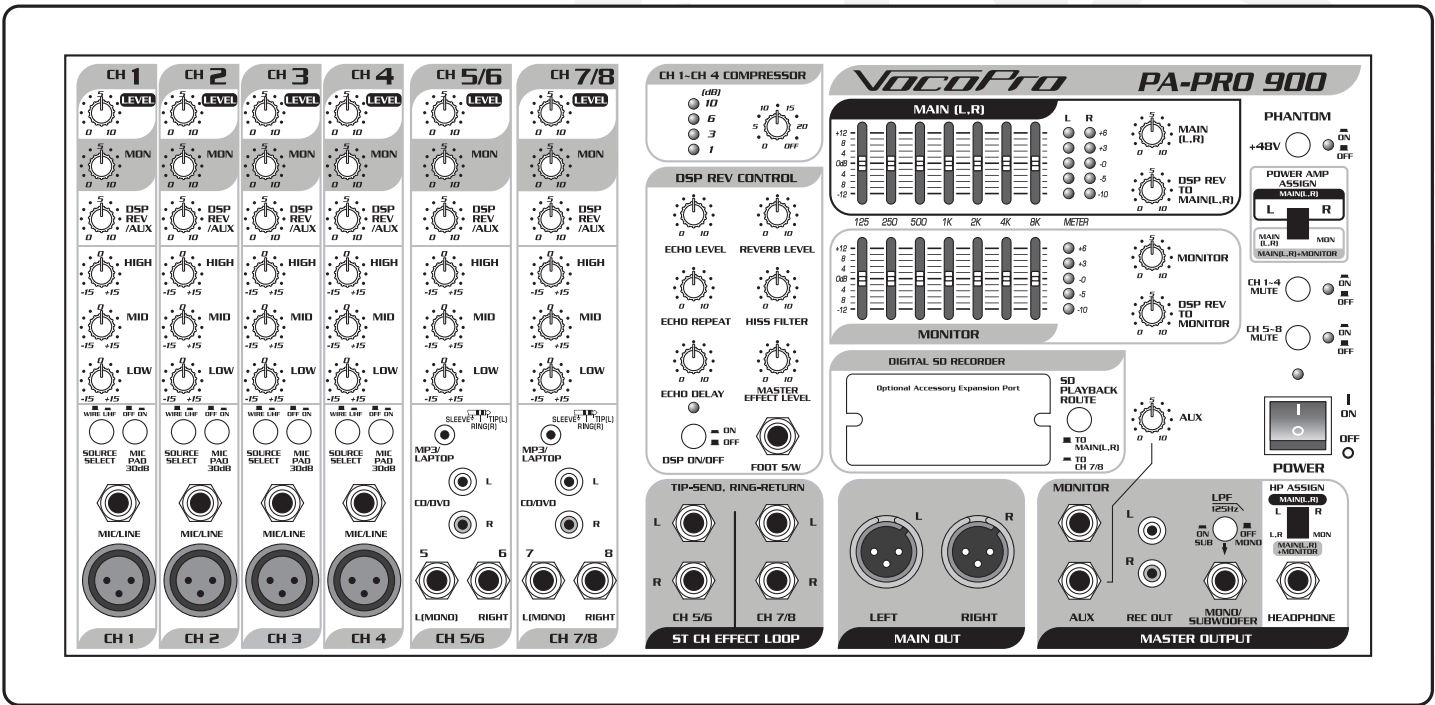# VocoPro®

PROFESSIONAL VOCAL SYSTEMS ™

PA-PRO 900

900W PROFESSIONAL P.A. MIXER

o w n e r ' s   m a n u a l

Table of Contents

Safety Instructions

CAUTION
RISK OF SHOCK

CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Only refer servicing to qualified service personnel.

Explanation of Graphical Symbols

The lightning flash & arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of danger.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.

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

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. **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

6. **Water and Moisture** - Do not use this unit near water. For example, near a bathtub or in a wet basement and the like.

7. **Carts and Stands** - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

7 A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause an overturn.

8. **Ventilation** - The appliance should be situated so its location 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 slots.

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.

11. **Grounding or Polarization** - Precautions 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** - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

14. **Power lines** - An outdoor antenna should be located away from power lines.

15. **Nonuse Periods** - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

16. **Object and Liquid Entry** - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

17. **Damage Requiring Service** - The appliance should be serviced by qualified service personnel when:

A. The power supply cord or plug has been damaged; or
B. Objects have fallen 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.

18. **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.

Note:
To CATV system installer's (U.S.A.): This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected as close to the point of cable entry as practical.

FCC Information

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!: This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Vocopro may void your authority, granted by the FCC, to use this product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable(s) supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the U.S.A.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurances that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the owner's manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "Off" and "On", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Use power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300-ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact your local retailer authorized to distribute Vocopro products. If you can not locate the appropriate retailer, please contact Vocopro, 1728 Curtiss Court, La Verne, CA 91750.

CAUTION
The apparatus is not disconnected from the AC power source so long as it is connected to the wall outlet, even if the apparatus itself is turned off. To fully ensure that the apparatus is indeed fully void of residual power, leave unit disconnected from the AC outlet for at least fifteen seconds.

CAUTION:
**READ THIS BEFORE OPERATING YOUR UNIT**

1. To ensure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.

2. Install your unit in a cool, dry, clean place - away from windows, heat sources, and too much vibration, dust, moisture or cold. Avoid sources of hum (transformers, motors). To prevent fire or electrical shock, do not expose to rain and water.

3. Do not operate the unit upside-down.

4. Never open the cabinet. If a foreign object drops into the set, contact your dealer.

5. Place the unit in a location with adequate air circulation. Do not interfere with its proper ventilation; this will cause the internal temperature to rise and may result in a failure.

6. Do not use force on switches, knobs or cords. When moving the unit, first turn the unit off. Then gently disconnect the power plug and the cords connecting to other equipment. Never pull the cord itself.

7. Do not attempt to clean the unit with chemical solvents: this might damage the finish. Use a clean, dry cloth.

8. Be sure to read the "Troubleshooting" section on common operating errors before concluding that your unit is faulty.

9. This unit consumes a fair amount of power even when the power switch is turned off. We recommend that you unplug the power cord from the wall outlet if the unit is not going to be used for a long time. This will save electricity and help prevent fire hazards. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

10. To prevent lightning damage, pull out the power cord and remove the antenna cable during an electrical storm.

11. The general digital signals may interfere with other equipment such as tuners or receivers. Move the system farther away from such equipment if interference is observed.

NOTE:
Please check the copyright laws in your country before recording from records, compact discs, radio, etc. Recording of copyrighted material may infringe copyright laws.

Voltage Selector (General Model Only)
Be sure to position the voltage selector to match the voltage of your local power lines before installing the unit.

110V
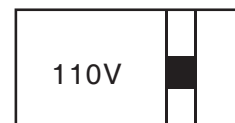
Welcome

And thank you for purchasing the **PA-PRO 900** from VocoPro, your ultimate choice in vocal entertainment! With years of experience in the music entertainment business, VocoPro is a leading manufacturer of vocal equipment, and has been providing patrons of bars, churches, schools, clubs and individual consumers the opportunity to sound like a star with full-scale club models, in-home systems and mobile units. All our products offer solid performance and sound reliability, and to reinforce our commitment to customer satisfaction, we have customer service and technical support professionals ready to assist you with your needs. We have provided some contact information for you below.

VocoPro
1728 Curtiss Court
La Verne, CA 91750
Toll Free: 800-678-5348
TEL: 909-593-8893
FAX: 909-593-8890

VocoPro Company Email Directory

Customer Service & General Information
info@vocopro.com

Tech Support
techsupport@vocopro.com

Remember Our Website
Be sure to visit the VocoPro website **www.vocopro.com** for the latest information on new products, packages and promos. And while you're there don't forget to check out our Club VocoPro for Karaoke news and events, chat rooms, club directories and even a KJ Service directory!

We look forward to hearing you sound like a PRO, with VocoPro, the singer's ultimate choice.

FOR YOUR RECORDS

Please record the model number and serial number below, for easy reference, in case of loss or theft. These numbers are located on the rear panel of the unit. Space is also provided for other relevant information

Model Number

Serial Number

Date of Purchase

Place of Purchase

Listening for a Lifetime

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. VocoPro and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to a higher volume of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
• Start your volume control at a low setting.
• Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
• Set the dial and leave it there.
• Pay attention to the different levels in various recordings.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Some common decibel ranges:

Level	Example
30	Quiet library, Soft whispers
40	Living room, Refrigerator, Bedroom away from traffic
50	Light traffic, Normal Conversation
60	Air Conditioner at 20 ft., Sewing machine
70	Vacuum cleaner, Hair dryer, Noisy Restaurant
80	Average city traffic, Garbage disposals, Alarm clock at 2 ft.

The following noises can be dangerous under constant exposure:

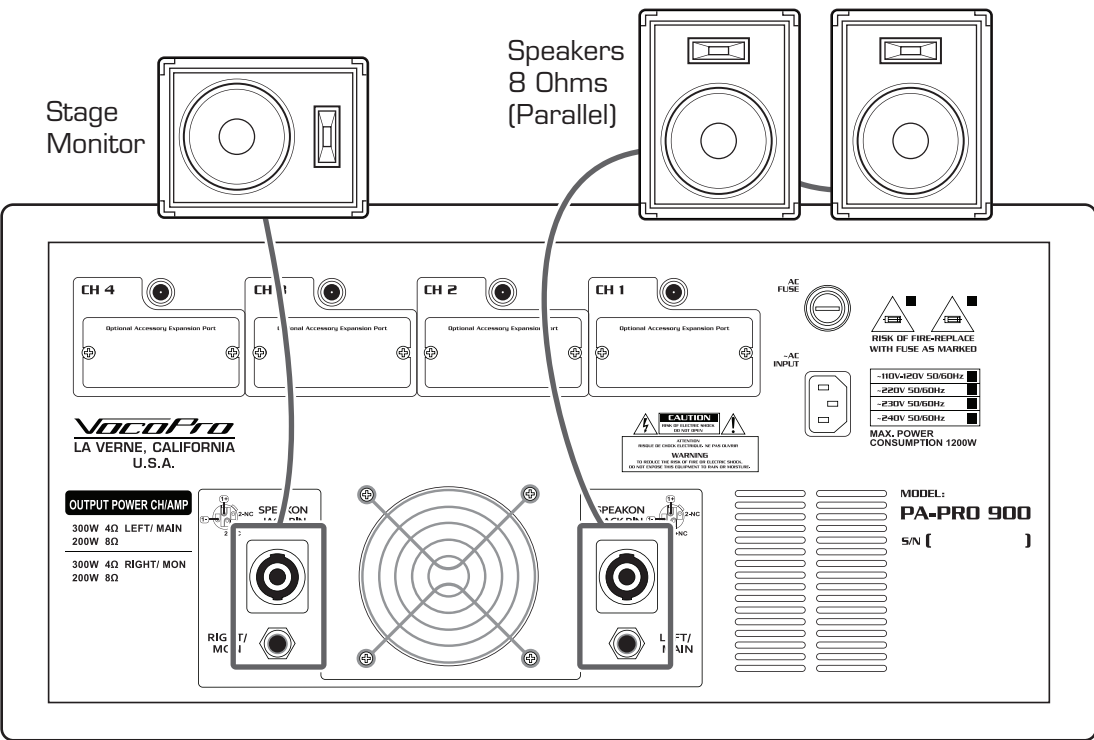| Level	Example
90	Subway, Motorcycle, Truck traffic, Lawn Mower
100	Garbage truck, Chainsaw, Pneumatics drill
120	Rock band concert in front of speakers
140	Gunshot blast, Jet plane
180	Rocket launching pad

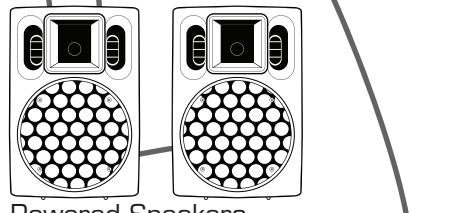-Information courtesy of the Deafness Research Foundation

Features

Features

- 450W + 450W RMS Power Output (4 ohms)
- 8 Channels (4 Mic/Line, 4 Stereo/Line)
- Mic/Line Channel Inputs: ¼", XLR
- Stereo/Line Channel Inputs: 1/8", L/R RCA, L/R ¼"
- Independent Tone, Level and Effect Controls on All Input Channels
- DSP Reverb, Echo and Hiss Filter Effects with On/Off Switch
- Built-in Compressor for Microphone Channels
- L/R ¼" Effect Loop Jacks for Stereo Channels
- Dual 7-band Graphic EQs for Main and Monitor Output
- +48V Phantom Power
- 4 UHF Wireless Mic Module Ports*
- SDR-3 Digital SD Recorder Expansion Port*
- Balanced XLR L/R Main Output Jacks
- RCA L/R Record Out Jacks
- Subwoofer Output with 125Hz LPF and On/Off Switch
- Speakon and 1/4" Speaker Output Jacks
- Headphone Output with Source Select
*SDR-3 Digital SD Recorder and UHF Wireless Mics and Modules are Optional Accessories

Hookup Diagrams

Stage Monitor

Speakers 8 Ohms (Parallel)

PA-PRO 900 Rear Panel

CH 4   CH 3   CH 2   CH 1

Optional Accessory Expansion Port

AC FUSE

~AC INPUT

RISK OF FIRE·REPLACE WITH FUSE AS MARKED

-110V-120V 50/60Hz
-220V 50/60Hz
-230V 50/60Hz
-240V 50/60Hz

MAX. POWER CONSUMPTION 1200W

VocoPro
LA VERNE, CALIFORNIA
U.S.A.

OUTPUT POWER CH/AMP

300W 4Ω LEFT/ MAIN
200W 8Ω

300W 4Ω RIGHT/ MON
200W 8Ω

SPEAKON

RIGHT/ MON

SPEAKON

LEFT/ MAIN

MODEL:

PA-PRO 900

S/N [   ]

PA-PRO 900 Front Panel

CH 1 CH 2 CH 3 CH 4 CH 5/6 CH 7/8

LEVEL MON DSP REV /AUX HIGH MID LOW

CH 1-CH 4 COMPRESSOR

DSP REV CONTROL

ECHO LEVEL   REVERB LEVEL

125 280 500 1K 2K 4K 8K

ECHO REPEAT   HISS FILTER

ECHO DELAY   MASTER EFFECT LEVEL

DSP ON/OFF   FOOT S/W

VocoPro   PA-PRO 900

MAIN (L,R)

MONITOR

DIGITAL SD RECORDER

Optional Accessory Expansion Port

SD PLAYBACK ROUTE

MAIN (L,R)

DSP REV TO MAIN(L,R)

MONITOR

DSP REV TO MONITOR

AUX

PHANTOM
+48V

POWER AMP ASSIGN

POWER

POWER AMP ASSIGN set to: MAIN+MONITOR

CH 1-4 MUTE

CH 5-8 MUTE

TIP-SEND, RING-RETURN

CH 5/6   CH 7/8

ST CH EFFECT LOOP

MAIN OUT

LEFT   RIGHT

MONITOR

AUX   REC OUT   MONO/ BWOOFER   HEADPHONE

MASTER OUTPUT

HP ASSIGN

Microphones

Guitar   Keyboard

Powered Speakers

Audio Recorder

8

Hookup Diagrams

House of Worship/Full Band
For this example, there are four microphones connected to channels 1-4. These microphones can either be the optional UHF wireless channels, low-impedance corded microphones, or high-impedance corded microphones. Musical instruments are connected to channels 5-8. Note that when connecting instruments to channels 5-8, the LEVEL control will need to be set rather high due to the lower signal level from instrument output. It is preferable to use channels 1-4 for instruments if you are using less than four microphones. If there is a need to connect a laptop or other stereo music source, you can connect to the designated stereo inputs on channels 5/6-7/8.

For power output in this example, the PA-PRO 900 is configured for MAIN L/R+MONITOR output. A pair of passive speakers is powered via the MAIN L./R speaker connector. A passive monitor speaker is powered via the MONITOR speaker connector. An additional set of powered speakers can be connected to the MAIN OUT jacks on the front panel.

Recording can be done either with an optional SDR-3 SD recorder (optional accessory), or to an external recording device connected to the RCA record out jacks on the front panel.
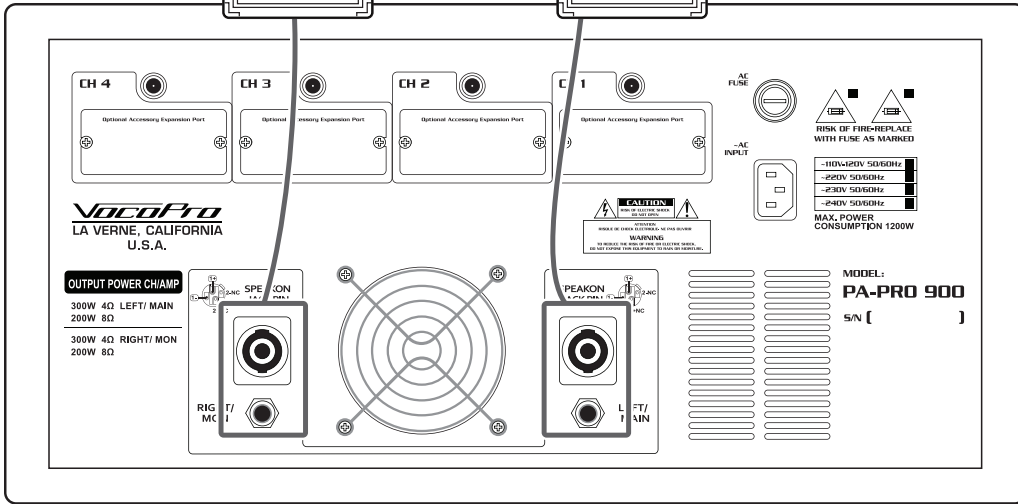
NOTES:
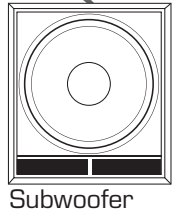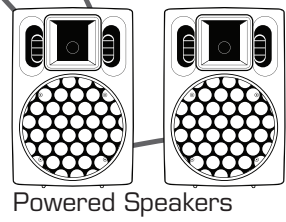UHF wireless mic channels require the SOURCE SELECT switch to be set to UHF.

POWER AMP ASSIGN switch must be best to MAIN L/R+MONITOR

Hookup Diagrams

Speakers
8 Ohms
or
4 Ohms

PA-PRO 900 Rear Panel

VocoPro
LA VERNE, CALIFORNIA
U.S.A.

OUTPUT POWER CH/AMP

300W 4Ω LEFT/ MAIN
200W 8Ω

300W 4Ω RIGHT/ MON
200W 8Ω

MODEL:
PA-PRO 900
S/N [   ]

RISK OF FIRE-REPLACE
WITH FUSE AS MARKED

MAX. POWER
CONSUMPTION 1200W

PA-PRO 900 Front Panel

POWER AMP
ASSIGN set to:
MAIN(L,R)

LPF set to: ON

Microphones

Mixer

Laptop or Mp3 player

External Effects Device

Powered Speakers

Subwoofer
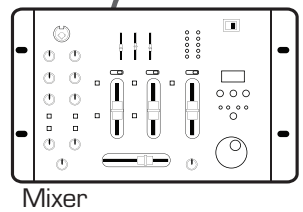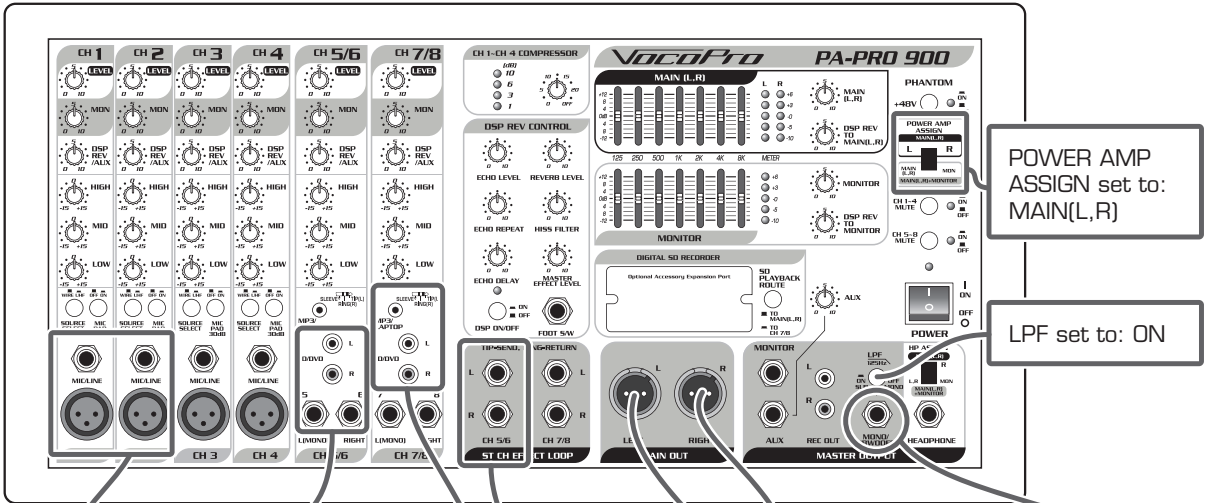
Hookup Diagrams

DJ

For this example we have two microphones in use on channels 1 and 2; one for the DJ, the other as a backup or guest speaker. There is a line-out from a DJ mixer connected to CH. 5/6 to serve as the main music source. For additional music needs, either a laptop computer or MP3 player is connected to CH. 7/8.

You can have a sonic enhancer or other effect device connected to the CH. 5/6 effect loops to apply desired effects to the source music. Of, course you could have a second effect device connected to CH. 7/8 effect loops jacks as well. Note that, you will need special insert cables in order to make these connections.

For output needs, you can configure the PA-PRO 900 for standard two-channel stereo output with the POWER AMP ASSIGN button. A set of passive speakers are connected the speaker-level connectors on the rear panel. You can have a set of powered speakers connected to the XLR MAIN OUT jacks on the front panel for additional power. We also have a powered subwoofer connected to the ¼" subwoofer output on the front panel for that extra low end punch. Note that when a subwoofer is connected, the SUBWOOFER(LPF) toggle button should be set to ON.

NOTES:
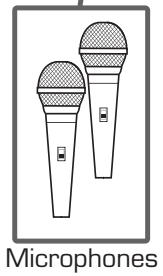UHF wireless mic channels require the SOURCE SELECT switch to be set to UHF.
Low-impedance microphones require the MIC PAD switches to be set to ON.
POWER AMP ASSIGN switch must be best to MAIN L,R
The SUBWOOFER button must be set to SUB.

Karaoke

For this setup you could have four microphones in use on channels 1-4. There is a line-out from a karaoke player, instead of a mixer, connected to CH. 5/6 to serve as the main music source. For additional music needs, either a laptop computer or MP3 player is connected to CH. 7/8.

You can have a digital key controller connected to the CH. 5/6 effect loops to apply desired effects to the source music. Of course, you could have a second effect device connected to CH. 7/8 effect loops jacks as well. Note that, you will need special insert cables in order to make these connections.

For output needs, you can have the PA-PRO 900 configured for standard two-channel stereo output via the POWER AMP ASSIGN button. A set of passive speakers are connected the speaker-level connectors on the rear panel. You can have a set of powered speakers connected to the XLR MAIN OUT jacks on the front panel for additional power. For stage monitoring, we have a powered stage monitor connected to the ¼" MONITOR jack on the front panel. We also have a powered subwoofer connected to the ¼" subwoofer output on the front panel for that extra low end punch. Note that when a subwoofer is connected, the SUBWOOFER(LPF) toggle button should be set to ON.
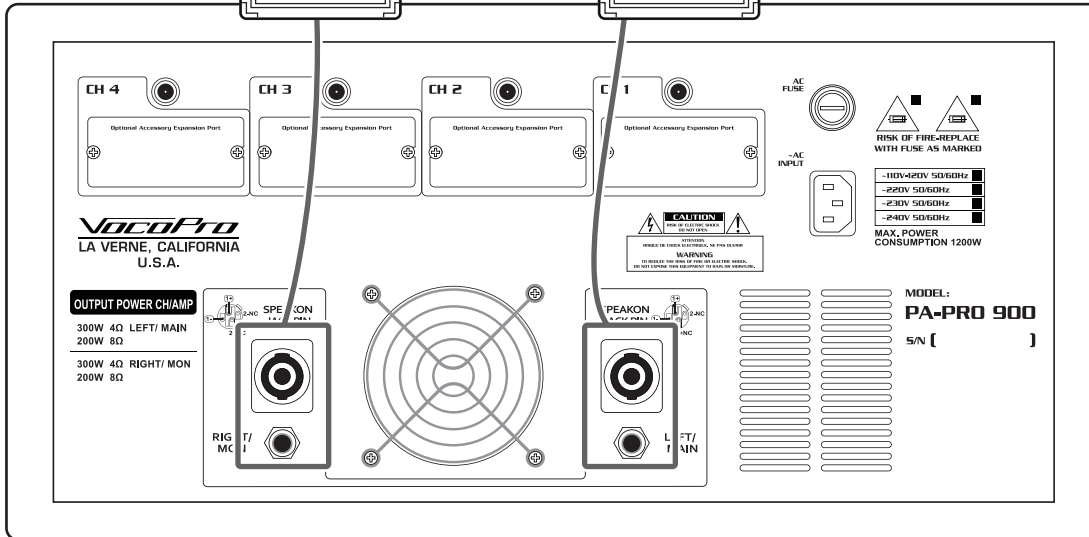
NOTES:
UHF wireless mic channels require the SOURCE SELECT switch to be set to UHF.
Low-impedance microphones require the MIC PAD switches to be set to ON.
POWER AMP ASSIGN switch must be best to MAIN L,R
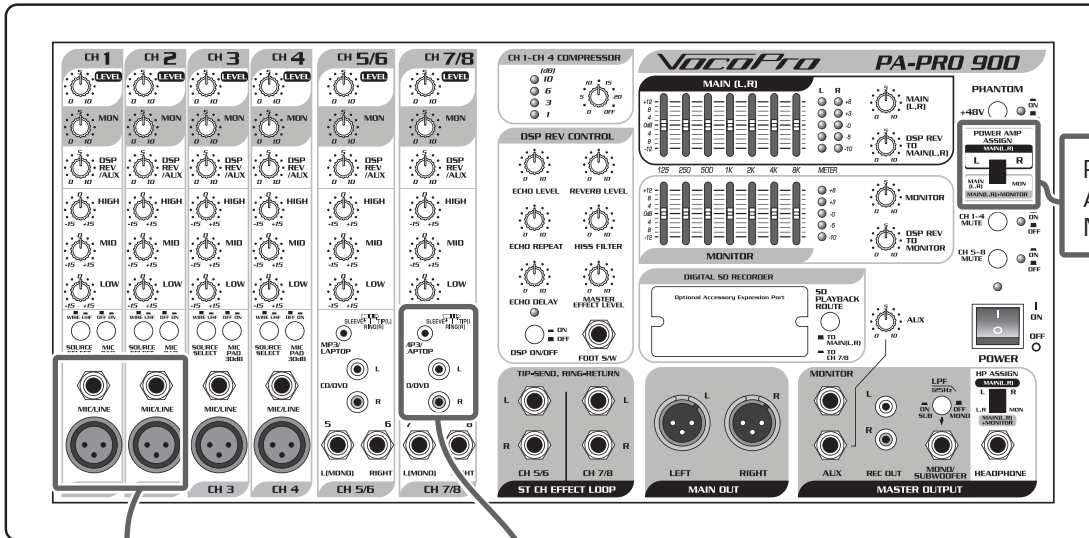The SUBWOOFER(LPF) button must be set to ON/SUB.
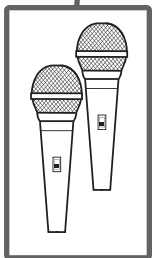
Hookup Diagrams

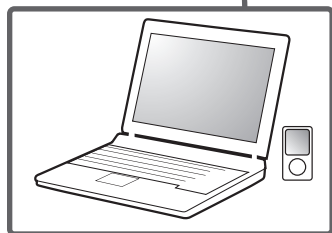Speakers
8 Ohms
or
4 Ohms

PA-PRO 900 Rear Panel

CH 4   CH 3   CH 2   CH 1

Optional Accessory Expansion Port   Optional Accessory Expansion Port   Optional Accessory Expansion Port   Optional Accessory Expansion Port

AC FUSE

RISK OF FIRE-REPLACE WITH FUSE AS MARKED

~AC INPUT

-110V-120V 50/60Hz
-220V 50/60Hz
-230V 50/60Hz
-240V 50/60Hz

MAX. POWER CONSUMPTION 1200W

VocoPro
LA VERNE, CALIFORNIA
U.S.A.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

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

OUTPUT POWER CH/AMP
300W 4Ω LEFT/ MAIN
200W 8Ω
300W 4Ω RIGHT/ MON
200W 8Ω

SPEAKON

RIGHT/ MON

PEAKON

LEFT/ MAIN

MODEL:
PA-PRO 900
S/N [   ]

PA-PRO 900 Front Panel

CH 1   CH 2   CH 3   CH 4   CH 5/6   CH 7/8

LEVEL
0 10
MON
0 10
DSP REV /AUX
0 10
HIGH
-15 +15
MID
-15 +15
LOW
-15 +15

SOURCE   MIC
SOURCE SELECT   MIC PAD 30dB

MIC/LINE

MP3/ LAPTOP
CD/DVD

SLEEVE-TIP(L) RING(R)

L
R

CH 1-CH 4 COMPRESSOR
10
6
3
1

DSP REV CONTROL
ECHO LEVEL   REVERB LEVEL
ECHO REPEAT   HISS FILTER
ECHO DELAY   MASTER EFFECT LEVEL
DSP ON/OFF   FOOT S/W

DIGITAL SD RECORDER
Optional Accessory Expansion Port
SD PLAYBACK ROUTE
TO MAIN(L,R)
TO CH 7/8

TIP-SEND, RING-RETURN
L   R
CH 5/6   CH 7/8
ST CH EFFECT LOOP

VocoPro   PA-PRO 900

MAIN (L,R)
+12
8
0dB
4
8
-12
125 250 500 1K 2K 4K 8K   METER

MONITOR
+12
8
0dB
4
8
-12

L R
MAIN (L,R)
DSP REV TO MAIN(L,R)
MONITOR
DSP REV TO MONITOR

AUX

MONITOR
L
R
AUX   REC OUT
MONO/ SUBWOOFER

LEFT   RIGHT
MAIN OUT

PHANTOM
+48V   ON OFF

POWER AMP ASSIGN
MAIN(L,R)
L   R
MAIN(L,R) MON
MAIN(L,R)+MONITOR

CH 1-4 MUTE   ON OFF
CH 5-8 MUTE   ON OFF

I ON
O OFF
POWER

HP ASSIGN
MAIN(L,R)
L   R
MAIN(L,R) MON
MAIN(L,R)+MONITOR

HEADPHONE

MASTER OUTPUT

LPF 150Hz
ON SUB   OFF MONO

POWER AMP
ASSIGN set to:
MAIN(L,R)

Microphones

Laptop or Mp3 player

12

Hookup Diagrams

Public Address/Presentation
For this set up, there are four microphones connected to channels 1-4. These microphones can be either the optional UHF wireless channels, low-impedance corded microphones, or high-impedance corded microphones. Source music devices are connected to channels 5-8. Note that when connecting stereo source music devices to either CH. 5/6 or CH. 7/8, you can either connect via 1/8" mini-jack, RCA or L/R ¼". If connecting mono source audio devices, connect them the CH. 5-8 via the ¼" jacks. Note that CH. 5/6 and 7/8 will be controlled together by the channel strips. If connecting a single mono signal to either CH. 5/6 or CH. 7/8, connect to the L(MONO) jack.

For power output, this example shows PA-PRO 900 configured for MAIN L/R+MONITOR output. A pair of passive speakers is powered by the MAIN L./R speaker connector. A passive monitor speaker is powered by the MONITOR speaker connector. An additional set of powered speakers can be connected to the MAIN OUT jacks on the front panel.

Recording can be done either with an optional SDR-3 SD recorder, or to an external recording device connected to the RCA record out jacks on the front panel.
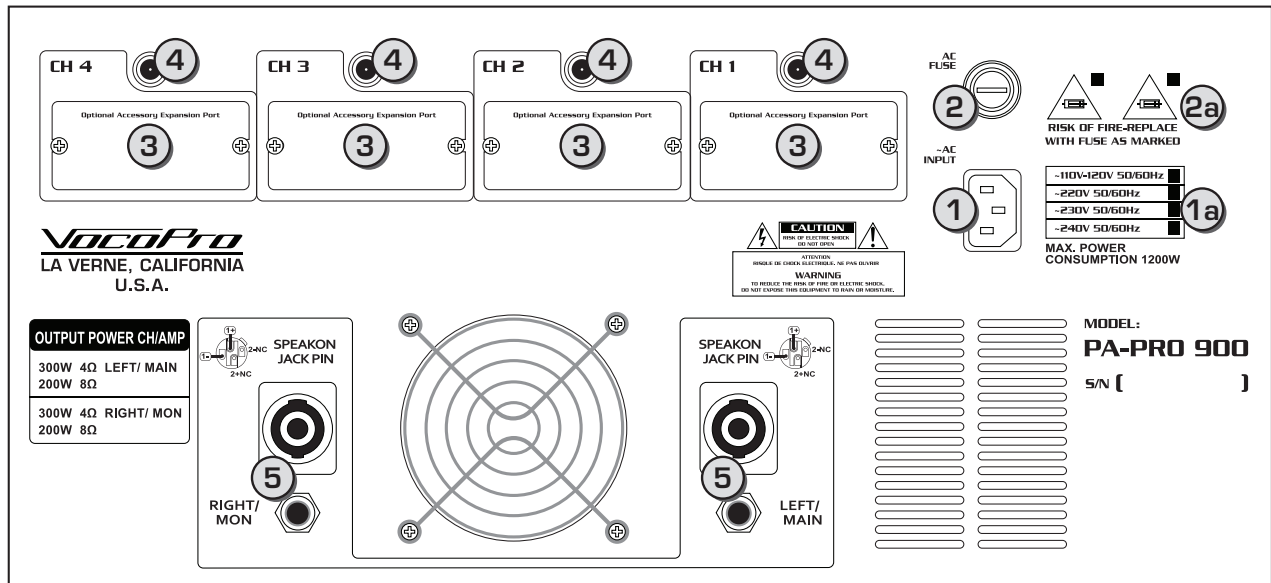
NOTES:
If connecting a single mono signal to either CH. 5/6 or CH. 7/8, connect to the L(MONO) jack.
The optional UHF wireless mic channels require the SOURCE SELECT switch to be set to UHF.

POWER AMP ASSIGN switch must be best to MAIN L/R+MONITOR

REAR PANEL FEATURES

1. POWER CONNECTOR – Connect the supplied 3-prong power cord to this connector.

1a. NOTE: Before plugging in to a power receptacle, make sure that voltage of your PA-PRO 900 is the same voltage as your local AC mains voltage. The PA-PRO 900 power input setting is factory set.

2. FUSE HOUSING – Houses the fuse. To remove the fuse, unscrew the fuse cap counter-clockwise. In the case of a blown fuse, replace once only. If the fuse blows a second time, do not attempt to replace fuse again. If a fuse blows repeatedly, there may be damage an internal component. Further attempts to power on the unit can cause more damage. In this case, refer to an authorized service center for troubleshooting

2a. NOTE: Only replace with the same type and rating of fuse as marked.

3. WIRELESS MODULE EXPANSION PORTS – Install optional UHF wireless modules in these ports. For details on operating UHF wireless channels, please refer to the optional accessories section. (page 23)

To install an optional module:
1. Unscrew the two retaining screws.
2. Remove cover plate and store it in a safe place.
3. Fully insert UHF wireless module.
4. Replace and tighten screws.

4. WIRELESS ANTENNA CONNECTORS – When the optional wireless modules are installed, connect the antennas here for UHF wireless reception.

5. SPEAKER CONNECTORS – These jacks provide speaker-level output power from the internal power amplifier to connected passive speakers. There are two types of connector available: speakon and ¼" TS.
Speakon outputs are wired PIN 1+positive (hot), and PIN 2-negative (cold).
¼" TS outputs are wires TIP +positive, and SLEEVE –negative.

The speaker-level output can be configured one of two ways via the POWER AMP ASSIGN switch on the front panel:

MAIN L/R – This configuration is for standard MAIN stereo L/R output. The left speaker output is the MAIN L signal, and the right speaker output is the MAIN R signal. Use this configuration to power two passive main speakers for straight stereo output.

MAIN L/R+MONITOR – This configuration outputs the MAIN L/R channels as a mono signal to the LEFT (MAIN) jacks, and the MONITOR channel as a mono signal to the RIGHT (MON) jacks. Use this configuration to power a passive PA/MAIN speaker on the left side and a passive stage monitor on the right side.

NOTE: If you are going to use one speaker per channel, ensure the speakers' impedance is no lower than 4 ohms. If you are going to connect two speakers per channel, ensure the speakers' impedance in no lower than 8 ohms. These two types of connectors are wired in parallel, therefore they are able to be used together.
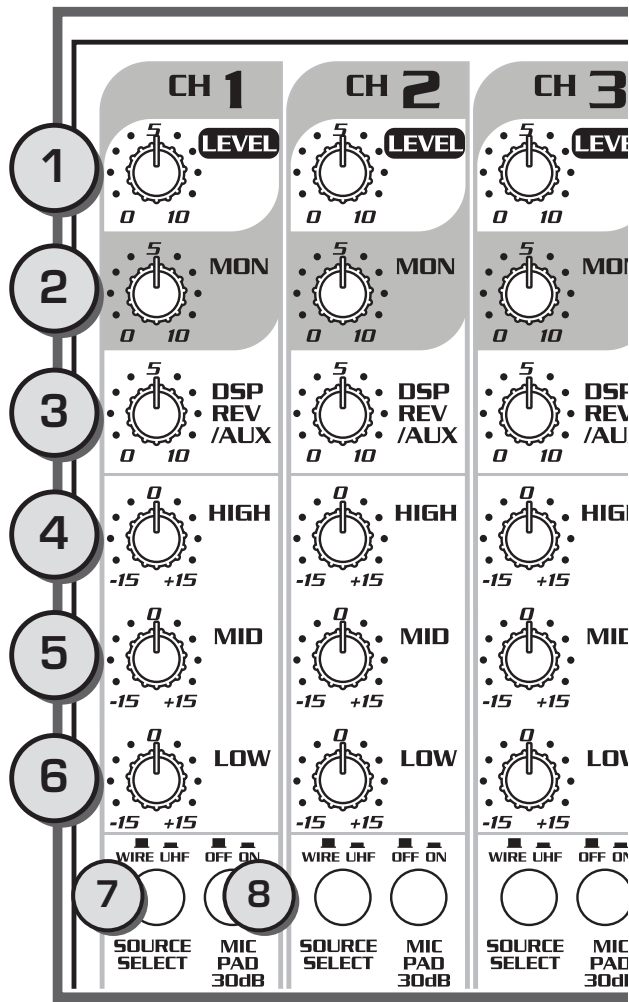
CHANNEL STRIPS
The six vertical channel strips contain all the individual controls for each channel. Each channel strip works independently of each other, and adjusts only the signal plugged into the jacks below it.

Note: If the optional wireless modules are installed, CH 1-4 control strips can adjust the signal from the wireless microphones as well.

1. LEVEL – These controls adjust the amount of gain for each channel available to the MAIN output. Adjust these controls to achieve a good mix between connected microphones/instruments. These controls do not adjust the amount of gain available for the MONITOR output.

2. MON – These controls adjust the amount of gain for each channel available to the MONITOR output. Since the monitor output will typically be used for onstage reference, set the individual levels to achieve a perfect monitoring mix. These controls do not adjust the amount of gain available for the MAIN output.

3. DSP/REV AUX – These controls adjust the amount of DSP effects applied individually to channels 1-8. This allows you to set more DSP effects to the microphone channels, and less to channels with instruments connected. These controls only adjust the amount of DSP applied to each channel; to set the individual parameters of the DSP effects, refer to the DSP REV CONTROL panel control.

A secondary function of this control is to adjust the presence of that channel's signal in the ¼" AUX output mix. As the control is turned clockwise, the signal is increased. As the control is turned counter-clockwise, the signal is decreased.

4. HIGH – These controls adjust the amount of high frequency in the audio signal for each channel. Increase the HIGH control to add sparkle to vocals and instruments, but keep in mind that excessive high frequency equalization can lead to feedback. Decrease the HIGH control to reduce vocal sibilance, reduce tape hiss, or "bacon crackle" from vinyl recordings.

5. MED – These controls adjust the amount of midrange frequency in the audio signal for each channel. Midrange is the most commonly adjusted range in audio. Pianos, guitars and the human voice can be dramatically adjusted sonically by adjusting the midrange. For vocals a slight boost in the midrange provides a good sound when playing through well-balanced set of speakers.

6. LOW – These controls adjust the amount of low frequency in the audio signal for each channel. Low frequency adjustments are made to add serious thump to kick drums, fatten up bass lines, or add a "full" sound to instruments and vocalists. You can also decrease low frequency to save your speakers from blowing during playback of audio with a heavy bass presence.

7. SOURCE SELECT – These buttons toggle the source input for channels 1-4. If using an optional UHF wireless expansion module, select UHF. If you are connecting a microphone or line instrument to the front panel via the ¼" or XLR jacks, set the switch to WIRE.

8. MIC PAD 30dB – These switches can provide a 30dB signal cut for high level input sources. The MIC PAD is designed to prevent overloading a channel with a high-level signal. If the switch is set incorrectly, excessively distorted audio can result. If you are connecting a line-level input source, such as a line out from a mixing device, set the switch to ON. If you are connecting a microphone-level signal, set the switch to OFF.

Front Panel Features
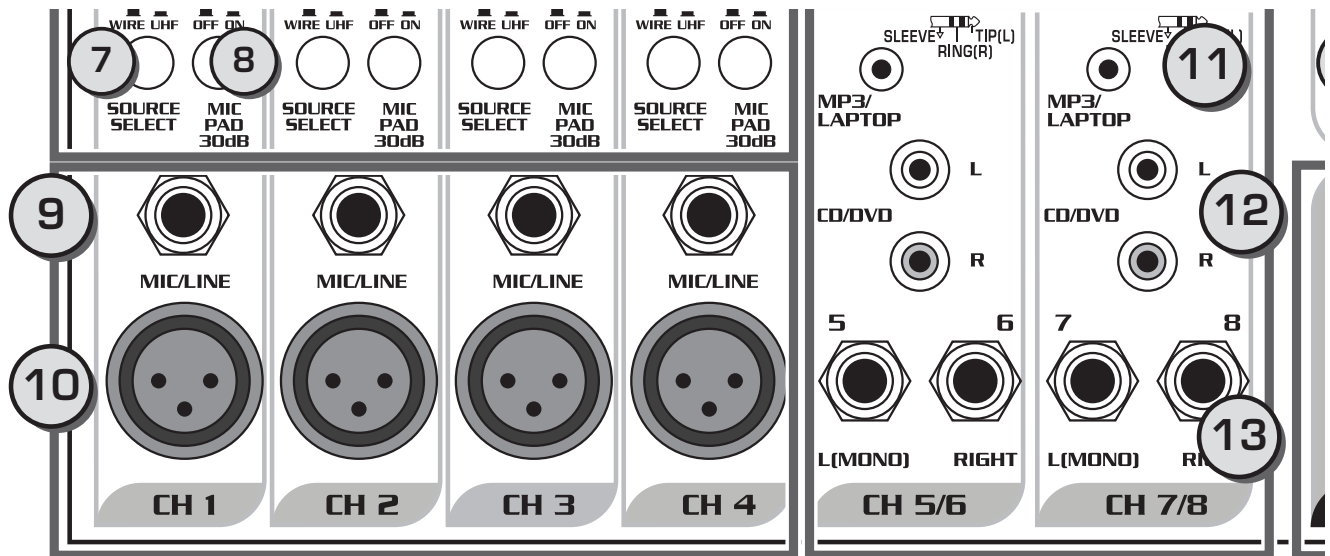
PATCH BAY

MIC/LINE (CH 1-4)
The MIC/LINE inputs are for connecting microphones, instruments, or line-level output signals. Once the devices are connected, the signals can be customized using the individual channel strips, and further controlled using the DSP, EQ and main system controls. For each of the channels 1-4, it is important to note that if you connect a device to BOTH the ¼" and XLR jacks simultaneously, turning one of them off will turn them both off. This is due to how the jacks are wired internally.

9. ¼" MIC/LINE INPUT – These jacks are for connecting devices with microphone/line-level signals. Both balanced or unbalanced ¼" cables are suitable for connecting to these jacks. If you are connecting a microphone that requires phantom power to these jacks, remember that you need a balanced cable, and that you need to set the +48V phantom power switch to ON. When connecting to these jacks, remember to ensure that the MIC PAD and SOURCE SELECT switches are set correctly. Refer to above text for details on them.

10. XLR INPUT – These XLR jacks are for connecting devices with balanced microphone/line-level signals. Use balanced XLR cables for connecting to these jacks. If you are connecting a microphone that requires phantom power to these jacks, remember to set phantom power switch to ON. When connecting to these jacks, remember to ensure that the MIC PAD and SOURCE SELECT switches are set correctly. Refer to above text for details on them.

1/8", RCA, 1/4" STEREO (CH 5-8)
These input jacks are for connecting devices with stereo output. The 1/8" jack is labeled MP3/LAPTOP but can be used to connect any line-level device with an 1/8" plug. L/R RCA jacks provide connectivity for devices that utilize line-level RCA output. The ¼" jacks can be connected in both a stereo (in tandem) and mono (separate) configuration. Note

that devices can be connected to all three sets of jacks per channel simultaneously, however, there is no way to individually mix the audio levels from each device. Effects can be applied to the stereo channels using the ¼" INSERT jacks (ST CH EFFECT LOOP).

11. MP3/LAPTOP – These 1/8" jacks are for connecting source audio devices. The signal can be either mono or stereo. If connecting a mono signal, use a 1/8" TS cable. If connecting a stereo signal, use an 1/8" TRS cable. Devices that have line-level outputs other than 1/8" can be connected to these jacks using an appropriate adapter/cable.
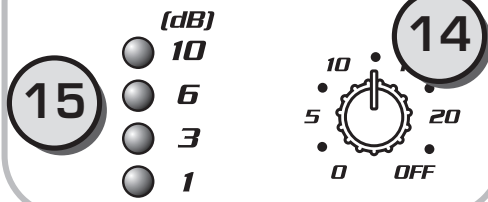
12. RCA L/R – These jacks are for connecting source audio devices with line-level, unbalanced output, such as CD+G player, iPod docks, tape decks etc. Devices that have line-level outputs other than L/R RCA can be connected to these jacks using an appropriate adapter/cable. Note that you cannot directly connect phono-level outputs from a turntable; a phono pre-amp is required.

13. ¼" L(MONO)/RIGHT – These ¼" jacks are for connecting source audio devices with ¼" line-level output. Use ¼" TS cables to make the connections. If you are connecting stereo output, connect the L channel to the L(MONO) jack, and connect the right channel to the RIGHT jack. If you are connecting a single mono signal and only require one connection, connect to the L(MONO) jack. Connecting a single mono line to only the RIGHT jack will result in no sound.
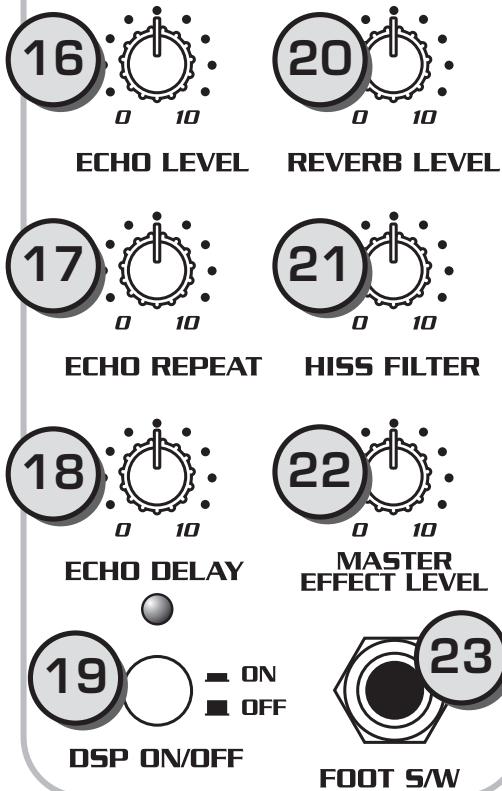
CH 1~CH 4 COMPRESSOR
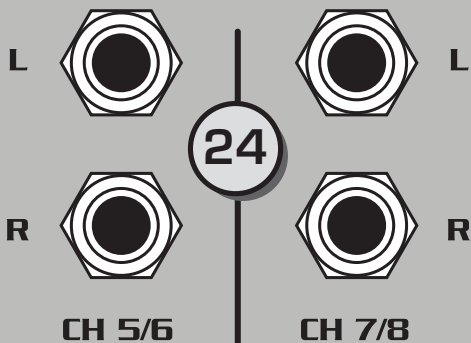
(dB)
10
6
3
1

15

14

10
5   20
0   OFF

DSP REV CONTROL

16 — 0 10 — **ECHO LEVEL**

20 — 0 10 — **REVERB LEVEL**

17 — 0 10 — **ECHO REPEAT**

21 — 0 10 — **HISS FILTER**

18 — 0 10 — **ECHO DELAY**

22 — 0 10 — **MASTER EFFECT LEVEL**

19 — ON / OFF — **DSP ON/OFF**

23 — **FOOT S/W**

TIP-SEND, RING-RETURN

L   L

24

R   R

CH 5/6   CH 7/8

ST CH EFFECT LOOP

+12
8
4
0dB
4
8
-12

+12
8
4
0dB
4
8
-12

COMPRESSOR (CH.1-4)
Channels 1-4 have on-board compression available for preventing unwanted distortion in the audio signal. The compressor works by setting a threshold level with the threshold knob. Once a signal level exceeds that threshold, the signal is automatically compressed. Compression is very useful when the mic/line signal is very dynamic (fluctuating from very low to high levels) and has the potential to overload the inputs. If you think there is chance of someone screaming into the mic with a burst of enthusiasm, it would be a good idea to apply some compression.

14. THRESHOLD KNOB – Use this knob to set the threshold level for the compressor. When set to OFF, no compression is applied. As the knob is turned counter-clockwise, the threshold level drops, and increases the amount of compression applied.

15. COMPRESSOR LEDs – These LEDs reflect the amount of compression being applied.

DSP REV CONTROL
The on-board DSP effects are a great way to spice up your vocals or instruments. The two main effects are echo and reverb. The echo effect can be customized by adjusting the echo repeat and echo delay controls. Reverb is ideal for vocals as it adds a sense of spaciousness without echo repetitions that could "muddy" the vocal signal.
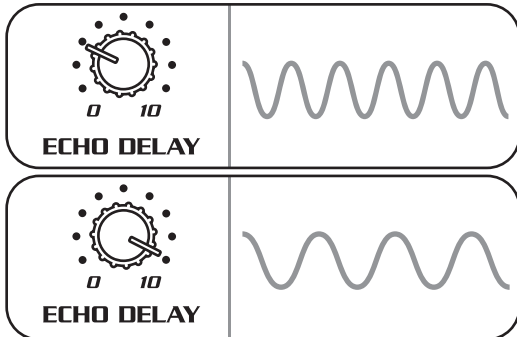
16. ECHO LEVEL – This control adjusts the overall level of the ECHO effect. Use this control to adjust the amount of ECHO applied when adjusting the master effect level control. To increase echo, turn the control clockwise. To decrease echo, turn the control counter-clockwise.

17. ECHO REPEAT – This control is used to adjust the number of repetitions in the echo effect. When set to a minimum, there will be no repetition of audio. As this control is turned clockwise, more echo repetitions will occur.

0   10
ECHO REPEAT

0   10
ECHO REPEAT
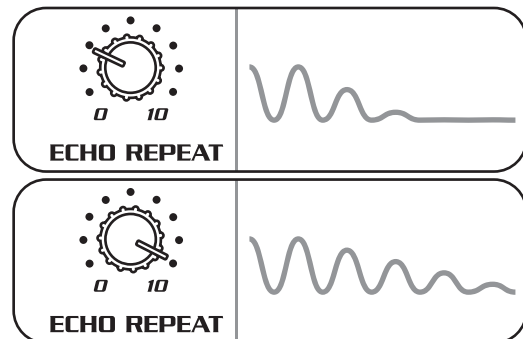
18. ECHO DELAY – This control is used to adjust the length of time between each echo repetition. When set to minimum, the echo repetitions will occur rapidly, with little to no time between them. As this control is turned clockwise, the time between each repetition will increase.

19. DSP ON/OFF – Use this control to quickly enable or disable all DSP effects. This can be used to switch to a "dry" signal for DJ or speaker announcements. When the announcements are over, hit the button again to reapply the effects. When the button is in the OUT position, all DSP effects are off; when the button is in the IN position, all DSP effects are on.

20. REVERB LEVEL - This control adjusts the overall level of the reverb effect. Use this control to adjust the amount of REVERB applied when adjusting the master effect level control. To increase reverb, turn the control clockwise. To decrease reverb, turn the control counter-clockwise.

21. HISS FILTER – Thue control is used to reduce the amount of sibilance in the vocals while using DSP echo with repeat. As the control is turned clockwise, less sibilance will occur during each echo repitition.
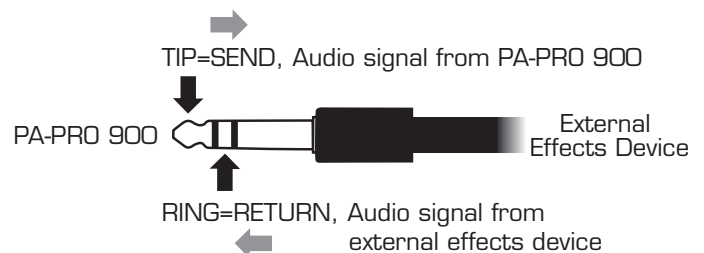NOTE: This feature only works when DSP repeat is applied.

22. MASTER EFFECT LEVEL – This control is used to adjust the overall level of all the effects combined. Use this control after you have already made individual adjustments to the reverb, echo and hiss filter controls. If you find that you applied too much or too little DSP effects and need to quickly make an adjustment to all the channels, use this control.
Note: There are two other locations to adjust the amount of DSP that goes into the mix: The DSP controls on the EQ panel, and the DSP controls on the channel strips.
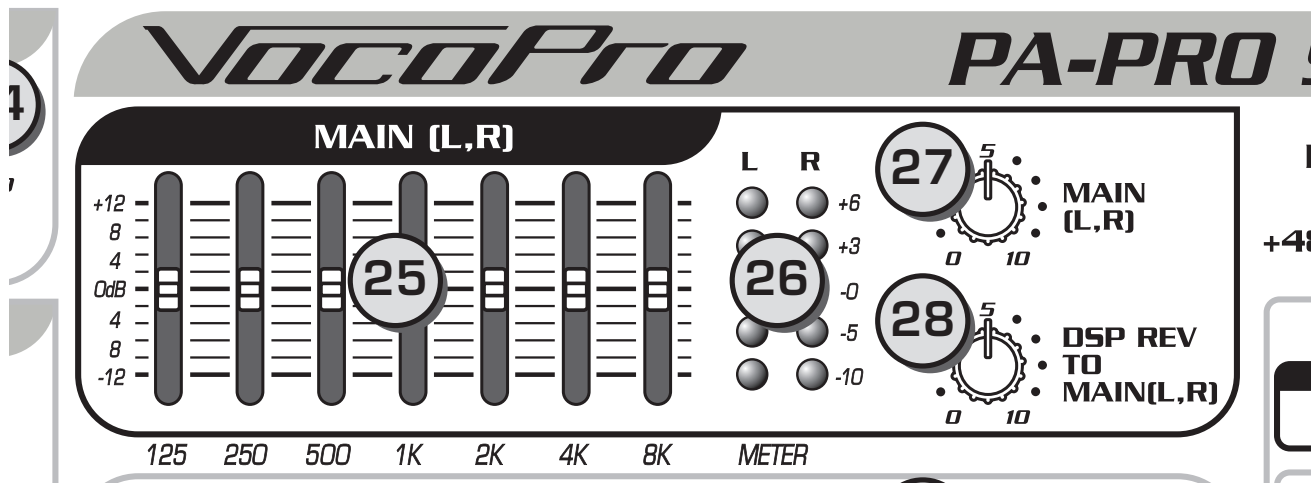
23. FOOT SW. – This input jack is for connecting an external footswitch that can be used to enable or disable DSP effects. The DSP ON/OFF button needs to be in the ON position to use the footswitch. Any single-button footswitch with a ¼" TRS plug can be connected and used.

24. ST CH EFFECT LOOPS
These ¼" insert jacks are for connecting external effects devices such as digital key controllers, equalizers, and sonic enhancers. With an insert jack, a signal can leave the jack to an external processor, and return post-processed via the same insert jack. A special insert cable is required, see your effects processor manual to determine what type of cable to use. Effect integration via the effect loop jacks is only available to signals from CH-5-8. If a stereo device is connected to CH. 5/6 or 7/8, you need to make an insert connection for each channel (L/R). Note that the loop jacks are sent before the signal hits the on-board EQs, so keep that in mind if you are using the insert jacks to integrate an external EQ.

TIP=SEND, Audio signal from PA-PRO 900

PA-PRO 900

External Effects Device

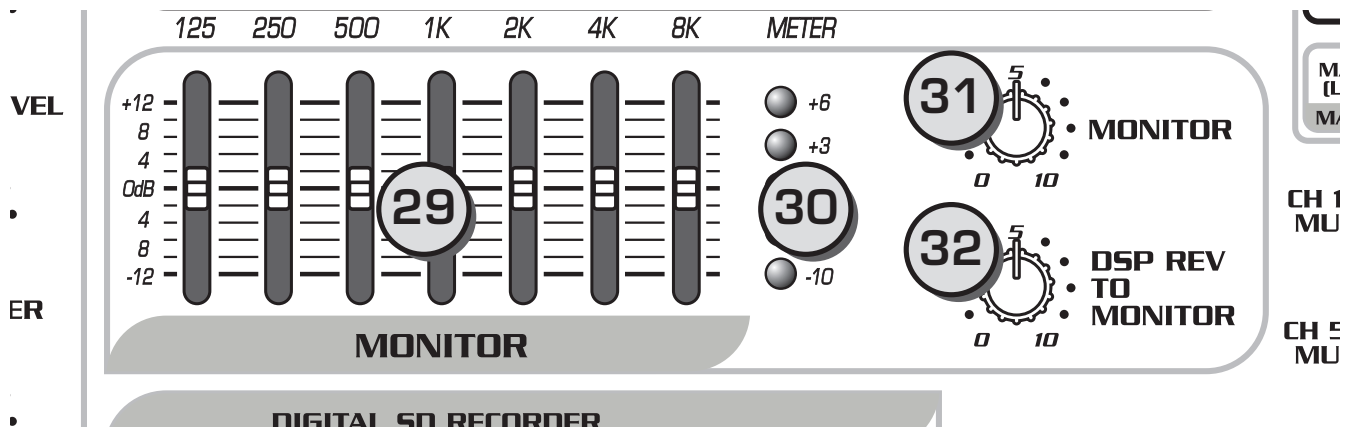RING=RETURN, Audio signal from external effects device

25. MAIN L, R GRAPHIC EQ – This 7-band graphic EQ is used to customize the sound of the MAIN L, R mix output. This EQ section affects the signals found in the MAIN (XLR), headphone, line-level, and speaker-level jacks (when configured to MAIN L, R). The 7 slide controls each represent a frequency band: 125, 250, 500, 1K, 2K, 4K, and 8K. Each of the slide controls adjusts the audio level of its particular frequency with up to a 12dB boost or cut. If left in the center position, there will be no change to audio level the frequency. It is important to remember that EQ controls are meant to provide precise adjustments to an audio signal, and not overly inflate a signal resulting in an unnatural sound. Human hearing can adapt quite quickly to a particular sound signature, so it is best to find a suitable setting and leave it there until a change in the source audio or environment requires a change in the EQ.

26. MAIN L, R LEDs – These stereo LEDs display the output level of the MAIN L, R mix. The LEDs are marked from –10dB to +6dB. It is important to monitor these LEDs as they can prevent a distorted audio signal and possible damage to your speakers. An optimal signal will be mostly contained to the green LEDs (up to 0dB), with occasional peaks into the first red LED (+3dB). If the mix reaches +6dB, it is strongly advisable to reduce the MAIN L, R LEVEL control.

27. MAIN L, R LEVEL – This control adjusts the signal level of the MAIN L, R mix to be sent to the line-level outputs, MAIN L, R LEDs, headphone and speaker-level outputs. This control provides a one-touch adjustment to the MAIN L, R mix, especially useful when the power amp assign is set to MAIN L, R output. When the MAIN L, R LEDs enter the +6dB range, use this control to make a quick adjustment. When the power amp assign is set to MAIN L, R+MONITOR, this control will only affect the mix sent to the MAIN (XLR), AUX and (L) speaker-level output.

28. DSP REV TO MAIN L, R – This control adjusts the amount of DSP effects that is applied to the MAIN L, R mix. This control is ideal for making quick on-the-fly adjustments to the DSP effects level on the MAIN L, R mix which is routed to the line-level outputs and speaker-level outputs. When configuring your DSP effects, this control is used after the MASTER EFFECT LEVEL control in the DSP controls panel. Note that when the power amp assign is set to MAIN L, R+MONITOR, this control will not adjust the DSP effects of the MONITOR mix.

VEL

ER

| 125 | 250 | 500 | 1K | 2K | 4K | 8K | METER |

+12
8
4
0dB
4
8
-12

29

+6
+3
-10

30

31 5 **MONITOR** 0 10

32 5 **DSP REV TO MONITOR** 0 10

MONITOR

DIGITAL SD RECORDER
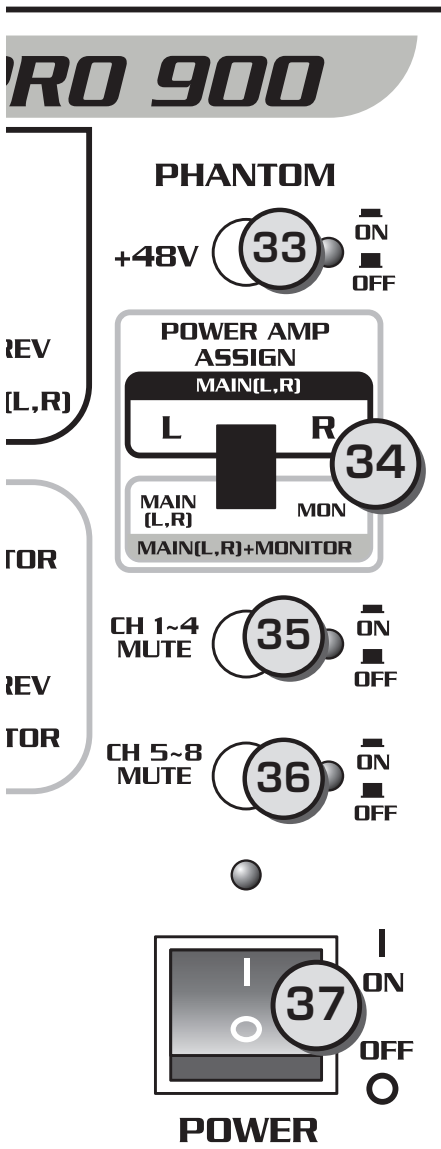
M (L MA

CH 1 MU

CH 5 MU

29. MONITOR GRAPHIC EQ – This 7-band graphic EQ is used to customize the sound of the MONITOR mix output. This EQ section affects the signals found in the MONITOR (1/4") jack and the speaker-level jack (when configured to MAIN L, R+MONITOR). The 7 slide controls each represent a frequency band: 125, 250, 500, 1K, 2K, 4K, and 8K. Each of the slide controls adjusts the audio level of its particular frequency with up to a 12dB boost or cut. If left in the center position, there will be no change to audio level the frequency. It is important to remember that EQ controls are meant to provide precise adjustments to an audio signal, and not overly inflate a signal resulting in an unnatural sound. Human hearing can adapt quite quickly to a particular sound signature, so it is best to find a suitable setting and leave it there until a change in the source audio or environment requires a change in the EQ.

30. MONITOR LEDs – These mono LEDs display the output level of the MONITOR mix. The LEDs are marked from –10dB to +6dB. It is important to monitor these LEDs as they can prevent a bloated audio signal and possible damage to your speakers. An optimal signal will be mostly contained to the green LEDs (up to 0dB), with occasional peaks into the first red LED (+3dB). If the mix reaches +6dB, it is strongly advisable to reduce the MONITOR LEVEL control.

31. MONITOR LEVEL – This control adjusts the signal level of the MONITOR mix to be sent to the line-level outputs, MONITOR LEDs, and speaker-level output. This control provides a one-touch adjustment to the MONITOR mix, when the power amp assign is set to MAIN L,R+MONITOR output. When the MONITOR LEDs enter the +6dB range, use this control to make a quick adjustment.

32. DSP REV TO MONITOR – This control adjusts the amount of DSP effects that is applied to the MONITOR mix. This control is ideal for making quick on-the-fly adjustments to the DSP effects level on the MONITOR mix, which is routed to the line-level outputs and speaker-level output. When configuring your DSP effects, this control is used after the MASTER EFFECT LEVEL control in the DSP controls panel.

Front Panel Features

PHANTOM

+48V **33** ON OFF

POWER AMP ASSIGN
MAIN(L,R)

L   R **34**

MAIN (L,R)   MON

MAIN(L,R)+MONITOR

CH 1~4 MUTE **35** ON OFF

CH 5~8 MUTE **36** ON OFF

I ON
O OFF **37**

POWER

33. +48V PHANTOM POWER – This button toggles phantom power to all the XLR microphone jacks. Enabling phantom power sends low current DC voltage to a microphone's electronics through the same cable that carries the audio signal.

Most professional condenser microphones require phantom power. There are some semi-pro microphones that use a battery to provide the required voltage, and of course many microphones that do not require phantom power at all. It is wise to make sure that the microphone you are feeding phantom power to actually requires it.

NOTES: When phantom power is enabled, refrain from connecting devices (including musical instruments) via unbalanced ¼" cables; use balanced ¼" cables instead. If you need to connect a microphone that is not phantom powered, simply connect it via a balanced XLR cable.

34. POWER AMP ASSIGN – This switch lets you choose which signals will be routed to the PA-PRO 900's power amplifier. This provides flexibility in how the PA-PRO 900's internal power amplifier can be utilized.

To set the POWER AMP ASSIGN switch, use a small screwdriver to maneuver the switch to the desired position.

POWER AMP ASSIGN
MAIN(L,R)
L   R
MAIN (L,R)   MON
MAIN(L,R)+MONITOR
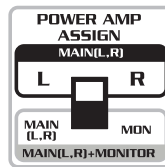
Set this switch to MAIN L,R for straight stereo playback. When configured this way, the LEFT channel will output to the L speaker-level outs, and the RIGHT channel will output to the R speaker-level outs. Select MAIN L, R in situations when there is no need to power a monitor speaker, either because the monitor speaker is self-powered, or there is no need for a monitor speaker.

POWER AMP ASSIGN
MAIN(L,R)
L   R
MAIN (L,R)   MON
MAIN(L,R)+MONITOR
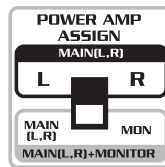
Set this switch to MAIN L,R+MONITOR when you need to power a monitor speaker. In this configuration, the MAIN L,R mix is output to the L speaker-level outs, and the MONITOR mix is output to the R speaker-level outs.

35. CH. 1-4 MUTE – This button is used to quickly mute all audio from channels 1-4. This feature is very handy during breaks and intermissions; audio can be disabled quickly without having to adjust any other control. Push the button IN to mute the audio, press the button again (OUT) to have the audio return to the mix. When mute is activated, the MUTE LED will remain lit until mute is disabled.

36. CH. 5-8 MUTE - This button is used to quickly mute all audio from channels 5-8. This feature is very handy during breaks and intermissions; audio can be disabled quickly without having to adjust any other control. Push the button IN to mute the audio, press the button again (OUT) to have the audio return to the mix. When mute is activated, the MUTE LED will remain lit until mute is disabled.

37. POWER – Use this switch to power the PA-PRO 900 ON/OFF.

NOTE: Before powering on, make sure that voltage of your PA-PRO 900 is the same voltage as your local AC mains voltage. The PA-PRO 900 is factory set for specific power needs

Front Panel Features
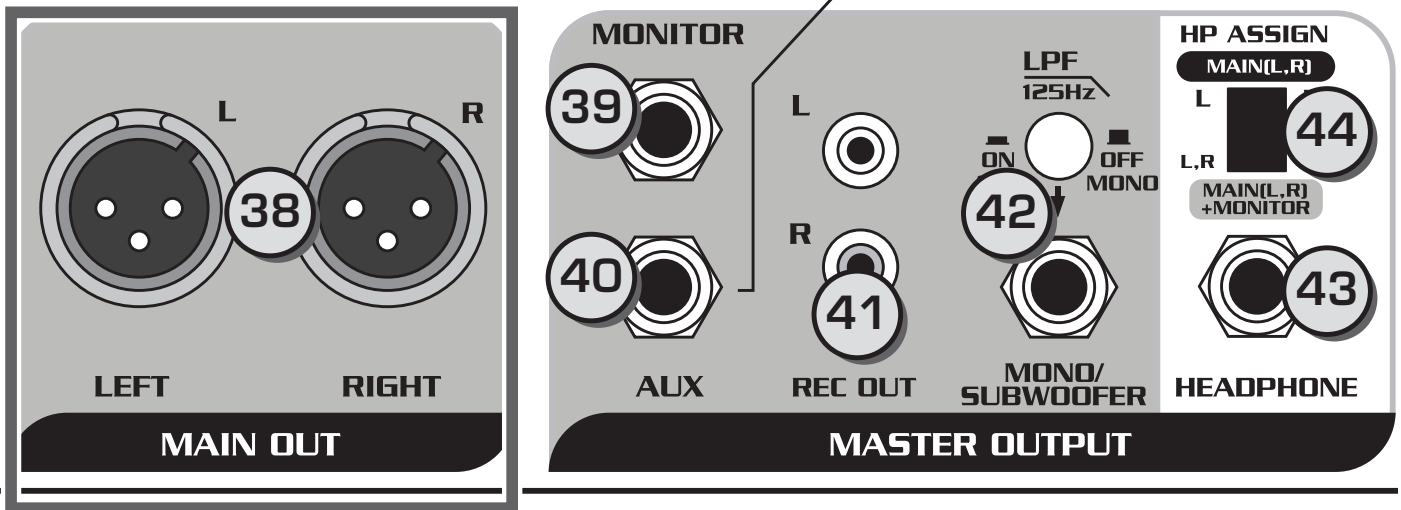
Master Out Panel

The master out panel is where you make output connections to external devices such as mixers, amplifiers, powered speakers, headphones, recording devices, etc. All the signals from these jacks are line-level, meaning that they are not powered by the internal amplifier, and are suited for connection to line-level inputs.

38. MAIN OUT – These stereo jacks route balanced line-level signals of the MAIN mix to external devices. The signals are identical to those sent to the speaker-level outs, so any DSP effects and EQ will be present in the signals. Use these jacks to connect to external amplifiers, mixers or power speakers. Use balanced XLR cables to make the connections.

39. MONITOR – This ¼" jack is used to route an unbalanced line-level mono mix of the MAIN signal to an external device such as a powered monitor speaker. The signal is a mono mix of the main signal, and all DSP effects and EQ will be present in the signal. Use an unbalanced cable to make the connection.

40. AUX ¼" – This ¼" jack output is a mix of the channels routed to the AUX channel. The presence of channels in this mix will depend on the DSP REV/AUX control for each channel. To increase or decrease a channel's presence in this mix, adjust the DSP REV/AUX control for that channel. The AUX mix is "dry", meaning DSP effects and EQ are bypassed. Use this jack to send a dry mix to an external effect device or secondary system. The AUX gain knob above the jack will increase or reduce the level of this output.

41. REC OUT – These stereo RCA jacks route unbalanced line-level signals of the MAIN mix to external devices. The record out mix will have DSP effects applied, but no EQ. Use these jacks to connect to an external recording device, or to amplifiers, mixers or power speakers. Use RCA cables to make the connections. You can also use adapters if your recording device has input jacks other than RCA.

42. MONO/SUBWOOFER – This ¼" jack can be used to send a line-level signal suited for subwoofer connection, or a mono signal of the main mix. When using this jack to connect to a subwoofer, the signal will be filtered so that all frequencies above 125Hz are blocked. To use as a subwoofer, press the MONO/SUB button to the IN position. To use this jack to route a mono signal of the main mix, depress the MONO/SUB button to the OUT position.

43. HEADPHONE – This ¼" jack routes a line-level signal of the main mix for connecting headphones or other device via a ¼" TRS cable. To adjust the headphone out signal use the MAIN L,R level control. DSP effect and EQ will be present in the headphone out signal.

44. HEADPHONE ASSIGN – This switch lets you choose which signals will be routed to the headphone out jack.

To set the HEADPHONE ASSIGN switch, use a pointed device, such as a small screwdriver, to maneuver the switch to the desired position.
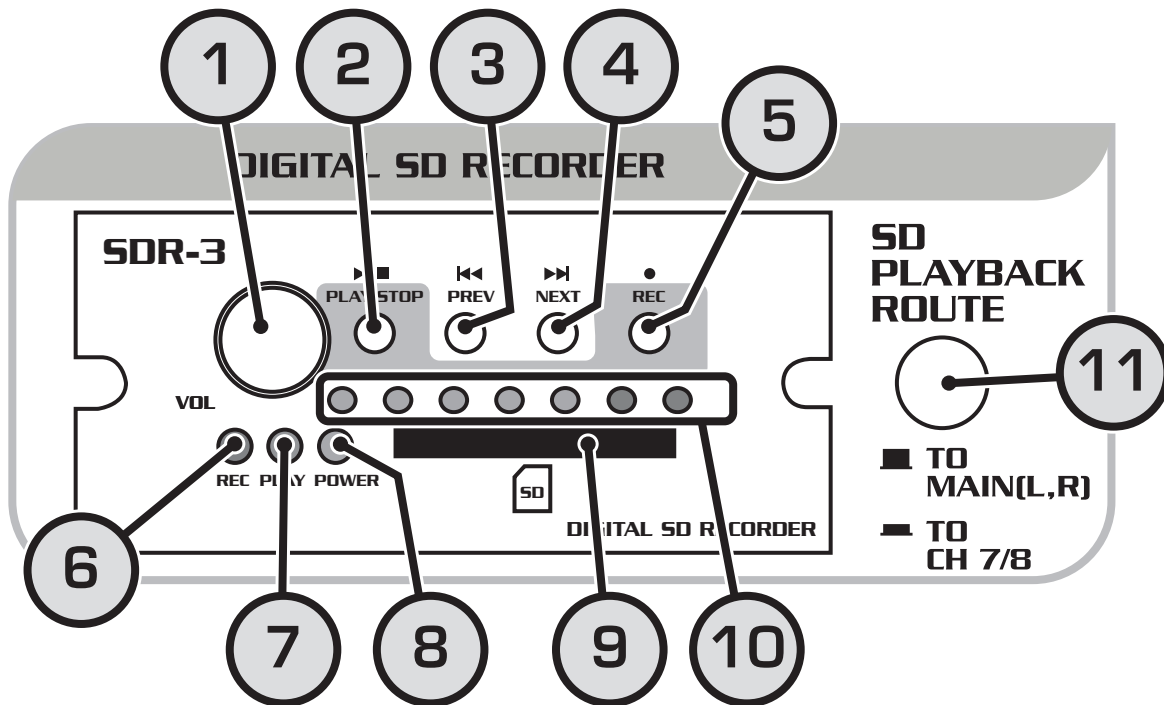
Set this switch to MAIN L,R for straight stereo playback.
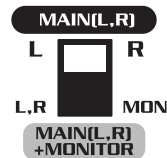
Set this switch to MAIN L,R+MONITOR to have the MAIN L,R mixed to the L channel, and the MONITOR mix to the R channel.

Optional Accessories

SDR-3 RECORDER (optional accessory)

Use the optional SDR-3 (if installed) to capture audio direct to SD card. Once recorded, the audio can then be routed to either CH 7-8 or the MAIN mix for immediate playback. Of course, you can also remove the SD card and transfer the MP3 files to your computer for further editing and processing.

1. REC VOL CONTROL – Use this control to set the recording gain level. Turn clockwise to increase the gain, turn counter-clockwise to decrease the gain level. Use the REC LEVEL LEDs to monitor the record level as you adjust the REC VOL CONTROL. Note that the REC VOL CONTROL does not control the volume level when playing back from the SD card.

2. PLAY/STOP BUTTON – This dual function is used to initiate playback of recorded material, and to stop playback, or a recording, in progress.
When not in record mode, press the PLAY/STOP button to start playback. Playback will commence from the last track recorded.
During a recording, press the PLAY/STOP button to stop the recording and conclude the track.

3. PREV BUTTON – This button will skip back through previously recorded tracks. When the first track recorded is reached, it will continue to skip back starting with the last track recorded.

4. NEXT BUTTON – This button will skip forward through previously recorded tracks. When the last track recorded is reached, it will continue to skip forward from the first recorded track.

5. REC BUTTON – This button is used to put the SDR-3 in record mode, initiate recording, and pause a recording in progress without creating a new track.

In stop mode, press the REC button once to place the SDR-3 in record pause mode. This is the time to check the levels of the audio to be recorded and adjust the REC VOL control if necessary.

Press the REC button a second time to begin recording.

Pressing the REC button during a recording in progress will pause the recording without creating a new track. This is useful for recording several sections of a recording session into a single cohesive track without breaking it up into several tracks.

6. REC LED – This red LED indicates the recording status of the SDR-3. When the SDR-3 is in record pause mode, the REC LED will blink. When a recording is in progress, the REC LED will be stay lit until the recording is completed, or is set back to record pause mode.

7. PLAY LED – This orange LED will illuminate during playback of recorded material, and during a recording in progress.

8. POWER LED – This green LED indicates the SDR-3 is on and drawing power from the PA-PRO 900. This LED should illuminate and stay lit as long as the PA-PRO 900 is powered on.

Optional Accessories

9. SD CARD SLOT – Insert your SD card into this slot. The SDR-3 will not record without an SD card in this slot.

10. REC LEVEL LEDs – These LEDs visually represent the gain level of the signal being recorded. There are five green LEDs and two red LEDs. An optimal recording level will illuminate all the green LEDs with minimal activity on the red LEDs.

11. SD PLAYBACK ROUTE – This button will direct the audio from the SD player to either the MAIN(L,R) output, or to CH 7/8. Swtiching the playback to CH 7/8 will allow you to make adjustments and/or add effects to the audio signal using the CH 7/8 controls.

SDR-3 Installation
1. Unscrew the two retaining screws.
2. Remove plate and store it in a safe place.
3. Attach the cable to the back of the SDR-3.
4. Carefully slide the SDR-3 into place.
5. Replace and tighten screws.

Inserting/Removing an SD card
1. Insert SD card with the same alignment as indicated by the SD card icon.
2. Push the SD card unit it clicks into place.
3. To remove the SD card, gently push in until it pops out slightly; it is then safe to remove.
NOTE: The maximum size SD card that can be used by the SDR-3 is 2GB. The SDR-3 does not support SDHC cards.

Recording to the SDR-3
Prior to recording to the SDR-3, you want to ensure that the signal being recorded is properly mixed. Refer to the text on "REC LEVEL LEDs" to ensure a good level. Once you are happy with your overall mix, follow the steps below to record.

In stop mode, press the REC button once to place the SDR-3 in record pause mode. This is the time to check the levels of the audio to be recorded and adjust the REC VOL control if necessary.

Press the REC button a second time to begin recording.

Pressing the REC button during a recording in progress will pause the recording without creating a new track. This is useful for recording several sections of a recording session into a single cohesive track without breaking it up into several tracks.

Optional Accessories

SINGLE CHANNEL WIRELESS MICROPHONE RECEIVER MODULE
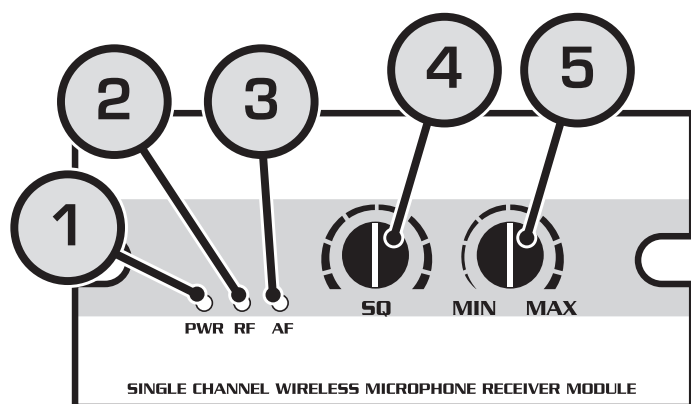
UHF Wireless Channels (optional accessory)

You can add up to four UHF wireless microphone modules (sold separately) to use with the PA-PRO 900. Each port on the rear panel corresponds to a mic channel on the front panel. Adjustments made to the channel strips on the front panel will adjust the audio from the wireless microphones. Channel 1 on the front panel is tied to Channel 1 on the rear panel, Channel 2 to Channel 2 and so forth. Refer to the information below to setup and use your UHF wireless microphone(s).

Module Description and Functions
1. POWER (LED) - Indicates there is power to the module.

2. RF (LED) - Lights when an RF connection is made. This LED should light when you turn on the associated microphone. If this LED light when its associated microphone is turned off, that indicates that another external device is connected to that channel (interference).

3. AF (LED) - Lights when AF signals are being transmitted. This LED will light as sounds is picked up and transmitted from the associated microphone (speech or instrument).

4. SQ (Squelch) - The Squelch control is used to mute unwanted noise interference from a microphone channel when the associated transmitter is turned off. To adjust squelch to clockwise to increase squelch, and counter-clockwise to decrease squelch.

NOTE: Typically, as a channel's squelch setting increases, its operating range decreases. It is therefore recommended to set the squelch control only as high as necessary to mute any noise interference.

5. Level - This knob controls the microphone volume (gain) level for this channel. Turn clockwise to increase volume, and counter-clockwise to decrease.

Setting Up
For each UHF wireless channel, you will have a handheld microphone, wireless module, and antenna. Follow the steps below to set them up.

Module Installation
1. Unscrew the two retaining screws.
2. Remove the cover plate and store it in a safe place.
3. Fully insert the wireless module so the module is flush with the faceplate of the PA-PRO 900.
4. Replace and tighten screws.

Removing Modules
1. Unscrew the two retaining screws.
2. To remove, simply slide the module out of the compartment.
3. Align the cover plate, and tighten screws.

Antenna Installation
Insert the antenna's TNC connector into the corresponding channel's TNC antenna jack and twist clockwise until it is firmly connected.
If installing multiple antennas, ensure the antennas are not touching each other.

Microphone Battery Installation
1. To remove the lid, press down on the tab and slide the lid down towards the bottom of the mic.
2. Insert 2 fresh 1.5-volt AA alkaline batteries. Make sure the batteries are inserted in the right direction according to polarity (+/-).
3. Close the battery compartment lid.

Basic Operations
1. Press the POWER switch on the front panel of the PA-PRO 900.
2. Adjust the module level controls to approximately 50%.
3. Switch the microphone's power switch to the ON position.
2. Set the channel strip source select button to UHF (front panel).
4. Talk or sing into the microphones and adjust the channel strip level and eq controls (front panel) until you are satisfied with the sound.
Note: During normal operation, the RF/AF signal LED's will illuminate when a microphone is being used.

PA-PRO 900 SPECIFICATIONS

Mixer Input Specification

(AT MAIN L/R OUTPUT +4dBu,1kHz)

INPUT	CONNECTION	LEVEL(RATED INPUT)	TOTAL GAIN	IMPEDANCE
MIC INPUT	XLR (BAL)	-50dBu	54dB	1 Kohm
CH1-CH4	1/4" TRS (BAL/UNBAL)	-20dB(PAD ON)	24dB	
MUSIC	LINE 1/4"TRS(UNBAL)	-22dBu	26dB	2.8Kohm
CH5/6-7/8	CD RCA STEREO (UNBAL)	-22dBu	26dB	2.8Kohm
	MP3 1/8" PHONE(UNBAL)	-24dBu	28dB	1.8Kohm
	TIP:L,RING:R			
ST EFFECT LOOP	1/4"(UNBAL)	0dBu	4dB	10Kohm
	TIP SEND/RING RETURN			
UHF MODULE	30PIN CARD EDGE	-34dBu	38dB	1Kohm
SD CARD MODULE	6PIN WIRE CONNECT	-24dBu	28dB	1.8Kohm
	CONDITION : LEVEL VR MAX, EFFECT MASTER MIN, MAIN VR MAX, ALL EQ CENTER			

Mixer Output Specification

OUTPUT	CONNECTION	LEVEL	IMPEDANCE	
MAIN MIX OUTPUT L/R	XLR (BALANCED)	+4dBu	240ohm	
MONITOR OUTPUT	1/4" TRS PHONE(UNBAL)	+4dBu	120ohm	
AUX OUTPUT	1/4" TRS PHONE (UNBAL)	+4dBu	120ohm	
MONO/SUB WOOFER	1/4" TRS PHONE(UNBAL)	+4dBu	120ohm	
(SUB WOOFER 75Hz/-3dB)				
HEAD PHONE OUTPUT	1/4" PHONE	1.0V	33 ohm	
	(TIP: LEFT,RING:RIGHT)			
REC OUT	RCA STEREO	-6dBu	120ohm	

Loudspeaker Output

AT 4ohm LOAD	CONNECTION	OUTPUT	LOAD	T.H.D
SPEAKER OUTPUT TERMINAL	SPEAKON / 1/4"TS	2x500W(PEAK)	4ohm	3%
		2x450W(AVG)	4ohm	1%
		2x435W(RATED)	4ohm	0.10%
		2x228W(AVG)	8ohm	1%
		2x210W(RATED)	8ohm	0.10%

Technical Specifications

Frequency Response				
(AT MAIN L/R OUTPUT +4dBu)				
MIC INPUT /CH1-4	10Hz-24kHz	0dB / -1.5dB		
STEREO INPUT/ CH5-8	10Hz-35kHz	0dB / -1.5dB		
Channel EQ				
CH1-8 EQ HIGH	100Hz	±15dB		
MID	2.5kHz	±12dB		
LOW	10kHz	±15dB		
7-Band Graphic EQ				
MAIN L/R OUTPUT (XLR/BAL)	125Hz	±12dB		
MONITOR OUTPUT (1/4" PHONE)	250Hz	±12dB		
	500Hz	±12dB		
	1kHz	±12dB		
	2kHz	±12dB		
	4kHz	±12dB		
	8kHz	±12dB		
T.H.D+N				
(1KHz,30K BANDWIDTH)				
OUTPUT	LEVEL	T.H.D		
MIC MONO TO SPEAKER OUTPUT	42V	Less Than 0.07%		
L/R				
CH5-8 TO SPEAKER OUTPUT	42V	Less Than 0.06%		
L/R				
CH1-4 to MAIN MIX OUTPUT L/R	+4dBu(balance)	Less Than 0.07%		
CH5-8 TO MAIN MIX OUT L/R	+0dBu(UNBAL)	Less Than 0.05%		
STEREO EFECT LOOP SEND	0dBu(1/4" UNBAL)	Less Than 0.01%		
REC OUT L/R	-6dBu(RCA STEREO)	Less Than 0.05%		
CH5-8 TO MAIN MONO OUT	+4dBu(UNBAL)	Less Than 0.05%		
CH5-8 to Woofer OUT	+2dBu(1/4" UNBAL)	Less Than 0.05%		
@50Hz LPF ON		Less Than 0.05%		

Technical Specifications

Hum & Noise(S/N)				
OUTPUT	LEVEL	CONDITION		
AMP OUTOUT	< -80 dB	1/2POWER 1kHz		
LEFT/RIGHT		STEREO LOOP RETURN IN		
MIC TO MAIN MIX OUTPUT	< -74 dB	MIC LEVEL CENTER, MAIN VR +4dB ADJ		
L/R		EQ CENTER, INPUT -30dB		
AUX/MONITOR OUTPUT	< -73 dB	MONITOR/AUX MASTER +4dB ADJ		
		ST CH -10dB, LEVEL CENTER, EQ CENTER		
MONO OUTPUT	< -73 dB	MONITOR/AUX MASTER +4dB ADJ		
		ST CH -10dB, LEVEL CENTER ,EQ CENTER		
REC OUT L/R	< -72 dB	STEREO CH L/MONO INPUT-10dB		
		MAIN VR +4dB ADJ		
ST EFECT LOOF OUTPUT	< -74 dB	STEREO ONLY LEVEL MAX, ALL VR MIN		
SEND (TIP)		EQ CENTER		
HEAD PHONE OUTPUT	< -70 dB	STEREO CH L/MONO INPUT-10dB		
		CH LEVEL CENTER, EQ CENTER		
E.I.N				
MIC INPUT	-127dBu			
150ohm TERMINATION				
Compress Limit				
COMPRESSOR	MIN 0 dB THROUGH MAX 24dB RANGE (OFF POSITION)			
THRESHOLD LIMIT				
Crosstalk(1kHz)				
MONO CHANNELS	CH1/2,2/3,3/4	MAIN L XLR (BAL)	-70dB	
STEREO CHANNELS L/R	MAIN LEFTt	MAIN R XLR (BAL)	-70dB	
	MAIN RIGHT	MAIN L XLR (BAL)	-70dB	
Attenuation				
INPUT & OUTPUT	CH1-4 TO MAIN L/R	CH LEVEL DOWN	-70dB	
		MAIN LEVEL DOWN	-80dB	
	STEREO CH5-8 TO MAIN L/R	CH LEVEL DOWN	-75dB	
		MAIN LEVEL DOWN	-80dB	

Technical Specifications

Maximum Input Level				
INPUT	CONNECTION	LEVEL		
MIC INPUT	XLR (BAL)	-20dBu		
CH1-CH4	1/4" TRS (BAL/UNBAL)	+10dB(PAD ON)		
STEREO	LINE 1/4"TRS(UNBAL)	-0dBu		
CH5/6-7/8	CD RCA STEREO(UNBAL)	-0dBu		
	MP3 1/8" PHONE(UNBAL)	-2dBu		
	TIP:L,RING:R			
EFFECT Controls (D.S.P)				
REVERB/DELAY CONTROL				
ECHO DELAY	40mS-242mS			
ECHO REPEAT	30%-80%			
ECHO VOLUME	0%-100%			
REVERB VOLUME	0%-100%			
HISS FILTER	3kHz-8kHz			
EFFECT MASTER	0%-100%			
EFX DSP CONTROL	FOOT SWITCH (1/4" TS), ON/OFF SWITCH with LED INDICATOR			
EFX DSP BUS CONTROL	EFX TO MAIN/MONITOR			
CONTROL				
POWER AMP ASSIGN, HEADPHONE ASSIGN	L+R,MONITOR / LEFT, RIGHT			
MONO, STEREO CH MUTE	EACH SWITCH, INDICATOR			
POWER CONSUMPTION				
AC 120V , 13 A (@ RATED POWER)				
DIMENSION(WXHXD)				
UNIT	INNER BOX	SHIPPING BOX		
468X254X409 mm 18.4X10X16.1 in	550X330X370 mm 21.6X13X14.6 in	560X340X380 mm 22X13.4X14.9 in		
WEIGHT				
NET: 20.5 kg, 45.2 lbs				
SHIPPING: 21.6 kg, 47.6 lbs				

Notes

Troubleshooting

There is no power

• Make sure the power adapter cord is firmly connected to the back of the unit and to the power outlet.
• If using a power strip/surge-protector, make sure that it is plugged in and switched on.
• Check the fuse, and replace if blown. If the fuse blows again immediately, do not replace it again. Instead, contact VocoPro technical support.

There is no sound

• Make sure everything is connected firmly and properly.
• Make sure there are no defective cables.
• Make sure all of your components are turned on.
• Make sure all of the components (mixer, player, etc.) are set to the proper inputs.
• Make sure mic channels 1-4 are set to the correct input using the SOURCE SELECT buttons.
• Make sure CH 1-4 and CH 5-8 MUTE buttons on the front panel are turned off.
• Make sure the volume is turned up on the EQ panels and the input channel strips.
• If an external effects device is connected, make sure it is powered on.

The sound is only coming from one speaker

• Make sure there are no defective cables, and that the cables are connected properly.
• Make sure the POWER AMP ASSIGN switch on the front panel is set to MAIN(L,R).

The sound is cuts out, is unclear, or has static

• Make sure everything is connected firmly and properly.
• Make sure there are no defective cables.

The microphone audio volume drops or cuts out suddenly

• If using an optional wireless mic, make sure the microphone has charged batteries.
• If using an optional wireless mic, make sure level knob on the wireless mic module is turned up.
• If using a wired mic, check for damaged cables by swapping them with known good cables.
• If the volume drops too low after a vocalist speaks or sings loudly into the mic, check and adjust the compression threshold using the compressor control on the front panel.
• If there is more than one wired microphone plugged into a single channel, switching off one of the microphones will switch off the other.
• If there is no microphone audio at all, make sure the level knobs are turned up, and the source select button is set to the correct input.

DSP echo and reverb effects are not audible

• Make sure the DSP REV/AUX level controls are turned up on the desired channel strips (CH1 - CH8).
• Make sure the DSP MASTER EFFECT LEVEL control is turned up on the DSP REV CONTROL group.
• Make sure the DSP ON/OFF button is set to ON on the DSP REV CONTROL group.
• Make sure the DSP REV TO MAIN(L,R) level control is turned up on the MAIN(L,R) eq group.
• Make sure the DSP REV TO MONITOR level control is turned up on the MONITOR eq group.
• If using a footswitch control, make sure it is plugged in firmly, then toggle it on and off.

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