

# AMC

## CVT3100MKIIse

### INTEGRATED VALVE AMPLIFIER

**Cold Cathode Vacuum Tube** design to give superb sound quality  
AMC proprietary design of operate **high voltage FET under Vacuum Tube mode** to give warm, soft and high dynamic music quality  
With **motorized remote control** on Volume and Input Selecting  
There is AMC special designed superb sound quality headphone amplifier for users to use the amplifier as **Super Higher Quality headphone / earphones amplifiers.**



AMC  
IA PRODUCTS WITH 25 YEAR LIFE USING MODULE CONCEPT

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Hi-Res Streamer  
like D-STREAM Primo-HD  
with AMC Hi-Res OPT DAC  
to create Superb Hi-Res Music



## INSTRUCTIONS FOR INSTALLATION AND OPERATION



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



AFIN DEVI TER UN CHOC ELECTRIQUE ET LES CONSEQUENCES GRAVES QUI POURRAIENT EN RESULTER, TENTEZ PAS D'OUVRIR L'APPAREIL ET DE TOUCHER AUX COMPOSANTS INTERNES SANS LA PRESENCE D'UNE PERSONNE QUALIFIEE.



PARA REDUCIR EL RIESGO DE SACUDIDAS ELECTRICAS, NO DEBERA QUITARSE LA TAPA (NI PARTE POSTERIOR). CONSULTESE AL PERSONAL CAPACITADO PARA LAS REPARACIONES INTERNAS.

**WARNING:** TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

**ADVERTENCIA:** PARA EVITAR EL RIESGO DE INCENDIO O SACUDIDA ELECTRICA, NO DEBERA EXPONERSE ESTE APARATO A LA LLUVIA O HUMEDAD.

**CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARISED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE..

**ATTENTION:** POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR. UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SILES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

**PRECAUCION:** PARA EVITAR SACUDIDAS ELECTRICAS, NO DEBERA UTILIZARSE ESTA CLAVIJA POLARIZADA CON UN CORDON DE PROLONGACION, RECEPTACULO U OTRO TIPO DE SALIDA A MENOS QUE SE HAYAN INSERTASO COMPLETAMENTE LAS LENGÜETAS PARA EVITAR SU EXPOSICION.

**NOTE:** Some AMC products are equipped with dual or multi-voltage transformers (which is indicated on the back panel). If you wish to change the voltage, please bring your unit to an authorised AMC service technician for internal conversion.

**ATTENTION:** Quelques pièces AMC sont munies de transformateurs à double ou à multi-voltage (indiqué au panneau arrière). Si vous voulez changer le voltage, veuillez apporter votre appareil au fournisseur de AMC pour le transformer.

**ZUR BEACHTUNG:** Einige AMC Geräte sind mit Umschaltern für unterschiedliche Netzspannungen ausgerüstet (Ein Vermerk auf der Rückseite weist darauf hin).

Die Anpassung, wenn notwendig, muß von einem qualifizieren Techniker in einer AMC Servicestation vorgenommen werden.

**NOTA:** Ciertos componentes de AMC están dotados de transformadores de doble tensión o de varias tensiones (lo que se indica en el panel posterior). Si se desea cambiar la tensión, sírvanse llevar el aparato a un técnico autorizado por AMC para su conversión interna.

**NOTE TO CATV systems installer:** This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

**NOTA PARA EL INSTALADOR DE ANTENAS DE TELEVISION COLECTIVAS:** La presente advertencia se provee para llamar la atención del instalador al Artículo 820-22 de NEC (Código Eléctrico Nacional) donde se facilitan las directrices para la pertinente puesta a tierra y que especifica en particular que el conductor a tierra del cable debe conectarse al sistema de conexión a tierra del edificio, lo más proximo posible al punto de entrada del cable.



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



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## INTRODUCTION

The AMC CVT3100MKIIse has been designed to give superb sound quality and represents outstanding value for money.

The CVT3100MKIIse is a hybrid mosfet valve design, capable of giving superb sound reproduction. The components are all of the highest quality.

The AMC proprietary designed Class A hybrid MOS-FET amplification topologies are accomplished as following : a. **Designed with 1000V MOS-FET using exactly the same as Classical Valve** (MOS-FET Valve based on majority current the same as Classical Valve ) class A amplifications in order to create excellent dynamic range at the same time very accurate and reliable with long life that Classical Valve can't not achieve. b. MOS-FET Valve Topology will be able to be designed to **more accurate in order to have much better superb sound quality than Classical Valve** as **FET Valve** has much more consistent and accurate characteristics.

c. MOS-FET Valve can keep the same superb sound quality throughout the much longer life. Classical Valve will keep changing characteristic for worse and worse sound reproduction through the relative short life. d. The hybrid MOS-FET Valve use output stage with Classical Valve in order to make the Class A amplifier lower cost for making AMC Class A amplifiers can be affordable for all music lover to enjoy instead of only for rich people. With Classical Valve as output stage to take high temperature without huge heatsink in order to cost down. At the same time, it will be ok for output stage to change characteristics as output stage only take care of power portion of Class A amplifier. So, the topology can have much lower cost and much longer life for Classical Valve. e. So, AMC hybrid MOS-FET valve design can achieve

**superb sound quality, much longer life time and with much lower price.**

There are a few simple hints to follow in order to get the best from your new amplifier.

- 1) Do not stand any object or other component on the top. Whilst the CVT3100MKIIse is one of the coolest running Class A valve amps available, uninterrupted air flow is most important.
- 2) There are two silent fans in the base under each pair of 6550 or KT88 valves. Again, the air space under the amp must not be restricted in any way. Never stand the unit on a carpeted surface or anything soft, or on another component which generates heat.
- 3) The amplifier will sound best when it is "warmed up," which can take 15 - 20 minutes.
- 4) The valves should last a very long time but can be changed easily. However, as there is always some voltage present inside, even when the unit is turned off, we recommend that this is carried out by your AMC dealer. It is only a five minute job for an engineer.
- 5) We recommend you retain the original carton and packaging so that it can be repacked correctly if it ever becomes necessary to transport the unit or return for service.
- 6) After switching off, always let the amplifier cool down before turning on again.

## INSTALLATION

Your AMC amplifier is supplied set to work on your local mains supply voltage. Check that your local mains supply voltage agrees with the voltage setting indicated on the back panel of the amplifier. If not, please contact your dealer or national distributor for details on how to proceed further.

The cores of the mains lead are colored in accordance with the following code:

Blue            -Neutral  
Brown          -Live

Note: Export units for certain markets have molded mains plugs fitted as standard.

As the colors in the mains lead may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The wire which is colored blue must be connected to the terminal which is marked by the letter N, or colored black or blue. The wire which is colored brown must be connected to the terminal which is marked by the letter L, or colored red or brown.

## FUSES

If the mains plug is fused, fit a 3.15amp fuse. Your AMC amplifier contains fuses which are designed to protect the amplifier and prevent the occurrence of a dangerous fault condition. These should only be inspected and replaced by a competent engineer using the correct replacement types.

## CHECK LIST

Should you have any difficulty in operating your amplifier, switch off and check the following before suspecting that a fault has developed:

### **No power and LED not illuminated**

1. Check that all mains supplies, connections and fuses are good and that the power is switched on.

### **Power on and LED illuminated but no output**

1. Check that the amplifier is connected to the desired input and that the correct input on the amplifier is selected.
2. Check that the loudspeakers are connected correctly to the power amplifier.
3. Check that the Phones/Normal/Direct switch is not set to "Phones."
4. Check that the Tape Monitor switch is not set to "Tape."

### **Power on and LED illuminated but output from one speaker only**

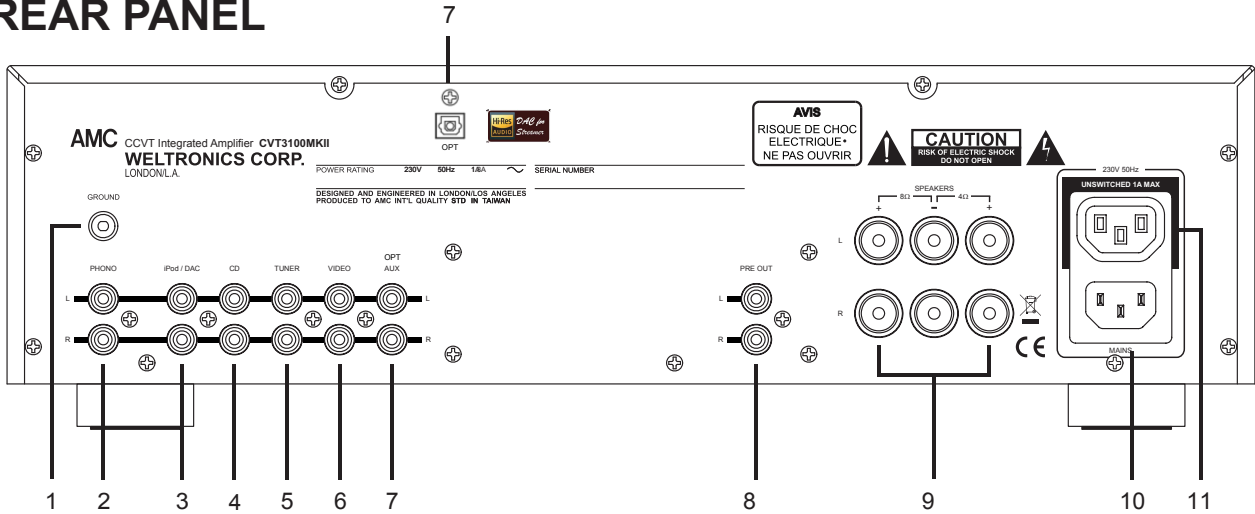
1. Check that the left and right channels of the selected source are connected correctly any that the input wiring is not faulty. If doubt, contact your dealer.
2. Check that the Balance control is not set to Right or Left channel.

### **Loud hum heard through loudspeakers when disc is selected**

1. Check that the ground lead from the turntable (if fitted) is connected firmly to the ground terminal on the rear of the amplifier.
2. Check that the amplifier is correctly earthed via the mains lead.
3. Check that other transformers in the vicinity are not radiating into your amplifier.

# REAR PANEL CONNECTIONS/FRONT PANEL CONTROLS

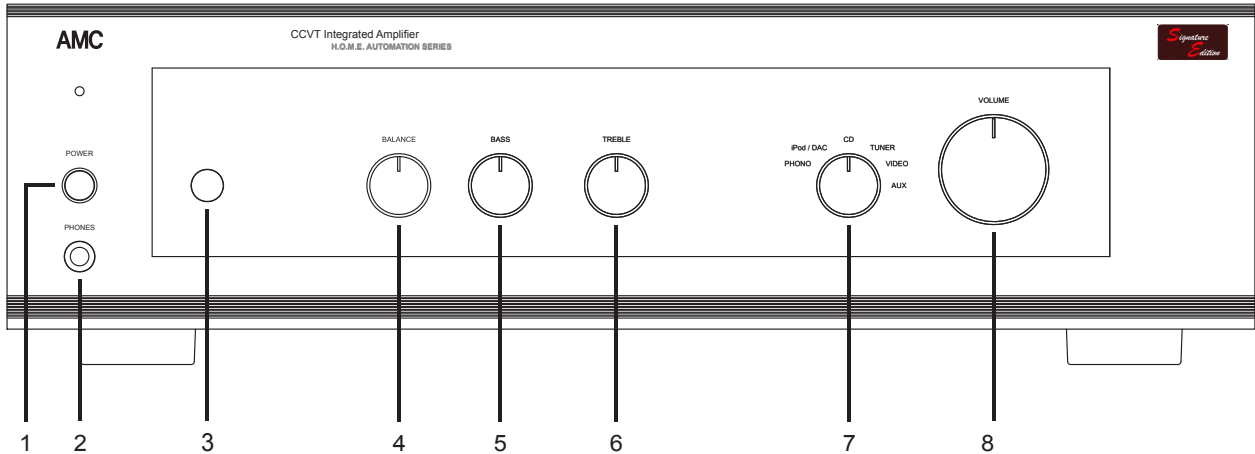
## REAR PANEL



1. PHONO GROUND TERMINAL
2. PHONO INPUT (OPTION: COAXIAL INPUT)
3. iPod/DAC INPUT
4. CD INPUT
5. TUNER INPUT
6. VIDEO INPUT
7. OPT/AUX INPUT

8. PRE OUT
9. LOUDSPEAKER TERMINALS
10. AC RECEPTACLE
11. AC OUTLET

## FRONT PANEL



1. POWER SWITCH
2. PHONES
3. INFRARED RECEIVER
4. BALANCE

5. BASS CONTROL
6. TREBLE CONTROL
7. INPUT SELECTION
8. VOLUME CONTROL

## REAR PANEL CONNECTIONS

### A/C OUTLET

The A/C convenience outlet is fitted so that other components can be powered when the AC line cord of your amplifier is plugged into mains outlet.

You must fit an Standard 3 pin plug, available from most specialist dealers.

**Note: The A/C outlet is UNSWITCHED by the power switch on your amplifier. The maximum output current rating of A/C outlet is 1A.**

**UNDER NO CIRCUMSTANCES SHOULD THE CASE OF THE AMPLIFIER BE OPENED BY ANYONE OTHER THAN A QUALIFIED ENGINEER, AS DANGEROUS VOLTAGES ARE PRESENT INSIDE. ANY UNAUTHORIZED REPAIR MAY INVALIDATE YOUR WARRANTY.**

### INPUTS

All audio Inputs and tape outputs are via gold plated RCA type phono connectors. All the phono sockets on your AMC amplifier are marked "L" for left and "R" for right channels, with the left channels nearer the top of the cabinet. Your connection leads will have a white or black plug for left, and a red plug for right.

### PHONO INPUT

The input is suitable for either moving magnet or moving coil cartridges which can be selected by the switch on Phono board. Moving magnet cartridge is preset in CVT3100MKIIse. Please ask your dealer to change the MM/MC switch on Phono board to MC if you use moving coil cartridge. The plugs on your turntable lead should be connected to the PHONO input RCA connectors on the rear panel of your amplifier.

The Ground Terminal is for you to connect ground wire of your turntable in order to eliminate possible interference and hum loop for best possible sound quality.

### OPTION: COAXIAL INPUT

AMC 24bit/192KHz S/PDIF DAC Module, MD1108s, can replace PHONO module to have digital input in CVT3100MKIIse. (This is only available for factory installation.)

### iPod / DAC

The iPod/DAC input is suitable for use with any iPod/DAC player. Connect your iPod/DAC player using the RCA connectors marked "iPod/DAC".

### CD INPUT

The CD input is suitable for use with any CD player. Connect your CD player to the amplifier using the RCA connectors marked "CD."

### TUNER INPUT

The tuner input is suitable for use with most AM/FM tuners. Connect your tuner to the amplifier using the RCA connectors marked "Tuner."

### VIDEO

The video input is suitable for most Video with an audio output. Connect your Video device using the RCA connectors marked "Video."

### OPT / AUXILIARY INPUT

The OPT / Auxiliary input is designed for using with Optical (OPT) input located at Top of Aux on rear panel for Hi-Res Streamers like D-STREAM PRIMO-HD etc or and other optical sources or for any extra source processing a line level output, perhaps a second tuner or CD player, or an additional tape or video recorder wired for replay only. ***The auxiliary input is in parallel with the analog output of the OPT connector. And only OPT or AUX , one source can be connected.***



## FRONT PANEL CONTROLS

### PRE OUT

These RCA jacks provide the preamplifier outputs which are adjusted by the volume control. Normally it is connected to the main-in input of an extra external Valve power amplifier. If semiconductor Amps, sub-woofer amps or processors will be connected to, \_sub version of CVT3100MKIIse will have to be used for taking away output buffer.

### LOUDSPEAKER CONNECTIONS

The loudspeaker output terminals will accept 4mm(banana) plugs, spade connectors, pin connectors or bare wires.

The amplifier has speaker outputs that will match 4 - 8 ohm speakers. Confirm the impedance of your speakers then connect as follows:

For 8 ohm speakers, connect the negative (black) speaker wire to the "common" negative ( - ) binding post. Then connect the positive (red) cable to the 8 ohm red ( + ) binding post.

For 4 ohm speakers, the negative (black) connections are the same as the 8 ohm, but the positive or red connection must be to the 4 ohm binding post.

Your AMC amplifier is capable of generating high peak currents, so all connections must be checked to avoid inadvertent short circuits, and to ensure a good clean contact.

***UNDER NO CIRCUMSTANCES SHOULD THE OUTPUTS BE SHORTED TOGETHER.***

### POWER SWITCH

The amplifier is turned on by depressing the power switch. The small indicator above the switch will glow blue. Before switching on, always set the volume control to minimum to avoid damage to your loudspeakers.

**Note:** Your AMC amplifier will play music after some good period of time waiting for vacuum tubes to be warmed up during switched on. The best possible sound quality will be obtained after around one hour after turning on.

### INPUT SELECTION

The rotary input selector switch selects which input signal (Phono, iPod/DAC, CD, Tuner, Video or Aux) is fed to the power amplifier.

### VOLUME CONTROL

The volume control adjusts the overall loudness level of the sound. The Volume control is designed for accurate tracking of its two channels, so that the stereo balance will not shift noticeably as the loudness of the sound is varied.

## **TONE CONTROLS**

The tone controls on your AMC amplifier use low coloration passive circuitry to ensure the minimum degradation of the music signal. They are designed to gradually modify the tonal emphasis of the music and to compensate for such problems as difficult room acoustics.

The tone controls will cut their respective frequencies when turned anti-clockwise and boost them when turned clockwise. The flattest response is found when the controls are in the "12 o'clock position. (DETENTED POSITION)

## **PHONES**

**There is AMC special designed superb sound quality headphone amplifier for users to use the amplifier as Super Higher Quality headphone / earphones amplifiers.**

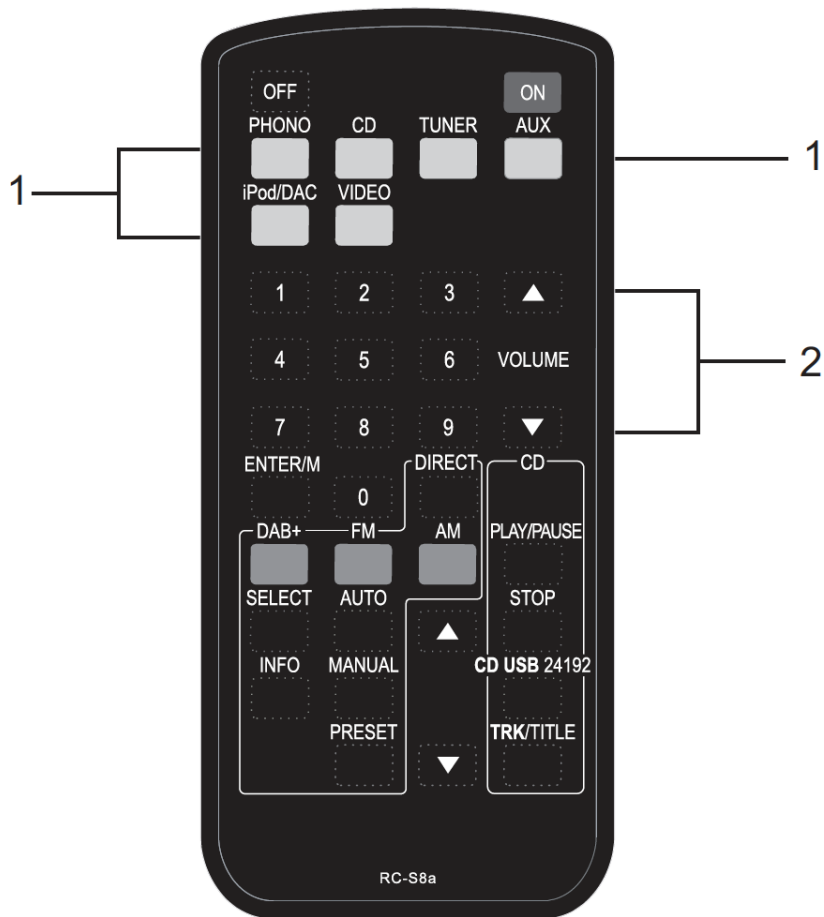
The headphone socket will accept any headphones fitted with a standard 1/4"(6.35mm) stereo jack plug. For private listening via headphones, just

plug headphone jack into the Phones Jack on front panel. There are two versions of the Phones. One version (Standard) will not cut the outputs to your loudspeakers and another version will cut the outputs to your speakers automatically.

The tone controls remain active.



# REMOTE CONTROL



## 1.INPUT SELECTOR

These buttons select any one of the Six sources that are connected to the inputs of the CVT3100MKIIse (PHONO, iPod/DAC, CD, TUNER, VIDEO, AUX).

## 2.VOLUME CONTROL

△: VOLUME UP  
▽: VOLUME DOWN

## SPECIFICATIONS

Rated Power into 8/4 ohms ..... 80W x 2  
With both channels driven  
Rated T.H.D. 45Hz-20KHz ..... 1.0%  
1KHz clipping power into 8/4 ohms ..... 85W

### Input Sensitivity for 1W/Rated Power into 8 ohms:

High level inputs ..... 20mV/180mV  
Phono MM input ..... 0.4mV/2.2mV  
Phono MC input ..... 0.04mV/0.2mV

### Input impedance:

High level inputs ..... 12K ohm/100pF  
Phono input ..... 47K ohm/100pF

### Frequency response:

Normal 20Hz-20KHz ..... +/-1.0dB  
High level inputs -3dB ..... 15Hz/40KHz

### Signal to noise ratio:

High level inputs "A" WTD (1W/8 ohm) ..... 70dB  
Preout "A" WTD ..... 90dB

### Separation ratio:

High level 20Hz-20KHz (1W/8 ohm) ..... 55dB

### Tone control range:

Bass at 50Hz ..... +/-8dB  
Treble at 10KHz ..... +/-7dB  
Overall feedback ..... 14dB

### PHYSICAL:

Dimensions (W x H x D) ..... 430x112x389 mm  
Net weight ..... 19 Kgs  
Shipping weight ..... 20 Kgs

Weltronics Corp. reserved the right to improve its products at any time. Specifications are subject to change without notice.

# SAFETY INSTRUCTION

## 1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the appliance is operated.

## 2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

## 3. HEED WARNINGS

All warnings on the appliance 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 appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

## 6. CARTS AND STANDS

The appliance should be used only with a cart or stand that is recommended by the manufacturer.

- 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



## 7. WALL OR CEILING MOUNTING

This equipment is not designed for use mounted on a wall or a ceiling.

## 8. VENTILATION

The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance 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 bookcase or cabinet that may impede the flow of air through the ventilation openings.

## 9. HEAT

The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

## 10. POWER SOURCES

The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

## 11. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

## 12. CLEANING

The appliance should be cleaned only as recommended by the manufacturer.

## 13. NON USE PERIODS

The power cord of the appliance 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 into the enclosure through openings.

## 15. SERVICING

The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

## 16. DAMAGE REQUIRING SERVICE

The appliance should be serviced by qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure is damaged.

## 17. POWER LINES

(APPLIES TO TUNER AND RECEIVERS ONLY)

An outdoor antenna should be located away from power lines.

## 18. OUTDOOR ANTENNA GROUNDING

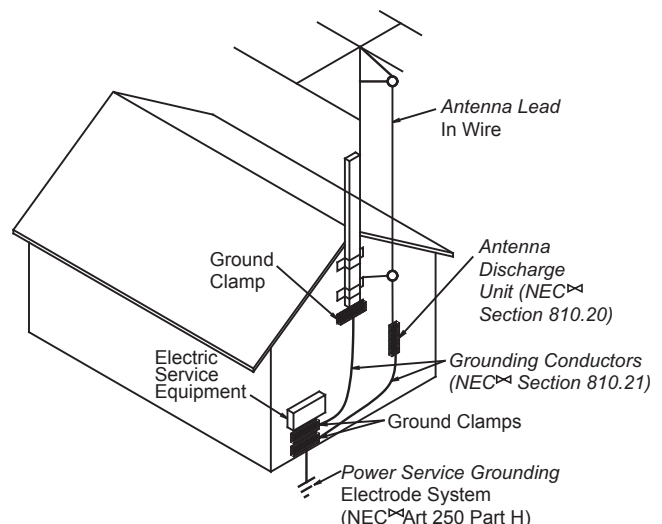
(APPLIES TO TUNER AND RECEIVERS ONLY)

If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.

- Use No. 10 AWG (5.3 mm<sup>2</sup>) copper, No. 8 AWG (8.4 mm<sup>2</sup>) aluminum, No. 17 AWG (1.0 mm<sup>2</sup>) copper-clad steel or bronze wire, or larger, as a ground wire.
- Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4-6 feet (1.22-1.83 m) apart.
- Mount antenna discharge unit as close as possible to where lead-in enters house.
- Use jumper wire not smaller than No. 6 AWG (13.3 mm<sup>2</sup>) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).

Antenna Grounding According to the National Electrical Code



† National Electrical Code  
Available from Library, book stores, or National Fire Protection Association (Batterymarch Park, Quincy, MA 02269).



**WELTRONICS CORP.**  
LONDON/L.A.

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