

NADY[®] AUDIO

OWNER'S MANUAL



SPM-9700

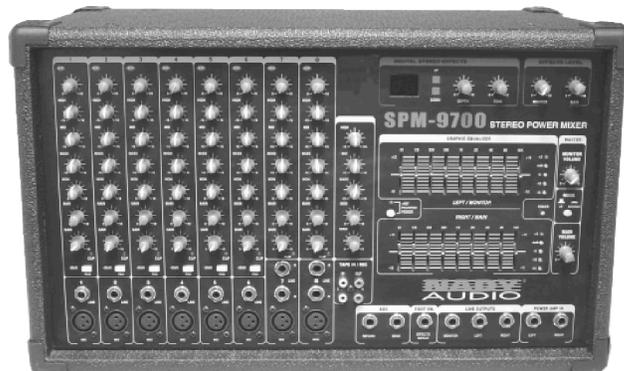
9 Channel Stereo Powered
Mixer w/ DSP Effects

SPM-9700

9 Channel Stereo Powered Mixer with DSP Effects



Congratulations on your choice of the SPM-9700 stereo powered mixer — you have purchased one of the finest stereo powered mixing units 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 SPM-9700 has superior performance and greater flexibility than any other stereo powered mixer 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 stereo powered mixing unit.



FEATURES

- 9 channel powered mixer including 6 mono channels, 2 dual mono channels, and 1 stereo tape/CD/MP3 channel consisting of 8 balanced XLR mic inputs, 10 balanced/unbalanced 1/4" TRS line inputs, and stereo RCA jacks, with an Aux Return making a total of 13 simultaneous inputs!
- Dual 350W RMS (@4Ω) amplifiers can be switched to power Left and Right stereo outputs or Main and Monitor speakers, delivering a possible 700W of RMS power. Advanced design features include fan cooling, short circuit protection, current limiting, speaker DC protection circuits, clip indicators for utmost safety and reliability and power ON/OFF anti-thump circuit for quietest operation
- 20dB pad for each single mono channel
- Built-in DSP Echo Effects (reverb) having 16 selectable echo intervals with numeric display, separate Effect level for each channel, Master Effect Depth and Tone controls, plus Main and Monitor Effect level controls.
- Each channel includes Gain, Main Volume, Monitor Volume, and Effect level controls, 3 band EQ and input signal 20dB pad switches and Peak Indicator LED's
- 9 band stereo master graphic EQ's for either Left and Right or separate Main and Monitor EQ settings
- Selectable global 48V phantom power on XLR mic inputs
- Dual 5 LED bargraph level displays with red clipping Indicator
- Left/Right or Main Master, and Monitor Out level controls
- Tape Input RCA jacks with Main and Monitor volumes, 3-band EQ controls, and Record Out stereo jacks
- Master section also includes Aux Send and Return, Left-Right and Monitor line outputs, Left and Right Power Amp Inputs and Effects Footswitch jack
- Rugged road carrying case with reinforced corners and carrying handles for long life and easy portability
- Dimensions & Weights: (HWD) 12.3" x 20.7" x 12" (312 x 526 x 305mm); 43.7 lbs. (19.8 Kg)

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Date of Purchase _____

Dealers Name _____

City _____

State _____ Zip _____

Model# _____

Serial# _____

WARNING



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

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.

INSTALLATION

To ensure years of enjoyment from your NADY AUDIO SPM-9700 powered mixer, please read and understand this manual thoroughly before using the unit.

A) INSPECTION

Your NADY AUDIO SPM-9700 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.

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

B) SETUP AND OPERATION

Parts of the unit can become very warm during use. This is normal during operation. Care should be taken to ensure that there is enough space around the unit for cooling. Also, do not place the SPM-9700 on high temperature devices such as power amplifiers, etc., or the unit may overheat in operation.

Although the unit's chassis is shielded against radio frequency (RF) and electromagnetic interference (EMI), extremely high fields of RF and EMI should be avoided.

Please make sure that the power unit supplied is marked for the correct voltage in your area (120VAC/60 Hz or 230VAC/50 Hz). Power requirements for electrical equipment differ from area to area. In new installations and portable sound systems, or any situation in which the AC power is in question, it is wise to confirm the voltage and use the appropriate power supply unit before connecting it to power sources.

Europe (except UK): 230V, 50Hz

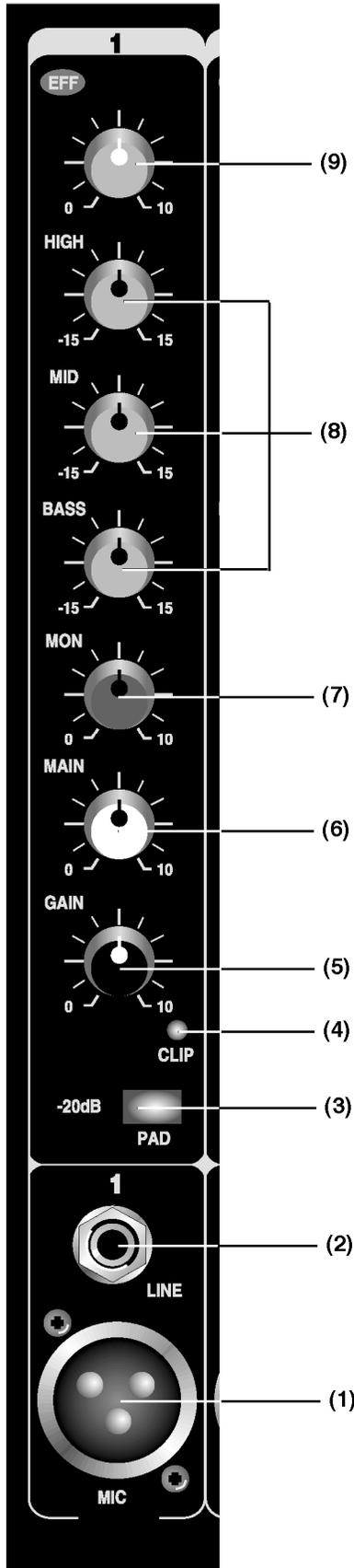
UK and Australia: 240V, 50Hz

USA and Canada: 120V, 60 Hz

For other areas, please check with local authorities.

When ready to operate, plug the AC cord into the power source. Make sure that the unit is turned off before connecting to the AC power source to avoid possible loud transients which can damage your speakers or your ears. Set the **MASTER LEFT-RIGHT/MAIN (24)** and **MONITOR (23) VOLUME** controls to minimum to further reduce the chance of undesired noise when first powering up. Turn on your SPM-9700 by pressing on the rear panel **POWER ON/OFF SWITCH (32)**.

A) CHANNEL SECTION



(1) MIC INPUT

This electronically balanced XLR input is designed to accept signals from any balanced or unbalanced low impedance (Low Z) microphone. The XLR jack is configured for: Pin1 = ground, Pin2 = positive (+), Pin3 = negative (-).

(2) LINE INPUT

This 1/4" input is designed to accept balanced or unbalanced line-level signals such as those from keyboards, drum machines, or samplers. If a balanced signal is to be connected to the line input, then a 1/4" TRS (stereo) phone plug should be wired for: Tip = positive (+), Ring = negative (-), Sleeve = ground.

[Note: Only the Mic or the Line input of a given channel should be connected at one time. Do not connect both at the same time.]

(3) PAD

This push button switch attenuates the input signal by 20dB. When connecting a line level device to the XLR input, using hot signals, or if the mic input is distorted, depress this switch to the position of -20dB.

(4) PEAK LED INDICATOR

The PEAK LED illuminates when a channel input is overloading. It detects the peak level after the **EQUALIZER CONTROLS (8)** and will light just before clipping to warn that the signal is approaching overload. You do not want the Peak LED to light except very intermittently. If it lights persistently, reduce the **GAIN CONTROL (5)**.

(5) GAIN CONTROL

The GAIN control adjusts the input sensitivity of the mic and line inputs on each channel. This control can be adjusted to accommodate input signals from a wide variety of sources, from the high outputs of keyboards or drum machines to the small signal outputs of microphones. The best balance of S/N and dynamic range will be achieved if you adjust the GAIN control on each channel separately so that the maximum level signal can be input without distortion. While speaking, singing, or playing an instrument at maximum performance level, increase the GAIN control until the **PEAK LED (4)** flashes, then turn down the GAIN control until the flashing stops. If the GAIN control must be set to minimum to keep from peaking, try switching on the **PAD (3)**.

(6) MAIN / LEFT-RIGHT LEVEL

This controls the volume of the channel signal sent to the Left-Right or Main bus.

(7) MONITOR LEVEL

This controls the volume of the channel signal sent to the Monitor bus. When the **POWER AMP MODE SWITCH (22)** is set to MON/MAIN, this only controls the Monitor signal sent to the **MONITOR LINE OUTPUT (29)**.

(8) EQUALIZER CONTROLS

All channels are fitted with a three-band EQ — HIGH, MID, and LOW. All three bands have up to 15 dB of cut and boost, with a center detent for OFF. The frequency response is flat when all three EQ knobs are in the center detent position. The HIGH and LOW shelving controls have their frequencies fixed at 12 KHz and 90Hz respectively. The MID control has a peaking response at 2.5KHz. The channel EQ is a valuable feature of the mixer as it allows the user to control the tonal

CONTROLS AND CONNECTIONS

characteristics of each channel separately. For example, boosting the LOW can fatten the sound, add warmth to vocals, or extra punch to bass, drums and synths; the MID control can be used to define the midrange or bring out the vocals; and adjusting the HIGH control can provide a crisp sounding high end. Another very important, yet often overlooked technique is to use the EQ to subtract from the mix. Cutting the HIGH control can reduce unwanted sibilance, hiss, cymbals, or high frequency feedback, while attenuating the MID or LOW can also eliminate feedback or clear up a muddy sounding mix. Cutting the HIGH and LOW, then pushing up the **MAIN LEVEL CONTROL (6)** is equivalent to mid range boost!

[Note: Always reset a channel's input **GAIN CONTROL (5)** (or external device's output level) after altering the amount of equalization.]

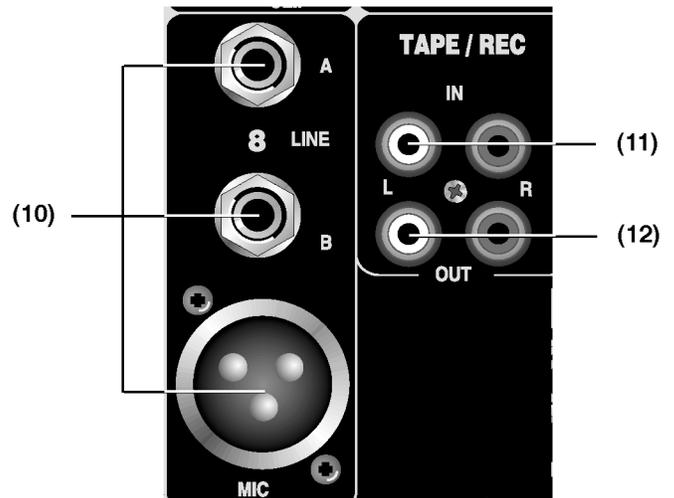
The key to successful equalization is to avoid excess. Too much equalization on the input channels will result in a mix that is smeared together with nothing specifically defined. Experiment with the equalizer controls on various instruments, vocals and combinations of these mixed together to become familiar with various equalizer settings.

(9) CHANNEL EFFECTS LEVEL

The EFFECT control adjusts the signal level sent by each channel to the internal ECHO EFFECTS DSP (Digital Sound Processor). The EFFECT level controls are mono and post Channel EQ and post Channel Level controls. This control also adjusts the level of the signal sent to the **AUX SEND (26)**.

(10) DUAL MONO CHANNELS

Channels 7 and 8 have balanced XLR mic inputs and dual mono



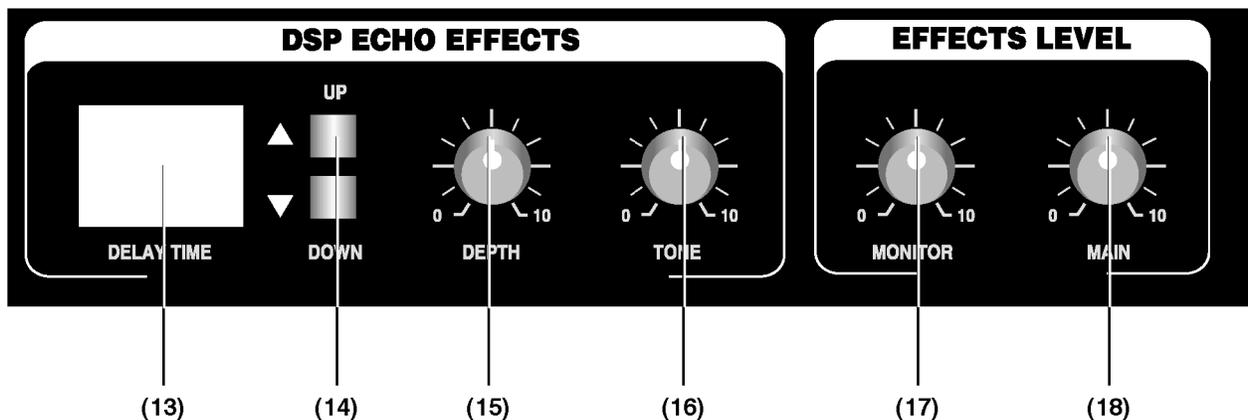
1/4" line inputs. These line inputs can be used simultaneously for different instruments. These channels do not have 20dB pads.

(11) TAPE IN

The Left and Right TAPE INPUT RCA jacks allow cassette recorders, CD players, or MP3 players to be added to the master mix output. Channel 9 Tape Input has L-R/MAIN and MONITOR level controls as well as 3-BAND EQ controls.

(12) RECORD OUT

The RECORD OUTPUT Left and Right RCA jacks provide signal output to recording devices, home audio equipment, or external amplifiers. These outputs take the signal from Main bus before the **MAIN MASTER VOLUME (24)**. They are post Master Echo Effects and pre Master Main Volume.



B) MASTER ECHO EFFECTS SECTION

(13) ECHO EFFECTS DISPLAY

This numeric Effects Display will indicate which of the 16 echo presets has been selected.

(14) ECHO TIME SELECT BUTTONS

These UP and DOWN buttons select one of 16 preset time intervals of the built-in Echo Effects DSP (Digital Sound Processor). Setting 1 selects the shortest echo time to emulate plate and doubling ef-

fects whereas setting 16 enables the longest echo time for stadium reverbs and delay sounds. Settings around 7 - 9 emulate room and hall reverbs by adjusting the channel **EFFECTS LEVEL (9)**, **ECHO DEPTH (15)**, and **MAIN (17)** or **MONITOR (18) EFFECTS VOLUME** controls to approx three o'clock.

(15) ECHO DEPTH

This control adjusts the number of repeats and feedback/depth of the echo effect selected. Turning the control clockwise sets the repeats to maximum for lengthy echoes or plate effects. Turning

CONTROLS AND CONNECTIONS

the control counter-clockwise sets one repeat for single delay or doubling effects.

(16) ECHO TONE

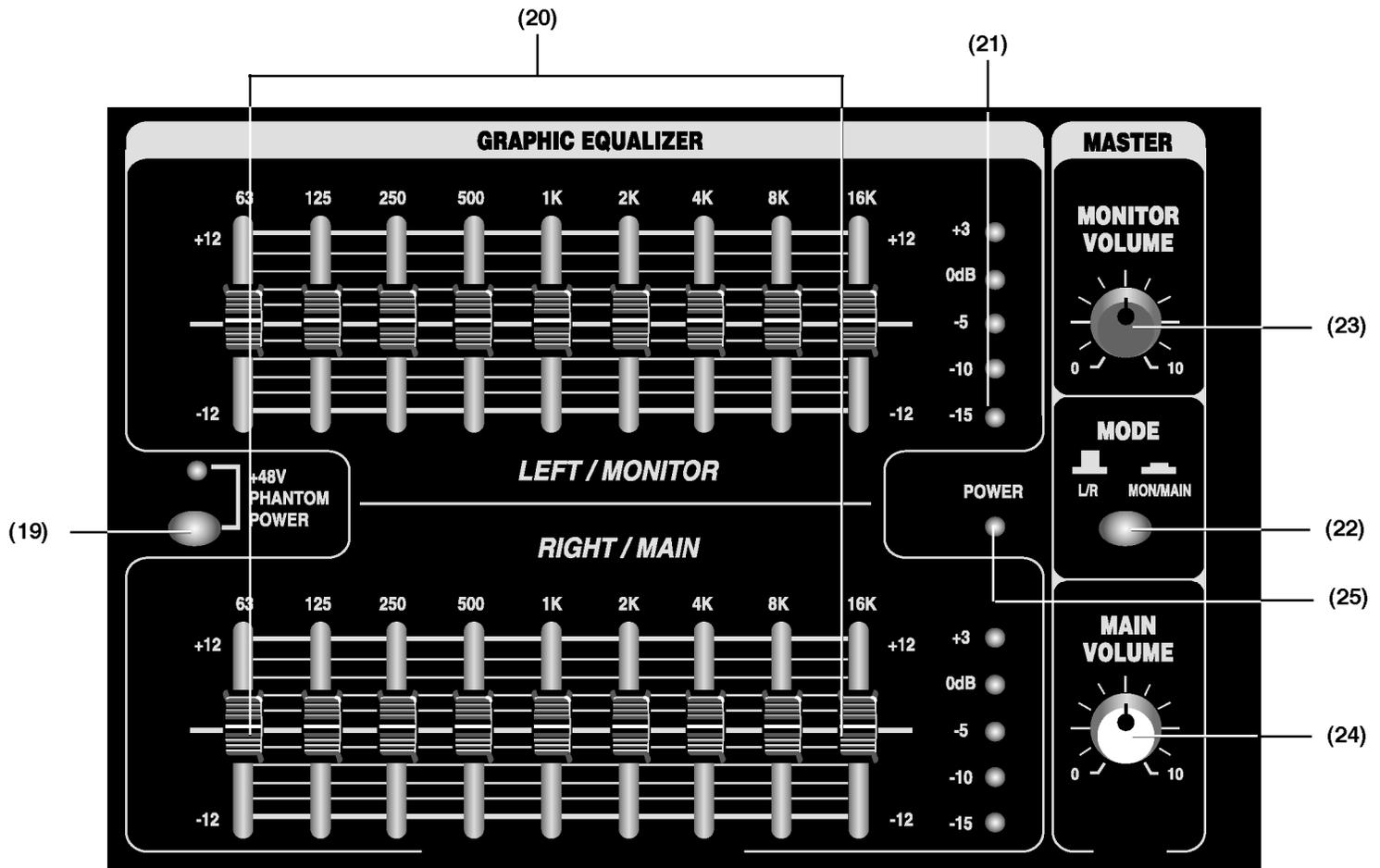
This control adjusts the tone of the Effects signal. Turning counter-clockwise will create a bassier sound while turning clockwise will produce more sibilance and accentuate the treble of the Echo Effects.

(17) EFFECTS MONITOR VOLUME CONTROL

This adjusts the level of the Echo Effects signal, and **AUX RETURN (27)** signal, sent to the Monitor bus.

(18) EFFECTS L-R / MAIN VOLUME CONTROL

This adjusts the level of the Echo Effects signal, and **AUX RETURN (27)** signal, sent to the Left-Right or Main bus.



3. MASTER CONTROL AND EQ SECTION

(19) PHANTOM POWER

When this switch is depressed, +48V of phantom power will be supplied to the mic channels. The LED will illuminate when the switch is depressed to ON.

*[Note: When turning on the **PHANTOM POWER (19)** switch, turn the Master Volumes to minimum.]*

(20) DUAL CHANNEL GRAPHIC EQUALIZER

The 9-band channel graphic equalizer allows you to adjust the frequency response of the L and R, or Main and Monitor, master bus signal, providing a maximum of ± 12 dB of cut and boost for each frequency band from the flat position. The top EQ is for the Left channel when in L/R mode and for the Monitor when in Main/Monitor mode. The bottom EQ is for the Right channel when in L/R mode and for the Main output when in Main/Monitor mode. This EQ

can be used to shape and mold the tone of your audio and easily eliminate feedback at notch frequencies without overly affecting your sound.

(21) DUAL CHANNEL LED VU METER

These 5-stage stereo output LED meter displays will display the relative output level of the Left and Right, or Main and Monitor, power amps. They can be used to maintain proper levels in the master mix. The top red Peak LED will light when the output signal is just below clipping. It is acceptable if the red LED lights occasionally. If the red LED lights more than occasionally, you should turn down the corresponding volume control to avoid audible distortion and clipping, which can cause damage to your speaker and even the internal amplifier.

CONTROLS AND CONNECTIONS

(22) POWER AMP MODE

The POWER AMP MODE push-button switch allows you to select the signal that will be output from the built-in dual channel amplifier. When the button is out, STEREO L-R is selected. Depressing the button selects MAIN/MONITOR mode.

(23) MONITOR MASTER VOLUME

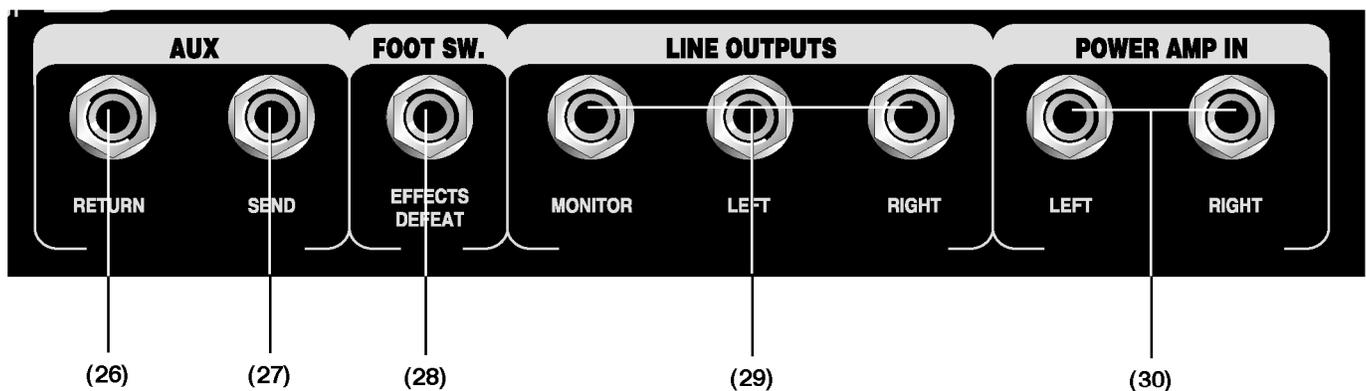
This adjusts the final level of the Monitor bus signal that is sent to the **MONITOR SPEAKER OUTPUT (31)**, when the **PWR AMP MODE (22)** switch is in the MAIN/MONITOR position. This control also sets the level of the **MONITOR LINE OUTPUT (29)** regardless of Power Amp Mode.

(24) MAIN MASTER VOLUME

This adjusts the final level of the Main signal, or Left-Right signal, that is sent to MAIN or LEFT and RIGHT SPEAKER OUTPUTS (31).

(25) POWER LED

The blue LED will illuminate when the unit is switched on.



D) MASTER INPUT / OUTPUT SECTION

(26) AUX RETURN

This input can be used to return the effected signal into the SPM-9700 or it can be used as an auxiliary input for line level devices. The signal level is adjusted by the **EFFECTS L-R/MAIN (17)** and **EFFECTS MONITOR (18) VOLUME** control. The internal Echo Effects is cannot be applied to this input

(27) AUX SEND

The AUX SEND jack provides a mono mixed signal from the input channels to an external effects unit or other devices. The signal is adjusted by the **EFFECT LEVEL (9)** and **MAIN LEVEL (6)** controls of each channel. No effected signal is sent from this output.

(28) EFFECTS FOOTSWITCH

This jack will accept the optional FS-1 footswitch, or any standard on/off footswitch, to turn on and off the internal Echo Effects. When the footswitch jack is plugged into, the Echo Effects will be defeated unless the footswitch is turned on.

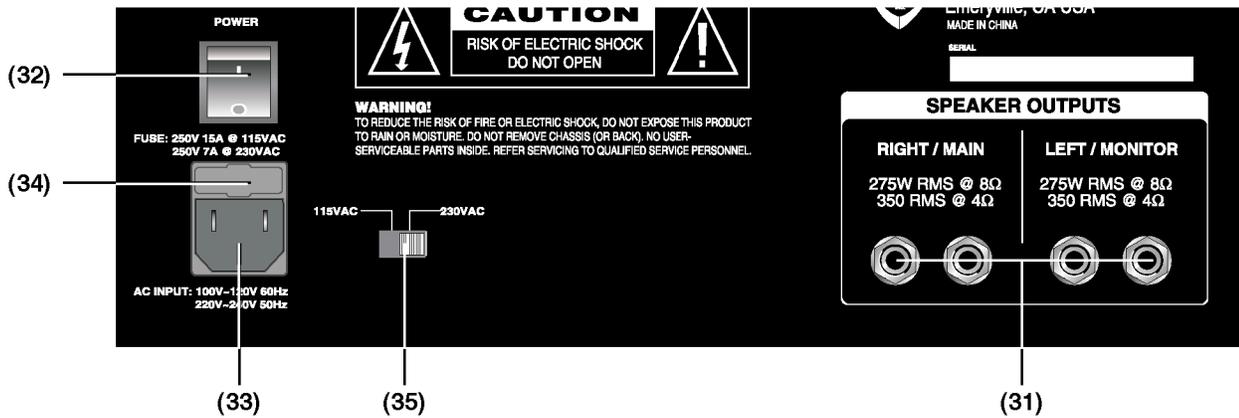
(29) MONITOR LINE OUTPUT

This is the line level output of the Monitor bus signal which can be used to send the monitor signal to an external amplifier or wireless in-ear monitor system. This output is functional as a Monitor send even if the **POWER AMP MODE (22)** switch is set to Stereo Left-Right.

(30) POWER AMP IN

These 1/4" jacks can be used to input line level signals directly into the Left and Right power amps of the SPM-9700 post **MASTER VOLUMES (23, 24)**. Plugging into these jacks immediately disconnects the mixer section from the power amps.

CONTROLS AND CONNECTIONS



E) REAR PANEL

(31) SPEAKER OUTPUTS

- RIGHT/MAIN — These 1/4" speaker output jacks are paralleled together for the Right or Main output and can deliver up to 350W RMS to a 4Ω load.
- LEFT/MONITOR — These 1/4" speaker output jacks are paralleled together for the Left or Monitor output and can deliver up to 350W RMS to a 4Ω load.

[Caution: Never use less than 4Ω Total impedance for either channel as this can cause the amplifier to overheat and create thermal runaway.]

(32) POWER ON/OFF SWITCH

To turn the unit ON press the button in, to turn the unit OFF depress the button out.

(33) POWER CONNECTOR

The IEC jack is used to connect the power cord to the AC Power Source.

[Caution: Never remove the center grounding pin as this can cause a serious safety hazard and will immediately void your warranty.]

(34) FUSE COMPARTMENT

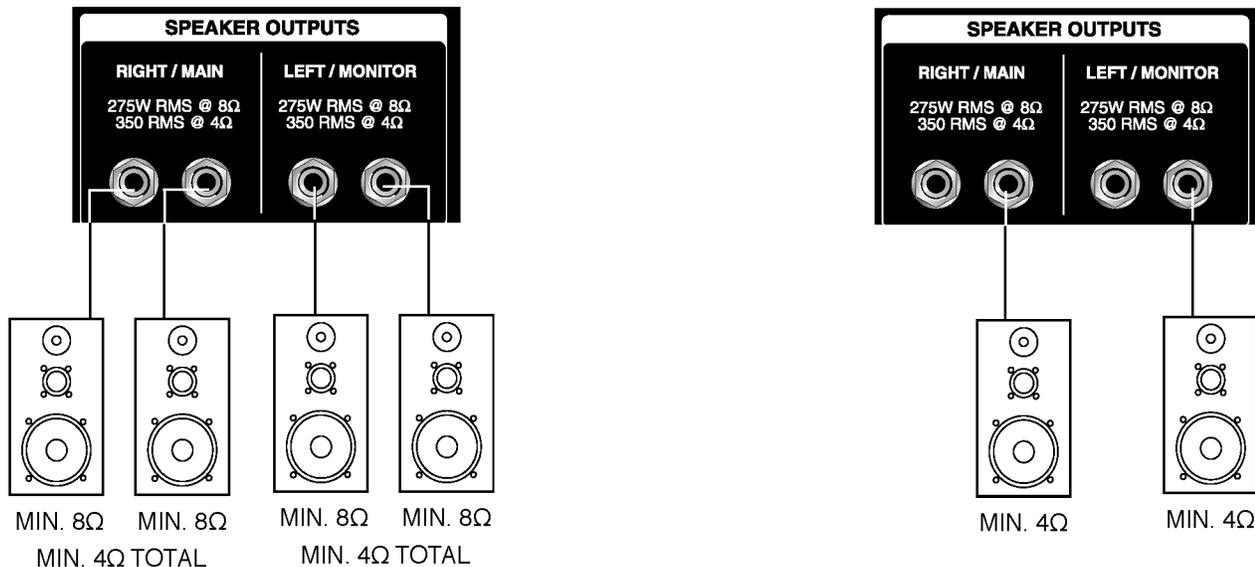
Replace with only the same type fuse. If the fuse blows continuously, have the unit serviced by qualified personnel. The SPM-9700 uses 20mm glass tube Fast Blow fuses: 15A 250V for 115VAC, 7A 250V for 230VAC

(35) 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).

F) SPEAKER CONNECTIONS EXAMPLES

The following speaker connections can be used for STEREO or MONITOR MAIN operations. Both LEFT/MONITOR jacks are paralleled together and RIGHT/MAIN jacks are paralleled together.

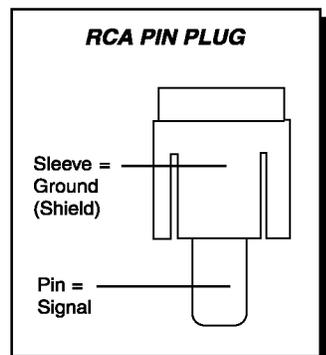
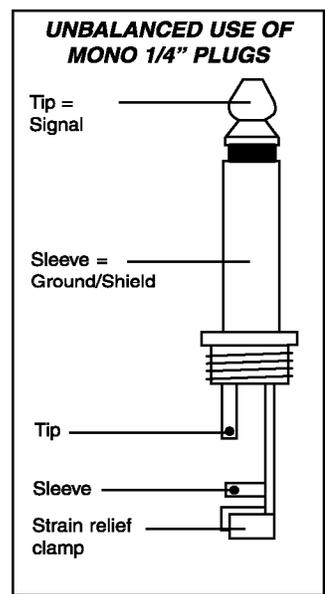
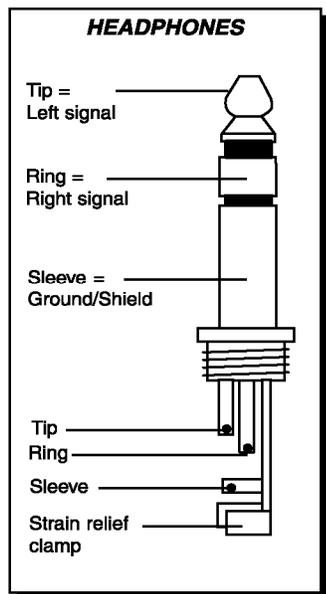
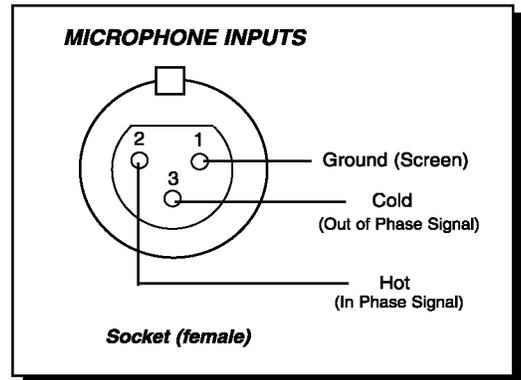


CONNECTIONS

This NADY AUDIO mixer uses 4 different types of audio connectors for the various input/output connections: (1) XLR balanced; (2) 1/4" TRS phone jacks for balanced, unbalanced, stereo, or in/out inserts; (3) 1/4" TS unbalanced; (4) RCA pin unbalanced

Figures

1. Balanced XLR input connections
2. Stereo headphone connection with 1/4" TRS plug
3. 1/4" mono (TRS) plug used as unbalanced input/output
4. 1/4" stereo (TRS) plug used as balanced input/output
5. RCA pin plug for unbalanced input/output



SPECIFICATIONS

1. INPUT SECTION

Input	Connector	Input Impedance	Max Level
MONO CH MIC	XLR BALANCED	2.6K Ω	-21dBV 70mV RMS
MONO CHANNEL LINE	1/4" TRS BALANCED	35K Ω	+8dBV 2V RMS
AUX RETURN	1/4" UNBALANCED	10K Ω	+15dBV 4V RMS
TAPE IN	STEREO RCA JACKS	1.2K Ω	+7dBV 1.7V RMS
POWER AMP IN	1/4" UNBALANCED	10K Ω	+7dBV 1.7V RMS

2. OUTPUT SECTION

Power Output

8 Ω Both Channels Driven (1% THD)	290W RMS per side
4 Ω Both Channels Driven (1% THD)	350W RMS per side

Frequency Response 10Hz~15KHz +/-3dB

THD 0.2%

AUX Send 1/4" unbalanced

Output Impedance 100 Ω

Max Output Level 15dBV 4V RMS

3. MIXER SECTION

Frequency Response 10Hz~15KHz (+/- 3dB)

THD 0.07%

S/N Ratio -78dB

Noise Floor 600uV

Channel High EQ +/-15dB 12KHz

Channel Mid EQ +/-15dB 3KHz

Channel Low EQ +/-15dB 80Hz

Dual 9-Band EQ +/-12dB 63Hz, 125Hz, 250Hz, 500Hz, 1KHz, 2KHz, 4KHz, 8KHz, 16KHz

Phantom Power 48VDC, globally selected

4. GENERAL

Power Requirements Voltage selectable, 115VAC/60Hz or 230VAC /50Hz

Fuse Requirements 5x20mm glass tube F.B. 15A 250V @ 115VAC
7A 250V @ 230VAC

Weight 43.7 lbs. (19.8 Kg)

Dimensions (HWD) 12.3" x 20.7" x 12" (312 x 526 x 305mm)

The specifications above are correct at the time of printing of this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.

SERVICE FOR YOUR NADY AUDIO PRODUCT

(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@nady.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
WILL ALSO VOID THE WARRANTY.

