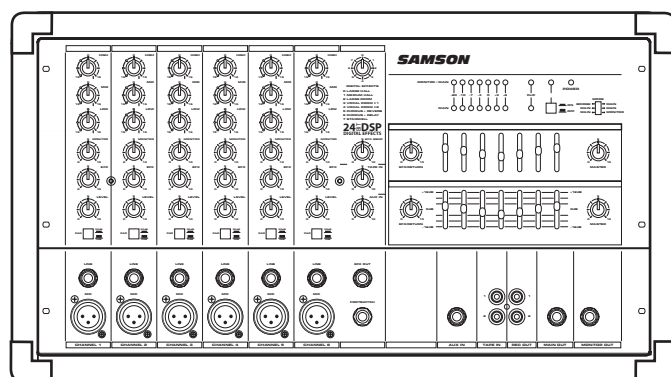


PA324



**SIX CHANNEL POWERED MIXER
WITH 24BIT DIGITAL EFFECTS**

Owners Manual

SAMSON®

Safety Instructions

Caution: To reduce the hazard of electrical shock, do not remove cover or back.

No user serviceable parts inside. Please refer all servicing to qualified personnel.



WARNING: To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products 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 product.

Important Safety Instructions

1. Please read all instructions before operating the unit.
2. Keep these instructions for future reference.
3. Please heed all safety warnings.
4. Follow manufacturers instructions.
5. Do not use this unit near water or moisture.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers 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 third prong is provided for your safety. When the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on and pinched particularly at plugs, convenience receptacles and at the point at which they exit from the unit.
11. Unplug this unit during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified personnel. Servicing is required when the unit has been damaged in any way, such as power supply cord or plug damage, or if liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

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Introduction

Congratulations on your purchase of the Samson PA324 powered mixer! The PA324 is a six channel, 300 Watt powered mixer with built-in, 24 BIT DSP effects. Clean, clear sound reproduction with dazzling digital effects including Delay, Chorus and lush Reverb, packaged in a rugged enclosure, ensure reliable high quality sound from performance to performance. Optimized for live sound reinforcement and commercial installations, the PA324 is an ideal mixer and power amp solution offering big sound in a compact package.

In these pages, you'll find a detailed description of the features of the PA324 powered mixer, as well a description of its front and rear panels, step-by-step instructions for its setup and use, and full specifications. You'll also find a warranty card enclosed—please don't forget to fill it out and mail it in so that you can receive online technical support and so we can send you updated information about these and other Samson products in the future.

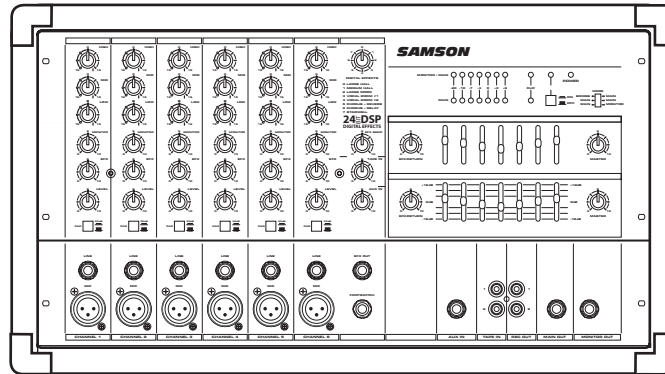
With proper care and adequate air circulation, your PA324 will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference.

Serial number:

Date of purchase:

Should your unit ever require servicing, a Return Authorization number (RA) must be obtained before shipping your unit to Samson. Without this number, the unit will not be accepted. Please call Samson at 1-800-3SAMSON (1-800-372-6766) for a Return Authorization number prior to shipping your unit. Please retain the original packing materials and if possible, return the unit in the original carton and packing materials.

PA324 Features

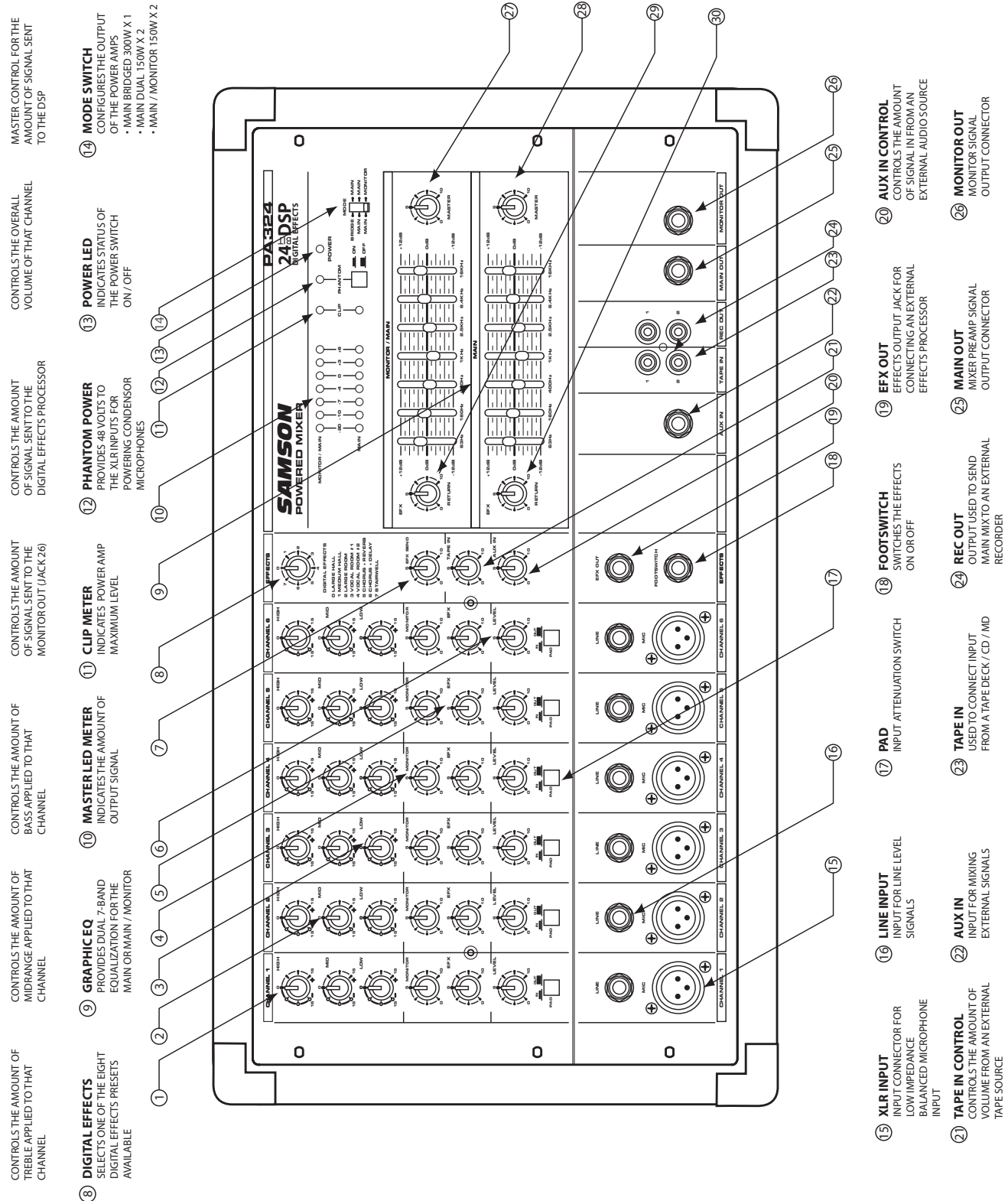


The Samson PA324 Powered Mixer is a comprehensive, all-in-one solution for live sound applications. Here are some of its main features:

- Six Channel Powered Mixer.
- Built-in, 24-bit DSP with 8 Selectable Presets including Reverb, Delay and Chorus.
- Advanced circuit design, utilizing low noise operational amplifiers.
- 2 x 150 Watts, or 150 Watt Main / 150 Watt Monitor, or 300 Watts Bridged Power Operating Modes.
- Six Mic / Line Inputs with 1/4" Phone and XLR Connectors.
- Low Noise Mic Pre-amps with Phantom Power.
- 3-Band EQ on Each Channel.
- * Effects and Monitor Sends on Each Channel.
- Dual 7-band Graphic Equalizer For Main / Monitor.
- Tape / CD Input.
- Durable Cabinet Covered in Tough Carpet.
- Large Rubber Feet and Corners plus Convenient Handle.
- Three-year extended warranty.

Controls and Functions

FRONT PANEL LAYOUT



Controls and Functions

FRONT PANEL CONTROLS

INPUT CHANNEL SECTION

The following section details each part of the PA324's INPUT CHANNELS including the 3-BAND EQ, the MONITOR and EFX sends, PAD and LEVEL controls.

1 Channel Equalizer (HIGH MID LOW)

The PA324 input channels feature a 3-band equalizer allowing you to adjust the high, mid, and low frequencies independently on each channel. The channel's frequency response is flat when the knobs are in the "12:00" position. Rotating the knob towards the right will boost the corresponding frequency band by 15dB, and rotating it towards the left will cut the frequency by 15dB. The frequency centers, range of boost or cut, and equalizer type for each band are as follows:

High: 12KHz +/- 15dB shelving type

Mid: 2.5KHz +/- 15dB peaking type

Low: 80Hz +/- 15dB shelving type

2 Monitor Send (MONITOR)

Each of the PA324's channels include a MONITOR send which controls the amount of that channel's signal that is sent to the MONITOR bus. The Input channel's MONITOR sends are mixed together and are sent to the speakers connected to the POWER AMP 2 A/B jacks if the POWER AMP select switch is set to MAIN+MONITOR.

3 Effects Send (EFX)

The PA324 provides high quality, 24 Bit digital effects, and the level of effects can be set independently on each channel. The channel's EFX (Effects) knob controls the amount of signal that is sent to the EFX bus. The signal of the EFX bus is routed to the DSP EFX section for onboard signal processing. The EFX signal can also be sent to an external effect device connected to the EFX OUT jacks located on the front panel.

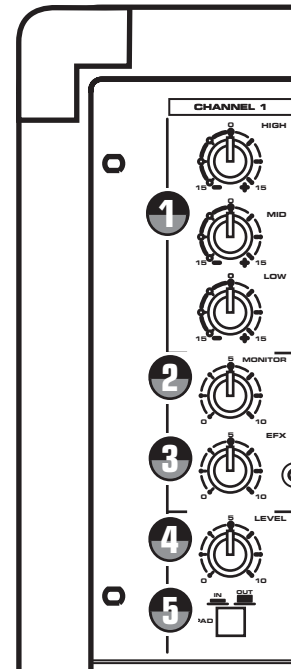
NOTE: The channel's EFX signal is sent to the EFX bus from a location in the signal path after the LEVEL control (4). This is commonly referred as a POST FADER send. This means that the amount of signal that is sent to the EFFECT bus will be affected not only by the setting of the EFX knob control, but it will also be affected by the setting of the LEVEL control.

4 Level Control (LEVEL)

The LEVEL control adjusts the output volume of each channel.

5 Pad Switch (PAD)

The PAD switch attenuates the input signal by 30dB. When connecting a hot signal such as a line level device to channels 1-6, or if the mic input is distorted, turn this switch on (the pressed-in position) and readjust the LEVEL control.



Controls and Functions

FRONT PANEL CONTROLS

24 BIT DIGITAL EFFECT SECTION

The PA324 features a built-in, 24 Bit Digital Effects processor with high quality, studio grade effects like Delay, Chorus and Reverb. The following section describes the features of the powerful on-board DSP.

6 Effect Select Switch (DIGITAL EFFECTS)

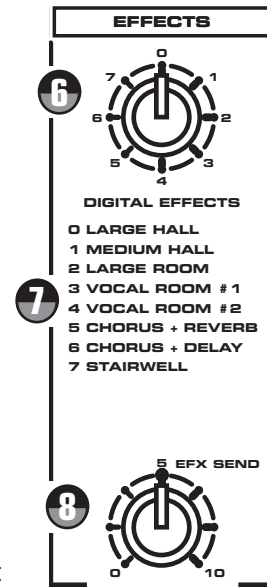
The EFX switch allows you to select one of the eight built-in digital effects. Simply rotate the EFX to choose the effect.

7 Effect Preset List

This section identifies the eight built-in DSP effects presets.

8 Master Effect Send (EFX SEND)

The EFX SEND control is used to send the effect mix bus to an external effect device connected to the EFX OUT jack.



TAPE IN AND AUX IN SECTION

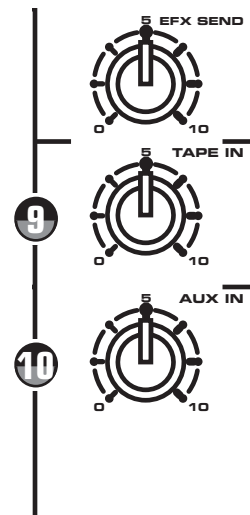
This allows you to adjust the level of the signal from an external device such as a cassette recorder, or CD player or from an external effect device.

9 Tape In Level Control (TAPE IN)

This adjusts the amount of signal that is sent from the TAPE IN jacks to the MAIN bus.

10 Aux In Control (AUX IN)

This adjusts the amount of signal that is sent from the AUX IN jacks to the MAIN bus.



Controls and Functions

FRONT PANEL CONTROLS

MONITOR SECTION

The PA 324 has two internal power amplifiers and depending on the MODE selection switch, the amplifiers are fed from the MAIN or MONITOR bus signal. The following section describes the MONITOR bus operation, which allows you to adjust the overall tone and volume, and specify the mix level of the built-in effects.

11 Graphic Equalizer

The PA324's 7-band Graphic Equalizer allows you to contour the frequency response of the MONITOR bus signal, providing a maximum of +/-12dB of cut/boost for each frequency band. This is an especially useful tool for cutting frequencies that cause annoying feedback. The frequency response is flat when the sliders are in the center position. Moving a slider in the positive direction will boost that frequency by as much as 12dB, and moving the slider in the negative direction will cut that frequency by up to 12dB. Once you set a frequency response curve using the Graphic Equalizer, the EQ curve is applied to both the MONITOR bus signal that is sent to the monitor speakers, and the line level signal which is sent from the MONITOR OUT jack.

12 Effects Return Control (EFX RETURN)

The EFX RETURN control is used to adjust the level of the effect sound being sent back from the built-in digital effect to the MONITOR bus. This allows you to hear the DSP effects in your monitor speakers.

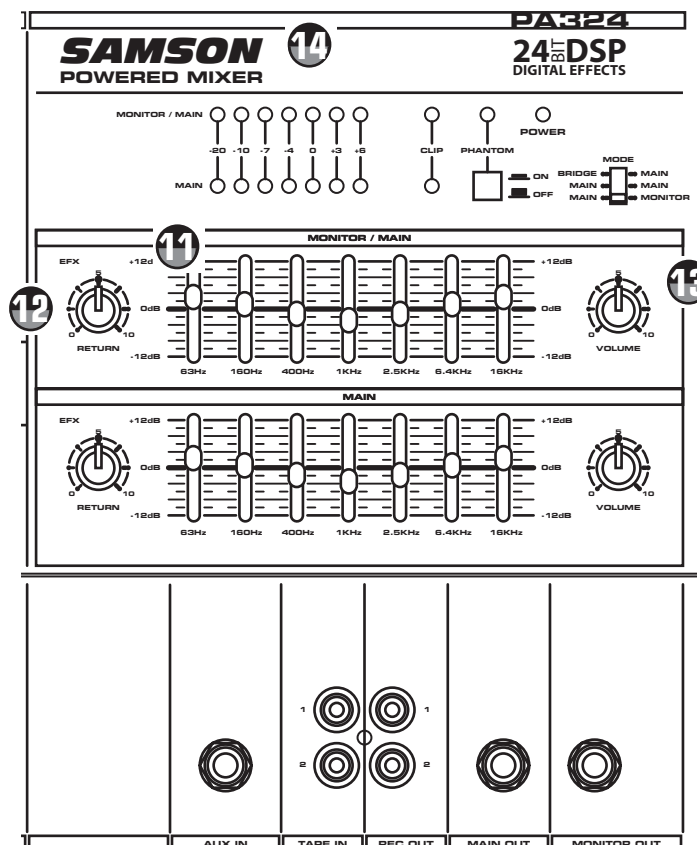
13 Volume Control (MASTER)

The VOLUME level control is the overall master control for the MONITOR bus. The MONITOR level affects both the MONITOR bus signal which is sent to the monitor speakers and the line level signal which is sent from the MONITOR OUT jack.

14 Output Level Meter

The OUTPUT LEVEL METER allows you to monitor the level of the signal which is being sent to the MONITOR OUT jack and MONITOR POWER AMPLIFIER.

NOTE: To avoid distortion, adjust the VOLUME level control so that the 0 indicator LED lights occasionally.



Controls and Functions

FRONT PANEL CONTROLS

MAIN SECTION

The PA 324 has two internal power amplifiers and depending on the POWER AMP selection switch, the amplifiers are sent the MAIN or MONITOR bus signal. The following section describes the MAIN bus operation, which allows you to adjust the over-all tone and volume, and specify the mix level of the built-in effects.

15 Graphic Equalizer

The PA324's 7-band Graphic Equalizer allows you to contour the frequency response of the MAIN mix bus signal, providing a maximum of +/-12dB of cut/boost for each frequency band. This is an especially useful tool for cutting frequencies that cause annoying feedback. The frequency response is flat when a slider are in the center position. Moving a slider in the positive direction will boost that frequency by as much as 12dB, and moving the slider in the negative direction will cut that frequency by up to 12dB. Once you set a response curve using the Graphic Equalizer, the EQ curve is applied to both the MAIN bus signal that is output to the speakers, and the line level signal which is output from the MAIN OUT jack.

16 Effects Return Control (EFX RETURN)

The EFX RETURN control is used to adjust the level of the effect sound being sent back from the built-in digital effect to the MAIN mix bus. This allows you to hear the DSP effects in your monitor speakers.

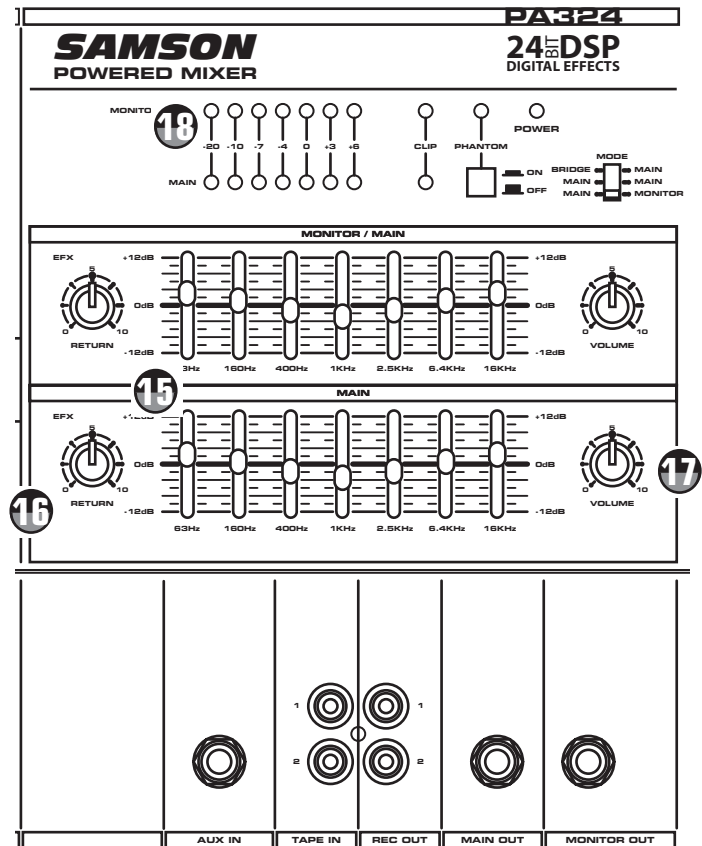
17 Volume Control (MASTER)

The MASTER MAIN level control is the over-all volume control for the MAIN bus. The MAIN level affects both the MAIN bus signal which is output to the speakers and the line level signal which is output from the MAIN OUT jack.

18 Output Level Meter

The OUTPUT LEVEL METER allows you to monitor the level of the signal which is being sent to the MAIN OUT jack (input/output panel 5).

NOTE: To avoid distortion, adjust the MASTER LEVEL control so that the 0 indicator LED lights occasionally.



Controls and Functions

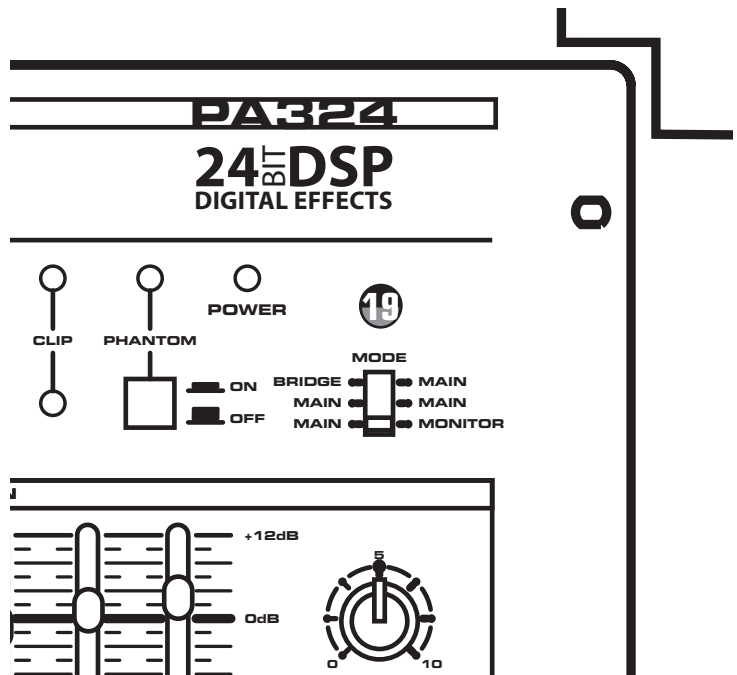
FRONT PANEL CONTROLS

POWER AMP SECTION

The PA324's power amplifier section can be configured to operate several ways depending on whether you need MAIN plus MONITOR amplifiers to power your speakers, or if you just need more power for the MAIN speakers. The section below describes the PA324 power amp modes.

19 Mode

The MODE switch is used to select one of three different operating modes, MAIN-MONITOR, MAIN-MAIN and MAIN-BRIDGE. The following is a description of each of the POWER operating modes:



CAUTION! Only change the power amp mode switch when the PA324's power is **SWITCHED OFF!**

MAIN-MONITORS

With this setting, the MAIN and MONITOR sections can be used independently. The MAIN bus signal will be sent from the POWER AMP 1 A/B jacks, and the MONITOR bus signal will be sent from the POWER AMP 2 A/B jacks.

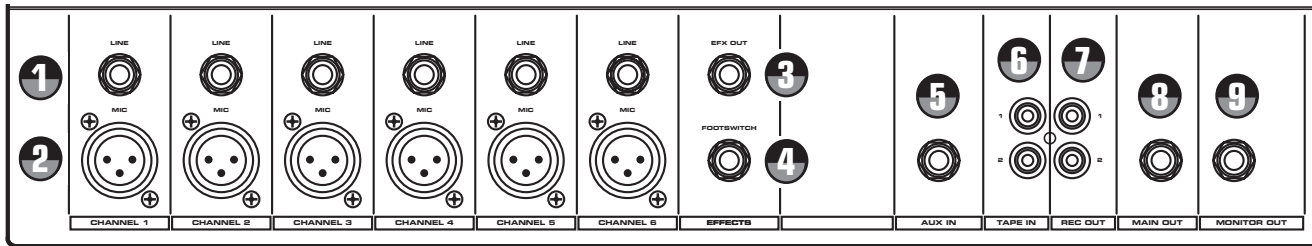
MAIN-MAIN

With this setting, the two power amp channels can be used independently. The MAIN bus signal will be output from the POWER AMP 1 A/B jacks (Rear Panel 1), and also, from the POWER AMP 2 A/B jacks (Rear Panel 1).

MAIN-BRIDGE

With this setting, the two power amp channels (A and B) will be connected in bridge mode. Only the MAIN bus signal will be output from the BRIDGE jack.

PA324 Input and Output Connections



CHANNEL 1-6 MIC and LINE INPUTS

The PA 324's six input channels each have a Hi-Z (High Impedance) Line level input and a Low-Z (Low impedance) Mic level input. By using the PAD switches you can connect a variety of signal sources from microphones to line level devices such as synthesizers, drum machines and direct boxes. Both Hi-Z and Low-Z inputs are balanced, with Lo-Z inputs compatible with microphones of output impedance 50~600 Ohms and Hi-Z inputs compatible with line level devices of 600 Ohms.

NOTE: It is not possible to simultaneously use both the Hi-Z and Low-Z inputs on the same channel. For each channel, use only one of the inputs as appropriate for the input source.

1 Hi-Z Line Level Input

Use these inputs to connect high impedance microphones, synthesizers and drum machines. The Hi-Z inputs have a nominal operating level of -40dB through -10dB.

TRS phone jacks Connector pin-out - Sleeve: Ground, Tip: Hot (+), Ring: Cold (-)

2 Low-Z Microphone Input

Use these inputs to connect Low Impedance microphones and low level signals from direct boxes. The Low-Z inputs have a nominal operating level of -50dB through -20dB. The Low-Z feature +48V phantom power, allowing you to use condenser microphones. The Phantom Power is switched on/off simultaneously for channels 1 through 6.

XLR Connector pin-out - Pin 1: Ground, Pin 2: Hot (+), Pin 3: Cold (-)

3 Effects Output (EFX OUT)

The EFX output is used to interface an external signal processor like a delay or reverb. The signal present at the EFX output is sent from the EFFECTS bus, which is fed from the EFX send on the input channels and the EFX send in the Master section.

4 Footswitch Jack (FOOTSWITCH)

With a foot switch connected to this jack, you can turn on and off the onboard digital effects by simply pressing the switch with your foot.

EXTERNAL INPUT JACKS (AUX IN/TAPE IN)

These are input jacks that allow the signal from an external device to be added to the MAIN output.

5 Auxiliary Input (AUX IN)

Used to connect monaural output devices such as external effects processors.

6 Tape Input (TAPE IN)

Used to connect a stereo output device such as cassette recorder or CD player.

PA324 Input and Output Connections

EXTERNAL OUTPUT JACKS

The PA324 features several output connectors allowing you to interface a variety of external devices. A stereo recording device such as a cassette recorder can be connected to the REC OUT jacks, and additional power amplifiers can be connected to the MONITOR and MAIN output jacks.

7 Record Output (REC OUT)

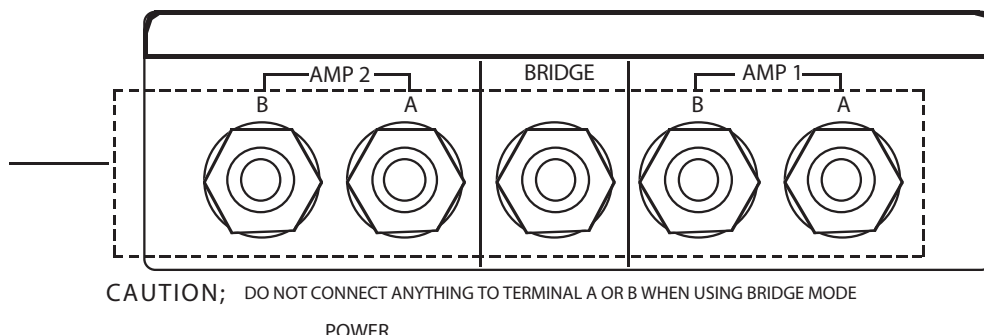
The signal present at this connector is the MAIN bus signal before it has passed through the MASTER level control and graphic equalizer. The nominal output level is -10dB and the impedance is 10K Ohms.

8 MAIN OUT

The signal present at this connector is the MAIN bus signal, which has passed through the MAIN MASTER level control and the graphic equalizer. The nominal output level is +4dB and the impedance is 10K Ohms.

9 MONITOR OUT

The MONITOR bus signal is present at this connector. The signal is passed through the MONITOR /MASTER level control and graphic equalizer before it reaches the MONITOR OUT connector. The nominal output level is +4dB and the impedance is 10K Ohms.



REAR PANEL

The PA324 contains two mono power amplifiers and depending on the operating mode, the two amplifiers can be used independently (maximum output 150W + 150W) or in BRIDGE mode (maximum output 300W).

NOTE: Use the MODE switch to select which signal is sent to the speaker output jacks, and to activate BRIDGE mode.

If the two power amplifiers are used for MAINS operation, two speakers can be connected to the AMP 1 A/B jacks and two more to the AMP 2 A/B jacks, for a total of four speakers.

NOTE: When using the A and B jacks simultaneously, connect 8 through 16 Ohm speakers. In this case, be careful not to connect a speaker to the BRIDGE jack.

The total impedance load for each amplifier must not exceed 4 Ohms, therefore in the example above, one speaker with an impedance of 8 ohms is connected to each amp's A and B jacks. (The A/B jacks are wired in "Parallel", so the total impedance when two 8 Ohm speakers are connected is 4 Ohms.)

If you wish to use two amplifiers independently, let's say for Main and Monitor operation, but only connect a single speaker to the A or B jack, use a 4 through 8 Ohm speaker. Again, the total impedance load for each amplifier must not exceed 4 Ohms, therefore one speaker with an impedance of 8 ohms can be connected to each amp's A and B jacks.

If the two amplifiers are used in a BRIDGE mode, only one speaker can be connected to the BRIDGE jack. The total impedance load while operating in Bridge mode must not be less than 8 Ohms.

If you are connecting a speaker to the BRIDGE jack, use an 8 through 16 Ohm speaker.

CAUTION: When using a bridge connection, do not connect anything to the AMP 1 and AMP 2 jacks. Likewise, when using the POWER AMP 1 and POWER AMP 2 jacks, do not connect anything to the BRIDGE jack.

PA324 Input and Output Connections

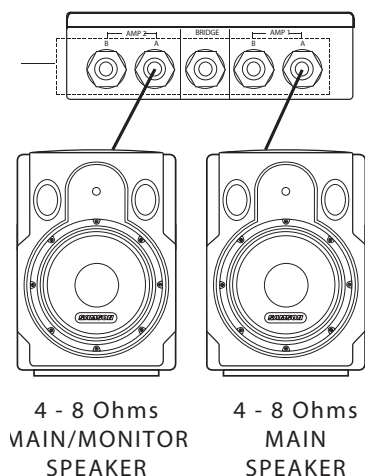
SPEAKER CONNECTION

Here are three ways in which speakers can be connected to the PA324: A single speaker can be connected to either the A or B jack of AMP 1 and AMP 2, two speakers can be connected in parallel to both the A and B jacks of AMP1 and AMP 2, or a single speaker can be connected to the BRIDGE jack (bridge connection). For each of these, the required speaker impedance will differ.

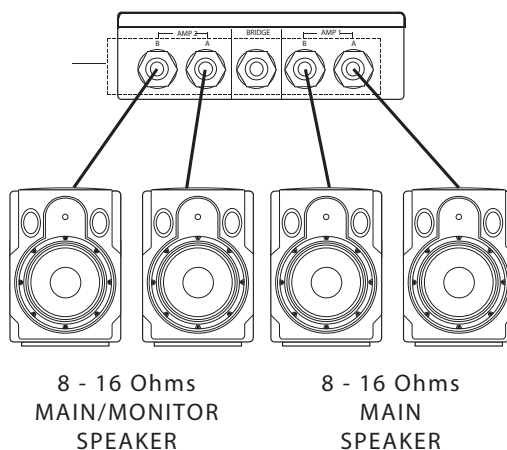
Refer to the following diagram, and make sure that the speaker impedance is not less than the specified value.

Additional, or alternative amplifiers can be connected to the MAIN OUT and MONITOR OUT jacks on the front panel.

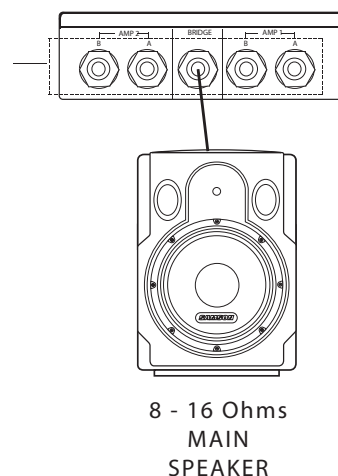
When connecting one speaker to POWER AMP 1 and one speaker to POWER AMP 2, use speakers with a 4 – 8 ohm impedance rating.



When connecting two speakers to POWER AMP 1 and two speaker to POWER AMP 2, use speakers with a 8 – 16 ohm impedance rating.



When the POWER AMP S are in BRIDGE use a speakers with a 4 – 8 ohm impedance rating.



Operating the PA324

BASIC OPERATION

The following section explains the basic operation of the PA324.

CONNECTING MICROPHONES AND INSTRUMENTS

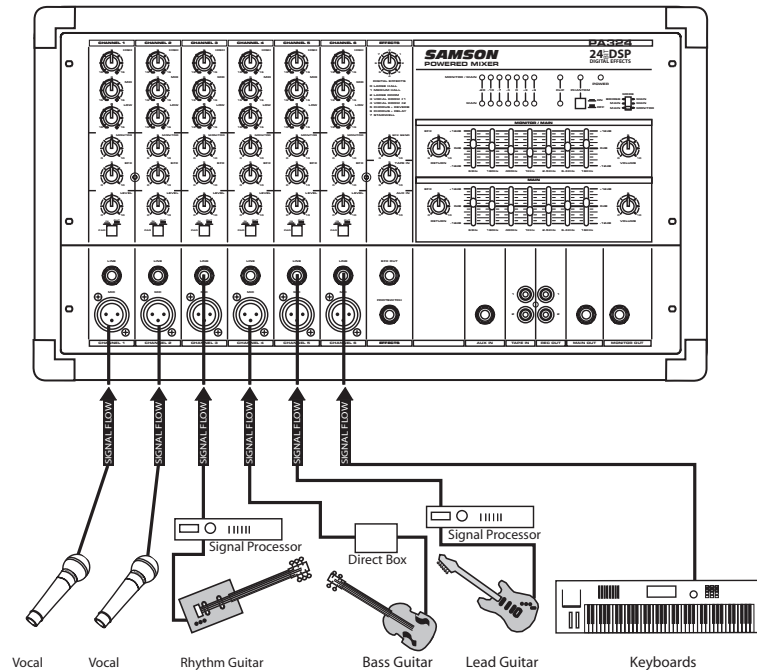
1. Before connecting mics or instruments, make sure that the power of all your systems components including the PA324 is turned off. Also, make sure that the level controls of each channel of the PA324 and the VOLUME control of the MAIN section are turned all the way down.
2. Connect the cables to your microphones and instruments, and insert the other end of the cable firmly into the appropriate input on the PA324.

NOTE: When connecting a line level device to channels 1 through 6, it's a good idea to start with the pad switch on. (Note: You cannot use a channel's Lo-Z and Hi-Z jacks at the same time.)

3. Switch on the power of any peripheral devices, and then power up the PA324.

NOTE: Since the PA324 contains two power amplifiers, it is important to remember the Golden Rule of audio ... "**LAST ON, FIRST OFF**". Translated, this means that when turning on your system, you should always turn your power amplifiers on LAST, and when turning your system off, turn your power amps off FIRST. This helps avoid any loud pops caused by rush current at power up, which can sometimes damage loudspeakers .

4. Set the VOLUME control of the MAIN section to the "5" position.
5. While speaking into the mic (or playing the instrument), adjust the channel LEVEL control so that the "O" LED of the MAIN section peak level meter lights occasionally.
6. If you wish to adjust the tone of each channel, adjust the equalizer controls as desired.
7. Use the MAIN section graphic equalizer and VOLUME control to adjust the overall volume and tone.



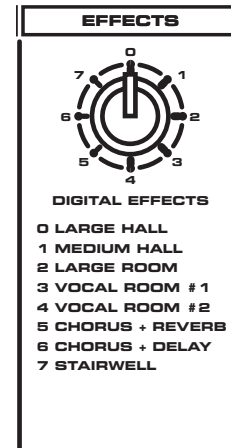
Operating the PA324

USING THE DIGITAL EFFECTS

The PA324 features a built-in, high quality, 24 BIT Digital Signal Processor offering studio grade effects. The DSP features clean Delay, lush Reverbs and multi-effects like Chorus + Delay or Chorus + Reverb. The following details the operation of the internal DSP effects:

1. Connect a mic or instrument to the desired channel, and adjust the volume and equalizer to your liking.
2. Now select the desired preset on the DSP selection switch. Set the DSP selection switch to one of the following effects:

- 1 - Large Hall
- 2 - Medium Hall
- 3 - Large Room
- 4 - Vocal Room 1
- 5 - Vocal Room 2
- 6 - Chorus + Reverb
- 7 - Chorus + Delay
- 8 - Stairwell



4. Once you have selected the desired effect preset, raise the EFX control on the channels you wish to apply the digital effect to.
5. Now use the EFX RTN knob in the MAIN/MONITOR section to adjust the EFFECTS Return level. The EFX control is the overall level control for the DSP effects processor. If you are not using the PA324 in MAIN/ MONITOR or BRIDGE mode, be sure to raise the EFX RTN control up on both the MAIN and MAIN/ MONITOR sections so the level of effect is the same in both speakers.

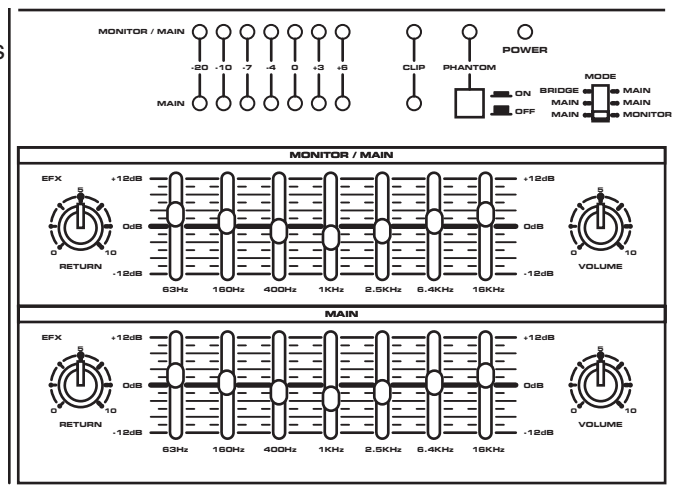
NOTE: If the effect sound is distorted even though the EFX RTN is turned all the way down, lower the EFX controls of each channel, or lower the EFX SEND control in the EFFECTS section.

SENDING AN INDEPENDENT MIX TO THE MONITOR SPEAKERS

The PA324 allows you to operate the power amplifiers in a MAIN/ MONITOR mode. This let you use one amplifier for speakers facing the audience, and the other amplifier for the monitor speaker facing the musicians.

1. Set the MONITOR section and VOLUME control to the "0" position.
2. Raise the MONITOR controls for the channels that you wish to hear from the monitor speakers.

NOTE: The MONITOR controls are not affected by the level settings of each channel. This allows you to create a mix for the monitors that is independent of the MAIN mix.



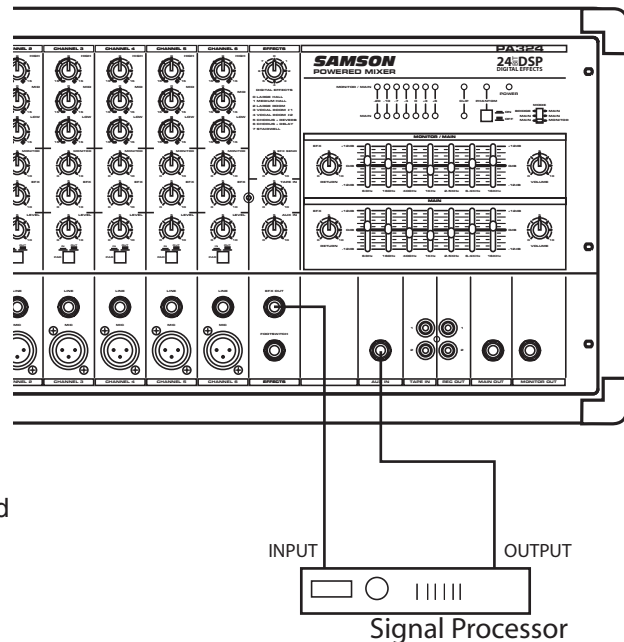
3. Use the graphic equalizer and VOLUME controls of the MAIN/MONITOR sections to adjust the overall volume and tone.

Operating the PA324

USING AN EXTERNAL EFFECT

If you prefer to use an external device for effects processing, you can easily connect the unit using the PA324 EFX bus. Follow the simple steps below to interface your processor:

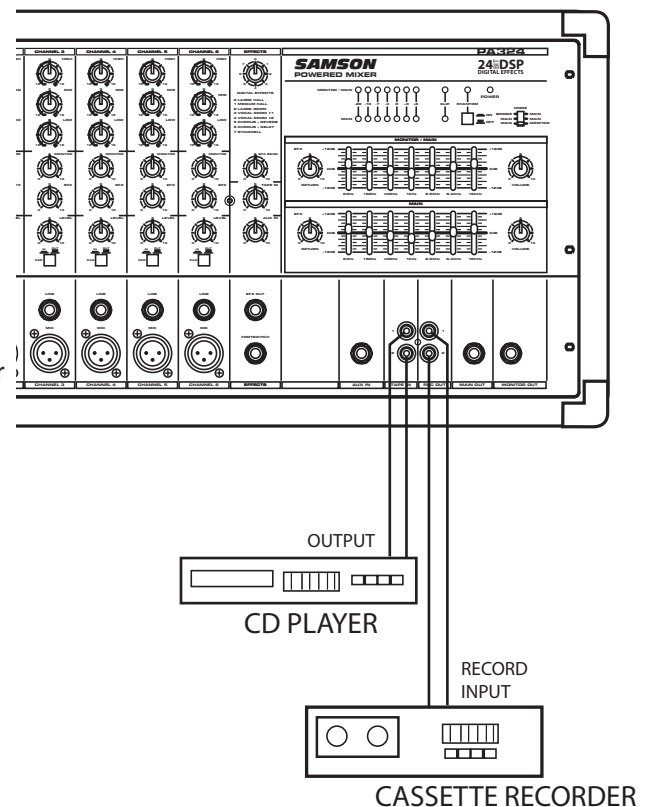
1. Set the MONITOR section VOLUME control to the "0" position.
2. Raise the EFFECT controls for the channels to which you want the external effect to be applied.
3. Now adjust the EFX SEND level to about half way.
4. Set the input level of the external effect so that the sound is not distorted and so that the effect's input meter does not indicate a clipped signal.
5. Use the AUX IN control to adjust the level of the effects processed by the external effects device.



PLAYING BACK A CD

The PA324 has a dedicated input for playing back a CD, Tape or Mini Disk. Below is a description of how you can play back a CD, Tape or MD using the PA324's TAPE INPUT.

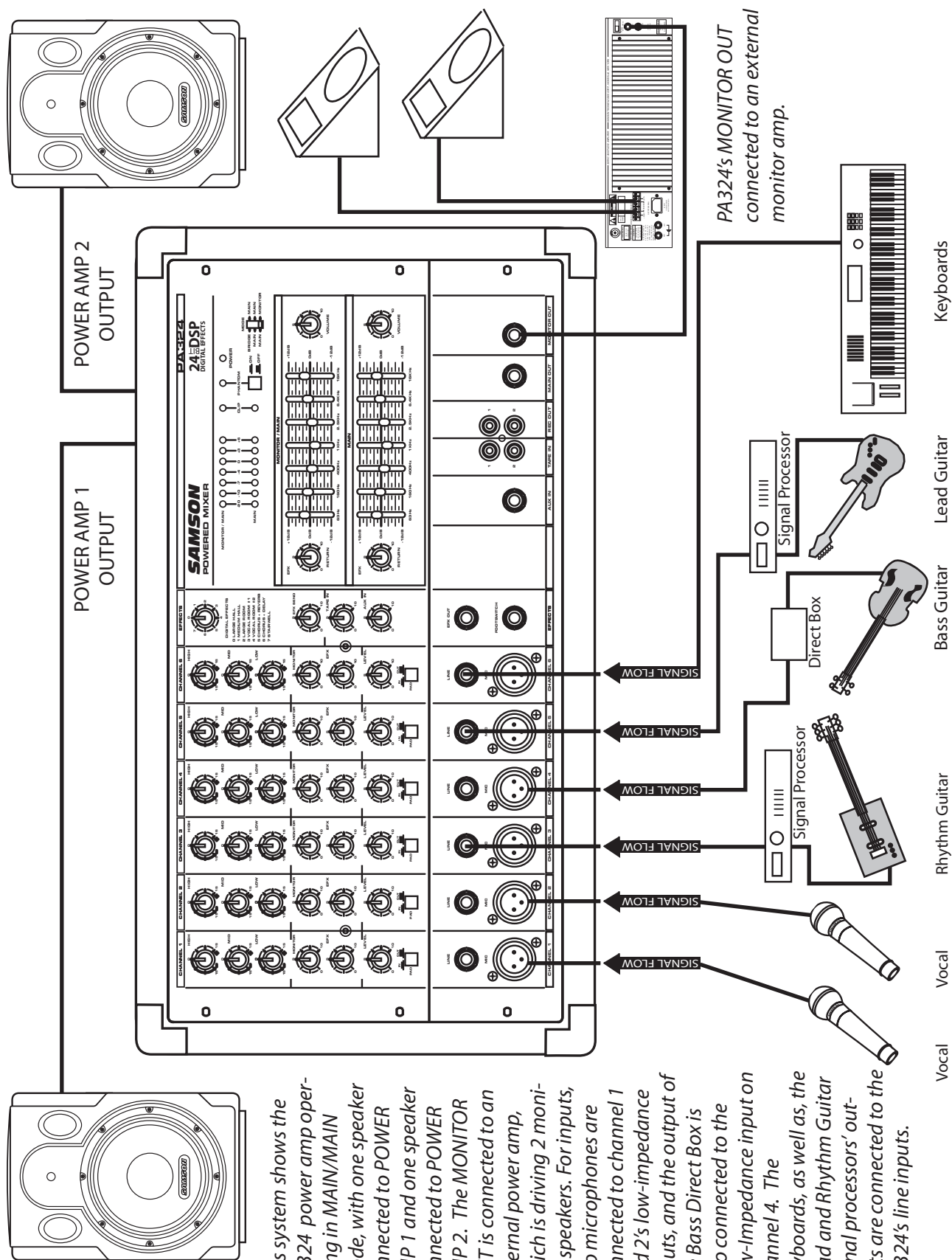
1. Turn the TAPE IN level control and the VOLUME level control all the way down.
2. Follow the "LAST ON, FIRST OFF" rule and turn on your peripheral devices and then the power on the PA324.
3. Adjust the VOLUME control of the MAIN section to the "5" position.
4. Start playback on the CD, Tape or MD player, and use the TAPE IN control to adjust the level so that the zero LED of the MAIN section peak level meter lights occasionally. Adjust the master volume control to raise the level if necessary.



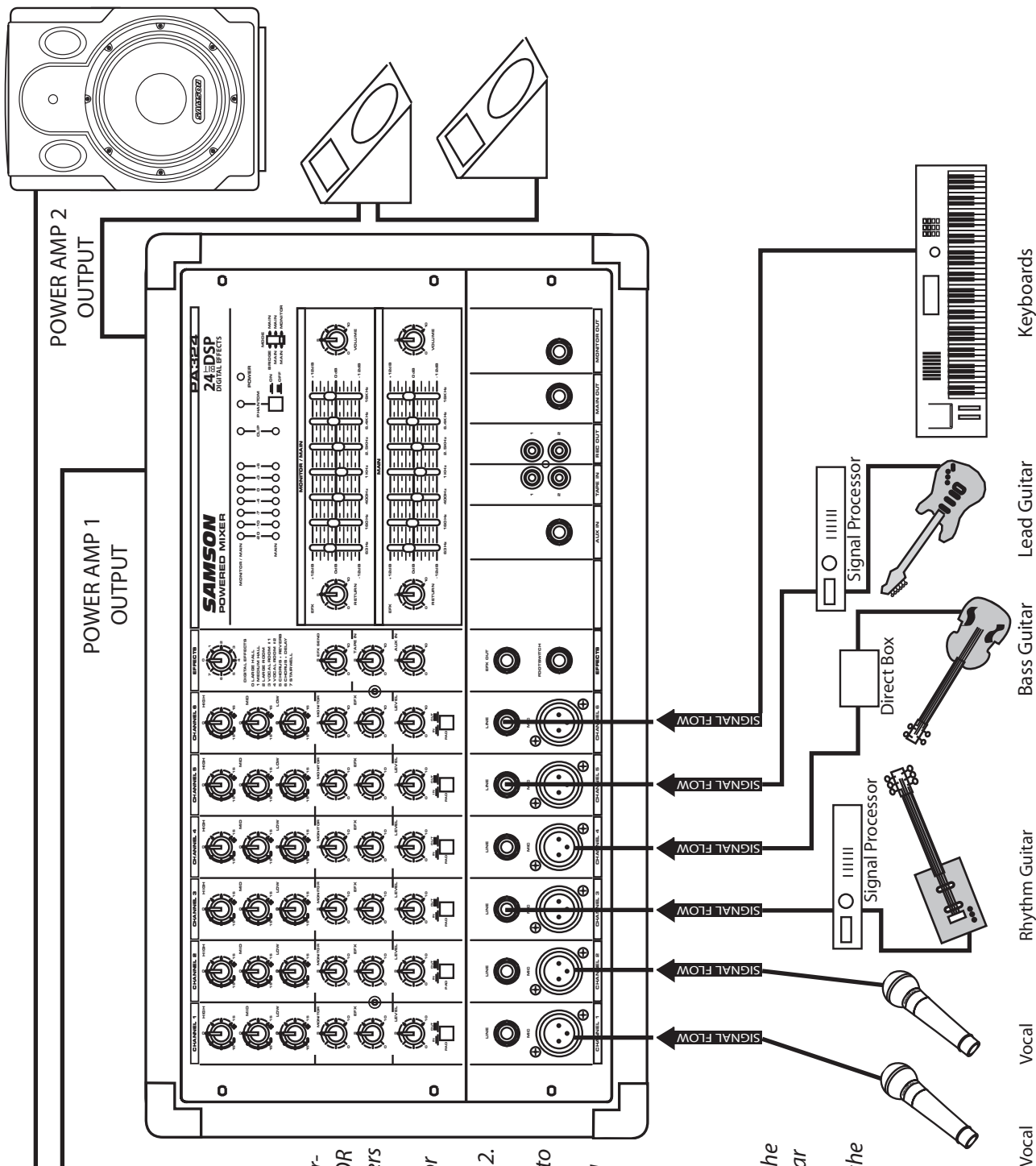
RECORDING FROM THE PA324

You can record the audio from the PA324's mixer section including the MIC, LINE, TAPE IN and AUX inputs to a cassette deck, MD, DAT or any other type of recorder using the RECORD outputs. Simply connect the PA324's REC OUT to the input jacks of the recorder as shown in the diagram above.

PA324 System Set-Ups



PA324 System Set-Ups



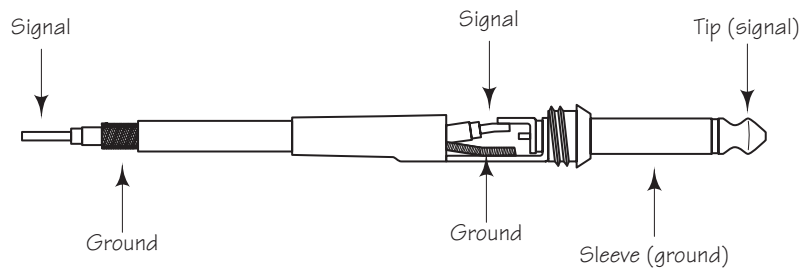
This system shows the PA324 power amp operating in MAIN/MONITOR mode, with two speakers connected to POWER AMP 1 and two monitor speakers speaker connected to POWER AMP 2. For inputs, two microphones are connected to channel 1 and 2's low-impedance inputs, and the output of the Bass Direct Box is also connected to the Low-Impedance input on channel 4. The Keyboards, as well as, the Lead and Rhythm Guitar signal processors' outputs are connected to the PA324's line inputs.

PA324 Wiring Guide

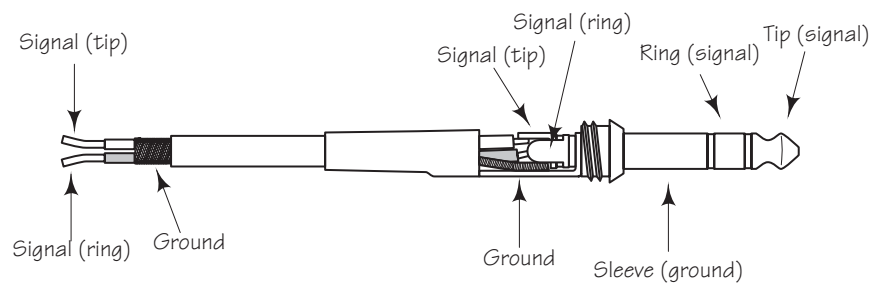
CONNECTING THE PA324

There are several ways to interface the PA324 to support a variety of applications. The PA324 features balanced inputs and outputs, so connecting balanced and unbalanced signals is possible.

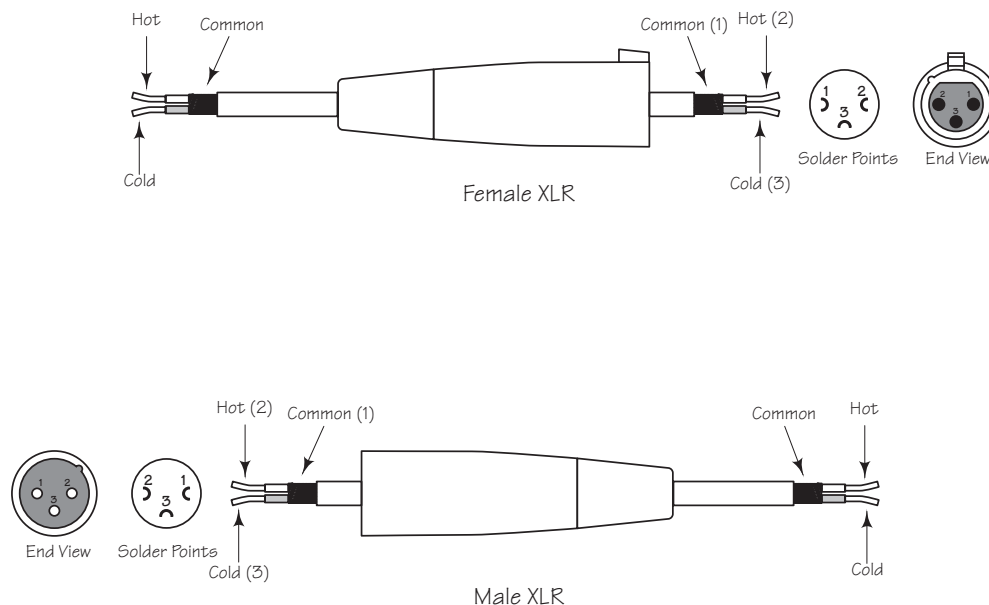
Unbalanced 1/4" Connector



Balanced TRS 1/4" Connector



XLR Balanced Wiring Guide

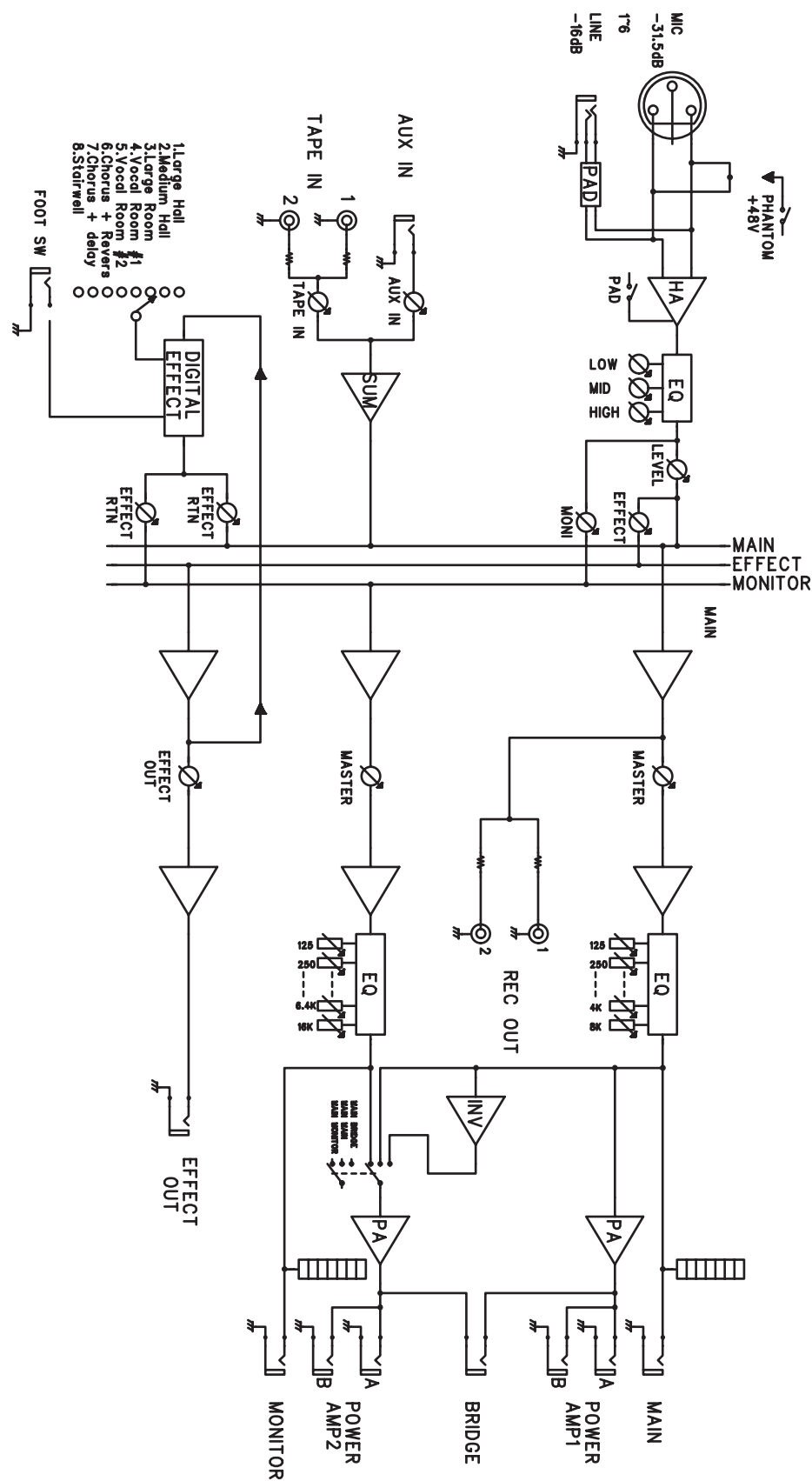


Specifications

SPECIFICATIONS

Rated Output power	150W/4Ω@0.5% THD at 1KHz per amplifier
Frequency response	20Hz~20KHz+/-0.5dB@1W Output into 8Ω (AMP OUT) 20 Hz~20KHz+/-0.5@+4dB Output into 10Ω (MAIN OUT, MONITOR OUT, EFX SEND)
Total Harmonic Distortion	Less than 0.19%@20Hz~20KHz, 75W output into4Ω (AMP OUT) Less than 0.1%@20 Hz~20KHz+14dB output into 10KΩ (MAIN OUT, MON OUT, EFX SEND)
HUM & Noise (Average, RS+150Ω) (with 20Hz~20KHz BPF)	-127dB equivalent input noise -100dB residual output noise (MAIN OUT, MONITOR OUT, EFX OUT) -79dB (MAIN OUT, MONITOR OUT) Master level control at maximum all channel level control at minimum. -79dB (EFX OUT) Master level control at maximum all channel level controls at minimum
Maximum Voltage Gain	84dB CH IN (Lo-Z) to AMP OUT 66dB CH IN (Lo-Z) to MAIN OUT, MONITOR OUT 72dB CH IN (Lo-Z) to EFX OUT 48dB CH IN (Lo-Z) to REC OUT 56dB CH IN (Hi-Z) to MAIN OUT, MONITOR OUT 26dB AUX IN to MAIN OUT 24dB TAPE IN to MAIN OUT
Crosstalk 1KHz	70dB adjacent input, 70dB input to output
Input Channel Equalization	HIGH 12KHz shelving (+/- 15dB Maximum) MID 2.5KHz peaking (+/- 15dB Maximum) LOW 80Hz shelving (+/- 15dB Maximum)
Meters	7 POINT LED METERS (-20, -10, -7, -4, 0, +3, +6dB)
Graphic Equalizer	7 bands (63, 160, 400, 1K, 2.5K, 6.4K, 16KHz)
Internal DSP Effects	24 BIT - 8 Presets: 1 - Large Hall; 2 - Medium Hal; 3 - Large Room; 4 - Vocal Room ; 5 - Vocal Room 2; 6 - Chorus + Reverb; 7 - Chorus + Delay; 8 - Stairwell
Phantom Power	+48V
CLIP Indicators	Turn on: THD> 0.1%
Foot Switch	DIGITAL EFFECT MUTE: ON/OFF
GENERAL	
Power Requirement	110V-240V, 50/60Hz
Power Consumption	540W
Weight	32.3 lbs./14.7Kg
Dimensions	489mm(W) x 286mm(H) x 289mm(D)

Block Diagram



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