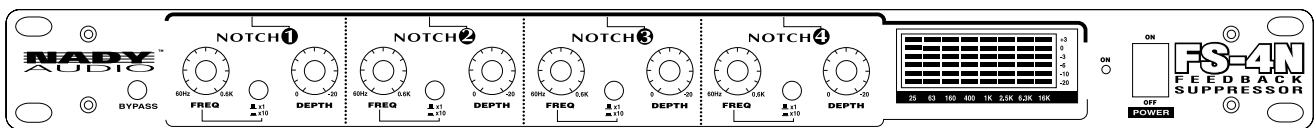




FS-4N

FEEDBACK SUPPRESSOR



OWNER'S MANUAL

FS-4N

FEEDBACK SUPPRESSOR



Congratulations!

You have purchased one of the finest professional feedback suppressors on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find your new NADY AUDIO FS-4N has superior performance and greater flexibility than any other feedback suppressor in its price range. Please read this manual carefully to get the most out of your new unit. Thanks for selecting NADY AUDIO as your choice in feedback suppressors.

Date of Purchase _____

Dealer's Name _____

City _____

State _____

Zip _____

Model# _____

Serial # _____

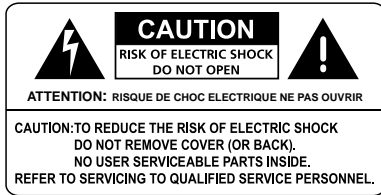
Features

Offering the ultimate ease of operation, the FS-4N is the straightforward solution to feedback and hum problems in live sound applications.

- Single rack space (1U) rugged metal housing for reliability
- Four extremely narrow (1/60 octave) notch filters, each independently adjustable from 60 to 6,000 Hz, allow quick elimination of unwanted problem frequencies without affecting the integrity of the overall sound.
- A control for adjusting the notch depth on each filter enables precise attenuation (up to -20 dB) at each selected frequency.
- A push button bypass switches all four notches in and out simultaneously for fast monitoring of results during use.
- An in-line 8-band audio spectrum analyzer LED display enables quick identification of the frequency range of any problem frequency, facilitating immediate reaction and suppression by the operator.
- 1/4" TRS balanced jacks for both SIGNAL IN and OUT
- Internal shielded power supply with external fuse and ~115V (60Hz) / ~230V (50Hz) AC select switch
- IEC power cord socket for AC operation and screw terminals for optional +24 VDC input powering

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An equilateral triangle enclosing a lightning flash/arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure which may be of sufficient magnitude to constitute a risk of electric shock.



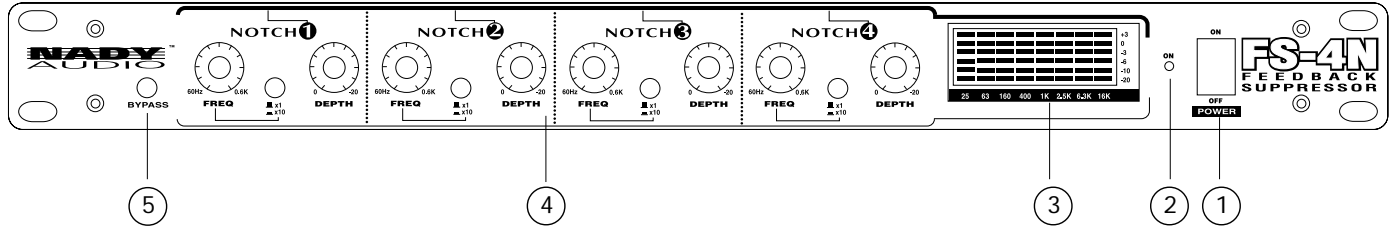
An equilateral triangle enclosing an exclamation point is intended to alert the user to the presence of important operating and service instructions in the literature enclosed with this unit.

IMPORTANT SAFETY INSTRUCTIONS

WARNING — When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, etc.).
3. This product should be used only with a cart or stand that will keep it level and stable and prevent wobbling.
4. This product, in combination with headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult a audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat vents, or other devices (including amplifiers) that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product. Replace the fuse only with one of the specified type and size and with the correct rating.
8. The power supply cord should : (1) be undamaged, (2) never share an outlet or extension cord with other devices so that the outlet's or extension cord's power rating is exceeded, and (3) be left plugged into the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall into, and liquids are not spilled through, the enclosure's openings.
10. The product should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged; or
 - B. Objects have fallen into, or liquid has been spilled onto the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond what is described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

FRONT PANEL



1. POWER SWITCH

To turn the unit ON or OFF, press the upper or lower portion of this button.

2. POWER LED INDICATOR

This LED illuminates when the power is turned "ON".

3. AUDIO SPECTRUM ANALYZER DISPLAY

This in-line 8-band audio spectrum analyzer enables quick identification of the frequency range of any problem frequency and allows monitoring of the amount of reduction selected in any of the notches. The display monitors both the input and output levels as selected by the Bypass switch (5). It monitors the output when the switch is IN (down), and the input when the switch is OUT (up) for bypass mode. The audio spectrum display has a range of 25Hz to 16 KHz in 8 frequency bands, with 6 LEDs in each tree indicating levels from +3 to -20dB.

4. NOTCH FILTERS

Use these notch filters to control up to four different feedback (howling or screeching resonances) frequencies independently.

a. FREQUENCY SELECT CONTROL

Adjust the desired suppression frequency for each notch independently with this control. The filters are extremely narrow (1/60 octave) so take care in properly tuning out the desired feedback.

b. SCALE FREQUENCY MULTIPLIER SWITCH

Use this switch to select either X1 (up) or X10 (down) multiplier of the frequency scale on the Frequency Select Control as needed to "tune in" on the desired suppression frequency.

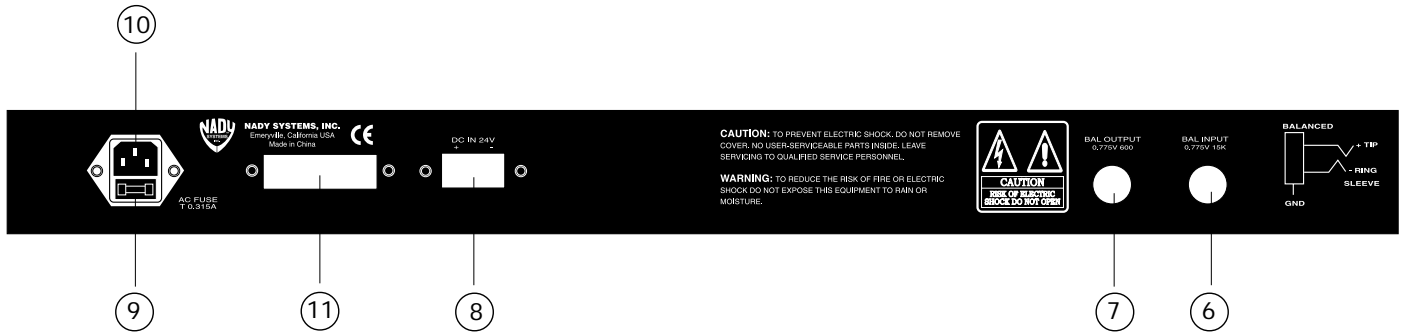
c. NOTCH DEPTH CONTROL

Use this control for precise adjustment of the amount of attenuation (up to -20dB) necessary to suppress the selected feedback frequency. For the least effect on your overall sound, adjust the attenuation to just below the amount needed to suppress feedback.

5. BYPASS IN/OUT SWITCH

Use this switch to select all 4 notches simultaneously either IN (down) or bypassed OUT (up) for fast monitoring of results during use.

REAR PANEL



6. **BALANCED SIGNAL INPUT JACK (1/4" TRS)**

This 1/4" TRS (Tip/Ring/Sleeve) phone jack is wired for balanced input signals (0.775V=0dBm, 15K Ohms) and signal polarity is Tip = Cold (+), Ring = Hot (-), and Sleeve = Ground.

7. **BALANCED SIGNAL OUTPUT JACK (1/4" TRS)**

This 1/4" TRS jack provides a balanced signal output (600 Ohms) and is wired with the same signal polarity as the Input Jack above.

8. **24 VDC TERMINAL**

Use this screw terminal to operate the unit with external 24 VDC powering, either from a power supply or a battery. Observe the correct polarity (+ and -) when making connections as marked on the terminal. The power requirement is 250 mA.

9. **AC FUSE HOLDERS**

This fuse holder contains an AC primary fuse. When this fuse blows, replace it with the same type fuse, size and power rating (120 VAC: 0.315A/250V; 230 VAC: 0.2A/250V). If it continuously blows, stop replacing the fuse and refer servicing to qualified personnel.

CAUTION: After checking the AC supply voltage, be sure that the correct fuse is in the fuse holder.

10. **POWER CONNECTOR**

The IEC cord connector is used to connect the AC power source to your power amplifier.

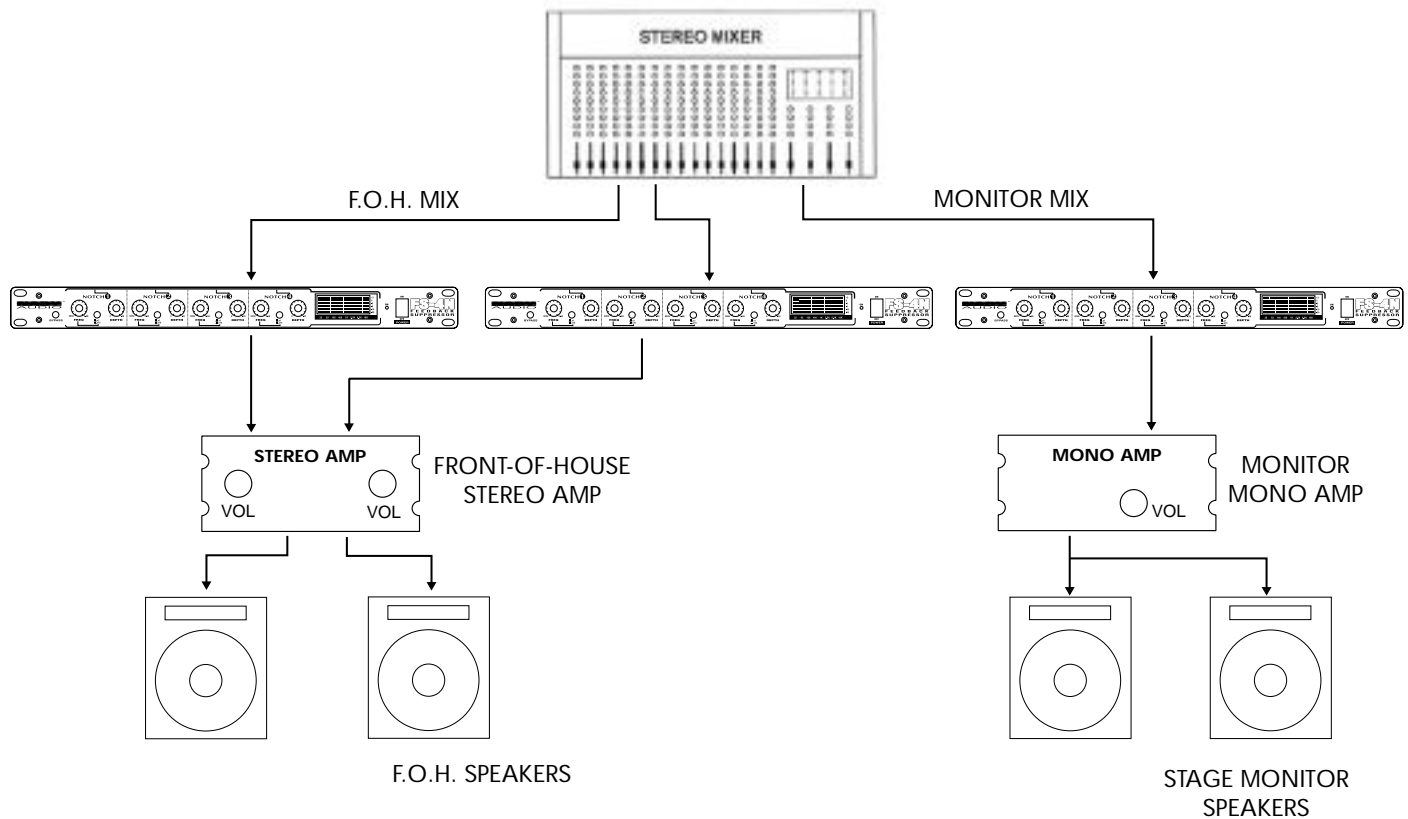
CAUTION: DO NOT REMOVE THE CENTER GROUNDING PIN.

11. **AC VOLTAGE SELECTOR SWITCH**

Before plugging in the power cord, check to see that the unit is set for the proper voltage for your area: ~115V (60Hz) or ~230V (50Hz).

TYPICAL SETUP

The FS-4N Feedback Suppressor is typically connected between the mixer and other effects or processors and/or the power amplifier in live sound applications. The entire audio in a given setup should feed through the FS-4N so that you may control all hum, noises and feedback appearing anywhere in the signal you are amplifying. Since both monitor (if used) and FOH (Front-of-House) amplification may cause feedback, it may be necessary to suppress frequencies in each loop. Furthermore, you may also be using a stereo FOH mix. Since the FS-4N is a mono unit, up to three units may be needed in stereo live sound setups for total control of the monitor and each side of the stereo FOH amplification.



NOTE: Insert any processors, EQ's, etc. between the mixer and the FS-4N. The Feedback Suppressor should be the last processor in line before connecting the audio to the amplifier.

SPECIFICATIONS

INPUT CONNECTOR:	One 1/4" TRS phone jack
INPUT SENSITIVITY:	0.775 (0dBm)
INPUT IMPEDANCE:	15 K ohm balanced
OUTPUT CONNECTOR:	One 1/4" TRS phone jack
OUTPUT LEVEL:	0.775 (0 dBm)
OUTPUT IMPEDANCE:	600 OHM BALANCED
FREQUENCY RESPONSE:	20Hz~20KHz, < ±1.0 dB
SIGNAL-TO-NOISE RATIO:	> 68 dB
T.H.D.:	< 0.4%
NOTCH FILTER FREQUENCY RANGE:	60 HZ ~ 6 KHz, continuously variable
NOTCH DEPTH:	0 ~ -20 dB
POWER CONSUMPTION:	5.5 Watts
POWER SOURCE:	AC: 120V/230V, 50/60 Hz; DC: 24V
FUSE REQUIREMENTS:	120 VAC: 0.315 A / 250V; 230 VAC: 0.2A / 250V
DIMENSIONS:	19" X 1.75" X 8.3" (483 X 44 X 210mm), 1U rack height
WEIGHT:	6.6 lbs (3.0 Kg)

Note: *For improvement purposes, specifications, design and appearance are subject to change without prior notice.*

SERVICE

(U.S.) Should your NADY AUDIO product require service, please contact the Nady Service Department via telephone at (510) 652-2411 or E-mail at *service@nadywireless.com*.

(INTERNATIONAL) For service, please contact the NADY AUDIO distributor in your country through the dealer from whom you purchased this product.

DO NOT ATTEMPT TO SERVICE
THIS UNIT YOURSELF AS IT CAN
BE DANGEROUS AND ALSO WILL
VOID THE WARRANTY.



NADY SYSTEMS, INC. • 6701 SHELLMOUND STREET • EMERYVILLE, CA 94608
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