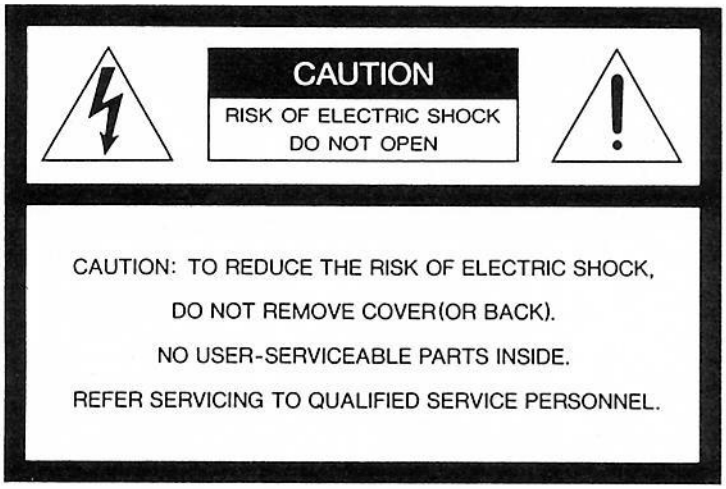
Owner's Manual

Model

AP1020/AP2090/AP2130

STEREO POWER AMPLIFIER

FOSTEX®





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.



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.

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.

1989 Sep.

INTRODUCTION

Fostex new AP Series amplifiers AP1020, AP2090 and AP2130 are designed to withstand severe operating conditions.

It is a commercial use amplifier containing high technology circuits designed for stability, durability, small size and large output.

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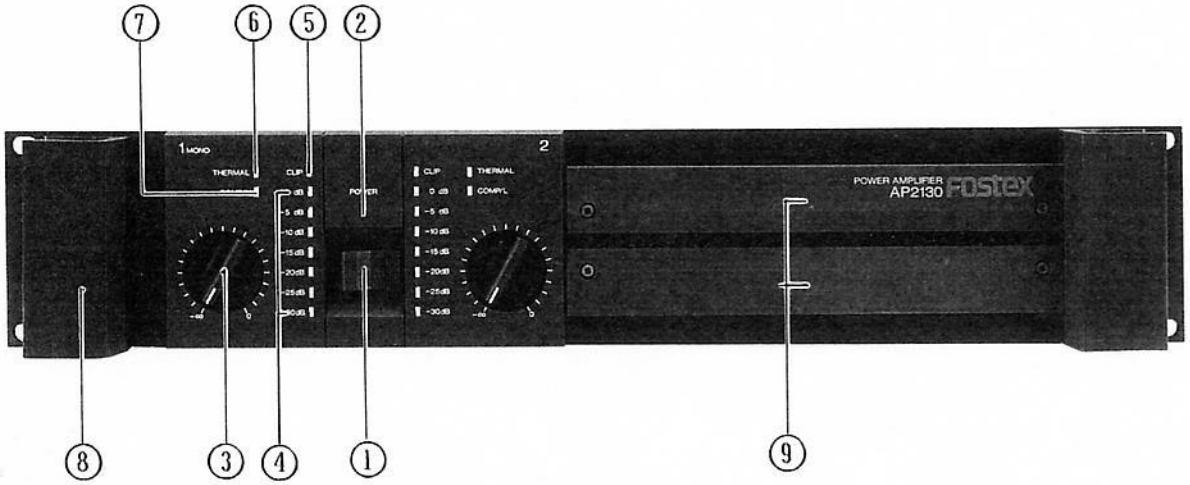
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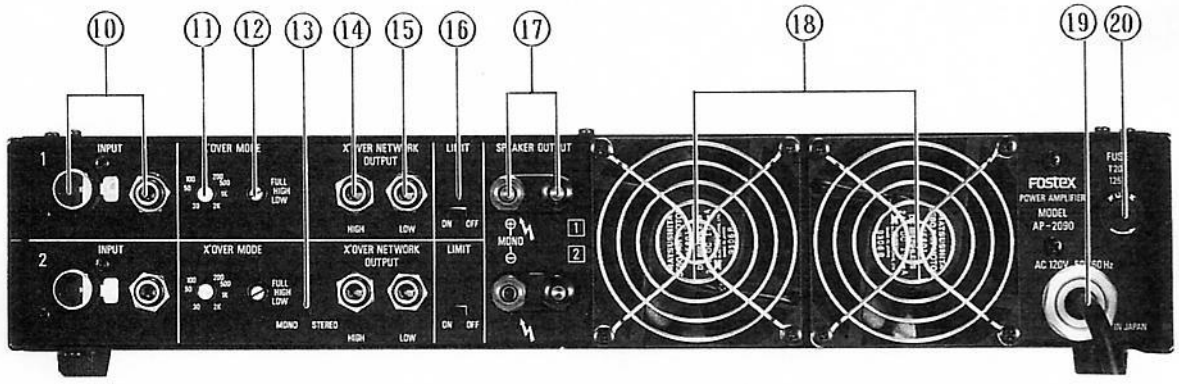
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AP2090/AP2130

FRONT PANEL



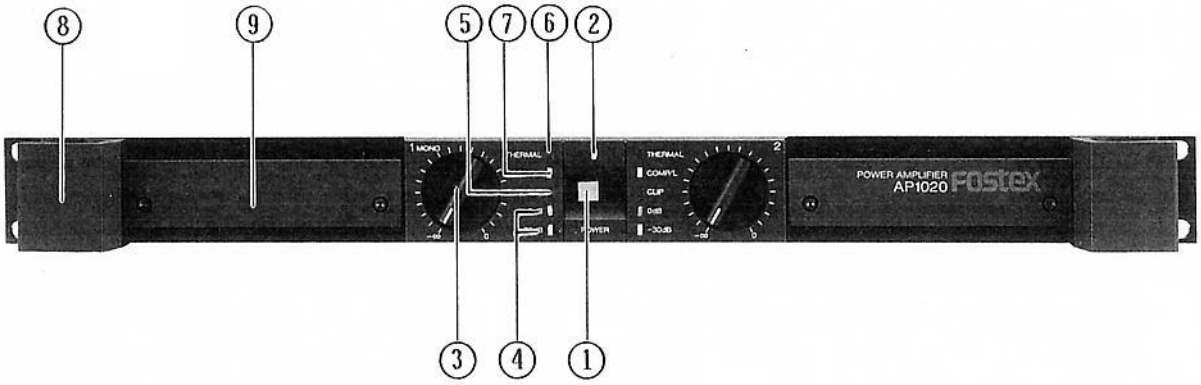
REAR PANEL



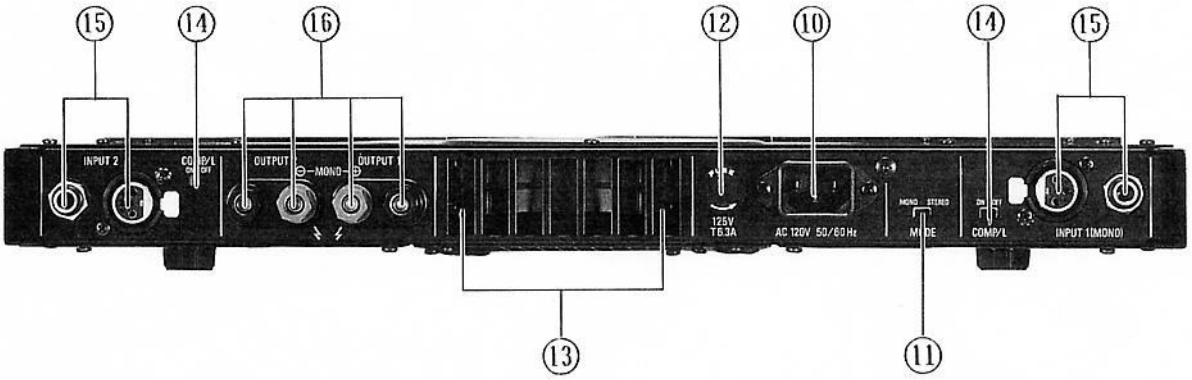
1. Power switch
2. Power indicator
3. Output level controller
4. Output level indicator
5. Clip indicator
6. Thermal indicator
7. Compressor/limiter indicator
8. Handle
9. Filter cover
10. Input connector
11. Crossover mode (VR)
12. Crossover mode (Selector)
13. MONO/STEREO selector SW
14. Crossover network output (HIGH)
15. Crossover network output (LOW)
16. COMP/L switch
17. Speaker output
18. Cooling fan
19. Power cord
20. Power supply fuse

AP1020

FRONT PANEL



REAR PANEL



1. Power switch
2. Power indicator
3. Output level controller
4. Output level indicator
5. Clip indicator
6. Thermal indicator
7. Compressor/limiter indicator
8. Handle
9. Filter cover
10. AC (Input)
11. MONO/STEREO switch
12. Fuse
13. Cooling fan
14. Compressor/limiter switch
15. Input connector
16. Output connector CH-1
17. " " CH-2

OUTSTANDING FEATURES

1) Forced cooling
   When the amplifier internal temperature rises, the cooling fan automatically changes to high speed to force cool the heat sink for protecting the amplifier.
2) Level indicator (AP2090, AP2130)
   This LED is lit in 5dB steps over the 0 ∿ -30dB range to check the input signal.
3) Clip indicator
   This LED is lit at overload. It will flash on large instantaneous inputs but will not pose any problems.
4) Thermal indicator
   When this LED is lit, it indicates that the amplifier internal temperature is unusually high, and the power supply voltage is reduced automatically to control the amplifier output.
   Consequently, you may notice some distortion when this LED is lit as the amplifier output has been reduced.
5) Crossover network circuit (AP2090, AP2130)
   These contain a 2 way crossover network continuously variable over 30Hz ∿ 2,000Hz at an 18dB/octave slope.
6) Crossover network OUTPUT connector (HIGH, LOW; AP2090 and AP2130 only)
   This output connector allows multi system use with a 2 way or 3 way speaker system (Refer to Multi System Examples, page 6) and HIGH PASS/LOW PASS outputs can be obtained from each output connector.
7) Compressor/limiter circuit
   Individual compressor/limiter circuits for each channel are contained which can be made to function by the rear panel ON /OFF selector switch. The limiter can be switched ON/OFF by the rear panel COMP/L switch. The compressor operates at a compression ratio of 2, from about 1/2 of rated output up to clipping output, after which the hard limiter functions to suppress distortion. Consequently, when the limiter is switched on, the output will not largely distort even at excess input.

CROSSOVER NETWORK, SELECTOR SWITCH

1) FULL
   At this position, the crossover network is bypassed, (Hz) control pot becomes ineffective, and a flat response output against the input signal is obtained at the output connector. The crossover network outputs (HIGH, LOW) at each connector will be those set by the crossover frequency adjusting knobs.
2) HIGH
   When this position is selected, the HIGH PASS signal whose cutoff frequency is set by the (Hz) knob, is obtained at the speaker output connector.
3) LOW
   When set to this position, the LOW PASS signal whose cutoff frequency is set by the (Hz) knob, is obtained at the speaker output connector.

INPUT CONNECTION

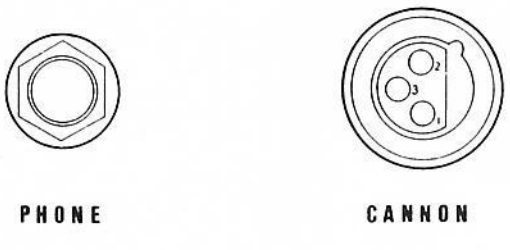
Two types of connectors, XLR3-31 equivalent and 1/4" 3P phone jack, both of balanced line are wired in parallel.

Polarity of the pins are as follows:

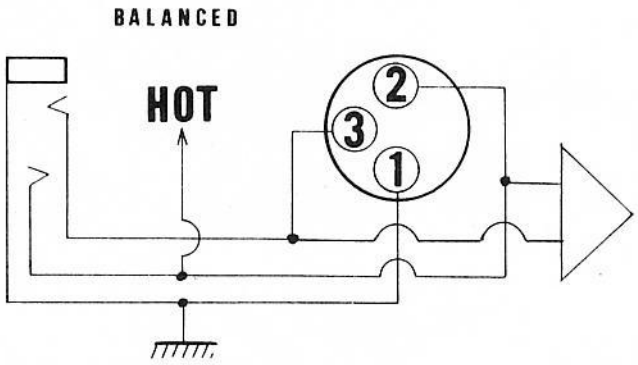
(#1 pin) ... Ground, (#2 pin) ... Hot, (#3 pin) ... Cold

For the stereo mode, the rear panel MODE selector switch is set to STEREO and the left input is connected to INPUT (1) and the right input to INPUT (2).

For the mono mode, the selector switch is set to MONO and the input signal is applied between ground and INPUT (1).

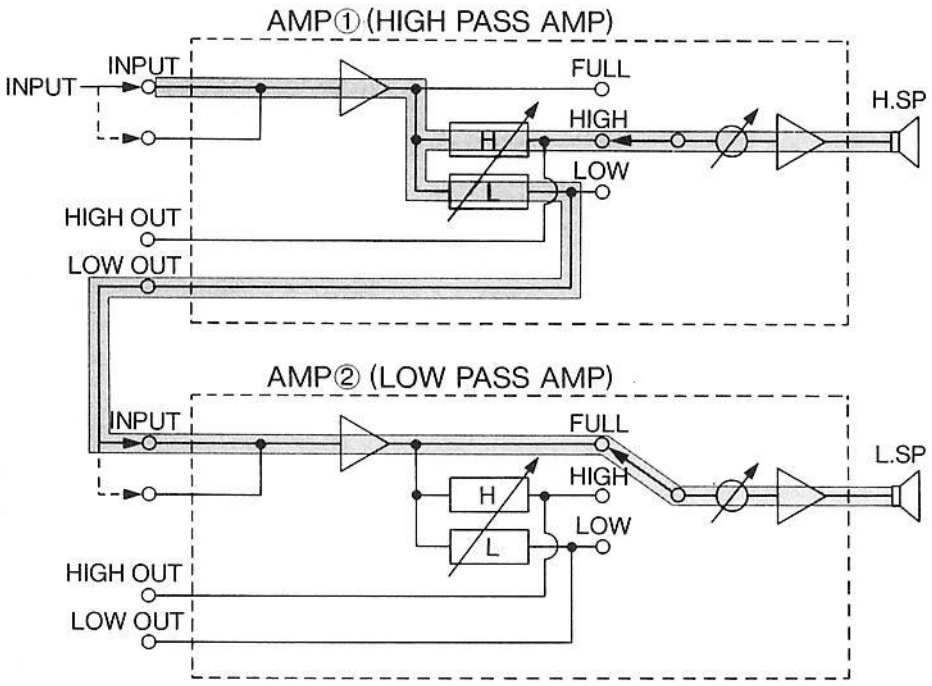


PHONE CANNON

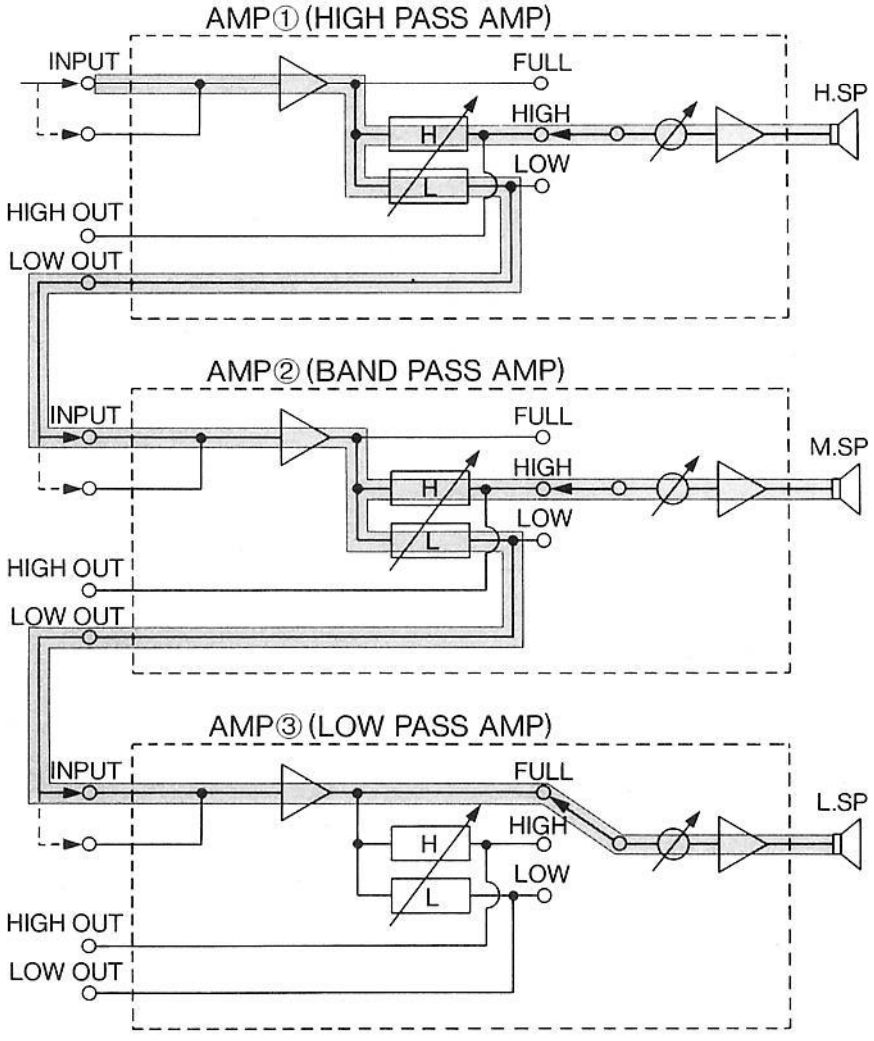


MULTI-AMPLIFIER SYSTEM EXAMPLES USING AP2090/2130

[Example of 2 way system]



[Example of 3 way system]



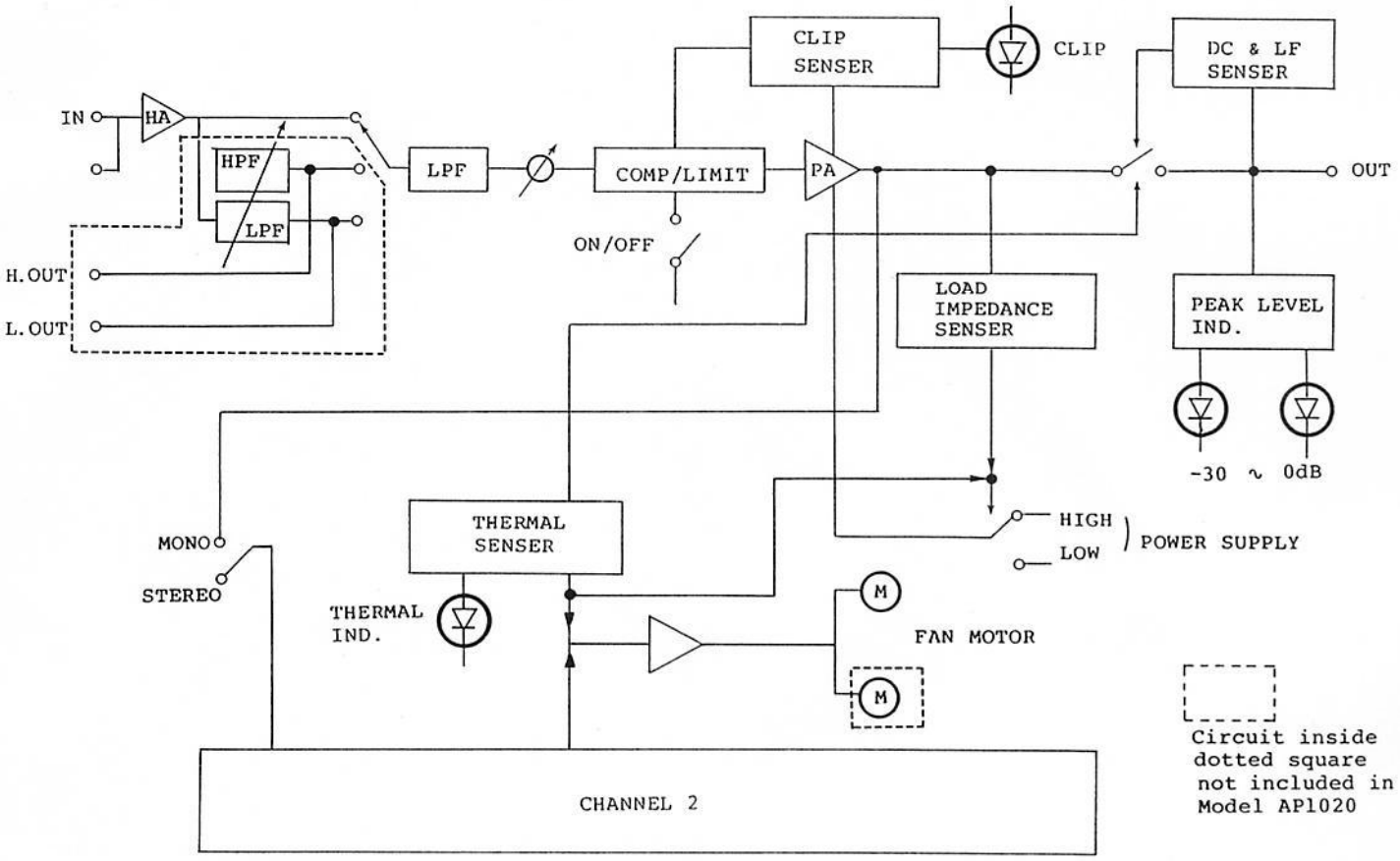
* General use amplifiers not containing a crossover network can also be used for the low region or high region amplifier.

When AP2090/2130 are to be used as a full range amplifier, harmful sub-sonic frequencies can be cut off if the crossover network selector switch is set to HIGH and crossover frequency to 30Hz.

If a line transformer is to be connected, always set to HIGH PASS (crossover network selector switch to HIGH) and crossover frequency to 100Hz.

The speaker low region cutoff frequency will slightly change depending on the line transformer used.

Block diagram



SPECIFICATIONS

	AP1020	AP2090	AP2130
[AMPLIFIER SECTION]			
Rated output	75W+75W ....8Ω 100W+100W...4Ω 200W(mono)..8Ω	300W+300W...8Ω 450W+450W...4Ω 900W(mono)..8Ω	450W+450W....8Ω 650W+650W....4Ω 1300W(mono)..8Ω
Total harmonic distortion (At 1KHz rated output)	Less than 0.05%	Less than 0,05%	Less than 0,05%
Reproduce frequency range	10 ∿ 35,000Hz (At rated output, +0dB, -1dB)	10 ∿ 35,000Hz (At rated output, +0dB, -1dB)	10 ∿ 35,000Hz (At rated output, +0dB, -1dB)
S/N ratio	92dB (IHF-A, 100dB)	100dB (IHF-A, 105dB)	100dB (IHF-A, 105dB)
Input impedance	10KΩ	10KΩ	10KΩ
Damping factor	Higher than 300 (8Ω) (1kHz)	Higher than 350 (8Ω) (1kHz)	Higher than 400 (8Ω) (1kHz)
Input sensitivity (At rated output)	0,70V (±1dB, 8Ω)	1,40V (±1dB, 8Ω)	1,72V (±1dB, 8Ω)
[CROSSOVER NETWORK SECTION]			
Crossover frequency		30 ∿ 2,000Hz (18dB/oct.)	30 ∿ 2,000Hz 18dB/oct.)
Dimensions (mm) (In mm) (W)x(H)x(D)	482x43.5x422	482x88x435	482x88x435
Weight	8,1kg	22.6kg	23.0kg
Power supply	120V/AC 220V/AC 240V/AC	120V/AC 220V/AC 240V/AC	120V/AC 220V/AC 240V/AC
Power consumption	AC 100V 215W AC 120V 210W AC220/240V 550VA	630W 955W 2KVA	745W 1150W 2.28kVA

Specifications in this manual subject to change for improvement without notice.
Above specifications as of September 30, 1989.

FOSTEX PRO SOUND DIVISION
FOSTEX CORPORATION 3-2-35 Musashino, Akishima-shi, Tokyo, Japan 196

* Specifications subject to change without notice.
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