

Model ***NX-6A***
POWERED NEAR FIELD STUDIO MONITOR



HRadial

Introduction

Thank you very much for purchasing the Fostex Model NX-6A.

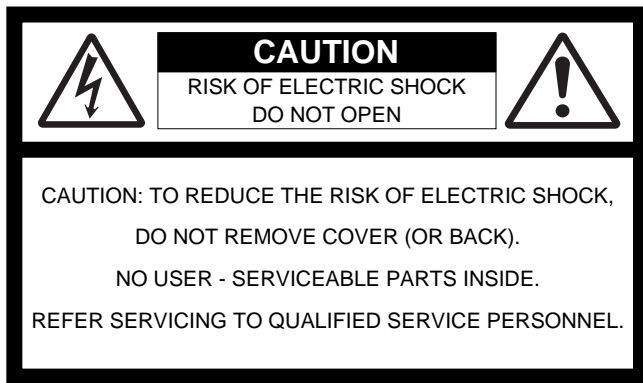
The NX-6A is a nearfield studio monitor with a built-in power amplifier. It delivers a musical and highly accurate sound, allowing you to check a sound thoroughly to a fine nuance.

The NX-6A employs a 160-mm woofer (shielded type) which adopts the latest diaphragm technology and a 20-mm hard dome tweeter (shielded type) which features a magnesium diaphragm. It features bi-amplifier design (60W for the woofer, 40W for the tweeter).

In the enclosure, HP sound reflectors are installed for natural low frequency reproduction. Thanks to the time-alignment construction on the baffle surface, as well as the flush surface design, each sound image is pinpointed accurately.

From dynamic low frequencies to natural and smooth high frequencies, the NX-6A reproduces the whole frequency range faithfully. It is the ideal monitor for recording studios.

Fostex®



"WARNING"

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

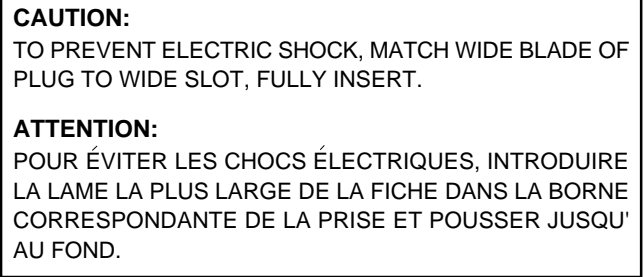
SAFETY INSTRUCTIONS

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.



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.

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.
18. The appliance should be situated away from drops of water or spray of water.
19. Objects containing liquid such as vase must not be put on the appliance.
20. The appliance is not completely isolated from the power supply even if the power switch is at off position.
21. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
22. Only use attachments/accessories specified by the manufacturer.
23. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.
24. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Precautions

- In the event of smoke or odors, immediately turn off the power switch and remove the AC plug from the outlet. Continued use under such conditions will result in fire and/or electrical shock.
After extinction of such conditions, refer the problem to a dealer or our service station located nearest to you. In no events must an attempt to correct the problem by unauthorized personnel take place. Noncompliance with this notice may pose an extreme danger.
- In the event of entry of water or an object into the appliance, immediately turn off the power switch and remove the AC plug from the AC outlet.
A dealer or our service station located nearest to you must be contacted for reinstatement of the original conditions. Continued use without it will result in fire and/or electrical shock.
- In the event of electrical discontinuity and/or damage including conductor exposure occurs to the power cord, contact a dealer or our service station located nearest to you for service. Continued use without it will result in fire and/or electrical shock.
- In the event of a fall of the appliance or damage to appliance cover, immediately remove the AC plug from the AC outlet and contact a dealer or our service station located nearest to you for service.
Continued use without it will result in fire and/or electrical shock.
- Placement of the appliance where contact with water is likely must be avoided. Otherwise, fire and/or electrical shock will result. This precaution is particularly important when the appliance is used outdoors (on rainy or snowy days, on the beach or other such places).
- No vases or cups containing water, and/or small metal pieces must be placed on the appliance.
Spilling of water or dropping of metal pieces into the appliance will result in fire and/or electrical shock.
- Under no circumstances, must an attempt be made to disassemble, repair and/or alter the appliance.
Neither must the appliance cover be removed.
Otherwise, fire and/or electrical shock will result.
- No contact with the AC plug must be made after lightning has started. Otherwise, electrical shock will result.
- No heavy objects must be placed on the AC cord nor the cord be routed under the appliance.
Damage to the cord will occur resulting in fire and/or electrical shock.
- The AC cord must not be damaged, modified, twisted, pulled and/or heated. Otherwise, the cord will be damaged resulting in fire and/or electrical shock.
- No power voltage different from that labeled on the appliance or specified in this owner's manual must be applied. The power plug must be inserted to the end of an outlet. Otherwise, fire and/or electrical shock will result.
- Avoid placement of the appliance in smoky or steamy places including unusually humid or dusty places.
Otherwise, fire and/or electrical shock may result.
- The AC cord must not be routed near heat emitting appliances. Otherwise, the cord jacket may melt resulting in fire and/or electrical shock.
- Avoid mounting or setting the appliance on unstable surfaces, including wobbly or slanting planes.
Contact with the falling appliance may cause injury.
- Do not leave the appliance in places where the temperature will rise excessively, including an automobile with windows closed or an area exposed to direct sunlight. Otherwise, fire may result.
- This appliance is built with precision components.
Moving of the appliance must be accomplished by at least two persons with care.
- Relocation of this appliance must occur only after the power has been turned off and the AC plug and all other connecting cords have been disconnected.
Otherwise, cords may be damaged resulting in fire and/or electrical shock.
- Connection of other audio equipment to this appliance must proceed only after power to this appliance and equipment to be connected has been shut off and in strict compliance with the wiring instructions given in the manual provided with such equipment. Use of the designated cords is also a prerequisite.
- The loudness control must be set to the minimum before turning this appliance on.
Otherwise, unexpectedly loud sound may be produced resulting in impairment of hearing acuity.
- The power cord must be disconnected when not using of this appliance for an extended period of time (a month or longer). Otherwise, fire and/or electrical shock may result.
- Wet hands must not touch the AC plug. Otherwise, electrical shock may result.
- No cloth, blanket or the like must be placed over this appliance while its power is on. Trapped heat may result in fire.
- Maintenance of this appliance must occur only after the AC plug has been removed. Otherwise, electrical shock may result.
- Use of portable phones near the appliance is not recommended. Otherwise, noise may develop in this appliance.
- Use of this appliance near radio or TV sets may result in the development of noise. If this is the case, keep them apart.

Main features of NX-6A

• Woofer featuring the HR (Hyper Radial) diaphragm

The NX-6A employs the 160-mm woofer. It features the highly rigid HR (Hyper Radial) diaphragm, developed by using the latest diaphragm technology called "Radial paper-making technology". As a result, the NX-6A offers a rich low frequency sound with minimum distortion.

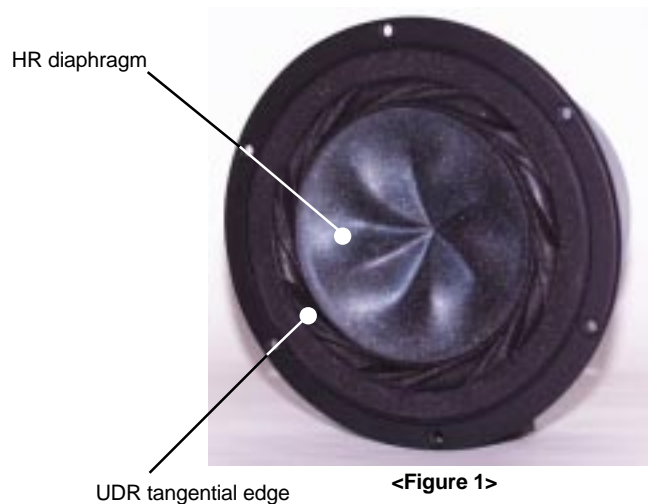
Furthermore, by using the "UDR tangential edge" for the woofer edge, it eliminates the unnecessary resonance and achieves pure and clear sound reproduction (see Figure 1).

Radial paper-forming technology

Using the radial paper-forming technology, speaker diaphragms are made from compound materials (pulp, fiber, etc.) in a radial shape. This technology allows you to make diaphragms with the desired thickness and strength, which results in improving the speed and extent of a sound.

UDR (Up/Down Roll) tangential edge

A revolutionary technology is used for the NX-6A woofer edge. The edge is created by joining up-roll and down-roll at their tangential surfaces while utilizing FEM model analysis to determined the optimum bonding points. The UDR tangential edge is adopted to the edge of the NX-6A woofer.



<Figure 1>

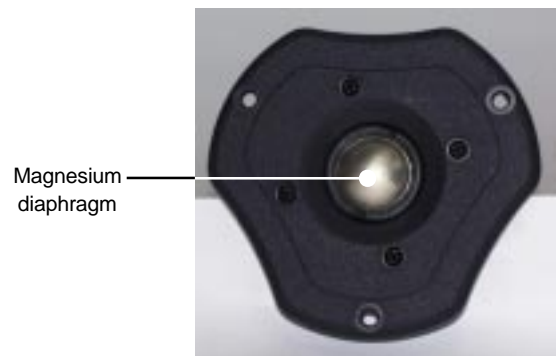
• Tweeter featuring magnesium diaphragm

The 20-mm hard dome tweeter employs the magnesium diaphragm. This tweeter produces natural and extended high frequencies, while eliminating a peculiar sound which most metallic tweeters may produce (see Figure 2).

• HP sound reflectors

The two HP sound reflectors are installed in the enclosure as shown in Figure 3. In the NX-6A enclosure, micron wool is also placed appropriately.

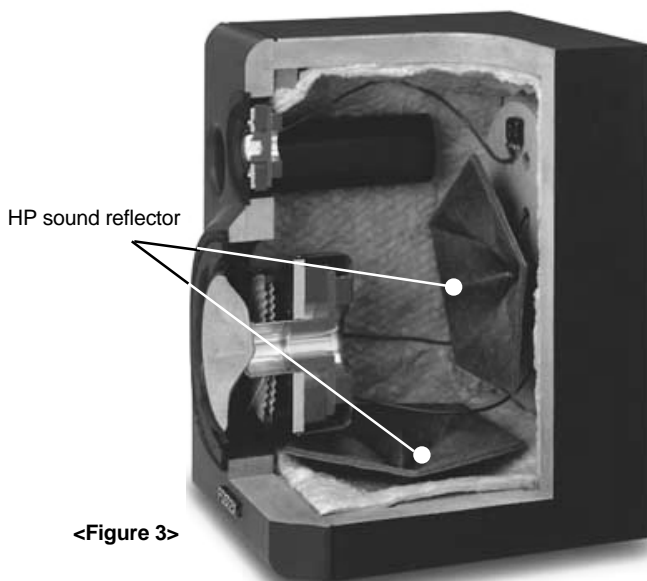
This configuration reflects the sound in the enclosure diffusely and creates the condition where stationary wave is decayed. The time alignment construction is adopted on the baffle surface of the enclosure, which allows to position each sound image accurately. The flush surface design eliminates sound blur.



<Figure 2>

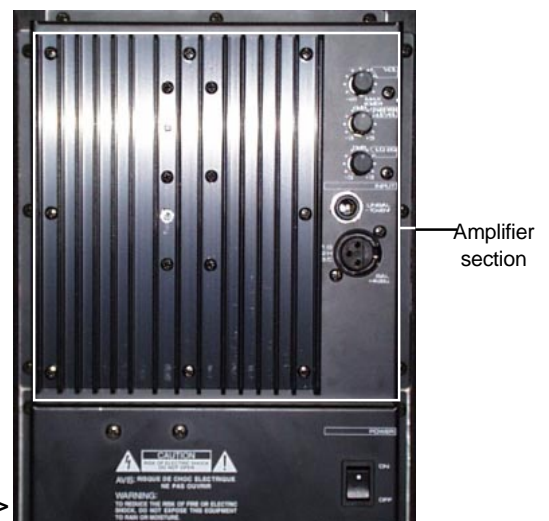
• Bi-amplifier power

The NX-6A utilizes a powerful bi-amplifier design (60W for the woofer, 40W for the tweeter). Driving each speaker unit independently eliminates audio impurity caused by the electric interference between the units. The built-in power amplifier also provides functions for compensating audio frequency characteristics to match the sonic character of a room, including the low frequency (around 55Hz range) equalizer and the tweeter level control. The power amplifier is equipped with both the balanced and unbalanced input connectors, allowing connection to any audio systems.



<Figure 3>

The arrangement example of the HP sound reflectors (the cut model above shows the inside of the Fostex NF-1).



<Figure 4>

Names and functions



- 1. Power LED**
Lights when power is turned on.
- 2. Output level control**
Adjusts output level.
- 3. Tweeter level control**
Adjusts tweeter level within a +/- 3dB range.



- 4. Low-frequency EQ control**
Adjusts low frequency characteristics (around 55Hz range) within a +/- 3dB range.
- 5. Unbalanced input terminal (Phone jack)**
Accepts -10dBV unbalanced input.
- 6. Balanced input terminal (XLR-3-31 type)**
Accepts +4dBu balanced input (hot pin is #2).

<CAUTION>: The balanced (XLR) and the unbalanced (phone) input connectors cannot be used simultaneously. When the unbalanced connector is plugged, the unbalanced input takes priority and the balanced input is disabled.

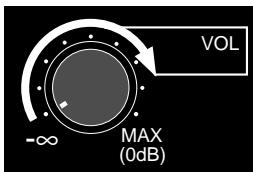
- 7. Heatsink**

<CAUTION>: If you use the NX-6A for a long time, the heatsink gets extremely hot. Do not touch the heatsink in such a condition.

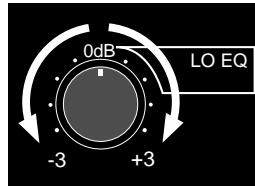
- 8. Power switch**
Turn the power on or off. Make sure that the output level control of the connected equipment is set to minimum when turning on the power.

- 9. AC IN connector**
Connects the AC cord provided.

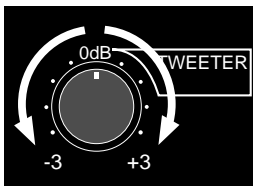
Level controls and EQ



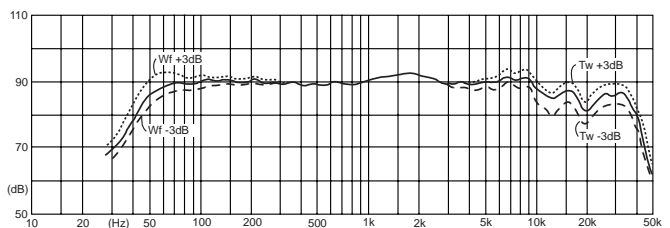
Output level control
Rotating the VOL control clockwise increases the output level.



Low (around 55Hz range) EQ
You can use the LO EQ control to boost/cut the low frequency (around 55Hz range) within the range of +/-3 dB. Turning the control right boosts the low frequencies, while turning it left cuts the low frequencies (see the graph below).



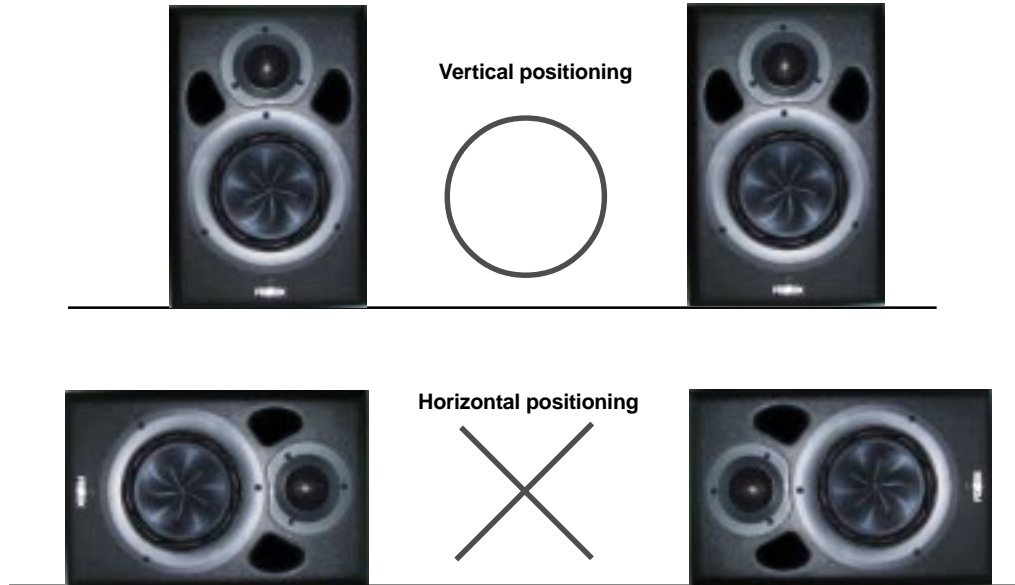
Tweeter level control
You can use the TWEETER control to adjust the tweeter level within the range of +/- 3 dB. The center position (0 dB) is the nominal position. Turning the control right boosts the tweeter level, while turning it left drops the level (see the graph right). When the unit is shipped, the TWEETER control is set to the center (0 dB).



Enclosure positioning

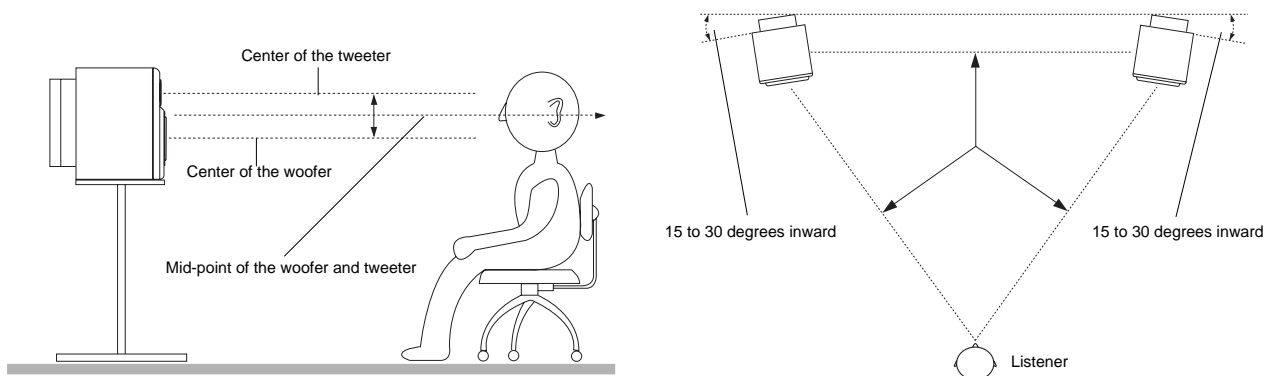
Adopting the time alignment construction, as well as mounting the woofer and tweeter closely, the NX-6A provides a wide monitoring area.

We recommend to install the NX-6As vertically, as shown below, not only from the point of view of audio phase characteristics but also from the point of view of radiation of the built-in power amplifier. As a human ear is sensitive in the left-right direction, setting the unit horizontally is undesirable from the point of view of phase characteristics.



• Optimal listening point and setting

To get the best of the NX-6A performance, set them at the appropriate height so that the middle point between the center positions of the tweeter and woofer matches the listener's ear height. Then, orient them 15 to 30 degrees inward to form a triangle as shown in the Figure below. The vertex of the equilateral triangle in the Figure is best listening position.



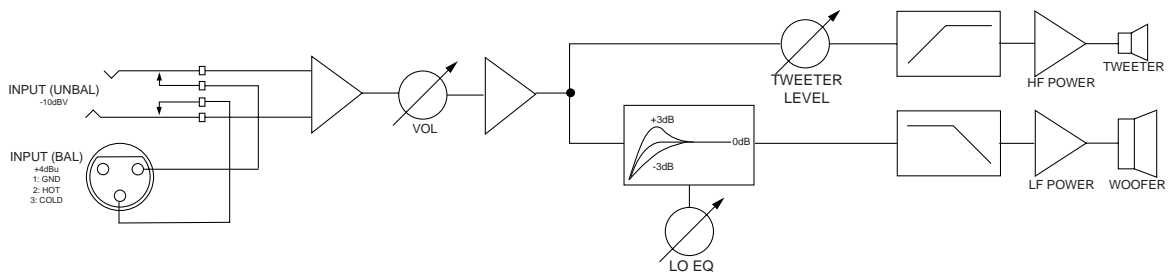
Maintenance precautions

Be careful when cleaning speaker/enclosure surfaces!!

* No protecting grilles or covers are provided with NX-6A. Brush off dust attached to surfaces of speakers with soft dusters. Avoid direct fingers or damp dust cloth contact with diaphragms.

* Stained enclosure surfaces must be wiped with tightly wrung-out soft cloth after immersion in a diluted detergent. Under no circumstances must organic solvents such as paint thinner be used.

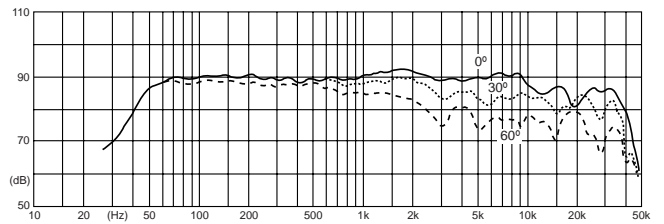
Block Diagram



Specifications

<Speakers>

- Enclosure system : 2-way bass-reflex system
- Drivers : 160 mm woofer
: 20mm hard dome tweeter
- Impedance : Woofer/6Ω, Tweeter/8Ω
- Reproduction freq. range : 55Hz to 38kHz
- Enclosure volume : 11 liters
- Maximum output sound level : 104 dB (with VOL max./rated input)



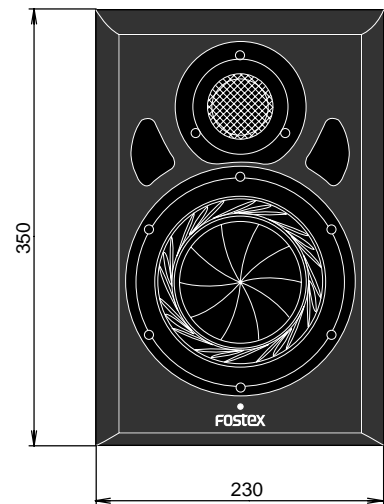
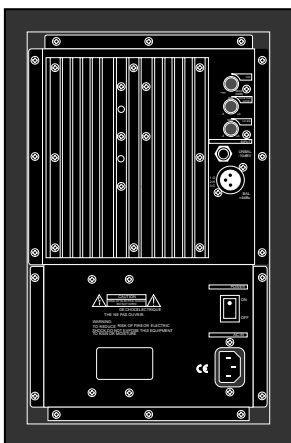
<Amplifiers>

- Output power : Low frequency amplifier: 60W
: High frequency amplifier: 40W
- *Output Level : -∞ ~ MAX (0dB) controllable
- Input terminals : XLR-3-31 type (balanced, Pin2: Hot),
+4dBu
: ø 6mm phone jack (unbalanced),
-10dBV
- Input impedance : 10kΩ or more
- Cross-over freq. : 6kHz/-18dB/oct. (Wf),
8kHz/-18dB/oct. (Tw)
- Tweeter SPL adjustable level : +/- 3dB controllable
- Lo-EQ level (around 55Hz range) : +/- 3dB controllable

- Specifications and appearance are subject to change with out notice for product improvement.

<General>

- Dimensions : 230 (W) x 350 (H) x 334 (D) mm
- Weight : Approx. 13 kg
- Power supply : 120VAC 60Hz, 230V ~ 50/60Hz
- Power consumption : 70W



Declaration of EC Directive

This equipment is compatible with the EMC Directive (89/336/EEC) - Directive on approximation of member nation's ordinance concerning the electromagnetic compatibility and with the Low Voltage Directive (73/23/EEC) - Directive on approximation of member nation's ordinance concerning electric equipment designed to be used within the specified voltage range.

The Affect of Immunity on This Equipment

The affect of the European Specification EN61000-6-1 (coexistence of electromagnetic waves - common immunity specification) on this equipment are as shown below.

In the electrical fast transient/burst requirements, surge, conducted disturbances by radio-frequency fields, power frequency magnetic field, radiate electromagnetic field requirements and static electricity discharging environment, this could be affected by generation of noise in some cases.

FOSTEX DISTRIBUTORS LIST IN EUROPE

* Including non-EU countries (as of January, 2005)

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