

# Owner's Manual

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Model

## AP3060/AP3090

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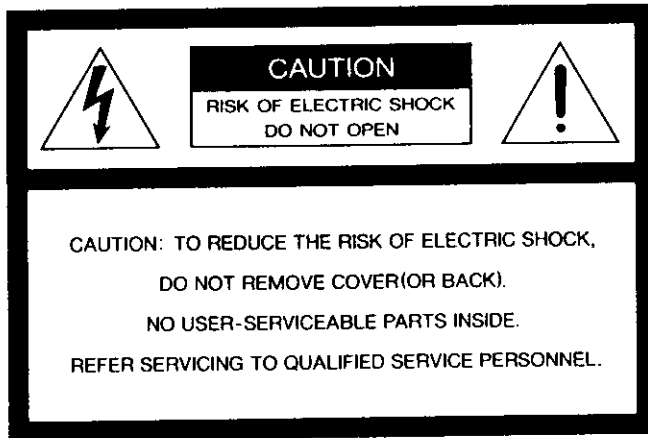
STEREO POWER AMPLIFIER

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**Fostex**<sup>®</sup>

## SAFETY INSTRUCTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### "WARNING"

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

## SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. Power Cord Protection – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
  - A. The power supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the appliance; or
  - C. The appliance has been exposed to rain; or
  - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - E. The appliance has been dropped, or the enclosure damaged.
17. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.



An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

1989 Sep

## INTRODUCTION

Models AP3060/AP3090 are superior cost performance. large output power amplifiers.

In commercial applications, they are reliable, durable and stable, designed for long hour applications.

Before operating it, please carefully read this manual for correct operation thus taking advantage of its full performance and result in many years of trouble free operation.

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## NOTES ON OPERATION

- Should dust and dirt accumulate on the amplifier front air intake filter. it should be removed and cleaned.
- Always switch off power when connecting or disconnecting the cables or. operating the selector switch.
- There will be no amplifier output for several seconds after switch on of power as the muting circuit will be in effect.

## INPUT CONNECTORS

The two inputs of this amplifier employ the XLR3-31 equivalent connector and a 1/4 inch 3P phone jack, and are wired in parallel.

Connector polarities are as follows:

(1) ..... Ground. (2) ..... Hot. (3) ..... Cold

(NOTE: For 120V models - (3) ... is Hot, (2) ... is Cold)

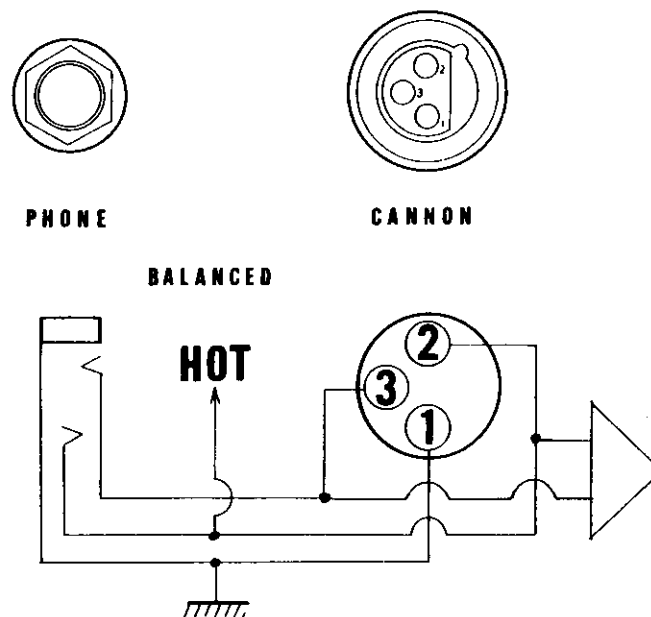


Fig. 1

# 1. NAMES OF THE CONTROLS (AP3060/AP3090)

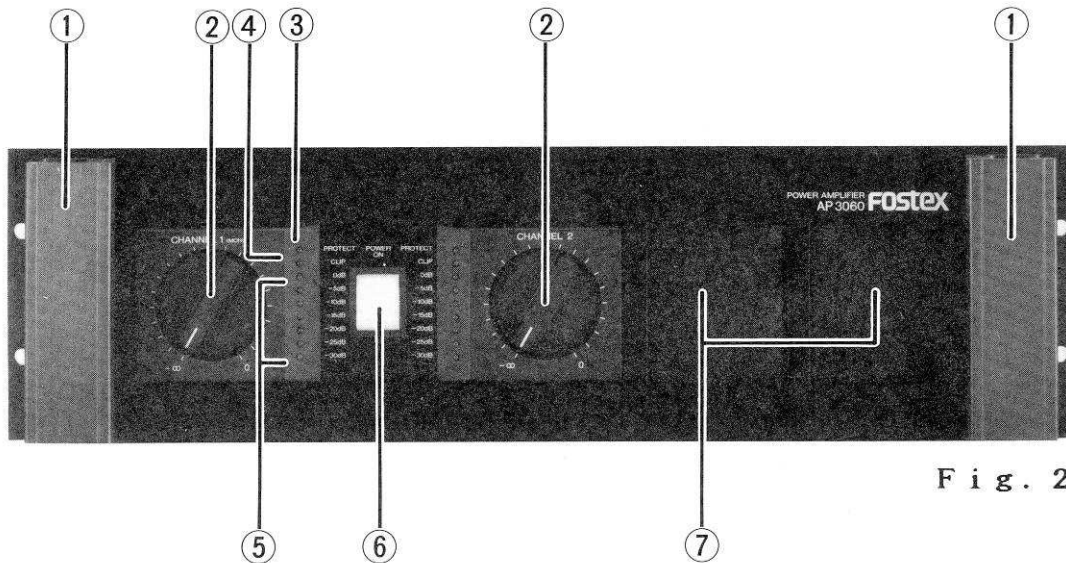


Fig. 2

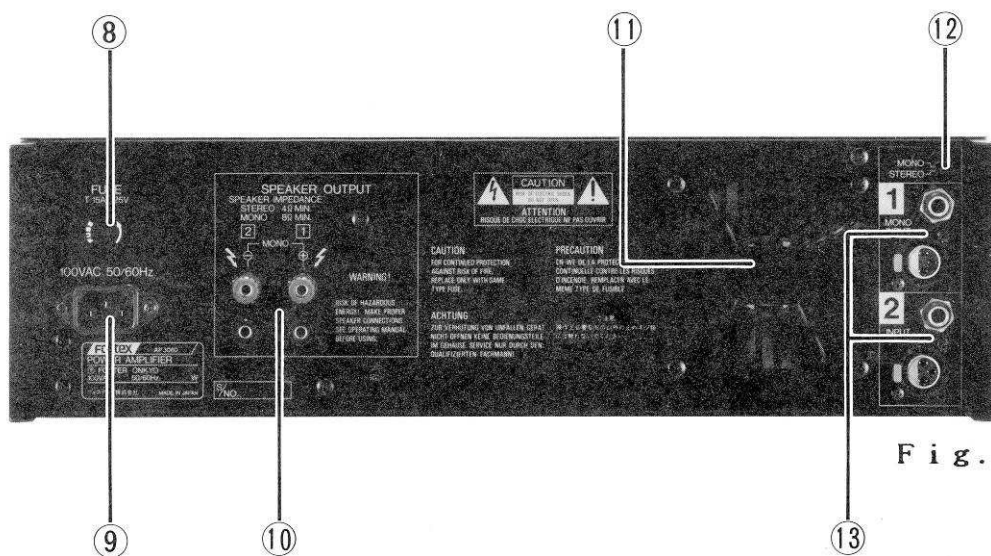


Fig. 3

- |                                   |                      |
|-----------------------------------|----------------------|
| (1) Handle                        | (8) Fuse             |
| (2) Output control knob (CH1/CH2) | (9) AC input         |
| (3) Protect indicator             | (10) Speaker output  |
| (4) Clip indicator                | (11) Cooling fan     |
| (5) Output level indicator        | (12) Mode selector   |
| (6) Power switch                  | (13) Input (CH1/CH2) |
| (7) Dust filter                   |                      |

## 2. FEATURES OF THE PRODUCT

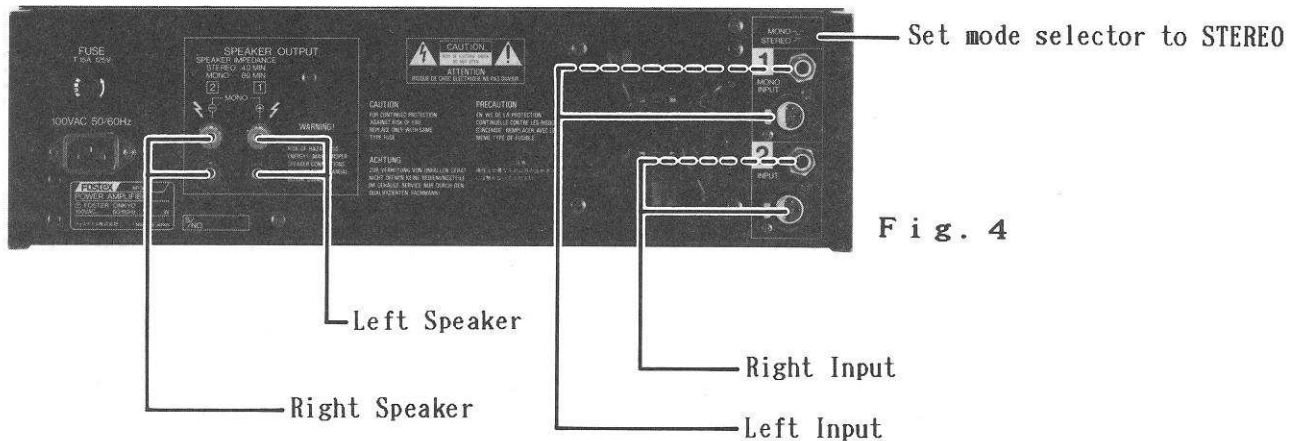
- (1) Designed for EIA rack mounting - 3U size panel.
- (2) Employing a highly efficient power supply circuit, it is designed for large music power yet, lightweight and very portable.
- (3) Output level indicator  
These LED's are for checking the output signal level and are lit over a 0 ~ 30dB range. Rated power into a 4 $\Omega$  load is output at 0dB (Model AP3060/300W, Model AP3090/450W).
- (4) Clip indicator  
This LED is lit when the output clips or the protection circuit is tripped.
- (5) Protection indicator  
Lighting of this LED indicates either that the amplifier interior temperature is dangerously high or the load is exceeding the rating and, as a result, supply voltage to the output stage is automatically lowered to suppress the output power.  
Consequently, when this LED is lit, distortion will increase due to drop in the amplifier output.
- (6) The input circuit employs balanced line.
- (7) A high pass filter can be installed inside as the high voltage line transformer is used in the output.

Functions explained below are provided to secure stability and reliability of the amplifier.

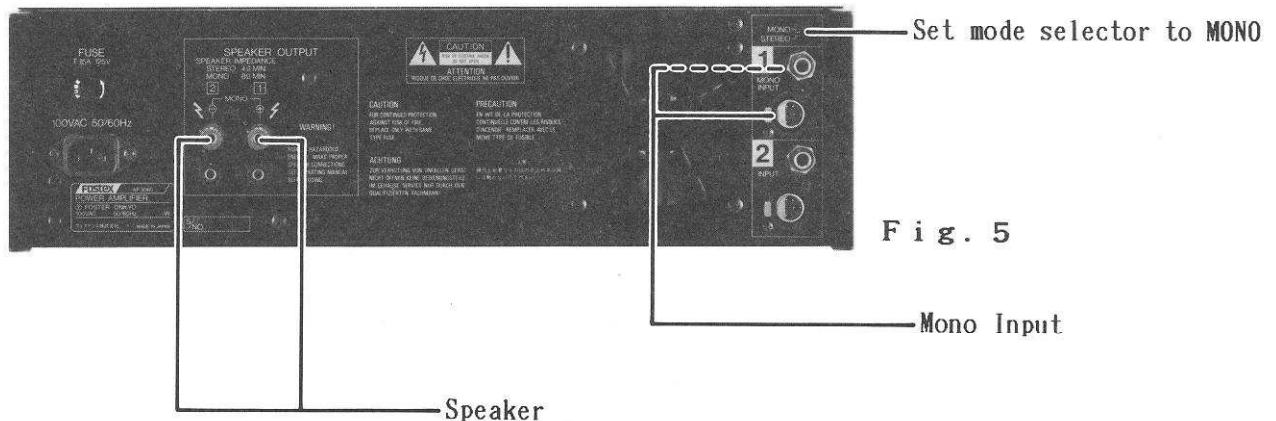
- (1) Forced air cooling is employed to allow stable performance under severe conditions over long hours of use. The fan speed is automatically controlled depending on internal temperature of the amplifier.
- (2) To protect the output stage transistors, area of safety operation such as load current, heat sink temperature and load impedance are constantly checked and the various protection circuits triggered into operation if any harmful condition occurs. Even though the protection circuit is triggered, it is restored to normal if the harmful condition is relieved. The load impedance protection circuit is activated at below 2 $\Omega$ .
- (3) When the power transformer is excessively heated, the thermal protector inside the power transformer is triggered but is automatically restored to normal when the temperature drops.
- (4) Output is cutoff to protect the speaker should DC or subsonic components be generated in the amplifier output stage.

### 3. CONNECTING METHOD

Stereo mode (Set mode selector to STEREO)



Monaural mode (Set mode selector to MONO)



This amplifier can be switched to either the stereo or monaural mode (switched between STEREO or MONO by the rear panel selector).

In the stereo mode setup, input cables are plugged into INPUT CH1 (L) and INPUT CH2 (R) and the selector set to STEREO as shown in Fig. 4 (input cable connectors are plugged into either the Cannon connector or phone jack).

The speaker cables are connected to the CH1 (L) and CH2 (R) SPEAKER OUTPUT terminals (be careful to correctly match the speaker polarities).

In the monaural mode setup, the input cable is plugged into INPUT CH1 only and the selector set to MONO as shown in Fig. 5 (the input cable connector is plugged into either the Cannon connector or phone jack).

The speaker cables are connected to the SPEAKER OUTPUT terminals marked MONO (to each red terminals of CH1 and CH2; be careful to correctly match the speaker polarities).

#### 4. AIR FILTER CLEANING/PRECAUTIONS

If the amplifier front dust filter becomes clogged with dust and dirt after prolonged use, normal amplifier performance cannot be expected and thus the filter should be removed for cleaning.

The filter is removed by first removing screws (1) ~ (3) as shown in Fig. 6. If it is only slightly clogged, suck the dust with a vacuum cleaner but if severely clogged, wash it with diluted neutral detergent (when thus water washed, install the filter only after it is completely dry).

At reinstalling the filter after cleaning, install it on the dual adhesive backing tape (A), shown in Fig. 6, then screw it down in reverse order (3) ~ (1). (If the dual adhesive backing tape loses effect, replace it with new tape.)

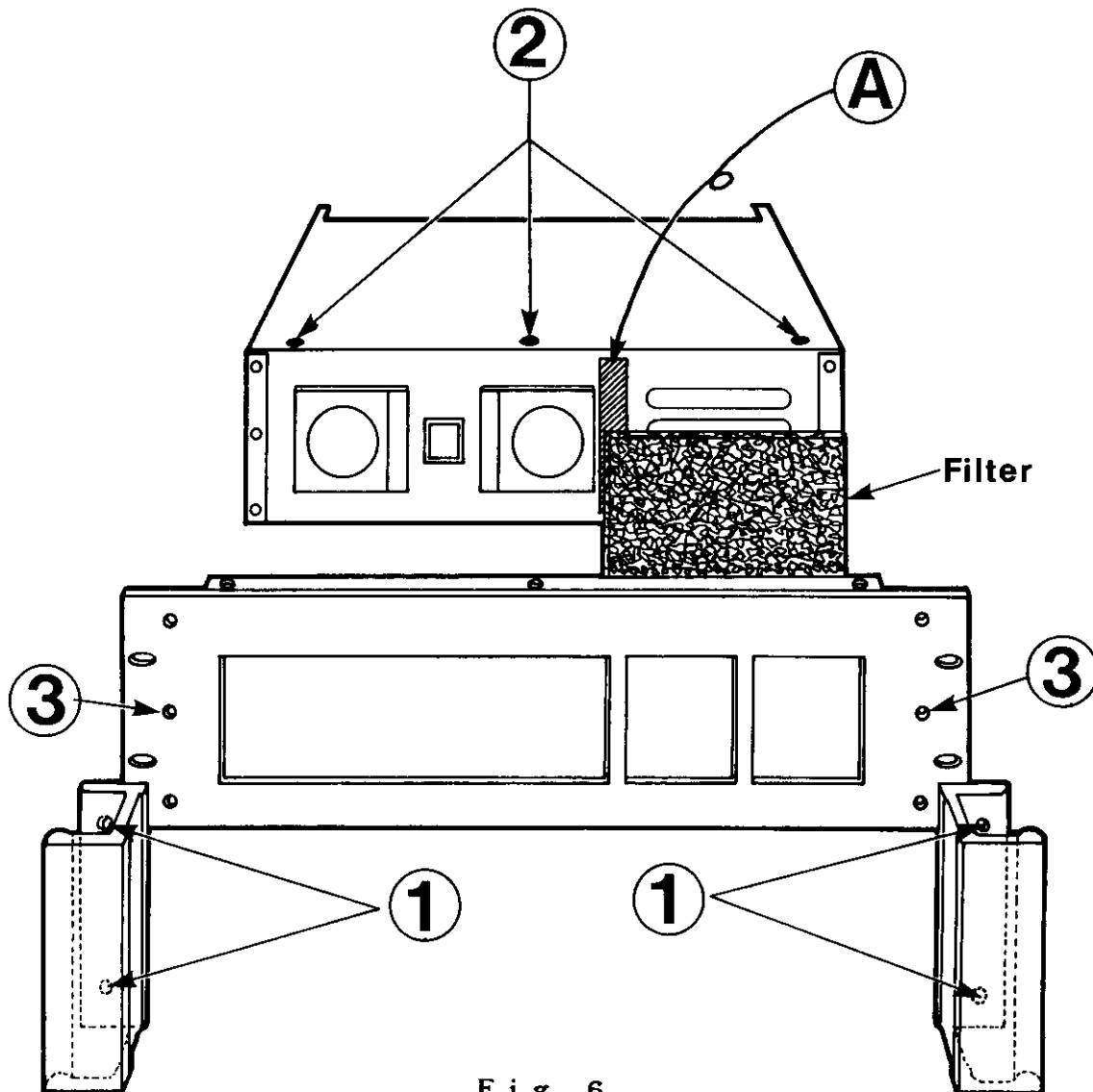


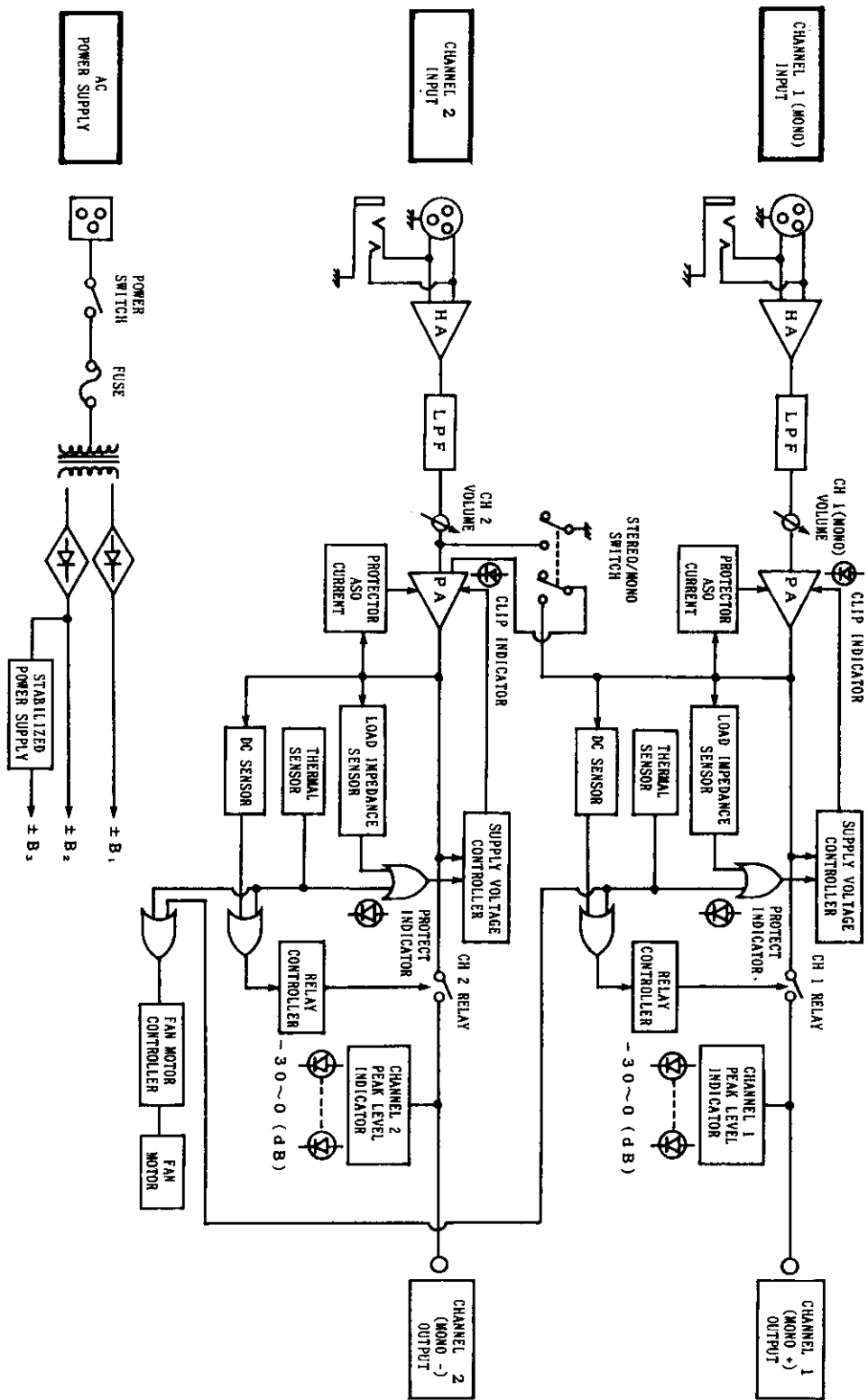
Fig. 6



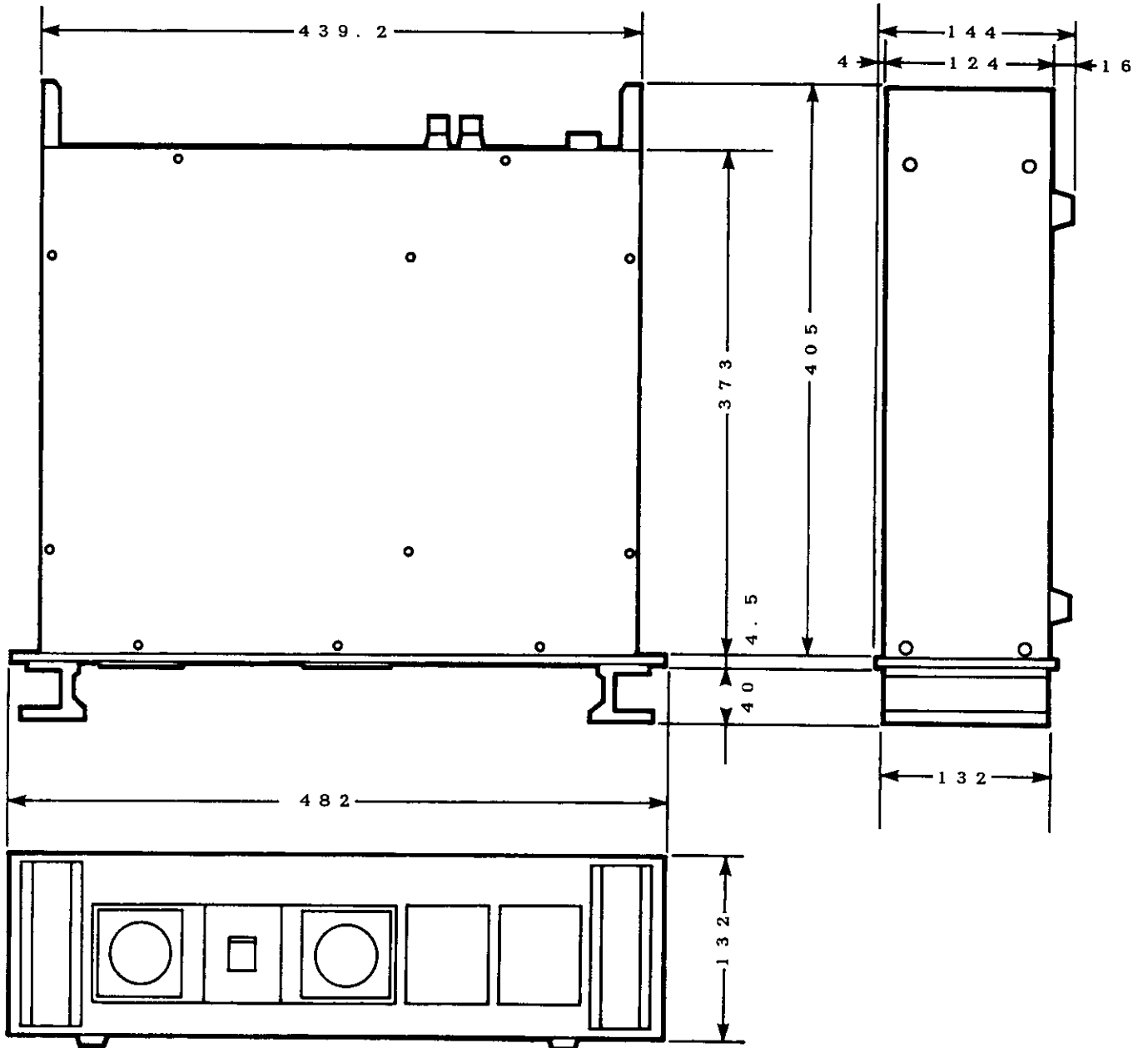
## 5. SPECIFICATIONS

	AP3060	AP3090
Continuous rated output	200W+200W(8Ω) 300W+300W(4Ω) 600W(MONO)(8Ω)	300W+300W(8Ω) 450W+450W(4Ω) 900W(MONO)(8Ω)
Output bandwidth range	10~30kHz(8Ω) 20~30kHz(4Ω)	10~30kHz(8Ω) 20~30kHz(4Ω)
Reproduce frequency bandwith	10~35kHz (+0dB/-1dB)	10~35kHz (+0dB/-1dB)
Input sensitivity	1.23V(±1dB) (8Ω, at rated output)	1.51V(±1dB) (8Ω, at rated output)
Damping factor	Better than 240 (8Ω,1kHz)	Better than 240 (8Ω,1kHz)
S/N ratio	97dB(IHF-A,104dB)	100dB(IHF-A,107dB)
Total harmonic distortion	0.1%	0.1%
Physical dimensions	482(W)×132(H)×40.5(D) ■■	482(W)×132(H)×40.5(D) ■■
Weight	13.6kg	16.8kg
Fuse capacity	100VAC→T15A 120VAC→T15A 220V $\sim$ →T6.3A 240V $\sim$ →T6.3A	100VAC→T20A 120VAC→T20A 220V $\sim$ →T10A 240V $\sim$ →T10A

# 6. BLOCK DIAGRAM



## 7. PHYSICAL DIMENSIONS





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