NADY™
AUDIO

OWNER'S MANUAL

DSP 256

18-bit Digital Sound Processor

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DSP 256 — *18-bit Digital Sound Processor*

Congratulations on your purchase of the DSP 256 - you have purchased one of the finest compact sound processors on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find that your new NADY AUDIO sound processor has superior performance and greater flexibility than any other sound processor in its price range. Please read this manual carefully to get the most out of your new unit.

FEATURES

- 16 essential effects programs including ultra smooth, clean, clear hall, room, plate and gated reverbs; chorus; flanging; delays; combination chorus/reverb; and even rotating speaker effects
- Each program offers 16 parameter adjustments for a total of 256 discrete effects variations
- Easy to use, the DSP-256 offers input, output, mix, program and variations select controls
- 1/4" stereo I/O and bypass (for footswitch control) connectors
- AC adapter (supplied)
- Housed in a small, rugged, easily portable, all-metal 1/3 rackspace rack mountable or tabletop package
- DSP-256 is versatile, affordable and sounds great - perfect for live performance, multitrack recording and mix down, and project studios

Date of Purchase _____

Dealer's Name _____

Address _____

State _____ Zip _____

Serial # _____

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An equilateral triangle enclosing a lightening 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

When using this electronic device, basic precautions should always be taken, including the following:

1. Read all 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 an audiologist.

5. The product should be positioned so that proper ventilation is maintained.

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, size, and 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) never be left plugged into the outlet when not being used 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 if:

A. The power supply cord or the plug has been damaged.

B. Objects have fallen into, or liquid has been spilled onto the product.

C. The product has been exposed to rain.

D. The product does not appear to operate normally or exhibits a marked change in performance.

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.

To ensure years of enjoyment from your NADY AUDIO DSP 256 sound processor, please read and understand this manual thoroughly before using the unit.

INSPECTION

Your DSP 256 was carefully packed at the factory in packaging designed to protect the units in shipment. Before installing and using your unit, carefully examine the packaging and all contents for any signs of physical damage that may have occurred in transit.

(Note: Nady Systems is not responsible for shipping damage. If the unit is damaged, do not return to us, but notify your dealer and the shipping company immediately to make a claim. Such claims must be made by the consignee in a timely manner.)

CONTENTS:

- Instruction manual
- DSP 256 (verify that the same serial number is same as shown on shipping carton)
- AC Power supply adapter
- Warranty Card

DESKTOP USE

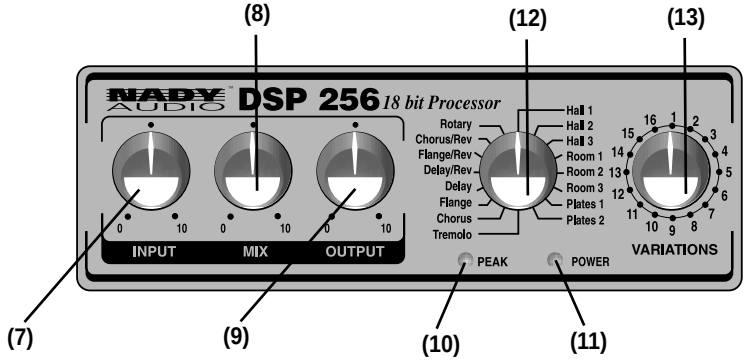
The DSP 256 may be placed anywhere safely as needed where it will not fall or be possibly damaged. Attach the rubber feet provided to the bottom of the unit if the unit is placed on a surface you wish to protect from damage.

(Note: The DSP 256 itself doesn't generate any magnetic or hum fields, but it may pick up hum or noise from fields generated by power amplifiers. If it does, re-position the unit to eliminate the noise. Since the DSP 256 adapter may generate hum fields, locate it away from other audio equipment or wiring as much as possible.)

RACK MOUNTING

The DSP 256 has single rack height, and up to three DSP 256s may be mounted side-by-side in a standard universal 19" equipment rack available from various rack manufacturers or your music dealer. See **AC Power Hookup** on page 12 for information regarding avoiding grounding problems when rackmounting, if they should arise.

Controls, Connections, and Operation
Front Panel Controls and Use



Before using the DSP 256 it is best to familiarize yourself with the functions of all the controls and connections. After you have set up your unit in your application, you should refer back to these descriptions to fully optimize your operation of the DSP 256.

(7) Input Level Control

This sets the level going into the DSP 256. It controls both the Left and Right Input levels simultaneously. In order to achieve the maximum signal-to-noise ratio, you must properly set the input and output levels, typically at 75% of full for both the input and output level controls. This will decrease the possibility of overload distortion and minimize background noise.

Turn down this control or decrease the volume of the source (instrument, mixer send, etc.) if the **PEAK LED (10)** on the DSP 256 lights more than just occasionally. If the connected mixer or amplifier distorts, turn the **OUTPUT LEVEL (9)** down. For more detail on level setting, see page 10.

(8) Mix Control

This sets the balance between the direct signal coming into the input and the effects generated by the DSP 256. Turn the control to the right to hear more effects; turn it to the left to hear more of the source signal. Keeping this control somewhere in the center will result in a blend of dry and wet signal. The setting you choose depends on the application and desired result. For example, when using the DSP 256 between a guitar and the guitar amp, the control setting should typically be somewhere in the middle, balancing the effects with the sound of the source instrument. On the other hand, if the DSP 256 is connected to a mixing console's Aux Send, the control should be set all the way to the right (effects only) so that the balance can be controlled from the board.

(9) Output Level Control

This sets the DSP 256 output level fed to the amplifier or mixer. For optimum signal to noise and to minimize possible distortion, this control is typically set at 75%, but you can adjust as needed in your application.

(10) Peak LED

This displays the signal level being processed by the DSP 256. If the signal level is at overload, this LED will light red continuously and you might begin to hear the signal distort. Back off the **INPUT CONTROL (7)** until the LED lights only occasionally.

(11) Power LED

This is lit whenever the DSP 256's power adapter is plugged in.

(12) Program Select Control

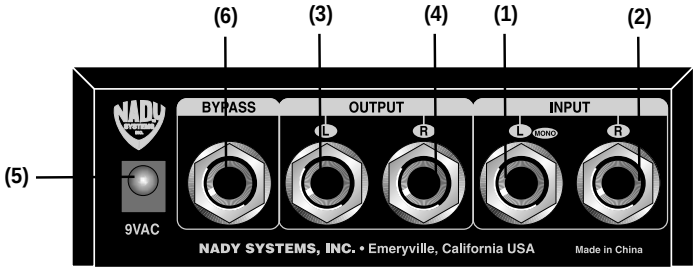
This selects your desired program. The DSP 256 offers 16 preset effects algorithms, designed for optimum usefulness for any effects applications from guitar setups to studio recording. To audition these programs, turn the control to scroll through each of the 16 presets.

(13) Variations Select Control

Use this control to edit any of the sixteen DSP 256 programs. Depending on the **PROGRAM (12)** selected, the function of this control will change. For example, it will adjust delay length on a Delay program, amplitude modulation rate on the Tremolo program, etc.

(Note: The VARIATIONS knob is always active. Since the previous setting will remain the same during program changes, you will need to re-adjust this knob when you change to a new program.)

Rear Panel Connections and Use



(5) Power Jack
This is a plug for connecting the Nady 9VAC power supply adapter (supplied). The DSP 256 comes with a power adapter suitable for the voltage of the country it is shipped to (either 110 or 220V, 50 or 60Hz).

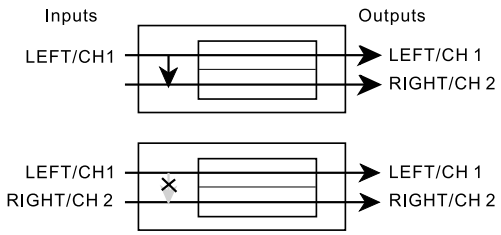
(Note: The correct power supply must be used AT ALL TIMES - any other power supply might create a fire risk and/or permanently damage your unit. This damage would NOT be covered under your warranty.)

(6) Bypass Jack
This is a 1/4" phone jack for connecting to an effects bypass footswitch. You can bypass the effects in two ways, thus allowing the direct signal to pass through the DSP 256 unchanged:

• Turn the **MIX (8)** control all the way to the left

• Connect a footswitch to this jack and press the footswitch. Each time this footswitch is pressed, the Bypass mode will turn on and off alternately

(1) & (2) Input (Left/Mono & Right) Jacks
These 1/4" unbalanced phone jacks connect to sources such as the effects sends of mixing consoles. They may be used with nominal input levels from -20dBV (guitar level) to +4dBu.



The DSP 256's **LEFT INPUT jack (1)** is also normalized internally to the **RIGHT INPUT jack (2)**, so if you only connect a single mono cable to the **LEFT INPUT** jack, it will also be routed to the **RIGHT INPUT**. However, if anything is connected to the **RIGHT** jack, this normalized connection will be broken; in this case the **LEFT INPUT** jack will feed only the **LEFT INPUT**, and the **RIGHT INPUT** jack feeds only the **RIGHT INPUT**. Also, the **RIGHT INPUT** jack is NOT normalized to the **LEFT.**

(3) & (4) Output (Left & Right) Jacks
These 1/4" unbalanced phone jacks connect to devices such as the effects returns, channel inputs or inserts on a mixing console or power amplifier inputs. For mono applications, use the **LEFT (3)** output.

Setup and Operation

The audio inputs and outputs of the DSP 256 are typically used in one of two ways:

1. In from a line-level instrument (e.g., guitar or keyboard with either a mono or stereo output), and out to an amplifier or mixer input
2. In from one or two effect/aux send or channel insert outputs of a mixer, and out to the effect return or channel insert inputs of the mixer
3. In from the stereo buss outputs of a mixer, and out to a recording machine or amplifier.

Connecting Directly to an Instrument

The DSP 256 has two each 1/4" unbalanced inputs and outputs. These provide three different audio hookup options:

(Note: All devices in your system must have their volume controls turned down whenever you connect audio cables and/or turn the power on and off.)

Connecting to a Mixer Console

The input circuitry of the DSP 256 has a wide dynamic range and can handle mono or stereo sends system levels ranging from the higher professional +4 dBu levels (+20 dBu peaks) to the lower -10 dBu signal levels of home recording systems.

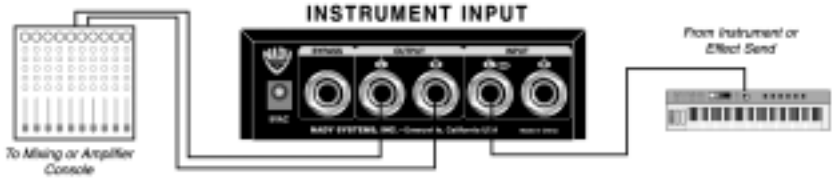
The DSP 256 may be connected to a mixer in several different ways. For example, it can be used to "effect" multiple channels at once by using the auxiliary send and return controls of the mixer, it can be connected directly to the insert send and return patch points of a single channel that is to be "effected", or it can be inserted between the output of your mixer and the input of a recording deck or power amplifier if you want effects on the entire mix.

Depending on the type of mixing console or powered mixer you are using there are many ways to make the connections you'll need for the application you are intending. Before connecting your DSP256 you should study your mixer's owner manual carefully to fully understand how its connections can best be utilized for operation with an external effects processor. For example, some consoles offer both pre and post aux sends. Typically pre-fader sends are used for creating cue mixes and post-fader sends for inputting external effects units. Also, there are different benefits to returning effects devices to mixer aux returns vs. connecting to channel inputs. In addition, some mixers offer channel "inserts" which allow you to dedicate the DSP 256 to a specific channel and require special 1/4"TRS Y-cables for proper connection. After you've made your connections you also will need to optimize the send and return levels on the mixer for proper operation with the DSP 256 and clean, clear and quiet sound. Your mixer manual is the best source for more explanation of the options and recommended operation.

Typical Connections

1. Mono In, Mono or Stereo Out

Connect a mono source to the **LEFT/MONO INPUT (1)** of the DSP 256 from a mono source. (The Left input will feed both inputs.) Connect the **LEFT OUTPUT (3)** of the DSP 256 to an amplifier or mixer input. For stereo output, connect the **RIGHT OUTPUT (4)** also to the stereo amplifier or second mixer input.



2. Stereo

Connect the **LEFT/MONO (1)** & **RIGHT INPUT (2)** of the DSP 256 to a stereo source, and the **LEFT/MONO (3)** & **RIGHT OUTPUTS (4)** of the DSP 256 to a stereo amplifier or two mixer inputs. If you connect to a mixing console's aux sends/returns, turn the **MIX (8)** control fully clockwise so that the DSP 256 outputs only wet (effected) signal. Stereo returns are most useful on the true stereo chorus program, so you can assign the left and right channels. For reverb and delay programs only a mono input is needed.