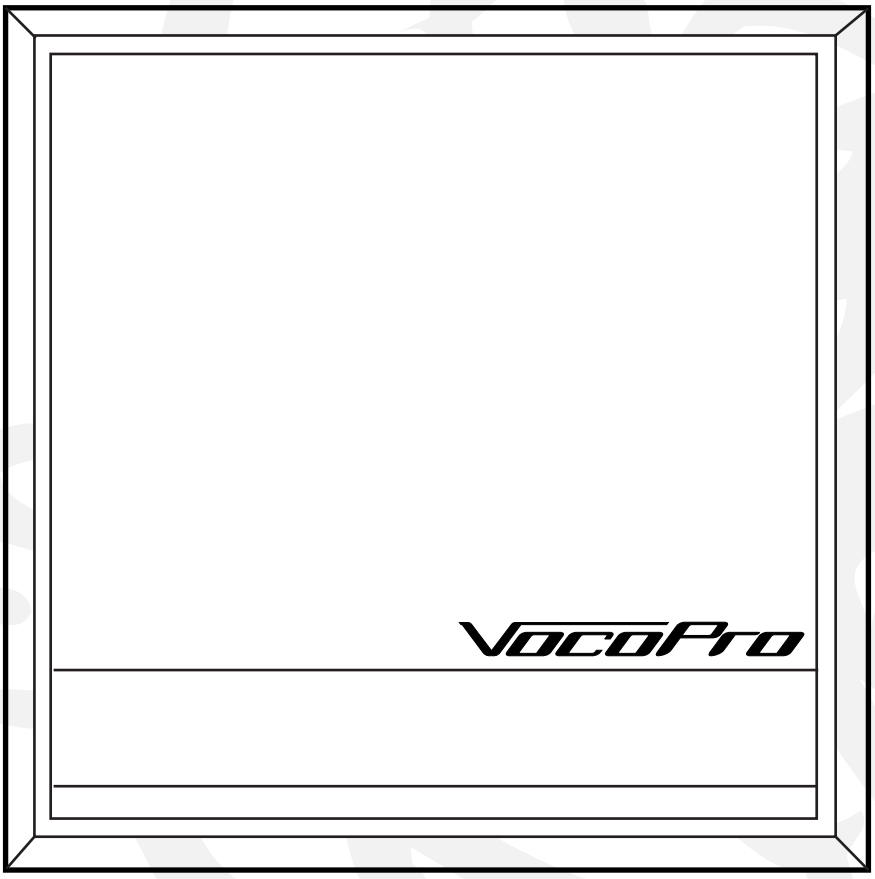
VocoPro

ULTIMATE CHOICE OF KARAOKE ENTERTAINMENT

Instruction Manual



SUB-1200

120W 12" POWERED SUBWOOFER

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.

CAUTION: Read this before operating your unit

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 insure that the apparatus is indeed fully void if residual power, leave unit disconnected from the AC outlet for at least fifteen seconds.

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.
12. When positioning your equipment, especially regarding speakers or other accessories, avoid positioning them over areas where they can fall and cause injury to yourself and others.

Welcome….

Thank you for purchasing the **SUB-1200** from VocoPro, your ultimate choice in Karaoke entertainment! With years of experience in the music entertainment business, VocoPro is a leading manufacturer of Karaoke 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 further strengthen 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 promo's. 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 Service directory!

We look forward to hearing you sound like a PRO, with VocoPro, your ultimate choice in Karaoke entertainment.

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

Before Getting Started: Things to Consider

Safety

1. **Power Source** - Operate only from a power source as directed on the unit or in the operating instructions.

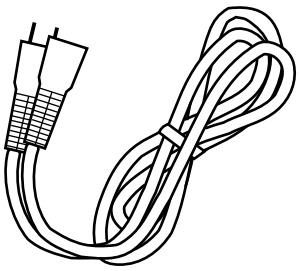
2. **Polarization** - If your unit is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), this plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact an electrician to replace your obsolete outlet. Note: Do not defeat the safety purpose of the polarized plug by trying to grind the larger metal blade down till it fits in the outlet.

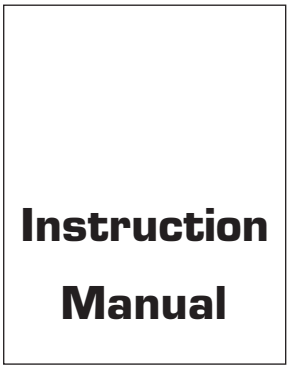
3. **Cord Placement** - Do not allow anything to rest on, roll over, or pinch the power cord, and do not place the power cord where it is subject to traffic and abuse. This may result in an electrical shock or fire hazard.

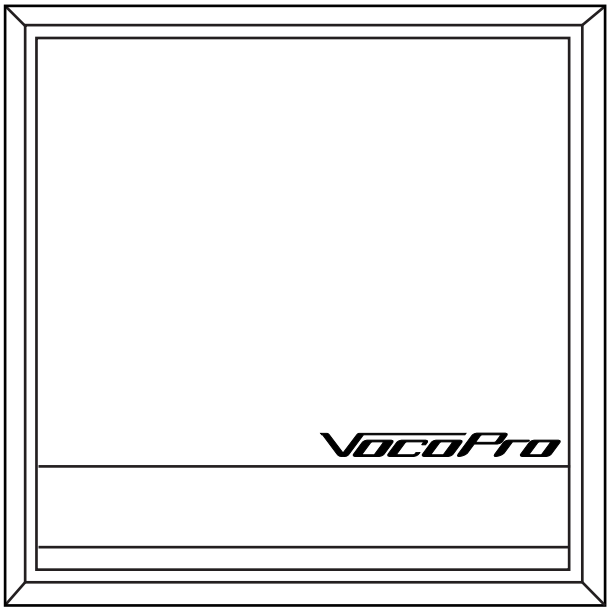
4. **AC Outlet** - Overloaded AC outlets and extension cords are dangerous as well as frayed cords and broken plugs. Avoid compounding these situations by plugging in more appliances to such outlets. Also, try to remove appliances with damaged cords or plugs before adding any more appliances to the area.

5. **Nonuse Periods** - When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

ITEM:	QUANTITY:
SUB-1200	(1)
AC Power Cable	(1)
Instruction Manual	(1)







Installation

Installation Environment

1. Water and Moisture - Do not use this unit near water – for example near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.

2 . Condensation - Moisture may form in the unit in the following cases:

- Immediately after a heater has been turned on
- In a steamy or very humid room.
- When the unit is suddenly moved from a cold environment to a warm one If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour to let the moisture evaporate.

3. Heat - The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41° F) or greater that 35° C (95° F).

Installation Placement

1. Good Ventilation - Audio products are provided with ventilation openings to allow heat generated during operation to be released accordingly. If these openings are covered or blocked, heat build-up within the unit can cause power failure and malfunction which could also result in a fire hazard.

2. Foreign Material – Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to obsessive smoke, dust, mechanical vibration or shock.

3. Magnetism – The unit should be situated away from equipment or devices that generate strong magnetism.

4. Stacking – Do not place heavy objects, other than system components, on top of the unit.

5. Surface – Place the unit on a flat, level surface.

Maintenance

Clean the panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

Service

1. Reading Instructions - This is probably one of the most important things to remember. All the safety and operating instructions should be read before the appliance is installed and operated. The life span of your purchase can depend on how well you take care of it.

2. Damage Requiring Service- The unit should be serviced by qualified service personnel when:

a. The A/C power supply cord or the plug has been damaged
b. Objects have fallen or liquid has been spilled into the unit
c. The unit has been exposed to rain
d. The unit does not appear to operate normally or exhibits a marked change in performance
e. The unit has been dropped, or the enclosure damaged

3. Servicing – The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Getting Connected

Unpacking

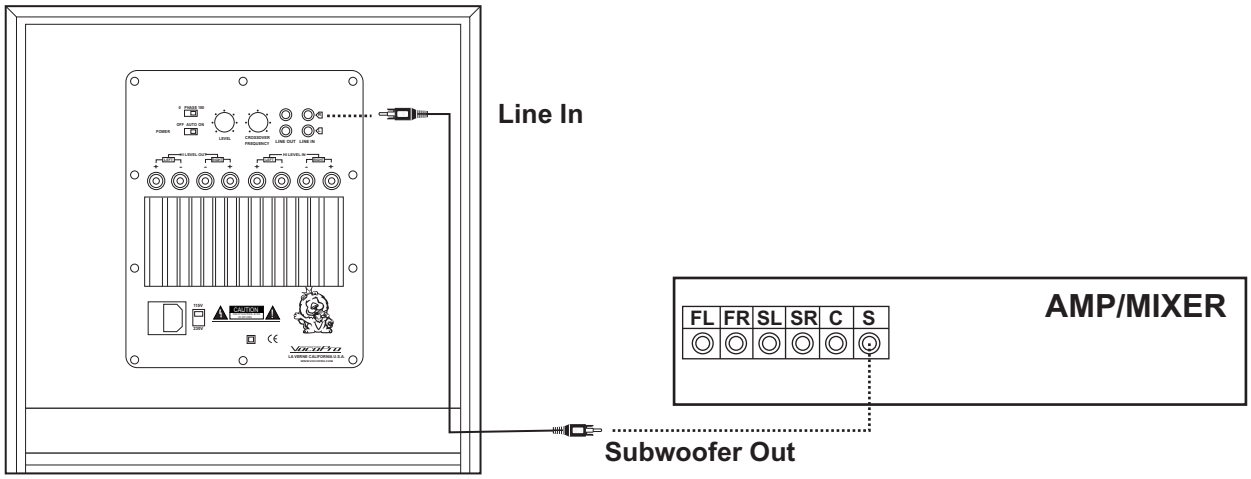
Prior to beginning the connection process, carefully remove the unit from its shipping box. It is recommended to reserve the original shipping material in the event that the unit needs re-shipping. Included in the box you will find the Sub-1200, this instruction manual and an AC power cord.

Subwoofer connections

There are a couple of methods for connecting your Sub-1200 to your audio system. One method uses MDP speaker cables, the other method uses RCA interconnect cables. Looking at the rear panel of the Sub-1200, you will see two sets of MDP speaker terminals, one labeled ‘HI-LEVEL IN’, the other ‘HI-LEVEL OUT’, and two sets of RCA jacks labeled ‘LINE IN’ and 'LINE OUT'. The configuration of your existing system will determine how you will connect the Sub-1200.

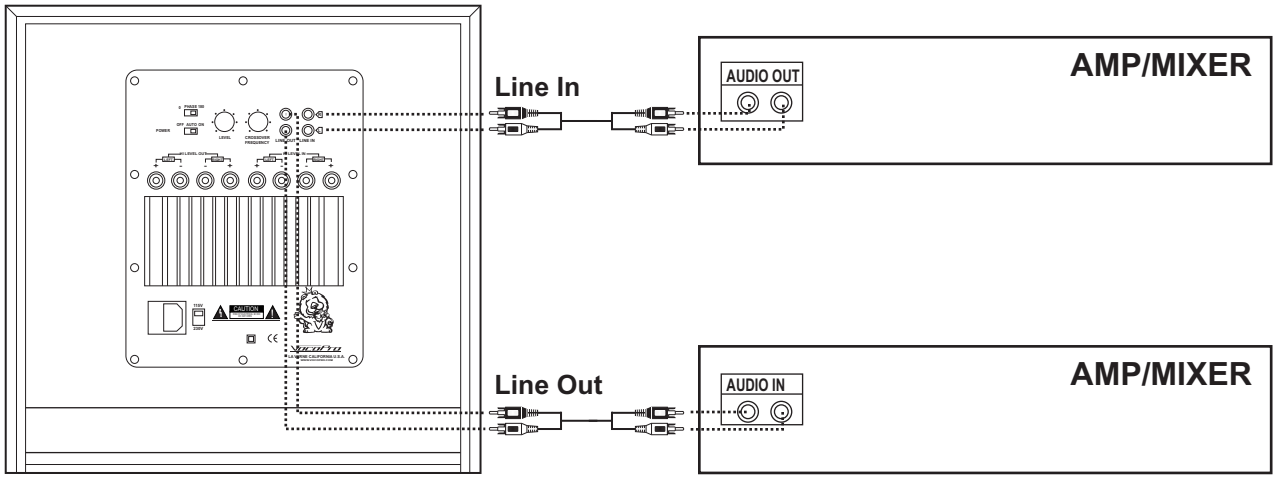
Connecting to a Dolby Digital or DTS system

All Dolby Digital and/or DTS processors have a subwoofer/LFE output. If you decide to use a subwoofer/LFE output connection (mono) to the Sub-1200, connect an RCA-plugged patch cable from the subwoofer/LFE output to either the "L" or "R" channels of the 'LINE IN' jacks (RCA) on the Sub-1200.



Connecting to a system with separate components

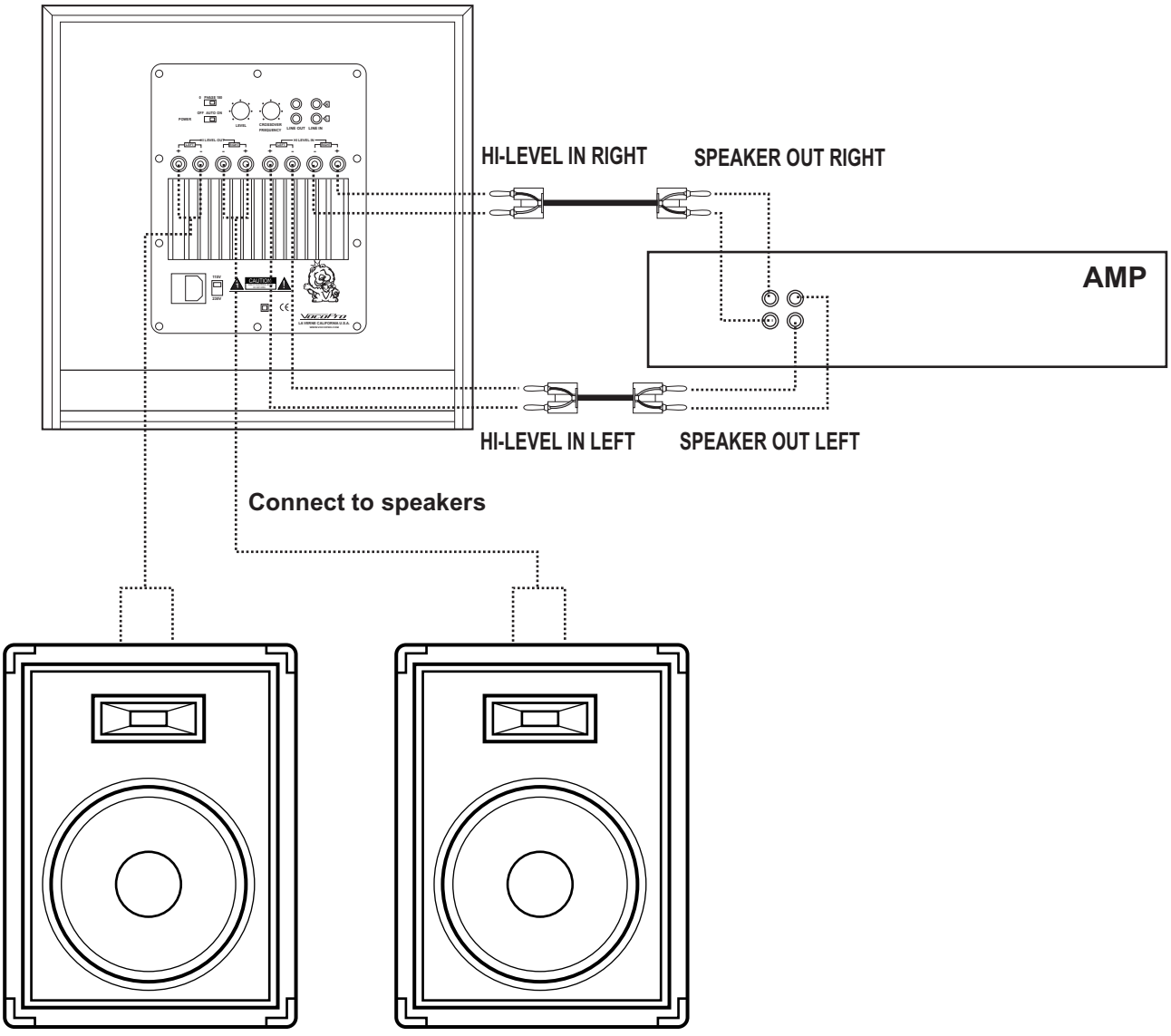
If you only have one set of pre-amp outputs on your amplifier/mixer and need to send the signal to the Sub-1200 as well as another amplifier/mixer, first send the signal to the Sub-1200 via the 'LINE IN' (RCA) jacks, and then from the 'LINE OUT' (RCA) jacks, connect a patch cable to the 'AUDIO INPUT' jacks on your amplifier/mixer.



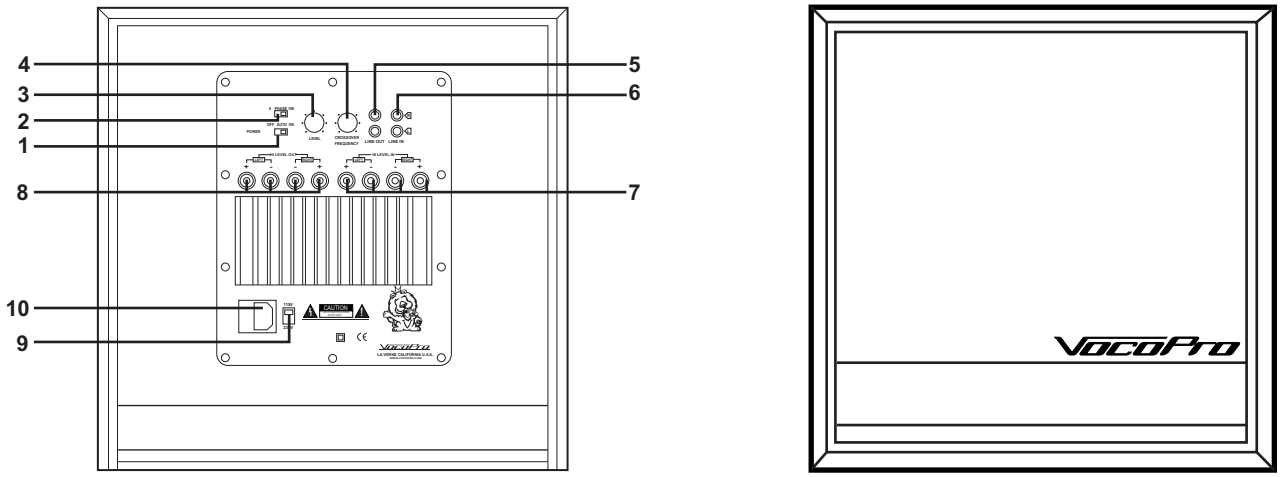
Getting Connected

Connecting to an amplifier with no pre-amp outputs

If no low-level Pre-Amp outputs are available, you need to run speaker cables from your main amplifier to the Sub-1200. Run the main LEFT and RIGHT speaker cables to the Sub-1200 HI-LEVEL IN binding posts. Be sure to double check that the polarity (-/+) on the receiver or amplifier matches the polarity on the binding posts of the SUB-1200. Also, make sure that the outputs on your main amplifier are true ground, otherwise you would short the output of your main amplifier. Call or email technical support if the outputs on your main amplifier do not have true ground.



Rear Panel Descriptions and Fuctions



1. POWER switch – The power switch has three positions: OFF - AUTO - ON. While the OFF and ON positions are self-explanatory, the AUTO position instructs the Sub-1200 to remain in STANDBY mode until the unit receives an input signal.

NOTE: If the Sub-1200 unit does not receive an input signal for approximately 10 minutes, it will switch to stand by mode until it receives a further signal.

2. PHASE SWITCH – This switch toggles the PHASE of the subwoofer with respect to the main speakers. If the subwoofer is out of phase with the main speakers, bass response is at a reduced performance level and may sound "weak". When all speakers are in phase, full-frequency response is at an optimal level.
(see pg.10 for more info.)

3. LEVEL – This control adjusts the subwoofers MASTER output level. Turn clockwise to INCREASE and counter-clockwise to DECREASE level.

4. CROSSOVER – The CROSSOVER control adjusts the Sub-1200's low-pass frequency filtering for subwoofer output. Available low-pass settings are: 20 Hz, 40 Hz, 80 Hz and 120 Hz.**(see pg.10 for more info.)**

5. LINE OUT jacks – These jacks provide a LINE-LEVEL connection to external mixers/amplifiers with line level RCA inputs.

6. LINE IN jacks – These jacks provide a LINE-LEVEL connection from external devices with line level RCA outputs.

7. HI-LEVEL IN jacks – These MDP binding posts are for direct connection of speakers or speaker output from an external amplifier.

NOTE: These inputs are typically used for connecting to a system that does not have "pre-out" or line level outputs available.

8. HI-LEVEL OUT jacks – These MDP binding posts are for direct connection to main system speakers.

9. VOLTAGE SELECTOR – The VOLTAGE SELECTOR selects the amplifier to run on either 115V or 230V.

NOTES: PLEASE ENSURE THIS CONTROL IS SET CORRECTLY BEFORE PLUGGING IN AND POWERING ON THE SUB-1200. IF THIS CONTROL IS NOT SET CORRECTLY PRIOR TO USING THE SUB-1200, YOU MAY DAMAGE THE UNIT AND VOID YOUR WARRANTY. SELECT 115V FOR NORTH AMERICAN BASED POWER AND 230V FOR EUROPEAN BASED POWER.

10. AC MAINS terminal – For connecting the Sub-1200 to your AC outlet.

Setting Up the Sub-1200

Adjusting the Crossover Setting

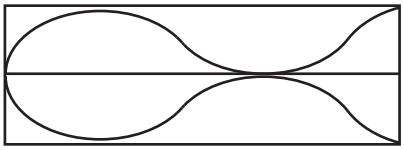
The Sub-1200's built-in crossover can be used as a variable low-pass filter for customizing subwoofer output. The available settings are 20Hz, 40Hz, 80Hz and 120Hz. If you would like the subwoofer to only output extremely low frequencies, you would want to select a lower frequency setting i.e. 20Hz or 40Hz. If you would like the subwoofer output to include some higher frequencies as well as low frequencies, you would want to select a higher frequency setting i.e. 80Hz or 120Hz. Try different crossover settings to find the sound you are seeking

NOTE: The crossover setting does not affect the throughput to any external speakers that may be connected to the HI-LEVEL IN/OUT speaker jacks.

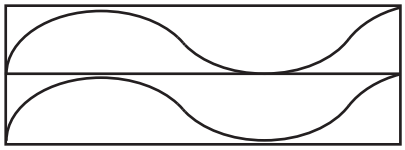
Using the Phase Switch

Depending on the 'absolute' phase of your primary speakers, and relative distance of the subwoofer and primary speakers to the listening position, the bass in the crossover region may be smoother if you reverse the phase of the subwoofer relative to the main speakers. Try flipping the phase switch to determine which way sounds more bass heavy. The more bass-heavy position is the setting where the output of the subwoofer and the main speakers are most in phase. Play program materials with bass in the crossover region such as music containing bass drums, double basses, bass guitar, etc. to determine the correct setting.

OUT OF PHASE



IN PHASE



Selecting a Volume Level

Using a test tone diagnostic of an amplifier/processor, or a diagnostic CD/DVD, set the level of the subwoofer to well-balanced level. We recommend using an SPL meter (use "C" weighting and slow settings) for accurate signal balancing. SPL meters can be found at Radio Shack™ and other electronics retailers. If you do not desire to use an SPL meter or software disc for balancing, with another person, adjust the Sub-1200 level control with a listener in the target listening area until a desired balance and sound is reached.

Subwoofer Positioning

Do Not

- Place your subwoofer directly against a wall, leave at least a minimum of 10" of space.
- Place against a radiator, panel heater or forced air-heating outlet
- Place outdoors or in a humid environment
- Plug into an AC mains outlet until all your system wiring is completed.

Position/Location

Your Sub-1200 should perform well in just about any room location. In fact, unless your ear is within a couple of feet of the subwoofer, the bass should seem to radiate from your main speakers. We recommend setting the Sub-1200 within 12" of a wall surface, near a corner if possible. The Sub-1200 is not magnetically shielded and therefore should not be located too close to a television set, leave an approximate distance of at least 2-3 feet. Failure to do so may result in your television set's tube becoming magnetized and this will cause a distortion of the picture, together with a change of color. No matter where you place your subwoofer, you must allow sufficient spacing for ventilation. The rear panel has a heat sink mounted onto it and will therefore generate heat, when in use.

Troubleshooting

PROBLEMS	CAUSE	SOLUTIONS
Humming or buzzing noise.	You may have a ground loop problem.	Try using a cheater plug. Do NOT ground the grounding tab on the cheater plug! That would defeat the purpose of the cheater plug for this application.
	There may be a problem with other external equipment.	Disconnect all interconnect cables from the Sub-1200 and any external equipment. If hum goes away when interconnects are disconnected, hum is coming from the rest of your equipment. Add them back one piece at a time. The one that causes the system to hum is the source of the hum.
No output from the Sub-1200 (the LED does not light up).	AC power is not making it to the Sub-1200.	Check that the power cord is plugged in securely at both ends and make sure that the power outlet the Sub-1200 is plugged into is functioning properly.
	The amplifier's fuse is blown.	Unplug the power cord and remove the fuse holder with a screwdriver and check the fuse (located just above the power plug). If the fuse is blown, replace. If the fuse blows again, the output transistors are probably damaged. At that point, it is recommended to email or call technical support for authorization to send the Sub-1200 back for service.
Bass response sounds "weak" or "unstable".	The Sub-1200 and main speakers are out of phase.	Place the 'phase' switch in its alternate position (0-180).
Excessive "rumbling" sound from Sub-1200 output.	The 'crossover' is set too low.	Adjust the 'crossover' to a higher setting i.e. 80Hz or 120Hz.
	The 'level' control is set too high.	Adjust the 'level' control to a lower setting.
	The external amplifier's built-in crossover, EQ or tone settings are not balanced correctly.	Adjust the external amplifiers crossover, EQ or tone settings

Glossary of Terms

Digital Echo- Digital echo is a synthetically processed sound effect that mimics natural echo. Echo in general is the "bouncing" of waves back and forth between 2 surfaces. This effect gives a spacious or ambient feeling that works great with vocals.

Repeat- Repeat is facet of the echo process. Repeat refers to the frequency of echoes within a period of time.

Delay- Delay is also a facet of the echo process. Delay refers to the amount of time that exists between echoes.

Vocal Cancel- Vocal Cancel is a feature that removes vocals from multiplex CD tracks. To be multiplexed, a disc must have the vocals coded to the right channel and the music coded to the left channel. When you select Vocal Cancel, the unit will remove the right channel (vocals) and split the left channel (music) to both sides.

Vocal Partner- Vocal Partner is a feature that removes vocals from multiplex CD tracks much in the same way as Vocal Cancel, but with an added "auto-pilot" function. The main difference is that Vocal Partner will only remove vocals as long as there is activity going through the microphone (singing). When you stop singing, the vocals automatically return.

Vocal Reducer – Vocal Reducer is a feature that removes vocals from standard non-multiplex CD tracks. To do this, the unit compares the audio on the left and right channels, and cancels out any signals that appear on both. Most currently recorded CD's contain the vocal layer on both sides, however some may not, leading to varying results.

CD+G- A CD+G is a specially formatted disc that has an additional line of sub-code on the CD that is responsible for the lyrics that play on video screen for Karaoke systems. CD+G stands for Compact Disc + Graphics.

Sub-Code – Sub-code is specially coded area of data used by CD+G manufacturers to produce lyrics for Karaoke video output.

Multiplex (MPX)- Multiplex is a type of Karaoke software that has specially formatted left and right channels to make multiplex features available. To be formatted for multiplex use, a disc must have the vocals coded to the right channel and the music to the left channel. When you select a multiplex mode, the unit will remove the right channel (vocals) and split the left channel (music) to both sides.

Rack Mountable- Rack Mountable refers to the ability to place unit into professional or travel rack cases. Such cases are great for building complete systems and protect them during transportation. The standard rack size for MOST cases is 19".

VCD- VCD is a disc formatted in MPEG-1. These discs are good candidates for Karaoke use as they have an audio and a video layer to them. VCD stands for Video Compact Disc.

A/V- A/V is an abbreviation for Audio/Visual.

Glossary of Terms

Y-Adapter - Any type of connection that splits a signal into two parts. An example would be a connector with one male RCA jack on one end, and two female RCA jacks on the other end.

Woofer - A speaker, (driver), used for low-frequency reproduction. Usually larger and heavier than a midrange or tweeter.

Midrange - A speaker, (driver), used to reproduce the middle range of frequencies. A midrange is combined with a woofer for low frequencies and a tweeter for high frequencies to form a complete, full-range system.

Tweeter – A speaker, (driver), used to reproduce the higher range of frequencies. To form a full-range system, a tweeter needs to be combined with a woofer, (2-way system), or a woofer and midrange, (3-way system).

Pre-Amplifier - Or Pre-amp is a device that takes a source signal, such as from a turntable, tape-deck or CD player, and passes this signal on to a power-amplifier(s). The pre-amp may have a number of controls such as source selector switches, balance, volume and possibly tone-controls.

Out of Phase - When speakers are mounted in reverse polarity, i.e., one speaker is wired +/+ and -/- from the amp and the other is wired +/- and -/+. Bass response will be very thin due to cancellation.

Line Level - CD players, VCRs, Laserdisc Players etc., are connected in a system at line level, usually with shielded RCA type interconnects. Line level is before power amplification. In a system with separate pre-amp and power-amp the pre-amp output is line level. Many surround sound decoders and receivers have line level outputs as well.

Frequency - The range of human hearing is commonly given as 20-20,000Hz (20Hz-20kHz). One hertz (Hz) represents one cycle per second, 20Hz represents 20 cycles per second and so on. Lower numbers are lower frequencies

Gain - To increase in level. The function of a volume control.

Decibel (dB) - Named after Alexander Graham Bell. We perceive differences in volume level in a logarithmic manner. Our ears become less sensitive to sound as its intensity increases. Decibels are a logarithmic scale of relative loudness. A difference of about 1 dB is the minimum perceptible change in volume, 3 dB is a moderate change in volume, and about 10 dB is an apparent doubling of volume. 0 dB is the threshold of hearing and 130 dB is the threshold of pain.

Cipping - Refers to a type of distortion that occurs when an amplifier is driven into an overload condition. Usually the "clipped" waveform contains an excess of high-frequency energy. The sound becomes hard and edgy. Hard clipping is the most frequent cause of "burned out" tweeters. Even a low-powered amplifier or receiver driven into clipping can damage tweeters which would otherwise last virtually forever.