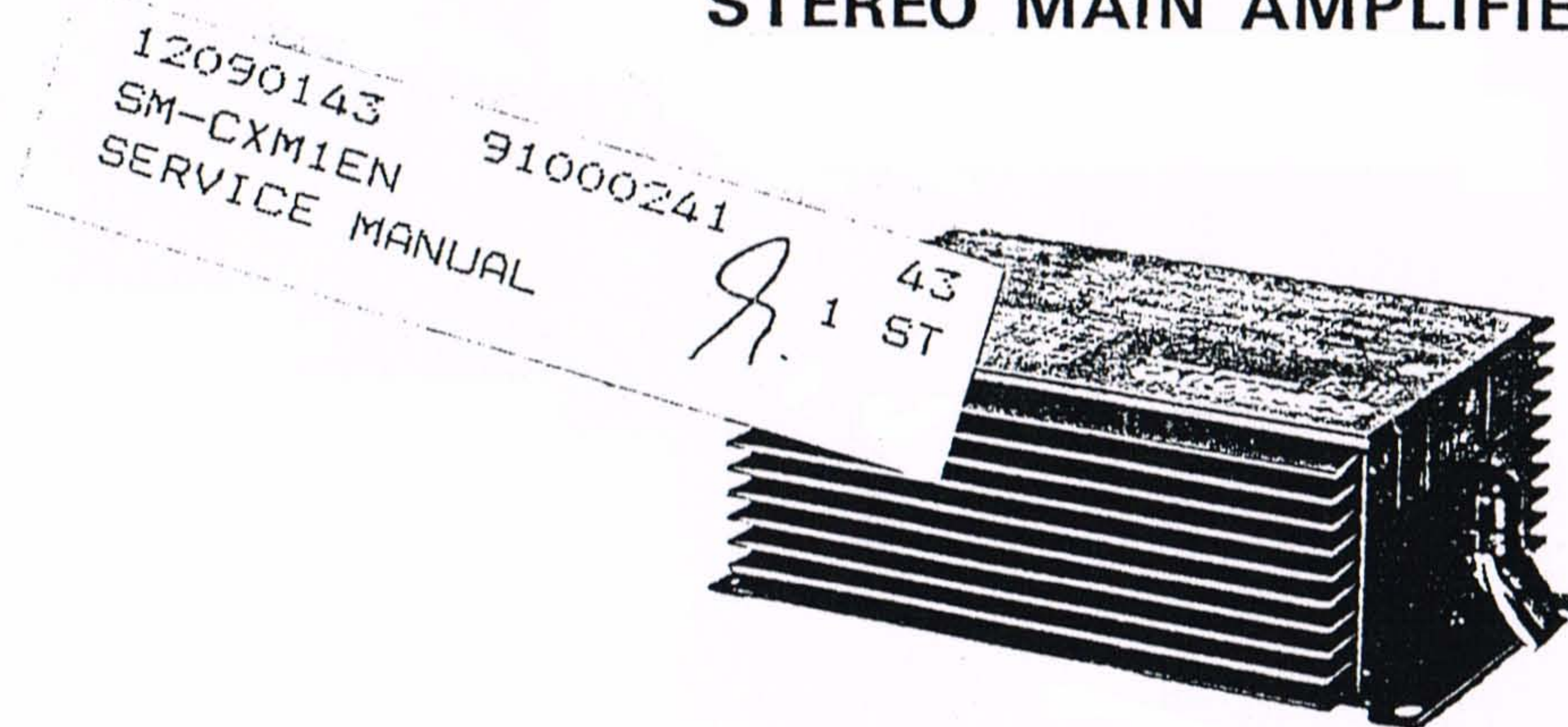


Service Manual

AUTO PRODUCTS CX-M1EN

STEREO MAIN AMPLIFIER



SPECIFICATIONS*

Frequency Response:	20 ~ 20,000 Hz (at ± 3 dB)
Input Impedance:	5.6 Ω
Power Supply Voltage:	DC 12 V (11 ~ 16 V), Negative ground
Power Consumption:	Approx. 53 W (4 A at 10 W output, DC 13.2 V)
Power Output:	
Continuous;	2 x 10 W (at 1 % THD)
Maximum;	2 x 22 W
	(Conditions; at 1000 Hz, 4 Ω load, 13.2 V DC)
Signal to Noise Ratio:	80 dB
Speaker Impedance:	4 Ω ~ 8 Ω
IC's:	4
Transistor:	1
Diodes:	3
Dimensions**:	Width: 104 mm Height: 56 mm Depth: 156 mm
Weight**:	0.9 kg

FEATURES

- 10 W x 2, 4-channel stereo booster amplifier.
- DC 12 V, Negative ground.
- DIN connector jack for input.
- B. T. C. L. (Balanced Output-Transformer and Condenser Less).
- External speaker jacks.
- Muting circuit.
- Component system with a tuner, a car stereo and a pre-amplifier.
 - CX-T1EN; FM Tuner
 - CX-D1EN; Automatic reversing cassette car stereo
 - CX-P1EN; Stereo pre-amplifier

CAUTION

- Power supply cord should be connected to an accessory terminal on the ignition switch.
- Use speakers rated at 10 W or more.
- Be sure to connect the speakers before operating.
- Place the unit in a well ventilated area.
- Keep this unit away from rain or water.

*Specifications subject to change without notice.

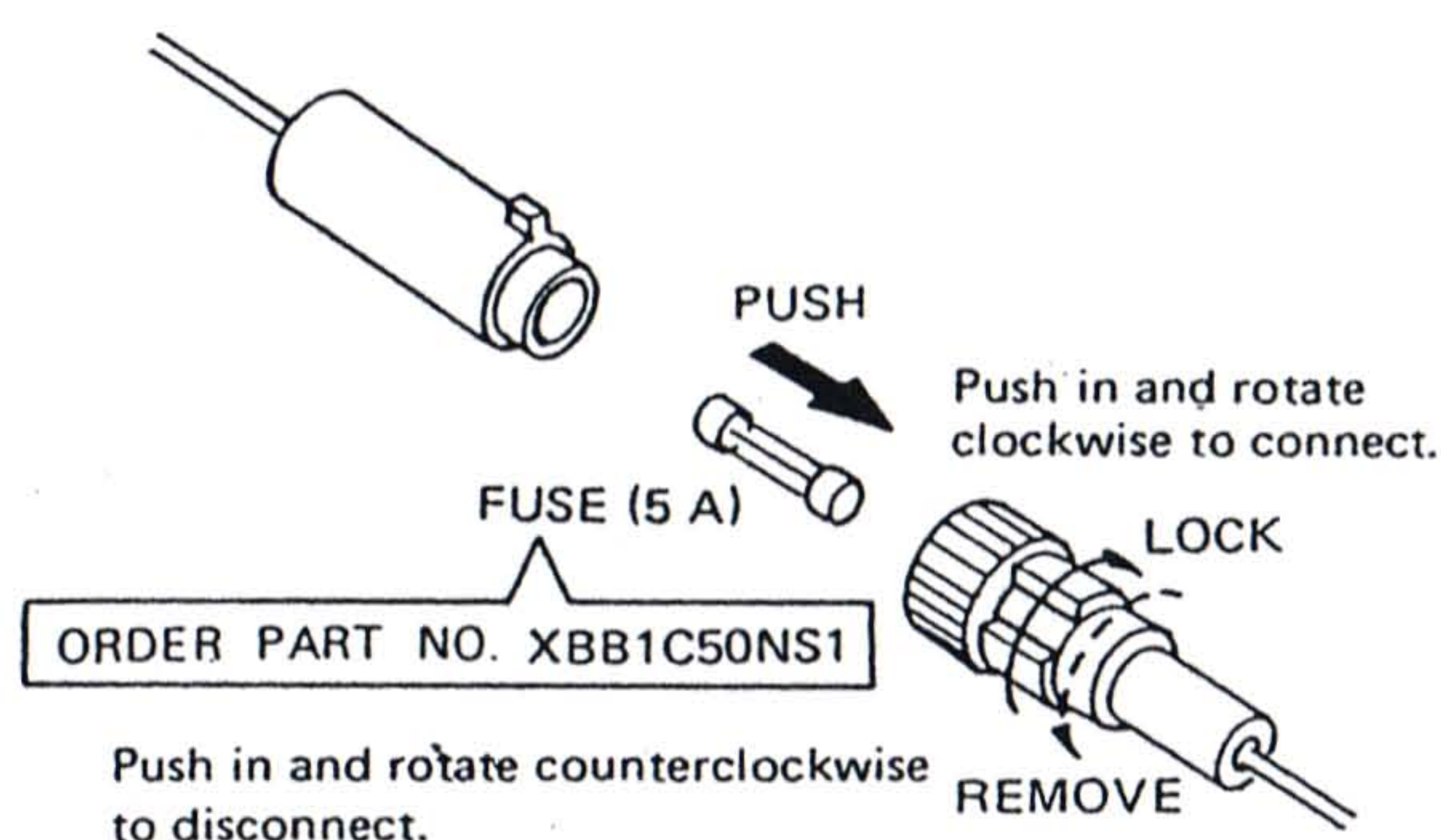
**Weight and Dimensions shown are approximate.

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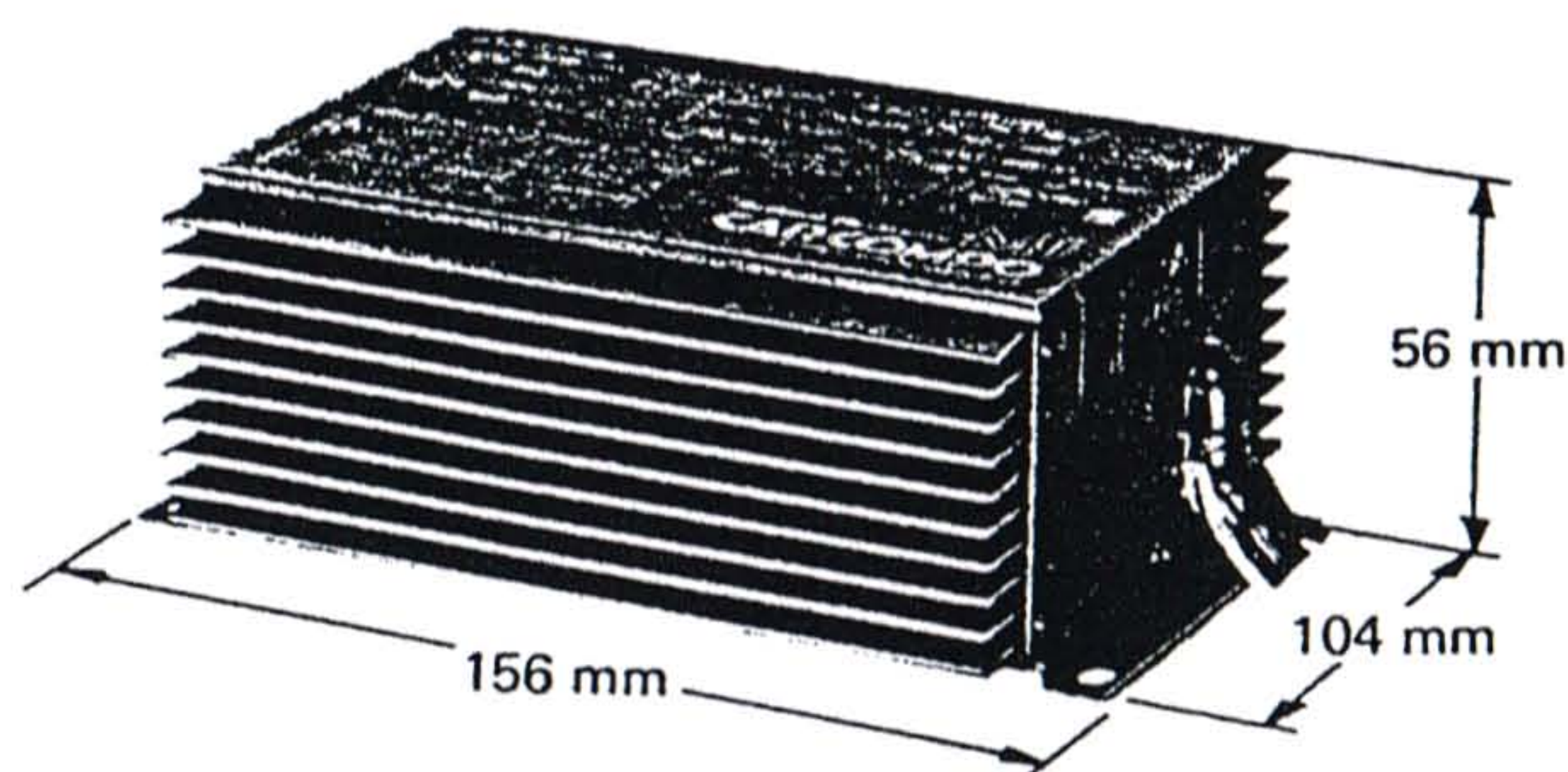
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FUSE REPLACEMENT

Be sure to use a 5 A fuse for replacement. Use of a larger fuse may not provide adequate protection.

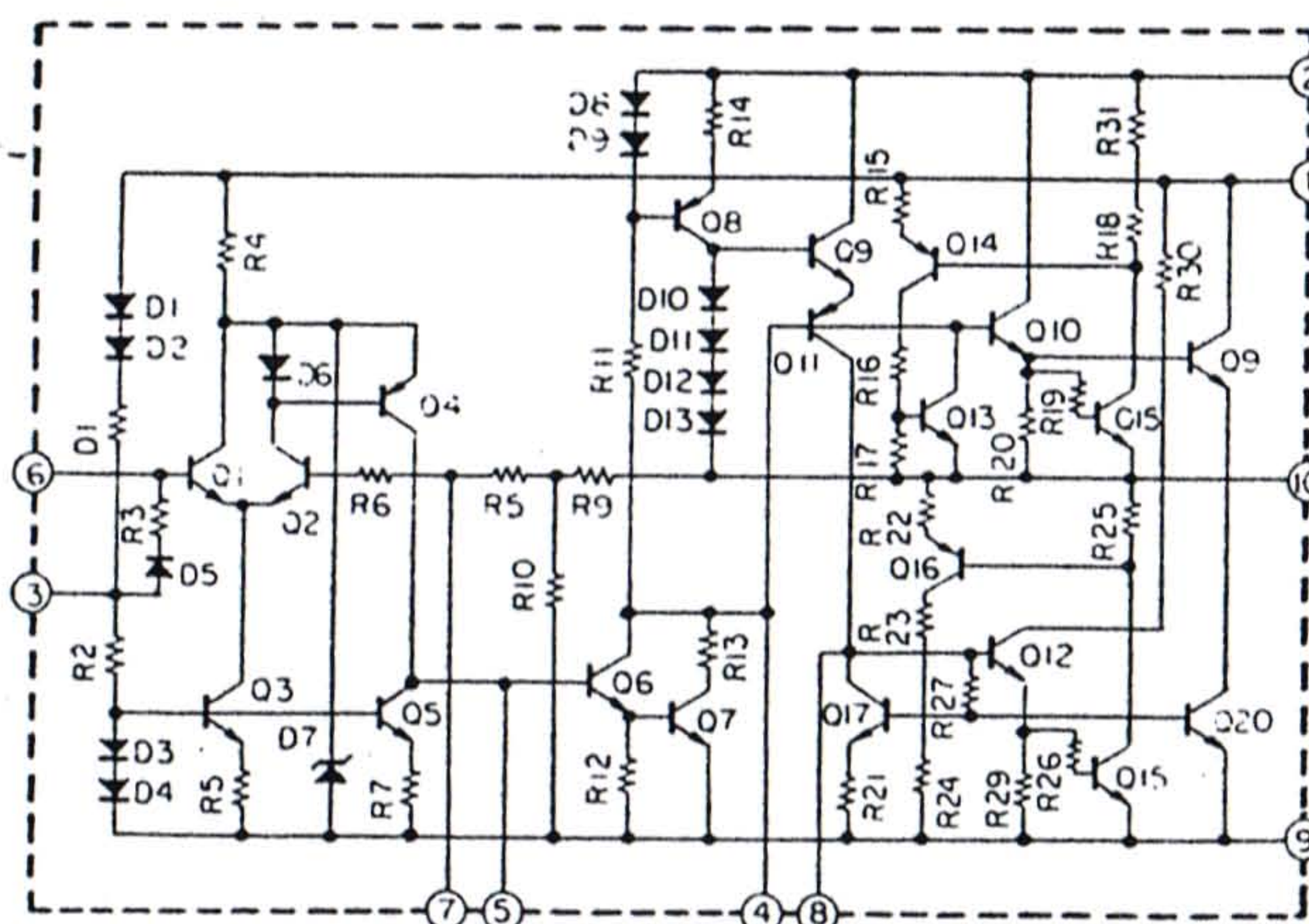


DIMENSIONS



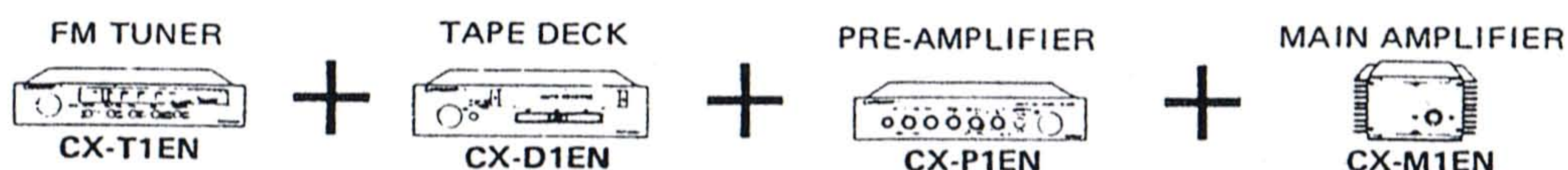
IC EQUIVALENT CIRCUIT

- YBAMTA7205AP (IC1, 2, 101, 102)
- POWER AMP

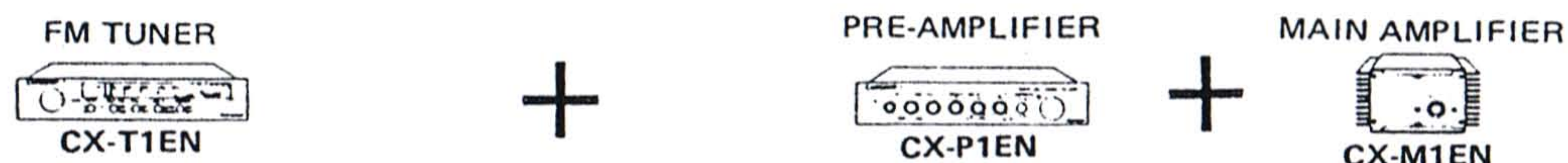


CAR COMPO COMBINATIONS

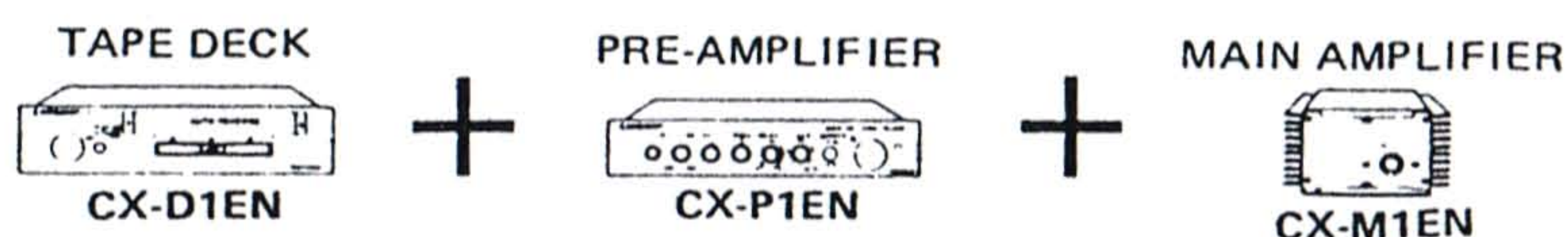
Example-1
Car Radio & Car Stereo



Example-2
Car Radio

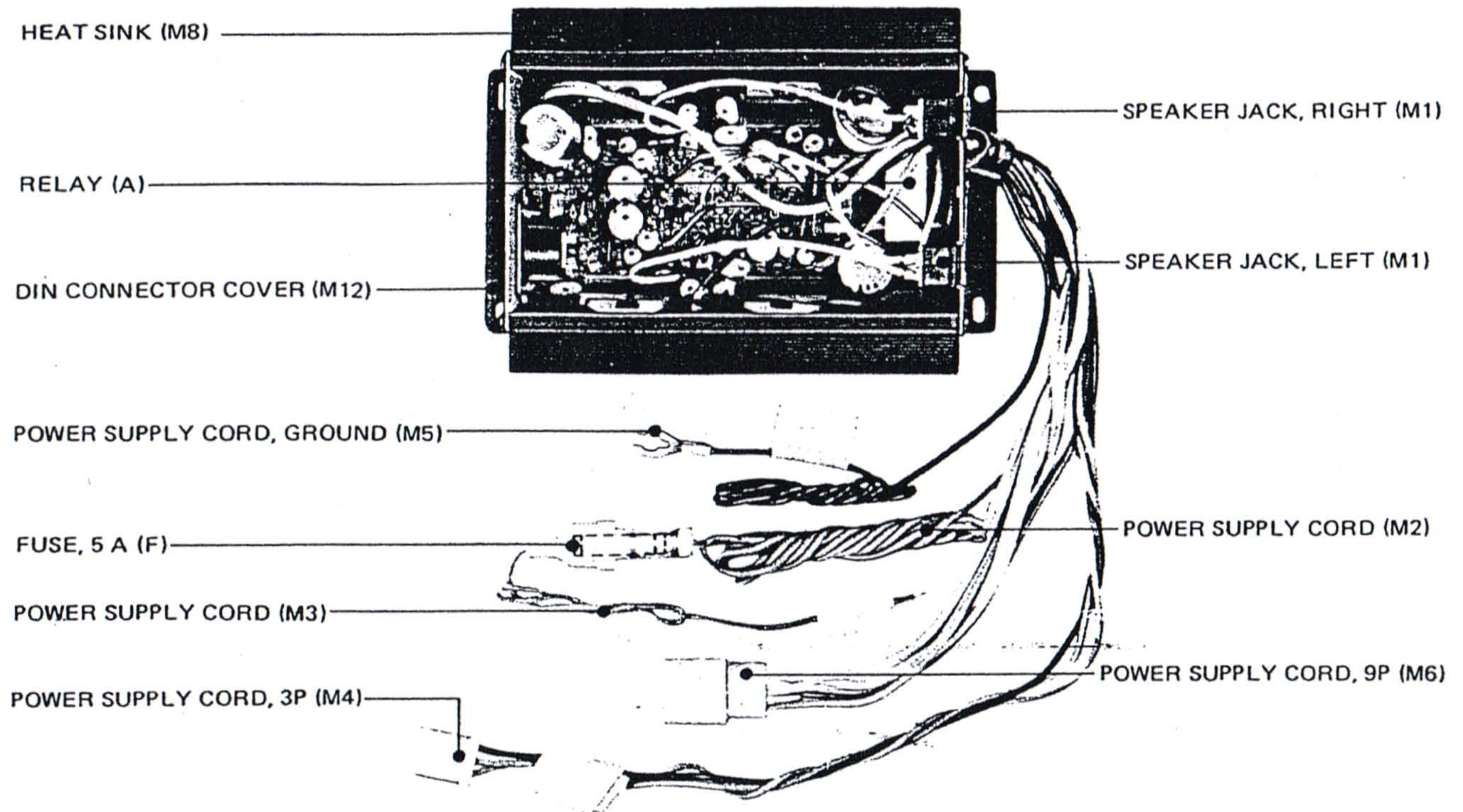


Example-3
Car Stereo



PARTS LOCATION

- Reference numbers, in () are listed in the Replacement Parts List, starting on page 7.
- For other parts location, see the EXPLODED VIEW, page 6.

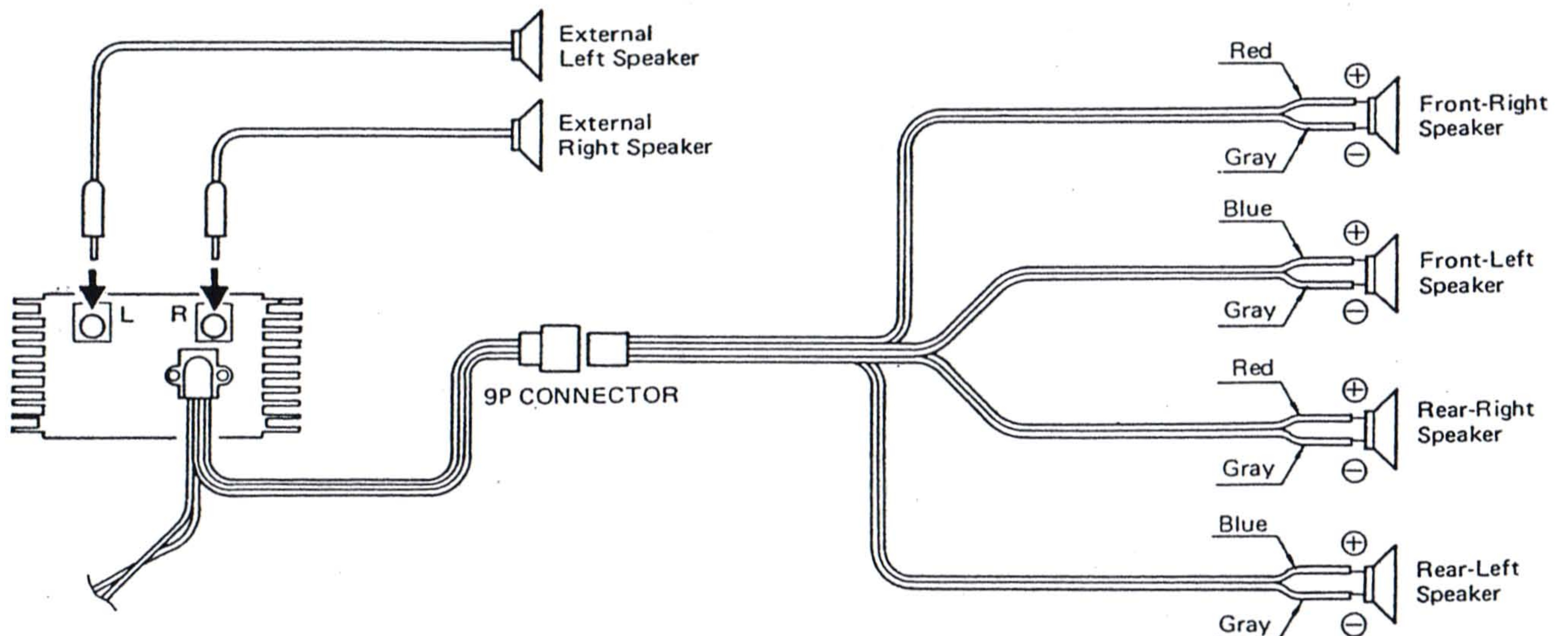


SPEAKER CONNECTIONS

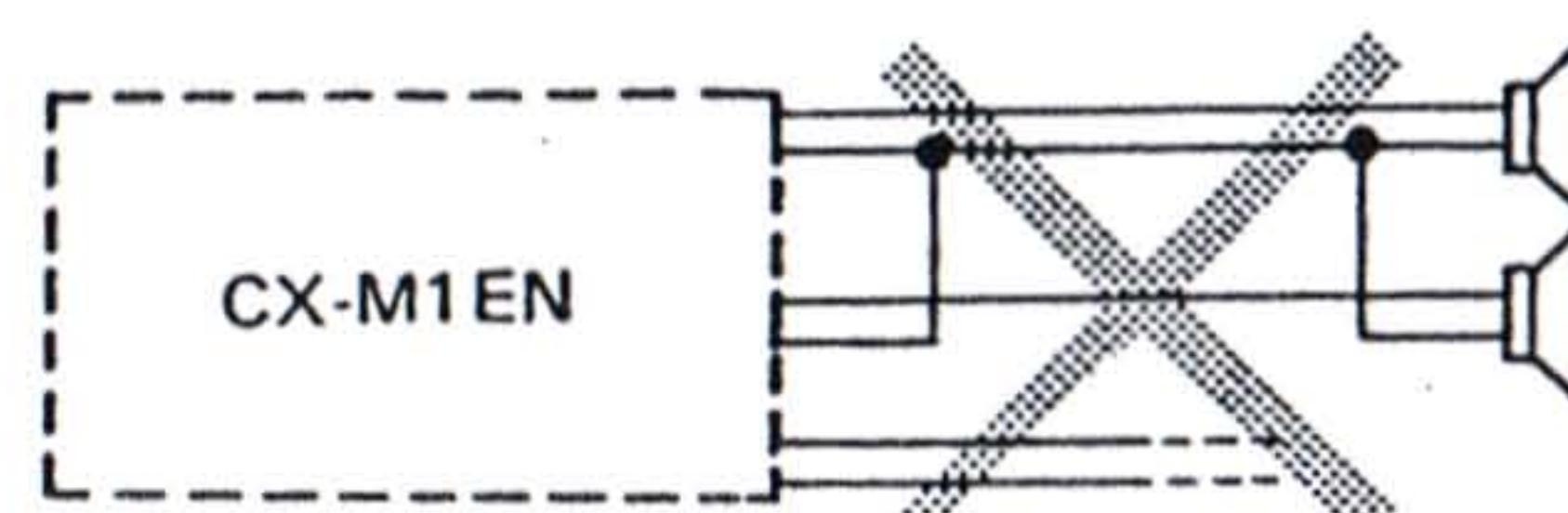
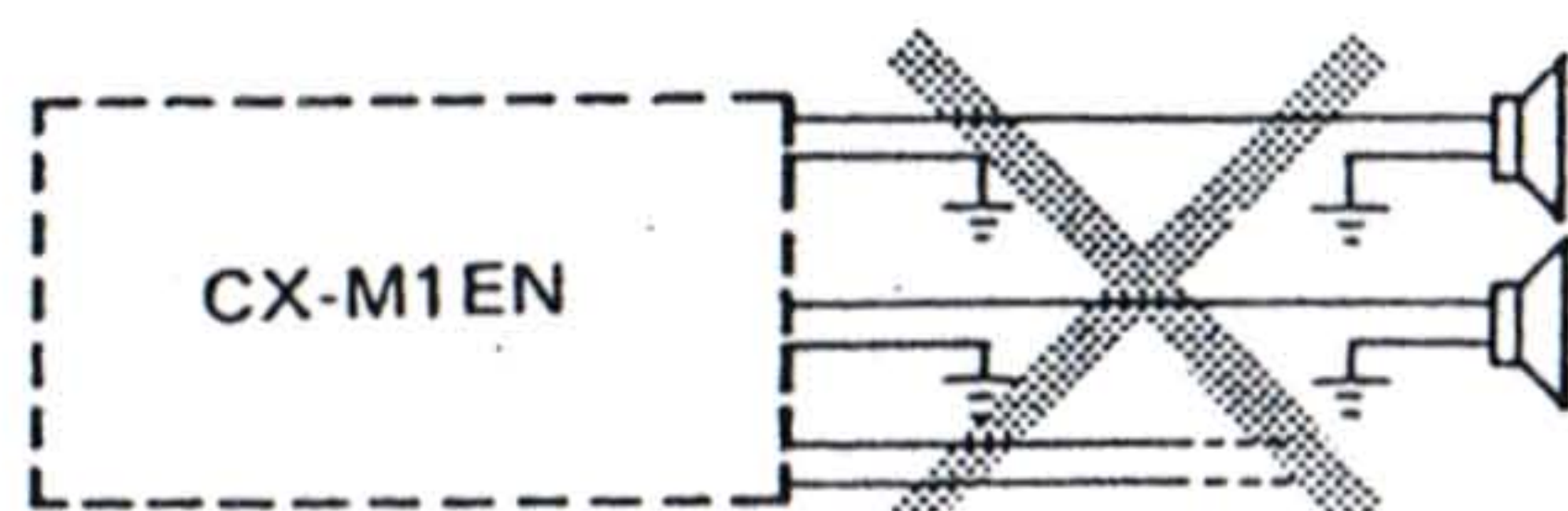
- This amplifier is provided with BTCL (balanced output-transformer and condenser less) circuit. Adopt only the four-wired speaker connection and connect negative side

of speaker cord to ground.

If the three-wired connection is used or the negative side is connected to ground, the power IC may be damaged.

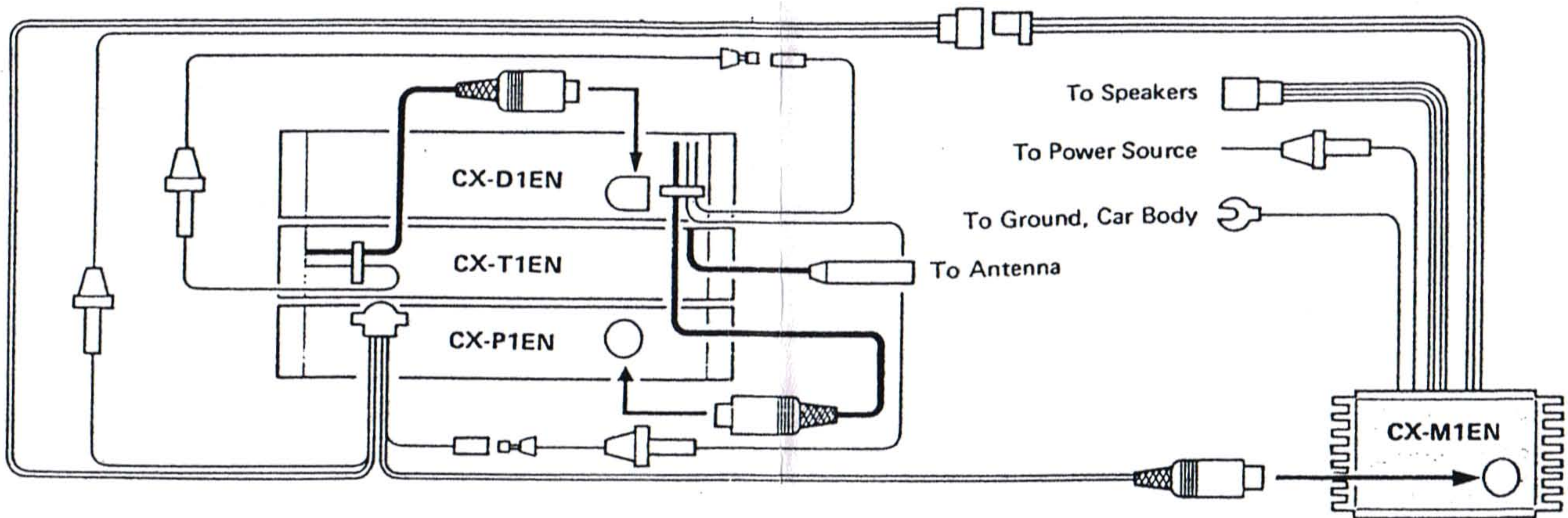


CAUTION: Do not connect the speakers as follows.

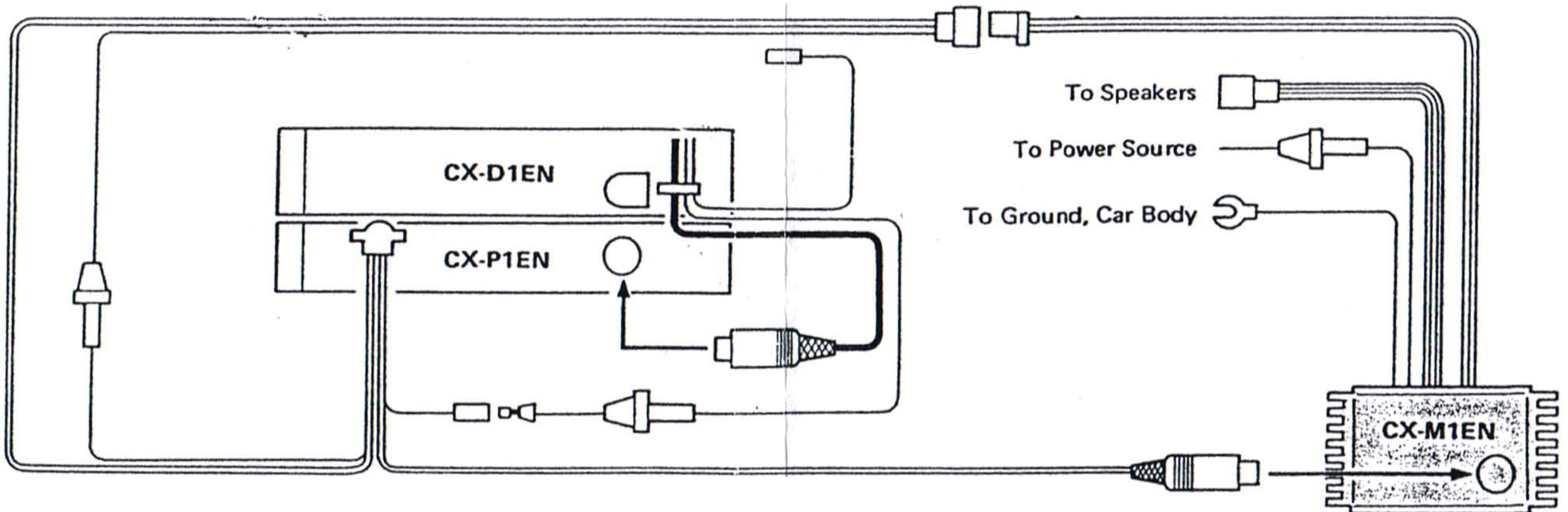


CONNECTING DIAGRAM

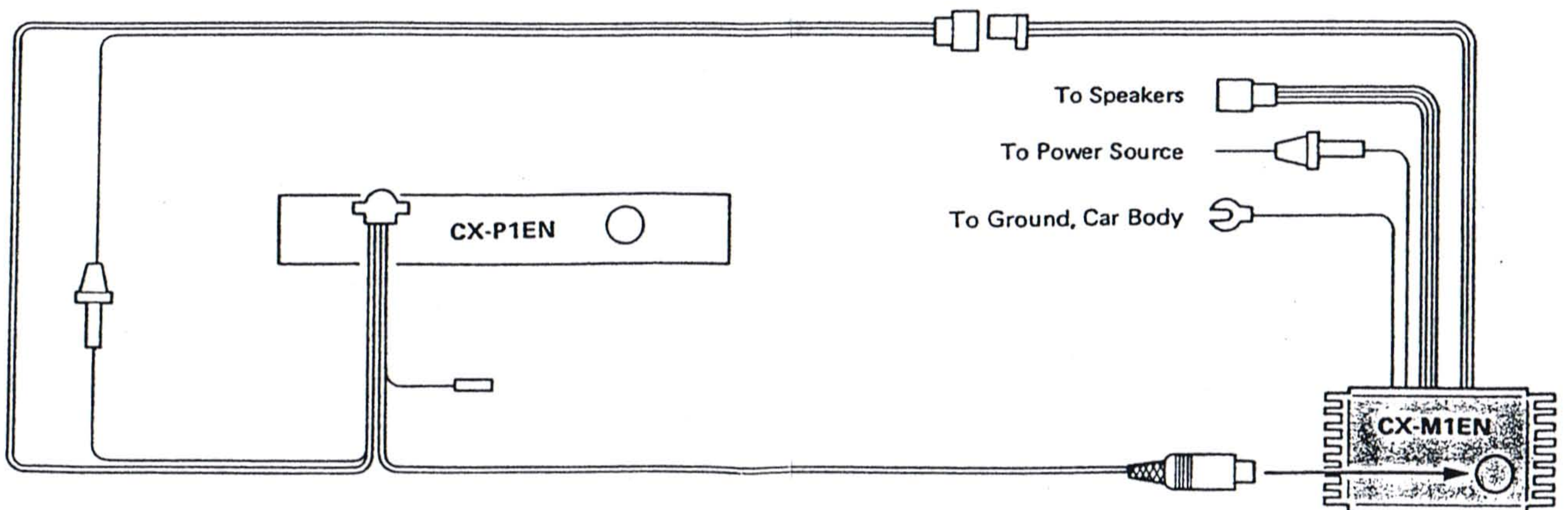
TUNER + TAPE DECK + PRE-AMPLIFIER + MAIN AMPLIFIER



TUNER/TAPE DECK + PRE-AMPLIFIER + MAIN AMPLIFIER

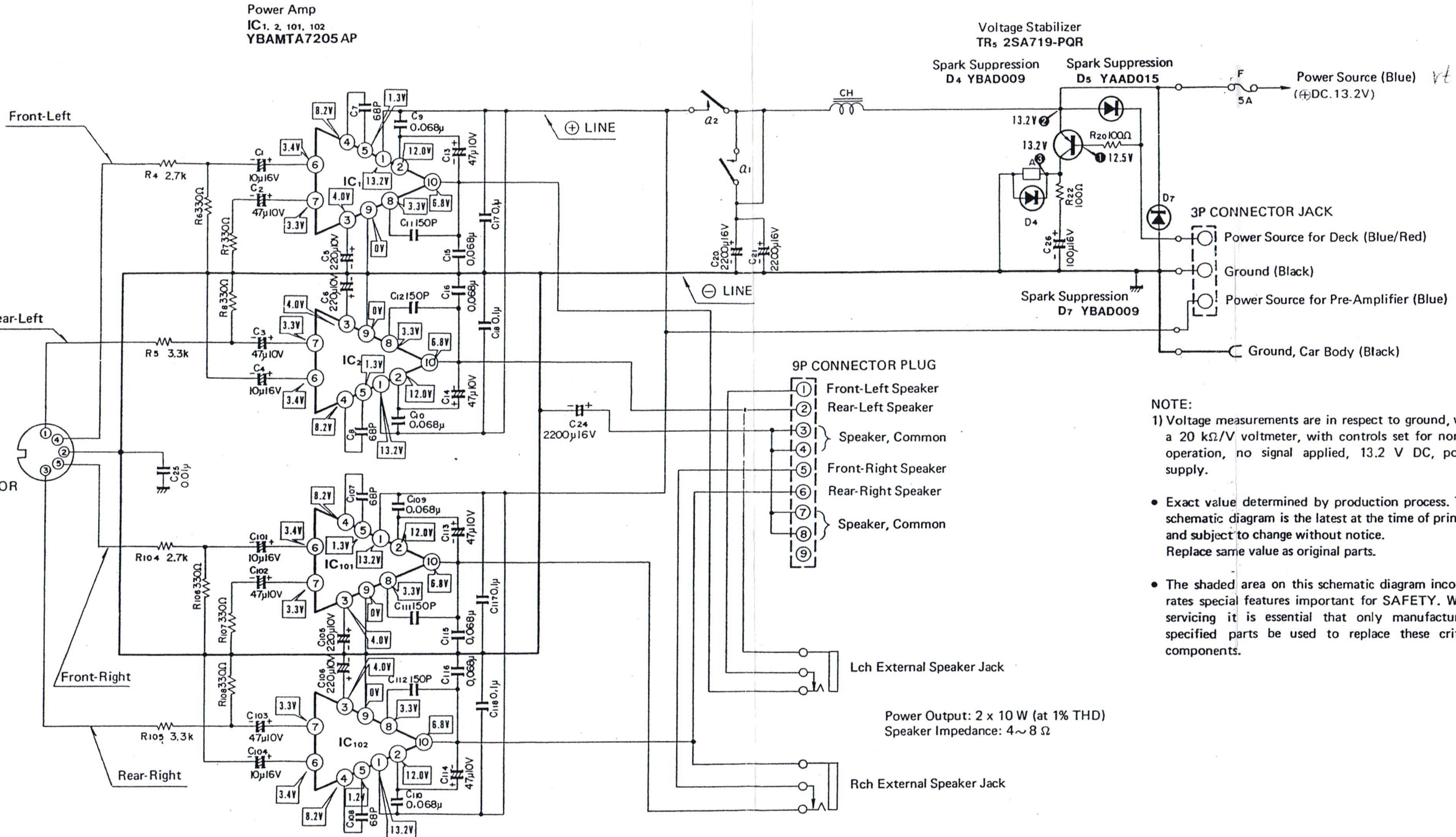


PRE-AMPLIFIER + MAIN AMPLIFIER



-SCHEMATIC DIAGRAM

MODEL CX-M1 EN.

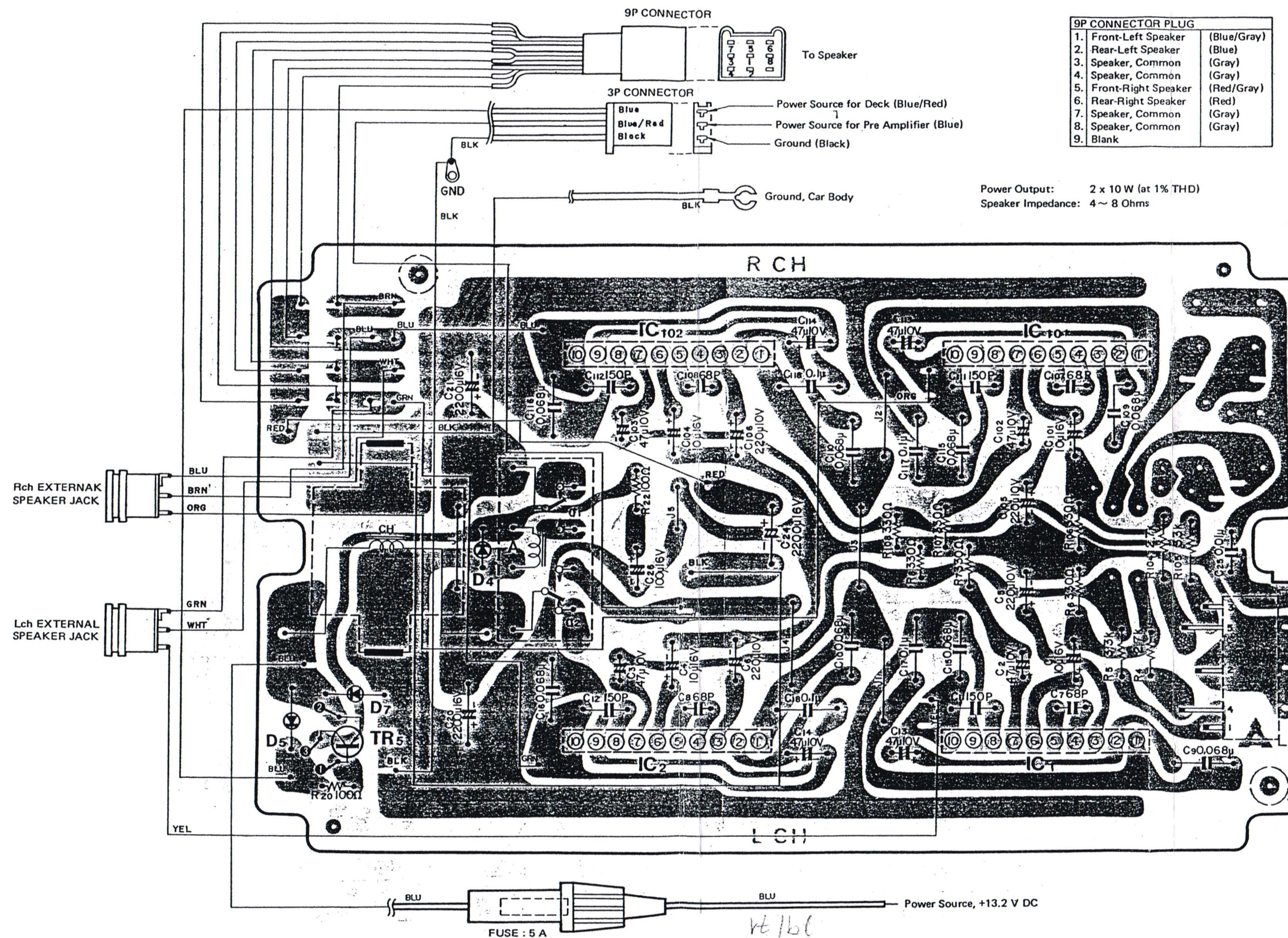


1) Voltage measurements are in respect to ground, with a 20 k Ω /V voltmeter, with controls set for normal operation, no signal applied, 13.2 V DC, power supply.

- Exact value determined by production process. This schematic diagram is the latest at the time of printing and subject to change without notice.
Replace same value as original parts.
- The shaded area on this schematic diagram incorporates special features important for SAFETY. When servicing it is essential that only manufacturer's specified parts be used to replace these critical components.

R	4	6	7											22	20
	5	106	8												
	104		107												
	105		108												
C	25	1	2	5	7	9	11	13	15	17	24	20	21	26	
		3	4	6	8	10	12	14	16	18					
		101	102	105	107	109	111	113	115	117					
		103	104	106	108	110	112	114	116	118					

WIRING DIAGRAM MODEL CX-M1EN



9P CONNECTOR PLUG	
1. Front-Left Speaker	(Blue/Gray)
2. Rear-Left Speaker	(Blue)
3. Speaker, Common	(Gray)
4. Speaker, Common	(Gray)
5. Front-Right Speaker	(Red/Gray)
6. Rear-Right Speaker	(Red)
7. Speaker, Common	(Gray)
8. Speaker, Common	(Gray)
9. Blank	

Wire Color Abbreviation	
BLK	Black
BLU	Blue
GRN	Green
GRY	Gray
ORG	Orange
RED	Red
YEL	Yellow

PIN NO.	VOLTAGE
IC1, 2, 101, 102	
①	13.2V
②	0V
③	4.0V
④	8.2V
⑤	1.3V
⑥	3.4V
⑦	3.3V
⑧	3.3V
⑨	0 V
⑩	6.8V
NO. VOLTAGE	
①	12.5V
②	13.2V
③	13.2V

■ Negative side is shown in blue.

DIN CONNECTOR JACK



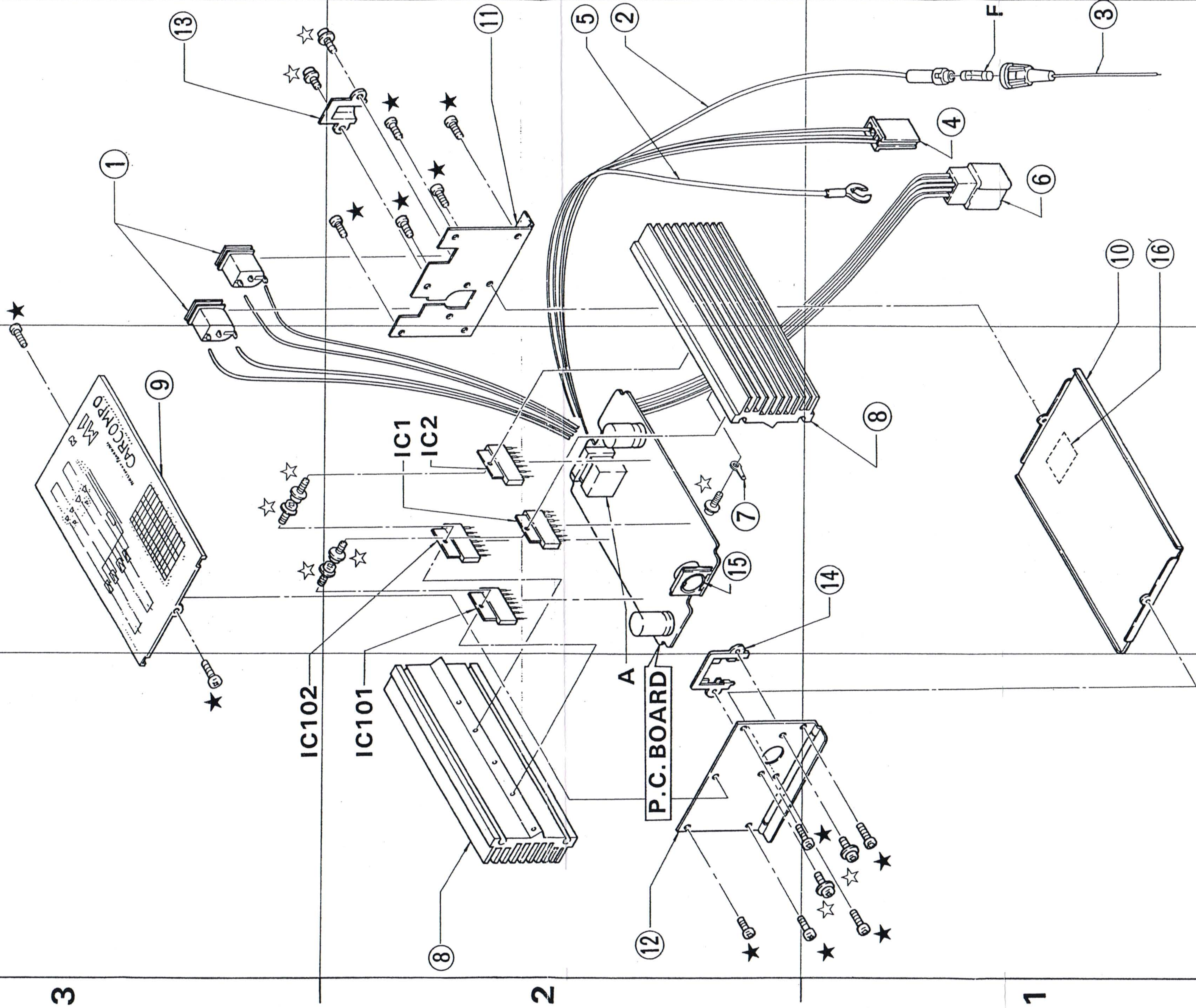
- DIN CONNECTOR JACK
1. Rear-Left Input
 2. Ground
 3. Rear-Right Input
 4. Front-Left Input
 5. Front-Right Input

EXPLODED VIEW

■ Numbers in ○ are indicated REF. NO. in the REPLACEMENT PARTS LIST.

NOTE : The symbols next to the screws indicate as follows

★	XTB3+6FFZS	⊕	Screw, Taptite	3mm φ×6mm
☆	XYN3+F8FZS	⊕	Screw w/Washer, 3mm φ×8mm	



Replacement Parts List Model NO.CX-M1EN

NOTES:

- Be sure to make your orders of replacement parts according to this list.
- Components identified by shaded area have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- The column of Ref. No. indicates the located position of the parts on the EXPLODED VIEW, and see the cross section of the horizontal column (1 ~ up) and the vertical column (A ~ up).

Ref. No.	Part No.	Part Name & Description	Pcs Set	Remarks
MISCELLANEOUS				
F (1-C)	XBB1C50NS1	Fuse, 5 A	1	
A (2-A)	YBAS15AW4411	Relay	1	
M1 (3-C)	YBAE02015	Speaker Jack	2	
M2 (2-C)	YBAJ01041	Power Supply Cord	1	
M3 (1-C)	YBAJ01044	Power Supply Cord	1	
M4 (1-C)	YBAJ01045	Power Supply Cord, 3P	1	
M5 (2-C)	YBAJ01029	Power Supply Cord, Ground	1	
M6 (1-C)	YBAJ03093	Speaker Cord, 9P	1	
M7 (2-B)	YAA T03003	Terminal	1	
M8 (1-B) (2-A)	YBFF03004	Heat Sink	2	
M9 (3-B)	YEFA03308	Upper Cover	1	
M10 (1-C)	YBFA03039	Bottom Cover	1	
M11 (2-C)	YBFA13043	Cord Cover	1	
M12 (2-A)	YBFA13044	DIN Connector Cover	1	
M13 (3-C)	YBFX014164	Cord Clamper	1	
M14 (1-B)	YBFX014165	DIN Clamper	1	
M15 (2-B)	YEA E01082	DIN Connector	1	
M16 (1-C)	YEFM01335	Main Seal	1	
M17	XTB3+6FFZS	⊕ Screw, Taptite 3mmφ x 6mm	14	
M18	XYN3+F8FZS	⊕ Screw w/Washer, 3mmφ x 8mm	7	

MODEL CX-M1EN

Ref. No.	Part No.	Part Name & Description	Pcs Set	Remarks
ICs AND TRANSISTOR				
IC1, 2 101, 102	YBAMTA7205AP	Power Amp	4	
TR5	2SA719	Voltage Stabilizer	1	
DIODES				
D4, 7	YBAD009	Voltage Stabilizer	2	
D5	YAAD015	Spark Suppression	1	
CAPACITORS				
C1	ECEA16V10L	10 MFD 16VV	1	Electrolytic
C2	ECEA10V47L	47 MFD 10VV	1	Electrolytic
C3	ECEA10V47L	47 MFD 10VV	1	Electrolytic
C4	ECEA16V10L	10 MFD 16VV	1	Electrolytic
C5	ECEA10V220L	220 MFD 10VV	1	Electrolytic
C6	ECEA10V220L	220 MFD 10VV	1	Electrolytic
C7	YECED1H680KM	68 PF 50VV ±10%	1	Ceramic
C8	YECED1H680KM	68 PF 50VV ±10%	1	Ceramic
C9	YECQN1H683M	0.068 MFD 50VV ±20%	1	Polyester
C10	YECQN1H683M	0.068 MFD 50VV ±20%	1	Polyester
C11	YECED1H151KM	150 PF 50VV ±10%	1	Ceramic
C12	YECED1H151KM	150 PF 50VV ±10%	1	Ceramic
C13	ECEA10V47L	47 MFD 10VV	1	Electrolytic
C14	ECEA10V47L	47 MFD 10VV	1	Electrolytic
C15	YECQN1H683M	0.068 MFD 50VV ±20%	1	Polyester
C16	YECQN1H683M	0.068 MFD 50VV ±20%	1	Polyester
C17	YECQN1H104M	0.1 MFD 50VV ±20%	1	Polyester

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