

"If you know subwoofers, you know about Velodyne."

"... it's safe to say that when it comes to woofin' done right, Velodyne's bigger models are probably the safest bet there is."

"... we just sat there marvelling at the sheer power and majesty of this junior varsity Velodyne."

-Corey Greenberg  
Home Theater Technology/February 1995  
Face Off: Comparison of five subwoofers  
Model Tested: VA-1012X

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# VA810/1012XII

## Owner's Manual



**Velodyne**  
Audio/Video Subwoofer System



**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



**Caution**

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

The lightning flash with arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the subwoofer.

1. Read Instructions -- All safety and operating instructions should be read before the subwoofer is operated.
2. Retain Instructions -- The safety and operating instructions should be retained for future reference.
3. Heed Warnings -- All warnings on the subwoofer and in the operating instructions should be adhered to.
4. Follow Instructions -- All operating and use instructions should be followed.
5. Water and Moisture -- The subwoofer should not be used near water -- for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool or the like.
6. Carts and Stands -- The subwoofer should be used only with a cart or stand recommended by the manufacturer.
7. Wall or Ceiling Mounting -- The subwoofer should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation -- The subwoofer should be situated so that its location or position does not interfere with its proper ventilation. For example, the subwoofer should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat -- The subwoofers should be situated away from heat sources such as radiators, heat registers, stoves, or other subwoofers that produce heat.
10. Power Sources -- The subwoofer should be connected to a power supply only of the type described in the operating instructions or as marked on the subwoofer.
11. 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 at which they exit from the subwoofer.
12. \*Caution: To prevent electrical shock, match wide blade of plug to wide slot, fully inserted.\* \*Attention: Pour éviter les chocs électriques, introduire lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu' au fond.\*
13. Cleaning -- The subwoofer should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods -- The power cord of the subwoofer should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry -- Care should be taken so that objects do not fall and liquids are not spilled onto the enclosure.
16. Damage Requiring Service -- The subwoofer should be serviced by qualified service personnel when:
  - a. The power-supply cord or plug has been damaged.
  - b. Objects have fallen or liquid has been spilled into the subwoofer.
  - c. The subwoofer has been exposed to rain.
  - d. The subwoofer does not appear to operate normally or exhibits a marked change in performance.
  - e. The subwoofer has been dropped or damaged.
17. Servicing -- The user should not attempt to service the subwoofer beyond what is described in the operating instructions.

All other servicing should be referred to qualified service personnel.

SPECIFICATIONS	VA-810XII	VA-1012XII
Cabinet (incl. legs)	15.5"x14.8"x14.8" (H,W,D)	17.5"x16.5"x16.5"
Frequency Response	35hz-200hz +/- 3 dB	35hz-200hz +/- 3 dB
High Pass Crossover	80hz or 100hz (6 dB/octave).....	
Low Pass Crossover	40hz - 120hz (6 dB/octave, 24 dB ultimate).....	
Amplifier	Class A/B, 100 watts, 250 watts peak.....	
Woofer	8" forward firing	10" forward firing
Magnet	55 oz.	55 oz
Voice Coil	2"	2"
Passive Radiator	10" downward firing	12" downward firing
Inputs	Line-level & speaker-level.....	
Outputs	Line-level & speaker-level.....	
Warranty	One year (parts & labor).....	
Weight	44 lbs. (approx.)	58 lbs. (approx.)

*Specifications are subject to change without notice.*

**FOR YOUR RECORDS. . .**

**DATE PURCHASED** \_\_\_\_\_

**DEALER** \_\_\_\_\_

**SERIAL #** \_\_\_\_\_

*\*NOTE: Please complete and return your warranty card within ten (10) days.*

several minutes when there is no longer any signal at the inputs.

If you plan to leave the VA-810/1012XII unused for an extended period of time, we recommend that you turn off the unit by the master power switch on the rear panel.

## Troubleshooting & Service

Before seeking service for your VA-810/1012XII subwoofer, please re-check all systems. Following is a simple troubleshooting guide to assist you.

1. Verify unit is plugged in and power outlet used is active.
2. Is power switch on?
3. Is auto turn on/off set properly?
4. Is unit receiving an input signal from your source?
5. Have all controls on subwoofer (volume, crossover, phase, etc.) been properly set?
6. If unit has been running at high levels, one of the protection circuits may be engaged.
  - Has the built-in amplifier overheated?
  - Has the speaker's voice coil started to heat up?

If the protection circuitry is active, the unit may cycle on and off until operating parameters return to normal. Under more serious conditions, the unit may shut off completely. Normal operation will return upon cooling, but you may be required to turn the power off and then on again to reset the unit.

The following conditions require service by a qualified technician:

1. The power cord has become damaged.
2. The unit does not appear to operate normally or exhibits a marked change in performance.
3. The unit has been exposed to water.
4. Some part of the cabinet or circuitry is physically damaged.

**Thank you for purchasing a Velodyne!**

## Congratulations!

Congratulations on your purchase of a Velodyne VA-810/1012XII subwoofer system. This system represents the state of the art in accurate low frequency reproduction. Read and follow the instructions below to insure safe and proper system operation.

### Warning!

*To prevent fire or shock hazard, do not expose this equipment to rain or moisture. To avoid electrical shock, do not open speaker enclosure or amp chassis cover. Please observe all warnings on the equipment itself. There are no user serviceable parts inside. Please refer all service questions to your authorized Velodyne dealer.*

### Prior to installation

Please unpack the system carefully. Remove all staples used to seal the carton as they can scratch the cabinet. Please save the carton and all packaging materials for future use. Record the serial number in the space provided on the warranty card for future reference.

## Product Features & Controls

- Built-in 100 watt (RMS) power amplifier
- Adjustable (40 to 120hz) low-pass crossover with bypass option
- Selectable (80 or 100hz) high-pass crossover
- Line-level inputs & outputs
- Speaker-level inputs & outputs with 5 way binding post connections
- Signal sensing auto turn on/off with bypass option
- Variable volume control
- selectable phase control (0 or 180 degrees)
- Detachable power cord (available on some versions)
- Magnetically shielded for video use
- Dual staggered low-pass crossover; 12dB/octave initial, 24dB/octave ultimate
- Gain compression circuit to protect woofer from over excursion
- Input overload protection

*continued . . .*



## Installation

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Your new VA-810/1012XII subwoofer system provides for a number of installation options. Read all the installation information below in order to determine which installation option is best for your system. **Remember to perform all installation procedures with system power turned off.**

### Inputs

Your new VA-810/1012XII subwoofer is equipped with both speaker-level and line-level inputs. Use the LINE-IN jacks when connecting your subwoofer to a pre-amp, signal processor, or line-level crossover. The FROM AMPLIFIER jacks connect directly to the speaker outputs of an integrated amplifier or receiver. Your amplifier section will notice no additional loading effects when you use these inputs because of their high impedance.

### Note

*Do not use both LINE-IN and FROM AMPLIFIER inputs simultaneously.*

### Volume control

This control allows you to balance the output from the subwoofer to the main speakers in your system. This control should be set to achieve similar volume level from both the main speakers and subwoofer.

### Low-pass crossover

Both sets of inputs sum the left and right channels together and the resulting signal is passed through an adjustable low-pass crossover before being amplified. The crossover control allows you to adjust the upper limit of the subwoofer's frequency response from 40 to 120 Hz. The subwoofer's response will begin rolling off above the frequency you set this control to.

You should set the crossover frequency to obtain a smooth and seamless transition from the subwoofer to the main speakers in your system. If your main speakers are smaller units with limited low frequency output, you may wish to choose a higher frequency (such

same channel.

Keep in mind that frequency response and output level can be drastically influenced by placement depending on the acoustic properties of the listening room. Typically the VA-810/1012XII will sound louder when placed next to a wall or in a corner.

### Caution!

*The VA series subwoofers have amplifiers built into the cabinet. Do not place the cabinet next to sources of heat such as furnace registers, radiators, etc. The power cord should be routed in such a way that it will not be walked on, pinched, or compressed in any way.*

Regardless of where you install your VA-810/1012XII subwoofer, it must remain in an upright position (passive radiator facing downward). Using, shipping, or otherwise storing the VA-810/1012XII subwoofer in any other position for an extended period of time may result in damage to the unit not covered by warranty.

The VA-810/1012XII Subwoofer is magnetically shielded to reduce magnetic emission from its cabinet to increase the number of possible locations available for placement. However, this shielding may not be adequate for all installations. Certain types of televisions are particularly sensitive to stray magnetic fields. If your television produces distorted colors after installation of your VA-810/1012XII subwoofer, simply increase the distance between your television and the VA-810/1012XII until normal color and operation is returned.

## Care of your subwoofer

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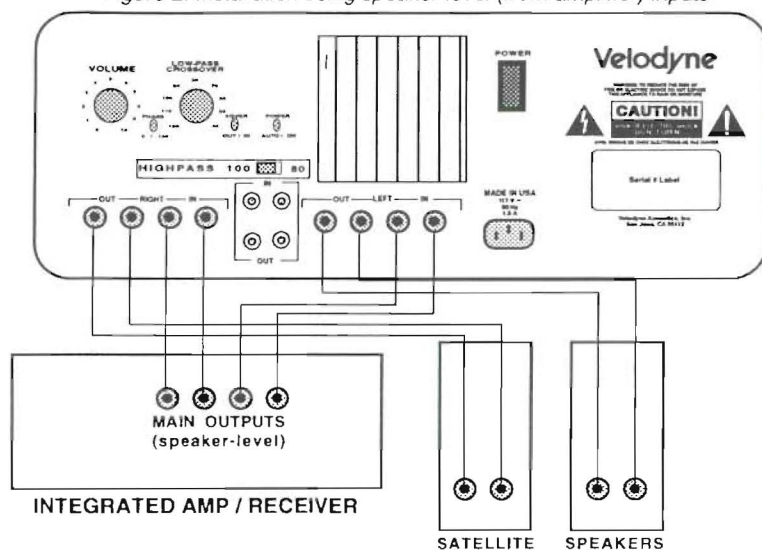
Do not use any harsh detergents or chemicals to clean the cabinet. Abrasives, detergents, or cleaning solutions may damage the finish on the cabinet. We recommend using a damp cloth to clean the cabinet.

During normal conditions, the VA-810/1012XII subwoofer may be left on continuously without any problems. The unit is equipped with a signal sensing turn on/off that will automatically turn on the unit when a signal is present at the inputs and turn off the unit after

*continued...*



Figure 2: Installation using speaker-level (from amplifier) inputs



## Interconnect cables

When installing your VA-810/1012XII using the line-level inputs/outputs, you should use standard shielded phono cables. Always keep the lines as short as practical to minimize noise.

When using the speaker-level inputs/outputs, use the same quality speaker cable to your subwoofer as you run to your satellites.

## Placement

The VA-810/1012XII operates at very low frequencies which are primarily non-directional. While it is recommended that the subwoofer be placed on the same plane as the satellite speakers, room and system conditions often dictate otherwise. See your dealer for help in placement.

When using a pair of VA-810/1012XII subwoofers in stereo, it is preferable to place each subwoofer adjacent to the satellite of the

as 100-120hz) than you would with larger speakers which have greater low frequency output. With larger speakers, you might start with this control set lower, such as 80hz.

A bypass switch is also provided if you wish to use an external crossover. If you are not using an external crossover, we recommend that you use the one provided within the unit for optimum performance.

### Phase adjustment

This control allows you the ability to compensate for having the subwoofer in a different location than the main speakers. Ideally, you will have the sound from the subwoofer reach the listening position the same time as the sound from the main speakers. However, if the distance from the listening position to the subwoofer and the distance from listening position to the main speakers differs, the sound from each will reach your ears at a different time.

This control allows the signal to be delayed 180 degrees so the output of the subwoofer will blend in to that of your main speakers without any cancellation.

### Auto turn on switch

The auto turn on switch allows the user to bypass the auto turn on function if desired. When set in the "auto" mode with main power on, the VA-1008/1210 will turn itself on when an input signal is present. If no signal is present, after several minutes the unit will shut itself off. When set in the "on" mode, the auto turn on/off function is bypassed and the unit will be on whenever the main power switch is on.

### High pass crossover switch

This switch selects the frequency for the high pass crossover. This crossover is functional on both line and speaker-level outputs. Smaller speakers with limited low frequency output may prefer the higher 100hz setting which will reduce the low frequencies sent to them. Larger speakers with greater low frequency output may be able to handle the 80hz setting without strain.

### Power switch

The master power switch is located on the right half of the unit. This rocker style switch is the main on/off for the unit. This switch should

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be set to position 1 for on (up), 0 for off (down).

#### Detachable power cord (available on some versions)

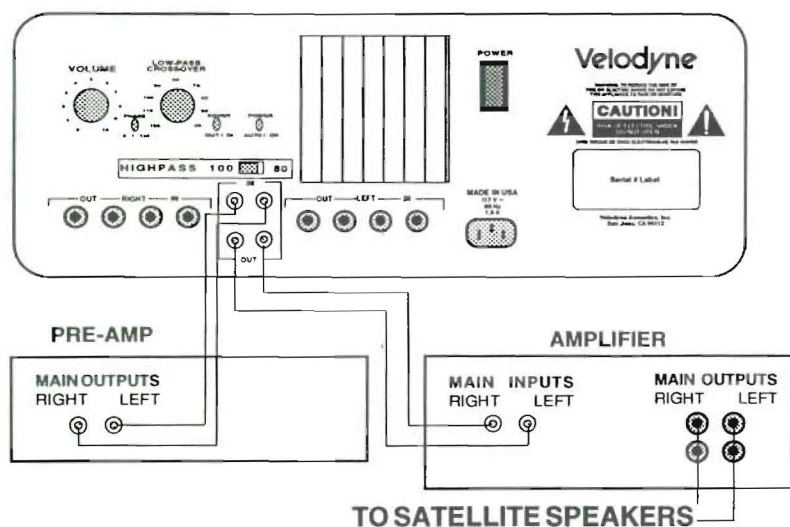
Allows for easy replacement should the original be damaged.

## Line-level connection

Figure 1 shows connection to a pre-amplifier's main outputs and returning them to your amplifier inputs.

When installed in this fashion, your satellite speakers will be crossed over at 80/100hz, which removes the lower bass from your amplifier and speakers thus, enabling them to do a better job reproducing high frequencies. By utilizing this method, you will have a bi-amplified system, gaining improved power and headroom for your system.

Figure 1: Installation using line-level (line in) inputs



#### A word about subwoofer outputs

The Velodyne subwoofer is designed to operate using the full range audio signal for input when using the built-in crossover. Some surround sound processors/receivers, including the Dolby AC3 system with their .1 channel output, have a "subwoofer out" jack that is already crossed over and designed to be used with a conventional

amplifier and speaker. Combining both an external crossover and the one internal to the subwoofer may result in low output and increased noise. In these cases, to optimize your subwoofer performance you should bypass the internal crossover in your *Velodyne* subwoofer.

To bypass the crossover within the subwoofer, simply locate the switch marked "out / in" on the back panel of the subwoofer and set to the "out" position. This will eliminate the internal crossover function.

#### Note

If not using an external crossover, you should use the built-in crossover for optimal performance.

## Subwoofer out from A/V Processor

From the low pass output of your signal processor install into right or left RCA line in connector in the back of the subwoofer or use a "Y" connector adapter into both right and left RCA line in connectors in the back of the subwoofer.

## Speaker-level connection

Figure 2 shows an easy way to connect your VA-810/1012XII subwoofer directly to your receiver or integrated amplifier.

When connected in this fashion, your satellite speakers will be crossed over at 80/100hz, which removes the lower bass from your speakers thus, enabling them to do a better job reproducing high frequencies.

You may also connect your satellites directly to your receiver or amplifier along with the subwoofer if you wish to bypass the internal high-pass crossover.

#### Caution!

To avoid damage to your main amplifier, be sure to maintain correct polarity when making all connections. Red (positive) to red, and black (negative) to black. Be sure that all connections are tight, and that there are no loose strands or frayed wires.

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