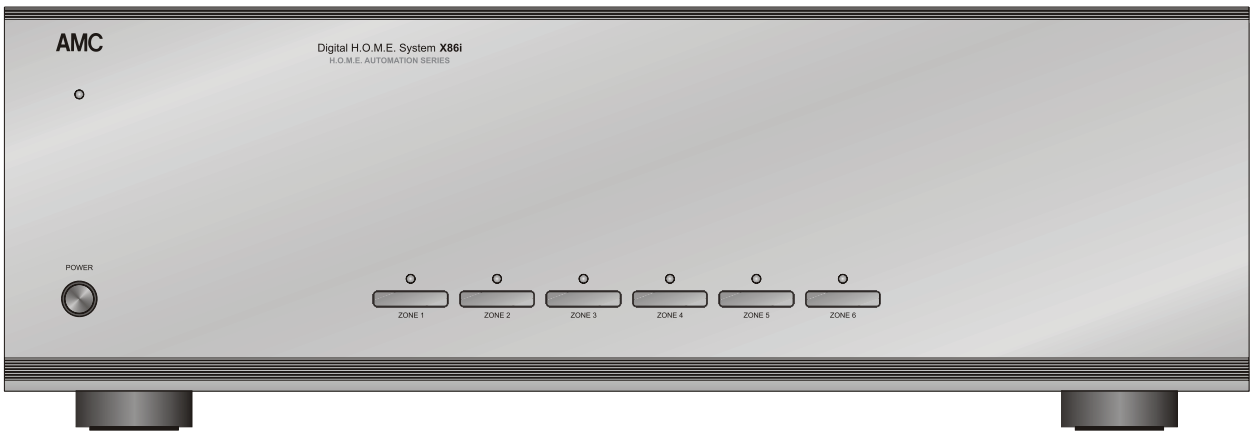
AMC X86i & X86

6 ZONE 8 Local/6 Remote SOURCE DIGITAL H.O.H.E. SYSTEM

with Remote Sources

AMC™ IA

AMC IA PRODUCTS WITH 25 YEAR LIFE USING MODULE CONCEPT



INSTRUCTIONS FOR INSTALLATION AND OPERATION

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

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

ATTENTION:
RISQUE DE CHOC ELECTRIQUE N OUVRIR PAS

AFIN DEVITER 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.

PRECAUCION:
RIE SGO DE ELECTROCHOQUE NO ABRIR LA TAPA

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.
ADVERTENICIA: 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 ÇLAVIJA 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 Netzspannungern 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 (Córdigo Eléctrico Nacional) donde se facilitan las directrices para la pertinente puesta a tierra y que especifica en particular que el condutor a tierra del cable debe connectarse 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.

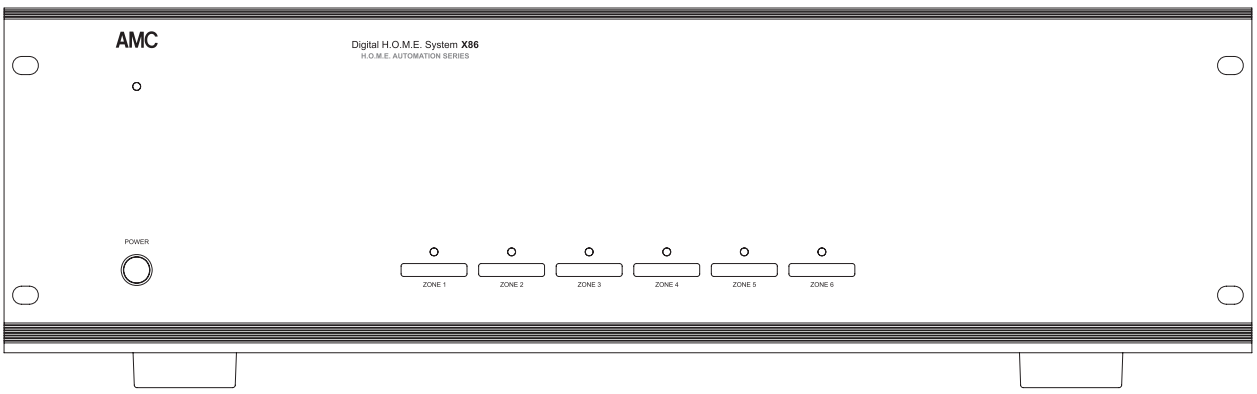
The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

APPLICATION AND FEATURE LIST

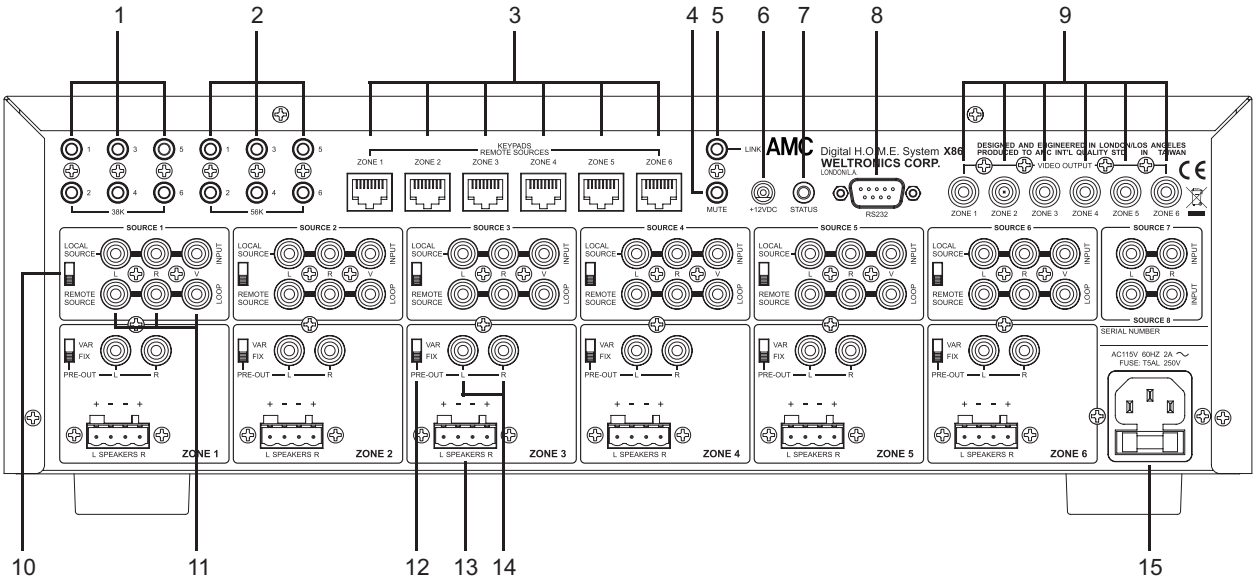
Features of the AMC$_{TM}$ model X86i

* System for total 6 Zones
* System with 14 Sources – 8 Local / 6 Remote Sources.
* Only RJ45 & Speaker Wires used for installations from X86i main unit to all zones
* Two ways AMC proprietary Digital Data Communication System between X86i main unit and keypads in all zones
* Volume Control & Tone Control for each Zone
* Six 38KHz and six 56KHz IR outputs on rear panel of X86i main unit
* Doorbell and telephone mute system (PDM1) - option
* With RS232 to digital link with other systems - option
* IR remote control receiver on each zone for controlling X86i main unit and Remote Sources in other zones
* RCA, 3.5mm mini jack and RJ45 Remote Source input jacks in each Zone
* Power of each channel / zone : 30W x 2 Digital Amplifiers for each Zone.
* The X86i package contains:
    - 1 X86i main unit
    - 6 IRE1 IR emitters with feedback LED
    - 1 Remote Control Handset
    - 1 This Manual
    - 1 Zone description label
    - 1 RS-232 manual
* Options : XK1, XS1, PDM1 (numbers of XK1, XS1, PDM1 required based on each installation designs)

19" Rack mount model, X86 is available

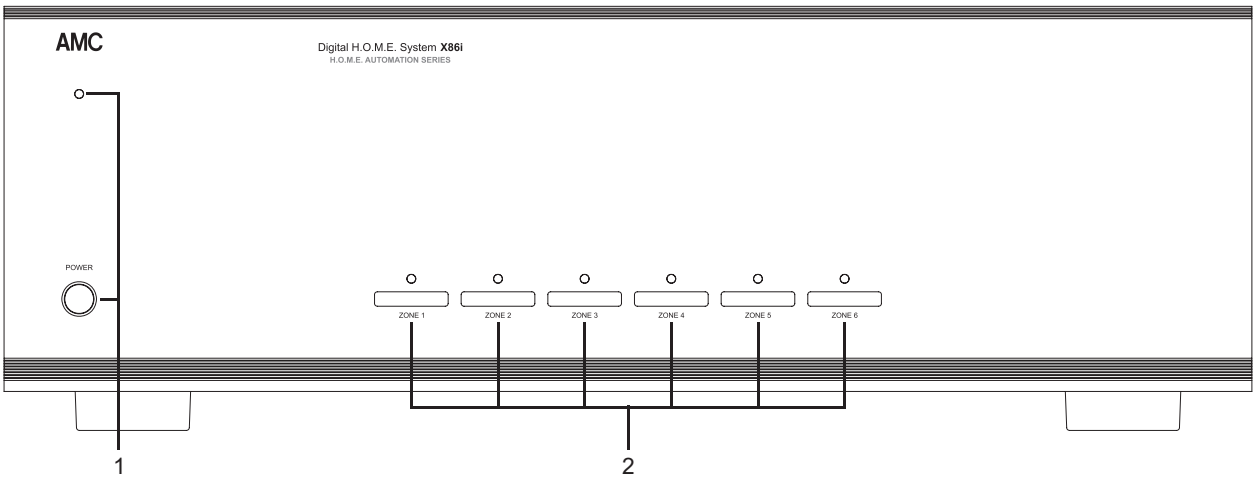


REAR PANEL CONNECTIONS/FRONT PANEL CONTROLS



1. IR Out - 38KHz
2. IR Out - 56KHz
3. Keypads & Remote Sources
4. Mute
5. Link
6. 12VDC
7. Status
8. RS232
9. Video Outputs
10. Local/Remote Source Switch
11. L & R Audio & Video Input and Loop Jacks
12. VAR/FIX Switch
13. Speaker Terminals
14. L & R PRE-OUT Jacks
15. AC input receptacle with Fuse

FRONT PANEL



1. Power Switch (Standby / Off) & Blue LED
2. Zone LED & 6 square Recesses

REAR PANEL CONNECTIONS

1. **IR Out - 38KHz**
   For most Audio Sources.

2. **IR Out - 56KHz**
   For cable and satellite boxes.
   Note:
   All IR Outs are 5Vp-p. It is sufficient to drive single emitters, but would be marginal with dual (series connected) emitters

3. **Keypads & Remote Sources**

4. **Mute**
   This 3.5mm non-shorting Stereo connector (Power, Mute, Gnd) is designed to be used in conjunction with the AMC PDM1 (Phone-Doorbell-Mute Module) - This is an option feature.

5. **Link**
   This 3.5mm mono connection is used to expand the AMC X86i from six to twelve zones. - This is an option feature.

6. **12VDC**
   For supplying 12VDC to external modules. (total 500mA max)

7. **Status**
   This jack goes high with any zone ON and goes low when the last zone is turned OFF.
   This is rather light current output and may not trip some external trigger inputs.

8. **RS232**
   This is used for making interface with other system and for factory purposes. - This is an option feature.

9. **VIDEO OUTPUTS**
   These 6 RCA jacks provide a dedicated composite video output for each zone. 75 Ohm outputs provide matched line impedance for high quality video over RG6 cable for lengths up to 500 feet.

10. **Local/Remote Source Switch**
    This is designed for selecting local sources or remote sources.

11. **L & R Audio & Video Input and Loop Jacks**
    These RCA jacks, 6 for each Source, provide audio and video signal inputs and buffered loop outputs, for each Source. The buffered outputs may be used to drive local components or loop the signals to the additional zone inputs of other X86i's when using them for zone expansion. For Source 7 and Source 8, video signal inputs and buffered loop output are not provided.

12. **VAR/FIX Switch**
    The audio output from the PRE-OUT jacks can either be controlled by the internal Volume Control of the X86i in the VAR Volume Control position or be a fixed line level output in the FIX Volume Control position. In either case, the tone control action remains available for room "EQ" settings.

13. **Speaker Terminals**

14. **L & R PRE-OUT Jacks**
    These RCA jacks provide line level audio outputs for driving external power amplifiers for additional rooms within zones where needed.

15. **AC input receptacle with Fuse**

FRONT PANEL CONTROLS X86i & X86

1. Power Switch (Standby / Off) & Blue LED

The Power Switch turns AMC X86i "Standby" or "Off"

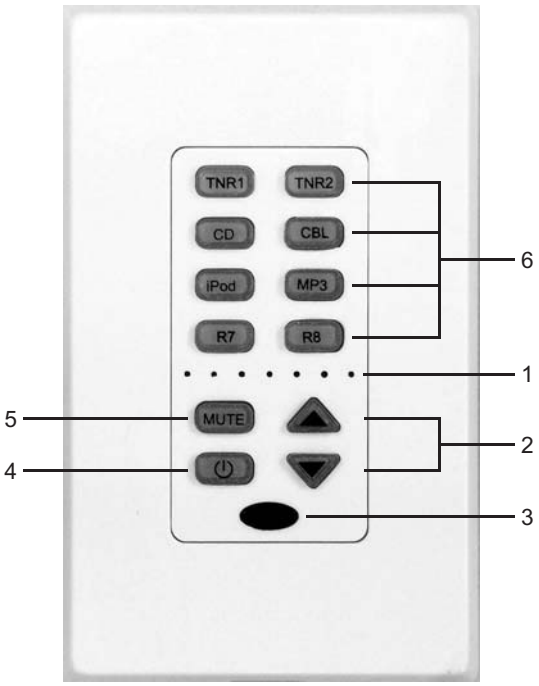
The Blue LED will be lit up during "Standby", will be turned off during "Off"

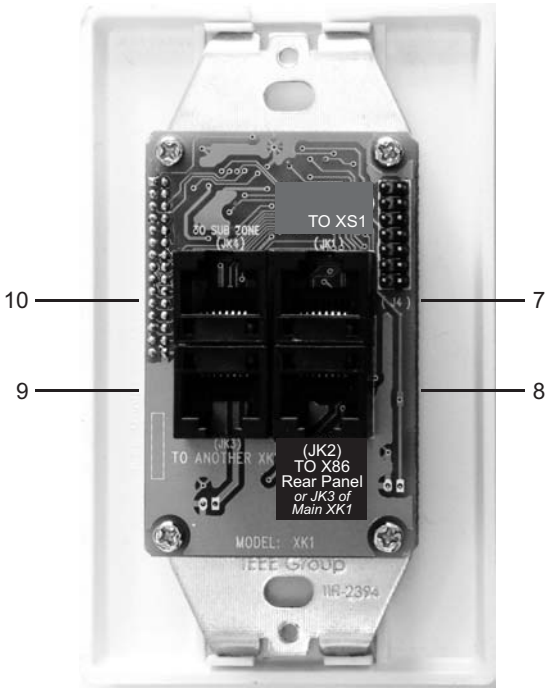
2. Zone LED & 6 square Recesses

Each of these LEDs indicates, when lit, that its zone keypads are turned on.

The 6 square recesses are for putting labels of names of all zones

KEYPAD (XK1 for Zone 1 to 6)





1. LED's of Volume Level of the zone
Volume-only one LED will be lighted up. (for energy saving purposes)

2. Volume up ▲ / down ▼

3. IR Receiver
Each keypad has an IR receiver for controlling the Local and Remote source equipments.

4. Power
The power button turns the keypad's zone on and off independently.

5. Mute
The mute button temporarily mutes any audio playing in that keypad's zone.

6. Source Selection
Combining with the Local/Remote Source Switch, the 8 source buttons independently select any of the eight local sources (Source 1 to 8) connected to the rear panel of AMC X86i main unit or six Remote Sources connected to the XS1 of Zone 1 to 6. The selected source button will remain lit.

7. JK1 (RJ45) to XS1

For Zone 1~6, please use Cat-5 cable to connect from the JK1 of XK1 to the RJ45 connector on the rear side of XS1 for hooking to Remote Sources.

8. JK2 (RJ45) (TO X86i Rear Panel)

Use Cat-5 cable to connect from the JK2 of XK1 to RJ45 of specific Zone on X86i Rear Panel (or JK3 of Main XK1 - option)

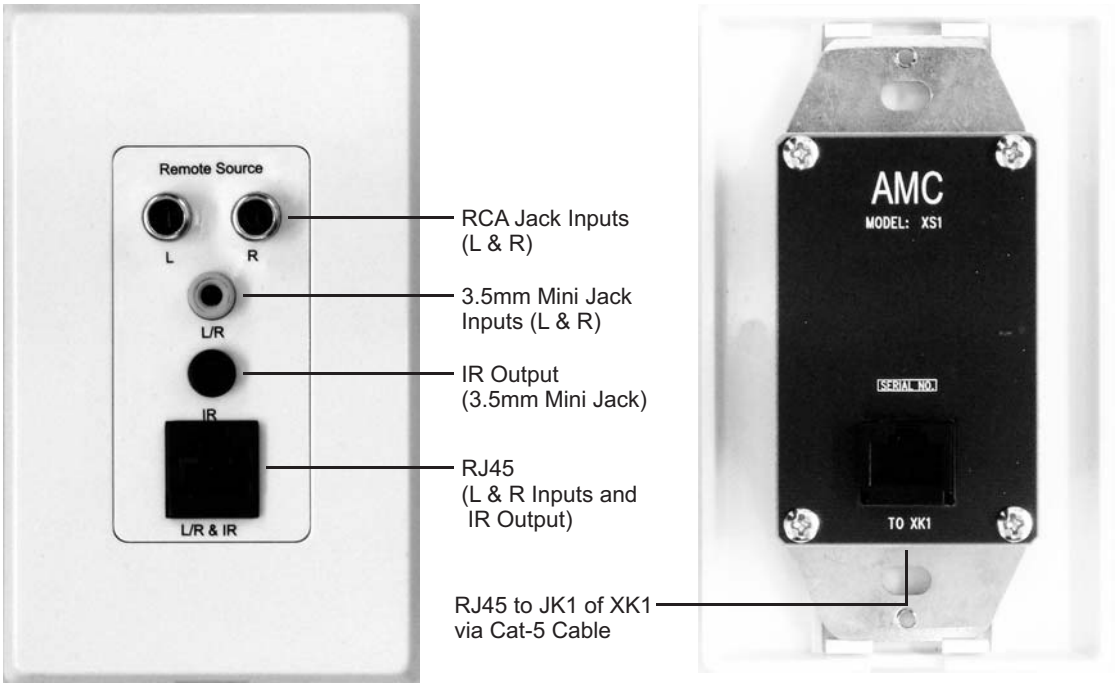
9. JK3 (RJ45) (To Another XK1)

Use Cat-5 cable to connect from the JK3 of XK1 to JK2 of Another XK1. - This is an option feature.

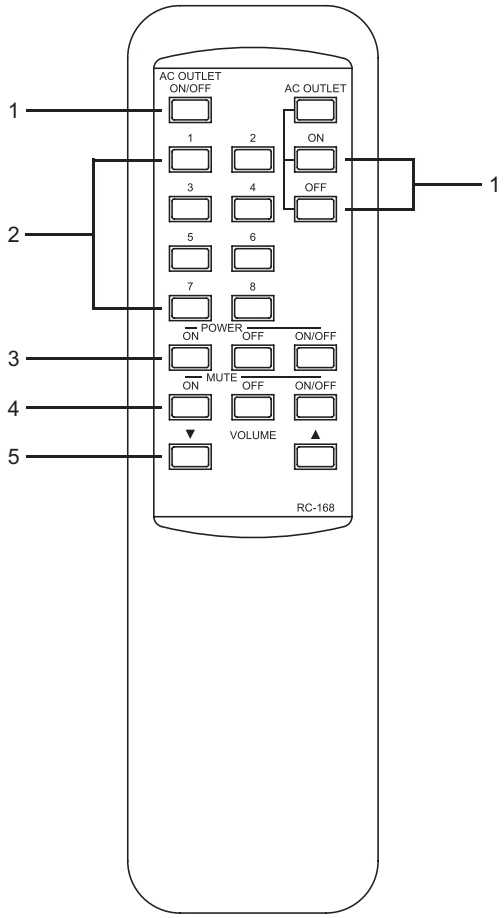
10. JK4 (RJ45) (To SUB ZONE)

Use Cat-5 cable to connect from the JK4 of XK1 to main-in of amplifiers or power speakers. - This is an option feature.

REMOTE SOURCE XS1 (for Zone 1 to 6)



REMOTE CONTROL



1. AC Outlet On/Off, AC Outlet+On and AC Outlet+Off
These buttons are not available in this model X86i.

2. Source Selection
Combining with the Local/Remote Source Switch, the 8 source buttons independently select any of the eight local sources (Source 1 to 8) connected to the rear panel of AMC X86i main unit or six Remote Sources connected to the XS1 of Zone 1 to 6.

3. Power On, Power Off &Power On/Off
These buttons turn the zone on and off.

4. Mute & Mute On & Mute Off
"Mute" button mutes the zone in the same way as the keypad mute button. "Mute On" and "Mute off" turn the mute "On" or "Off"

5. Volume
Perform the same function as the volume button on the zone keypads. The volume level indicator on the keypad will respond correspondingly to the volume command from the remote control.

6. The remote control is basically with the same functions of keys as AMC S84

INSTALLING THE X86i DIGITAL HOME SYSTEM

1. Prewire

The X86i uses Cat-5 cable for keypad control and either two- or four-conductor 16-gauge speaker wire. All the wire is "homerun" from each zone to the X86i.

2. The X86i digital home systems require Cat-5, unshielded, twisted pair (UTP), for communication between the keypads/display pads and the main X86i unit. Each end of the wire is terminated with an RJ45 connector.

The X86i system can accommodate 500 total feet of Cat-5 cable for each zone. For the most reliable operation, it is best that no single run of Cat-5 exceeds 250 feet.

The correct wiring scheme for the Cat-5 cable is standard EIA/TIA 568A. Properly terminating the Cat-5 cable is crucial for the operation of the system. It is very important to use a good quality crimp tool, and testing each end to end run with Cat-5 wire tester will insure that your system operate flawlessly, Fig. 1.

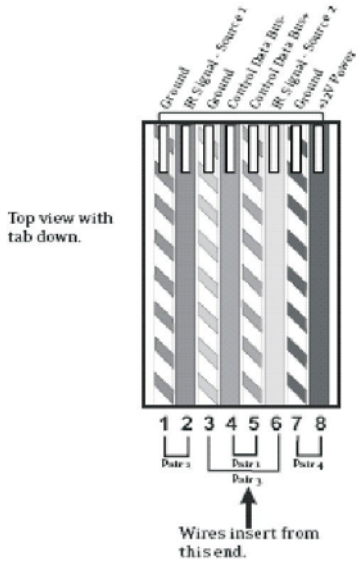


Fig.1: EIA 568A wiring scheme for Cat-5 Cable
Pin #
1. Green Stripe
2. Green
3. Orange Stripe
4. Blue
5. Blue Stripe
6. Orange
7. Brown Stripe
8. Brown

Note: Colors listed as "stripe" are a white wire with a colored stripe.

Step-by-Step Crimping instructions

Step1 Strip a 2 to 3 inches portion of the insulation, exposing the 4 twisted pairs.

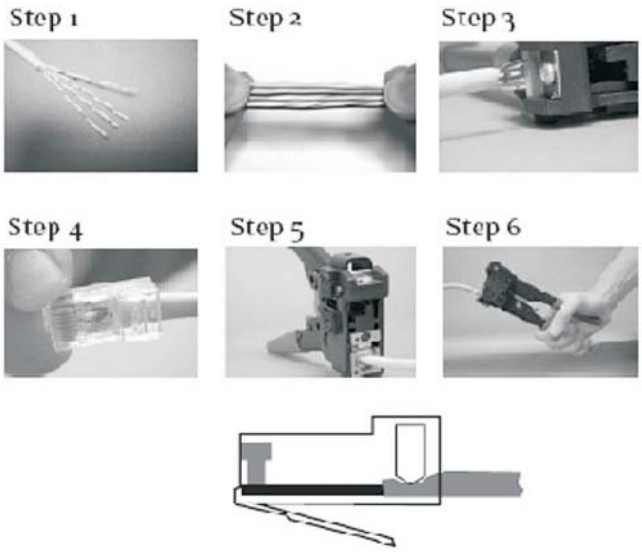
Step2 Untwist the wires and fan them out individually. Arrange the wires into the correct color scheme as shown in Fig.1

Step3 Flatten the wires in their correct order, and trim them evenly across the top. Most crimp tools have a wire trimmer built-in. It is best to trim the wires to about 1/2" in length.

Step4 While holding the wires flat between your thumb and forefinger, insert the wires into the RJ45 connector, so each is its own slot. Push the wire into the RJ45, so all 8 conductors touch the end of the connector. The insulation jacket should extend beyond the crimp point of the RJ45.

Step5 Insert the RJ45 into the crimp tool receptacle and squeeze the tool firmly. Note that a ratchet type tool should tighten down until it no longer clicks.

Step6 The RJ45 should be firmly crimped to the Cat-5 insulation. It is necessary that the color scheme be repeated identically on each end of the wire.



3. Speaker Wire Termination at X86i

It is important to keep the proper orientation of positive and negative signal for each speaker connection. Typically, two-conductor speaker wire uses red to denote positive and black to denote negative. Some types of wire indicate positive with dark line running through the insulation. Four-conductor wire can also be used. This has four separated wires in one outer jacket, making it possible to run a single speaker wire to a zone for its pair of speakers. This type of wire typically uses red and black for one speaker and white as positive and green as negative for the second speaker.

4. Installing the X86i

The X86i is designed to be placed on a shelf or in a component rack. If you are mounting the X86i with other components,you should remove the feet.

The audio sources are plugged into the eight local source inputs on the back panel of the X86i using stereo RCA cables, Fig.4

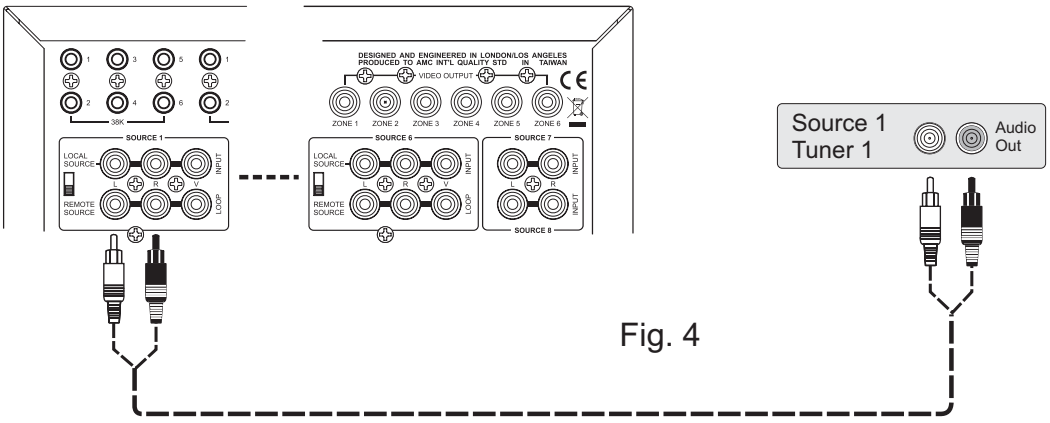


Fig. 4

5. IR Outputs

The X86i system ships with six IRE1 IR Emitters for transferring IR data from the keypad receivers (located under the volume button) to the IR receiver on each piece of source equipment. There are two separated IR output sections on the back panel. The 38KHz outputs are used for most audio sources. The exception to this is cable and satellite boxes, which operate at a higher IR carrier frequency closer to 56KHz.It is important that the output being used for each source matches the source input number. The outputs work individually with each source to allow independent source control. Simply plug the IRE1 IR emitter into the appropriate IR output on the back of the X86i and attach the flasher end over the IR receiver of the source equipment, Fig. 5

The design of common IR distribution (no IR routing) to all sources is that each source must have different IR control code sets. For instance, if it is desired to have two or more DVD sources, they must be of different brands in order to have independent control.

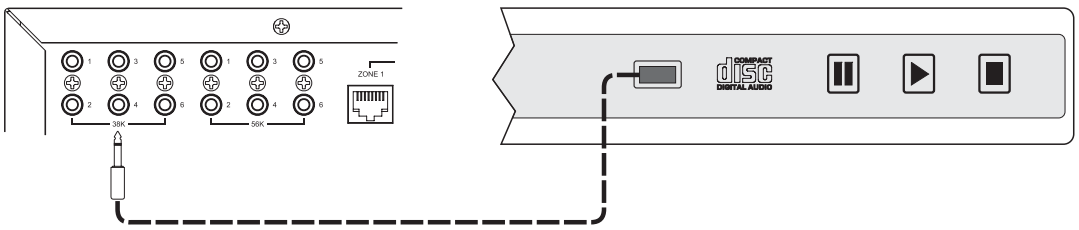


Fig. 5

6. Keypad XK1 and Zone Setup

The Zone number each keypad XK1 belonging to is decided by which RJ45 connector each keypad connected through Cat-5 cable from JK2 of XK1 to X86i.

7. EQ Control

The keypads can be used to set specific zone functions. These are for bass and treble EQ response and source grouping.

To change bass response, press Mute and Source 2 simultaneously and then release. Press Volume Up/Down keys for desired boost/cut as shown on volume LEDs, Fig.6. Likewise, changing treble response can be made in the same process, but it is accessed by pressing Mute and Source 3 together. Once the desired setting is achieved, press any sources key will release EQ adjust mode.

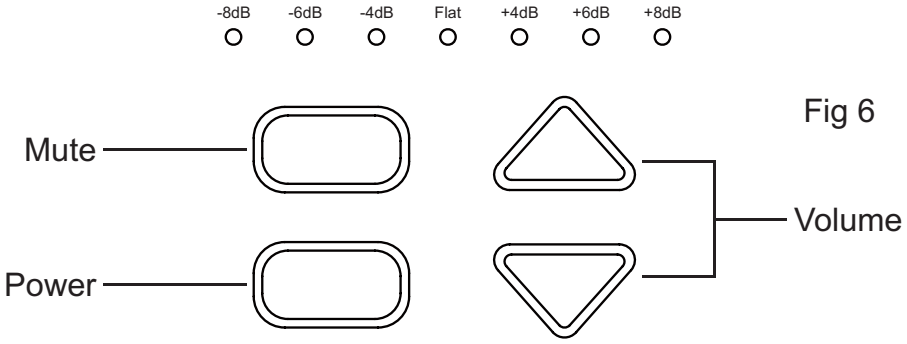


Fig 6

8. Source Grouping Mode Capability

Sourcing Grouping is a feature that allows multiple zones in an open living space to always share the same source selection but still retain individual volume control.
This mode forces all zones to same source and allows mute on/off and all zone off functions to operate all zones in unison.
To engage Source Grouping Mode, press and hold a desired Source button for >5 seconds and release button when all volume indications are turned on. Source button then turns Amber in color, indicating system is now in Source Grouping Mode. When the Source Grouping Mode is initiated, the volume in all zones is defaulted to -30dB.
To cancel Source Grouping Mode, press and hold a Source button from the initiating zone for >5 seconds and release button when all volume indicators are turned on. The source button will then turns Red in color.

The X86i system keypads automatically memorize the listening volume when all zones have been turned off and a zone is turned on again.

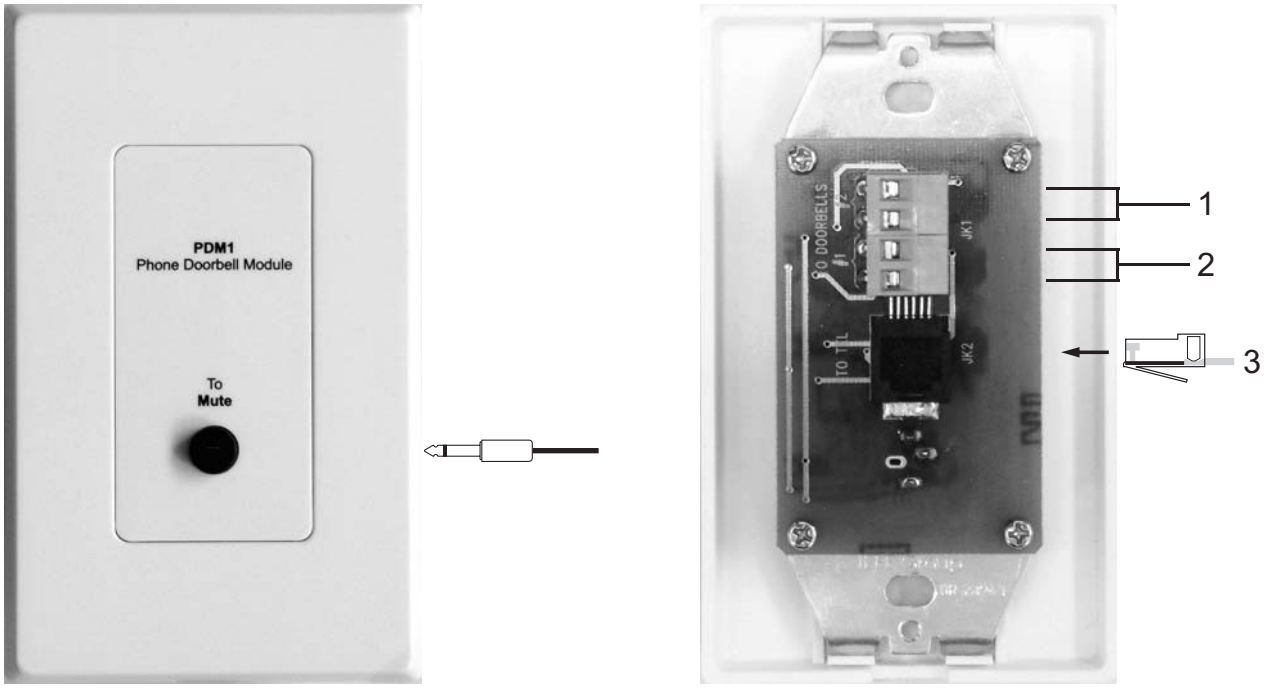
9. Using the Link Jack to create Twelve Zones (This is an optional feature)

Two X86is can be made to react as one by using the back-panel 3.5mm connection labeled "Link". If a single mono mini-patch cable is plugged into the "Link" jack on both X86is, it links the All Off command to make all twelve zones turn off when it is initiated at any of the zone keypads.

10. Mute Input and the AMC PDM1 (Phone-Doorbell-Mute Module)

(This is an optional feature)

The back panel of the X86i has a 3.5mm non-shorting stereo connector input labeled "Mute". This is designed to be used with the AMC PDM1 Phone-Doorbell-Mute module. When the PDM1 is connected, the system will temporarily mute when the phone or doorbell rings.



Front Rear

AMC PDM1 (Phone-Doorbell-Mute Module)

1,2 Doorbell (This is an optional feature)

The back of PDM1 will accept up to two AC or DC voltages from two different doorbell chimes.

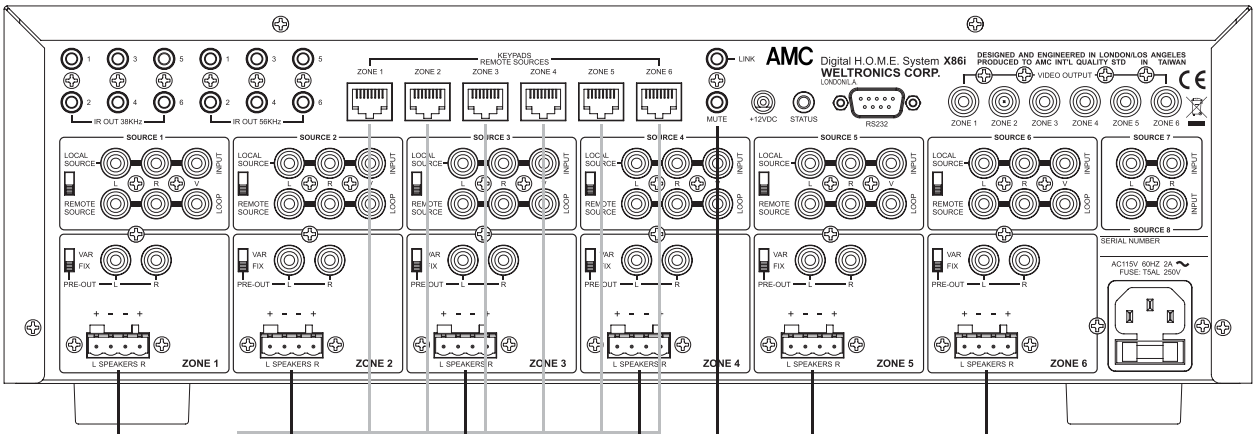
This connection is done with two conductor wire from the terminals on the doorbell chime to the Doorbell A or Doorbell B inputs on the back of the PDM1, Polarity is not important for this connection.

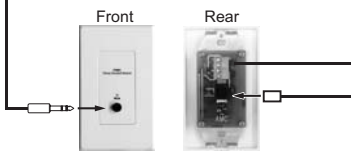
3. RJ-11 Connection

Up to two phone lines can be brought into the RJ-11 connection on the back.

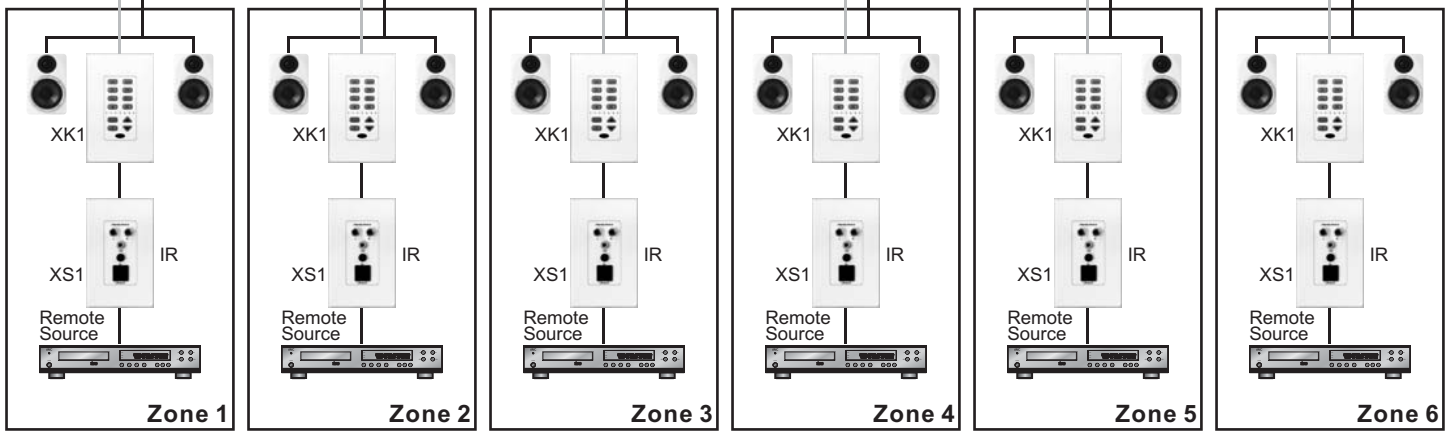
The voltage from the phone ringer will trigger the X86i System to mute.

WIRING DIAGRAM OF X86i & X86 DIGITAL H.O.M.E. SYSTEM





AMC PDM1
(Phone-Doorbell-Mute Module)



SPECIFICATIONS

Total Zones . . . . . 6 Zones
Zone 1~6 with Speaker Outputs . . . . . 30Wrms x 2
Sources . . . . . 8 Local / 6 Remote Sources
Sensitivity 60mV

IR outputs frequencies . . . . . six 38KHz and six 56KHz
IR output level . . . . . 5V p-p
Phone input sensitivity . . . . . AC25V~AC100V 20Hz
Doorbell input sensitivity . . . . . AC/DC 3~12V

PHYSICAL
X86i
Dimensions (W x H x D) . . . . . W 432.0mm x H 147.0mm x D 381.0mm
Net weight 10.8Kgs
Shipping weight (1 pieces) 14.3Kgs
Power consumption 230W

X86
Dimensions (W x H x D) . . . . . W 482.6mm x H 147.0mm x D 381.0mm
Net weight 10.9Kgs
Shipping weight (1 pieces) 14.4Kgs
Power consumption 230W

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:

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

17. POWER LINES
(APPLIES TO TUNER AND RECEIVERS ONLY)

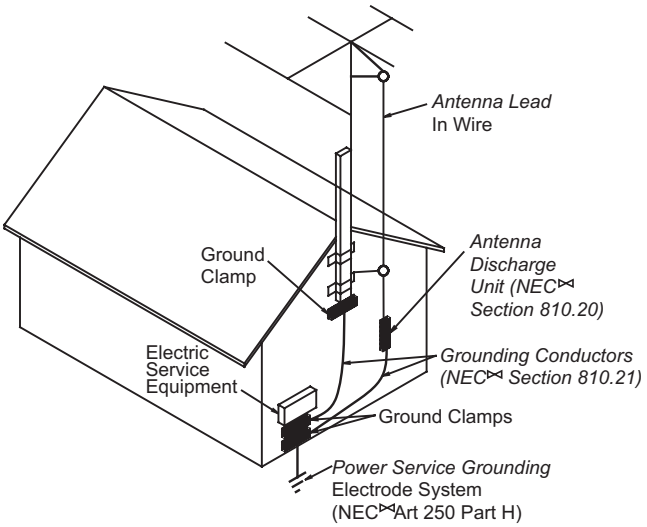
An outdoor antenna should be located away from power lines.

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.

a) Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copper-clad steel or bronze wire, or larger, as a ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4-6 feet (1.22-1.83 m) apart.
c) Mount antenna discharge unit as close as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm^2) 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).

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