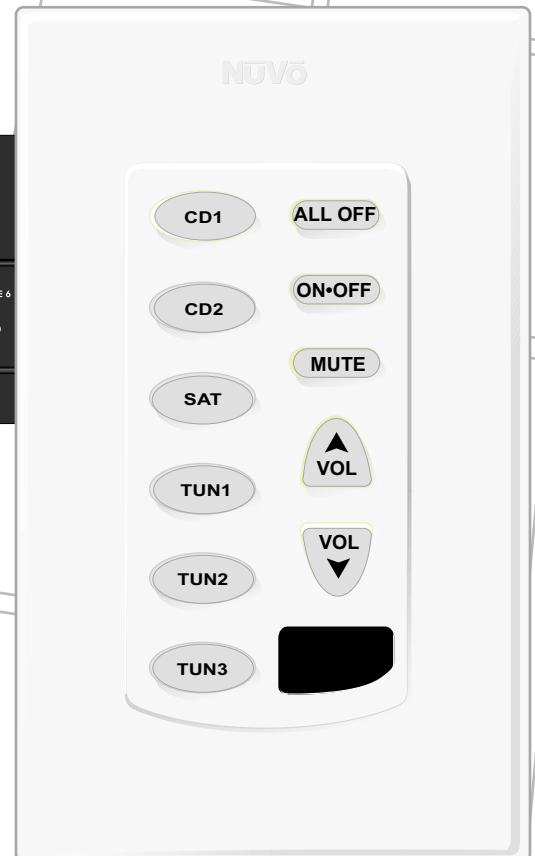
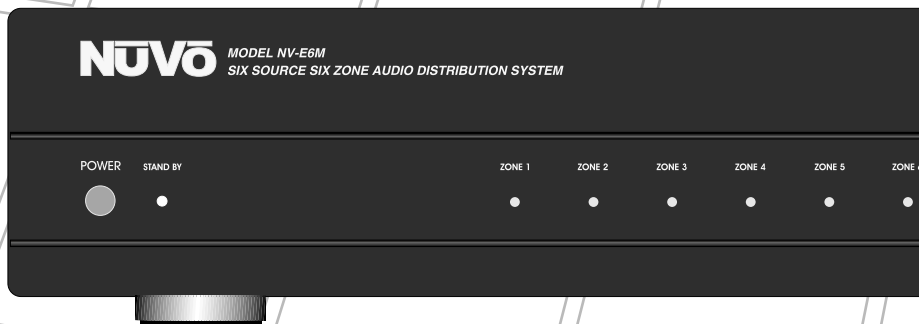


# NUVŌ<sup>®</sup>

T E C H N O L O G I E S



## E SERIES NV-E6MS/NV-E6XS MULTI-SOURCE/ MULTI-ZONE AUDIO DISTRIBUTION SYSTEM OWNER'S MANUAL

## DANGER

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY TO NOISE-INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS

8  
6  
4  
3  
2  
1

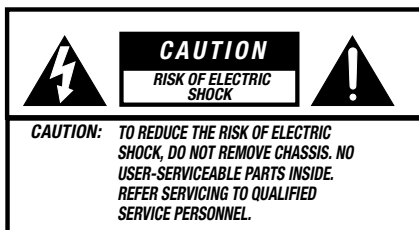
SOUND LEVEL db FLOW RESPONSE

90  
93  
95  
97  
100  
103

ACCORDING TO OSHA, ANY EXPOSURE WITHIN THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS. EAR PLUGS OR PROTECTORS IN THE EAR CANAL OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS. IF EXPOSURE IN EXCESS OF THE LIMITS AS PUT FORTH ABOVE, TO INSURE AGAINST POTENTIALLY HARMFUL EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF INDUCING HIGH SOUND PRESSURE LEVELS, SUCH AS THIS AMPLIFICATION SYSTEM, BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

## WARNING!

- THIS APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING. NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) SHALL BE PLACED ON THE APPARATUS.
- TO AVOID ELECTRICAL SHOCK, DO NOT DISASSEMBLE. REFER SERVICING TO QUALIFIED PERSONNEL ONLY!



**AVIS:** RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO 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.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.

# NUVO

NUVO Technologies Inc.,  
4940 Delhi Pike, Cincinnati, OH • USA  
Tel: (866) 796-4904 Fax: (513) 347-2298  
www.nuvotechnologies.com

## IMPORTANT

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e., bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat, such as a stove, radiator, or another heat-producing amplifier.
8. Connect only to a power supply of the type indicated on the back of the amplifier near the power supply cord.
9. Do not break off the ground pin of the power supply cord.
10. Power supply cords should always be handled carefully. Never walk on or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts and vinyl covering may be cleaned with a damp rag.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
16. The user should not attempt to service this equipment. All service work must be done by a qualified service technician for warranty repairs.

## CAUTION

**THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC THAT MAY REQUIRE OCCASIONAL PEAK POWER. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER IS NOT RECOMMENDED BECAUSE THIS COULD DAMAGE THE ASSOCIATED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED. WITH VERY LOW SETTINGS OF THE MASTER VOLUME CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.**

# INTRODUCTION

Congratulations on your purchase of the NUVO E Series audio distribution system. The E Series offers the newest in multi-zone/multi-source audio technology in an attractive, easy-to-install, and simple-to-use package.

The E Series system is designed for the home owner. Its attractive, backlit keypads are elegant, easy-to-operate, and able to be customized for any installation. Included with each keypad are molded, screwless cover plates in white, ivory, almond and black, to best match your home's decor in every room. Also included with each keypad are thirty preprinted, interchangeable buttons, which allow the system to be specifically tailored for each installation.

Using the E Series is as easy as the push of a button. The E6M amplifier is designed to be turned on and left on. Each zone can then be turned on or off independently, or all zones can be turned off simultaneously by using the "ALL OFF" command at any one of the keypads. Individual volume control and mute for each zone is also as easy as the push of a button.

For the ultimate convenience, each E Series system includes an NV-RC1 infrared (IR) remote control. Complete control of audio source selection, volume, mute, or the innovative "ALL OFF" function are in the palm of your hand. Aim your RC1 remote at the IR receiver on the keypad, press the button for the command you desire, and the E Series does the rest.

The built-in IR repeater allows for direct access to all of your audio source equipment by utilizing the individual audio component's hand-held remote, or you can enjoy the convenience of having all of the commands of your audio source equipment in one universal learning remote. In addition, the RC1 remote is the perfect tool for teaching all of the functions of the E Series keypads to any learning remote control, so you have complete control of not only the E Series system, but of all your individual audio components from any room of the house.

The following pages of the manual are step-by-step instructions for installing the E Series in your home. We suggest that you read and understand this installation guide in its entirety before installing your NUVO E Series system. Proper installation will insure years of audio enjoyment.

## NUVO Model NV-E6MS/NV-E6XS System Components

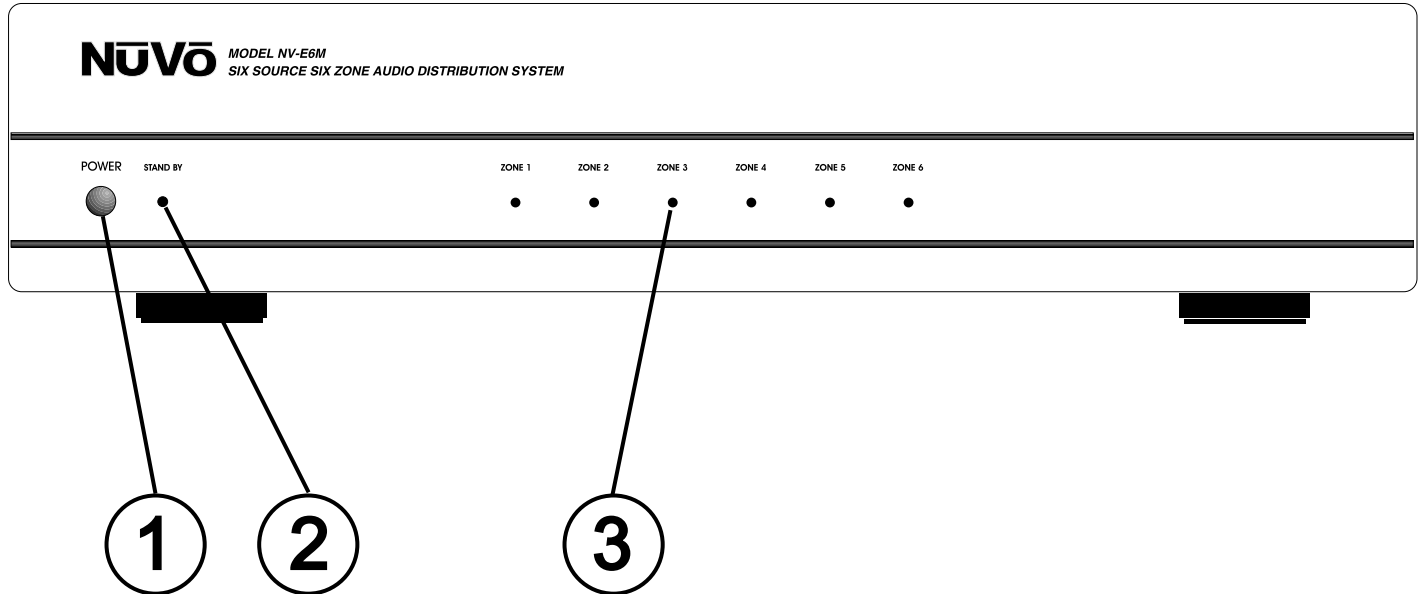
### NV-E6MS: Main Audio Distribution System

Part #	Description	Qty
NV-E6M	Six Source Distribution Amplifier	1
NV-RC1	IR Remote Control	1
NV-EKP	Backlit Keypad	6
NV-EZP	Multi-port Connection	1
NV-VEC	Mini Mouse IR Emitter with Feedback LED	4
NV-NC1	10 ft. Network Cable	1

### NV-E6XS: Expander Audio Distribution System

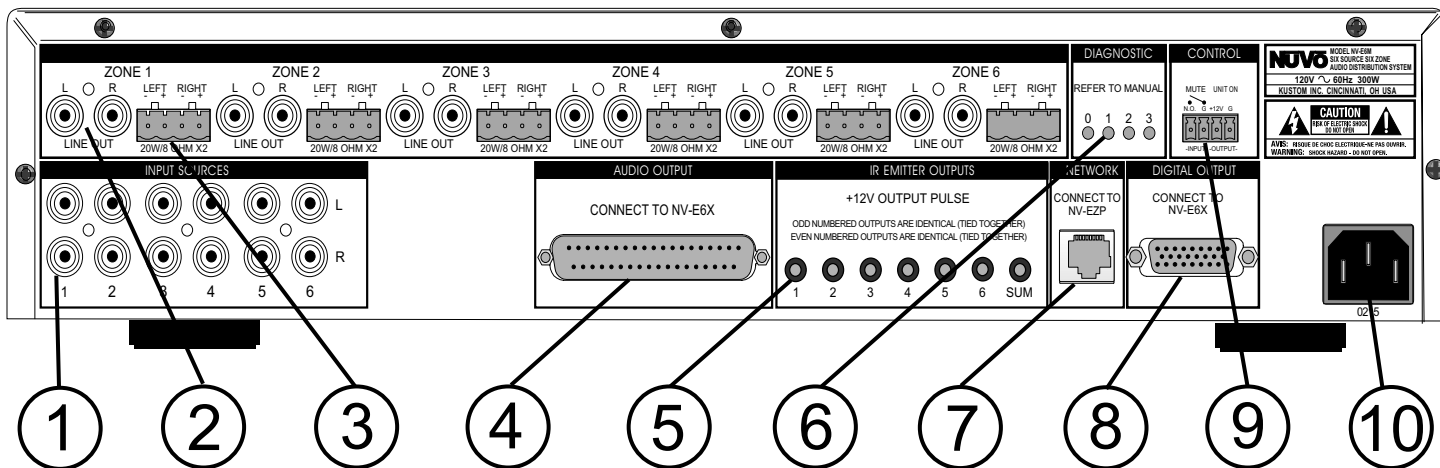
Part #	Description	Qty
NV-E6X	Expander Distribution Amplifier	1
NV-RC1	IR Remote Control	1
NV-EKP	Backlit Keypad	6
NV-AI2	Audiolink Interconnect Cable	1
NV-DI3	Datalink Interconnect Cable	1

# E Series Amplifier Front



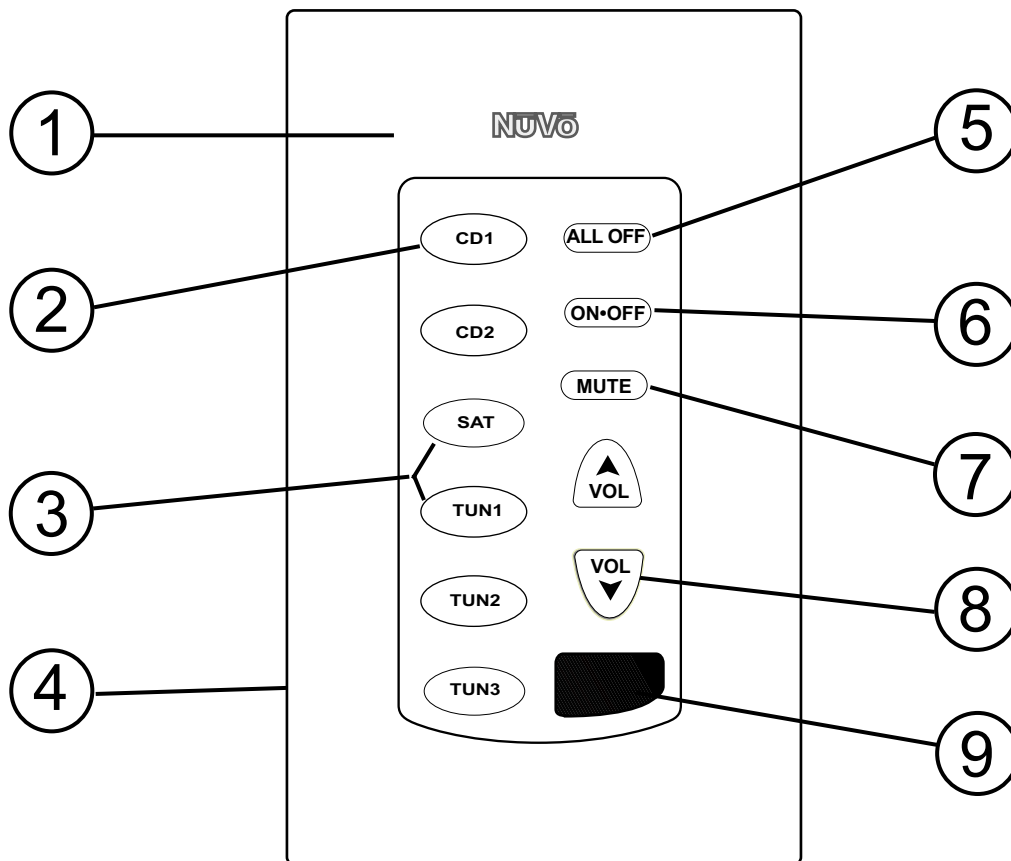
- ① **POWER Button:** The amplifier is designed to be turned on and remain on. The power button supplies power to the system. Each zone can then be turned on or off independently.
- ② **Stand By LED:** This blue LED (light-emitting diode) will remain lit as long as the power button is engaged. Note that once the system is installed, it is designed to be left on.
- ③ **Zone Status LED:** These LEDs indicate the power status of each zone. Once in standby mode, each zone has the ability to be powered up or down independently.

# E Series Amplifier Back Panel



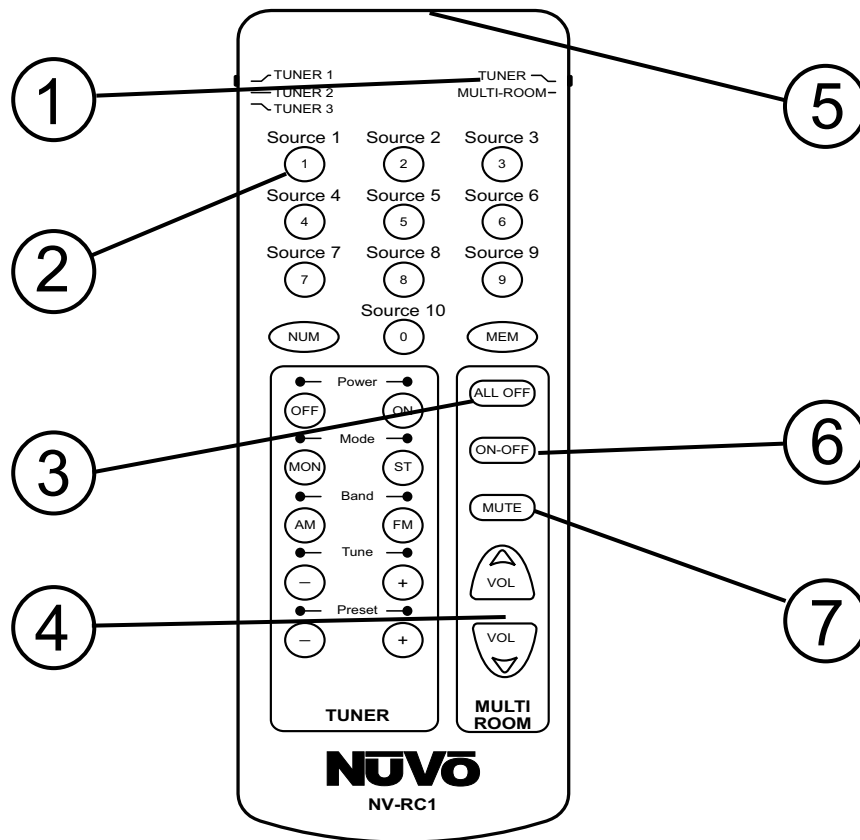
- 1 Audio Source Inputs:** The E Series amplifier accepts up to six audio sources. These can accept any audio component capable of supplying a line level signal.
- 2 Preamp LINEOUTS:** Preamp lineouts for each zone allow you to easily use an additional amplifier to power additional speakers in a zone. Only use one pair of 8-ohm speakers per zone.
- 3 Speaker Outputs:** Individual stereo speaker outputs provide 20 watts output per channel to each zone.
- 4 Audiolink:** This multi-pin connection is used to transfer the audio information from the E Series main amplifier to the expander amplifier. This output is used to expand the system to twelve zones.
- 5 Routed IR Outputs:** These outputs transfer IR signals from the zones to your source components. They are routed odd and even so that when source 1, 3, or 5 is selected at any of the keypads, the IR outputs 1, 3, and 5 all flash IR commands. Similarly, when source 2, 4, or 6 is selected at any of the keypads, the IR outputs 2, 4, and 6 all flash. The "Sum" output always flashes IR commands regardless of the source selected.
- 6 Diagnostic LEDs:** These four LEDs indicate the operation of the system's MPU. They also indicate correct communication through the system.
- 7 RJ45 Input:** A single Cat-5 wire terminated with an RJ45 connector carries all the information from the individual zones to the main amplifier.
- 8 Datalink:** This multi-pin connection transfers all the digital information from the main amplifier to the expander amplifier. This output is used to expand the system from six to twelve zones.
- 9 Mute Input:** This input temporarily mutes the system when the pins are shorted by a dry contact closure.
- 10 AC:** Detachable power cord connects the system to an external AC power supply.

# E Series Keypad



- ① Cover Plate:** The E Series keypad comes with four molded, replaceable covers in white, ivory, almond, and black.
- ② Source Selection:** The selected source button remains a backlit green until a new source is selected or the zone is turned off. A flashing source button indicates that the zone is muted.
- ③ Source Buttons:** Each keypad comes with 30 preprinted replaceable buttons, so the system can be customized for the homeowner.
- ④ RJ45 Connection:** Each keypad plugs into a dedicated Cat-5 wire using an RJ45 phone jack. The system operates on standard EIA/TIA 568A wiring.
- ⑤ ALL OFF Button:** This turns the entire system off from any of the zone keypads.
- ⑥ Zone ON/OFF Button:** Each zone can be individually turned on or off.
- ⑦ Mute Button:** Each zone can be individually muted. The source selection button will flash indicating a muted zone.
- ⑧ Volume Button:** The music's volume may be increased or decreased individually in each zone.
- ⑨ IR Receiver:** Infrared commands can be used to control the E Series system as well as individual source functions.

# NUVO RC1 Remote Control



- ① **Device Selector:** This allows you to easily switch between the NUVO E Series System and any of the three NUVO 3-IN-1 Tuners.
- ② **Numeric Keypad:** Use the numeric keypad to change audio sources.
- ③ **ALL OFF Button:** Turn off the entire system via IR.
- ④ **Volume Button:** This allows IR control of the individual volume in each zone.
- ⑤ **IR Emitter:** Use the RC1 remote's IR emitter to directly control the E Series system or to teach the system control functions to any learning remote control.
- ⑥ **Zone ON/OFF Button:** Individual zones may be turned on or off via IR.
- ⑦ **Zone Mute Button:** Use the remote control to individually mute a zone.

The additional keys on the NV-RC1 remote control not mentioned here are designed to be used with the NUVO NV-T3 AM/FM 3-IN-1 Tuner.

# INSTALLING YOUR E SERIES SYSTEM

## I. Installing and Terminating Cables

The basic installation requires two different types of cables. The keypads communicate with the E6M amplifier through Cat-5 data cable (4 twisted-pair). This cable is terminated at both ends with RJ45 connectors. The wiring scheme is standard EIA/TIA 568A, which is a standard for computer networking (see Fig. 1). These cables are routed in walls, crawl spaces, or attics, and go from the location of each keypad to the location of the E-Z Port hub.

**It is important to use a high-quality crimp tool to assure the best possible connections. Testing each termination with a Cat-5 cable tester is crucial before installing the keypads. Improperly wired cable can damage the E6M amplifier or the keypads.**

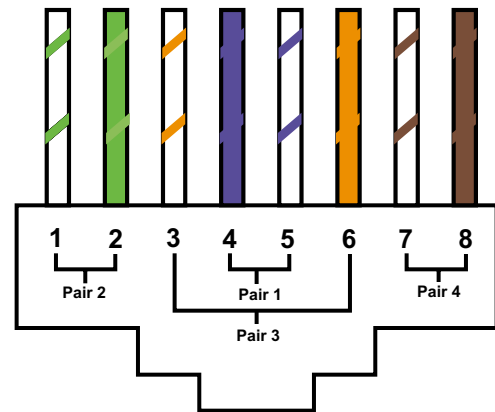
The second type of cable used is AWG 16-2 or 16-4 speaker cable (AWG 14-gage can be used as well). These are routed in the walls, crawl spaces, or attics, and go from the location of a speaker to the location of the E6M amplifier. These cables are terminated at the E6M using the supplied 4-pin terminal block connectors.

**Using more than one pair of 8-ohm speakers is not recommended. Doing so could overheat and damage the amplifier and will void the warranty.**

**When routing the Cat-5 and speaker cables, be careful to avoid running them in parallel with any other cables, such as AC, low voltage lighting, or home automation.**

**Important Note: This unit generates large amounts of heat so please remember to allow for adequate ventilation. The top clearance must be at least 1 inch (25mm).**

Fig. 1: 568A Cat-5 wiring scheme



After stripping the insulation off a portion of the Cat-5, untwist the wires and fan them out in the correct color order from left to right. Each of the RJ-45 connectors is terminated in the following pin order again from left to right.

### 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. In other words, Orange Stripe is a white wire with orange stripes.**



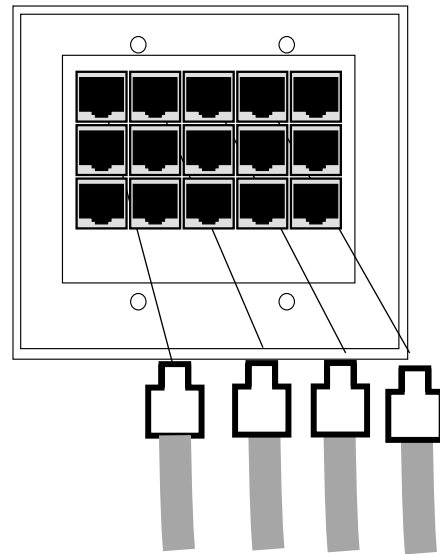
## II. Installing the E-Z Port Hub

The location of the E-Z Port is mostly determined by where you locate the E6M amplifier. All Cat-5 cables should be terminated and routed to this location. Once this is done, installation of the E-Z Port is easy.

Plug each of the keypad cables into one of fifteen available jacks on the back of the E-Z Port (Fig. 2). The jacks are numbered 1-15, although order is not important to the system's operation.

Once all the Cat-5 cables are plugged into the E-Z Port, it can then be easily mounted into any commercially available dual-gang J-box or mud ring.

Fig. 2: E-Z Port Backside



Cat-5 cables from keypads.

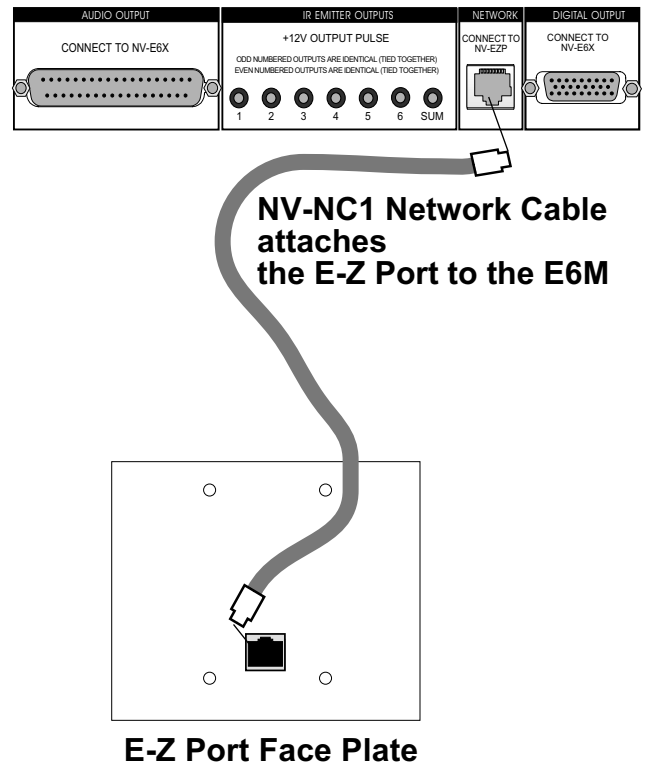
## III. Connecting the E6M to the E-Z Port

Once you have installed the E-Z Port, connect it to the E6M using the supplied 10 ft. Cat-5 cable supplied with the package (Fig. 3).

Both RJ45 connectors are wired identically with the 568A wiring scheme, so either end is connected to the E-Z Port, with the opposite end connecting to the "Network Input" on the back of the E6M.

If the supplied network cable is too short or too long, you can make your own using the 568A wiring scheme outlined in Fig. 1, page 6.

Fig. 3: Network Input

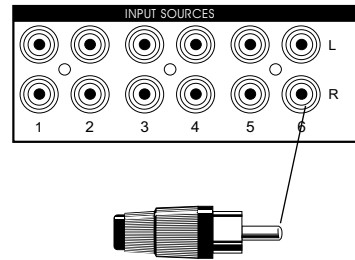


# IV. Attaching Source Equipment to the E6M

Each piece of source equipment is connected to the E6M amplifier with RCA cables. These go from the RCA output on the back of the source equipment to the RCA source inputs on the back of the E6M (Fig. 4).

Any unused inputs should be shorted-circuited with the supplied RCA shunts. This prevents any possibility of crosstalk between the sources.

Fig. 4: Source Inputs



RCA Shunts are provided with the E6M and E6X packages and should be used to short-circuit any unused source inputs.

# V. Connecting the IR Emitters

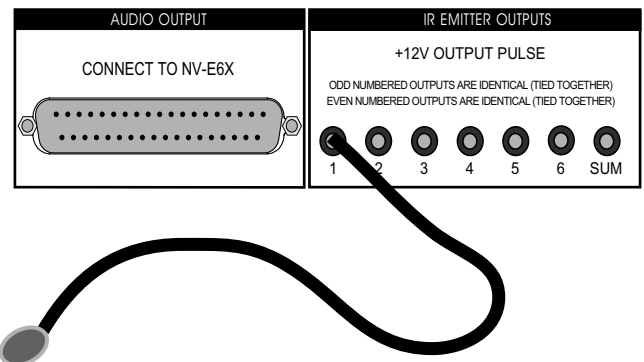
IR commands are transferred from the E6M amplifier to the source equipment via mini IR mouse emitters. Four of these are supplied with your E Series system. The emitters are plugged into the "IR Emitter Outputs" (Fig. 5).

Outputs 1-6 are routed to the odd and even sources. In other words, if source 1, 3, or 5 is selected at the keypad, then emitters 1, 3, and 5 all flash, as does the "Sum" output. If source 2, 4, or 6 is selected, then emitters 2, 4, and 6 all flash, as does the "Sum" output.

IR source routing allows you to have two identical sources and still have independent control of those two sources.

**If IR repeating is needed while the zone is turned "OFF," only the 1, 3, 5, and "Sum" outputs are active.**

Fig. 5: IR Emitter Outputs



The NV-VEC emitter flasher has an adhesive pad that attaches directly over the IR receiver window on the source equipment.

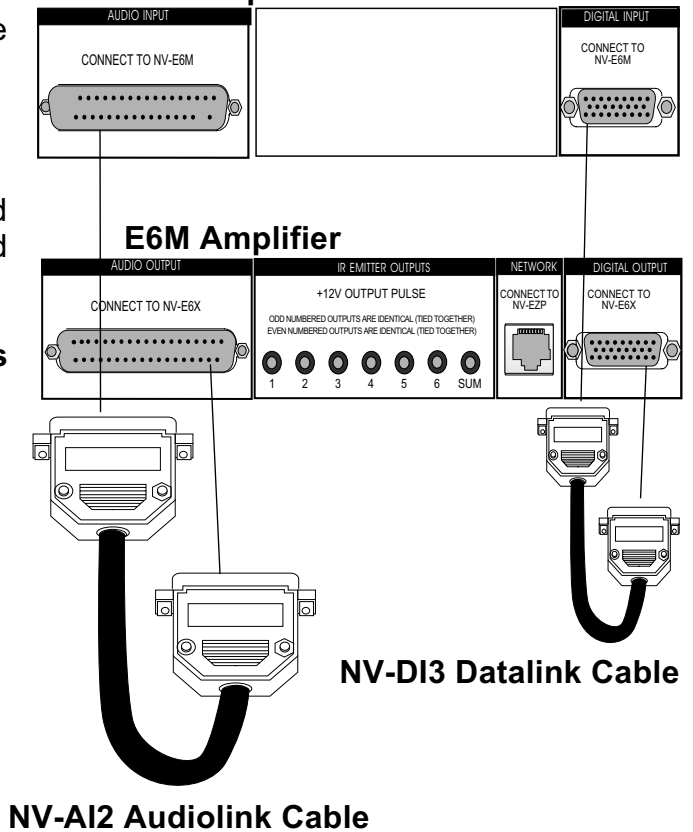
# VI. Connecting the E6M to the E6X

Six additional zones can be added to the E6M. This is accomplished by adding the E6X expander unit. The connection is made by using the 37-pin “Audiolink” cable and the 26-pin “Datalink” cable supplied with the E6X package (Fig. 6).

No other cables are necessary except the AC power cord. The speakers for the additional zones are attached to the E6X in the same way as the E6M using the supplied 4-pin terminal block connectors.

**Caution: Using more than one pair of 8-ohm speakers per zone will damage the amplifier and void the warranty.**

**Fig. 6: Audiolink and Datalink Connection E6X Amplifier**



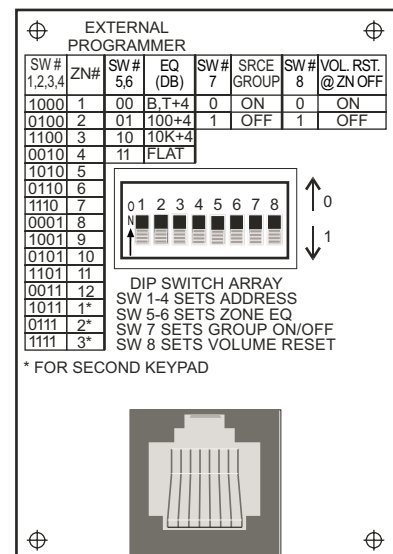
# VII. Installing the NV-EKP Keypads

The NV-EKP keypads are the heart of the NUVO system. You are now ready to install the keypads, address them for each zone they will be controlling, adjust preset EQs, and group them as necessary, using a series of DIP switches located on the back of the keypad.

The amplifier should be plugged into an AC outlet, and the “Power” button on the front panel turned on. The blue “Stand By” LED should be lit.

The following section will be devoted to properly setting the eight DIP switches on each of the system’s keypads.

**Fig. 7: NV-EKP Keypad back panel**



# VIII. Setting the NV-EKP DIP Switches

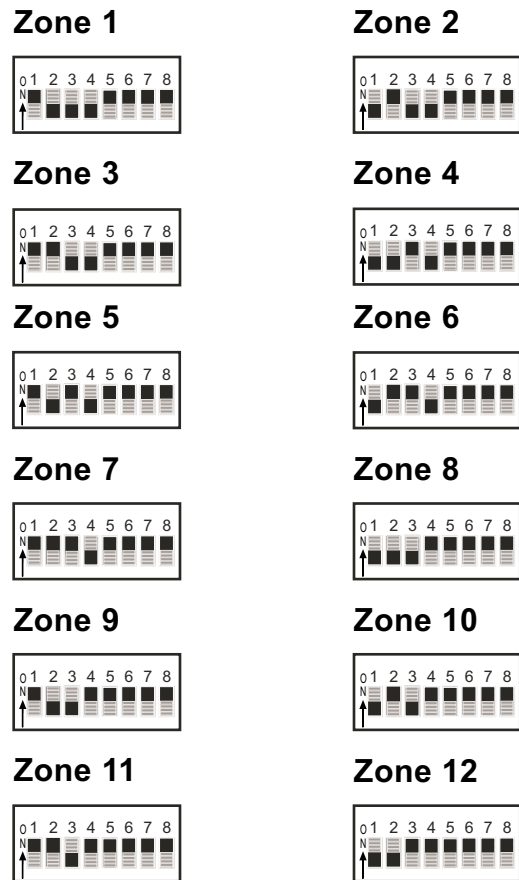
The single most important aspect of the installation is to address the keypads correctly. The DIP switches labeled 1-4 are used to set the address (zone #) that this particular keypad will control.

On the back of the keypad is a chart that indicates how to set these switches (Fig. 7). To set the keypad to control zone #1, set switch #1 down (1) and switches 2-4 up (0). This keypad will now control the speakers that are plugged into the "Zone 1" speaker outputs (Fig. 8).

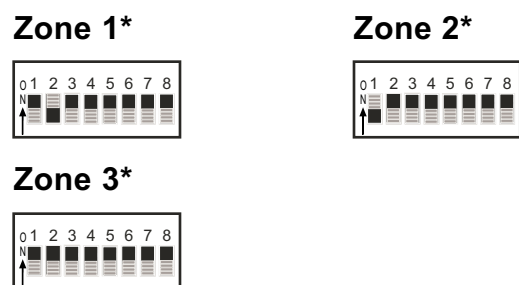
Plug the keypad into the Cat-5 cable that is in zone #1. If you press the "ON/OFF" button, the keypad should light up and the LED on the front panel of the E6M amplifier for "ZONE 1" should light up.

The three addresses labeled ZN 1\*, 2\*, and 3\* are set aside so that two keypads can be used in zones 1, 2, and 3. For instance, zone 1 can have two keypads: one addressed 1-0-0-0 and one addressed 1-0-1-1 (Fig. 9). This allows for a total of 15 keypads in a 12-zoned system.

**Fig. 8: DIP switches 1-4**



**Fig. 9: Zone 1, 2, and 3 additional keypads**



Switches 5 and 6 allow you to set a permanent EQ in that particular zone. You can set that zone to have a +4dB boost at 100Hz, a +4dB boost at 10kHz, a +4dB boost at both frequencies, or a flat response (Fig. 10).

**Fig. 10: Switches 5 & 6, Zone EQ Presets**

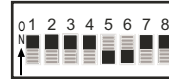
**+4dB Boost at 100Hz**



**+4dB Boost at 10kHz**



**+4dB Boost at 100Hz and 10kHz**



**Flat Response**



Switch 7 allows you to group multiple keypads so that when a source is changed on one grouped keypad, all other grouped keypads will also change. This is handy for open floor plans where you might not want different sources interfering with each other. Source grouping is active when switch 7 is in the up position (Fig. 11).

**Fig. 11: Switch 7, Zone Grouping**

**Zone Group ON**



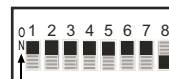
**Zone Group OFF**



Switch 8 allows you to have the volume reset itself to a low level at power off. If this switch is in the up position, the audio volume will reset to a preset low level when power is restored to that zone. If the switch is in the down position, then the audio volume will return to its previous volume level when the zone was turned off (Fig. 12).

**Fig. 12: Switch 8, Zone Volume Preset**

**Volume low-level preset Set volume level**



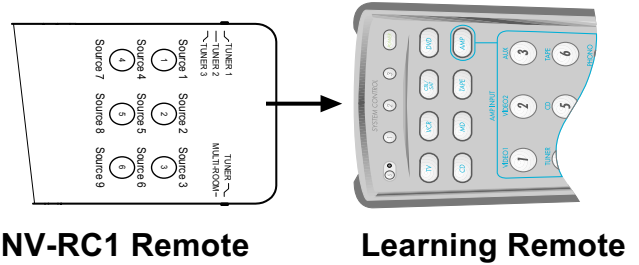
**Once the DIP switches for each zone are set, they can be installed in most standard J-boxes (we recommend the Slater model # S1-18-W), but not all. The width of the keypad is 51mm or 2 inches. It is important to make sure that the keypads are compatible with the J-boxes being used in the installation.**

# IX. NV-RC1 REMOTE CONTROL

All NUVO products come with the wireless remote. This remote will control all functions of the NV-EKP keypad. To control the E Series, move the “Device Selector” switch on the upper right side of the RC1 to “Multi-room.” Now the numeric buttons will select the source (#1-#6), and the five buttons in the “Multi-room” section will correspond exactly to the EKP keypad.

The RC1 can also be used to teach any learning remote control all of its internal commands (Fig. 13).

Fig. 13: NV-RC1 Remote



NV-RC1 Remote

Learning Remote

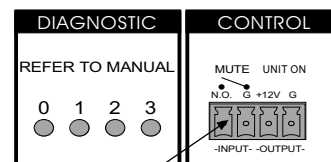
Refer to the owner’s manual for your learning remote control to place that device in learn mode. Once you have chosen a page for storing the E Series’ internal functions, i.e., source selection, volume, etc., you can then easily teach these functions to your learning remote and have complete wireless control of your NUVO system.

# X. Using the “Mute” and “Unit On” Pins

The “Mute” input can be used to mute the system by providing a dry closure to these pins (Fig. 14). In other words, any short-circuit across this input will temporarily mute the system. This can be useful for providing a mute when the phone, or doorbell ring. Most home automation devices can provide this type of output.

The “Unit On” pins will provide a +12Vdc at 100mA output when any zone is “ON.” This can be used via a signal-sensing power strip to switch on other equipment when the E Series system is being used.

Fig. 15: “Mute In” and “Unit On” Pins



The “Mute ” is an external mute switch. This can be as simple as a 2-conductor wire from a relay closure on a home automation system or phone system to the E6M unit. This will short-circuit the input, and mute the system when the doorbell or phone is rung.

# XI. MPU Diagnostic LEDs

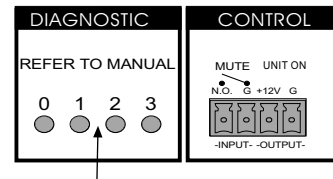
The MPU Diagnostic LEDs serve several functions. One function is the “lowest assignable address.” This is an aid in sequentially assigning the appropriate address on each keypad. When the system is turned on, and none of the keypads have been addressed, the diagnostic **LED 0** should flash every 0.8 seconds. This means the first DIP switch on the keypad should be set in the “down” position, and the other three should be in the “up” position. This sets that keypad for zone 1. You will then see diagnostic **LED 1** begin to flash. This is indicating the next available zone setting, which is the second DIP switch in the “down” position and the other three in the “up” position. The next available address would then be zone 3, which is the first two DIP switches in the “down” position and the third and fourth DIP switches in the “up” position, which is indicated by diagnostic **LED 0** and **LED 1** flashing simultaneously. As each keypad is set, the LEDs will continue to cycle to the next address, with the flashing LEDs indicating which of the four address DIP switches should be in the “down” position (Fig. 15).

**Important Note: Once a keypad has been addressed, it should be left hooked up to the system. This will keep the diagnostic LEDs accurately displaying the next available address.**

If the MPU’s bus transceiver is functioning properly, one or more of the Diagnostic LEDs will flash continually every 0.8 seconds. If the MPU’s bus transceiver sees a short-circuit on the bus, all four LEDs will flash **ON twice** every 0.8 seconds.

If the MPU is not processing normally due to a malfunction of the micro controller, all four LEDs will flash **ON three** times every 0.8 seconds.

Fig. 15: Diagnostic LEDs



**A steadily flashing LED indicates a properly functioning MPU. If all four LEDs are flashing twice every 0.8 seconds, there is a short-circuit that is most often a result of improperly wired Cat-5 cables. If all four LEDs flash three times every 0.8 seconds, there is a malfunction of the micro controller. If this should occur, please contact NUVO for proper warranty service.**

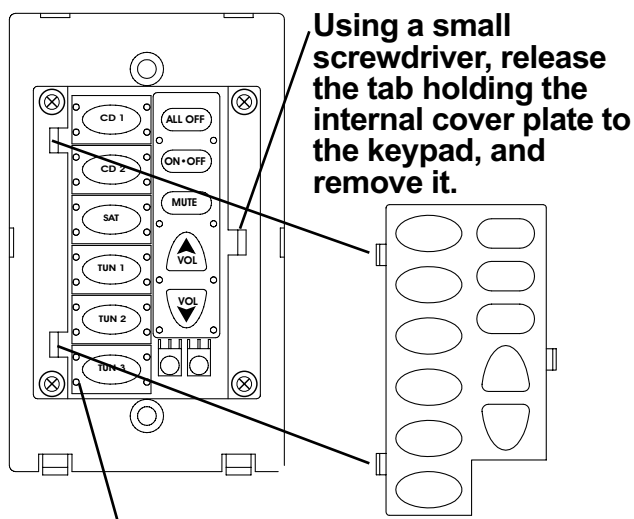
## XII. Changing the Buttons on the NV-EKP

The NV-EKP keypads come with 30 preprinted, interchangeable buttons. These have a variety of audio source labels for customizing the E Series system to match the audio components being used. Included in these are six genre buttons, such as Classical, Rock, Jazz, etc. These can be useful for components like CD changers or satellite receivers that can be set up for specific styles of music.

The keypads have a screwless cover plate that is easily removed with a small screwdriver. Under that plate is another smaller plate that holds the buttons in place. This is also easily removed with a small screwdriver. Once that is removed, the buttons can then be replaced either individually by tearing the perforation or as a complete strip of six buttons.

Align the buttons you wish to use on the keypad and snap the internal cover plate back over them. Snap the cover plate back on, and the keypad is now ready to be installed in its location in the wall (Fig 16).

Fig. 16: Changing Keypad Buttons



The buttons have rubber tabs designed to fit into holes in the keypad's PC board.

## XIII. NV-MI1 Mute Interface

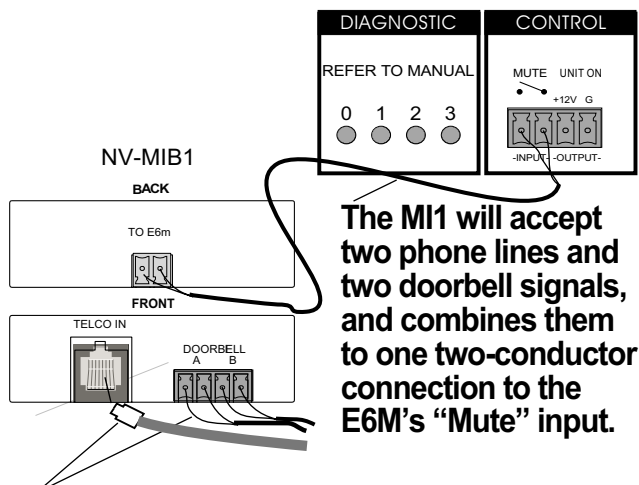
The NV-MI1 Mute Interface is an additional accessory that can be used to temporarily mute all zones whenever the phone rings or the doorbell chimes. No external power is needed for this purpose.

To mute the system when the doorbell chimes, simply run a pair of doorbell wires from the chime terminals to the connector on the MI1 labeled "DOORBELL A" or "DOORBELL B" (or both). Then connect a pair of wires from the "Mute Out" jack on the MIB-1 to the "Mute" pins on the back of the E6M amplifier (Fig. 17).

To mute the system when the phone rings, simply connect a standard four conductor telephone line cord (for two phone lines) into the "Telco In" jack, and then connect a pair of wires from the "Mute Out" jack on the MIB-1 to the "Mute In" pins on the back of the E6M amplifier (Fig. 17).

**The MI1 is not supplied with the E6M or the E6X packages.**

Fig. 17: NV-MI1: Mute Interface



The MI1 will accept two phone lines and two doorbell signals, and combines them to one two-conductor connection to the E6M's "Mute" input.

Up to two phone lines from the home's telephone service can be connected to the MI1 via typical four-conductor phone line with an RJ11 connector. Two doorbells can be connected to the MI1 from the doorbell chimes using two-conductor wire.



# Troubleshooting

## Symptom

## Probable Cause

## Remedy

When a keypad is plugged in, there is a loud “pop” through the speakers and the keypad does not work.

Improperly wired Cat-5 cable.

Check that you are using the 568A wiring standard (See Section I. “Installing and Terminating Cables”).

My keypad is lit, but nothing happens when I press a button.

Assigning identical addresses to more than one keypad usually causes this.

Each keypad MUST have a unique address as set by DIP switches 1-4 (Section VIII. “Setting the NV-EKP Keypads”). There are 15 valid addresses available to any 12-zone system.

When there is a lull in the music, I can hear other sources playing in my speakers.

This is a result of open source inputs on the back of the E6M.

Place the supplied RCA input shunts in any unused RCA source inputs (Section IV. “Attaching Source Equipment to the E6M”).

The RC1 wireless remote will not operate the E6M.

The RC1 is in “Tuner” mode or there are dead or improperly installed batteries.

Make sure the “Device Selector” switch is in the “Multi-room” position and that the batteries are installed properly and are good.

In certain zones the repeater does not seem to work properly.

If the equipment that you are trying to control is in the zone in question and it is in the line of sight with your wireless remote, i.e., a rack with a glass door, then you are creating interference at the IR sensor of the source equipment.

Verify that the rack equipment can be controlled through the keypad by blocking the IR sensor of the source equipment (but not the emitter) with your hand. If it works, then either move the keypad or block the sensor permanently.

# NUVO NV-E6M Specifications

## Power Amplifier Section

Continuous Average Output Power	23W
Two channels driven 30-20kHz @ 1% THD	
Rated Distortion (1/2 power)	0.4%
Rated Impedance	8 Ohms
Damping Factor	50+
Line Output Level (at full output)	4.5V RMS
Frequency Response (30-20kHz)	+/-3dB

## Preamplifier Section

Input Impedance	50k
Input Sensitivity for rated power	330mV RMS
Input Overload	3V RMS

## IR System

Source Outputs	7
Output Drive Current	100mA
Output Drive Voltage	12V
Compatible with single and dual emitters	Yes

## Power Requirements

Power Supply	120VAC/240VAC 50/60Hz
Power Consumption	382VA (333W)
all channels driven to full-rated power	
Power Consumption	177VA (140W) 1/8 power
average operating conditions	
Power Consumption	37VA (30W)
no signal	
USA Safety Listing (ANSI/UL-6500)	
Canada Safety Listing (CAN/CSA C22.2 NO. 1)	
CE Listing	

## Physical Specifications

Unit Size	88 x 430 x325
in millimeters (H x W x D)	
Unit Size	3.5 x 17 x12.75
in inches (H x W x D)	
Shipping Size	180 x 520 x400
in millimeters (H x W x D)	
Shipping Size	7.5 x 20.5 x 15.5
in inches (H x W x D)	
Unit Weight in kilograms	8.6
Unit Weight in pounds	19.0
Shipping Weight in kilograms	10.0
Shipping Weight in pounds	22.0

# Warranty

NUVO Technologies warrants this product to be free of defects in workmanship or material for a period of three (3) years from the original date of purchase. This warranty applies to the original purchaser only and is not transferable. This warranty is subject to the following conditions and exclusions:

- Defects caused by wear and tear, misuse, or neglect are not covered by this warranty.
- This warranty will be void if:
  - a. The unit has been altered or modified.
  - b. The serial number has been removed or defaced.
  - c. Original purchase is not from an Authorized NUVO Dealer.
  - d. The warranty card is not completely filled out and mailed within 10 days of the original purchase.

Neither NUVO Technologies, nor NUVO dealers are liable for any incidental or consequential damages resulting from any defect in or failure of NUVO Technologies products. This warranty gives the original owner of NUVO Technologies products specific legal rights, and he or she may also have other rights which vary from state to state. This warranty is expressly in lieu of all other agreements and warranties, expressed or implied, except as may be otherwise required by law.



# NUVÖ<sup>®</sup>

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