

SUBCONTRACTOR™ SERIES

AMPLIFIER / SUBWOOFERS

USER'S MANUAL



*SC-1250 Amplifier,
SC-8, SC-10, SC-12, SC-15,
SC-IW, SC-IF, SC-IC Subwoofers*

Velodyne®

CAUTION!



Caution

To reduce the risk of electric shock, do not remove cover (or backpanel). 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.

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 amplifier.

1. Read Instructions — All safety and operating instructions should be read before the amplifier is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the amplifier 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 amplifier 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 amplifier should be used only with a cart or stand recommended by the manufacturer.
7. Ventilation — The amplifier should be situated so that its location or position does not interfere with its proper ventilation. For example, the amplifier 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.
8. Heat — The amplifier should be situated away from heat sources such as radiators, heat registers, stoves, or other amplifiers that produce heat.
9. Power Sources — The amplifier should be connected to a power supply only of the type described in the operating instructions or as marked on the amplifier.
10. 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 amplifier.
11. “Caution: To prevent electrical shock, match wide blade of plug to wide slot, fully inserted.”
12. Cleaning — The amplifier should be cleaned only as recommended by the manufacturer.
13. Nonuse Periods — The power cord of the amplifier should be unplugged from the outlet when left unused for a long period of time.
14. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled onto the enclosure.
15. Damage Requiring Service — The amplifier 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 amplifier.
 - c. The amplifier has been exposed to rain.
 - d. The amplifier does not appear to operate normally or exhibits a marked change in performance.
 - e. The amplifier has been dropped or damaged.
16. Servicing — The user should not attempt to service the amplifier beyond what is described in the operating instructions.
17. The apparatus shall not be exposed to dripping or splashing water and that no objects filled with liquids, such as vases be placed on the apparatus.
18. The disconnect device (the appliance inlet) shall remain readily operable (easily assessable).

All other servicing should be referred to qualified service personnel.

ATTENTION!



Attention

Afin d'éviter tout risque d'électrocution, ne pas enlever le couvercle (ou la partie arrière). Aucune pièce interne ne peut être manipulée par l'utilisateur. Confiez l'entretien à un personnel qualifié.

Le symbole de l'éclair avec la flèche sert à avertir l'utilisateur de la présence d'une « tension dangereuse » non isolée dans l'enceinte du produit; cette tension peut être assez élevée pour provoquer un danger d'électrocution pour les personnes.

Le symbole du point d'exclamation sert à avertir l'utilisateur de la présence de consignes importantes de fonctionnement et de maintenance (entretien) dans la documentation accompagnant le caisson d'extrêmes graves.

1. Lire les consignes — Lisez toutes les consignes de sécurité et de fonctionnement avant de faire fonctionner le caisson d'extrêmes graves.
2. Conserver les consignes – Conservez les consignes de fonctionnement pour un usage éventuel.
3. Tenir compte des avertissements – Il faut se conformer à tous les avertissements et à toutes les consignes de fonctionnement qui se trouvent sur le caisson d'extrêmes graves.
4. Suivre les consignes – Il faut se conformer à toutes les consignes de fonctionnement et d'utilisation.
5. Eau et humidité – Le caisson d'extrêmes graves ne doit pas être utilisé près de l'eau (par exemple, près d'un bain, d'un évier, d'un bac de lessive, dans un sous-sol humide, près d'une piscine, etc.).
6. Chariots et supports – Utiliser uniquement le caisson d'extrêmes graves avec un chariot ou un support recommandé par le fabricant.
7. Montage au mur ou au plafond – Monter uniquement le caisson d'extrêmes graves sur un mur ou un plafond de la façon recommandée par le fabricant.
8. Ventilation – Le caisson d'extrêmes graves doit être situé dans un endroit ou une position qui ne nuit pas à sa ventilation adéquate. Par exemple, ne pas placer le caisson sur un lit, un canapé, une moquette ou une surface semblable qui peut bloquer les ouvertures de ventilation; ne pas poser le caisson sur un meuble encastré comme une bibliothèque ou un meuble qui peut empêcher l'air de circuler par les ouvertures de ventilation.
9. Chaleur – Éloigner le caisson d'extrêmes graves des sources de chaleur comme les radiateurs, les registres d'air chaud, les cuisinières ou d'autres caissons d'extrêmes graves qui dégagent de la chaleur.
10. Sources d'électricité – Le caisson d'extrêmes graves doit être raccordé uniquement à une prise d'alimentation d'un type décrit dans les consignes de fonctionnement ou tel que mentionné sur le caisson.
11. Protection du cordon d'alimentation – Les cordons d'alimentation doivent être acheminés pour éviter que personne ne marche dessus ou que rien ne puisse être placé sur ou contre eux; il faut faire particulièrement attention aux cordons raccordés à des prises électriques, des prises de service et au point de sortie du caisson.
12. « Attention : Afin d'éviter tout choc électrique, introduire à fond la lame la plus large de la fiche dans la borne correspondante ».
13. Nettoyage – L'enceinte doit être nettoyée selon les recommandations du fabricant.
14. Périodes de non-utilisation – Le cordon d'alimentation de l'enceinte doit être débranché de la prise de courant lorsqu'elle demeure inutilisée pendant une période prolongée.
15. Infiltration d'objet ou de liquide – Faire attention à ce qu'aucun objet ne tombe dans l'enceinte ou que des liquides ne s'y infiltrent.
16. Dommages nécessitant réparation – L'enceinte doit être réparée uniquement par du personnel d'entretien qualifié lorsque :
 - a. le cordon d'alimentation ou la fiche a été endommagée;
 - b. des objets sont tombés dans l'enceinte ou du liquide s'y est infiltré;
 - c. l'enceinte a été exposée à la pluie;
 - d. l'enceinte ne semble pas fonctionner normalement ou présente un important changement de performance;
 - e. l'enceinte a été échappée ou endommagée.
17. Entretien – L'utilisateur ne doit pas tenter d'effectuer l'entretien de l'enceinte au-delà de ce qui est décrit dans les consignes de fonctionnement.
18. L'appareil ne doit pas être exposé à un ruissellement ou à un giclage d'eau; des objets remplis de liquides comme des vases, ne doivent pas être placés sur l'appareil.
19. Le dispositif de débranchement (l'entrée d'alimentation) doit demeurer aisément accessible.

Toute autre réparation doit être confiée à du personnel qualifié.



Vorsicht

Um der Gefahr von Stromschlägen vorzubeugen, das Gehäuse (bzw. die Rückwand) nicht abnehmen. Im Inneren befinden sich keine Teile, die vom Benutzer gewartet werden können. Reparatur- und Wartungsarbeiten nur von entsprechend qualifizierten Kundendiensttechnikern durchführen lassen.

Das Symbol „Blitz mit Pfeilspitze“ soll den Benutzer warnen, dass im Gehäuse des Produkts eine nicht isolierte „gefährliche Spannung“ vorhanden ist, die so hoch sein kann, dass die Gefahr von für Menschen gefährlichen Stromschlägen besteht.

Das Symbol „Ausrufezeichen“ soll den Benutzer auf wichtige Bedienungs- und Wartungshinweise in der Begleitdokumentation des Subwoofers aufmerksam machen.

1. Anweisungen durchlesen – Lesen Sie sämtliche Sicherheits- und Bedienungshinweise, bevor Sie den Subwoofer in Betrieb nehmen.
2. Anweisungen aufbewahren – Bewahren Sie die Sicherheits- und Bedienungshinweise zum späteren Nachschlagen auf.
3. Warnungen beachten – Berücksichtigen Sie alle Warnungen auf dem Subwoofer und in der Bedienungsanleitung.
4. Anweisungen befolgen – Folgen Sie Bedienungs- und Verwendungshinweisen.
5. Wasser und Feuchtigkeit – Verwenden Sie den Subwoofer nicht in der Nähe von Wasser – z. B. an Badewannen, Wasch- oder Spülbecken, in einem feuchten Keller, am Schwimmbadenrand o. ä.
6. Rollwagen und Ständer – Der Subwoofer sollte nur mit einem vom Hersteller empfohlenen Wagen oder Ständer verwendet werden.
7. Wand- oder Deckenmontage – Eine Wand- oder Deckenmontage des Subwoofers darf nur gemäß den Herstellerempfehlungen erfolgen.
8. Belüftung – Der Subwoofer muss so positioniert werden, dass am Installationsort eine unbehinderte Luftzirkulation möglich ist. Beispielsweise darf der Subwoofer nicht auf einem Bett, Sofa oder Teppich oder auf einer ähnlichen Oberfläche aufgestellt werden, die die Belüftungsöffnungen abdeckt; auch die Aufstellung in einem Bücherregal oder Schrank ist nicht zulässig, wenn dies den Luftstrom durch die Belüftungsöffnungen behindern würde.
9. Wärme – Der Subwoofer darf nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizluftausströmern, Öfen oder weiteren Wärme abstrahlenden Subwoofern installiert werden.
10. Stromversorgung – Der Subwoofer darf ausschließlich an eine Stromversorgung mit den Daten angeschlossen werden, die in der Bedienungsanleitung angegeben oder auf dem Subwoofer aufgedruckt sind.
11. Schutz des Netzkabels – Netzkabel müssen so verlegt werden, dass keine Personen darauf treten und dass sie nicht von darauf oder daneben abgestellten Gegenständen gequetscht werden können. Besonders gefährdet sind die Kabel in der Nähe von Steckern und Steckdosen sowie am Gehäuseneintritt in den Subwoofer.
12. „Vorsicht: Zur Vermeidung von Stromschlägen muss der breite Steckerkontakt vollständig in den breiten Schlitz eingeführt werden.“
13. Reinigung – Der Subwoofer darf nur gemäß den Herstellerempfehlungen gereinigt werden.
14. Nichtbenutzung – Das Netzkabel des Subwoofers sollte von der Steckdose abgezogen werden, wenn das Gerät längere Zeit nicht verwendet wird.
15. Eindringen von Gegenständen und Flüssigkeiten – Achten Sie darauf, dass keine Gegenstände in das Gehäuse fallen und keine Flüssigkeiten darüber verschüttet werden.
16. Zu reparierende Schäden – In den folgenden Fällen muss der Subwoofer durch den qualifizierten Kundendienst repariert werden:
 - a. Das Netzkabel oder der Netzstecker wurde beschädigt.
 - b. In den Subwoofer sind Gegenstände gefallen, oder Flüssigkeit wurde darüber verschüttet.
 - c. Der Subwoofer ist im Regen nass geworden.
 - d. Der Subwoofer scheint nicht wie gewohnt zu funktionieren oder weist eine deutlich veränderte Leistung auf.
 - e. Der Subwoofer wurde fallen gelassen oder beschädigt.
17. Wartung – Versuchen Sie nicht, Wartungsarbeiten am Subwoofer durchzuführen, die über den Umfang der in der Bedienungsanleitung beschriebenen Maßnahmen hinausgehen.
18. Das Gerät darf keinem Tropf- oder Spritzwasser ausgesetzt werden, und es dürfen keine mit Wasser gefüllten Gegenstände wie Vasen darauf abgestellt werden.
19. Die Trennstelle (die Gerätesteckdose) muss stets leicht bedienbar (gut zugänglich) sein.

Alle darüber hinausgehenden Wartungsmaßnahmen dürfen ausschließlich von entsprechend geschulten Fachkräften durchgeführt werden.

**Attenzione**

Per ridurre il pericolo di scossa elettrica, non togliere il coperchio (o la parete posteriore). L'interno non contiene parti su cui l'utente possa intervenire. Per assistenza e riparazioni, rivolgersi a personale tecnico qualificato.

Il simbolo con la freccia forma di fulmine avvisa l'utente della presenza di "tensioni pericolose" all'interno della cassa del prodotto, non isolate e di intensità sufficiente a configurare un pericolo di scossa elettrica per le persone.

Il simbolo con il punto esclamativo avvisa l'utente della presenza di importanti istruzioni di uso e manutenzione nella documentazione che accompagna il subwoofer.

1. Leggere le istruzioni — Prima di usare il subwoofer, leggere tutte le istruzioni di uso e sicurezza.
2. Conservare le istruzioni — Conservare le istruzioni di uso e sicurezza per riferimento futuro.
3. Rispettare le avvertenze — Osservare tutte le avvertenze presenti sul subwoofer e contenute nelle istruzioni.
4. Seguire le istruzioni — Seguire tutte le istruzioni di uso e funzionamento.
5. Acqua e umidità — Il subwoofer non deve essere usato in vicinanza di acqua — ad esempio vicino a vasche da bagno, lavandini, lavelli, lavatoi, in seminterrati umidi, vicino a piscine, o altro.
6. Carrelli e supporti — Il subwoofer deve essere usato solo con un carrello o supporto raccomandato dal produttore.
7. Montaggio a parete o a soffitto — Il subwoofer deve essere montato su pareti e soffitti solo come raccomandato dal produttore.
8. Ventilazione — Il subwoofer deve essere posizionato in modo da non pregiudicare la ventilazione. Ad esempio, non deve essere collocato su letti, divani, tappeti o qualunque superficie del genere che possa ostruire le fessure di ventilazione; inoltre non deve essere montato a incasso, come in librerie o mobiletti, in modo da ostacolare il flusso dell'aria attraverso le fessure di ventilazione.
9. Calore — Il subwoofer deve essere collocato lontano da sorgenti di calore come radiatori, diffusori di aria calda, stufe, o altri subwoofer che generano calore.
10. Sorgenti di alimentazione — Il subwoofer deve essere collegato solo a una sorgente di alimentazione del tipo descritto nelle istruzioni per l'uso o indicata sul subwoofer stesso.
11. Protezione dei cavetti di alimentazione — Disporre i cavetti di alimentazione in modo che non possano essere calpestati o schiacciati da oggetti collocati sopra o contro di essi, facendo particolare attenzione vicino alle spine, alle prese, e nei punti in cui i cavetti escono dal subwoofer.
12. "Attenzione: per evitare scosse elettriche, inserire a fondo la lamella larga della spina nella fessura larga della presa."
13. Pulizia — Pulire il subwoofer solo come raccomandato dal produttore.
14. Periodi di non uso — Quando non si usa il subwoofer per un lungo periodo di tempo, staccare dalla presa elettrica il cavetto di alimentazione.
15. Penetrazione di liquidi e oggetti — Evitare con attenzione la caduta di oggetti e la penetrazione di liquidi all'interno della cassa.
16. Danni che richiedono manutenzione — Il subwoofer deve essere riparato da personale tecnico qualificato in caso di:
 - a. danni al cavetto o alla spina di alimentazione;
 - b. caduta di oggetti e penetrazione di liquidi all'interno della cassa;
 - c. esposizione del subwoofer alla pioggia;
 - d. funzionamento anomalo o notevole cambiamento nelle prestazioni del subwoofer;
 - e. caduta o danni del subwoofer.
17. Manutenzione — L'utente non deve provare a intervenire sul subwoofer oltre quanto descritto nelle istruzioni per l'uso.
18. L'apparecchiatura non deve essere esposta a schizzi o gocciolamento di acqua e su di essa non devono essere collocati oggetti contenenti liquidi, come ad esempio vasi.
19. Il dispositivo di disconnessione (la presa di alimentazione) deve rimanere facilmente azionabile (facilmente accessibile).

Per tutti gli altri interventi, rivolgersi a personale tecnico qualificato.

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CONGRATULATIONS

Congratulations on your purchase of a Velodyne SubContractor Series subwoofer. This system represents the state-of-the-art in 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 chassis. 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

SC-1250 Subwoofer Amplifier

- Amplifier: 3000 watts dynamic/1250 watts RMS high efficiency, Class D
- DSP-controlled
- 4 selectable presets for customized listening mode
- Automatic 7 band room equalizer (microphone included)
- Night-mode setting
- Mute control
- Adjustable (30 to 160 Hz) low-pass crossover (defeatable)
- Line-level (RCA) inputs and outputs
- Speaker-level inputs with 5 way binding post connections
- Signal sensing auto turn on/off (defeatable)
- Variable volume control
- Selectable phase control (0, 90, 180 or 270 degrees)
- Built-in adjustable digital low-pass crossover with 24 dB/octave slope
- Driver Displacement Control software to prevent over excursion and amp clipping
- Blue power indicator LED
- RS-232 Serial Interface
- 12 Volt trigger
- Universal remote input jack
- Ability to drive up to TWO subwoofers**

** If two subwoofers are driven, they must each have 8 ohm or higher impedance. SC Series subwoofers can be run in this fashion. If a more traditional 4 ohm subwoofer is driven with the SC-1250, only one can be driven.

SC-8, SC-10, SC-12, SC-15, SC-IW, SC-IF/IC Subwoofers

SC-8:

- 8" (6.5" piston diameter) subwoofer
- 2.5" high-temp voice coil
- Oversized spider for linearity at high excursion
- High-excursion EPDM rubber surround
- 107 ounce magnet/204 ounce motor structure
- Frequency Response: 28 - 120 Hz (+/- 3 dB)
- 8 ohm impedance

SC-10:

- 10" (8" piston diameter) subwoofer
- 3" high temperature inside/outside voice coil
- Oversized spider for linearity at high excursion
- High-excursion EPDM rubber surround
- 162 ounce magnet/346 ounce motor structure
- Magnetically shielded for video use
- Frequency Response: 24 - 120Hz (+/- 3 dB)
- 8 ohm impedance

SC-12:

- 12" (9.7" piston diameter) subwoofer
- 3" high temperature inside/outside voice coil
- Oversized spider for linearity at high excursion
- High-excursion EPDM rubber surround
- 162-ounce magnet/346 ounce motor structure
- Magnetically shielded for video use
- Frequency Response: 22 - 120Hz (+/- 3 dB)
- 8 ohm impedance

SC-15:

- 15" (12.7" piston diameter) subwoofer
- 3" high temperature inside/outside voice coil
- Oversized spider for linearity at high excursion
- High-excursion EPDM rubber surround
- 162-ounce magnet/346 ounce motor structure
- Magnetically shielded for video use
- Frequency Response: 22 - 120Hz (+/- 3 dB)
- 8 ohm impedance

SC-IW (In-Wall):

- 4" x 14" rectangular driver (3" x 13.25" piston diameter) with flat Carbon Fibre/Rohacell/Carbon Fiber sandwich diaphragm
- Neodymium magnet structure
- Quad spider configuration with upper/lower spider modules
- High-excursion EPDM rubber surround
- 3" high temperature inside/outside voice coil
- Magnetically shielded for video use
- Frequency Response: 22 - 120Hz (+/- 3 dB)
- 8 ohm impedance

SC-IF/SC-IC (In-Floor/In-Ceiling):

- 12" (9.7" piston diameter) subwoofer
- 3" high temperature inside/outside voice coil
- Oversized spider for linearity at high excursion
- High-excursion EPDM rubber surround
- 162 ounce magnet/346 ounce motor structure
- Magnetically shielded for video use
- Frequency Response: 22 - 120Hz (+/- 3 dB)
- 8 ohm impedance

INSTALLATION

Your new Velodyne amplifier 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.

FRONT PANEL CONTROLS AND DISPLAYS

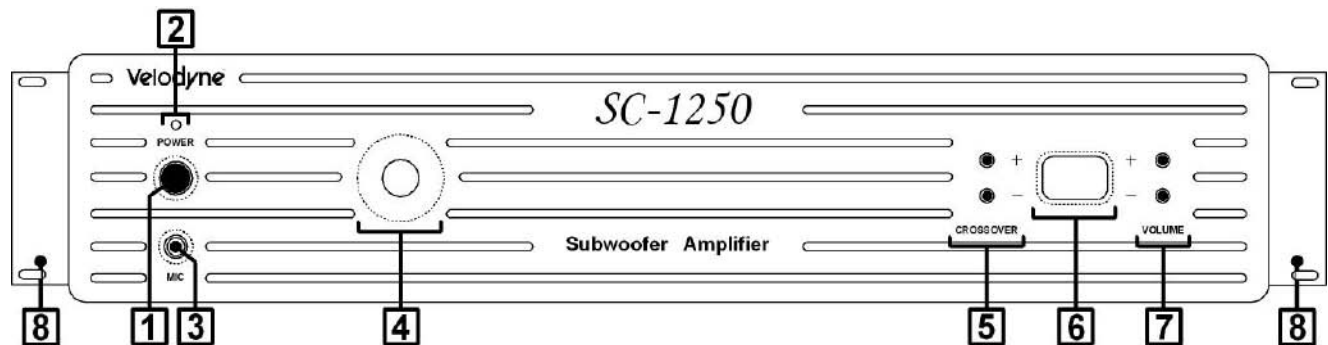


Figure 1: Front Panel Connections of the SC-1250.

Following are brief descriptions of the controls described in Figure 1. More detail on these controls can be found in the next section.

(1) Power Switch

This push button style switch is the main on/off for the unit.

(2) Power LED

This LED illuminates when the power is on. Blue is normal operation. It turns amber when the unit is in standby mode or the remote has been used to deactivate the unit. This LED dims when the unit is in night mode.

(3) Mic Input

Connect the supplied microphone for the Auto-EQ feature to this mini-jack.

(4) Remote Eye

This is the eye that receives infrared commands from the supplied remote.

(5) Low-Pass Crossover

Use these up and down buttons to select the high-frequency range at which you wish to cut off the signal to the subwoofer. The frequency is indicated on the LED display briefly, then the display reverts to showing the subwoofer's volume. The slope is fixed at 24 dB/octave. To deactivate the crossover, press BOTH the up and down crossover buttons at the same time – two dashes on the display indicate the crossover is deactivated and the woofer plays all frequencies presented to it. Please see page 9 for a more detailed discussion on crossovers.

(6) LED Numeric Indicator

This LED supplies information on volume, crossover, woofer type, and other information. The light button on the remote deactivates this display. Upon startup, the display shows the model of subwoofer the SC-1250 is controlling, then reverts to the volume indicator.

(7) Volume Control

These buttons allow you to balance the output from the subwoofer to the main speakers in your system. The volume should be set to achieve similar volume level from between both the main speakers and subwoofer. The default volume is 30.

Note: Volume is also controllable by using the supplied remote.

(8) Optional Rack Mount

These detachable ears allow the SC-1250 to be rack mounted.

REAR PANEL CONNECTIONS

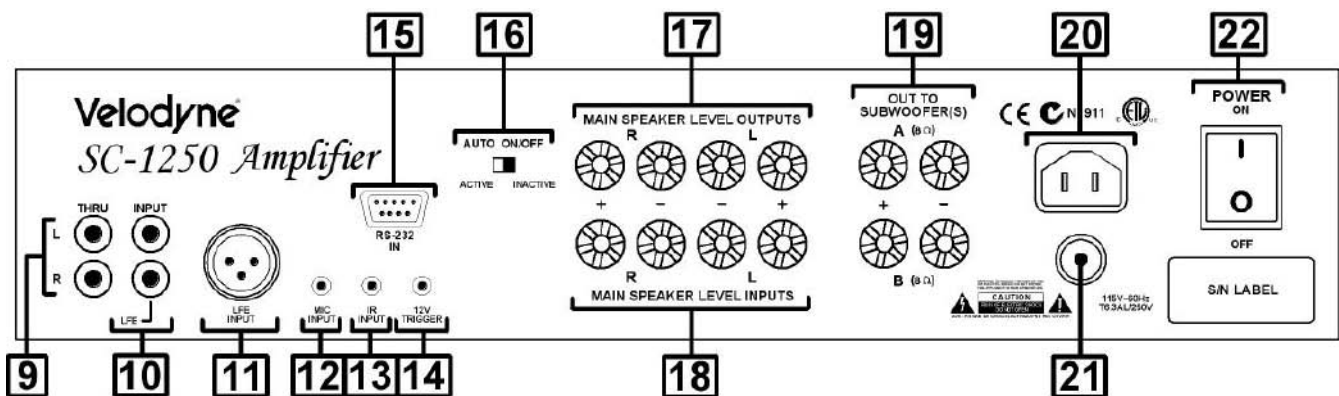


Figure 2: Rear Panel Connections of the SC-1250.

(9) Thru Jacks (See Figure 3A)

These RCA connectors are for passing along the same signal that goes into your subwoofer to a second “daisy-chained” subwoofer. The signal from these RCA connectors is the same as the input signal.

(10) Line Input / LFE Input (See Figure 3A & 3B)

Connect these jacks to the LINE OUT preamp output, LFE output, or subwoofer output jacks of your receiver/processor. If using the LFE output from your receiver or processor, plug the single cable into the jack labeled LFE input or, for more signal, use a “Y” connector and feed the signal into both “R” and “L” inputs.

Option 1

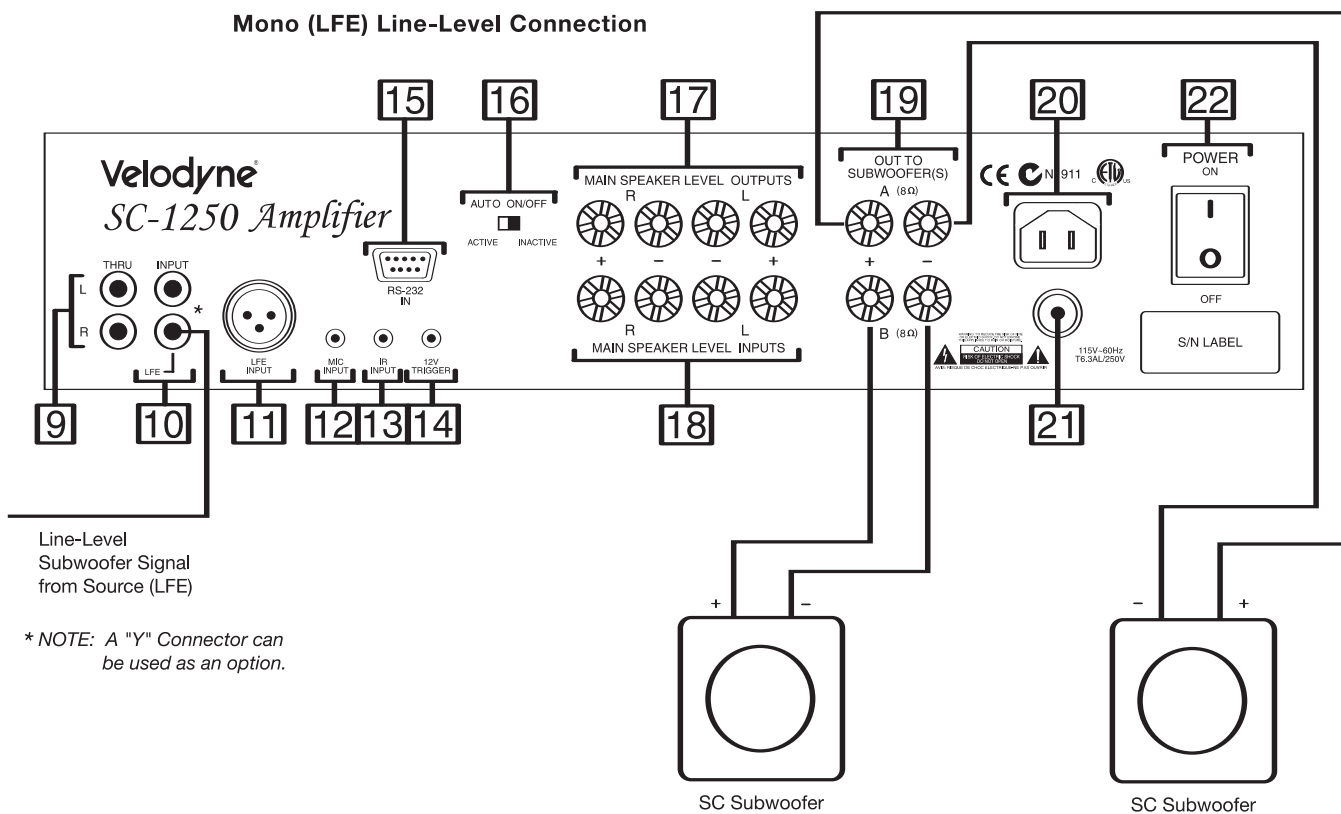


Figure 3A: Mono (LFE) Line-Level Connection.

Option 2

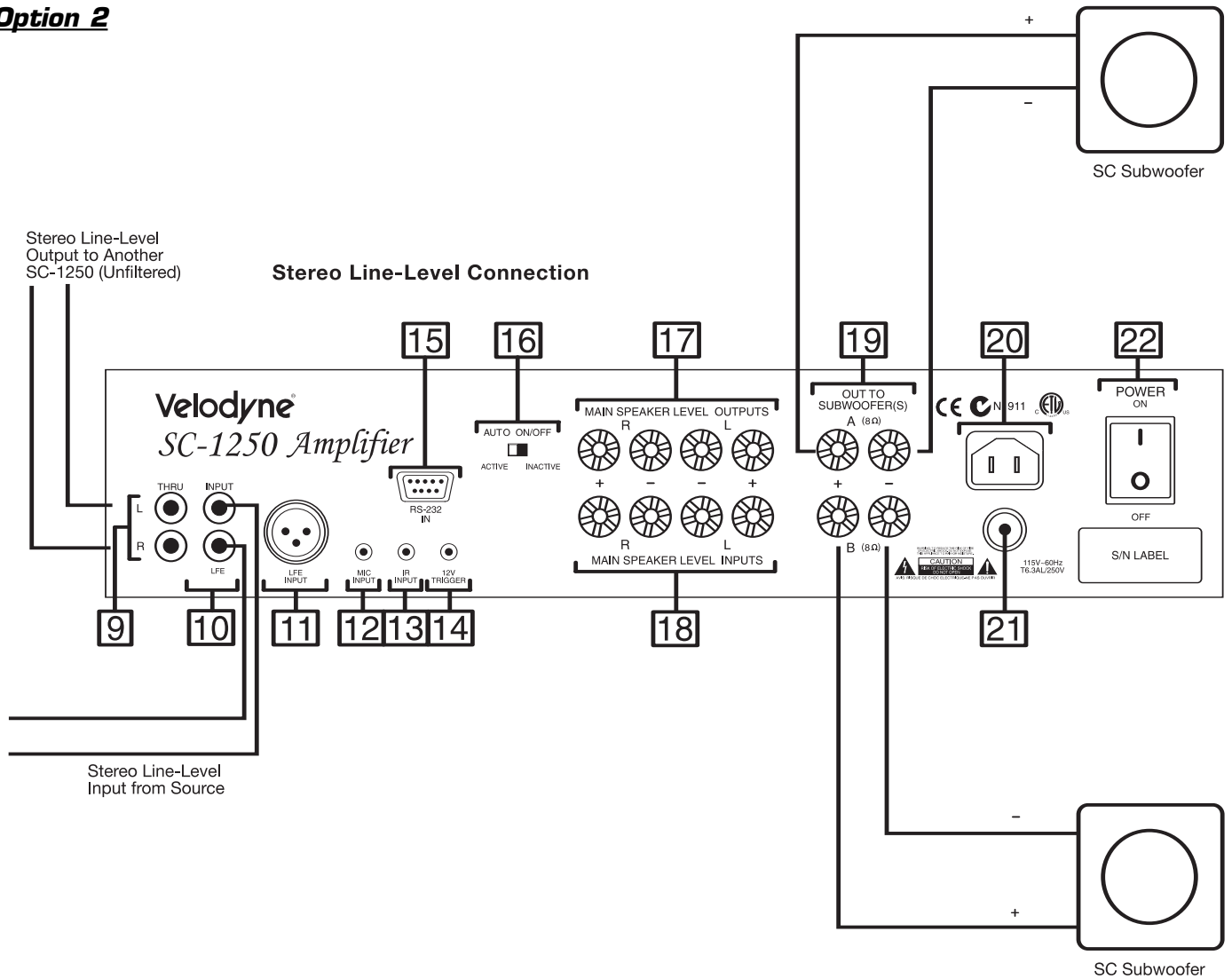


Figure 3B: Stereo Line-Level Connection.

(18) Speaker Level Input Terminals *(See Figure 5)*

Connect these input terminals to the speaker output terminals of your amplifier or receiver. If you use this method of connection, when you go to the receiver speaker set up menu, make sure you select the "large" speaker option.

(19) Subwoofer Connection Terminals

Connect these output terminals to the subwoofer(s) being controlled by the SC-1250. Only connect ONE subwoofer per red/black pair of subwoofer output terminals - DO NOT connect the subwoofers in a "daisy chain" configuration.

Note: SC series subwoofers are designed so that TWO subwoofers can be driven from a single SC-1250 amplifier. If you are using the SC-1250 to power a non-SC subwoofer, make sure you check the resistance of the subwoofer's voice coil. A SINGLE 4 ohm subwoofer can be driven with the SC-1250, but not TWO 4 ohm woofers. If you attempt to run more than a single 4 ohm subwoofer, internal protection circuitry will activate within the SC-1250.

Caution!!!

To avoid damage to your SC-1250, 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.

(20) Power Cord Adaptor

Connect the detachable 117V~60Hz 15A AC power plug to this male interface connection. The detachable cord allows for easy replacement should the original be damaged.

(21) Fuse

If the unit is not functioning, check the fuse. If the fuse is blown, replace with an identically rated fuse. If the fuse blows again, refer the unit for service.

(22) Master Power Switch

Press the POWER switch to the ON position to activate the amplifier. If the unit is to be left unused for an extended period of time, move this switch to the OFF position to prolong the life of the amplifier.

REAR PANEL CONNECTIONS - DETAILED EXPLANATION

The SC-1250 is equipped with both speaker-level and line-level inputs. Use the RCA/Phono type "INPUT" jacks when connecting from a pre-amp, signal processor, or line-level crossover. The "SPEAKER LEVEL INPUT" 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 the RCA/Phono "INPUT" connections and "SPEAKER LEVEL INPUT" connections simultaneously.

About Low-Pass Crossovers

All of the SC-1250 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 30 to 160 Hz. The subwoofer's response will begin rolling off above the frequency you set this control to. The slope is 24 dB/octave.

You should set the crossover frequency to obtain a smooth and seamless transition from the subwoofer(s) 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 as 100-120 Hz) 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 80 Hz.

Most receivers and processors provide an option to characterize main speakers as "large" or "small." This affects the crossover point. We recommend in most cases setting the main speakers to "small," despite their size and frequency response characteristics. This is because the powerful 1250 watt SC-1250 combined with the SC subwoofer(s) you have acquired are more than likely more suited to low bass reproduction than your amp and main speaker combination. With the burden of low frequency reproduction relieved, your amplifier and main speaker combination will enjoy better performance and about 50% more available headroom, enabling them to more accurately reproduce the rest of the frequency spectrum.

Disabling the Low-Pass Crossover (Subwoofer Direct)

If your receiver/processor provides a crossover to the subwoofer(s), you may want to bypass the SC-1250's low-pass crossover. To do this, depress BOTH the Crossover UP and Crossover DOWN buttons simultaneously. The numeric LED will show **—** indicating that the low-pass crossover has been defeated. To reactivate the low-pass crossover, simply push the crossover UP or crossover DOWN buttons.

A Word About Your Receiver's Crossover and the SC-1250 Crossover

Your Velodyne SC-1250 amplifier is designed to operate using the full range audio signal for input when using the built-in crossover (controlled by the dial on the back panel). Many home theater processors/receivers (Dolby Digital®, DTS®, THX™) have a "subwoofer out" jack that performs this same function and are designed to be used with a powered subwoofer.

In these installations, you may want to bypass the crossover in either the processor or the Velodyne SC-1250 as described above. However, in some cases you may want to use BOTH crossovers. If you choose to do this you should stagger the frequencies, (i.e., 120 Hz subwoofer, 80 Hz processor) for best results.

Note: If not using an external crossover, you should use the built-in crossover for optimal performance. When using a single RCA sub out from the processor, it does not matter which line level input (L/R) is used.

A Word About Interconnect Cables

When installing your Velodyne SC-1250 using the line-level connections, you should always use high quality shielded interconnect cables. It is recommended that you keep the length of cable as short as possible to avoid any potential external interference problems.

When connecting the SC-1250 to your subwoofer(s), use a quality speaker cable that is at least 14-gauge. Be very careful to avoid any loose or frayed strands that could result in a short, causing a dangerous condition and possible damage to your unit. Cables of extremely large size are typically not required. Extremely large gauge wire may not properly fit in the binding posts, resulting in a poor connection and possible short circuits.

A Word About Subwoofer Placement

Subwoofers operate at extremely low frequencies, which are primarily omni-directional. 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 optimum location for a subwoofer is in a front corner of your listening room. This location will usually offer the greatest output levels and optimum low frequency extension. The worst location for a subwoofer is typically far away from any walls, close to the center of your room and near an opening or doorway. Avoid these locations when possible. When using a pair of SC subwoofers in stereo, it is preferable to place each subwoofer by the satellite of the same channel. Typically, a minimum distance of one to two feet from your TV to the subwoofer will be adequate to avoid any magnetic interference.

Remember that the built-in 7 band EQ will help to get the most performance out of your subwoofer no matter where it is placed.









Caution!

This amplifier has electronics built into the cabinet. Do not place the chassis next to sources of heat such as furnace registers, radiators, etc. Do not place the unit near sources of excessive moisture, such as evaporative coolers, humidifiers, etc. The power cord should be routed in such a way that it will not be walked on, pinched or compressed in any way that could result in damaging the insulation or wire.

SELECTING THE SUBWOOFER(S) TO BE CONTROLLED

Your SC-1250 can control a variety of Velodyne subwoofers as well as generic passive subwoofers. Special internal software settings are designed to maximize performance and reliability depending on the model of subwoofer being controlled, so it is important to match the SC-1250 amplifier with the subwoofer(s) it is controlling. The SC-1250 comes with a default setting for the SC-10 subwoofer. When the unit is first powered up, the model being controlled is displayed for two seconds on the numeric LED before the display reverts to the volume setting.

To change the subwoofer to be controlled, power up the unit while depressing any of the buttons on the front panel (crossover UP or DOWN, or power UP or DOWN). The unit will show the model it is currently controlling. To change the model, simply push the crossover UP or crossover DOWN buttons to change the model. Following is a chart of the subwoofers available to be controlled and the corresponding numeric LED display:

Model	LED Display	Model	LED Display
SC-8		SC-Inwall (SC-IW)	
SC-10		SC-In Floor (SC-IF)	
SC-12		SC-In Ceiling (SC-IC)	
SC-15		Generic Subwoofer**	

** - The generic subwoofer setting is for passive subwoofers not on the above list. CAUTION: there is no anti-clipping or anti-distortion protection on this setting.

USAGE

This section addresses day-to-day usage of your SC-1250 amplifier.

Remote Control

The features of the SC-1250 remote control are listed below.

- **POWER** — This button forces your SC-1250 unit into standby mode. The power LED turns amber, the numeric LED shuts off, and the amplifier puts out no power. The unit will remain in this mode until the POWER button is pressed again. To fully deactivate (i.e. power down) the unit, press the power switch on the front panel.

Note: The master power switch on rear panel must be on in order for the front power button to function.

- **MUTE** — This button mutes the subwoofer. The LED on the amplifier will show OO if the unit is muted. To unmute the subwoofer, press the MUTE button again and the original volume setting shows on the LED.
- **EQ** — This button automatically EQs the subwoofer using a 7 band internal graphic equalizer. To use this feature, first plug the supplied microphone into the Mic-In jack on the back panel of the subwoofer and place the mic in your preferred listening position. Then, by pressing EQ on the remote, the subwoofer emits 12 “sweep tones” that cover the frequencies between 20 and 150 Hz. The LED displays “AU” during the Auto-EQ process. After the sweeps are complete, the unit saves its EQ settings and returns to normal operation. To prevent accidental invocation of the EQ feature, you must hold down the EQ button for 2-3 seconds before the EQ sweeps begin.

Note: Each time the EQ feature is utilized, the EQ settings for the SC-1250 are reset. If the microphone is not plugged in, the SC-1250 will emit one or two sweep tones then cease the EQ operation. In this case, the previous EQ settings will be preserved.

- **PHASE** — These buttons allow you to optimize the subwoofer performance for the location and your listening position. Select the switch position at which you hear the most bass. The LED will show the phase selected by showing “PH” followed by the phase number.
- **LIGHT** — If you wish, you can deactivate the numeric LED on your SC-1250. To do this, press the LIGHT button on your remote. To reactivate the LED, press the LIGHT button again.
- **NIGHT** — Night mode limits the maximum output of the subwoofer for late night listening or to be more considerate of close neighbors. Press the night button to turn the night mode feature on or off. Night mode, when active, is indicated by the reduced intensity of the power LED.
- **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 between both the main speakers and subwoofer. When pressing volume up or down, the volume level is shown on the numeric LED on the front panel.

Note: The volume can also be adjusted via the volume buttons on the front panel of the amplifier. These buttons have the same effect as pressing the up and down volume buttons on your remote.



Figure 6: SC-1250 Remote.

- **PRESETS** — There are 4 presets, consisting of Movies, R&B – Rock, Jazz – Classical, and Games. As a preset is chosen, the preset is shown on the numeric LED as P1 for preset 1, P2 for preset 2, etc. The presets provide the following characteristics for bass reproduction:

- Movies: Maximum output and impact for explosions and other action adventure movie content.
- R&B – Rock: Provides the driving bass found in today’s rock music.
- Jazz – Classical: The tightest, cleanest, lowest distortion bass.
- Games: Maximum loudness available for the impact of video games.

The following table indicates musical style and which preset is recommended for it.

MUSICAL STYLE	SUGGESTED PRESET
Action Adventure Movies	Movies
Country – Rock	R&B – Rock
Country – Soft	Jazz – Classical
Folk	Jazz – Classical
Indie Music	R&B – Rock
Pop	R&B – Rock
Rock	R&B – Rock
Alternative Rock	Jazz – Classical
Blues	Jazz – Classical
Broadway and Vocalists	Jazz – Classical
Children’s Music	Jazz – Classical
Christian and Gospel	Jazz – Classical
Classic Rock	R&B – Rock
Classical	Jazz – Classical
Dance and DJ	R&B – Rock
Hard Rock/Heavy Metal	R&B – Rock
Latin Music	R&B – Rock
Miscellaneous	Jazz – Classical
Movies – Non-Action Adventure	Jazz – Classical
New Age	Jazz – Classical
Opera and Vocal	Jazz – Classical
R&B	R&B – Rock
Rap and Hip-Hop	R&B – Rock
Soundtracks	R&B – Rock or Jazz – Classical
Video Games	Games

Each preset has its own characteristics with respect to subsonic filter, volume differential and a single equalizer (EQ) in order to optimize the listening mode for the preset.

The following table shows the settings for the various presets:

Preset	Subsonic Filter Frequency	EQ Frequency	EQ Level	Volume Differential
Movies	24 Hz	37 Hz	+4 dB	+8 dB
R&B – Rock	27 Hz	52 Hz	+3 dB	+5 dB
Jazz – Classical (Reference)	24 Hz	N/A	N/A	N/A
Games	34 Hz	62	+4 dB	+4 dB

RESTORING DEFAULTS

There is a feature that allows you to restore default settings for your SC-1250. By pressing presets in EXACTLY the following order on the remote, the unit's power light will blink indicating that you have restored defaults.

- Preset 1: Movies
- Preset 2: R&B – Rock
- Preset 3: Jazz – Classical
- Preset 4: Games
- Preset 4: Games
- Preset 3: Jazz – Classical
- Preset 2: R&B – Rock
- Preset 1: Movies

When you press the presets in the above order, the numeric LED will display "P3" indicating that you have restored defaults. The unit's volume is reset to level 30 out of 80.

CARE OF YOUR AMPLIFIER AND SUBWOOFER

Do not use any harsh detergents or chemicals to clean the SC-1250 chassis or the subwoofer cabinet. Abrasives, detergents, or cleaning solutions will damage the finish on the SC-1250 chassis or the subwoofer cabinet. We recommend using a damp cloth to clean the front, back and sides.

During normal conditions, the amplifier may be left on continuously without any problems. If you plan to leave the unit unused for an extended period of time, we recommend that you turn off the unit by the master power switch on the front panel.

TROUBLESHOOTING AND SERVICE

Before seeking service for your amplifier or subwoofer, please re-check all systems. Following is a simple troubleshooting guide to assist you.

1. Verify that the unit is plugged in and power outlet used is active.
2. Is the power switch on?
3. Is the unit receiving an input signal from your source?
4. Have all controls on the amplifier (volume, crossover, phase, etc.) been properly set?
5. If the unit has been running at high levels, one of the protection circuits may be engaged. Has the amplifier overheated?
6. Has the power button been depressed on the remote?

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 should 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 chassis or circuitry is physically damaged

Thank You for Purchasing an SC-1250!

SPECIFICATIONS

Specification	SC-1250 Subwoofer Amplifier
Amplifier: (Class D)	3000 watts Dynamic 1250 watts RMS Power
High Pass Crossover:	80Hz (6 dB/octave)
Low Pass Crossover:	30Hz-160Hz, Defeatable, 24 dB/octave slope
Inputs:	Line and Speaker Level
Outputs:	Line-level, 80 Hz up, speaker level for up to two subwoofers
Phase:	0°, 90°, 180°, 270°
Dimensions (H/W/D): (inc. feet & grill)	4.25" x 17.0 " x 13.0" (10.8 x 43.2 x 33.1 cm)
	**Allow two extra inches in depth for wire connectors and power cable.
	**Includes feet. Feet can be removed for "two rack units" high.
Warranty: (parts/labor)	Two years
Shipping Weight (approx.):	25 lbs. (22.7 Kg)

The following subwoofers are designed to work with the SC-1250:

Specifications	SC-8	SC-10	SC-12	SC-15	SC-1W (Inwall)	SC-1F (Infloor), SC-1C (Inceiling)
Woofer:	8" forward firing (6.5" piston diameter)	10" forward firing (8" piston diameter)	12" forward firing (9.7" piston diameter)	15" forward firing (12.7" piston diameter)	4" x 14" rectangular driver (3" x 13.25" piston dimensions)	12" (9.7" piston diameter) subwoofer
Frequency Response: (+/-3 dB)	28-120Hz	24-120Hz	22-120Hz	22-120Hz	22-120Hz	22-120Hz
Harmonic Distortion:	<5% (typical)	<5% (typical)	<5% (typical)	<5% (typical)	<5% (typical)	<5% (typical)
Magnet Structure:	204 oz. Ferrite (12.7 lbs)	346 oz. Ferrite (21.6 lbs.)	346 oz. Ferrite (21.6 lbs.)	346 oz. Ferrite (21.6 lbs.)	275 oz. Neodymium motor structure	346 oz. (21.6 lbs.)
Voice Coil	2.5" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind
Video Shielded:	No	Yes	Yes	Yes	Yes	Yes
Dimensions (H/W/D): (inc. feet & grill)	10.75" x 10.5" x 9.25" (27.3 x 26.7 x 23.4 cm) **Allow 1-2 extra inches in depth for wire hookup	12.75" x 12.375" x 9.5" (32.4x 31.5 x 24.2 cm) **Allow 1-2 extra inches in depth for wire hookup	15" x 14.5" x 10.25" (38.1 x 66.1 x 26.1 cm) **Allow 1-2 extra inches in depth for wire hookup	18.5" x 18.25" x 13.5" (27.4 x 26.4 x 34 cm) **Allow 1-2 extra inches in depth for wire hookup	27" x 13.90" x 3.70" (68.6 x 35.3 x 9.4 cm) **excludes grilles, mounting tabs, etc.	9.3" x 14.0" x 26" (23.7 x 36 x 66 cm) **Allow 1-2 extra inches in depth for wire
Cabinet:	Sealed enclosure	Sealed enclosure	Sealed enclosure	Sealed enclosure	Sealed enclosure	Sealed enclosure
Warranty: (parts/labor)	Two years	Two years	Two years	Two years	Two years	Two years
Shipping Weight (approx.):	26 lbs. (16 Kg)	36 lbs. (21 Kg)	41 lbs. (26 Kg)	55 lbs. (16 Kg)	**2 Cartons Carton 1: 25 lbs. (11.5 Kg) Carton 2: 25 lbs. (11.5 Kg) Total: 50 lbs. (22.7 Kg)	57 lbs. (26 Kg)

APPENDIX A: RS-232 SERIAL OVERVIEW AND COMMANDS

Introduction

This document outlines Velodyne's SubContractor (SC) RS-232 protocol specification. This protocol indicates how SC products receive run-time commands from devices such as Creston Universal Remote Controls.

Com Port Setup

Use standard communications settings: Baud Rate: 9600, Data Bits: 7, Parity: None, Stop Bits: 1

SC IN and OUT Port Pin Configuration

SC serial ports use a standard configuration that allows direct connection to a PC via a FEMALE to MALE serial cable. It uses only three pins (Transmit, Receive, Ground).

The pin configurations are:

IN: Pin 2 = Transmit
Pin 3 = Receive
Pin 5 = Ground

OUT: Pin 2 = Receive
Pin 3 = Transmit
Pin 5 = Ground

Runtime Command Format

Byte Number	Byte Description	Notes
0	'#'	Header Character
1 to 3 or 4	Command and Parameter Data	3 to 4 ASCII characters see formats below Case sensitive - CAPS ONLY!
4 or 5	'\$'	Termination Character (required or command is ignored)

RS232 Commands

Activity	Command Format	Acceptable n Values	Example(s)	Comments
Volume Control	#VOnn\$, #VO+,\$, #VO-\$, #VO?\$	00 – 80	#VO25\$, #VO+,\$, #VO-\$, #VO?\$	Sets volume to a value, increments volume up or down, or requests current volume setting
Preset Control	#PSn\$, #PS?\$	1, 2, 3, 4	#PS1\$, #PS2\$, #PS3\$, #PS4\$, #PS?\$	Activates the indicated preset, or requests the current preset
Logo Light Control	#LTn\$, #LT?\$	0: Light Off 1: Light On	#LTO\$ #LT1\$ #LT?\$	Turns the Logo Light on or off, or requests light state
Night Mode Control	#NMn\$, #NM?\$	0: Night Mode Off 1: Night Mode On	#NMO\$ #NM1\$ #NM?\$	Activates/Deactivates Night Mode, or requests light mode state
Mute Control	#MUn\$, #MU?\$ #MUO\$	0: Mute Off 1: Mute On	#MU1\$ #MU?\$	Mutes/Unmutes the woofer, or requests mute state
Power Control	#JUn\$, #JU?\$	0: Power Off 1: Power On	#JUO\$ #JU1\$ #JU?\$	Powers On/Powers Off the woofer, or requests power state

OTHER VELODYNE SUBWOOFER PRODUCTS:

110V

**Digital Drive 1812
Signature Edition**

DD Series

DD-10
DD-12
DD-15
DD-18

DLS-R Series

DLS-3500R
DLS-3750R
DLS-4000R
DLS-5000R

DPS Series

DPS-10
DPS-12

MiniVee™

SMS™-1

SPL-R Series

SPL-800R
SPL-1000R
SPL-1200R
SPL-1500R

VRP Series

VRP-1000
VRP-1200

VX Series

VX-10

230V

**Digital Drive 1812
Signature Edition**

CHT-R Series

CHT-8R
CHT-10R
CHT-12R
CHT-15R

DD Series

DD-10
DD-12
DD-15
DD-18

SMS™-1

SPL-800i

SPL-R Series

SPL-800R
SPL-1000R
SPL-1200R
SPL-1500R

LIMITED WARRANTY

VELODYNE ACOUSTICS, Inc. ("VELODYNE") warrants all electronics and powered subwoofers for a period of two years and full range speakers for a period of five years. All VELODYNE products have a warranty from the date of purchase against defects in materials and workmanship subject to the following conditions:

1. VELODYNE is not responsible for defects which result from the use of an amplifier or controller other than the one originally supplied with the unit (subwoofer) or defects which result from modifications or repairs made by any component of the system by anyone other than a VELODYNE factory authorized service representative.
2. This warranty is void if any repairs or service covered by the terms of this warranty are made to any component of the system by anyone other than a VELODYNE factory authorized service representative.
3. VELODYNE is not responsible for damage caused by accidents, abuse, misuse, natural or personal disaster or unauthorized modification. The VELODYNE products are not intended for professional or commercial use and VELODYNE is not responsible for damage resulting from such use.
4. The VELODYNE product warranty is limited to units that are purchased from authorized VELODYNE dealers and finalized within authorized dealer locations.
5. This warranty is nontransferable under any condition.

TO OBTAIN SERVICE

Information regarding service may be obtained from the dealer from whom you purchased the unit, or by contacting VELODYNE customer service. Warranty service must be performed by a VELODYNE factory authorized service representative within the warranty period set forth above. If VELODYNE determines the unit is defective, VELODYNE will, at VELODYNE's option, repair or replace the product at no charge if the product is forwarded prepaid to a factory authorized service representative. Products forwarded to the factory authorized service representative should be shipped securely and properly packaged, insured and freight prepaid.

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