

POWER AMPLIFIER

# KAC-827/PS200T

## SERVICE MANUAL

# KENWOOD

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B51-7156-00 (K) 3621

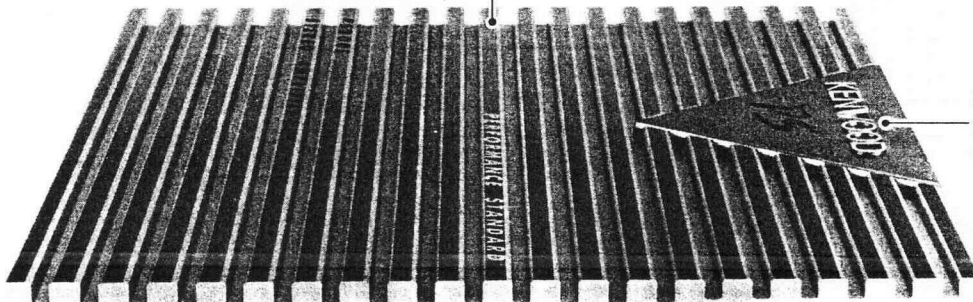
OPTIONAL EXTENSION CABLE MODEL NAME



Type	Length	0.5m	1m	2m	4m	5m	6m
RCA cable		CA-25L	CA-12SL	CA-22SL		CA-52SL	
RCA cable (Ø7mm)		CA-3WL	CA-13WL	CA-23WL		CA-53WL	
RCA cable (Ø12mm)		CA-5W	CA-15W	CA-25W	CA-45W		CA-65W
Balanced connection cable							KBC-600

HEAT SINK  
(F01-1520-01) : KAC-PS200T  
(F01-1521-01) : KAC-827

DRESSING PANEL  
(A21-2361-03) : KAC-PS200T  
(A21-2362-03) : KAC-827



FRONT PANEL  
(A64-1067-02)

PHONO JACK  
(E63-0804-05)

TERMINAL BOARD ASSY  
(E70-0810-05)

SCREW SET  
(N99-1577-15)



TERMINAL COVER ASSY  
(W01-0747-05)



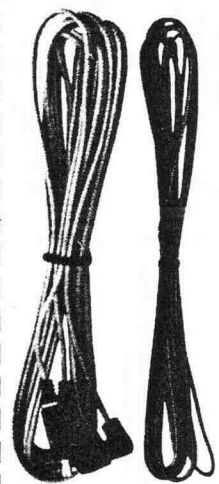
ROUND TERMINAL SET  
(W01-0746-05)



DC CORD ASSY  
(E30-4323-15)



AUDIO CORD ASSY  
(E30-4067-05)



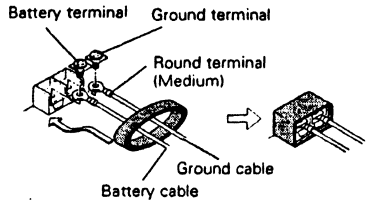
E and M type only

M type only

**Power and Speakers cable connection**

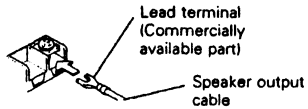
**Power terminal**

Pass battery and ground cables through supplied terminal cover and connect to respective terminals. After completing connections, fasten terminal cover over terminal bracket.



**Speaker output cable terminal**

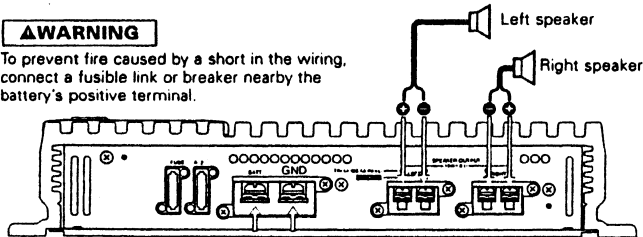
Connect the speaker output cables to these terminals.



Operation switch	Speaker terminal polarity
STEREO	LEFT      RIGHT
MONO (Lch) / TRI-MODE	BRIDGED LEFT      RIGHT

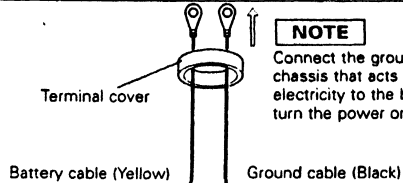
**WARNING**

To prevent fire caused by a short in the wiring, connect a fusible link or breaker nearby the battery's positive terminal.

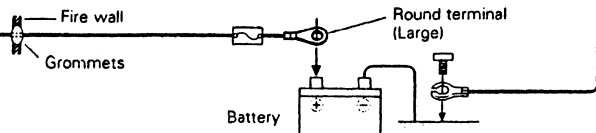


**NOTE**

Connect the ground cable to a metal part of the car chassis that acts as an electrical ground passing electricity to the battery's negative terminal. Do not turn the power on if the ground cable is not connected.

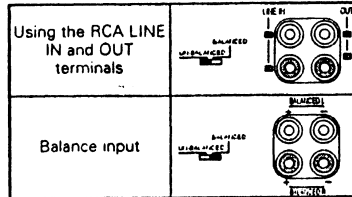


- If a buzzing noise is heard from the speakers when the engine is running, connect a line noise filter (optional) to each of the battery cable.
- Do not allow the cord to directly contact the edge of the iron plate by using Grommets.



**RCA cable connection**

**LINE IN and OUT terminals**



**NOTE**

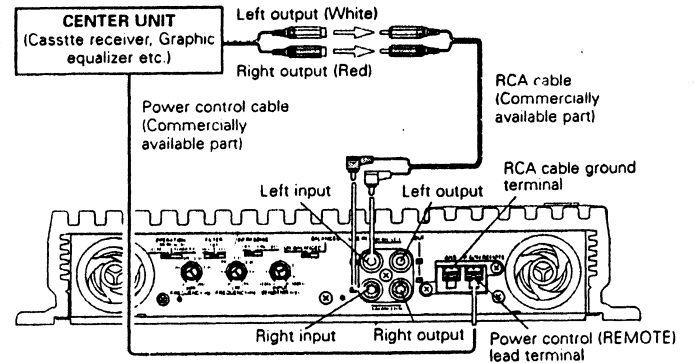
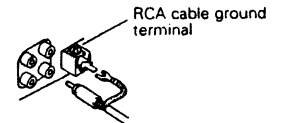
Use the optional balanced transmission cable (KDC-600) when balanced signal connection is required.

**RCA cable ground lead terminal**

When using an RCA cable with a ground lead attached, connect the ground lead to this terminal.

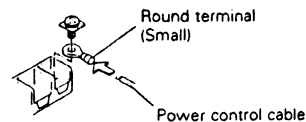
**CAUTION**

Do not use this terminal for power source grounding. This unit will be damaged if the power source grounding wire is connected to this terminal.



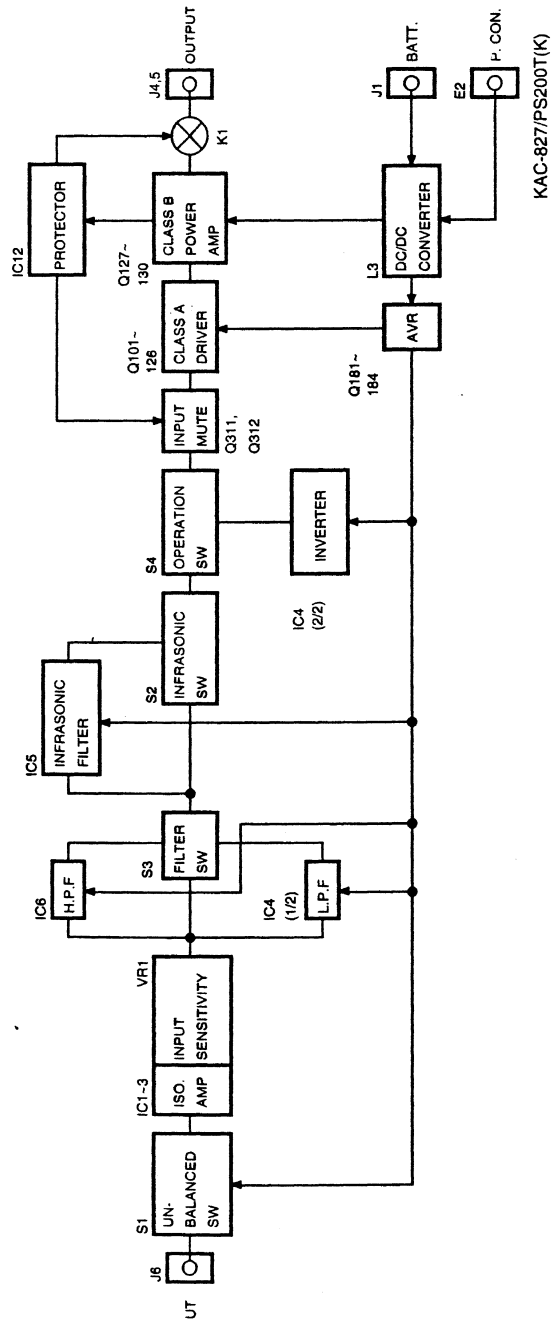
**Power control lead terminal**

Connect the Center unit's power control lead from the center unit.



# KAC-827/PS200T

## BLOCK DIAGRAM



# KAC-827/PS200T

## COMPONENTS DESCRIPTION

### AUDIO UNIT (X09-5210-10)

Ref No.	Use / Function	Operation / Condition
IC1-3	ISOLATION AMPLIFIER	Cancels automobile noise entering the power amplifier.
IC4	L.P.F./ INVERTER	Low Pass Filter(1/2)/Inverter(2/2).
IC5	INFRASONIC FILTER	Cuts out unneeded low frequency band.
IC6	H.P.F.	High Pass Filter.
IC11	SWITCHING REGULATOR	Oscillator for the DC/DC converter L3.
IC12	PROTECTOR	Prevents over load, over current and DC offset, also protects the magnet relay K1.
Q1, 2	LED DRIVER	For the illuminations.
Q7	P.CON. DETECTOR	Detects P.CON. voltage.
Q8	OVER VOLTAGE DETECTOR	Detects over voltage then stops the power amplifier working.
Q101-104	INPUT DEFERENTIAL AMPLIFIER	
Q105-108	2ND STAGE DEFERENTIAL AMPLIFIER	
Q109-112	3RD STAGE DEFERENTIAL AMPLIFIER	
Q113, 114	CASCADE STAGE	
Q115, 116	CURRENT MILLER	
Q117, 118	TEMPERATURE COMPENSATOR	
Q119-126	POWER AMPLIFIER DRIVER	
Q127-130	POWER STAGE	
Q181-184	AVR	
Q201-206	SWITCHING POWER STAGE	
Q209-212	SWITCHING DRIVER	Drives switching signal coming from IC11.
Q301, 302	OVERCURRENT DETECTOR	Detects over current then works Q304.
Q304	IC12 DRIVER	Detects Q301 and Q302 turning on/off then works No.1 terminal of IC12.
Q306	POWERSWITCH	Supplies power supply voltage to IC11.
Q308, 309	MUTEDRIVER	Detects voltage of No.6 terminal for IC12 then turns on or off Q311 and Q312.
Q311, 312	INPUTMUTE	Works earlier than the power amplifier turning on/off then protects contact of the magnet relay K1.

# KAC-827/PS200T

## ADJUSTMENT

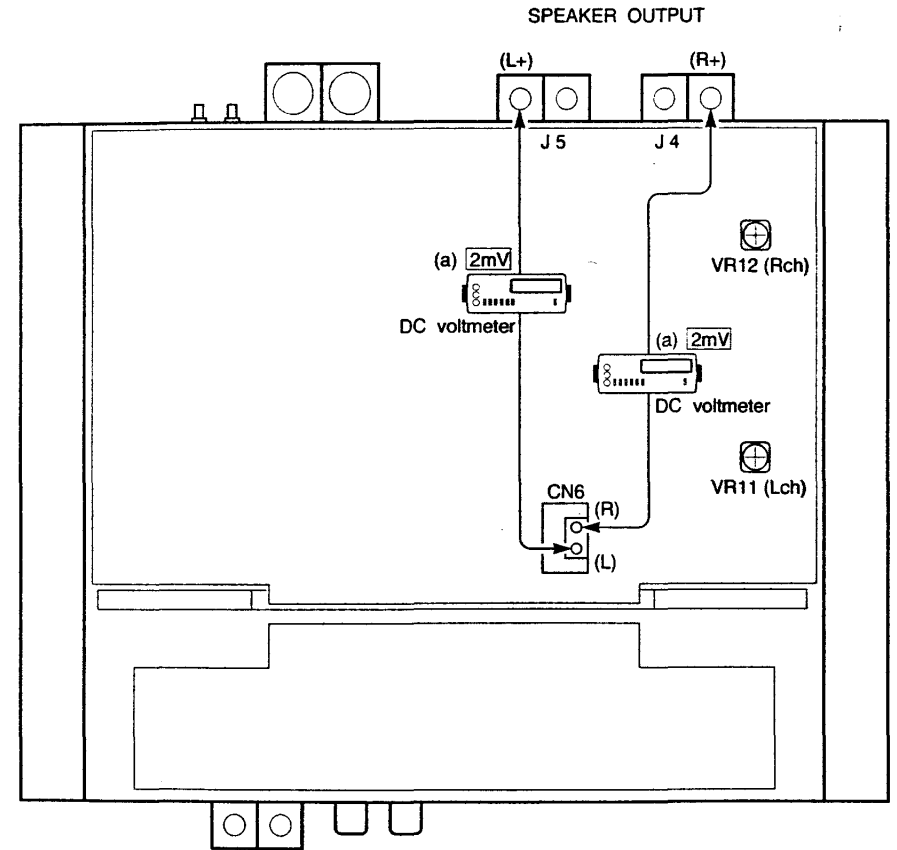
No.	Item	Input Setting	Output Setting	Amp. Setting	Adjustment point	Adjustment Method	Fig.
Connect the cassette receiver, etc.							
1	IDLE CURRENT	-	Connect a DC voltmeter between CN6 and J5/J4(SP.OUT, L+/R+)	VOLUME : 0	VR11(Lch) VR12(Rch)	2mV	(a)

## EINSTELLUNGEN

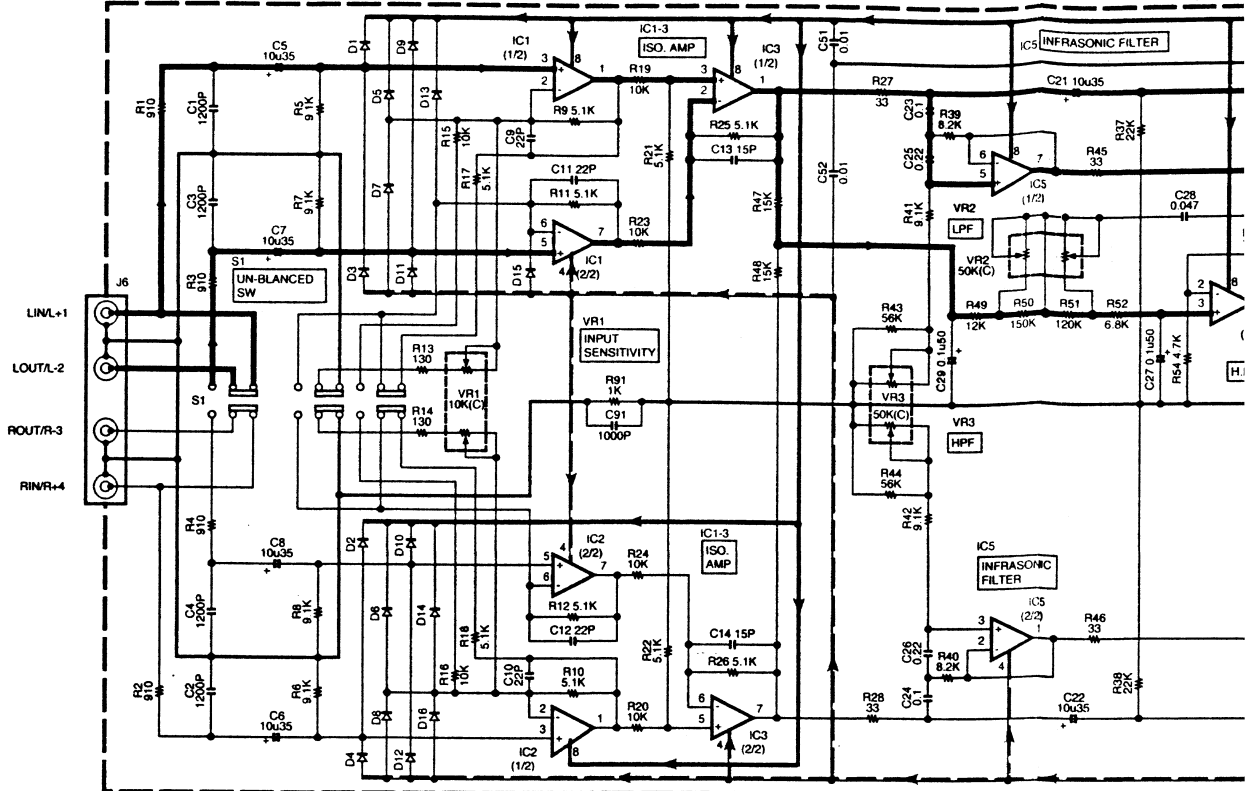
Nr.	Gegenstand	Eingangseinstellung	Ausgangseinstellung	Verstaerkereinstellung	Einstellpunkt	Einstellmethode	Abb.
Das Kassettengerat, den Empfaenger usw. anschliessen.							
1	IDLE CURRENT	-	Ein Gleichstrom-Voltmeter zwischen CN6 und J5/J4(SP.OUT, L+/R+)	VOLUM : 0	VR11(Lch) VR12(Rch)	2mV	(a)

# KAC-827/PS200T

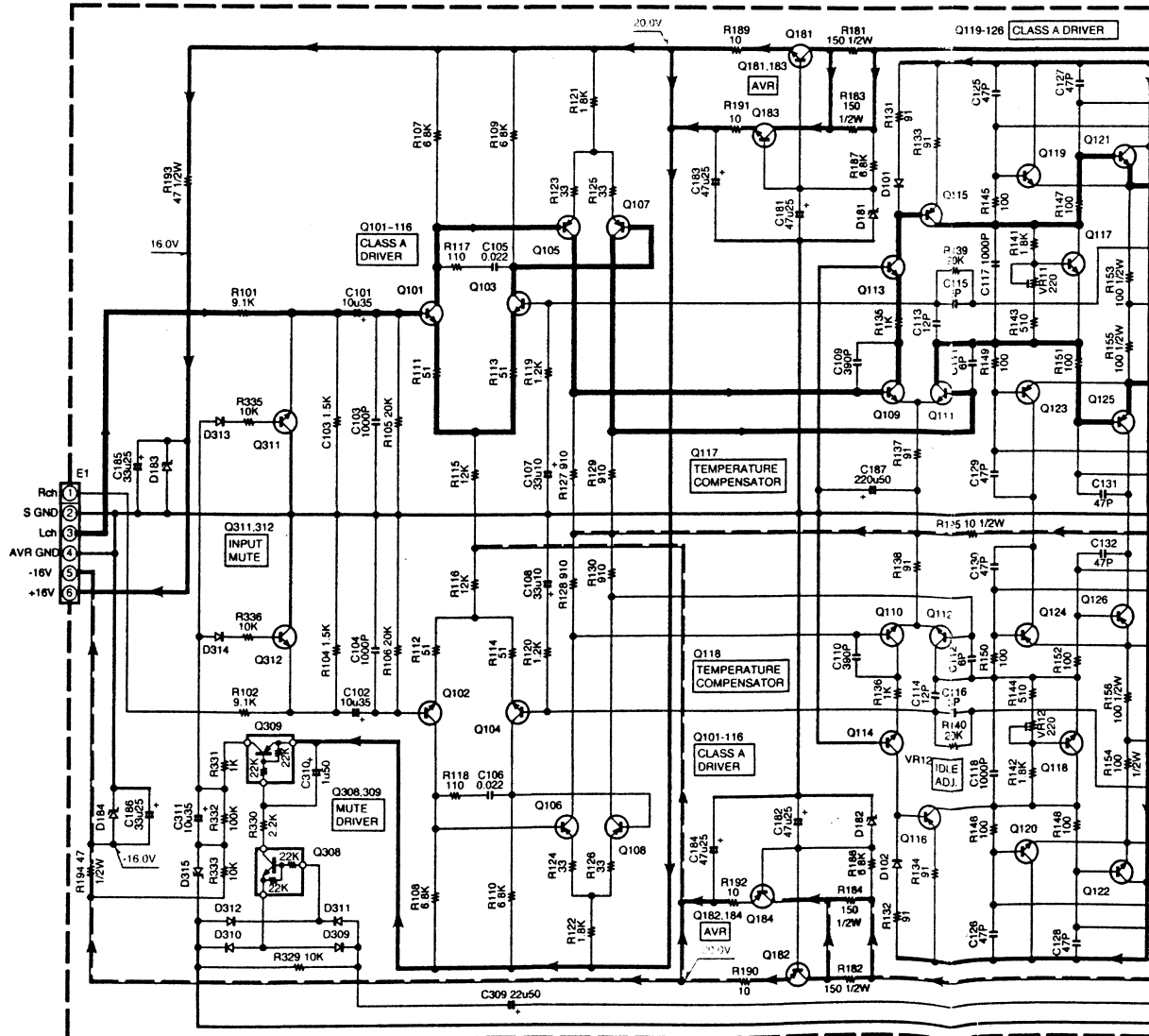
## ADJUSTMENT POINT VIEW

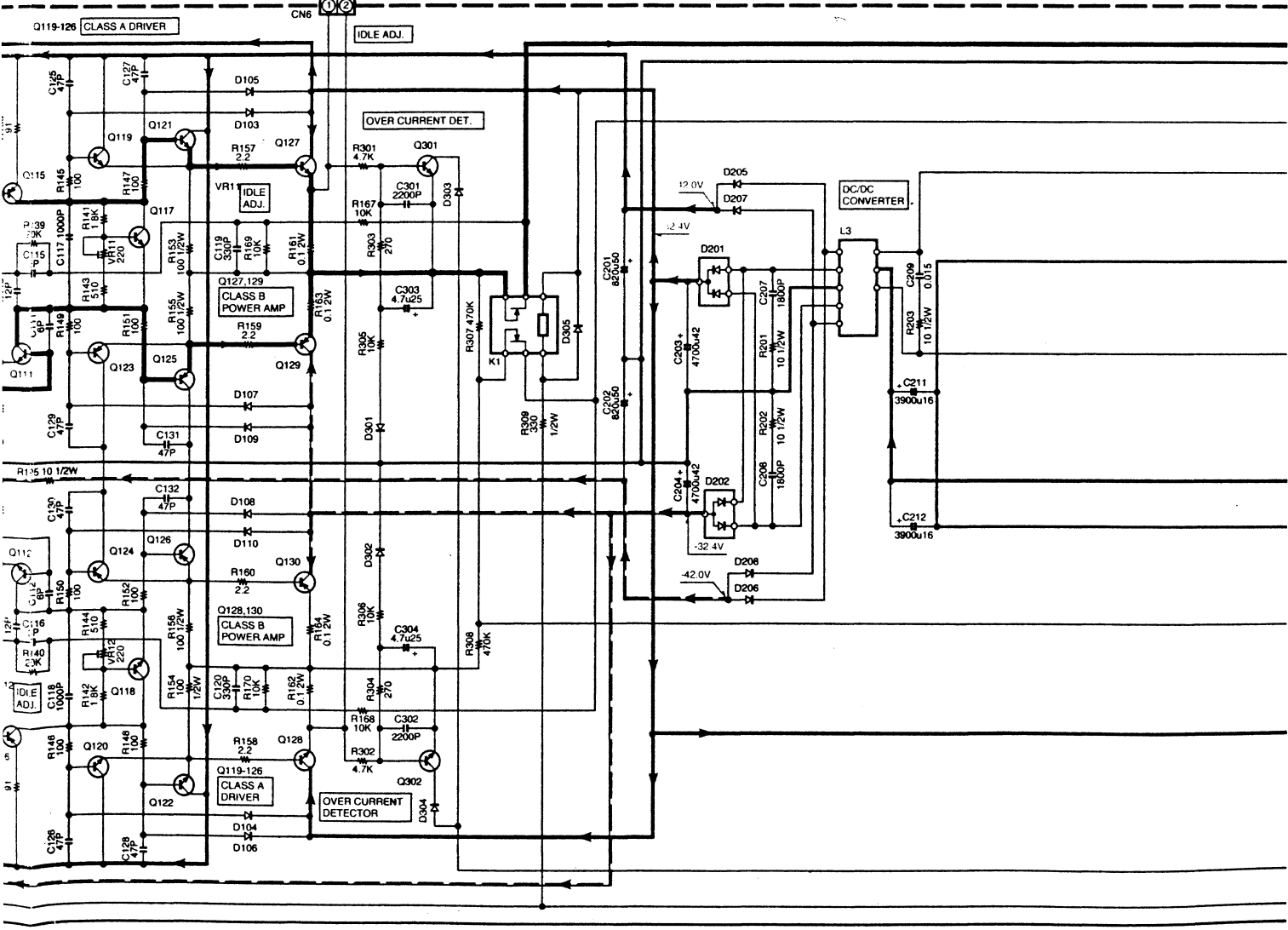
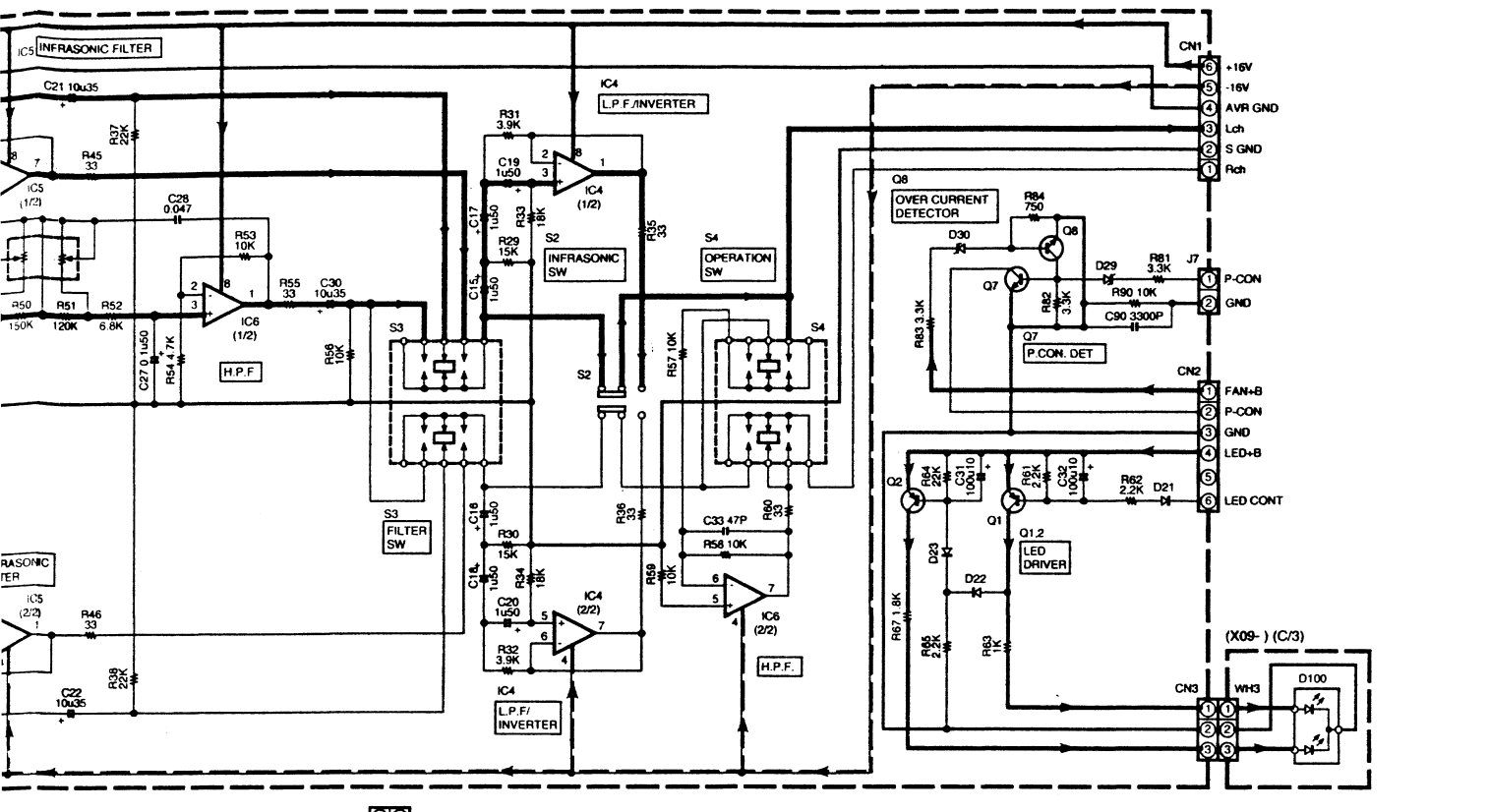


AUDIO UNIT  
(X09-5210-10) (B/3)



(X09-5210-10) (A/3)





D

E

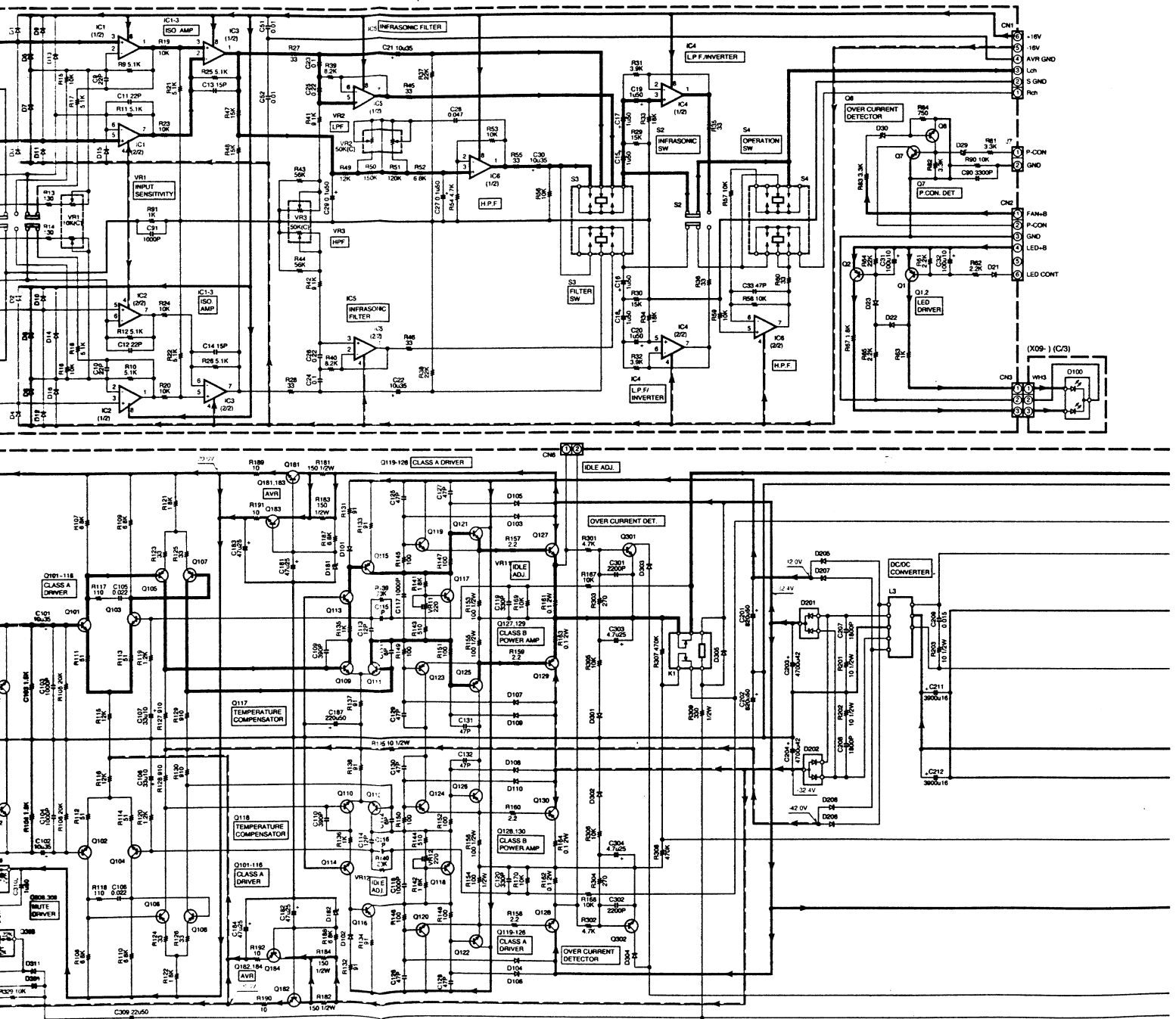
F

G

H

I

J

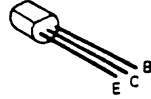


**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\nabla$  indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

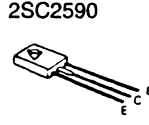
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

IC1-3	: NJM5532D
IC4-6	: NJM4565D
IC11	: UPC494C
IC12	: UPC1237HA
Q1,2	: 2SA1561
Q7, 8, 101-104, 209, 210, 311, 312	: 2SC945(A,Q,P)
Q105-108, 304	: 2SA992(F, E)
Q109-114	: 2SC2831(Q, R)
Q115, 116	: 2SA1123(Q, R)
Q117, 118	: 2SC2590(Q, R)
Q119-122	: 2SC2235
Q123-126	: 2SA965
Q127, 128	: 2SC4886*5
Q129, 130	: 2SA1860*5
Q181, 183	: 2SC3940A(R, S)
Q182, 184, 306	: 2SA1534A(R, S)
Q201-206	: MTAJ50N05HD
Q211, 212	: 2SA733(A,Q,P)
Q301, 302	: 2SC1845(F, E)
Q308	: DTC124ESA
Q309	: DTA124ESA
D1-12, 21-23, 101, 102, 213, 214, 303-305, 309-314	: MA165
D13-16, 103-110	: 1SS131
D29	: RD7.5JS(B)
D30	: RD15JS(B)
D100	: B30-1384-05
D181, 182	: RD20JS(B)
D183, 184	: RD16JS(B)
D201	: D10LC20U
D202	: D10LC20UR
D205-208	: 1M4935
D215	: 1N5406-M
D301, 302	: 1S2076A
D315	: RD5.1JS(B)

2SA1123  
2SA1534A  
2SA733(A)  
2SA965  
2SA992  
2SC1845

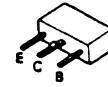


2SC2235  
2SC2631  
2SC3940A  
2SC945(A)

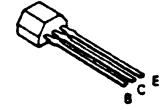


2SC2590

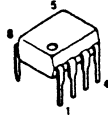
2SA1561



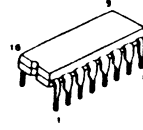
DTA124ESA  
DTC124ESA



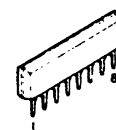
NJM4565D  
NJM5532D



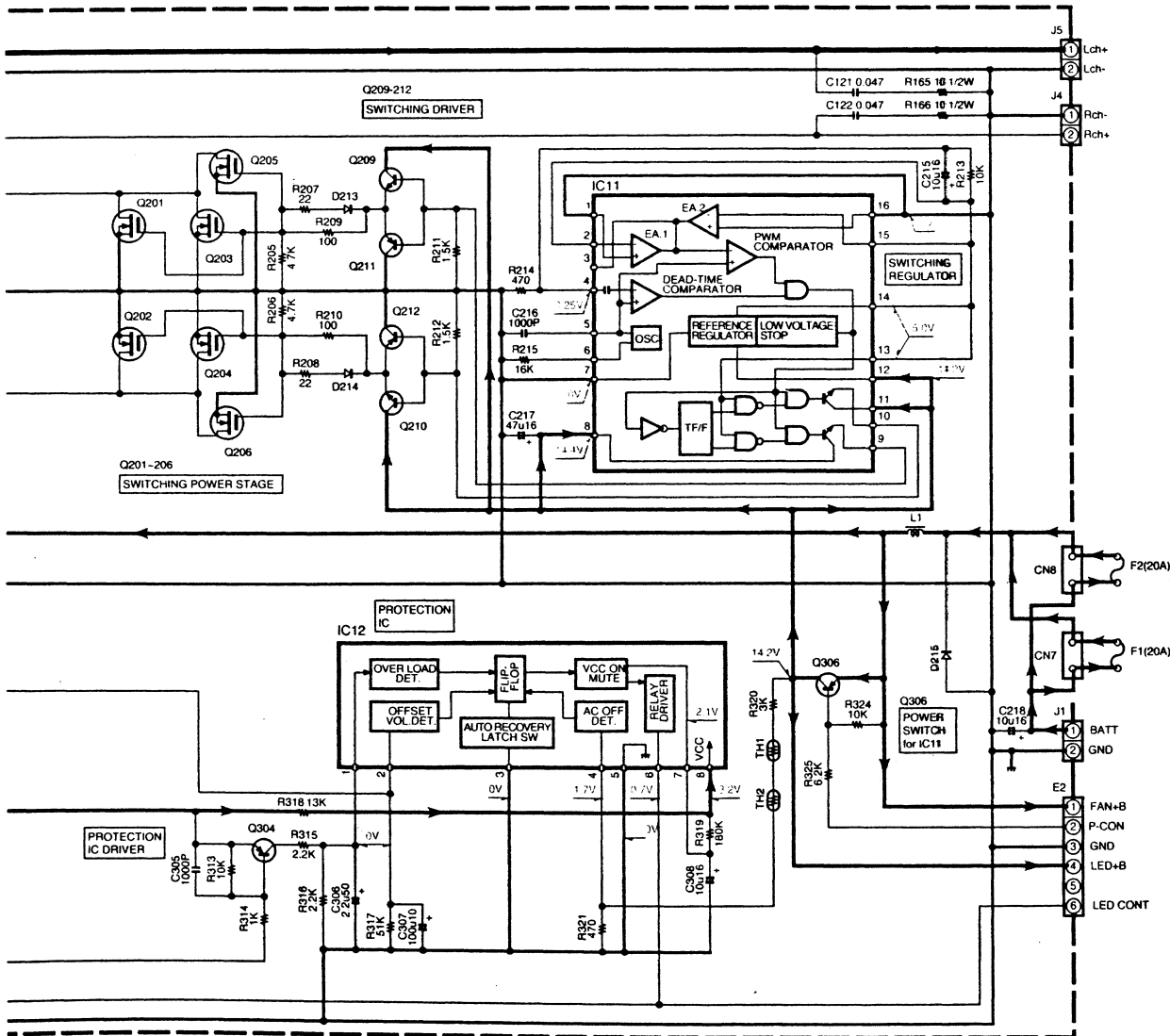
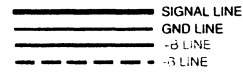
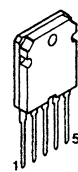
UPC494C



UPC1237HA



2SA1860\*5  
2SC4886\*5



KAC-827(K)  
KAC-PS200T(J/K)



# KAC-827/PS200T

## SPECIFICATIONS

Specifications subject to change without notice.

Audio Section	KAC-PS200T
Max Power Output (4 $\Omega$ )	
Normal	150 W x 2
Bridged	600 W x 1
Rated Power Output (+B = 12.0 V)	
Normal (4 $\Omega$ ) (20 Hz ~ 20 kHz, 0.05 % THD)	50 W x 2
(2 $\Omega$ ) (1 kHz, 0.5 % THD)	100 W x 2
Bridged (4 $\Omega$ ) (1 kHz, 0.5 % THD)	200 W x 1
Rated Power Output (+B = 14.4 V)	
Normal (4 $\Omega$ ) (DIN : 45324 , +B = 14.4V)	75 W x 2
(2 $\Omega$ ) (1 kHz, 0.5 % THD)	150 W x 2
Bridged (4 $\Omega$ ) (1 kHz, 0.5 % THD)	300 W x 1
Frequency Response (+0, -3 dB)	5 Hz ~ 50 kHz
Total Harmonic Distortion (Rated power)*	0.004 % (1 kHz)
Sensitivity (rated output) (MAX.)	0.2 V
(MIN.)	5.0 V
Signal to Noise Ratio	105 dB
Input Impedance	10 k $\Omega$
Damping Factor	More than 200
Low Pass Filter Frequency (18 dB/oct.)	50 ~ 200 Hz (variable)
High Pass Filter Frequency (12 dB/oct.)	50 ~ 200 Hz (variable)
Infrasonic Filter Frequency (18 dB/oct.)	25 Hz
	*Sensitivity = mini. Through LPF (30 kHz)
<b>General</b>	
Operating Voltage	12.0 V (11 ~ 16 V allowable)
Current Consumption (4 $\Omega$ , +B = 12.0 V, 10 % THD)	19 A
Dimensions (W x H x D)	272 x 58 x 270 mm
Weight	4.25 kg

Audio Section	KAC-827
Max Power Output (4 $\Omega$ )	
Normal	170 W x 2
Bridged	600 W x 1
Rated Power Output (+B = 14.4 V)	
Normal (4 $\Omega$ )	85 W x 2 (DIN : 45324 , +B = 14.4V)
(2 $\Omega$ )	160 W x 2 (1 kHz, 0.8 % THD)
Bridged (4 $\Omega$ )	300 W x 1 (1 kHz, 0.8 % THD)
Frequency Response (+0, -3 dB)	5 Hz ~ 50 kHz
Total Harmonic Distortion (Rated power)*	0.004 % (1 kHz)
Sensitivity (rated output) (MAX.)	0.2 V
(MIN.)	5.0 V
Signal to Noise Ratio	105 dB
Input Impedance	10 k $\Omega$
Damping Factor	More than 200
Low Pass Filter Frequency (18 dB/oct.)	50 ~ 200 Hz (variable)
High Pass Filter Frequency (12 dB/oct.)	50 ~ 200 Hz (variable)
Infrasonic Filter Frequency (18 dB/oct.)	25 Hz
	*Sensitivity = mini. Through LPF (30 kHz)
<b>General</b>	
Operating Voltage	12.0 V (11 ~ 16 V allowable)
Current Consumption (4 $\Omega$ , +B = 14.4 V, 10 % THD)	23 A
Dimensions (W x H x D)	272 x 58 x 270 mm
Weight	4.25 kg

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