ F	6.3 V
C712LR	0276011	Mylar, film		0.1 μ F \pm 10%	50 V
C713	0252921	Electrolytic		10 μ F	63 V
C715LR	0274013	Mylar, film (for W. Germany)		2200pF \pm 10%	50 V
>	>	>	>	>	>
C717LR	0274013	Mylar, film (for W. Germany)		2200pF \pm 10%	50 V
C718LR	0208674	Ceramic, discal		39pF \pm 5%	50 V
C719LR	0230028	Cylindrical ceramic		47pF \pm 5%	50 V
C720LR	0244171	Ceramic, discal		0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$	50 V
C721LR	0244171	Ceramic, discal		0.01 μ F $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$	50 V
C801	0245408	Ceramic, discal		0.01 μ F \pm 20%	500 V
C802	0245408	Ceramic, discal		0.01 μ F \pm 20%	500 V
△C803.804	0259996	Electrolytic (for U.S.A. & Canada)		10000 μ F	50 V
△C803.804	0259997	Electrolytic (Except U.S.A. & Canada)		8200 μ F	6.3 V
C805	0252631	Electrolytic		100 μ F	25 V
C806	0252625	Electrolytic		47 μ F	25 V
C809	0252521	Electrolytic		10 μ F	16 V
C811	0276511	Mylar, film (for W. Germany)		0.1 μ F \pm 10%	100 V
C815	0252621	Electrolytic		10 μ F	25 V
C901LR	0252815	Electrolytic		4.7 μ F	50 V
△C1	0243899	Ceramic, discal (for U.S.A. & Canada)		0.01 μ F $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$	125 V
△C1	0243901	Ceramic, discal (except U.S.A. & Canada)		0.01 μ F $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$	400 V
RESISTORS					
R001	0129631	Carbon film		10 k Ω \pm 5%	SRD1/4P
>	>	>	>	>	>
R004	0129631	Carbon film		10 k Ω \pm 5%	SRD1/4P
R005	0129639	Carbon film		22 k Ω \pm 5%	SRD1/4P
R006	0129661	Carbon film		100 k Ω \pm 5%	SRD1/4P
R007	0129631	Carbon film		10 k Ω \pm 5%	SRD1/4P
R008	0129665	Carbon film		150 k Ω \pm 5%	SRD1/4P
R009	0129673	Carbon film		330 k Ω \pm 5%	SRD1/4P
R010	0129631	Carbon film		10 k Ω \pm 5%	SRD1/4P
R011	0129665	Carbon film		150 k Ω \pm 5%	SRD1/4P
R012	0129601	Carbon film		1 k Ω \pm 5%	SRD1/4P
R013	0129619	Carbon film		5.6 k Ω \pm 5%	SRD1/4P
R014	0129665	Carbon film		150 k Ω \pm 5%	SRD1/4P

SYMBOL No.	PART No.	DESCRIPTION			
R015	0129561	Carbon film	100 Ω	±5%	SRD1/4P
R016	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R018	029647	Carbon film	47 kΩ	±5%	SRD1/4P
R019	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R020	0129665	Carbon film	150 kΩ	±5%	SRD1/4P
R021	0129665	Carbon film	150 kΩ	±5%	SRD1/4P
R022	0129665	Carbon film	150 kΩ	±5%	SRD1/4P
R023	0129647	Carbon film	47 kΩ	±5%	SRD1/4P
R024	0129673	Carbon film	220 kΩ	±5%	SRD1/4P
R025	0129673	Carbon film	330 kΩ	±5%	SRD1/4P
R026	0129647	Carbon film	47 kΩ	±5%	SRD1/4P
R027	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R028	0129705	Carbon film	1.5 MΩ	±5%	SRD1/4P
R029	0129649	Carbon film	56 kΩ	±5%	SRD1/4P
R031	0129701	Carbon film	1 MΩ	±5%	SRD1/4P
R032	0129701	Carbon film	1 MΩ	±5%	SRD1/4P
R033	0129677	Carbon film	470 kΩ	±5%	SRD1/4P
R034	0129705	Carbon film	1 MΩ	±5%	SRD1/4P
R035	0129681	Carbon film	680 kΩ	±5%	SRD1/4P
R036	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R037	0129661	Carbon film	1.8 kΩ	±5%	SRD1/4P
R038	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
}	}	}	}	}	}
R042	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R043	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
}	}	}	}	}	}
R050	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R051	0129605	Carbon film (for W. Germany)	1.5 kΩ	±5%	SRD1/4P
R068	0129635	Carbon film	15 kΩ	±5%	SRD1/4P
R069	0129617	Carbon film	4.7 kΩ	±5%	SRD1/4P
R071	0129675	Carbon film	390 kΩ	±5%	SRD1/4P
R072	0129621	Carbon film	6.8 kΩ	±5%	SRD1/4P
R073	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R074	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
R075	0129575	Carbon film	390 Ω	±5%	SRD1/4P
}	}	}	}	}	}
R079	0129575	Carbon film	390 Ω	±5%	SRD1/4P
R080	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
}	}	}	}	}	}
R083	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
R084	0129635	Carbon film	15 kΩ	±5%	SRD1/4P
R085	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R087	0129661	Carbon film	100 kΩ	±5%	SRD1/4P
R090	0129661	Carbon film	100 kΩ	±5%	SRD1/4P
R091	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R092	0129647	Carbon film	47 kΩ	±5%	SRD1/4P
R093	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R094	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R095	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R096	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R097	0129649	Carbon film	56 kΩ	±5%	SRD1/4P
R098	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R099	0129910	Carbon film	47 kΩ	±5%	SRD1/4P
R401LR	0129561	Carbon film	100 Ω	±5%	SRD1/4P
R402LR	0129617	Carbon film	4.7 kΩ	±5%	SRD1/4P
R403LR	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
R404LR	0129647	Carbon film	47 kΩ	±5%	SRD1/4P
R405LR	0118913	Metal	3.3 kΩ	±1%	RN1/4B

SYMBOL No.	PART No.	DESCRIPTION			
R406LR	0118913	Metal	3.3 kΩ	±1%	RN1/4B
R407LR	0129611	Carbon film	2.7 kΩ	±5%	SRD1/4P
R408	0129633	Carbon film	12 kΩ	±5%	SRD1/4P
R409LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R410	0129609	Carbon film	4.7 kΩ	±5%	SRD1/4P
R411LR	0129534	Carbon film	13 Ω	±5%	SRD1/4P
R412LR	0129564	Carbon film	130 Ω	±5%	SRD1/4P
R413LR	0129549	Carbon film	56 Ω	±5%	SRD1/4P
R414LR	0129622	Carbon film	7.5 kΩ	±5%	SRD1/4P
R415LR	0129661	Carbon film	100 kΩ	±5%	SRD1/4P
R416LR	0129649	Carbon film	56 kΩ	±5%	SRD1/4P
R417LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
}	}	}	}	}	}
R420LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R424LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R425LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R427LR	0129565	Carbon film	150 Ω	±5%	SRD1/4P
R601LR	0129621	Carbon film	6.8 kΩ	±5%	SRD1/4P
R602LR	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R603LR	0129635	Carbon film	15 kΩ	±5%	SRD1/4P
R604LR	0129645	Carbon film	39 kΩ	±5%	SRD1/4P
R605LR	0129577	Carbon film	470 Ω	±5%	SRD1/4P
R605LR	0129609	Carbon film (except W. Germany)	2.2 kΩ	±5%	SRD1/4P
R606LR	0129661	Carbon film (for W. Germany)	100 kΩ	±5%	SRD1/4P
R607LR	0129663	Carbon film	120 kΩ	±5%	SRD1/4P
R608LR	0129647	Carbon film	47 kΩ	±5%	SRD1/4P
R609LR	0129647	Carbon film	4.7 kΩ	±5%	SRD1/4P
R610LR	0129577	Carbon film	470 Ω	±5%	SRD1/4P
R611LR	0129619	Carbon film	5.6 kΩ	±5%	SRD1/4P
R612LR	0129583	Carbon film	820 Ω	±5%	SRD1/4P
R613LR	0129643	Carbon film	33 kΩ	±5%	SRD1/4P
R614LR	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R615LR	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
R616LR	0129631	Carbon film	10 kΩ	±5%	SRD1/4P
R617LR	0129605	Carbon film	1.5 kΩ	±5%	SRD1/4P
R618LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R701LR	0129611	Carbon film	2.7 kΩ	±5%	SRD1/4P
R702LR	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R703LR	0129601	Carbon film	1 kΩ	±5%	SRD1/4P
R704LR	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
}	}	}	}	}	}
R706LR	0129639	Carbon film	22 kΩ	±5%	SRD1/4P
R707LR	0129653	Carbon film	82 kΩ	±5%	SRD1/4P
R708LR	0129683	Carbon film	820 kΩ	±5%	SRD1/4P
△ R709LR	0113830	Metal (fuse resistor) (for Switzerland & France)	10 Ω	±10%	RN2B
R709LR	0134289	Composition (except Switzerland & France)	10 Ω	±10%	RC1/2GF
R710LR	0119139	Metal	4.7 Ω	±10%	RN1/2B
R711LR	0134371	Composition	680 Ω	±10%	RC1/2GF
R712LR	0134371	Composition	680 Ω	±10%	RC1/2GF
△ R714	0118445	Metal (fuse resistor)	4.7 Ω	±5%	RN1/4B
R718LR	0100691	Carbon film	1 kΩ	±5%	SRD1/4P
R719LR	0129617	Carbon film	4.7 kΩ	±5%	SRD1/4P

SYMBOL No.	PART No.	DESCRIPTION		
R720LR	0100691	Carbon film	1 k Ω \pm 5%	SRD1/4P
R721LR	0129621	Carbon film	6.8 k Ω \pm 5%	SRD1/4P
Δ R722	0110601	Metal (fuse resistor)	10 Ω \pm 5%	SRD1/4P
R723LR	0129651	Carbon film	68 k Ω \pm 5%	SRD1/4P
R724LR	0129649	Carbon film	56 k Ω \pm 5%	SRD1/4P
R801	0119621	Metal oxide	100 Ω \pm 10%	RS1B
R802	0119421	Metal oxide	100 Ω \pm 10%	RS1B
R803	0134383	Composition	6.8 k Ω \pm 10%	RC1/2GF
R803	0134381	Composition (except Hong Kong)	4.7 k Ω \pm 10%	RC1/2GF
R804	0134383	Composition (except Hong Kong)	6.8 k Ω \pm 10%	RC1/2GF
R804	0134381	Composition (for Hong Kong)	4.7 k Ω \pm 10%	RC1/2GF
R805	0129577	Carbon film	470 Ω \pm 5%	SRD1/4P
R806	0129601	Carbon film	1 k Ω \pm 5%	SRD1/4P
Δ R807	0110601	Metal (fuse resistor)	10 Ω \pm 5%	RN1/4B
R809	0119441	Metal oxide (except Hong Kong)	1 k Ω \pm 10%	RS1B
R809	0119432	Metal oxide (for Hong Kong)	820 Ω \pm 10%	RS1B
R810	0129633	Carbon film	12 k Ω \pm 5%	SRD1/4P
R811	0129651	Carbon film	68 k Ω \pm 5%	SRD1/4P
R812	0129669	Carbon film	220 k Ω \pm 5%	SRD1/4P
Δ R813	0110605	Metal (fuse resistor)	22 Ω \pm 5%	RN1/4B
R901LR	0129631	Carbon film	10 k Ω \pm 5%	SRD1/4P
R902LR	0129661	Carbon film	100 k Ω \pm 5%	SRD1/4P
R903LR	0129617	Carbon film	4.7 k Ω \pm 5%	SRD1/4P
R904	0129617	Carbon film	4.7 k Ω \pm 5%	SRD1/4P
R905	0129609	Carbon film	2.2 k Ω \pm 5%	SRD1/4P
Δ R906	0110621	Metal (fuse resistor)	100 Ω \pm 5%	RN1/4B
R907	0129617	Carbon film	4.7 k Ω \pm 5%	SRD1/4P
R908	0129609	Carbon film	2.2 k Ω \pm 5%	SRD1/4P
FETs, ICs & TRANSISTORS				
FET401LR	2329863	μ PA68H (L) or (M)		
IC001	2369701	TC4066BP		
IC002	2369901	M54529P		
IC003	2369121	TL4558P-C		
IC004	2369862	HD38805A07		
IC005	2369881	IR3403		
IC006	2369881	IR3403		
IC008	2369121	TL4558P-C		
IC401	2369121	TL4558P-C		
IC402	2368831	CX770A		
IC405	2368831	CX770A		
IC601	2369841	M5219L		
IC701	2368932	STK3062		
IC702LR	2377441	TM2501A		
IC703	2377411	TM1003		
Q005	2328282	2SC458 (C)		
Q006	2328082	2SA844 (D)		
Q007	2328282	2SC458 (C)		
Q008	2328282	2SC458 (C)		
Q401LR	2317712	2SC2878 (B)		
Q402LR	2317712	2SC2878 (B)		

SYMBOL NO.	PART No.	DESCRIPTION
Q601LR	2317712	2SC2878 (B)
Q701LR	2328642	2SA825 (C)
Q702LR	2328656	2SC1740 (E)
Q801	2317738	2SD330 (E)
Q802	2328963	2SB514AL (E)
Q803	2328783	2SC2389 (E)
Q804	2328082	2SA844 (D)
DIODES		
D002	2337011	1S2076
}	}	}
D019	2337011	1S2076
D022	2337011	1S2076
D023	2337011	1S2076
D025	2447011	1S2076
D026	2337011	1S2076
D036	2337011	1S2076
D040	2337011	1S2076
D041	2339391	GL-3HD5
D042	2339381	LT-9110N
}	}	}
D046	2339381	LT-9110N
D047	2339391	GL-3HD5
}	}	}
D050	2339391	GL-3HD5
D051	2337011	1S2076
D052	2337762	ERB12-01R
D053	2337011	1S2076
}	}	}
D057	2337011	1S2076
D058	2337011	1S2076
D702LR	2337151	1S2076A
D703LR	2337011	1S2076
D704LR	2337011	1S2076
D801	2337341	SSVB20
D802	2337151	1S2076A
D803	2337011	1S2076
D901LR	2337921	1K34A
ZD001	2338597	RD5.1EN2
ZD801	2337532	HZ15-2
ZD802	2337532	HZ15-2
VARIABLE RESISTORS		
R651	0166432	50 k Ω -(B) (BALANCE)
R652LR	0151854	100 k Ω -(B) (VOLUME)
R653LR	0166442	50 k Ω -(C) (TREBLE)
R654LR	0166442	50 k Ω -(C) (BASS)
COILS		
L401LR	2227371	Choke coil-47 μ H
L701LR	2227311	Audio trap coil-2.5 μ H
MISCELLANEOUS		
CP001	0189032	Resistor array (100 k \times 4)
CP002	0189033	Resistor array (470 k \times 4)
X001	2154421	Crystal Oscillator - 400 kHz
J001	2677751	Headphone jack
Δ S1	2639512	Power switch (for U.S.A. & Canada)
Δ S1	2639513	Power switch (except U.S.A. & Canada)

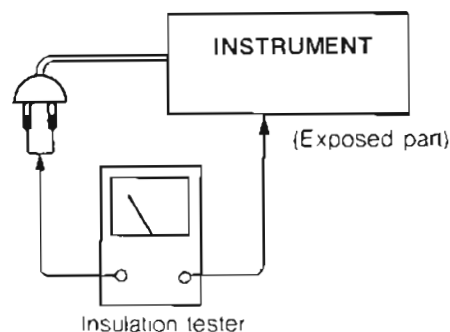
SYMBOL No.	PART No.	DESCRIPTION	
△ F I	2727566	Fuse - 4A, 125 V (for U.S.A. & Canada)	
△ F I	2727199	Fuse - T2.5A, 250 V (for Switzerland)	
△ F I	2727193	Fuse - T2A, 250 V (except U.S.A. Canada & Switzerland)	
RY801	2678345	8P US pin jack	
	2678346	8P US pin jack	
	2658441	8P DIN socket (Green)	
	2658442	8P DIN socket (Black)	
	2688281	8P push terminal (SPEAKERS)	
	2647221	Power relay	
	2727161	Lamp holder (for U.S.A. & Canada)	
	2638621	Push switch (SPEAKERS)	
	2639541	Push switch (LOUDNESS, TONE, SUBSONIC)	
		2639801	Push switch (FUNCTION)
TS701	2639092	Push switch (REC OUT)	
	2639092	Lock switch (MM/MC, ONE TOUCH)	
	2639801	Tact Switch (PROGRAM)	
	2788662	Thermal switch	
	4567412	3 φ × 8 DT bind screw (for PWB)	
	4784106	3 φ × 10 bind tapping screw (for heat loop)	
	4573552	3 φ × 16 bind tapping screw	
	4567411	3 φ × 6 DT bind screw	
	for REAR PLATE ASSEMBLY		
	△	0043793	Bushing (for power supply cord) (for U.S.A.)
△	3913006	Bushing (for power supply cord) (except U.S.A.)	
△	2749471	Power supply cord (for U.S.A.)	
△	2700122	Power supply cord (for Canada)	
△	2749582	Power supply cord (for U.K.)	
△	2749622	Power supply cord (for Australia)	
△	2748752	Power supply cord (for Europe, Switzerland, Sweden, W. Germany, Asia & Latin American countries, etc.)	
△	2658413	AC outlet (for U.S.A.)	
△	2658414	AC outlet (for Canada)	
△	2657741	AC outlet (for Europe, Switzerland, Sweden & W. Germany)	
△	2658372	AC outlet	
△	2618051	Voltage selector sw. } (for Asia & Latin American countries, etc.)	
△ F 2	2727193	Fuse - T2A, 250 V	
	4567432	3 φ × 8 DT bind screw (for VOLTAGE SELECTOR)	

SYMBOL No.	PART No.	DESCRIPTION
for FINAL ASSEMBLY		
	4020664	Escutcheon ass'y
	3291521	Knob ass'y (VOLUME)
	4581982	3 φ × 10 tapping flat head screw } (for escutcheon)
	4568853	3 φ × 10DT flat head screw
	4443754	Cover (for U.S.A. & Canada)
	4567443	4 φ × 10DT bind screw (for cover)
	4443751	Cover (for U.K.)
	4432077	Cover ass'y (except U.S.A., Canada & U.K.)
	4567463	4 φ × 10 DT bind screw (for cover)
for DIAL MECHANISM ASSEMBLY		
	3952701	Sub panel
	3952792	Power indicator sheet
	3294212	REC button ass'y
	3952741	Power button ass'y
	3294172	Function button ass'y
	3293901	Push button (SPEAKERS, TONE, others)
	3293081	Push button (PHONO SELECTOR, others)
	3294101	Push button (TAPE 2 lock)
	3293061	Slide button (BASS, TREBLE, BALANCE)
	3293091	PROGRAM button
	3927411	Leg
△ T001	2247852	Power transformer (for U.S.A. & Canada)
△ T001	2247853	Power transformer (for Europe, Switzerland, Sweden, U.K. & W. Germany)
△ T001	2247855	Power transformer (for Australia)
△ T001	2247854	Power transformer (for Asia & Latin American countries, etc.)
△ T001	2247574	Power transformer (for Hong Kong)
	2339371	LED level meter
	4567412	3 φ × 8 DT bind screw (for power holder, power sw.)
	4567413	3 φ × 10 DT bind screw (for leg)
	4567433	3 φ × 10 DT bind screw (for rear plate)
	4784106	3 φ × 10 bind tapping screw (for US pin, Others)
	4567454	3 φ × 12 DT bind screw (for PWB, heat sink)
	4567422	4 φ × 8 DT bind screw (for Power Trans.)
for ACCESSORIES		
△	2658361	E socket adaptor } (for Asia & Latin American countries, etc.)
△	2727196	Fuse-T3.15A, 250 V
	2718613	8P DIN cord (Yellow Green)
	2718625	US PIN cord (Yellow)
	2718624	US PIN cord (Brown)

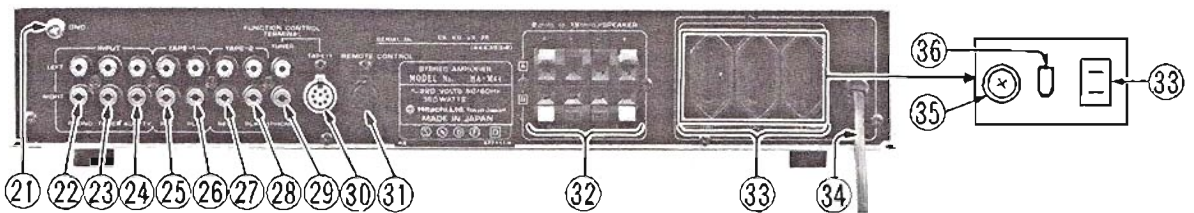
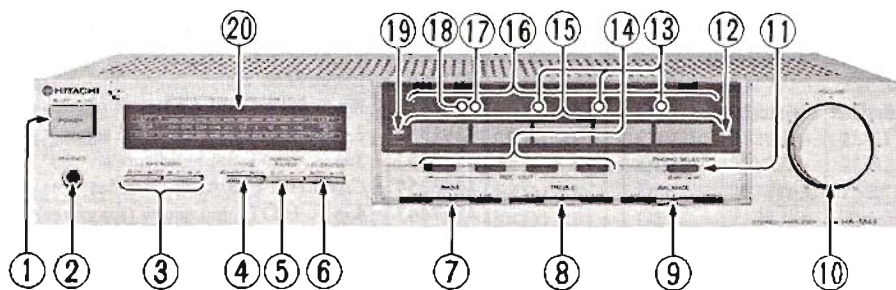
Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

● Checking method

Power switch is set to ON.
Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the exposed parts where the customer is easy to touch and check that the resistance value is 500kohms or more.



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



- ① POWER switch
- ② PHONES jack
- ③ SPEAKERS switch
- ④ TONE switch
- ⑤ SUBSONIC-FILTER switch
- ⑥ LOUDNESS switch
- ⑦ BASS control
- ⑧ TREBLE control
- ⑨ BALANCE control
- ⑩ VOLUME control
- ⑪ PHONO SELECTOR switch
- ⑫ Program switch
- ⑬ REC OUT indicators
- ⑭ REC OUT switches
- ⑮ FUNCTION switches
- ⑯ FUNCTION indicators
- ⑰ RECORDING indicator
- ⑱ Tape COPY indicator
- ⑲ MONITOR LOCK switch(TAPE-2)
- ⑳ Power level indicator
- ㉑ Ground terminal(GND)
- ㉒ PHONO INPUT jacks
- ㉓ TUNER INPUT jacks
- ㉔ AUX/TV jacks
- ㉕ TAPE-1 REC jacks
- ㉖ TAPE-1 PLAY jacks
- ㉗ TAPE-2 REC jacks
- ㉘ TAPE-2 PLAY jacks
- ㉙ FUNCTION CONTROL TERMINALS (PHONO,TUNER)
- ㉚ FUNCTION CONTROL TERMINAL (TAPE-1)
- ㉛ REMOTE CONTROL socket
- ㉜ SPEAKERS terminals
- ㉝ AC outlet
(3 outlets for U.S.A.,Canada and Europe sets,1 outlet for Asia and Latin American countries'sets)
- ㉞ Power supply cord
(for Asia and Latin American countries'sets)
- ㉟ FUSE holder
(for Asia and Latin American countries'sets)
- ㊱ VOLTAGE SELECTOR switch
(for Asia and Latin American countries'sets)

- ① Netzschalter(POWER)
- ② Kopfhörerbuchse(PHONES)
- ③ Lautsprecher-schalter(SPEAKERS)
- ④ Klangregeischalter(TONE)
- ⑤ Intraschallfilter(SUBSONIC)
- ⑥ Gehörriichtige Lautstärke(LOUDNESS)
- ⑦ Tiefenregler(BASS)
- ⑧ Höhenregler(TREBLE)
- ⑨ Balanceregler(BALANCE)
- ⑩ Lautstärkeregler(VOLUME)
- ⑪ PHONO SFLECTOR-Schalter
- ⑫ Programmschalter
- ⑬ REC OUT-indikatoren
- ⑭ REC OUT-Schalter
- ⑮ Funktionsschalter
- ⑯ Funktionsanzeigen
- ⑰ Aufnahmeindikator(RECORDING)
- ⑱ Tonband-Kopierindikator(COPY)
- ⑲ Monitorverriegelungsschalter (Tonband 2)
- ⑳ Aussteuerungsanzeige
- ㉑ Erdklemme(GND)
- ㉒ PHONO eingangsbuchsen
- ㉓ TUNER eingangsbuchsen
- ㉔ AUX-TV-Buchsen
- ㉕ Tonband 1,Aufnahmebuchsen
- ㉖ Tonband 1,Wiedergabebuchsen
- ㉗ Tonband 2,Aufnahmebuchsen
- ㉘ Tonband 2,Wiedergabebuchsen
- ㉙ Funktionssteuerklemmen (PHONO,TUNER)
- ㉚ Funktionssteuerklemmen(TAPE-1)
- ㉛ Fernbedienungsbuchse
- ㉜ Lautsprecher-Auschlussklemmen (SPEAKERS)
- ㉝ Kaltgerätestecker
(3 Ausgänge für Geräte für USA, Kanada und Europa,1 Ausgang für Geräte für Asien und Lateinamerika)
- ㉞ Netzkabel
- ㉟ Sicherungshalter(FUSE)
(für Geräte für Asien und Lateinamerika)
- ㊱ Spannungswahlschalter
(für Geräte für Asien und Lateinamerika)

- ① Interrupteur d'alimentation(POWER)
- ② Prise de casque d'ecoute(PHONES)
- ③ Commutateurs d'enceintes(SPEAKERS)
- ④ Commutateur de tonalité(TONE)
- ⑤ Commutateur de filtre infra-acoustique (SUBSONIC)
- ⑥ Commutateur de correcteur physiologique (LOUDNESS)
- ⑦ Commande des tonalités graves(BASS)
- ⑧ Commande des tonalités aiguës(TREBLE)
- ⑨ Commande d'équilibrage(BALANCE)
- ⑩ Commande de VOLUME
- ⑪ Touche PHONO SELECTOR
- ⑫ Commutateur de programme
- ⑬ Témoins REC OUT
- ⑭ Touches REC OUT
- ⑮ Commutateurs de fonction(FUNCTION)
- ⑯ Témoins de fonction
- ⑰ Témoin d'enregistrement(RECORDING)
- ⑱ Témoins de copiage de band(COPY)
- ⑲ Interrupteur de verrouillage de surveillance (MONITOR LOCK TAPE-2)
- ⑳ Indicateur de niveau de puissance(POWER)
- ㉑ Borne de mise à la terre(GND)
- ㉒ Prise d'entrée PU(PHONO INPUT)
- ㉓ Prise d'entrée de tuner(TUNER INPUT)
- ㉔ Prise auxiliaire/Télé(AUX/TV)
- ㉕ Prise d'enregistrement TAPE-1
- ㉖ Prise d'entrée de lecture TAPE-1
- ㉗ Prise d'enregistrement TAPE-2
- ㉘ Prise d'entrée de lecture TAPE-2
- ㉙ Bornes de commande de fonction (FUNCTION CONTROL TERMINALS) (PHONO TUNER)
- ㉚ Bornes de commande de fonction (FUNCTION CONTROL TERMINALS) (TAPE-1)
- ㉛ Support de commande à distance (REMOTE CONTROL)
- ㉜ Bornes d'enceintes(SPEAKERS)
- ㉝ Prise de courant alternatif
(3 prises pour les Etas-Unis d'Amérique le Canada et Europe,1 prise pour l'Asie et Amérique Latine)
- ㉞ Cordon d'alimentation en C.A.
- ㉟ Support de fusible(FUSE)
(pour l'Asie et l'Amérique Latine)
- ㊱ Sélecteur de tension(VOLTAGE SELECTOR)
(pour l'Asie l'Amérique Latine)

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