

SuperCube® Subwoofers

SuperCube I, II, III, Reference and Trinity Signature Subwoofers

Owner's Manual

Congratulations! You are about to enter the world of truly astonishing bass with your new Definitive Technology SuperCube Subwoofer. Your new SuperCube Sub is a compact, high-quality powered subwoofer intended for use in your superior music or home theater system.

These revolutionary subwoofers utilize state-of-the-art components and nonresonant, low diffraction Monocoque cabinet construction to achieve the most realistic, accurate and thrilling low frequency response possible.

- Built-in super high-power, high-current amplifiers and electronic crossovers.
- Completely self-contained amplifier and electronic crossover modules.
- Optimized amplifier and driver design engineered for optimum load matching and power transfer characteristics.
- Electronic crossovers with precise equalization.
- Auto On/Off Circuits.
- Advanced protection circuits.
- Continuously variable phase controls.
- Precision volume controls.
- Gold-plated 5-way Binding Post Connectors.

Their tremendous flexibility allows for the easy, seamless integration of SuperCubes into any two-channel or multichannel speaker system, delivering true, accurate, extremely deep bass in any room. To ensure that you only experience the finest performance possible from your new subwoofer, we encourage you to take a moment (or a few) to read through this manual and familiarize yourself with the recommended setup procedures for your new SuperCube. Then, strap yourself in for the bass experience of a lifetime!



Safety Precautions



CAUTION! To reduce the risk of electric shock and fire, do not remove the cover or back plate of this device. There are no user serviceable parts inside. Please refer all servicing to licensed service technicians. Avis: Risque de choc electricque, ne pas ouvrir.

CAUTION! The international symbol of a lightning bolt inside a triangle is intended to alert the user to uninsulated "dangerous voltage" within the device's enclosure. The international symbol of an exclamation point inside a triangle is intended to alert the user to the presence of important operating, maintenance and servicing information in the manual accompanying the device.

CAUTION! To prevent electrical shock, match wide blade of plug to wide slot, fully insert. Attention: Pour eviter les chocs electriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

CAUTION! To reduce the risk of electrical shock, do not expose this equipment to rain or moisture.

- 1. Read Instructions—All safety and operating instructions should be read before operating the device.
- 2. Retain Instructions—The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings-All warnings on the device and in the operating instructions should be adhered to.
- 4. Follow Instructions—All operating and safety instructions should be followed.
- 5. Water & Moisture—The device should never be used in, on or near water for risk of fatal shock.
- 6. Carts & Stands-The device should only be used on carts or stands recommended by the manufacturer.
- 7. Wall & Ceiling Mounting—The device should be mounted on a wall or ceiling only as recommended by the manufacturer.
- Ventilation—The device should always be located in such a way that it maintains proper ventilation. It should never be placed in a built-in installation or anywhere that may impede the flow of air through its heat sink.
- Heat—Never locate the device near heat sources such as radiators, floor registers, stoves or other heat-generating devices.
- Power Supply—The device should only be connected to a power supply of the type described in the
 operating instructions or as marked on the device.
- 11. Power Cord Protection—Power cables should be routed so they are not likely to be stepped on or crushed by items placed on them or against them. Special attention should be paid to areas where the plug enters a socket or fused strip and where the cord exits the device.
- 12. Cleaning-The device should be cleaned in accordance with manufacturer's instructions.
- 13. Periods Of Non-Use-The device should be unplugged when not being used for extended periods.
- Dangerous Entry—Care should be taken that no foreign objects or liquids fall or are spilled inside the device.
- 15. Damage Requiring Service—The device should be serviced by licensed technicians when:
 - The plug or power supply cord has been damaged.
 - Objects have fallen or liquid spilled inside of the device.
 - The device has been exposed to moisture.
 - The device does not appear to be operating properly or exhibits a marked change in performance.
 - The device has been dropped or the cabinet becomes damaged.
- 16. Service—The device should always be serviced by licensed technicians. Only replacement parts specified by the manufacturer should be used. The use of unauthorized substitutions may result in fire, shock, or other hazards.

Subwoofer Installation

Your new SuperCube subwoofer contains a built-in amplifier and sophisticated electronic crossover. There are several ways to install your subwoofer. One setup is not considered "better" than another; rather, each is a function of what type of entertainment system you own and how you plan to integrate your components. Read the installation suggestions below to determine which options best suit your needs. Please take care to perform all wiring procedures with your system completely powered down.

Unpacking

Each loudspeaker leaves our plant in perfect condition. Any visible or concealed damage most likely occurred in handling after it left our plant and should be reported at once to your Definitive dealer or the delivery company that delivered your loudspeaker. Please unpack your system carefully. Save all cartons and packing material in case you move or need to ship your system. Record the serial number found on the back of the subwoofer in the appropriate place on your warranty card. Mail in your Warranty Card within 10 days of purchase.

Subwoofer Placement

Your Definitive Technology subwoofer has been designed to operate at frequencies generally below 150 Hz. Because low-frequency information in this range essentially is non-directional, your subwoofer can be located anywhere in your listening room that is most convenient. Also, the continuously variable low pass filter operates at a very fast roll-off, ensuring great performance wherever you place your subwoofer. There are, however, some general rules that you should bear in mind when locating your subwoofer:

- **1.** For maximum output, the subwoofer should be placed in a corner or against the wall, leaving roughly 2- to 4-inch clearance between the subwoofer and the wall(s).
- **2.** Corner placement will increase the subwoofer's efficiency, which in turn will increase your system's maximum output and improve the dynamic capability of the subwoofer.
- **3.** While one Definitive Technology subwoofer will always sound great, the use of two subwoofers will definitely enhance your system's performance by providing a smoother and more consistent response pattern. Here, it is recommended that you locate the subwoofers on the same side of the room as the main speaker of the same channel.
- **4.** Always remember that frequency response and output level are greatly influenced by the subwoofer's placement. A movement of even a foot or two can dramatically change your system's response characteristics. You should experiment with placement in your particular listening room in order to achieve the highest performance from your subwoofer.

Placement Inside a Cabinet or Cavity

The SuperCubes, because of their unique low-frequency radiation properties, can be placed inside a cabinet or cavity with excellent results. Just be sure to leave at least 2 inches of clearance on the sides and front of the subwoofer, and with the Trinity Signature, 2 inches on the top, sides and rear if the subwoofer is placed on its back.

Wiring Diagrams

Low-Level Connections

Most often used is the LFE connection. Most receivers, preamps and decoders feature a mono (line level) LFE/subwoofer output intended to be used with subwoofers. You can feed the mono or LFE subwoofer output of your receiver or decoder to the LFE input on the subwoofer and achieve full performance. [See Diagram 1.] Usually, these outputs have their own low-pass filter built into the circuit, and if this is the case, you would normally input them into the LFE input. The LFE inputs on your SuperCube subwoofer are direct coupled inputs which are not affected by the subwoofer's low-pass filter or low-pass crossover control. If the sub or LFE output on your receiver or decoder does not have a low-pass crossover



Diagram 1

or you wish to use the SuperCube subwoofer's low-pass crossover and control in addition to the low-pass crossover in your decoder, simply plug the sub or LFE output of your decoder into the left or right low-level input of your SuperCube subwoofer. However, in almost all cases, a dedicated LFE output already has its program material tailored for input into an unfiltered LFE input and as such should be fed into the LFE input on your SuperCube.

Alternately, another way to hook up your Definitive Technology SuperCube subwoofer is via the low-level input connectors which are gold-plated RCA-type jacks designed to accept standard audio interconnect cables. For preamps and decoders, run an interconnect from the left and right outputs of the preamp or decoder to the left and right low-level inputs on the subwoofer. If you have two sets of outputs, you can use one set of these; if not, you can put a Y-connector into each output (left and right) and run half of each Y back into a (left and right) main input on the preamp decoder, receiver or power amp and the other half into the (left and right) low-level input on the subwoofer.

High-Level Speaker Wire Connections

Your Definitive Technology SuperCube subwoofer can also be hooked up via high level connections. In this situation, you have the option of running your main speakers "full range" or rolling off the low end by using the high-pass filter built into the subwoofer. For high-level wiring, your interconnects are simply equal distance lengths of high quality speaker cable.

To hook up your SuperCube subwoofer via the high-level connections, simply run speaker cable from the right channel high-level connector on the subwoofer to the right channel speaker connector of your receiver or amplifier. Repeat this process for the left channel. Please take care that the red (+) terminal on the subwoofer is connected to the red (+) terminal on your receiver or amplifier, and that the black (-) terminal on your receiver or amplifier is connected to the black (-) terminal on the subwoofer. This will ensure absolute phase throughout your system.

Your main speakers can now be connected in one of two ways. If you wish to utilize the high-pass filter built into your subwoofer, simply connect your main speakers to the high-level out terminals on the subwoofer. [See Diagram 2.] Again, take care to make red to red (+) and black to black (-) terminal connections. This connection will provide a smoothly contoured roll-off of the low frequencies going to your main speakers, run the main speakers full range by hooking them up directly to the amp. In many systems, if your speakers are true full-range systems, you may find that you get a more satisfying sound by running the speakers full range and crossing your subwoofer in fairly low (40 – 70 Hz). On the other hand, if you find that you are overdriving your main speakers, you will be able to play your system louder by using the built-in high pass crossover for your main speakers.

The Advantages of Multiple Subwoofers

Definitive's SuperCube subwoofers are engineered to be used singly or in stereo pairs. With a single subwoofer, both left and right signals are sent to the

NOTE: If you wish to run your main speakers full range with no low frequency roll-off, hook them directly to the main speaker output terminals or your receiver or amplifier as in any normal hi-fi system.



Diagram 2

subwoofer wherein they are combined via the electronic crossover into one composite signal. With stereo subwoofers, the left and right low frequency signals are reproduced by their own individual subwoofers. The use of one subwoofer achieves outstanding performance; however, the addition of a second subwoofer (one for the left and one for the right channel) clearly offers the highest level of performance achievable for both movies and music. The use of stereo subwoofers smooths out the peaks and dips which result from the eigenmodes in your room. Two subwoofers couple much better to the air in your room (four times better) and of course offer double the power. In addition, some state-of-the-art Dolby Digital* home theater installations have begun to use a separate subwoofer hooked up to the rear (surround) channels and we recommend this for the absolute ultimate in performance.

Dual Subwoofer Connections

When hooking up a stereo pair of subwoofers, wiring is quite similar to traditional high-level connections. Here, instead of running both speaker cables from your receiver or amplifier to the left and right high-level terminals on the subwoofer, you will run the left channel to the left channel subwoofer and the right channel to

the right channel subwoofer. Again, take care to make red to red (+) and black to black (-) terminal connections.

Don't worry that on your left subwoofer the right channel terminals will be empty and that on the right channel subwoofer the left channel terminals will be empty both channels are combined at the subwoofer's input stage. There is a possibility that with this type of wiring you may need to increase your gain a little bit for proper balance.

A stereo subwoofer system using low-level connections is equally simple. From your receiver or preamp, run an RCA-type interconnect from the left channel main output to the left channel low-level input on the subwoofer you are using for the left channel. The process should then be repeated for the right channel. In this setup, main speaker connections are made between your receiver or amplifier in a traditional manner. If you are using dual subwoofers with a Dolby Digital System, we suggest that each subwoofer receives its appropriate left or right channel signal, plus an LFE signal (with the LFE plugged into the LFE input). You would then set the Dolby Digital processor's bass management system to "Large" left and right main speakers and sub to "Yes."

Operating Controls

Your Definitive Technology SuperCube subwoofer is equipped with a full complement of operating controls to ensure complete flexibility and maximum performance in any installation. Most of them basically are the "set and forget" type, although occasionally certain controls will require minor adjustments.

Gain Control

On the back panel of your subwoofer is a gain (volume) control. This control is used to raise or lower the output level of your subwoofer in relation to the other speakers in your system.

Low Pass Filter

Your subwoofer's back panel features a continuously variable low pass filter. This filter is continuously variable between 40 and 150 Hz. It rolls off the high-frequency response of your subwoofer. This low pass filter control is used to obtain the optimum transition between the subwoofer and your main speakers. We receive many questions from subwoofer owners asking us where to set the filter controls in a variety of different setups. Although many people think that there is a specific frequency at which to set the controls in their system, this can only be determined by you. Experimentation is recommended (due to system placement and subjective variables) to obtain the best sound for you.

High Pass Filter

Your subwoofer is equipped with a continuously variable high pass filter which is used when you wire the low-level inputs of your subwoofer to a full-range signal

and the low-level outputs of your subwoofer to the left and right channel inputs of your amplifier. [*See Diagram 3.*] When hooked up thusly, it allows you to vary the low-frequency roll-off of your main speakers. This control only works using the low-level inputs and outputs.



Diagram 3

Phase Control

On the back of your subwoofer you will find a continuously variable phase control, with a range of 0-180 degrees. This control is used to perfectly blend the output of your subwoofer with your main speaker and to compensate for any possible problems due to placement constraints. The control should be set to "0" when setting up your subwoofer. The effect of this control is somewhat subtle and many people have difficulty setting it correctly. If in doubt, leave it set at "0." Again, experimentation with this control is recommended due to system and placement variables; there is no "best place" to set it other than where it sounds best to you.

Installing Feet On the Back of the Trinity Signature for On-Back Positioning

In order to make the Trinity Signature more flexible for custom installations, we have included optional feet which can be installed on the back of the subwoofer in order to provide clearance for the controls if the sub is positioned on its back.

There are predrilled holes under the grill cloth on the back of the sub. Two holes are 2 inches from the top and $1^{1/4}$ inches from the sides and two holes are $2^{1/4}$ from the bottom and $1^{1/4}$ from the sides. Simply locate the holes and gently tap in the four brass inserts that come with the sub and screw in the feet.

Powering Up the Active Subwoofer Section

Your SuperCube subwoofer contains a built-in, active powered subwoofer section as well as an electronic crossover. Each SuperCube subwoofer must be plugged into an electrical socket (use an unswitched outlet if possible) of the appropriate voltage (as indicated on the back of your unit) using the plug on the end of the black cord attached to the electronics module on the back of the loudspeaker. The SuperCube subwoofer has a special circuit which automatically turns the powered subwoofer section on when a signal is fed to the loudspeaker and does not require an on/off switch. Please note that if you hear a pop from the speaker when the amp powers up or powers down, this is normal. The red LED on the back panel will light up when a signal, it may take up to an hour for the amplifier to actually turn off. In some installations where radio frequency (RF) remotes are present in the area the red light may remain on. This is nothing to be worried about as the amp will be in low idle mode which uses virtually no power.

To prevent accidental damage to your subwoofer from overdriving the system, the subwoofer features an internal overload protection circuit, which will turn the subwoofer off or down when overdriven or overheated and will then resume normal operation after a few minutes.

Very Important: Setting Channel Balance and Bass Management Systems

Dolby Digital and DTS 5.1 (6.1, 7.1) systems and decoders have a critical channel balancing procedure for the left and right front speakers, center channel, rears and subwoofer (if it is hooked up through the "LFE or Sub Out" low-level connection) which must be followed if the system is to perform properly. We have spoken with many system users with problems relating to the overall sound of their system which could be clearly traced back to improper system balance. In fact, many users never realize that there is a system balance procedure to be followed.

Also note that Dolby Digital and DTS 5.1 (6.1, 7.1) systems and decoders have bass management systems (systems which direct the bass to the various channels) which vary from unit to unit. This bass management system must also be properly adjusted. We have spoken with many system users with problems relating to the overall sound of their system which could be clearly traced back to improper bass management. In fact, many users never realize that there is a bass management procedure to be followed.

Troubleshooting

If you experience any difficulties with your subwoofer, try the suggestions described below. If you are still having problems, please consult your Definitive Technology Authorized Dealer for assistance.

- **1.** Make sure all your system interconnects and power cords are solidly in their place.
- **2.** Should you experience any level of ground hum or noise, try plugging the subwoofer into the same circuit as your amplifier. Please note that some cable TV hookups induce hum into the whole system and require a special isolation device. Please consult your dealer.
- **3.** The system is provided with sophisticated internal protection circuitry. If for some reason the protection circuitry is tripped, please turn down your system's volume and wait five minutes before trying the system again. If the amplifier should overheat, the system will turn itself off until the amplifier cools and resets.
- **4.** Check to be sure that your power cord has not been damaged.
- 5. Check that no foreign objects or liquid have entered the cabinet.
- **6.** Check the fuse on the back panel of the subwoofer. If the fuse is blown replace it with an 8-amp 250-volt slow-blow fuse for the 110-volt version and a 4-amp 250-volt slow-blow fuse for the 240-volt version.
- **7.** If you cannot get your subwoofer to turn on or if no sound comes out and you're sure the system is set up properly, please bring the subwoofer to your Definitive Technology Authorized Dealer for assistance.

Technical Assistance

It is our pleasure to offer assistance if you have any questions regarding your subwoofer or its set-up. Please contact your nearest Definitive Technology dealer or contact us directly at 410-363-7148 or www.definitivetech.com.

Service

Service and warranty work on your Definitive loudspeakers will normally be performed by your local Definitive Technology dealer. If, however, you wish to return the speaker to us, please contact us first, describing the problem and requesting authorization as well as the location of the nearest factory service center. Please note that the address given in this booklet is the address of our offices only. Under no circumstances should loudspeakers be shipped to our offices or returned without contacting us first and obtaining return authorization.

Definitive Technology Offices 11433 Cronridge Drive Owings Mills, Maryland 21117 Phone: 410-363-7148

Specifications

SuperCube° Trinity Signature Dimensions Frequency Response Driver Complement Amplifier Low-Level High-Pass Filter Speaker Level High-Pass Filter Low-Level Low-Pass Filter Phase Control Fuse Size	 18"W x 18"D x 31³/4"H 10 Hz - 200 Hz Two 14" long-throw SuperCube Technology subwoofers coupled to four 14" infrasonic radiators 2000 Watts Digitally-Coupled Class D amplifier 12 dB/octave continuously variable (40 – 150 Hz) 6 dB/octave continuously variable (40 – 150 Hz) plus unfiltered LFE direct coupled input 0 – 180 degrees continuously variable 8-amp 250-volt slow-blow fuse, Bussman MDL or Littelfuse 313 type for the 110-volt version and 4-amp 250-volt slow-blow fuse for the 240-volt version
SuperCube® Reference Dimensions Frequency Response Driver Complement Amplifier Low-Level High-Pass Filter Speaker Level High-Pass Filter Low-Level Low-Pass Filter Phase Control Fuse Size	 16³/«"W x 16³/«"D x 16⁷/«"H 11 Hz – 200 Hz One 14" long-throw SuperCube Technology subwoofer coupled to two 14" infrasonic radiators 1800 Watts Digitally-Coupled Class D amplifier 12 dB/octave continuously variable (40 – 150 Hz) 6 dB/octave (80 Hz) 24 dB/octave continuously variable (40 – 150 Hz) plus unfiltered LFE direct coupled input 0 – 180 degrees continuously variable 8-amp 250-volt slow-blow fuse, Bussman MDL or Littelfuse 313 type for the 110-volt version and 4-amp 250-volt slow-blow fuse for the 240-volt version
SuperCube° I Dimensions Frequency Response Driver Complement Amplifier Low-Level High-Pass Filter Speaker Level High-Pass Filter Low-Level Low-Pass Filter Phase Control Fuse Size	14 ¹ / ₄ "W x 14 ¹ / ₄ "D x 14 ¹ / ₈ "H 13 Hz – 200 Hz One 10" long-throw SuperCube Technology subwoofer coupled to two 10" infrasonic radiators 1500 Watts Digitally-Coupled Class D amplifier 12 dB/octave continuously variable (40 – 150 Hz) 6 dB/octave (80 Hz) 24 dB/octave continuously variable (40 – 150 Hz) plus unfiltered LFE direct coupled input 0 – 180 degrees continuously variable 8-amp 250-volt slow-blow fuse, Bussman MDL or Littelfuse 313 type for the 110-volt version and 4-amp 250-volt slow-blow fuse for the 240-volt version
SuperCube® II Dimensions Frequency Response Driver Complement Amplifier Low-Level High-Pass Filter Speaker Level High-Pass Filter Low-Level Low-Pass Filter Phase Control Fuse Size	12"W x 12"D x 12'/"H 14 Hz – 200 Hz One 8" long-throw SuperCube Technology subwoofer coupled to two 8" infrasonic radiators 1250 Watts Digitally-Coupled Class D amplifier 12 dB/octave continuously variable (40 – 150 Hz) 6 dB/octave (80 Hz) 24 dB/octave continuously variable (40 – 150 Hz) plus unfiltered LFE direct coupled input 0 – 180 degrees continuously variable 8-amp 250-volt slow-blow fuse, Bussman MDL or Littelfuse 313 type for the 110-volt version and 4-amp 250-volt slow-blow fuse for the 240-volt version
SuperCube® III Dimensions Frequency Response Driver Complement Amplifier Speaker Level High-Pass Filter Low-Level Low-Pass Filter Phase Control Fuse Size	 10¹/₄"W x 10¹/₄"D x 10¹/₄"H 16 Hz – 200 Hz One 7¹/₂" infrasonic radiators 650 Watts Digitally-Coupled Class D amplifier 6 dB/octave (80 Hz) 24 dB/octave continuously variable (40 – 150 Hz) plus unfiltered LFE direct coupled input 0 – 180 degrees continuously variable 8-amp 250-volt slow-blow fuse, Bussman MDL or Littelfuse 313 type for the 110-volt version and 4-amp 250-volt slow-blow fuse for the 240-volt version

Visit us at www.definitivetech.com

Limited Warranty: 5-Years for Drivers and Cabinets, 3-Years for Electronic Components

Definitive Technology warrants to the original retail purchaser only that this Definitive Technology Loudspeaker Product (the "Product") will be free from defects in materials and workmanship for a period of five (5) years covering the drivers and cabinets, and three (3) years for the electronic components from the date of the original purchase from a Definitive Technology Authorized Dealer. However, this warranty will automatically terminate prior to the expiration of five (5) years for the drivers and cabinets and three (3) years for the electronic components if the original retail purchaser sells or otherwise transfers the Product to any other party. The original retail purchaser shall hereinafter be referred to as "you." Defective Products must be shipped, together with proof of date of purchase, prepaid insured to the Authorized Dealer from whom you purchased the Product, or to the nearest factory service center. Product(s) must be shipped in the original shipping container or its equivalent; in any case the risk of loss or damage in transit is to be borne by you. If, upon examination at the Factory or a Definitive Technology Authorized Dealer, it is determined that the unit was defective in materials or workmanship at any time during this Warranty period, Definitive Technology or the Definitive Technology Authorized Dealer will, at its option, repair or replace this Product at no additional charge, except as set forth below. All replaced parts and Product(s) become the property of Definitive Technology. Product(s) replaced or repaired under this Warranty will be returned to you, within a reasonable time, freight collect.

This Warranty does not include service or parts to repair damage caused by accident, misuse, abuse, negligence, inadequate packing or shipping procedures, commercial use, voltage in excess of the rated maximum of the unit, cosmetic appearance of cabinetry not directly attributable to defects in materials or workmanship, or service, or repair or modification of the Product which has not been authorized by Definitive Technology. Definitive Technology makes no Warranty with respect to its Products purchased from dealers or outlets other than Definitive Technology Authorized Dealers. This Warranty is in lieu of all other expressed Warranties. If this Product is defective in material or workmanship as warranted above, your sole remedy shall be repair or replacement as provided above. In no event will Definitive Technology be liable to you for any incidental or consequential damages arising out of the use or inability to use the Product, even if Definitive Technology or a Definitive Technology Authorized Dealer has been advised of the possibility of such damages, or for any claim by any other party. Some states do not allow the exclusion or limitation of consequential damages, so the above limitation may not apply to you.

All implied warranties on the Product are limited to the duration of this expressed Warranty. Some states do not allow limitation on how long an implied Warranty lasts, so the above limitations may not apply to you. This Warranty gives you specific legal rights, and you also may have other rights which vary from state to state.

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This product complies with the essential requirements of EMC directives 89/336/EEC and 73/23/EEC (inclusive of 93/68/EEC) and carries the CE mark accordingly.