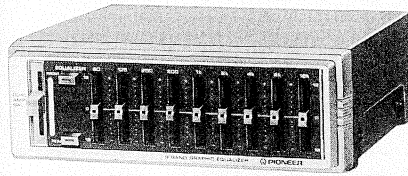


Service Manual

PIONEER



ORDER NO.
CRT-311-0

COMPONENT CAR STEREO GRAPHIC EQUALIZER

CD-9

E

SPECIFICATIONS

Power source DC14.4V (10.8~15.6V allowable)
Grounding system Negative type
Dimensions 150(W) \times 50(H) \times 134(D) mm
(5-7/8(W) \times 2(H) \times 5-1/4(D) in.)
Weight 0.9kg (2 lbs.)
Equalization frequency 60 Hz, 125 Hz, 250 Hz, 500 Hz,
1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Gain 0 dB
Equalization range \pm 12 dB
Frequency response 20~30,000 Hz (\pm 3 dB)
Distortion 0.09% (1 kHz, 70 mV)

Signal-to-noise ratio 75 dB (IHF-A network)
Input impedance 5 k Ω
Output impedance 1 k Ω
Max. output level 200 mV/1 kHz, 1% THD

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

CONTENTS

1. PARTS LOCATION	1
2. CIRCUIT DESCRIPTION	2
3. LEVEL DIAGRAM	3
4. ELECTRICAL PARTS LIST	3
5. SCHEMATIC CIRCUIT DIAGRAM	6
6. CONNECTION DIAGRAM	8
7. EXPLODED VIEW	10
8. PACKING METHOD	12

1. PARTS LOCATION

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

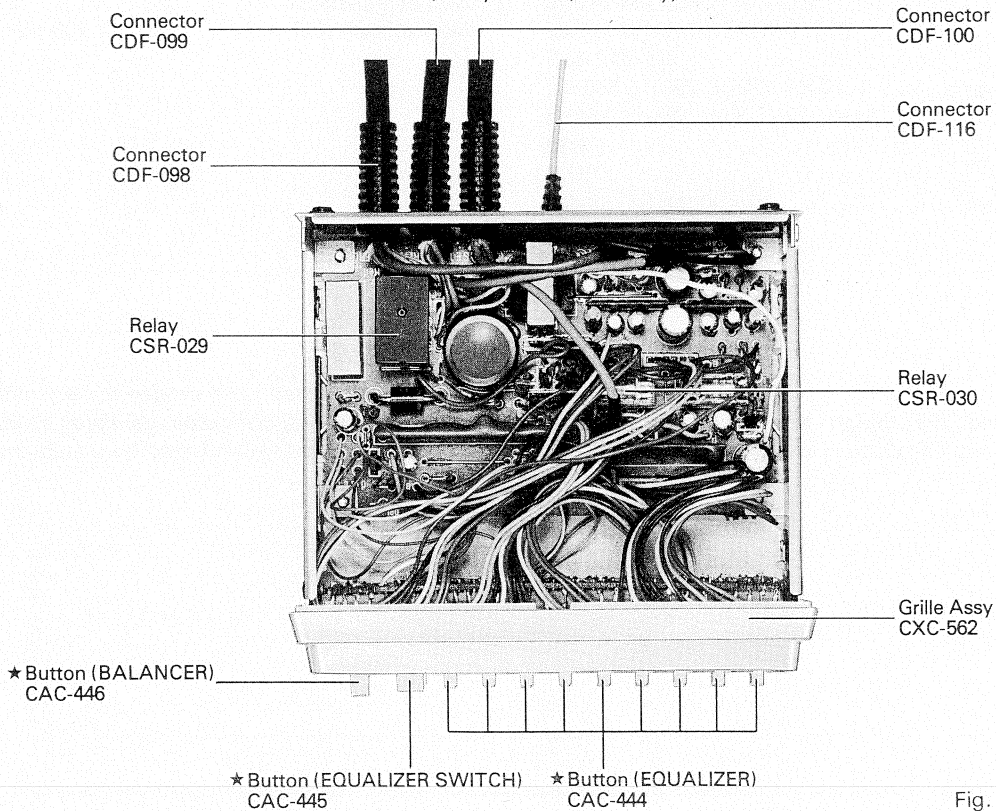


Fig. 1

2. CIRCUIT DESCRIPTION

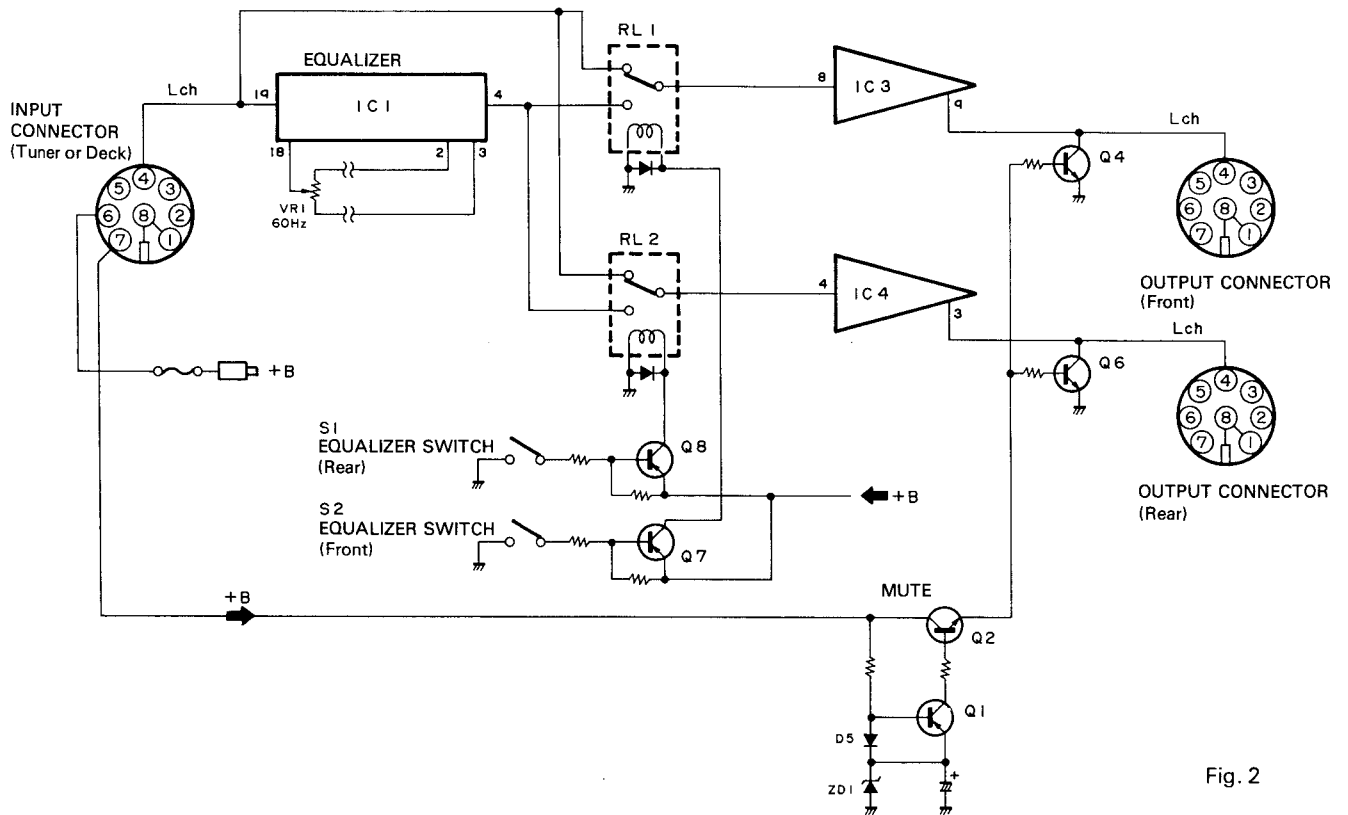
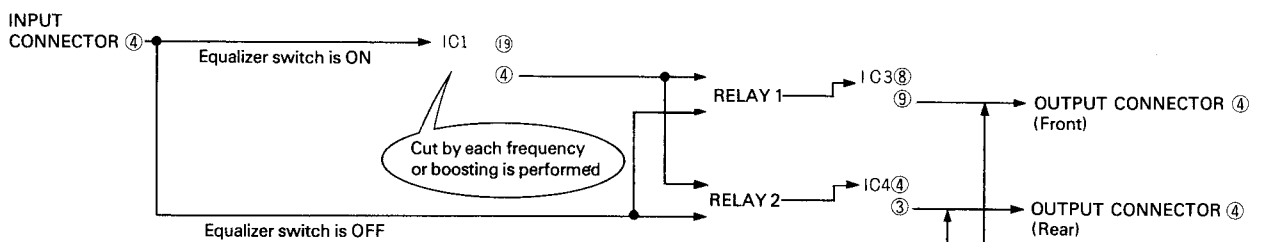
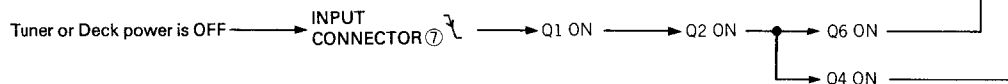


Fig. 2

• Flow of audio signal



• Mute Signal



• + B signal flow: refer to schematic circuit diagram.

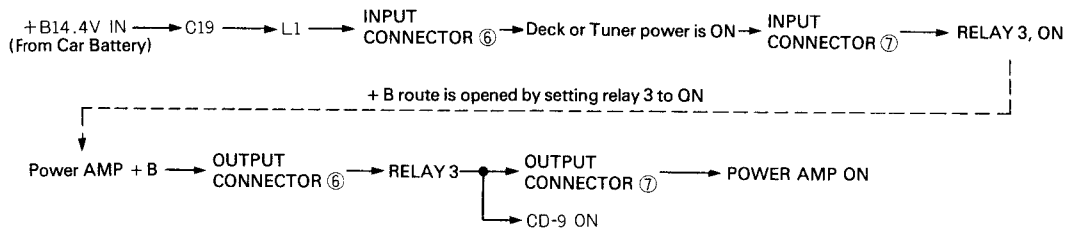


Fig. 3

3. LEVEL DIAGRAM

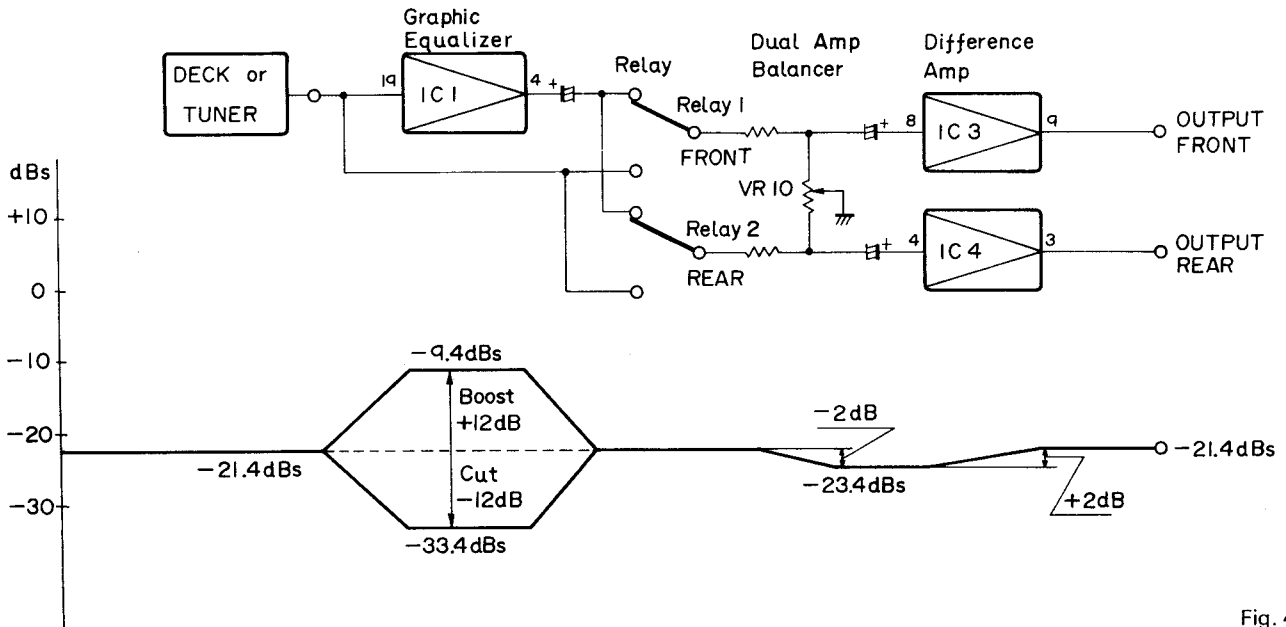


Fig. 4

4. ELECTRICAL PARTS LIST

NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56 × 10 ¹	561	RD1/4PS	561J
47kΩ	47 × 10 ³	473	RD1/4PS	473J
0.5Ω	0R5		RN2H	0R5K
1Ω	010		RS1P	010K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	562 × 10 ¹		RN1/4SR	5621F
--------	-----------------------	--	---------	-------

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
★★: GENERALLY MOVES FASTER THAN ★.
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.

Equalizer Unit

MISCELLANEOUS

Mark	Part No.	Symbol & Description
★★	KHA-107 or KHA-204	IC1, IC2
★★	KHA-105	IC3, IC4
★★	2SA608SP	Q1, Q7, Q8
★★	2SD1012	Q2 – Q6
★★	2SB562	Q9
★★	2SD468	Q10
★	SM-1A-02	D1 – D4
★	1S2473	D5, D8
★	1S2473 or 1S2076 or 1S1555	D6, D7
★	XZ-090	ZD1
★	XZ-086	ZD2
	CWW-139	IB1 (R21 – R24) Inline Block
	CWW-140	IB2 (R13 – R16) Inline Block
	CSR-030	RL1, RL2 Relay
	CSR-029	RL3 Relay
	CTF-002	L1 Coil

RESISTORS

Mark	Part No.	Symbol & Description
	RD1/4VM□□□J	R1 – R12, R18 – R20, R25 – R30
	CCN-061	R17 100Ω

CAPACITORS

Mark	Part No.	Symbol & Description
	CEA2R2M50L	C1, C2
	CEA010M50L	C3 – C10
	CEA220M10L	C11, C12
	CEA471M10L	C13, C14, C18
	CCH-058	C15 2200μF/16V
	CEA470M10L	C16
	CEA101M10L	C17
	CCG-081	C19 Feed Through Capacitor

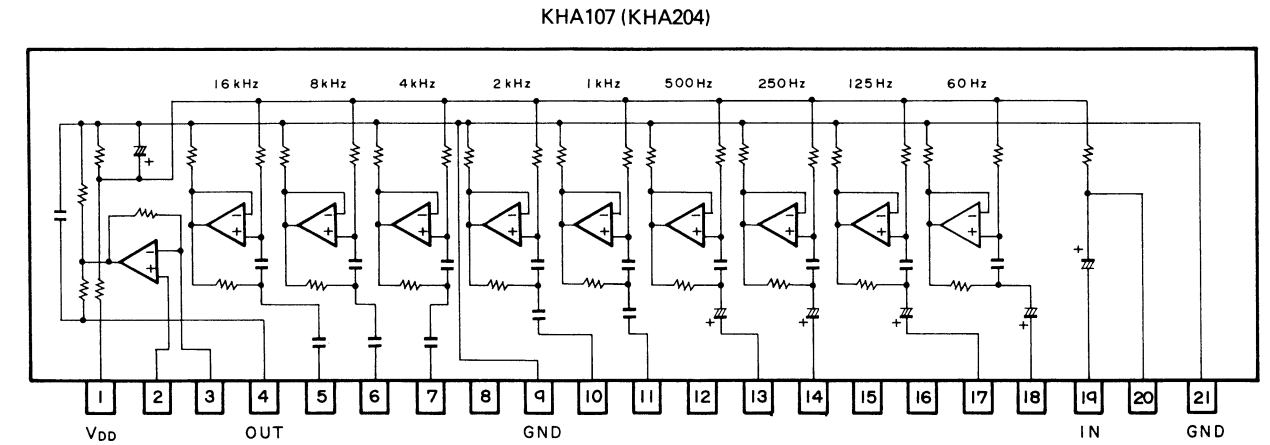
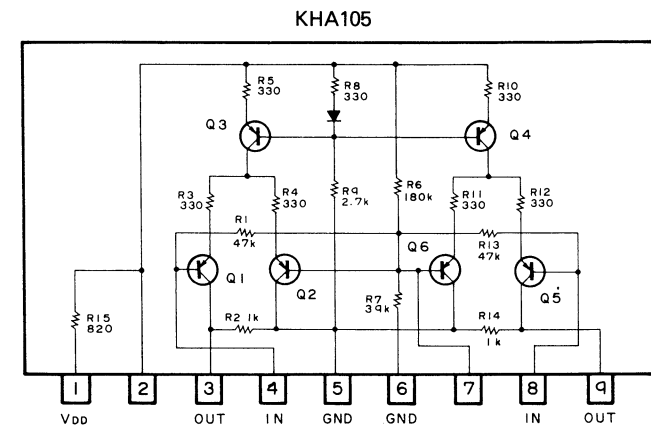
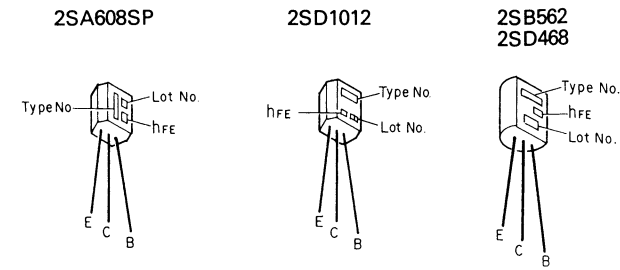
Volume Unit

Mark	Part No.	Symbol & Description
★★	CSG-191	S1, S2 Switch (Equalizer)
★★	CCS-300	VR1 – VR9 Volume 20kΩ (G)
★★	CCS-301	VR10 Volume 50kΩ (W)
	RD1/4PM□□□J	R31 – R39

Miscellaneous Parts List

Mark	Part No.	Symbol & Description
★	CXC-560	LED Unit
★★	CEL-104	IL1 – IL3 Lamp 14V 40mA

• IC's and transistors



5. SCHEMATIC CIRCUIT DIAGRAM

VOLUME UNIT

SWITCHES :

- ⊙ VOLUME UNIT
 - S1 : EQUALIZER (REAR) SWITCH ···ON-OFF
 - S2 : EQUALIZER (FRONT) SWITCH ···ON-OFF
- The underlined indicates the switch position.

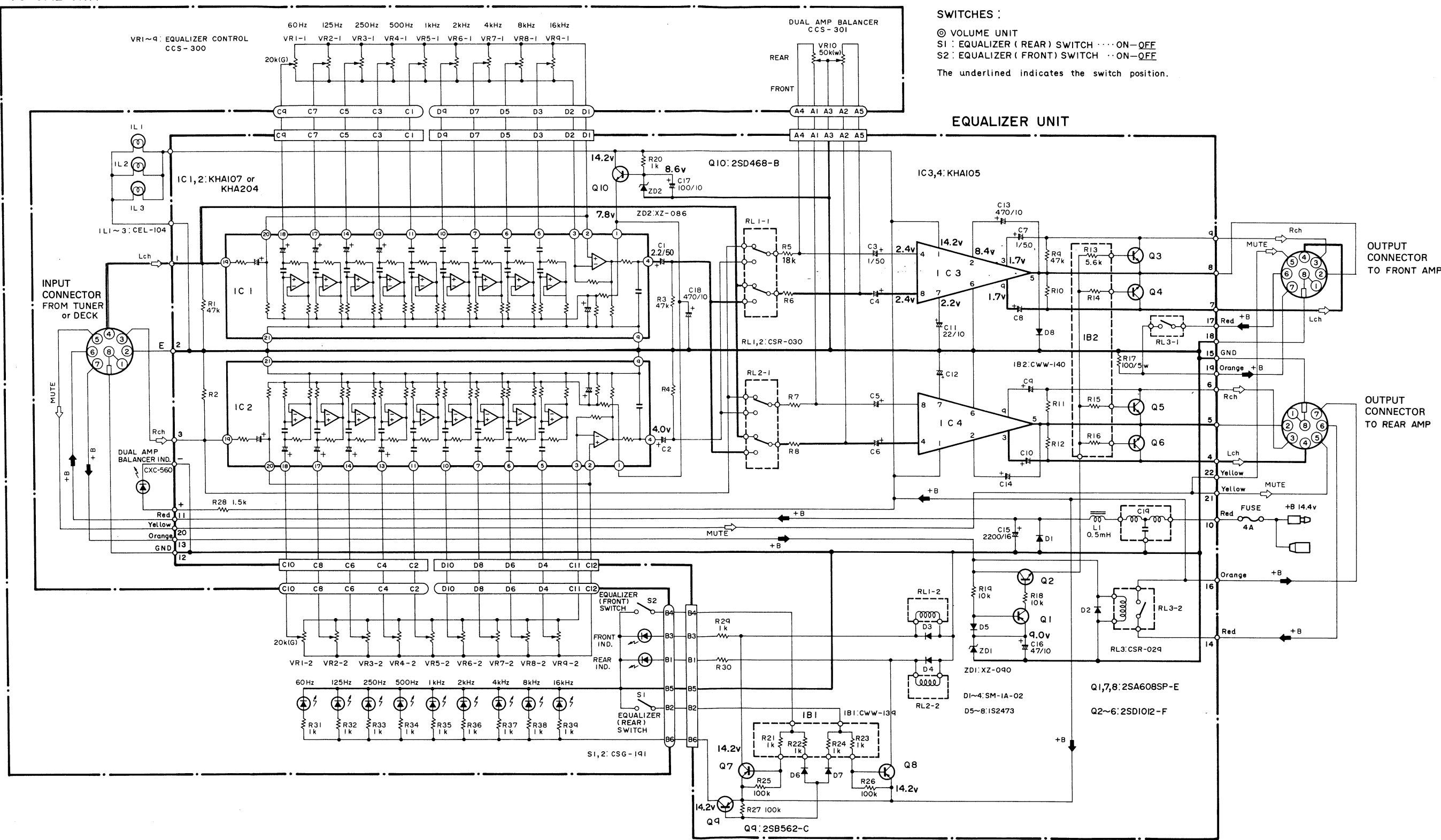


Fig. 5

6. CONNECTION DIAGRAM

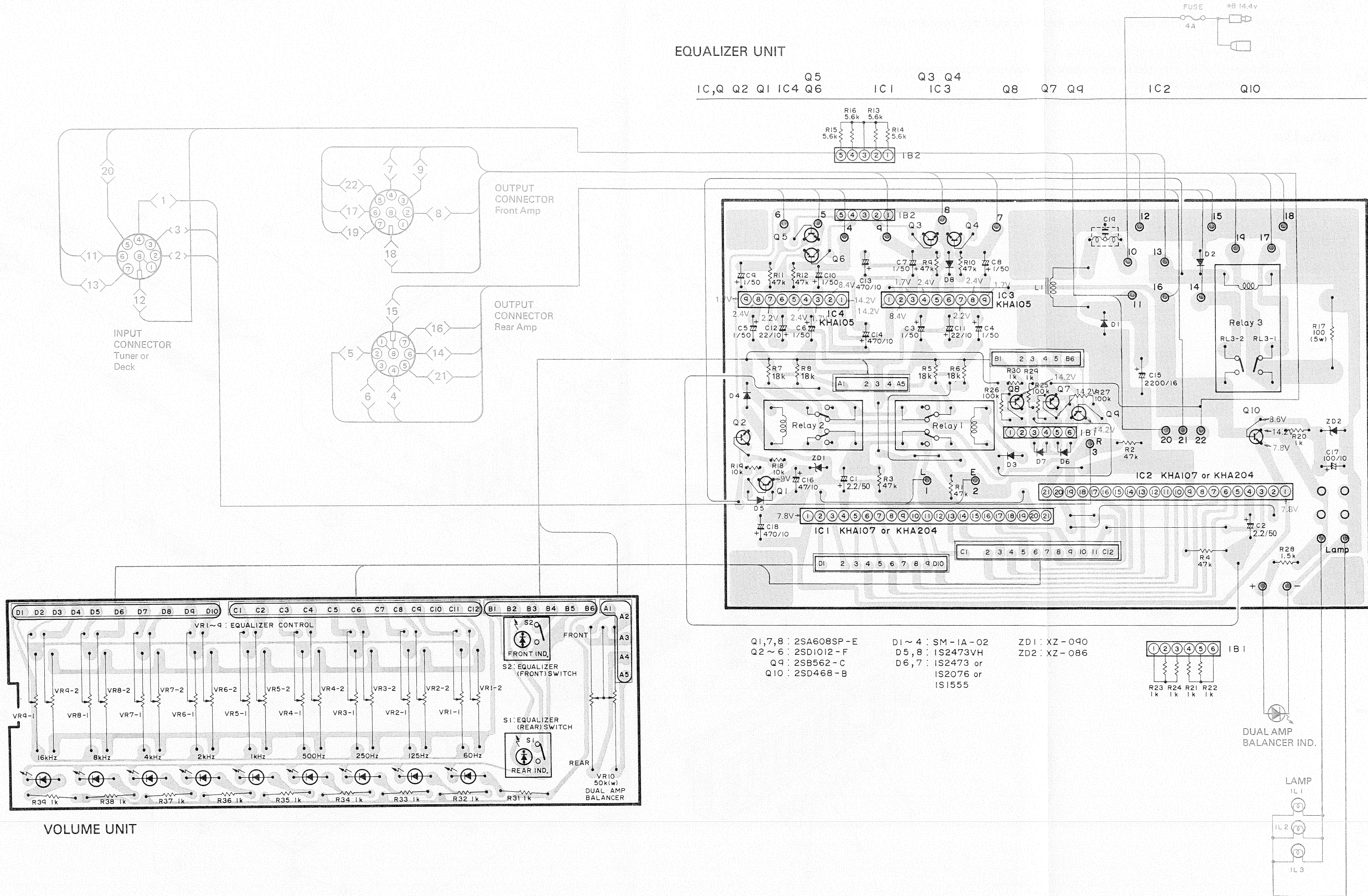


Fig. 6

7. EXPLODED VIEW

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★ : GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.

Parts List

Mark	No.	Part No.	Description
	1.	BMF30P050FMC	Screw
	2.	CXC-562	Grille Assy
★	3.	CAC-446	Button (Balancer)
★	4.	CAC-444	Button (Equalizer)
★ ★	5.	CEL-104	Lamp 14V 40mA
	6.	BMZ20P030FZK	Screw
	7.		P.C. Board
★ ★	8.	CCS-301	Volume
★ ★	9.	CSG-191	Switch
★	10.	CXC-560	LED Unit
★	11.	CAC-445	Button (Equalizer Switch)
★ ★	12.	CCS-300	Volume
	13.	BMN30P060FZK	Screw
	14.	CNB-672	Case
	15.		Chassis
	16.	LMZ30P050FMC	Screw
	17.	CDF-131	Connector
	18.	CDF-130	Connector
	19.	CDF-129	Connector
	20.	CDF-128	Connector
	21.		Equalizer Unit
	22.	CWK-272	Volume / Equalizer Assy
	23.	CDF-098	Connector (Front)
	24.	CDF-099	Connector (Rear)
	25.	CDF-100	Connector (Input)
	26.	CDF-116	Connector (+ B)
	27.	CNB-671	Case
	28.		Spacer

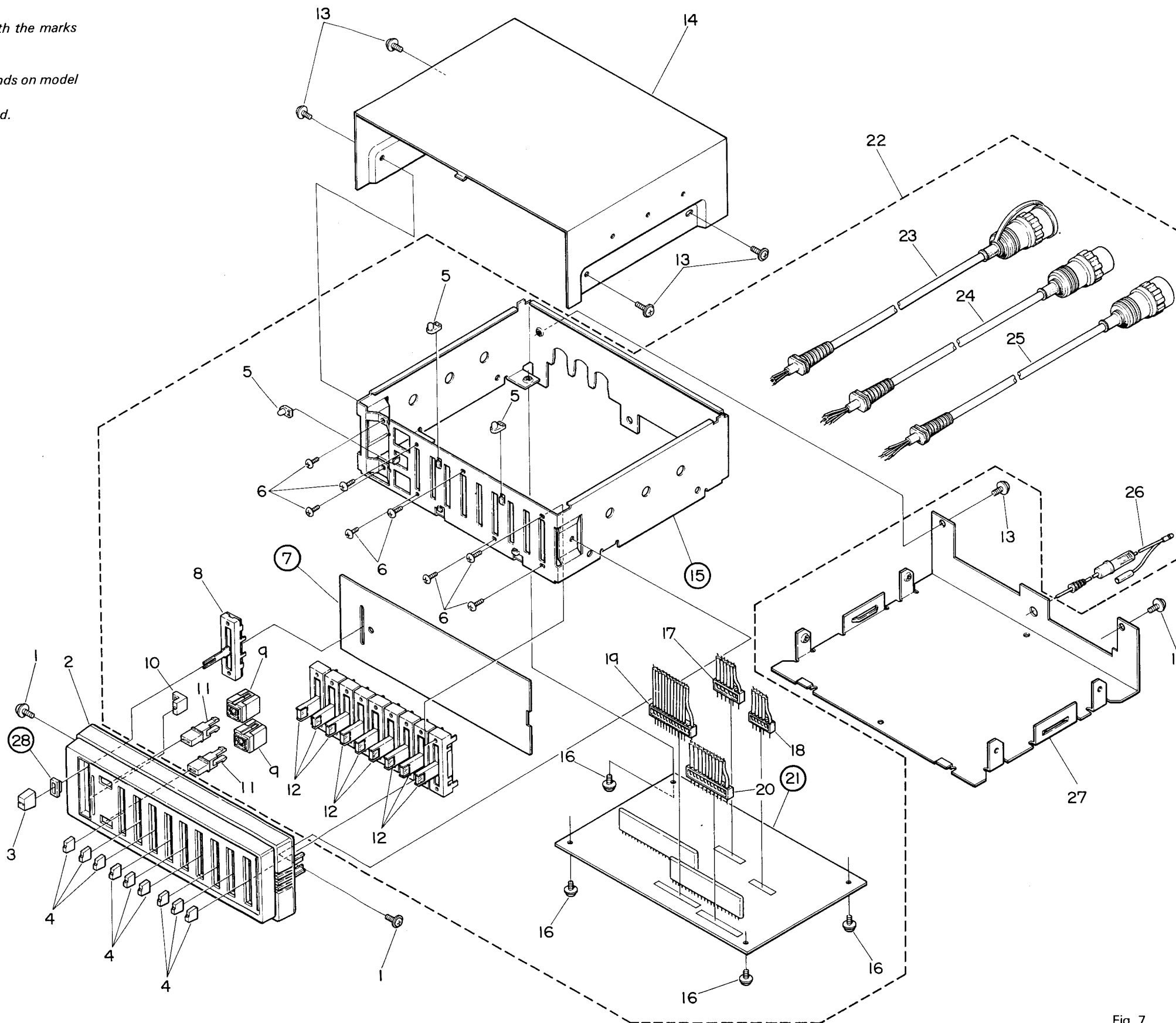


Fig. 7

8. PACKING METHOD

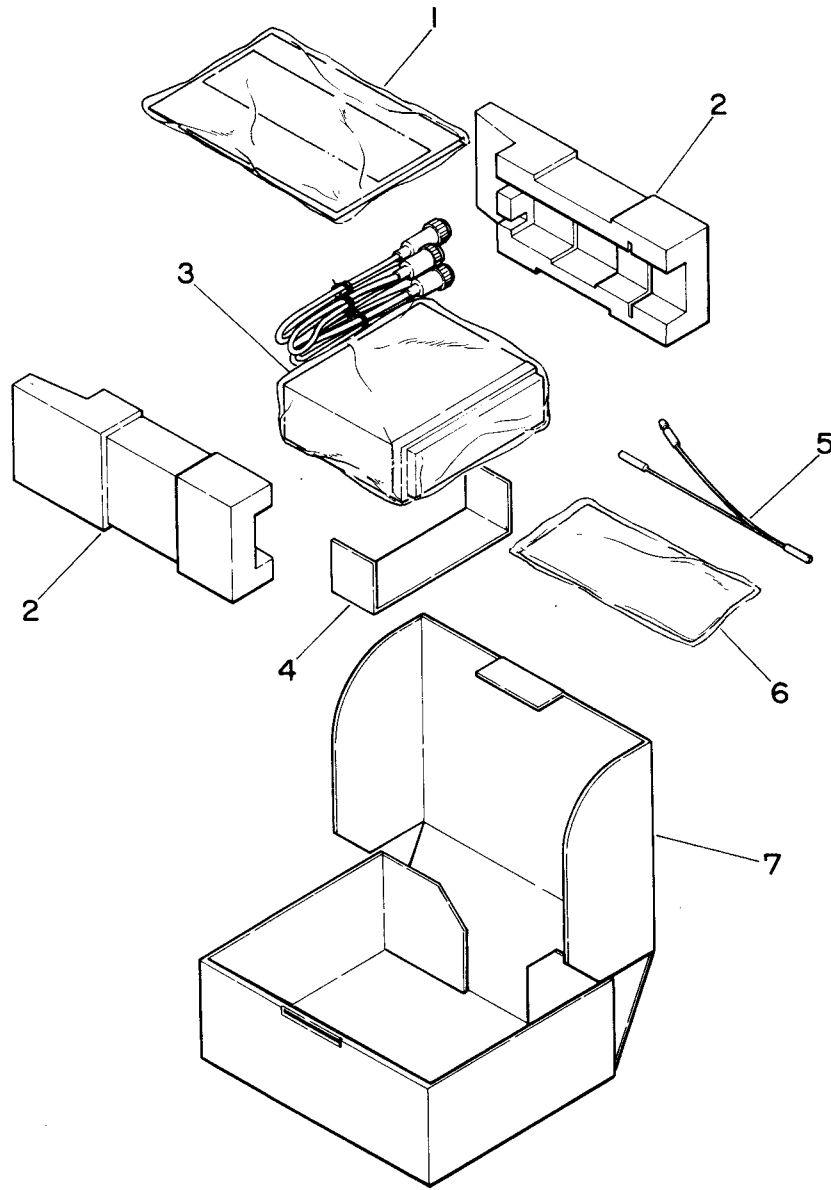


Fig. 8

Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	CRD-263	Owner's Manual (English, French, German, Spanish)		6-2.	CDE-437	Cord
		CRD-264	Owner's Manual (Norwegian, Swedish, Dutch, Italian)		6-3.		Screw Kit
	2.	CHC-540	Styrofoam (1 set pair)	6-3-1.	CBA-028		Screw for Strap
	3.	CEG-157	Cover	6-3-2.	CBA-101		Screw, M4×6
	4.	CNB-198	Mounting Bracket	6-3-3.	CBA-102		Screw, M5×16
	5.	CDE-393	Connector	6-3-4.	B70-055		WN4φ×4.5t
	6.	CEA-466	Accessory Kit	6-3-5.	B70-056		WN5φ×5.3t
6-1.	CNF-111	Strap		6-3-6.	WS40FMC		Washer
				7.	CHC-538		Carton