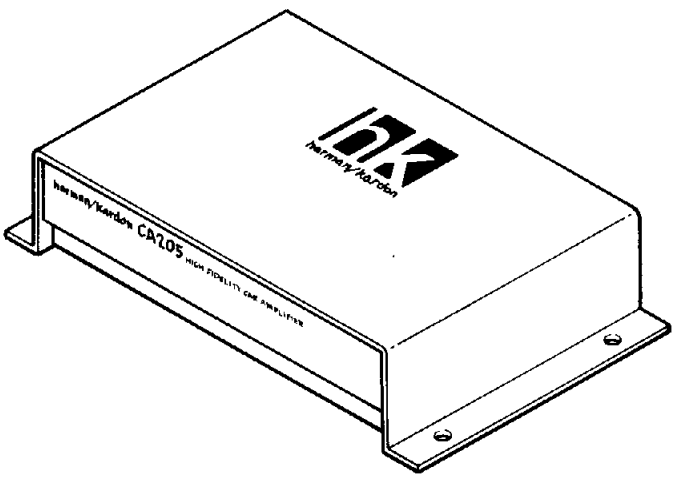
The Harman Kardon Model CA205

Manual 89A

HIGH FIDELITY CAR AMPLIFIER

Technical Manual



harman/kardon
240 Crossways Park West, Woodbury, N.Y. 11797
1112 H15289A3 P 088604 1850 Printed in Japan

SPECIFICATIONS

Power Output, RMS	:	3.5 watts per channel into 4 Ohms, 20 ~ 20,000Hz
HCC (High Instantaneous Current Capability)	:	±5A
THD (4 ohms)	:	No more that 0.2%
Negative Feedback	:	25dB
Power Bandwidth	:	10Hz to 100,000Hz
Frequency Response	:	10Hz to 100,000Hz +0, −3dB
Signal-to-Noise Ratio	:	90dB
Input Sensitivity/Impedance	:	0.1V/22k Ohms
Power Supply	:	DC +13.8V (11~16V usable), negative ground
Typical Input Current Requirements		
At Idle	:	0.2A
Full Power Music Signal	:	0.4A (4 Ohms/ch.)
Full Power Sine Wave	:	1.2A (4 Ohms/ch.)
Dimensions (W×H×D)	:	6-3/4″×1-1/2″×4-1/8″ (172×38×105 mm)
Weight	:	1lbs. 5oz. (0.6kg)

Specifications and components subject to change without notice.
Overall performance will be maintained or improved.

ALIGNMENT PROCEDURES

■ Idling current adjustment

Conditions:

- Connect a 13.8V power supply to the Power Supply Lead.
- After the power on, wait for 15 minutes before measuring to be sure of the most stable operation.
- Connect the DC voltmeter between TP1 and TP2 and between TP3 and TP4.

Inspection:

- Check that the voltage is between 5mV and 30mV. If it is higher than the specified range, adjust it according to the procedure described at the right.

Adjustment:

Note: When disconnecting a resistor, disconnect the power supply first.

Voltage	Procedure
30mV ~ 53mV	Cut out R135 and R136.
54mV ~ 77mV	Cut out R137 and R138.

After the adjustment is complete, let the unit settle down for 15 minutes, then double-check that the idling current is set properly.

DISASSEMBLY PROCEDURES

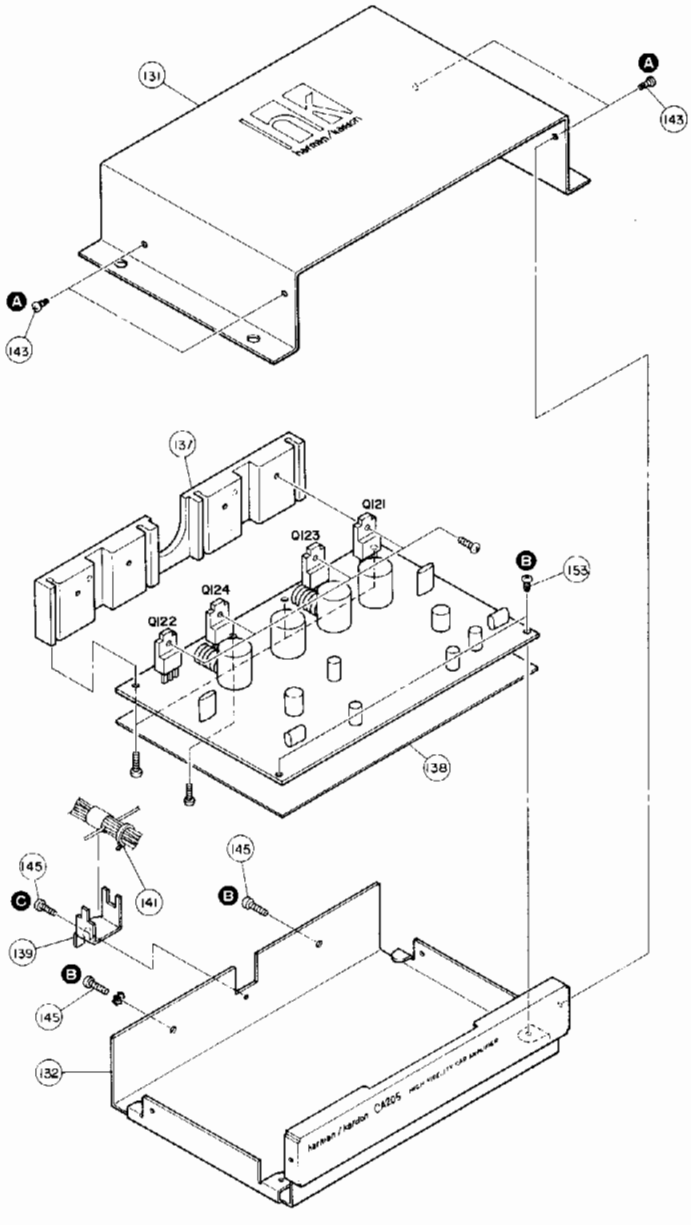
[1] CABINET TOP (131) REMOVAL

Remove 4 screws Ⓐ and remove the Cabinet Top (131).

[2] MAIN P.C.BOARD REMOVAL

1. Remove the Cabinet Top (131). (Refer to step [1].)
2. Remove 4 screws Ⓑ and Loosen screw Ⓒ, then remove the Main P.C.Board with Insulator (138).

GENERAL UNIT EXPLODED VIEW



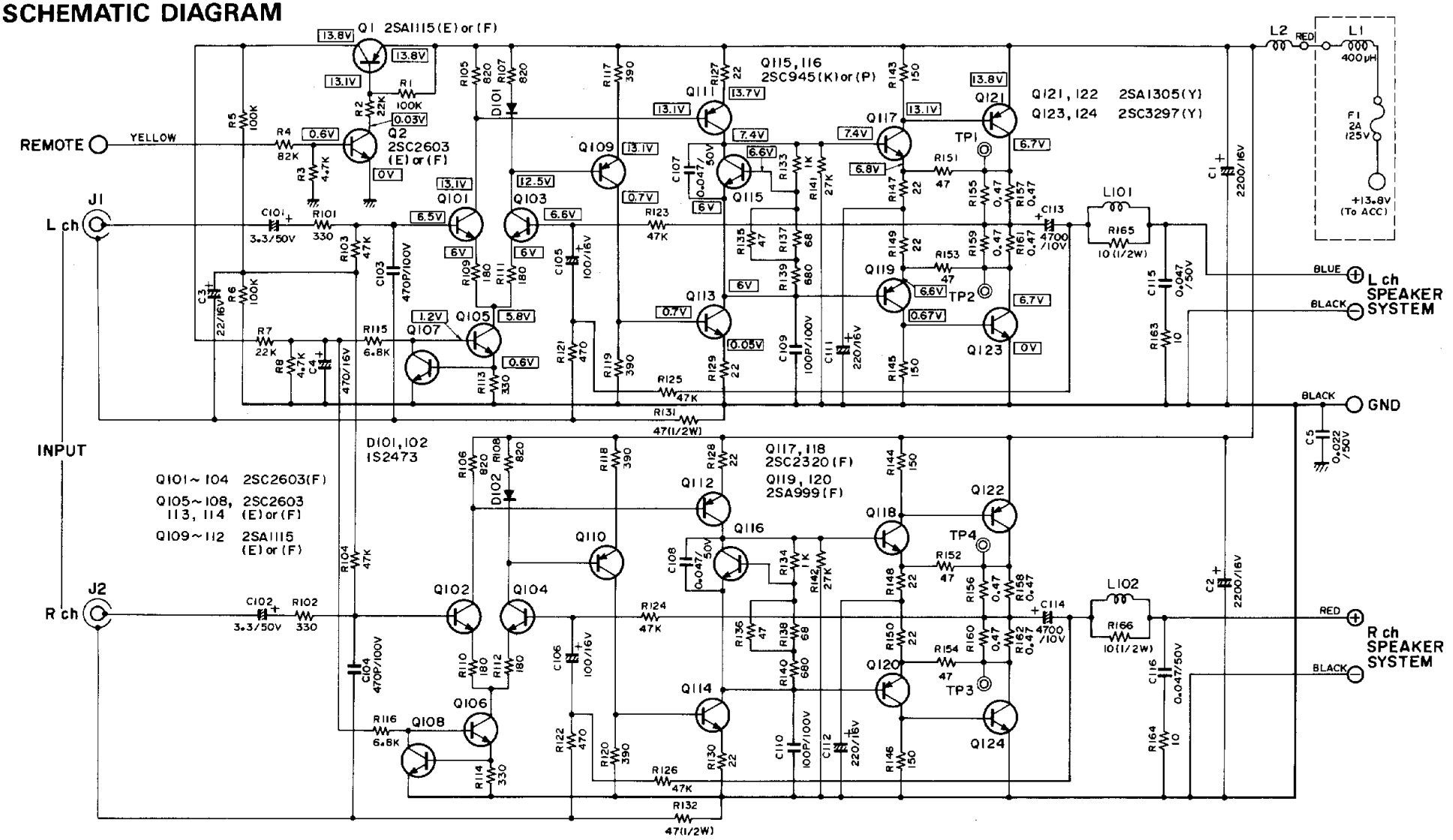
GENERAL UNIT PARTS LIST

Ref. No.	Part No.	Description
131	1414-05701	Cabinet Top
132	1424-15401	Cabinet Bottom
137	2222-7184	Heat Sink
138	2224-7109	Insulator
139	2219-8047	Bracket
141	2240-7120	Holder
143	2327-2605K9	Self-tapping Screw (+) (2.6×5mm)
145	2340-7003	Special Screw
153	2347-300627	Self-tapping Screw (+) (3×6mm)
	1111-J30211	Owner Guide (for U.S.A. model)
	1111-J30212	Owner Guide (for General model)
	2310-7034	Mounting Screws and Washers (Set)(Accessory)
	1221-717180	Packing Box
	1222-7283	Packing Cushion

ELECTRICAL PARTS LIST

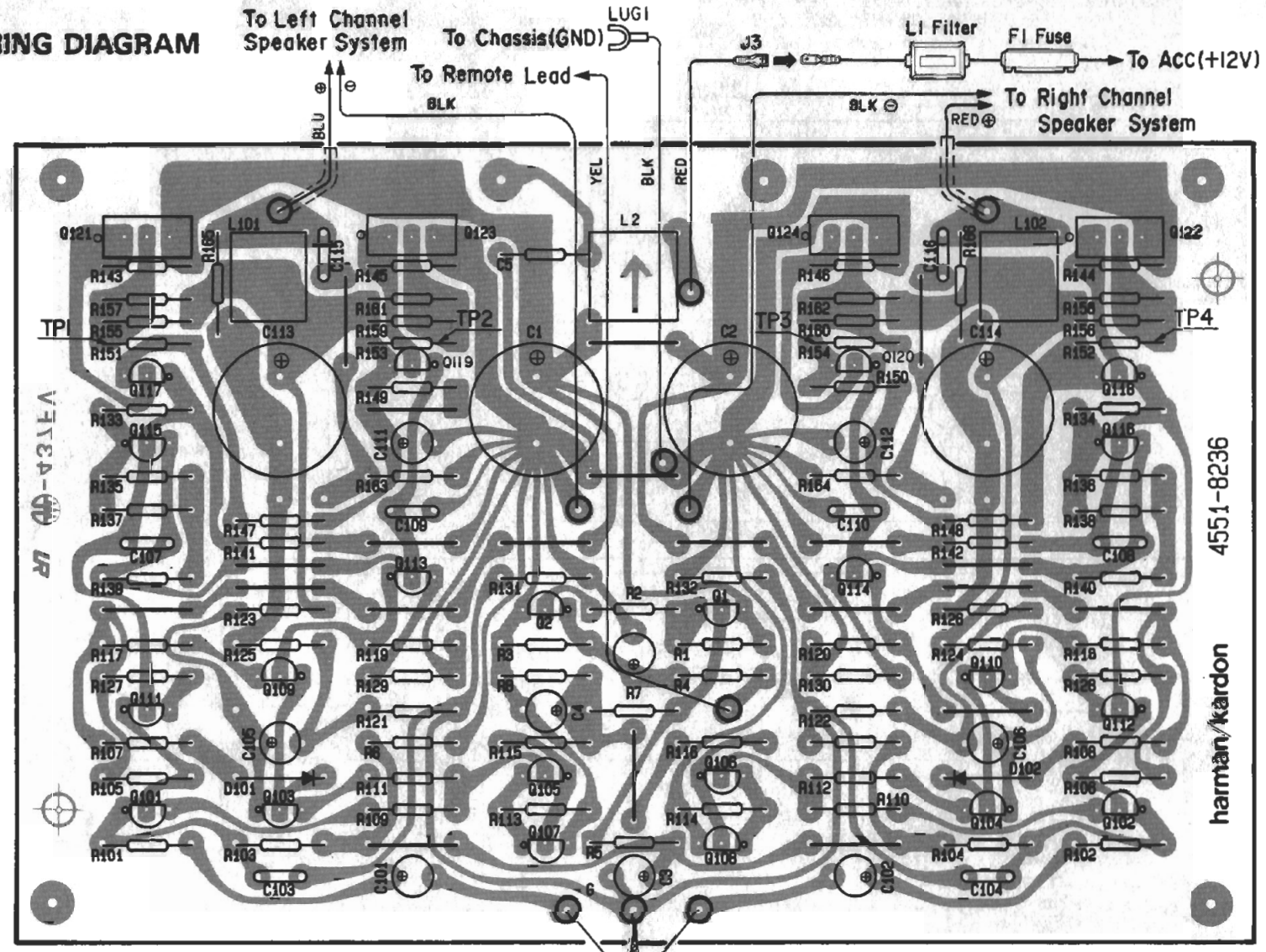
Ref. No.	Part No.	Description
	CHASSIS MISCELLANEOUS	
F1	5732-202029	Fuse, 2A, 125V
J1/2	4163-705118	Plug with Lead Wire, Line Input
J3	4163-703118	Connector with Lead Wire, Red
LUG1	4163-704118	Lug with Lead Wire, Black
L1	4163-708118	Filter with Fuse Holder (includes: Fuse)
	MAIN P.C.BOARD	
	RESISTORS	
R131,132	5165-470J50P	47Ω, ±5%, 1/2W, Solid
	CAPACITORS	
C1,2	5345-228C041	2200μF, ±20%, 16V, Electrolytic
C3	5345-226C041	22μF, ±20%, 16V, Electrolytic
C4	5345-477C045	470μF, ±20%, 16V, Electrolytic
C101,102	5345-335F0951	3.3μF, ±20%, 50V, Electrolytic
C103,104	5359-4715851	470pF, ±5%, 100V, Polypropylene
C105,106	5345-107C041	100μF, ±20%, 16V, Electrolytic
C109,110	5359-1015851	100pF, ±5%, 100V, Polypropylene
C111,112	5345-227C045	220μF, ±20%, 16V, Electrolytic
C113,114	5345-478B045	4700μF, ±20%, 10V, Electrolytic
	TRANSISTORS	
Q1,109,110,111,112	5611-1115(E)	2SA1115(E) or 2SA1115(F)
Q2,105,106,107,108, 113,114	5613-2603(E)	2SC2603(E) or 2SC2603(F)
Q101,102,103,104	5613-2603(F)	2SC2603(F)
Q115,116	5613-945(K)	2SC945(K) or 2SC945(P)
Q117,118	5613-2320(F)	2SA2320(F)
Q119,120	5611-999(F)	2SA999(F)
Q121,122	5611-1305(Y)	2SA1305(Y)
Q123,124	5613-3297(Y)	2SC3297(Y)
	DIODES	
D101,102	5631-1S2473	1S2473
	COILS	
L2,101,102	5991-7165	

SCHEMATIC DIAGRAM

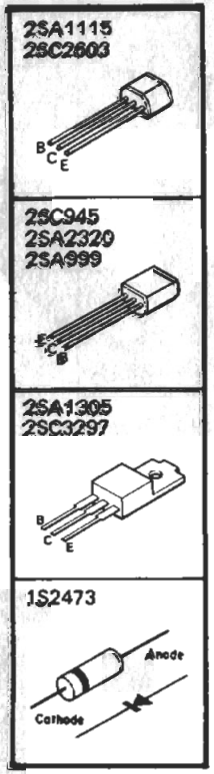


1. ALL RESISTANCES VALUES ARE IN Ω.
   KΩ=1000Ω, MΩ=1000KΩ.
2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. P=μμF
4. [...V] : DC VOLTAGE AT NO SIGNAL

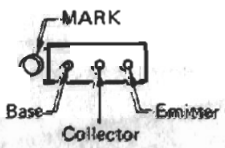
WIRING DIAGRAM

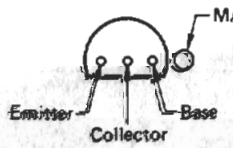


PIN CONNECTION DIAGRAM OF TRANSISTORS AND DIODES.



TRANSISTORS





- **WIRE COLOR ABBREVIATIONS**

RED	:	Red
ORG	:	Orange
BLU	:	Blue
WHT	:	White
BLK	:	Black
YEL	:	Yellow