

*Definitive Technology*<sup>®</sup>  
*The Leader in High-Performance Loudspeakers*<sup>®</sup>

# IWSub Reference<sup>™</sup> & SubAmp 600

Ultra High-Performance In-Wall Subwoofer  
and Separate Amplifier Module

## **Owner's Manual**

### **GET READY TO ROCK YOUR HOUSE!**

Congratulations on your purchase of the remarkable Definitive Technology in-wall subwoofer IWSub Reference and its matching Definitive Technology SubAmp 600. This extraordinary In-Wall Subwoofer incorporates Definitive Technology's exclusive and effective SuperCube<sup>™</sup> technology for spectacular bass performance, the kind of musically accurate low end that's never before been available in a compact, nearly invisible in-wall subwoofer. The IWSub Reference is specifically designed to be powered by the matching Definitive Technology SubAmp 600, which features two discrete high power amplifiers to provide optimal power when driving one or two IWSubs in your installation, whether it is for whole-house distributed audio or dedicated music or home theater applications.

# 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 électrique, 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 éviter les chocs électriques, 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.
8. **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.
9. **Heat**—Never locate the device near heat sources such as radiators, floor registers, stoves or other heat-generating devices.
10. **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.
14. **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.

## Unpacking Your IWSUB Reference and SubAMP 600

- Please inspect your new equipment carefully. Notify your Definitive Technology dealer immediately if you notice any damage or missing items.
- Record the serial numbers of your new equipment (usually found on the rear panels). Note this information in the appropriate place on your Warranty Card. Mail in your Warranty Card within 10 days of purchase.
- Keep the cartons and packing material. They will do the best job of protecting your speakers if they need to be transported.

## Important Note Concerning In-Wall Installation

The IWSUB Reference is designed to be installed inside the walls of your home quickly and easily. Because of its superb sonic performance, its installation location within your room is very flexible. But your room is not like anyone else's room, and because of its unique size and shape will have its own requirements for optimal sonic performance. We recommend that you consult with the Custom Installation Specialist at your Definitive Technology dealer regarding your special needs or if you are at all uncertain about the best and safest way to install your subwoofer.

- Before starting construction or modification of your walls or ceilings, you should familiarize yourself with any applicable local fire and building codes.
- Speaker wire must be run inside your wall as part of the installation process of in-wall loudspeakers. Plan the connection before you start your loudspeaker installation.
- Make sure the locations you select do not conceal studs, electrical wiring or plumbing. Prior to installation, hold the speaker in your chosen location to make sure it safely clears obstacles such as studs, corners, beams, lighting fixtures and door/window frames. Your cutout must be at least 1" (25mm) from adjoining walls or ceiling, internal studs or plumbing, and a minimum of 5" above the floor or 1" above the top of the baseboard (whichever is higher). Note that the frame around the inset loudspeaker extends 1" beyond your cutout.
- It is highly recommended that you take advantage of the expertise of a professional installation specialist.

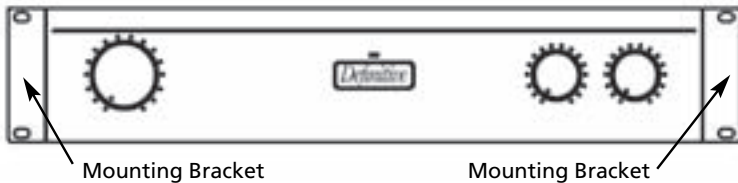
## Important Note Concerning Your IWSUB Reference and SubAmp 600

Your IWSUB Reference is specifically designed to be used in conjunction with the Definitive Technology SubAmp 600 and should never be used with another amplifier. You will not achieve optimal performance, and you may cause damage to your IWSUB Reference if you attempt to power it using another amplifier or receiver. **BECAUSE OF THIS, THE IWSUB Reference WARRANTY IS VOIDED IF AN AMPLIFIER OR RECEIVER OTHER THAN THE DEFINITIVE TECHNOLOGY SUBAMP 600 IS USED TO DRIVE THIS SUB-WOOFER.**

## Installation

### Mounting Your SubAmp 600 In An Audio Rack

Your SubAmp 600 features side mounting brackets for use in professional audio racks. When installing the SubAmp 600 in either professional audio racks or in AV rack furniture, be sure to leave adequate ventilation space around the SubAmp 600 unit.



### Tools Required for IWSUB Reference In-Wall Installation

- Pencil for marking the location of installation.
  - Keyhole saw or utility knife for cutting drywall.
  - Level.
  - Screwdriver, preferably powered, with Phillips head bit.
  - Power drill with appropriate bit (optional, for starting wall cut).
  - Template (*included*: 14<sup>3</sup>/<sub>8</sub>" x 19<sup>7</sup>/<sub>8</sub>").
  - Gasket material (*included*).
1. The IWSUB Reference is designed to be located between two vertical studs, inside a space of 14<sup>1</sup>/<sub>2</sub>"–15<sup>1</sup>/<sub>2</sub>", with the long dimension of the speaker oriented vertically. If your studs are spaced wider than this, you will have to shim one side of the inner wall space to properly secure the speaker in a 14<sup>1</sup>/<sub>2</sub>"–15<sup>1</sup>/<sub>2</sub>" space.

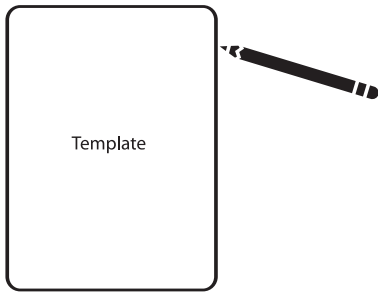


Figure 1

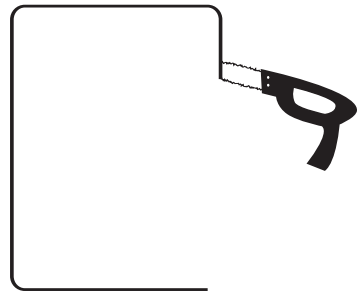


Figure 2

2. Make certain to incorporate at least  $1\frac{1}{4}$ " of space above and below the area within the inner wall space to make room for the IWSub's locking arms.
3. With these measurement requirements in mind, place the template against the inside edge of one of the studs. (Do not "center" the template if your studs are wider than  $14\frac{1}{2}$ "– $15\frac{1}{2}$ ".) Use a level to make certain the template is straight and plumb. The outside edge of the template will be your exact cutout size. [Figure 1]
4. Carefully cut the hole with the appropriate cutting tool for your wall material. Start the hole by drilling a hole on the inside of the template line (with the drill bit touching the line). Use this hole to insert your saw or knife and begin cutting. [Figure 2]

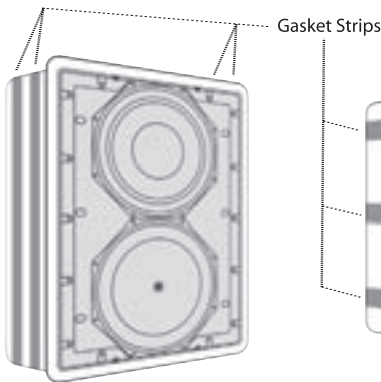


Figure 3

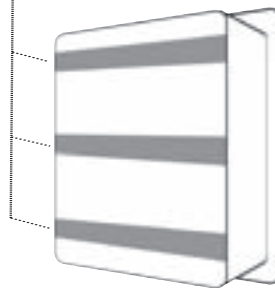


Figure 4

5. Before installing the speaker in the hole, apply the four long strips of gasket material to the speaker: two pieces on each side of the speaker that will come into contact with the studs. [Figure 3] Use the three shorter strips of gasket material to pad the rear of the speaker against the back of the exposed wall. [Figure 4]

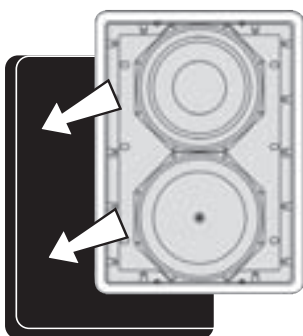


Figure 5

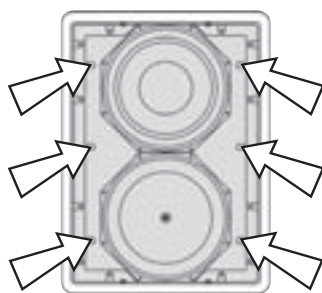


Figure 6

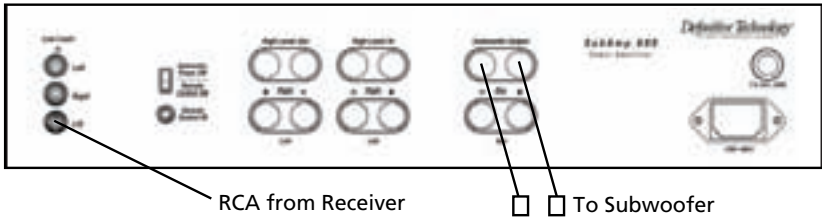
6. Once you have cut the hole, fish your previously positioned wiring out of the hole and connect your speaker. See the next section for detailed hookup instructions. Make certain that you connect the wire from the red terminal (+) of your SubAmp 600 to the red terminal (+) on your speaker and the wire from the black terminal (-) of your SubAmp 600 to the black terminal (-) on your speaker. Be sure to maintain channel consistency (use either channel one or channel two).
7. Place the subwoofer carefully into the hole [Figure 5]. Secure the sub enclosure using the 6 screws provided. These screws go into the holes in the front of the enclosure and angle back into the studs (or, if the space between your studs was wider than 14½"–15½", into the shims). [Figure 6] Tighten all the screws on one side before installing and tightening the screws on the other side.
8. Secure the locking arms at the top and bottom of the plastic frame by turning the screws clockwise, taking care not to over tighten.

## Making System Connections With Your SubAmp 600

### Recommended Hookup Method One

1. Use a Low (Line) Level RCA connection from your receiver's LFE Out in to the LFE Input of the SubAmp 600.
2. Use Speaker Wire to connect the top set of Sub Out Jacks on the SubAmp 600 to the terminals on the IWSUB Reference.
3. The SubAmp 600 features an Adjustable Crossover setting on its front panel. This hookup bypasses the SubAmp 600's Adjustable Crossover feature.

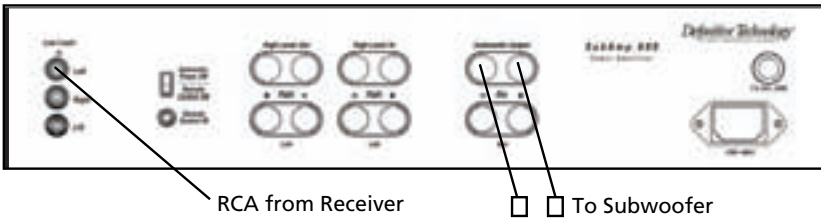
### Hookup Method One



## Hookup Method Two

1. Use a Low (Line) Level RCA connection from your receiver's L and R Line Level Outputs in to the L and R Input of the SubAmp 600. This connection is "summed" within the SubAmp 600.
2. Use Speaker Wire to connect the top set of Sub Out Jacks on the SubAmp 600 to the terminals on the IWSUB Reference.
3. The SubAmp 600 features an Adjustable Crossover setting on its front panel. This setting will work with this connection, giving you extra control over your subwoofer settings.

### Hookup Method Two

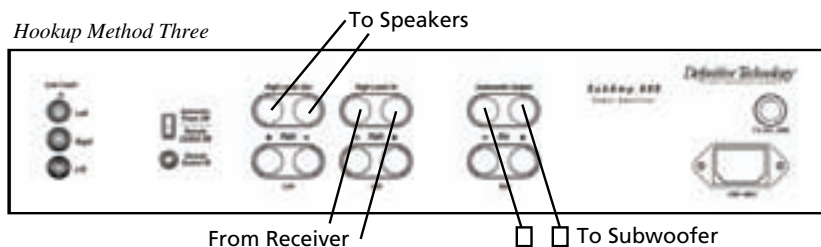


## Hookup Method Three—High Level Speakerwire Connection

When using the IWSUB Reference for stereo applications, you can feed it either Low Level signals as described in Hook Up Methods One and Two, or use Hookup Method Three described here.

1. Connect Speaker Wire from your receiver's Left and Right outputs to the Speaker Level Inputs on the SubAmp 600.
2. Use Speaker Wire to connect the Speaker Level Outputs of the SubAmp 600 to your loudspeakers.
3. Use Speaker Wire to connect the top set of Sub Out Jacks on the SubAmp 600 to the terminals on the IWSUB Reference.

4. The SubAmp 600 features an Adjustable Crossover setting on its front panel. This setting will work with this connection, giving you extra control over your subwoofer settings.



## Making Adjustments to Your SubAmp 600

The rear panel of your SubAmp 600 features a Remote Mini Plug Input and Auto/Remote Slider Switch.

- Use this feature to connect your SubAmp 600 to the Remote Out of your receiver. Moving the Slider Switch to “Remote” will enable your SubAmp 600 to then switch on when you power up your other equipment.
- If a remote connection is not used, this slider **MUST** be switched to “Auto” in order for the SubAmp 600 to operate properly.

The front panel of your SubAmp 600 features Volume, Crossover and Phase Adjustment controls.

### Volume Adjustment

Use this setting to control the level (volume) of bass response. Begin with the volume set at about the 11 o’clock position, and, once you have made all your other settings, modify this setting for optimum volume and low distortion. Remember: damage can occur to loudspeakers when an amplifier, regardless of its wattage, is made to play at higher listening levels than its power can clearly produce. This is usually beyond the “noon or 1 o’clock” position on the volume control. If you hear distortion, **TURN IT DOWN**.

### Crossover Adjustment

This control adjusts the frequency range over which your subwoofer operates. In most situations, the middle range (11 – 2 o’clock) of this control will sound best. Experiment and let your ears be the final judge. Turning the setting higher will



tend to add more “warmth” to the bass and lower midrange, possibly at the sacrifice of bass “tightness” and midrange clarity. Turning the setting down from the recommended setting will make the bass and lower midrange sound “leaner.”

## Phase Adjustment

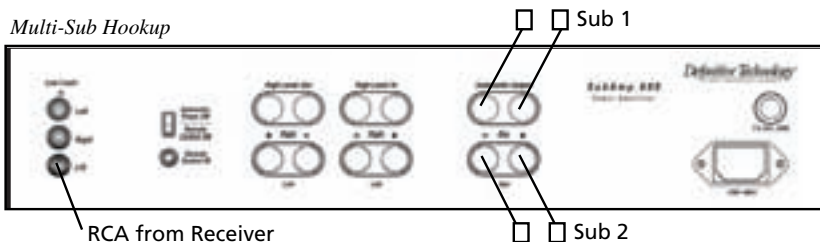
Adjusting the Phase can be a little tricky. If you're in doubt, just leave the Phase at 0 (zero). The best way to adjust the Phase is to get a friend to help you out. Play music that features a good combination of bass notes and deep male vocals at different frequencies. Have one person sit in the normal listening position while the other person slowly rotates the Phase control until it reaches the position that produces the fullest bass sound across the bass spectrum.

## Installing More Than One IWSUB In Your Room, Or One Each in Each of Two Rooms

Installing two IWSUB References into the walls of your room, or one each in each of two rooms, will allow you to achieve a mind-blowing amount of bass from subwoofers that take up no floor space! The SubAmp 600 has two separate high power amplifiers for just this purpose. It is designed to drive one or two IWSUB References with full performance and maximum power delivered to each subwoofer.

1. Connect inputs to the sub as described in Hookup Methods One, Two or Three.
2. Use Speaker Wire to connect the top set of Sub Out Jacks on the SubAmp 600 to the terminals on one IWSUB Reference.
3. Use Speaker Wire to connect the bottom set of Sub Out Jacks on the SubAmp 600 to the terminals on the other IWSUB Reference.

*Multi-Sub Hookup*



## Painting Your IWSUB Reference

The IWSUB Reference is easy to paint. It virtually disappears into your room when it is the same color as your wall. For best results, paint the grille and frame separately prior to in-wall installation.

### You Will Need:

- Paint of your choice (to make the job easier, we recommend spray painting the grille).
- A paperclip (for removing the paintable grille).
- Masking tape.
- Paint mask (to cover unpaintable parts, *supplied*).

### Preparing to Paint:

1. Separate the parts of the speaker. The grille can be removed simply by carefully hooking it with a bent paperclip and pulling it gently away from the frame. [Figure 7]
2. When painting the frame of the speaker, use the supplied paint mask to carefully mask off the front of the speakers to protect the drivers and baffles while painting [Figure 8]. You can do this while the speaker is already installed in the wall (if, for instance, you're repainting the room). If you do not have the paint masks, carefully mask the speaker components using paper and masking tape.

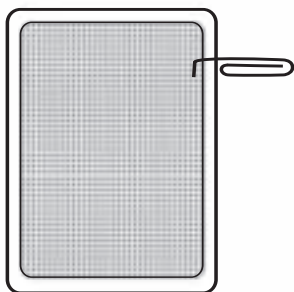


Figure 7



Figure 8

### Painting the Frame:

1. Apply paint to exposed (unmasked) parts. Use two or more thin coats. Spray painting is recommended.
2. When the paint is completely dry, remove the masking material.

## Painting the Grille:

1. The grille of the IWSub Reference features an even, protective powder coating. This powder coating is an ideal primer.
2. Grilles must be spray painted. Do not use a brush and paint. Thick, brushed paint may clog the grille holes and impair performance.
3. After removing the grille by carefully hooking it with a bent paper clip and pulling it gently away from the frame, spray on two thin coats of finish color. [Figure 9]  
If you're using a compressor and spray gun, use the finest, most diffuse setting. Be careful not to fill the holes in the grille with paint.
4. When paint is completely dry, carefully reinstall the grille.

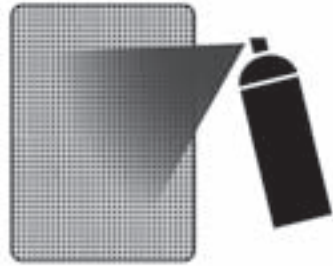


Figure 9

## Troubleshooting Your IWSub

- If, after following these hookup and installation directions, you experience difficulty, please double-check all wire connections.
- Check the setting of the “Auto/Remote” slider switch on the rear panel of the SubAmp 600. If no remote connection is made, this switch **MUST** be set to “Auto” in order for the SubAmp 600 to operate properly.
- Many amplifiers and receivers have sophisticated internal protection circuitry. If for some reason your protection circuitry is tripped, turn down your system’s volume level and wait five minutes before restarting the system.
- If you are still having problems, please contact your authorized Definitive Technology dealer for assistance.

## Service

Service and warranty work on your Definitive Technology audio equipment will be performed by your authorized Definitive Technology dealer. If, however, you wish to return your equipment directly to us, please contact us first to describe the problem you may be having and to allow us to give you return authorization or suggest the location of the nearest factory service center. The address below is the address of the Definitive Technology office only. **UNDER NO CIRCUMSTANCES SHOULD EQUIPMENT BE SHIPPED TO OUR OFFICE OR RETURNED WITHOUT CONTACTING DEFINITIVE TECHNOLOGY FIRST TO OBTAIN RETURN AUTHORIZATION.**

**Definitive Technology**  
**11433 Cronridge Drive**  
**Suite K**  
**Owings Mills, Maryland, USA 21117**  
**410-363-7148**

Email Definitive Technology at **info@definitivetech.com**.

Visit us at **www.definitivetech.com** for more information and to see the whole exciting line of Definitive Technology products.

## IWSub Reference & SubAmp 600 Specifications

### IWSub Reference

<b>Outer Dimensions:</b>	15 $\frac{1}{2}$ " W x 26 $\frac{3}{16}$ " H
<b>Cut-out Size:</b>	14 $\frac{3}{8}$ " W x 25 $\frac{1}{8}$ " H
<b>Rec. Assoc. Amp:</b>	SubAmp 600
<b>Frequency Response:</b>	14 Hz – 200 Hz
<b>Nominal Impedance:</b>	4 ohms
<b>Driver Complement:</b>	One 13" long-excursion woofer coupled to a 13" infrasonic radiator
<b>Enclosure:</b>	Non-resonant sealed medite enclosure
<b>Net Weight:</b>	26 lbs.

### SubAmp 600

<b>One Channel Operation:</b>	275 Watts
<b>Two Channels Driven:</b>	230 Watts each
<b>With Brackets, Feet removed:</b>	3 $\frac{7}{16}$ " H x 19 $\frac{1}{16}$ " W x 9 $\frac{5}{8}$ " D
<b>Without Brackets, including Feet:</b>	3 $\frac{11}{16}$ " H x 17 $\frac{1}{16}$ " W x 9 $\frac{5}{8}$ " D

When installing the SubAmp 600 in either professional audio racks or in AVrack furniture, be sure to leave adequate ventilation space around the SubAmp 600 unit. Ideally, we recommend leaving a single rack unit open above and below the product.

**Visit us at [www.definitivetech.com](http://www.definitivetech.com)  
and learn about all our exciting products.**

## **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.*



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.