

# **ADCOM<sup>®</sup> AC ENHANCER ACE-515**

## **NOTICE**

PLEASE READ THOROUGHLY THE OPERATING INSTRUCTIONS FOR THE ACE-515 BEFORE CONNECTING OR ATTEMPTING TO OPERATE THIS UNIT. FOR YOUR OWN SAFETY, HEED ALL THE FOLLOWING WARNINGS AND CAUTIONS, FOLLOW ALL THE INSTRUCTIONS IN THIS MANUAL AND SAVE IT FOR FUTURE REFERENCE.

**THE FOLLOWING WARNINGS AND CAUTIONS ARE  
REQUIREMENTS OF UL AND ETL SAFETY REGULATIONS.**



The graphic symbol of a person crossed by a lightning flash with an arrow point within a triangle signifies that there is dangerous voltage within the unit and it poses a hazard to anyone removing the cover to gain access to the interior of the ACE-515. **Only qualified service personnel should make any such attempt.**



The graphic symbol of an exclamation point within an equilateral triangle warns a user of the ACE-515 that it is necessary to refer to the instruction manual and its warnings for proper operation of the ACE-515.

**WARNING**

Equipment with high-current requirements such as hobby arc welders, hair dryers and heaters must not be plugged into any of the AC receptacles on the ACE-515. Never allow total power consumption of all equipment connected to these outlets to exceed 1800 watts.

**CAUTION**

To reduce risk of electric shock, do not remove cover or open ACE-515. No user serviceable parts inside. Refer servicing to an ADCOM Authorized Service Station.

**CAUTION**

Keep the ACE-515 away from radiators, heat ducts or any heat producing components. Always place it in a location where proper ventilation will be ensured. Be certain there is at least 1 inch of space between its sides and top and any other component or cabinetry.

**WARNING**

Use the ACE-515 indoors and in dry locations only. To reduce risk of fire or electric shock, do not expose this unit to rain or moisture. Do not use the ACE-515 near bathtubs or sinks, in a damp or wet basement or near a swimming pool.

**AVIS**

RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.

**DO NOT ATTEMPT SERVICING OF THIS UNIT YOURSELF.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

**CAUTION**

Care should be taken that liquids are not spilled on to and in to ACE-515. Should this occur, immediately disconnect both AC power cords from the wall outlet and control unit (preamp, tuner/preamp, etc.) and have the ACE-515 checked by an ADCOM Authorized Service Station or the ADCOM Factory before any attempts at reuse. You must always have the unit checked by qualified service personnel whenever the ACE-515:

1. Has been exposed to rain or liquids.
2. Does not appear to operate properly or exhibits a marked change in operation
3. Has been dropped, or its enclosure has been damaged.
4. Either of its two power cords or any of the AC outlets on its rear panel appear cracked, loose or otherwise damaged

## INTRODUCTION

The ACE-515 is a very carefully engineered and highly sophisticated device. It provides the following functions

1. All its AC sockets are filtered, insuring and enhancing the purity of the AC signal from your wall outlet. The filter provides protection from high-voltage AC spikes, Radio Frequency Interference, Electro Magnetic Induction Interference and noise in the line. Its noise attenuation effects begin at approximately 10kHz and attenuation increases as the frequency of noise increases.
2. It is a sequential switcher in that it provides power to the correct components in the most desirable sequence. Power to the amplifier is delayed for 10 seconds upon activation of the turn-on sequence while power is provided immediately to accessory units plugged into the ACCESSORIES outlets, this sequence is designed to prevent turn-on "thumps" originating in one or more of your accessory sources from being amplified by the power amplifier and possibly causing damage to your speakers. The turn-off sequence removes AC power from the power amplifier immediately and 30 seconds later, after the power amplifier has "discharged" its storage capacitors, AC power is removed from the ACCESSORIES outlets. This prevents any turn-off "thumps" from accessory sources from reaching your speakers.
3. It permits you to switch on and off your accessory sources and amplifier by means of a single heavy-duty switch, in the ACE-515, or through an external remote-control unit simply by plugging the CONTROL AC cord into the switched outlet of any remotely controlled device (preamp, tuner/preamp, etc.) The ACE-515 thereby senses the presence (or absence) of voltage, and begins the turn-on (or turn-off) sequence.
4. It increases the AC-power capability of any component by providing a separate set of AC outlets that both multiply the number of outlets available and augments the AC power your preamp or tuner/preamp can handle by routing power away from their outlets of limited capacity.
5. It enables a preamp or tuner/preamp to switch on and off large power amplifiers, the current demands of which are usually beyond the capabilities of normal on/off switches.
6. It eliminates strong magnetic fields within the preamp, which occur when current travels through the on/off switch and internal wiring, thus minimizing possible interference and hum.

The installation and operation of the ACE-515 are described in the following pages. We sincerely hope that you will value and enjoy the attention we have given its design and construction. This manual, and your familiarity with it, is essential to the safe and correct operation of the ACE-515. Please read it carefully to fully understand all the features and functions offered and how they can be best used in your system.

## UNPACKING

Before each ACE-515 left the factory, it was carefully inspected for physical imperfections as a routine part of ADCOM's systematic quality control. This, along with full operational and mechanical testing, should insure a product flawless in both appearance and performance. After you have unpacked the ACE-515, inspect it for physical damage. Save the shipping carton and all packing materials, as they are intended to reduce to a minimum the possibility of transportation damage, should the product ever need to be shipped again. In the unlikely event damage has occurred, notify your dealer immediately and request the name of the carrier so that a written claim to cover shipping damage can be initiated.

**THE RIGHT TO ANY CLAIM AGAINST A PUBLIC CARRIER CAN BE FORFEITED IF THE CARRIER IS NOT NOTIFIED PROMPTLY IN WRITING AND IF THE SHIPPING CARTON AND PACKING MATERIALS ARE NOT AVAILABLE FOR INSPECTION. SAVE ALL PACKING MATERIALS UNTIL THE CLAIM HAS BEEN SETTLED.**

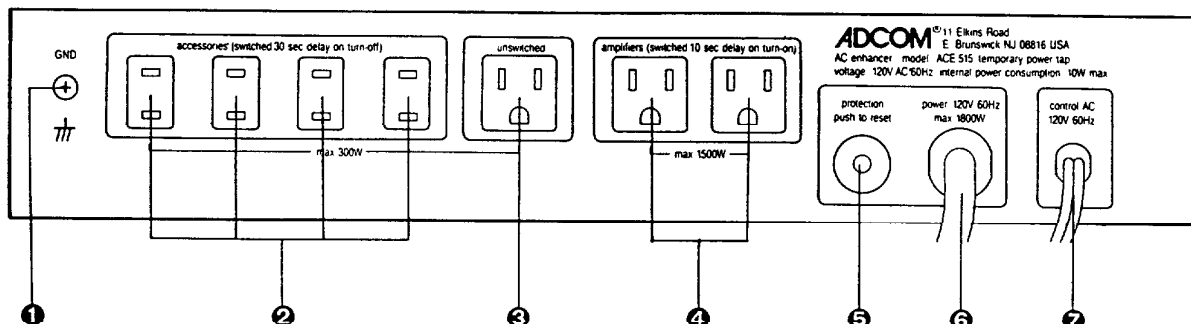
## INSTALLING THE ACE-515

Although the ACE-515 does not generate much heat, you will insure its long-term trouble-free operation if you keep it away from external sources of heat, such as radiators or hot-air ducts, and provide reasonable ventilation. Since the ACE-515 does not generate any appreciable hum or magnetic fields, it can usually be installed anywhere it is convenient in relation to the rest of your components. (However, it is recommended that you do not place it directly above or below a turntable, particularly if this is provided with a magnetic cartridge).

For use in professional installations, the ACE-515 may be mounted in a standard 19-inch rack using the optional RM-3 rack-mount adaptors available through ADCOM dealers.

## CONNECTING THE ACE-515

For optimum performance of the ACE-515 and the audio outlet is suggested.



**1 GND:** Ground connection is provided to permit easy access to a good ground connection for your system. It is particularly useful if your system does not have a 3-prong AC plug on one of its components that makes ground contact automatically when plugged into either **3** or **4**. Generally speaking, if your system has standard 2-prong AC plugs, you may benefit, in strong interference locations, by connecting the GND screw **1** to the GND or ground connection on the rear panel of your preamp. Please note that you only need to connect one of your system's components to the GND **1** connection. All the other components will then be grounded through the shields of the audio cables.

### NOTE

It is strongly recommended that whenever you are connecting or disconnecting any accessory to the outlets on the rear panel of the ACE-515 you first unplug the round, heavy, 14 AWG, main POWER **6** cord from the wall outlet.

**2 ACCESSORIES:** (switched, 30-second delay on turn off). A set of 4 polarized AC receptacles. These are for use with accessory sources such as a CD player, cassette machine, tuner, etc. The power to these outlets is filtered and enhanced, and is controlled by the turn-on/turn-off sequence. Upon turn-on, the four outlets receive AC power instantaneously (10 seconds before power amplifiers plugged into **4** are energized) Upon turn-off, AC power to the amplifiers plugged into **4** is immediately removed while any source plugged into ACCESSORIES receptacles will remain on for 30 seconds to permit the power amplifier to discharge, thus minimizing "thumps" through your system. Whenever the ACCESSORIES receptacles are energized the LED **3** on the front panel labelled ACCESSORIES will glow.

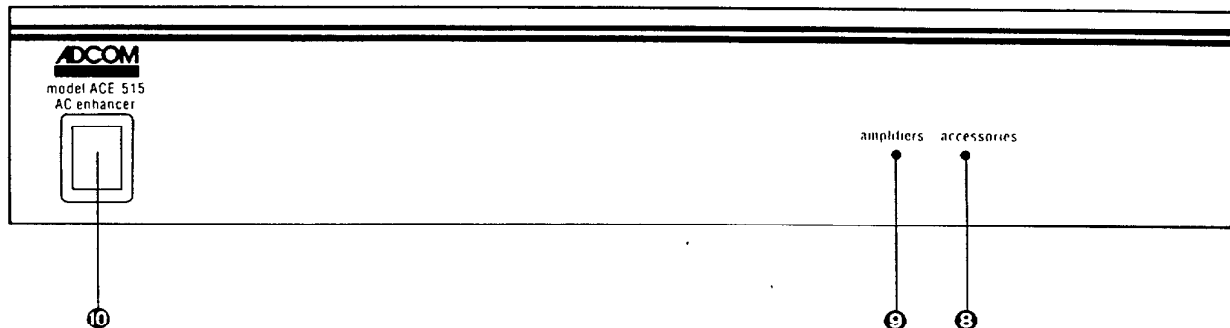
### NOTE

The total current drawn through these ACCESSORIES **2** outlets and including the UNSWITCHED **3** outlet should not exceed a maximum of 300 watts (2.5 amperes) continuous. To determine how much power each of the accessories draws, look on the rear panel of each unit component, near its AC cord, and note the power drawn (generally expressed in watts); then add the wattage of all units plugged into the ACCESSORIES and UNSWITCHED receptacles to be sure you don't exceed the 300 watts.

**3 UNSWITCHED:** A 3-prong polarized receptacle which is continuously energized so long as the main, heavy-duty, 14 AWG POWER **6** cord is plugged into a "live" outlet. The UNSWITCHED receptacle is **not** controlled by either the turn-on or turn-off sequence or the control AC switch **10** on the front panel. The power supplied to the UNSWITCHED receptacle is filtered and enhanced. This receptacle is meant for use with a preamp from which you may want to control the turn-on/turn-off sequence or to power a remotely controlled component via which the turn-on/turn-off sequence of the ACE-515 can be triggered via the remote control. To make use of this facility simply plug the preamp into the UNSWITCHED receptacle and plug the CONTROL AC **7** cord into any **switched** outlet on the rear of the preamp or remote-control accessory. You may also connect your VCR to this outlet, since its clock/timer will then have continuous AC power available. Please note that the power drawn from the UNSWITCHED **3** receptacle and the ACCESSORIES **2** receptacles together must not exceed 300 watts.

**4 AMPLIFIERS:** (switched, 10-second delay on turn-on). Twin 3-prong polarized receptacles designed to handle the heavy-current demands of large power amplifiers. The power supplied to these receptacles is also filtered and enhanced and is controlled by the turn-on/turn-off sequence of the ACE-515. Upon turn-on, the ACE-515 sequence delays the application of power to these receptacles for about 10 seconds; sufficiently long to permit accessory sources to stabilize and prevent turn-on "thumps" from reaching your loudspeakers. Upon turn-off, power is immediately removed from these receptacles, and a delay (30 seconds) is provided before the ACCESSORIES **2**

omponents connected to it, a dedicated 15-20 amp wall



receptacles are de-energized. Whenever the AMPLIFIERS receptacles are energized, the LED 9 on the front panel labelled AMPLIFIERS will glow. Each of the two AMPLIFIERS receptacles is able to provide 750 watts of continuous power to an amplifier and will handle the even greater in-rush surges at amplifier turn-on.

ⓖ **PROTECTION:** A carefully selected circuit breaker with optimum tripping characteristics. Should this circuit breaker trip, investigate the cause of the malfunction. When the cause is corrected, simply push the reset button, which will have "popped out", to resume normal operation. It is recommended, when resetting the circuit breaker to first turn-off the main control AC switch 10. Once the breaker has been reset, you can turn on the control AC switch 10 to initiate the turn-on sequence.

ⓖ **POWER 120V 60Hz:** A heavy-duty, 3-conductor, 14-AWG power cord with integral 3-prong polarized plug which supplies all the power needs of the ACE-515 rear-panel receptacles.

#### NOTE

It is suggested that you plug the POWER 6 cord of the ACE-515 directly into a wall outlet whenever possible. Under no circumstances use light extension cords. If an extension cord must be used, we recommend a heavy-duty, air conditioner extension cord with 3 conductors and the appropriate 3-prong socket and plug molded at each end. Never use adaptors to defeat the ground connection at the wall outlet. The AC filter and enhancer circuitry **requires** the ground connection to operate properly.

ⓖ **CONTROL AC 120V 60Hz:** A 2-conductor 18-AWG, cord with molded polarized 2-prong AC plug. Both the turn-on and turn-off sequences of the ACE-515 are initiated through this cord (in conjunction with the front panel control AC switch 10). There are three possible ways to connect the ACE-515 to your system:

1. Plug your preamplifier, or remotely controlled unit into either the **UNSWITCHED** 8 receptacle (if you would like the AC power to your preamp or other unit filtered and conditioned) or directly into a wall outlet (in which case AC power to your preamp or control unit will **not** be filtered and conditioned).

Plug the CONTROL AC 7 cord into one of the **switched** outlets of your preamp or control unit. If you have plugged the main POWER 6 cord into a live wall outlet, and if you have "flipped up" the control AC switch 10 on the front panel of the ACE-515, whenever you turn on the main AC switch of your preamplifier or control unit, the turn-on sequence will be automatically initiated (ACCESSORIES 2 instantaneously on and AMPLIFIERS 4 on after 10 seconds).

Whenever you turn off the preamplifier's or control unit's main AC switch, the turn-off sequence will be initiated (AMPLIFIERS 4 off instantaneously and ACCESSORIES 2 off after 30 seconds).

2. If your preamplifier does not have a main AC switch (some preamps are designed to remain powered permanently) or if no **switched** outlets are provided on your preamp, connect the preamp or control unit to the **UNSWITCHED** 8 receptacle of the ACE-515 (power to the preamp or control unit will thus be filtered and enhanced) and plug the CONTROL AC 7 cord and connector to any **unswitched** outlet on the preamp or control unit. Alternatively, or if your preamp or control unit does not have convenience AC outlets, you can connect the CONTROL AC 7 cord directly to the wall outlet.

The ACE-515 turn-on sequence can now be initiated by "flipping up" the control AC switch 10 on the front panel of the ACE 515. To initiate the turn-off sequence, "flip down" the control AC switch 10.

3. Connect the CONTROL AC 7 cord and plug into the **UNSWITCHED** 8 receptacle (this connection presupposes that you do not want power to the preamp or control unit filtered and enhanced). Flip up the ACE-515 Control AC switch 10 on the front panel to initiate the turn-on sequence. Flip down the control AC switch 10 to initiate the turn-off sequence.

#### NOTE

The CONTROL AC cord and plug ⑦ must be connected to an outlet as described in one of the methods above for the ACE-515 to operate as designed

③ **ACCESSORIES:** An LED which glows to indicate when the ACCESSORIES (switched, 30-second delay on turn-off) ② receptacles are energized.

③ **AMPLIFIERS:** An LED which glows to indicate when the AMPLIFIERS (switched, 10-second delay on turn-on) ④ receptacles are energized

⑩ **AC SWITCH:** A "rocker" switch that connects (when flipped up) or disconnects (when flipped down) the CONTROL AC ⑦ power to the timing-sequence circuits of the ACE-515. In a system where a preamp or remote-control unit is used to initiate the turn-on/turn-off sequence of the ACE-515, this switch should remain always in the "flipped up" or on position.

In systems where the CONTROL AC ⑦ cord and connector are not plugged into a switched outlet controlled by the preamp's or other component's main AC switch, ⑩ can be used to control initiation of the turn-on/turn-off sequence

Please note that the CONTROL AC ⑦ cord must be connected to an outlet as described in CONTROL AC ⑦ above, for the ACE-515 to operate as designed

## CARING FOR YOUR ACE-515

Great care has been taken by ADCOM to assure that your ACE-515 is as flawless in appearance as it is electronically. The front panel is a heavy gauge, high-grade, anodized aluminum extrusion, bead-blasted for durability. If the front panel, top and sides of the ACE-515 should become dusty, they can be wiped clean with a soft cloth.

#### NOTE

Do not spray or use any liquids on the surfaces of the ACE-515

## SERVICING

ADCOM has a Technical Service Department to answer questions pertinent to the installation and operation of your unit. In the event of difficulty, please contact us for prompt advice. If your problem cannot be resolved through our combined efforts, we may refer you to an authorized repair agency, or authorize return of the unit to the factory. To aid us in directing you to a convenient service station, it would be helpful if you indicate which major city is accessible to your home.

Please address mail inquiries to:

**ADCOM SERVICE CORP.**  
11 Elkins Road  
East Brunswick, NJ 08816

For telephone inquiries:

**Phone (201) 390-1130 and ask for Technical Service.**

When calling or writing about your ACE-515, be sure to note and include the serial number of your unit, as well as the date of purchase and the dealer from whom the unit was purchased. In the event that the unit must be returned to the factory for service, you will be instructed as to the proper procedure when you call or write for **Return Authorization**.

**UNDER NO CIRCUMSTANCES SHOULD YOUR UNIT BE SHIPPED TO THE FACTORY WITHOUT PRIOR AUTHORIZATION, OR PACKED IN OTHER THAN ITS ORIGINAL CARTON AND FILLERS**

If the original shipping carton and its fillers have been lost, discarded or damaged, a duplicate carton may be obtained from our Service Department for a nominal charge.

Always ship **PREPAID** via UPS or other approved carrier. **DO NOT SHIP VIA PARCEL POST**, since the packing was not designed to withstand rough Parcel Post handling. We are forced to refuse many Parcel Post shipments which arrive in very poor condition. **FREIGHT COLLECT SHIPMENTS CANNOT BE ACCEPTED.**

### IMPORTANT NOTICE

The ACE-515 is covered by a valuable Limited Warranty, which assures you of factory-sponsored service during its applicable period. The considerable benefits of this Warranty and its few reasonable limitations are spelled out in the enclosed multi-part Warranty Card. Should you ever have any questions about this product or wish to be advised of future modifications and accessories for it, it will be indispensable for us to have the return portion of the Warranty Card on file. Please be sure to fill out and return the appropriate portion of the Warranty Card to ADCOM Service Corp., being sure to fill in the serial number of the unit, which you will find printed on the rear panel of the unit, and all other pertinent information. If the serial number has already been preprinted on the Warranty Card, please make certain that this number matches exactly the serial number on the rear panel of the unit. Should you find any discrepancy, please notify us immediately so that your rights under the Warranty may be protected.

## ACE-515 SPECIFICATIONS

**MODE OF OPERATION:** Power conditioner, delay-on-make and delay-on-break timer. With input power applied, conditioned power is constantly applied to UNSWITCHED load; ACCESSORIES and AMPLIFIERS loads are off. Upon application of CONTROL AC, ACCESSORIES load will energize immediately and a delay-on-make will occur after which AMPLIFIERS load(s) will energize. Loads will remain energized as long as the CONTROL AC is applied. Upon removal of CONTROL AC, AMPLIFIERS load(s) will de-energize immediately, and a delay-on-break will occur, after which ACCESSORIES load will de-energize.

### ELECTRICAL

**INPUT POWER:** . . . . . 120VAC,  $\pm 20\%$ , 50/60Hz  
**PROTECTION:** . . . . . 15A circuit breaker  
**INTERNAL POWER CONSUMPTION:** . . . . . Less than 10W  
**CONTROL INPUT:** . . . . . 120VAC,  $\pm 20\%$ , 50/60Hz, fused @ 1 Amp  
**OUTPUT: AMPLIFIERS** . . . . . 10 Amps maximum per pole continuous  
          **ACCESSORIES** . . . . . 2.5 Amps maximum continuous  
**TIME DELAYS:** Delay-on-make . . . . . 10 seconds  $\pm 20\%$   
                    Delay-on-break . . . . . 30 seconds  $\pm 20\%$   
**ENVIRONMENTAL:** Operating temperature . . . . . 0° C to +50° C  
                    Storage temperature . . . . . -40° C to +80° C

### FILTER

Filter provides reduction of both Transverse and Common Mode noise, interference and spikes (voltage transients).

**NOISE:** . . . . . Begins attenuation above 10kHz, down 40dB @ 150kHz  
**MAXIMUM CONTINUOUS AC RMS VOLTAGE:** . . . . . 130  
**MAXIMUM CONTINUOUS DC VOLTAGE:** . . . . . 175  
**TRANSIENT ENERGY DISSIPATION:** . . . . . 11 Joules (10/1000 $\mu$ S)  
**PEAK CURRENT:** . . . . . 1200A  
**RESPONSE TIME:** . . . . . Less than 10 nanoseconds  
**MAXIMUM CLAMPING VOLTAGE:** . . . . . 390 at 10A (8/20  $\mu$ S)

### MECHANICAL

**DIMENSIONS:** . . . . . 17" W (430 mm) x 5-15/16" D (150 mm) x 3" H (76 mm)  
**MAXIMUM DIMENSIONS:** . . . . . 17" W (430 mm) x 6-3/4" D (171 mm) x 3-3/16" H (81 mm)  
**WEIGHT:** . . . . . 6 lbs. (2.7 kg)  
**MAIN AC CORD:** . . . . . 6 ft. (1.8 m)  
**CONTROL AC CORD:** . . . . . 6 ft. (1.8 m)  
**OUTLETS:** . . . . . Three, 3-prong, grounded, polarized  
                    . . . . . Four, 2-prong, polarized  
                    . . . . . Seven, total