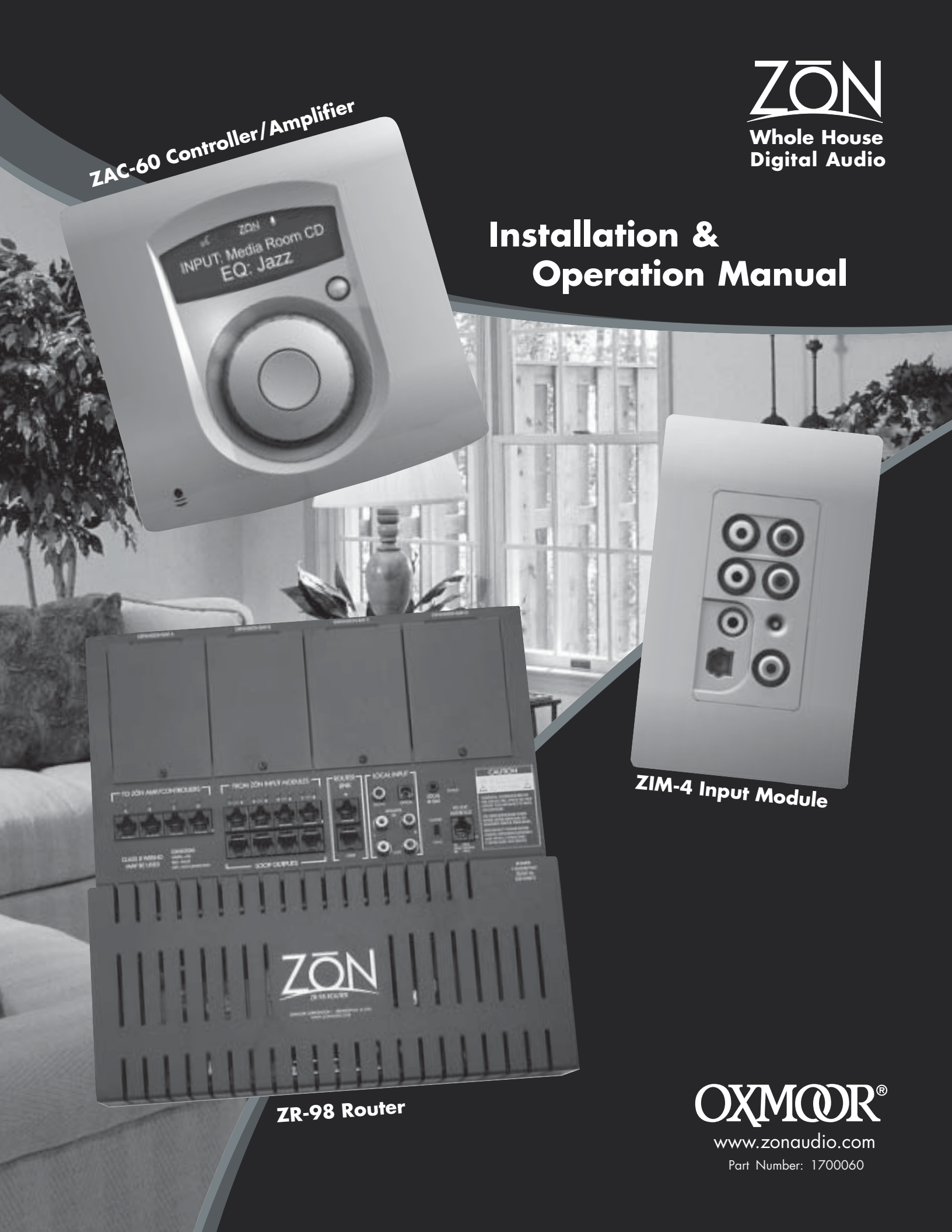
ZON

Whole House
Digital Audio

Installation & Operation Manual



OXMOOR®

www.zonaudio.com

Part Number: 1700060

ZON Installation and User's Guide

Specifications and designs are subject to change without notice.

Part Number: 1700060
Rev 2.0/071504

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IMPORTANT SAFETY INSTRUCTIONS

1. Read and understand all instructions.

2. Follow all warnings and instructions marked on the product.

3. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning when necessary.

4. Do not subject this product to high humidity. Do not operate this equipment while you are in or near water (e.g., do not operate this equipment with wet hands).

5. Do not drop.

6. Slots present on components are provided for ventilation. To protect from overheating, these openings must not be blocked. This product should never be placed near or over a radiator or other heat source. This product should not be placed in a built-in installation where proper ventilation is not provided.

7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your local power company.

8. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be subjected to damage.

9. Never push objects of any kind into this product through cabinet/enclosure slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.

10. To reduce the risk of electric shock, do not disassemble this product. Opening or removing the covers, other than at the specified access points, may expose you to dangerous voltages or other risks. Incorrect reassembling can cause electric shock when the appliance is subsequently used.

11. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

12. Unplug this product from the wall outlet and contact Oxmoor under the following conditions:

    a. The power supply cord is damaged or frayed.

    b. Liquid has been spilled into the product.

    c. The product has been exposed to rain, water or excessive moisture.

    d. The product does not operate normally by following the operating instructions. Adjust only those controls covered by these operating instructions, because improper adjustment of other controls may result in damage and will often require extensive work to restore the product to normal operation.

    e. The product's cabinet/enclosure have been damaged or broken.

    f. The product exhibits a distinct change in performance.

13. If you are unsure about the proper operation and/or installation of this product, contact Oxmoor or your authorized reseller for assistance.

Oxmoor Corporation, LLC
1-205-982-8200
Internet: www.zonaudio.com

14. Save these instructions.

For Future Reference:

Date of Purchase: _____

Date of Installation: _____

Order Number/Details:

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Introduction to the ZON System

Features and Benefits of ZON

Incorporating the latest advancements in digital technologies, the ZON (pronounced "zone") family of products includes the ZON Audio Controller/ Amplifier (ZAC-60), ZON Input Module (ZIM-4) and the ZON Router (ZR-98). ZON provides you with a powerful whole house audio system that is easy to install, easy to use and adds great value to your home.

ZON provides everything that you have come to expect in quality whole house audio distribution - and more:

- Digital quality and reliability
- Multi-source, multi-zone inputs and outputs
- 60 Watt, digital stereo amplifier in each listening zone
- Volume control and source selection
- Bass, treble, balance and EQ settings for each zone
- System-wide paging, with programmable exclusions
- Room monitoring for nursery or playroom
- Infrared remote control of connected audio devices
- Optional "Expansion Modules" to add increased functions and flexibility to your system.

The ZON system is basically "plug and play". After installation, you can begin to enjoy music throughout your home. Special configuration software is provided that will assist you with customizing your system:

- Create labels (e.g., MEDIAROOM DVD, SATELLITE 1, etc.) for your audio sources
- Define default settings for paging volume, bass, treble, balance and EQ for each ZAC-60 controller
- Set paging and zone monitoring options
- Work with source and menu restrictions

The ZON family of products is designed to make everyday operation simple. The high-resolution, integrated dot matrix display on the ZAC-60 controller provides a highly legible readout during use, then dims to be unobtrusive. In addition to the display, the controller features a multi-function jog wheel that intuitively replaces old, cumbersome keypads. It's so simple and straight forward that even guests in your home would not feel inhibited to operate a ZAC-60.

Answers to Common Questions

1. *Can I really get 60 Watts of audio output in each listening zone?*
   Yes. Your system uses a state-of-the art digital stereo amplifier that is over 95% efficient - this means that 95% of the power supplied to amplifier is used to create audio - not heat, like conventional analog amplifiers.

2. *Can I use digital sources with the ZON system?*
   Absolutely. Your ZON system is 100% digital, and will accommodate digital audio output in the form of optical or digital coax - popular on today's audio devices. Even if you have to use an analog audio signal, we convert analog to digital at the source and distribute the digital signal throughout your system.

3. *Can you listen to the same audio source in more than one room at a time?*
   Yes. Sources are available to all controllers all the time, unless you elect to restrict sources from appearing on a particular controller's selection menu.

4. *I want to page the playroom from the kitchen. Can I do that?*
   The ZON system incorporates a whole-house paging capability. From the kitchen, you can send a page that will be heard in each of the listening zones.

5. *If the power goes out, will I lose my system's settings?*
   No. The settings you provide to the system are stored in nonvolatile memory. If the power goes out, the system restarts in a predictable manner. All of the controllers default to the first input in the system, and the volume is set to mute. This way, you don't have any surprises if there is a power cycle in the middle of the night.

6. *My audio sources are located in the family room. Can I control those devices from the master suite?*
   Yes. Your ZON system has an integrated infrared routing system that will let you send IR signals from the master suite right to the device in the family room. You can use the IR remote that came with your audio device, or use a pre-programmed universal remote that has been configured to work with the device. There are also more advanced IR and serial (RS-232) controls available for your system. The sales representative that helped you with your system can tell you more about ZON system expansion modules.

7. *I have an extensive MP3 library on my computer. Can I use my computer as a an audio server?*
   Yes. We recommend that you obtain a digital sound card for your computer, if you don't already have one. Analog sound cards for computers are typically very noisy and don't provide critical listening enjoyment. Some low-quality, low bit-rate MP3 files may be incompatible with the ZON system's digital audio path.

You can visit the official ZON web site: http://www.zonaudio.com for more answers to frequently asked questions.

DIY Kits

If your ZON system is part of an authorized "Do It Yourself" kit, there may be additional items (hardware, accessories, instructions and reference materials) included with your ZON system.

There may also be topics in the installation of your system that are not covered in this manual, but covered by another guide or reference in the DIY kit.

For immediate help with installation or for additional product information, contact the authorized retailer that sold you your DIY kit. Their highly trained customer service staff is ready to provide friendly assistance, and will be familiar with the extra items provided to you along with the ZON hardware.

ZAC-60 Audio Controller / Amplifier

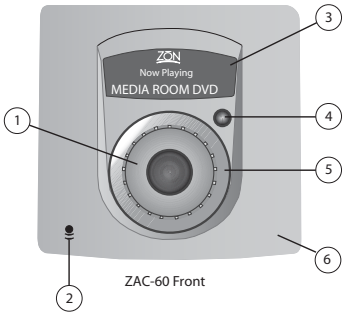
The ZAC-60 provides in-room amplification through its super-efficient 60 watt digital stereo amplifier. Loudspeakers in the listening zone connect directly to the ZAC-60. The integrated jog wheel and high resolution dot matrix display create a stylish and intuitive user interface that you will find both easy and convenient to use. For example, you can access music sources (which may be located in other rooms in the home) by manipulating the jog wheel and receiving feedback as to what your choices and/or selections are on the LCD screen.

The ZAC-60's onboard Digital Signal Processor (DSP) provides EQ selection, tone and balance controls, and a loudness contour control to enhance the listening experience in each listening zone. Features like these provide great sounding music all through the house.

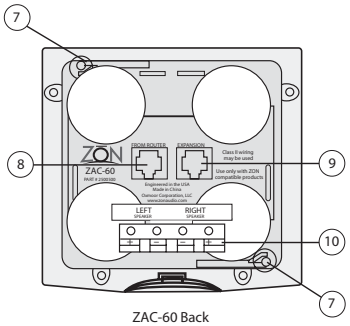
The ZAC-60 has a built in infrared receiver that enables IR control of the ZON Controller and passes IR commands to source devices throughout the home. A built in microphone enables system-wide paging as well as zone monitoring (ideal for keeping tabs on the playroom or as a baby monitor).

The self-mount tabs on the device make it a snap to install, and because the entire ZON system is "plug and play", you'll be enjoying music throughout your home in no time.

Here are the key components of the ZAC-60 Audio Controller / Amplifier:



ZAC-60 Front



ZAC-60 Back

1. *MULTI-FUNCTION JOG WHEEL ("KNOB")*

   Turn left/right to adjust the volume and scroll through menus. Pressing the knob makes selections and/or brings up function menus.

2. *MICROPHONE*

   Used for paging and room monitoring.

3. *LCD DISPLAY*

   Displays information and status.

4. *IR RECEIVER/PAGING BUTTON*

   Aim IR remote(s) at this to send IR signals to the ZON system. Press to make a page.

5. *VOLUME LEVEL INDICATOR (VIRTUAL POINTER)*

   Provides a visual indication of the volume level.

6. *REMOVABLE FACEPLATE*

   The ZAC-60 faceplate (and knob) are available in different colors and finishes. Remove the faceplate to gain access to the controller's mounting hardware.

7. *SELF MOUNT TABS*

   Used to secure the device to the wall

8. *FROM ROUTER CONNECTION*

   Connects the device to the ZON Router via CAT-5e or CAT-6 cable.

9. *EXPANSION JACK*

   For future use by specially designed ZON products.

10. *LOUDSPEAKER CONNECTORS*

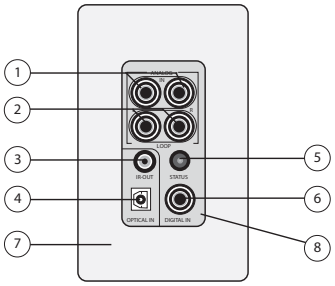
    Spring loaded wire traps for both pairs of loudspeakers.

ZIM-4 Input Module

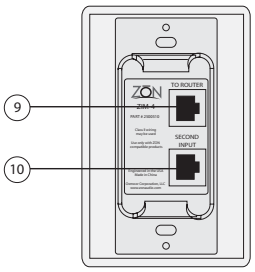
The ZIM-4 input module is a single-gang sized device (the same size as an AC electrical outlet or single light switch) that will fit a Decora-style trim ring. It's small size allows one to discretely locate audio source inputs near the audio equipment without having to sacrifice rack space or interior style. One ZIM-4 input module is required for each audio source used in the whole house audio system.

The IR Flasher connection allows you to easily add source component control to your ZON system. An IR Flasher, or Bug, connects to the ZIM-4 input module on one end, and to your source component's IR receiver port on the other end. IR signals that are sent to the ZAC-60 controller are routed through the system to the appropriate ZIM-4 input module. The ZON system uses an integrated IR routing technology that will allow you to discretely control identical source components.

Here are the key components of the ZIM-4 Input Module:



ZIM-4 Front



ZIM-4 Back

1. *ANALOG AUDIO INPUT JACKS (RCA TYPE)*

   Used with audio sources that have an analog signal output.

2. *ANALOG LOOP THROUGH JACKS (RCA-TYPE)*

   Analog signal pass- through. This allows you to connect a source into the ZON system and into a secondary device such as a receiver.

3. *IR FLASHER CONNECTION (MINI MONO TYPE)*

   Standard 3.5mm mini mono jack that provides a connection for an IR flasher (or "bug") for controlling the connected device via IR signals.

4. *DIGITAL AUDIO OPTICAL INPUT (TOSLink TYPE)*

   Used to connect audio sources that have an optical signal output.

5. *LED STATUS INDICATOR*

   Shows connection status and indicates IR activity.

6. *DIGITAL AUDIO INPUT (COAX TYPE)*

   Used to connect audio sources that have a digital signal output.

7. *REMOVABLE FACEPLATE*

   Decora-sized trim plate.

8. *REMOVABLE CENTER INSERT*

   Center insert available in a variety of colors and finishes to match trim plate (7) above.

9. *TO ROUTER CONNECTION*

   Connects the device to the ZON router via CAT-5e or CAT-6 cable.

10. *SECOND INPUT CONNECTION*

    Allows you to daisy-chain a second input module to the first.

ZR-98 Router

The ZR-98 router is designed to work with many different residential applications. Mounting hardware provided with the ZON router will allow you to mount the device between studs (on 16 inch centers), or flush mount the device on a backer board or in many structured wire distribution devices. By design, the ZON router is not intended to occupy space in your audio system's area, but rather, occupy space where wiring would normally be (in a closet, basement, equipment room, etc.). The ZON router measures 12.5" high, 11.5" wide and 2.75" deep without it's mounting brackets.

All of the ZAC-60 Audio Controller/Amplifiers connect directly to the ZON router. The router provides power, digital audio, IR, paging and other data to the ZAC-60. The connection jacks for ZAC-60 controllers on the ZON router are standard eight pin, eight conductor (8P8C) female connectors. You will note that there is a special safety sticker applied to the ZAC-60 connection jacks to indicate that these are to be used only for the ZAC-60 devices. Connecting any other device (ZON or otherwise) to a ZAC-60 connection on the router could cause damage to the device and/or ZON router.

The ZAC-60 LED status indicators provide a visual indication of each controller's connection status with the router:

- *Steady green* indicates a nominal connection between the controller and the ZON router. It is normal, however, to see these LEDs flash green from time to time during operation.
- *A steady red* LED indicates a major fault condition, most likely in the wiring between the controller and the router.
- *An unlit* LED above a connected ZAC-60 jack also indicates a fault that prevented communications with the ZON router.

More information on these status indicators can be found on page 21, in the section called "Hardware Troubleshooting Guide".

The ZIM-4 Input Modules connect to the ZON router in pairs. Two ZIM-4 input modules share a single CAT-5e or CAT-6 connection back to the ZON router. If you do not daisy-chain ZIM-4 input modules, and choose to home run each of them, you will need to contact your sales representative to obtain the ZON "ZIM Splitter"adapter to properly connect input modules to the router.

The ZIM-4 status indicators provide a visual indication of each input module's connection status with the router. You will note that there are two LEDs above each jack (one for each of the pair).

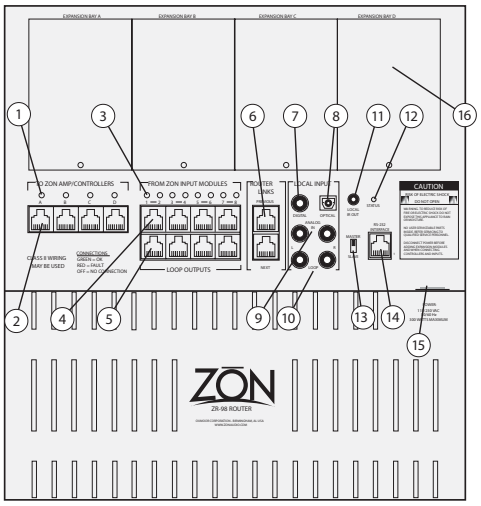
- *Steady green* indicates a nominal connection between the module and the router.
- *Steady red* indicates a major fault. An unlit LED shows no connection.

A local input is built onboard the router. This input has the same jacks, and works like a ZIM-4 input module in that you can connect one audio device in three different ways (analog, optical or digital coax). The local input is ideal for connecting an audio device that would be located in the area where the ZON router is installed (e.g., weather radio, tuner, etc.). The IR Output on the router's local input is a "summed" output of all IR data carried by the ZON system.

The status indicator on the ZON router provides a visual indication of the router's overall condition.

- Normally, this LED is *steady green*.
- *A steady red* LED indicates a major fault that requires correction before normal operation can take place.
- *Flashing red* indicates IR traffic.
- *An unlit* LED on a router that should be functioning also indicates a major fault that requires correction before normal operation can take place.

Refer to page 7 for more on system status indicators.



ZR-98 Front

The following are key components of the ZR-98 Router:

1. *ZAC-60 LINK STATUS INDICATORS*
   Shows connection status of the controllers.
2. *ZON AUDIO CONTROLLER/AMPLIFIER INPUT JACKS (A-D)*
   Connection point for four (4) ZAC-60s via CAT-5e or CAT-6 cable.
3. *ZIM-4 LINK STATUS INDICATORS*
   Shows connection status of the input modules.
4. *ZON INPUT MODULE JACKS (1-2, 3-4, 5-6, 7-8)*
   Connection point for up to eight (8) ZIM-4 input modules via CAT-5e or CAT-6 cable.
5. *ZON INPUT MODULE LOOP OUT JACKS (1-2, 3-4, 5-6, 7-8)*
   Connection point for looping ZIM-4 input modules from one router to another.
6. *ROUTER LINK JACKS (PREVIOUS/NEXT)*
   Used in conjunction with the input module loop jacks, this is the connection point between two linked routers.
7. *LOCAL DIGITAL AUDIO INPUT (COAX TYPE)*
   Used to connect an audio source that has a digital signal output.
8. *LOCAL DIGITAL AUDIO OPTICAL INPUT (TOSLink Type)*
   Used to connect an audio source device that has an optical signal output.
9. *LOCAL ANALOG AUDIO INPUT JACKS (RCA TYPE)*
   Used to connect an audio source device that has an analog signal output.
10. *LOCAL ANALOG AUDIO LOOP THROUGH JACKS (RCA TYPE)*
    Straight analog signal pass through.
11. *IR FLASHER OUTPUT CONNECTION (3.5mm MINI MONO TYPE)*
    Provides IR signal output for controlling the connected audio device.
12. *STATUS LED INDICATOR*
    Illuminates green or red, or flashes red to indicate status of the router.
13. *MASTER/SLAVE SELECTOR SWITCH*
    Used with multiple router configurations. The first router in the system is the MASTER router; all others used in the chain are switched to SLAVE.
14. *RS-232 INTERFACE (RJ-11 TYPE)*
    Used to connect with a PC running the ZON Serial Configuration Utility (for customizing system settings). Illuminates when properly connected.
15. *AC POWER INPUT (IEC TYPE)*
    Used to connect the provided AC power cord to the ZON router.
16. *EXPANSION BAYS (A - D)*
    Connection point for ZON system expansion modules.

Installing ZON System Components

Installation Overview

Before you install your ZON system components, you should have already installed all the wiring required for the system. This includes all of the connection cables for the ZAC-60 controllers, connection cables for the ZIM-4 input modules and speaker wires. Refer to Appendix H on page 23 for a sample wiring diagram.

If you are installing this system as part of an authorized DIY kit, you may need to refer to the additional instructional guides that will help you with planning and installing ZON wiring.

ZON Component Installation Tasks

You will have four primary tasks when you install your ZON system components:

1. Install the ZON Router
2. Install ZIM-4 Input Modules
3. Install ZAC-60 Controllers
4. Connect ZON components to the ZON router

What do you Need?

Tools:

- #2 Phillips screwdriver
- Drywall saw
- Drill with standard bits for drilling pilot holes
- Level
- Tape measure

Depending upon your situation, you may also need a hammer, pliers, wire strippers and a small flat-blade screwdriver.

Installing the ZON Router

The ZON router serves as a distribution center for ZON components, centralizing various aspects of the system in one unit. From a design aspect, the ZON router does not have to be placed in among your audio hardware, but is best located in a location where it is convenient for your ZON system's connection cables to make a "home run". From an functional aspect, once your ZON system is installed and configured, your daily interaction with the ZON system will not involve the ZON router, but rather with the stylish ZAC-60 controllers and your audio equipment.

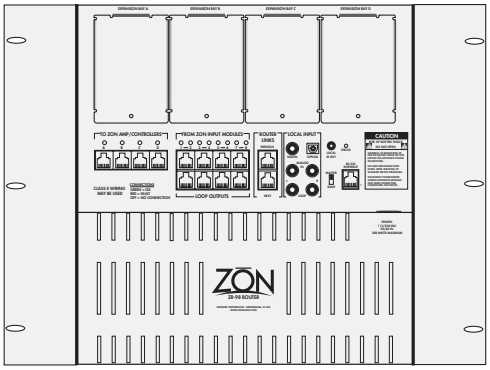
ZON Router Location Guidelines

The following guidelines will help you decide on the location for your ZON router:

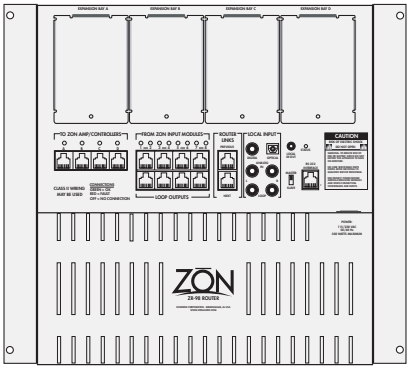
1. The installed ZON router complies with the safety recommendations provided in this manual.
2. There is convenient access for installation, ZON component connection, troubleshooting and future access.
3. There is access to AC power within four (4) feet of the unit.
4. There is adequate air circulation.
5. There is a logical collection point for all incoming and outgoing cables.

Install Mounting Brackets

The ZR-98 was shipped with two specially-designed mounting brackets that allow you to install it flat against a wall or backer-board (flush mounted). Alternately, you can install it between wall studs on 16-inch centers (flange mounted). Mounting brackets are shaped like an "L", with one side of the "L" being significantly wider than the other.



Flush Mount:
Lay router on a flat surface. Position "L" brackets so that the wider sides are lying on the flat surface next to the router as shown.



Flange Mount:
Stand router up on a flat surface. Position "L" brackets so that the narrow sides are facing forward as shown. The narrow edge will be flush with the shallow portion of the router's cabinet.

Use bracket mounting screws (two for each bracket provided) to attach brackets securely to the router's cabinet.

Mount the ZON Router

After installing mounting brackets, the mounting process is straightforward:

1. Position the router in place. Use a level to align it. Mark the locations of the screw holes.
2. Install wall anchors or drill pilot holes to embed wood screws. If you are using wall anchors, be sure that you choose hardware that will support it's installed weight (approximately 16 pounds).
3. Re-position the router in place, install mounting screws, and tighten the screws.

After installing the ZON router, you will need to install the remaining ZON components before making any router connections. Do not connect the AC power to the router at this time.

Installing ZIM-4 Input Modules

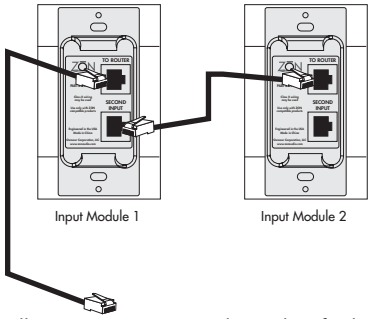
The ZIM-4 input modules are single-gang sized devices, and mount in standard electrical J-boxes (as you would an AC outlet) or mount in low-voltage trim rings (primarily used in existing construction)

- Input modules can be located anywhere in the home where audio sources may be present (as long as the location is protected from the weather and high humidity).
- Input modules can be mounted in a single or multi-gang electrical J-box, *but may not be mounted in the same box as AC power outlets or switches.*
- Input modules can be trimmed out with Decora-sized trim rings.

Input Module Wiring and Installation

You will need to install j-boxes or low-voltage trim rings in each location where you are planning ZIM-4 input modules.

Daisy-Chaining Input Module Pairs



ZIM-4 input modules connect to the ZON router in pairs, which means that you would need one long run of CAT-5e/CAT-6 cable from the J-box to the router, and another run of CAT-5e/CAT-6 cable from the first input module to the second one. This saves you wire and time if you are ganging input modules in a single J-box.

Following your wiring plan, identify the location(s) of your input modules. Check that you have the following wires in place:

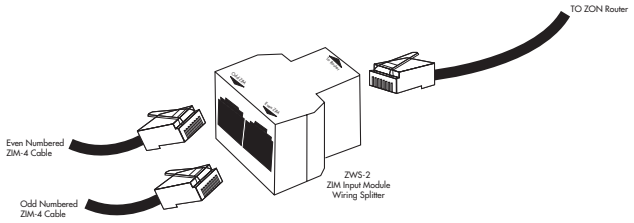
- CAT-5e/CAT-6 cable from the J-box to the router, properly terminated at both ends.
- If you are daisy chaining input modules in the same J-box, you will need shorter CAT-5e/CAT-6 jumpers to go between the two input modules.
- If you are daisy chaining to an input module that is in another location, you should have a second CAT-5e/CAT-6 cable that runs from where you are to the second location.

With the proper wiring in place, installation is straight forward:

1. Remove the module's trim ring.
2. On the back of the ZIM-4, connect the cable that runs from the J-box (or trim ring) to the ZON router into the "TO ROUTER" jack.
3. Connect either the second CAT-5e/CAT-6 cable, or one end of a short jumper to the "SECOND INPUT" jack.
4. Connect the daisy chain cable to the "TO ROUTER" jack on the second input module.
5. Mount the modules to their j-box(es) or trim rings using the silver device mount screws.
6. Re-install trim ring.

Working with ZIM-4 Home Runs

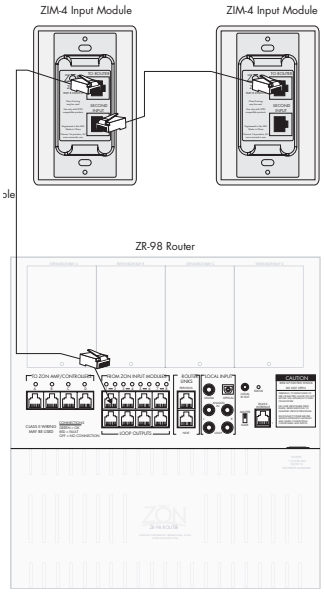
If you elected to make all of your ZIM-4 connections home runs between J-boxes and the ZON router, you will need to use an input module wire splitter to make "paired" connection at the router.



The splitter (model ZWS-2) has three jacks: Two for the cables coming from two different input modules and a third that connects a piece of cable to one of the router's input module jacks.

Connecting Input Modules to Router

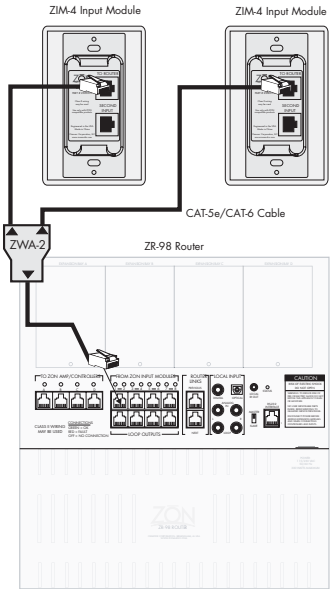
At the ZON router, locate the "FROM ZON INPUT MODULES" connection block. Jacks are labeled "1-2", "3-4", "5-6" and "7-8". Connect your input module cables in the appropriate jack.



If you daisy-chained your input modules, you should have one CAT-5e/CAT-6 cable for each pair of input modules used. In the illustration, input module #1 and #2 are shown being connected to the router's "1-2" input module jack.

If you used a home-run for all of your input modules, you will end up with one cable for each pair of input modules used after connecting your home runs input module wire splitters.

Follow your wiring plan so that you connect input modules to the right jack on the router.



Installing ZAC-60 Audio Controller/Amplifiers

The ZAC-60 features two self-mount tabs that flip out and grab the back of the drywall while forcing the front lip of the controller firmly against the front-side of the wall. This installation mechanism is similar to what you will find on many in-ceiling or in-wall loudspeakers. Here are some tips:

- Use a #2 Phillips screwdriver to tighten the mounting tab screws. Don't use a powered driver or drill to tighten the screws.
- Don't over-tighten. If you over-tighten you could cause damage to the mounting tabs, which could prevent easy removal of the controller at a later time. Over-tightening can also warp the controller's frame, which will cause the faceplate not to install correctly.
- Use care while handling the controller while it's faceplate is removed, taking special care not to push on the LCD screen.

Steps for Installation in New Construction

If you are installing the ZAC-60 during new construction, it is recommended that you use the RIK-60 rough-in kit. The idea it to install the rough-in kit before the walls go up so that the drywall is installed around the opening needed for the ZAC-60.

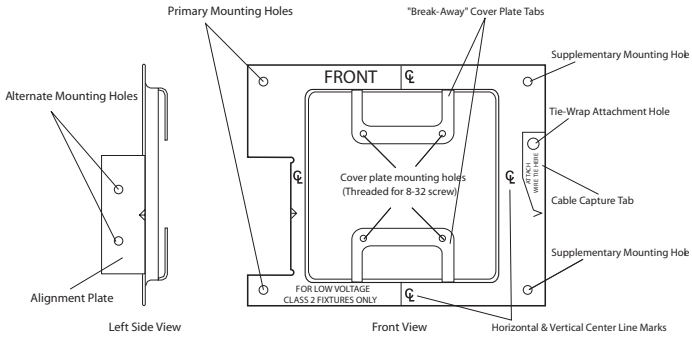
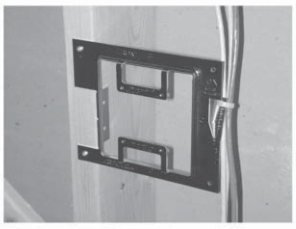
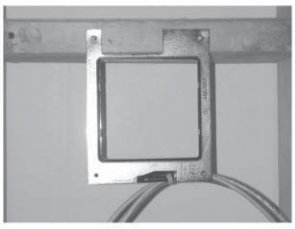


Figure 1: Example of ZAC-60 Rough-in Bracket

The rough in kit provides a square opening for the ZAC-60, so you have options on how you mount the bracket:

- Vertically on a wall stud - The default orientation of the bracket (as shown in Figure 2) mounts vertically on the right-hand edge of the wall stud. You can rotate the bracket 180 degrees so that you can mount the bracket vertically on the left-hand edge of the stud.
- Horizontally between wall studs (Figure 3) - If the vertical orientation of the bracket does not place the controller where you need it, you can place a 2x4 horizontally between two wall studs and mount the bracket to that.





Figures 2 and 3: Photos of a Typical ZAC-60 Rough-in Bracket Installation

Installing the Rough In Kit

1. The center of the bracket should be located between 52 and 56 inches above the finished floor. Locate and mark the center height on the wall stud.
2. Position the bracket so that the alignment plate is against the wall stud. The alignment plate is shown in the "Left Side View" of Figure 1. You should also make sure that the bracket is level.
3. Using the bracket's mounting screws, mount the plate to the wall stud using the two primary mounting holes (which are located between the alignment plate).
4. Attach your speaker wires and CAT-6 cable to the wire capture tab. You can bend the tab as needed to accommodate your service loops. A plastic wire tie is provided in the rough in kit. Be sure to leave sufficient excess cable for final installation.

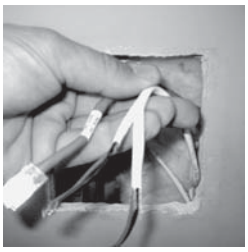
Steps for Installation in Existing Construction

If you are installing your ZON system in existing construction, you will not need an installation bracket - just a rough opening in your wall. Use the following steps:

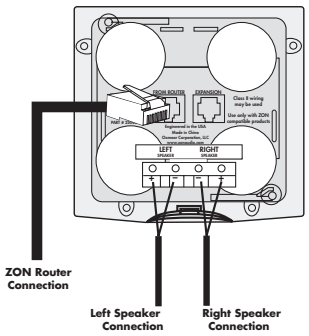
1. Before cutting a hole in your wall, make sure that your target location does not interfere with any obstructions behind the wall (studs, conduit, etc.).
2. Locate the mounting template on the wall. The center of the template should be between 52 and 56 inches above the finished floor. Allow at least 1.5 inches of clearance around the template (when next to switches, trim, etc.)
3. Position the template so that it is at the recommended height, and so that it is level. Trace the outline of the template on the wall.
4. Cut the drywall out in one piece.

Connecting Wires to the ZAC-60

Following your wiring plan, you should have these cables ready for connection to the controller:



- A CAT-5e/CAT-6 cable that runs from the rough opening to the ZON router's location.
- Two speaker wire pairs that run from the rough opening to a pair of loudspeakers used in the room.



Connect the following wires:

- Connect the CAT-5e/CAT-6 cable to the "FROM ROUTER" jack.
- Connect the left speaker wires to the controller. Be sure to connect the left speaker's wire to the left speaker connectors, and maintain proper polarity (+ to +, - to -).

It may be necessary to tightly twist the copper strands together on each speaker wire prior to connecting them to the loudspeaker connectors.

The connectors on the controller will only accommodate one 14 or 16 gauge wire at a time. If you are connecting multiple speakers, connect the first pair the controller, then connect the next pair from the first.

Mounting the Controller

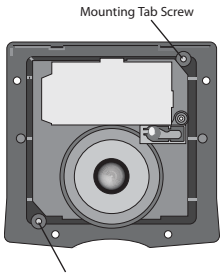
Prior to mounting the ZAC-60, check the following:

- Proper CAT-5e/CAT-6 connection: Make sure your cable connecting the router to the controller is properly connected to the "FROM ROUTER" jack on the back of the controller.
- Proper loudspeaker connection: Make sure that your left and right loudspeaker wire are properly connected to the correct loudspeaker connectors on the controller, and that you maintained the proper polarity (+ to +, - to -).

Mounting the controller is straightforward, using these steps:

Removable Faceplate

1. Carefully remove the controller's faceplate by lifting up and out on the cover from the center of the lower edge of the faceplate.
2. Locate the two mounting tab screws. There is one in the upper right-hand corner and one in the lower-left-hand corner.
3. Release the mounting tabs by turning each screw counter clockwise. Loosen both screws so that the tab extends toward the back of the ZAC-60. The amount should be slightly more than the thickness of the wall material (and bracket, if using the rough-in kit). This will allow the mounting tab to fully deploy behind the wall.

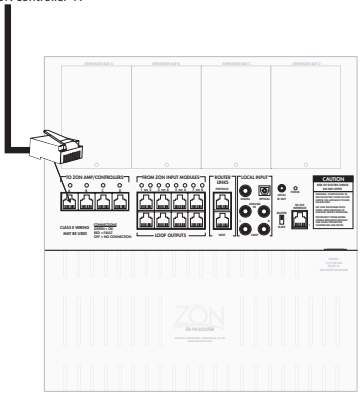

Mounting Tab Screw

Mounting Tab Screw

4. Place the controller in the rough opening. Position the controller so that it is level and square.
5. Tighten the mounting screws (turn clockwise). Don't use a powered driver or drill to tighten the mounting screws.
6. Alternate between the two screws so that you provide equal pressure. Don't over-tighten. The mounting tabs provide adequate pressure to hold the controller firmly in the wall.
7. To perfect the alignment and level, loosen the mounting tabs prior to making your fine adjustments. Reposition and retighten as needed.
8. Carefully re-install the faceplate. Place the top edge of the faceplate on the top edge of the controller and snap in place by applying pressure to the bottom center of the faceplate.

Connecting Controllers to Router

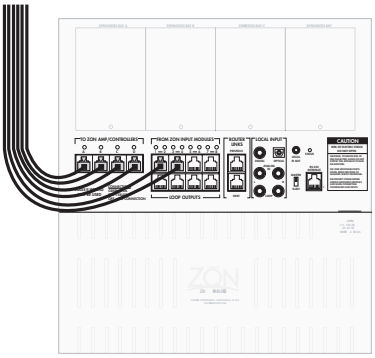
Connection cable going to ZON controller "A"



At the ZON router, locate the "TO ZON AMP/CONTROLLERS" connection block. Jacks are labeled "A" through "D". Following your wiring plan, connect your controllers in the appropriate jack.

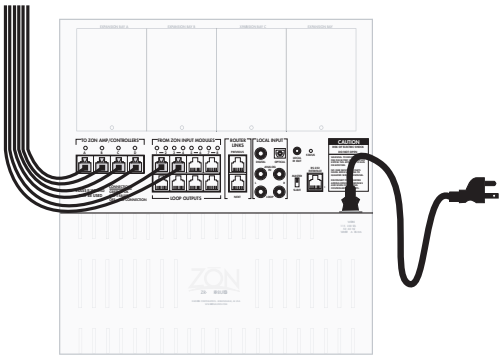
Completing the Installation

At this point in the installation:



- Your ZON router is securely mounted.
- You have connected and installed ZON input modules.
- You have connected and installed ZAC-60 controllers.
- You have connected the ZON components to the router.

Connect the supplied power cord to the ZON router, and connect to AC power. Your ZON system installation is now complete.



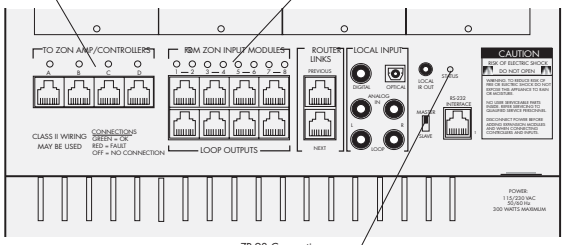
You should use the IEC-type AC power cord that was shipped with your ZON router. If you require a longer length, and do not want to use an extension cord, you can purchase UL approved IEC-type power cords of various lengths.

Quick Status Check:

The LEDs on the router give you an indication of the system's status. You should have green LEDs above the ZAC-60 connections, and above the ZIM-4 connections. Refer to status LED key below:

ZR-98 LEDs: TO ZON AMP/CONTROLLERS	
DISPLAY	DESCRIPTION
green	Indicates a nominal/working connection between the ZON router and ZAC-60
red	Indicates a fault in the connection between the ZON router and ZAC-60
off	Indicates no connection

ZR-98 LEDs: FROM ZON INPUT MODULES	
DISPLAY	DESCRIPTION
green	Indicates a nominal/working connection between the ZON router and ZIM-4
red	Indicates a fault in the connection between the ZON router and ZIM-4
off	Indicates no connection



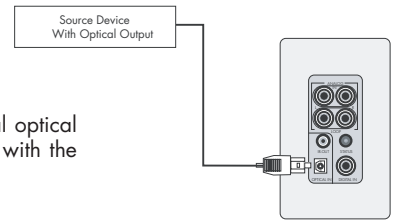
ZR-98 Connections

ZR-98 LED: STATUS	
DISPLAY	DESCRIPTION
green	Indicates AC power connection
flashing red	Indicates system IR activity
continuous red	Indicates a fault
off	Indicates no power to unit

Using Your ZON System

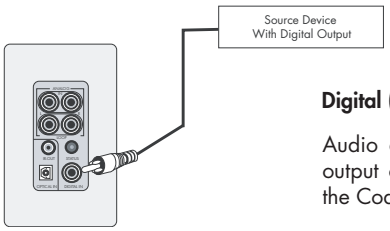
Working with Audio Devices

Audio devices connect to the ZON system via ZIM-4 input modules. Input modules offer different audio connection options:



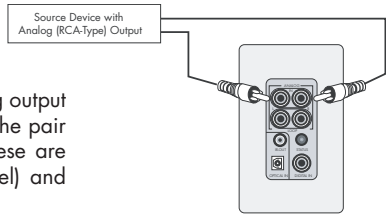
Optical (TOSLink)

Audio devices that have a digital optical output connect the input module with the TOSLink connector as shown.



Digital (Coax)

Audio devices that have a digital coax output connect to the input module with the Coax connector as shown.

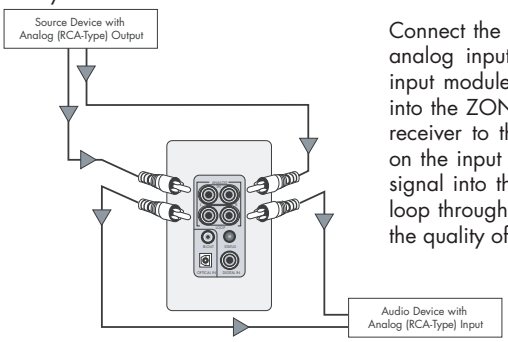


Analog (RCA)

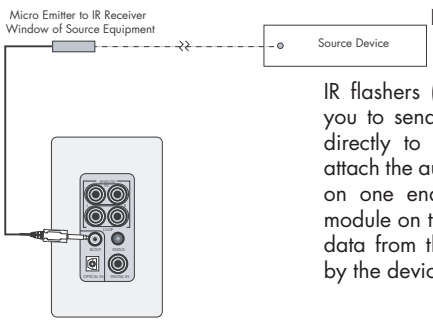
Audio devices that have an analog output connect to the input module with the pair of RCA connectors as shown. These are color coded white (for left channel) and red (for right channel).

Analog Loop Through

A nice feature of the ZON system is that you can share audio sources with your main receiver in the media room and the ZON system. When you share, you operate your receiver and hardware in the media room as normal, and the audio sources are available for use in the listening zones outside the family room.



Connect the audio device into the analog input jacks on the ZIM-4 input module. This puts the signal into the ZON system. Connect the receiver to the analog loop jacks on the input module. This puts the signal into the receiver. Using the loop through jacks does not affect the quality of the analog signal.



Infrared Flasher (IR Bug)

IR flashers (also called "IR Bugs") allow you to send IR data in the ZON system directly to your audio device. IR bugs attach the audio device's infrared receiver on one end, and connect to the input module on the other. When connected, IR data from the ZON system is picked up by the device.

Working with ZAC-60 Controllers

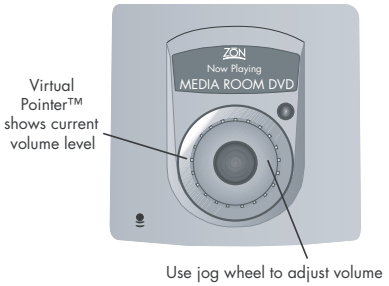
Sleep/Background Mode

After a period of inactivity, your controllers will automatically enter a "sleep" or "background" mode. The display and volume indicator ring are slightly illuminated. Turn or press the wheel to activate the controller's back-light.

Adjusting Volume

Turning the jog wheel adjusts volume. Turn left to decrease, turn right to increase. The Virtual Pointer™ provides a visual indication of the current volume level.

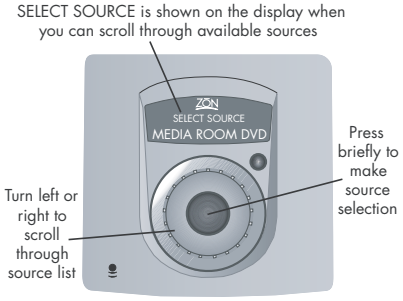
A flashing LED on the Virtual Pointer indicates loudspeaker mute. To manually mute, turn the wheel counter-clockwise until the LED reaches the seven o'clock position. You can also mute directly from the ZON remote.



Selecting Audio Sources

To select an audio source, briefly press the jog wheel. The display will change to the "Select Source" menu.

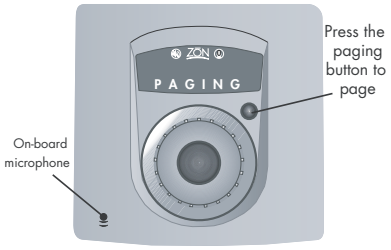
Turn the wheel left or right to view the available sources. When you reach the desired source, press the jog wheel once to select.



Whole House Paging

The on-board microphone enables you to make (and respond to) a system-wide page.

To page, press and hold the PAGING BUTTON, speak, then release the button to end the page.

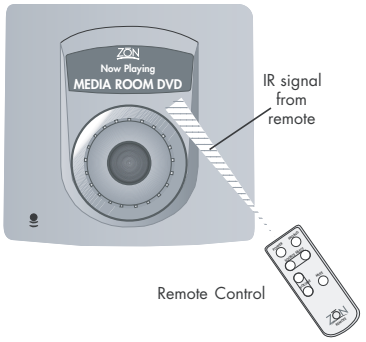


ZAC-60 Mini-Remote

The remote that came with your ZON controller gives you basic functions like volume, source selection, mute, page and power.

Using Other IR Remotes

The ZAC-60's IR receiver can send infrared data to the audio source currently selected. Use the source's remote (or one programmed to work with the audio device). Consult your audio device's user's manual for information pertaining to it's infrared remote capabilities.



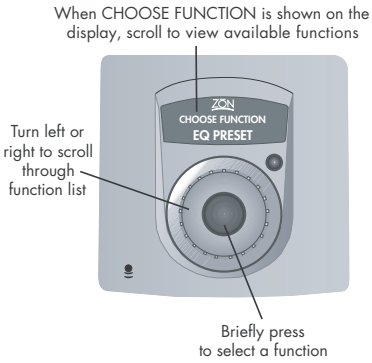
ZAC-60 Functions and Features

Listening Enhancements

The ZAC-60 provides tone and balance controls, EQ presets and loudness compensation.

To access these features, press and briefly hold the jog wheel to view the "Choose Function" menu.

Turn jog wheel left or right to view the menu of available functions. To select a function, briefly press the jog wheel. This will give you access to the function, or it's sub-menu.



Adjusting Bass

From the "Choose Function" menu, scroll until you see BASS on the display. Press the wheel to select.

The ZAC-60 has 6 dB of bass boost or cut. Adjust the amount of bass you desire by turning the wheel left or right. Briefly press the wheel to exit and return to the "Choose Function" menu.

Adjusting Treble

From the "Choose Function" menu, scroll until you see TREBLE on the display. Press the wheel to select.

The ZAC-60 has 6 dB of treble boost or cut. Adjust the amount of treble you desire by turning the wheel left or right. Briefly press the wheel to exit and return to the "Choose Function" menu.

Adjusting Balance

From the "Choose Function" menu, scroll until you see BALANCE on the display. Press the wheel to select.

Adjust the balance between the left and right loudspeaker by turning the jog wheel left or right. When you have your desired setting, briefly press the wheel to exit and return to the "Choose Function" menu.

Loudness Compensation

When you listen to music in the background, loudness compensation can be used to enhance low and high frequencies that are diminished in low volume situations.

From the "Choose Function" menu, scroll until you see LOUDNESS on the display. Press the wheel to select. To enable/disable loudness compensation, turn the jog wheel right to move the selection cursor to ON (or left to move the cursor to OFF) and briefly press the jog wheel to select and return to the "Choose Function" menu.

Equalization Presets

From the "Choose Function" menu, scroll until you see EQ on the display. Press the wheel to select.

The EQ menu shows the available equalization presents. To choose an EQ preset, turn the jog wheel right or left to move the selection cursor beside the different options. If you are playing audio through the controller, you will hear the EQ curve's effect on the music as you move the selection cursor. To select an EQ preset, move the cursor next to your choice and briefly press the jog wheel. Once you make your selection, you will be returned to the "Choose Function" menu.

Leaving the Functions Menu

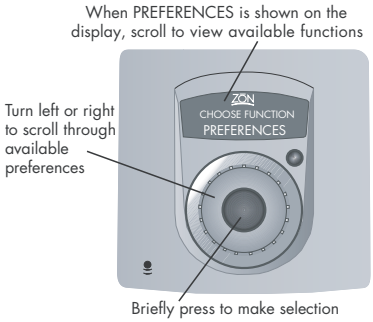
To leave the "Choose Function" menu, scroll until you see EXIT on the display. Briefly press the jog wheel to exit.

ZAC-60 Preferences

The Preferences menu contains operational and functional settings that are used on an occasional basis.

From the "Choose Function menu, scroll until you see PREFERENCES on the display. Press the wheel to select.

Turn jog wheel left or right to view the menu of available preferences. To select a particular option, briefly press the jog wheel. This will give you access to the option, or it's sub-menu.



Allow Monitor Setting

This preference applies to a controller that has been given a monitoring permission via the ZON Configuration utility.

To temporarily disable monitoring for an applicable controller, turn the jog wheel left to move the selection cursor to NO. To re-enable monitoring for an applicable controller, return to this preference option and select YES.

Receive Pages Setting

This preference setting allows you temporarily change the way incoming pages are handled by the controller.

To stop incoming pages from being played over the controller's loudspeakers, turn the jog wheel left to move the selection cursor to NO. To allow incoming pages to be heard, turn the jog wheel right to move the cursor to YES.

Controller Power Controls

You can turn the controller off by pressing and holding the jog wheel until you see "Turning Off" on the display.

Or, you can press the POWER button the ZON mini remote. This suspends the operation of the controller (no audio, no pages, no back lights). Press the jog wheel briefly (or the POWER button on the mini remote) to turn on. The controller will return to the same volume, source and preferences that were in force before turning off.

Using ZON Config

The ZON Serial Configuration Utility (ZON Config) allows you to easily customize your ZON system. With this utility you can:

- Create labels (e.g., MEDIAROOM DVD, SATELLITE 1, etc.) for your audio sources
- Define default settings for paging volume, bass, treble, balance and EQ for each ZAC-60 controller
- Set paging and zone monitoring options
- Work with source and menu restrictions

You may also consider downloading the complete ZON Config Software User's Guide from the ZON web site. The full software guide provides details on more advanced configuration options.

System Requirements

- Windows 98, NT 4.0, 2000, or XP
- IBM-compatible 486 computer or higher
- 16 MB RAM (memory) minimum 32 MB or more recommended
- 10 MB available hard disk space
- VGA Monitor or better
- CD-ROM Drive
- Keyboard
- Mouse
- One available serial (COM) port

Setup Wizard

To ensure a safe and uninterrupted installation of the software, please perform the following steps before installing:

1. Exit any open programs, including those that run automatically at startup (e.g., Microsoft Office and virus protection programs).
2. If your software was provided to you on a CD-ROM, insert the disc into the computer's CD-ROM drive.
3. If your software was downloaded from the Internet, make sure that you have first "unpacked" or de-compressed the file before selecting the SETUP icon.
4. When the Setup Wizard appears, click the INSTALL button to begin the install procedure.
5. Follow the on-screen instructions to complete the installation.

At the end of the installation process, you should take the opportunity to view the "Read Me" file(s) that was/were included with the installation program. "Read Me" files provided contain important, up-to-date reference information about the software you will be using.

Connecting Your Computer to a ZON Router

1. Verify your computer meets the system requirements.
2. Locate the DB-9 to RJ-11 adapter and RJ-11 cable that was provided with your ZON router.

Connect the adapter to your computer's serial port. Connect the supplied RJ-11 cable to the adapter and to the ZON router's RS-232 Serial Interface jack. The RS-232 Interface Jack on the router will light the connector when properly connected. Some computers (e.g., IBM laptops) will only light the connector when the software is running.

Important Note: You should use the DB-9 to RJ-11 adapter and RJ-11 cord that is provided with the ZON router to prevent connection and communication problems. If the RJ-11 cable supplied with the router is not suitable for your particular situation, you can use a standard 4 wire RJ-11 telephone cable. RJ-11 cables with six conductors will not work with the ZON router.

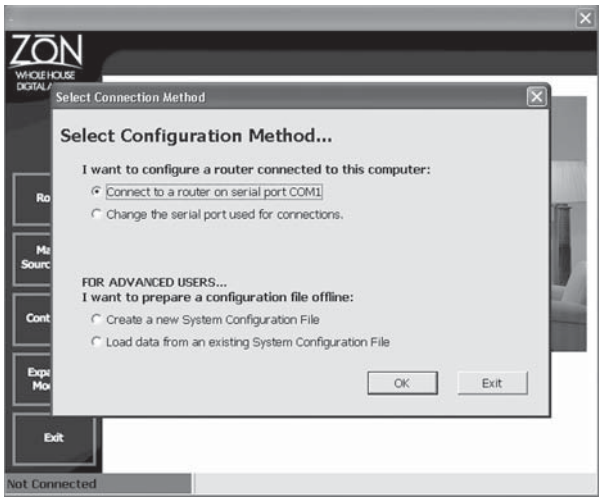
The software requires a dedicated serial port. It cannot share a port with an internal modem or other device. If you are unsure about the exact location of the serial port on your computer, refer to the user's manual supplied with the computer.

ZON Config will use COM1 as the default port for a connection with the router. If you are unsure about your computer's COM port assignment, refer to the owner's manual supplied with your operating system to learn more. In the event that COM1 cannot be used in your particular situation, ZON Config provides an option to change the serial port used for the connection.

Important Note: If you computer does not have a serial port (a nine-pin male, or also known as a DB-9), we recommend that you use either a PCI (for desktops) or PCMCIA (for laptops) serial adapter card. You should not use a USB serial adapter. USB serial adapters are unreliable for this application, and can cause intermittent character loss during serial communications.

Launching the Program

The main executable for the software is typically found in C:/Program Files/ ZON Audio/ZON Config. Click on "ZON Config.exe" to begin. You will see the "Select Connection Method" screen as shown below:



The default configuration method is to connect to a ZON router on serial port COM1 (as shown). If this matches your computer's setup, press "OK" to begin communicating with the ZON router.

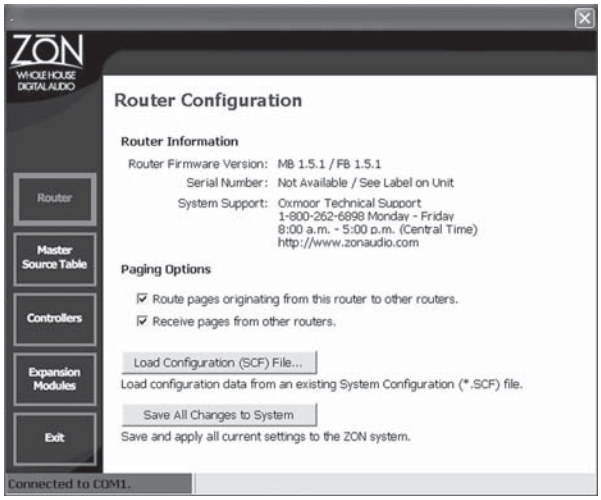
If your computer can't use COM1:

1. Choose "Change the serial port used for connections" and press "OK".
2. Select the right COM port for your computer and press "OK" to continue.
3. You will now see "Connect to a router on serial port COMX" where "X" is replaced with the alternate COM port you selected.

If this matches your computer's setup, press "OK" to begin communicating with the ZON router.

During the connection process, ZON Config is reading the router's stored settings and reading hardware status information. The status bar in the lower left-hand corner of the screen will be shaded red and read "Connecting..." during this process. A text area to the right of the status bar tells you what ZON Config is reading (as illustrated below):

When the connection process is complete, you will see the following screen:



You will note that the status bar is now shaded green and reads "Connected to COM1" (or the COM port you used if it was different from the default). ZON Config starts with the "Router Configuration" screen.

The Router Configuration screen provides information about your router's firmware level and other reference information. The "Paging Options" are for more advanced systems, which is explained in greater detail in the complete ZON Serial Configuration Utility User's Guide. This guide is available for download from the ZON web site.

The "Load Configuration (SCF) File" button allows you to load configuration files from an existing System Configuration File. Use this if you wish to work with a configuration that has been saved to your computer. See the section "Saving and Loading Configuration Files" on page 14 for more information.

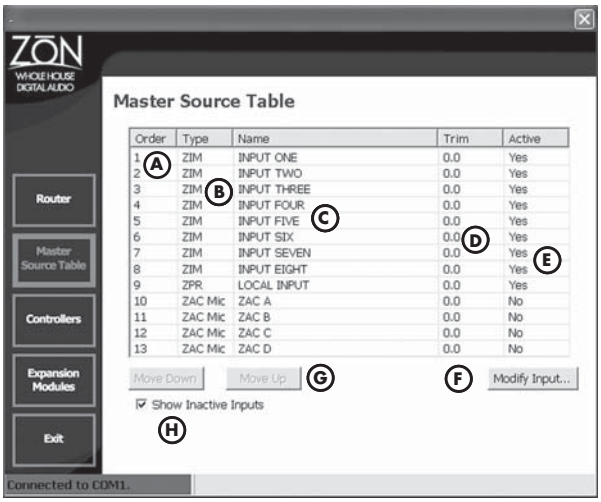
The "Save All Changes to System" button applies all of your configuration settings to the ZON router and the connected ZAC-60 controllers. When you complete all of your system settings, you will return to the Router Configuration screen to apply the settings you have made.

Configuring Inputs

Master Source Table Menu

To configure inputs, click the "Master Source Table" button on the main menu bar.

The "Master Source Table" screen (shown below) provides a table-style view of the ZON router's inputs. These include all of the ZIM-4 input modules, the router's "Local Input" and the ZAC-60 microphones (which are treated as source inputs for the support of room monitoring functions).



- **A.** ***Order*** *- There are basically 13 lines in the controller's "Select Source" menu. The order column shows what's in each of the lines from first to last.*
- **B.** ***Type*** *- This shows the type of input that is listed for each row. There are input modules (ZIM), the router's local input (ZPR) and the controller microphones (ZAC Mic).*
- **C.** ***Name*** *- Shows the name label for each of the inputs. When you first start customizing your system, the factory default labels are used. This is the label you see on the controller's display in the "Select Source" menu.*
- **D.** ***Trim*** *- Shows the amount of trim (in decibels) that is applied to each input. The default setting is 0.0 dB (decibels).*
- **E.** ***Active*** *- Indicates whether the input is active (YES) or inactive (NO). By default, all of the ZIM inputs and the router's local input have their "Active" flags set to "Yes". ZAC Mic inputs default to "No". Inputs that have their Active flags set to "Yes" appear on the controller's display.*
- **F.** ***Modify Input...*** *- An action button that opens the "Configure Input" window for a selected input.*
- **G.** ***Move Down / Move Up*** *- Action buttons that will adjust an input's position in the table order.*
- **H.** ***Show Inactive Inputs*** *- Filter option that will let you show (or hide) inputs that have their "Active" status set to "No".*

To configure a particular input:

- Move the mouse pointer to an input's row in the table and click once to highlight the row. Then click "Modify Input". The "Configure Input" window will appear.

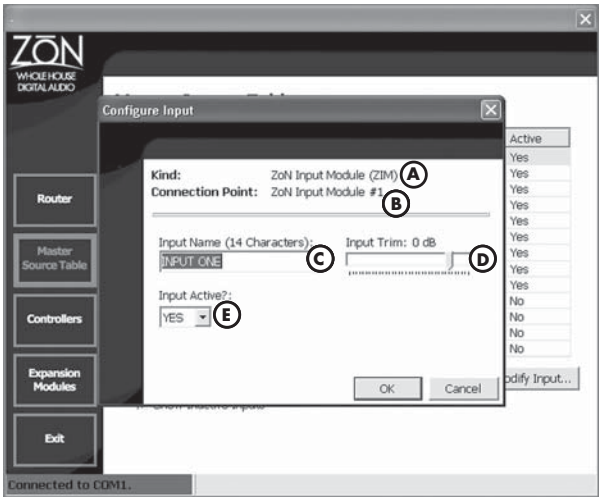
or...

- Move the mouse pointer to an input's row in the table and double-click. This will also open the "Configure Input" window.

Changing Input Settings

Working with ZIM and ZPR Inputs

The "Configure Input" screen (shown below) allows you to modify a particular input's settings in the ZON system:



- **A.** ***Kind*** *- This lets you know what kind of input you are working with (ZIM, ZPR or ZAC Mic).*
- **B.** ***Connection Point*** *- Indicates where, on the ZON router, the input is connected. ZIMs are numbered 1 through 8 to correspond with the input jacks 1-2, 3-4, 5-6 and 7-8 on the router. ZAC Mics are labeled A through D to correspond with the ZAC-60 input jacks as labeled on the router.*
- **C.** ***Input Name*** *- Shows the label assigned to the input. When the window is first opened, this field is automatically selected for you. Type in the new name using letters (A-Z) and/or numbers (0-9).*
- **D.** ***Input Trim*** *- If the input is louder (or softer) than other inputs in the system, use this setting to "trim" the level up (louder) or down (softer). Click-hold the slider pointer and move left/right to adjust. The amount of your adjustment is shown in decibels (dB) above the slider.*
- **E.** ***Input Active?*** *- This pull-down menu lets you select whether or not the input is active. Active inputs are placed in the controller's "Select Source" menu. You should set unused (unconnected) inputs to "No". This will keep you from having to scroll through "dead" inputs on the controllers.*

Make changes as needed and press "OK" to exit the Configure Input window and return to the Master Source Table. The table will now reflect the changes you made (Name, Trim and Active settings). Update the remaining inputs to your need.

Working with ZAC Mic Inputs

ZAC Mic inputs on the Master Source Table are directly tied to ZON's room monitoring function. From the Master Source Table, setting a ZAC Mic input's Active flag to "Yes" will enable the ZAC-60 to be monitored by other controllers on the same router.

The Input Trim setting for a ZAC Mic will affect the microphone's gain while the mic is being used in the "monitor" mode. It is recommended that you leave the trim set at the default 0.0 dB unless you know that your particular monitoring needs require a different setting.

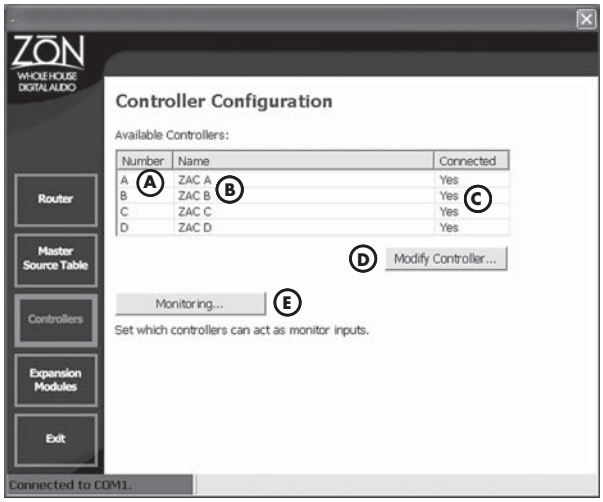
Changing the Active flag and changing the name label here will also be applied to the same settings in the "Controllers" screens.

Configuring Controllers

Controllers Menu

To configure ZAC-60 controllers, click the "Controllers" button on the main menu bar.

The "Controllers" screen (shown below) provides a summary of the basic settings for the four controllers available to the router for configuration. Unlike Master Source Table inputs, you cannot change the order of the ZAC-60 controllers in the table.



- **A.** ***Number*** *- Indicates the controller designations "A" through "D"*
- **B.** ***Name*** *- Displays the name label for each of the ZAC-60s. If you changed the name label for the ZAC Mic inputs on the Master Source Table, you will see your updated names here as well. If not, you will see the factory default labels (as shown in the illustration).*
- **C.** ***Connected*** *- Indicates whether or not there is a live connection between the router and the ZAC-60 controllers.*
- **D.** ***Modify Controller*** *- Action button to launch the "Configure Controller" screen for a selected controller.*
- **E.** ***Monitoring*** *- Action button to launch the "Monitoring" configuration window.*

To configure a particular controller:

- Move the mouse pointer to a controller's row in the table and click once to highlight the row. Then click "Modify Controller". The "Configure Controller" window will appear.

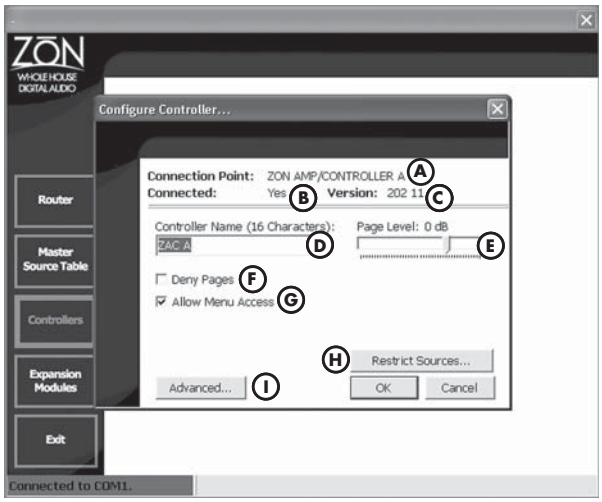
or...

- Move the mouse pointer to an controller's row in the table and double-click. This will also open the "Configure Controller" window.

Changing ZAC-60 Settings

Working with ZAC-60 Controllers

The "Configure Controller" screen (shown below) allows you to modify a particular controller's settings in the ZON system:



A. ***Connection Point*** *- Indicates where, on the ZON router, the ZAC-60 is connected. ZAC-60s are labeled A through D to correspond with the ZAC-60 input jacks as labeled on the router.*

B. ***Connected*** *- Indicates the connection status of the controller. You will see "Yes" if the controller is successfully connected to the ZON router.*

C. ***Version*** *- Displays the firmware version of the connected controller.*

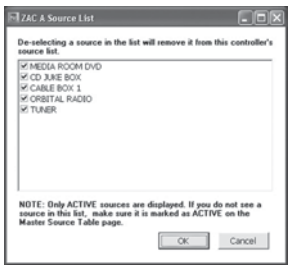
D. ***Name*** *- Shows the label assigned to the controller. When the window is first opened, this field is automatically selected for you. Type in the new name using letters (A-Z) and/or numbers (0-9).*

E. ***Page Level*** *- Shows the default page level for the controller in decibels (dB). The default is 0 dB, which is ideal for most installations. To adjust the default paging level, click-hold the slider pointer and move left/right to adjust. The amount of your adjustment is shown above the slider. The default paging level is the volume level incoming pages will use, regardless of the controller's current volume setting.*

F. ***Deny Pages*** *- If you want the controller, as a default, to deny incoming pages from the ZON system, check this box. Later, you can temporarily allow incoming pages by changing the "Deny Pages" setting from the ZAC-60's "Preferences Menu".*

G. ***Allow Menu Access*** *- This check box lets you select whether or not the controller will show the "Choose Functions" and "Preferences" menus on the display. If you do not allow menu access, the ZAC-60 controller will still have volume control and source selection.*

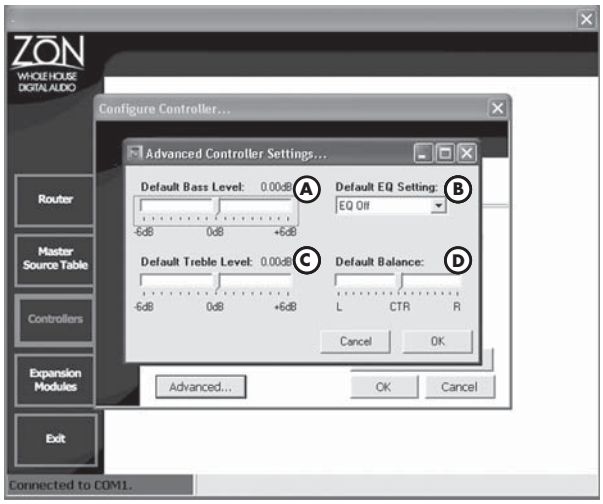
H. ***Restrict Sources*** *- This action button opens the controller's source list window. All of the active sources in your system are shown with check boxes next to them. To restrict a particular source from being accessed by the controller, uncheck the box next to the source name. This will remove the source from the controller's "Select Source" menu. It will not affect the availability of the source on other controllers or the Master Source table.*



I. ***Advanced*** *- An action button that opens the "Advanced Controller Settings" window, which is described in detail in the next section.*

Working with ZAC-60 Advanced Settings

The "Advanced Controller Settings" window (shown below) allows you to modify a particular controller's default bass, treble, EQ and balance settings. These settings are applied to the controller following a "hard power" reset.



A. ***Default Bass Level*** *- Shows the bass setting for the controller. To change the default bass setting, click-hold the slider pointer and move left/right to adjust. The numeric value of your adjustment is shown above the slider bar.*

B. ***Default EQ Setting*** *- Displays the current EQ setting applied to the controller. To change the default setting, single-click on the field to show the drop down menu. You can choose Rock, Jazz, Voice (or EQ Off). Highlight your selection and single-click.*

C. ***Default Treble Level*** *- Shows the treble setting for the controller. To change the default treble setting, click-hold the slider pointer and move left/right to adjust. The numeric value of your adjustment is shown above the slider bar.*

D. ***Default Balance*** *- Indicates the controller's loudspeaker balance setting. To change the default setting, click-hold the slider pointer and move left to send more volume to the left-channel speaker, or move right to send more volume to the right-channel speaker.*

All of these settings can be adjusted from the ZAC-60 controller at a later time. These settings are part of the controller's "Select Functions" menu. Settings changes you make from the controller's functions menu will not be applied following a hard power cycle.

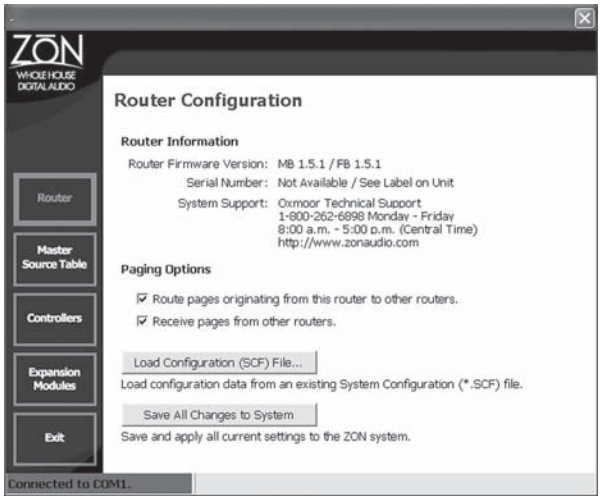
Make changes as needed and press "OK" to return to the controller's configuration screen. Once you are satisfied with the settings for the ZAC-60, click "OK" to return to the main "Controllers" screen. Update the remaining controllers to your liking.

Once you have completed this portion of the system configuration, you are now ready to apply your settings to the ZON system.

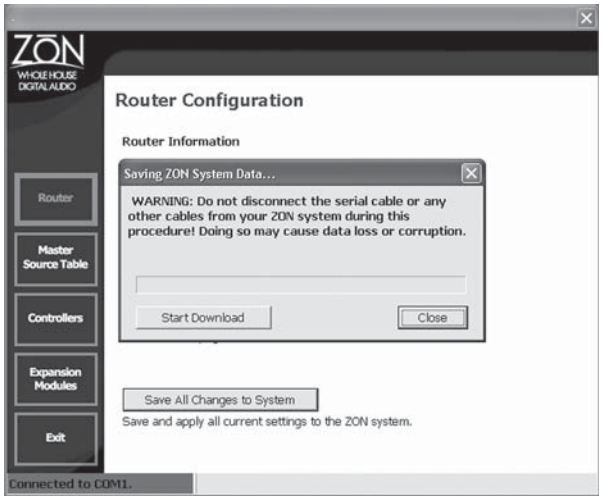
Applying Your Settings

Saving All Changes to System

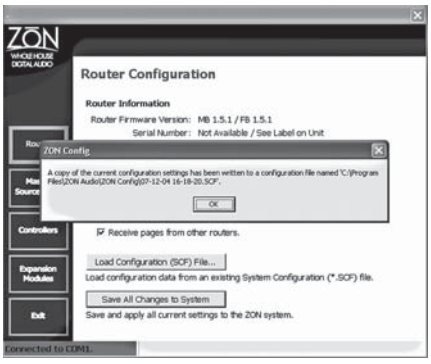
To use all of your settings for inputs and controllers, you will need to save them to the ZON system. Click the "Router" menu button:



Click the "Save All Changes to System" action button. It will open the "Saving ZON System Data" window (shown below):



Before saving data to the ZON system, take caution not to disconnect the serial cable or any other cables from your ZON system during the save procedure. Doing so can cause data loss or corruption. Click the "Start Download" action button start the saving process.



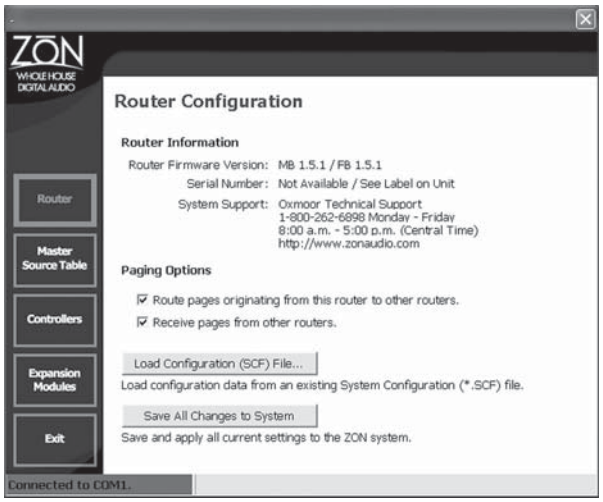
During the saving process, you will see the progress bar move, and will see text above the progress bar telling you what part of the process is being executed. The software will save your settings to the router first, then update the connected controllers. When the process is complete, you will receive a dialoge box similar to the one to the one shown to the left.

Saving and Loading Configuration Files

Saving Configuration Files

Each time you save settings to the system, ZON Config automatically writes a configuration file to your computer. This file is located in the following directory: C:\Program Files\ZON Audio\ZON Config, if you used the default installation parameters. The file name is in a date/time format (e.g., 07-08-04 08-35-02.scf).

If you are working with ZON Config "offline" - not connected to a ZON router - you can make all of your configuration settings and save them to a file. On the "Router" screen, the "Save All Changes to System" action button is replaced with a "Save Changes to File" action button (as shown below):

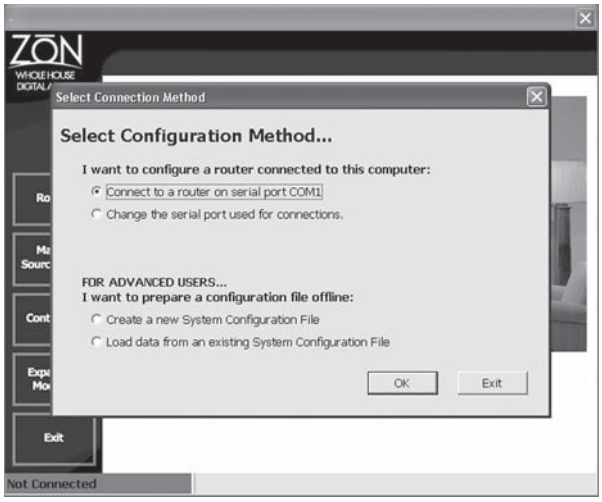


Click the "Save Changes to File" button. You will see a your operating system's regular "Save" window. The default location to save the system configuration files you create offline is C:\Program Files\ZON Audio\ZON Config, if you use the default installation parameters.

Loading Configuration Files

When you are connected to a ZON router, and want to open a previously written configuration file, go to the "Router" main menu. Choose "Load Configuration (SCF) File". You then supply the location and name of the file you wish to load. The information in the file will be written to ZON Config screens. The settings have to be saved to the system before they take affect.

A configuration file can be loaded when you first start the program. Choose "Load Data from an Existing Configuration File" option from the "Select Connection Method" screen:



Provide the location and name of the file you wish to work with. The settings data in the file will now be available in the various ZON Config screens.

Software Troubleshooting Information

Troubleshooting a Connection Issue

Before you contact technical support to report a connection issue, you can use Hyper Terminal (a communications application that is installed on most all computers) to help troubleshoot your connection to a ZON router.

1. With the AC power disconnected on the ZON router, connect your computer to the router using the provided adapter and cable. If the supplied RJ-11 cable does not suit your particular application, you should use a known working, 4 conductor RJ-11 cable. (A 6 or 2 conductor RJ-11 cable will not work, and will result in a connection failure.
2. Launch Hyper Terminal on your computer. This is typically found under the COMMUNICATIONS menu in the ACCESSORIES main menu of your operating system.
3. When prompted, provide a name for the new connection, and click OK to continue.
4. In the "Connect To" screen, use the pull-down menu to select the COM port you have determined is assigned to your serial port. Click "OK" to continue.
5. In the "COM Properties" dialog box set the following:

   Bits per Second: 9600

   Data Bits: 8

   Parity: None

   Stop Bits: 1

   Flow Control: None
6. Click "OK". You should now see the terminal screen. Reconnect the AC power to the ZON router. If the COM port you used in the connection is working, you should see a block of data from the router that begins with "MOTHERBRAIN"....

If you do not see any data on the terminal screen, try disconnecting and reconnecting the AC power to the ZON router. In the event that this does not provide you with desired results, you will need to exit Hyper Terminal and try the test again, this time choosing a different COM port from Hyper Terminal's "Connect To" menu.

Once you see a response from the ZON router on the terminal screen, you have confirmed that the connection is successful and the ZON router is capable of serial communications. Should you not be able to communicate with a ZON router using this Hyper Terminal test, you should contact Oxmoor technical support for assistance.

When you contact Oxmoor technical support, you will need to have component serial numbers and a listing of any/all error messages you have received.

Resolving Software Issues

Before contacting technical support, review the following items to see if your particular issue can be resolved:

1. Missing and/or outdated Master Source Table - The software found the router's memory area to be empty or in an obsolete format. If you are connecting to a new ZON router for the first time, you may receive this message by default. You should allow the software to use the default table.
2. Missing Inputs on the MASTER SOURCE TABLE screen - The software has the ability to filter the inputs on the table by their "Active" status. Check whether or not you have a list filter in place.
3. Changes You Supplied Not Present - You should verify that you have saved your data to the router and have also updated your ZAC-60 controllers with the data. You should also make sure that you properly reset the ZON system following the save and update procedure.
4. Unwanted/Unused Inputs Showing - Unused inputs should have their "Active" status set to "No" on the MASTER SOURCE TABLE screen. Unwanted inputs, such as those that you want to restrict from a controller's SELECT SOURCE menu should be modified with the "Restrict Sources" option in the CONTROLLERS menu.
5. Cannot Update a ZAC with New Settings - The software was unable to connect to the controller, or failed to put the controller into flash mode. You should verify that the controller has been properly reset following a settings update. You may also check to see if the controller is operating properly (i.e. it's display and controls respond to your input).
6. Names Look Unusual or Wrong on ZAC-60 Display - The ZAC-60 display will accommodate names assigned to inputs that are 14 or less characters. The only remedy is to change/shorten the affected name label.

If you do not see your particular issue listed here, you may want to consult the ZON web site (www.zonaudio.com) and the Frequently Asked Questions (FAQ) section for the latest collection of known issues and their resolutions.

If you need to contact technical support to help resolve a software issue, you will need to have the following on hand:

- ZON hardware serial numbers and known firmware levels
- Information about your computer (processor, memory, OS, etc.)
- Text inside any error messages that you have seen

Appendix A: CAT-5e / CAT-6 Installation Tips

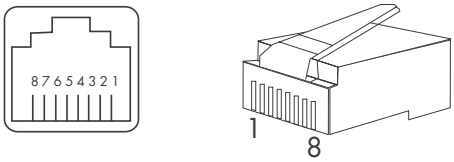
CAT-5e/CAT-6 Installation Tips

1. While terminating Category 5/Category 6 cable, be sure the natural twist of each pair is carried through as close as possible to the point of mechanical termination. More than 1/2 inch untwisted cable could affect performance.
2. Cable should be placed and secured in a manner which prevents kinking and tight cinching. Cable ties should never be cinched tight enough to compress the outside jacket of the cable. Cable should never be subject to bends greater than 4 times the cable diameter.
3. Never subject cable to pulling tension greater than 25 pounds. Avoid crushing or stepping on the cable.
4. Always use proper tools for stripping and termination to avoid nicking the cable and/or an inadequate crimp.

Termination Tips

1. Use CAT-5/CAT-6 strippers to score the jacket about an inch. Be careful not to cut into the insulation around the copper conductors. There is no need to remove any insulation from the conductors. When the RJ-45 connector is crimped, the contacts inside cut through the conductor insulation.
2. Untwist the wire to within 1/8" of the jacket. Arrange the wires according to the specification below:

RJ-45 Connector



RJ-45 JACK RJ-45 PLUG

ANSI/EIA/TIA- 568A PINOUTS	
PIN	WIRE COLOR
1	White/Green
2	Green
3	White/Orange
4	Blue
5	White/Blue
6	Orange
7	White/Brown
8	Brown

Oxmoor recommends the T568A termination method, although the T568B standard may be used. No matter which method is used, it is essential to use the same termination method throughout the system. Using any other wiring standard (other than T568A or T568B) will void your product warranty and probably damage your system.

3. Flatten and align the wires. Make one straight cut across all the conductors, removing approximately 3/4" of an inch. It is a good idea to ensure the ends are of equal length.
4. Slide the wires into the connector. The cable jacket should extend into the connector about 1/4" for strain relief. Orient the wires so connector Pin 1 aligns with cable Pin 1, etc. Hold the connector in front of you. With locking tab down, Pin 1 is on the far left.
5. Insert the connector into rachet-type crimp tool, and firmly squeeze the handle. Ratchet-type crimp tools will release when enough pressure is applied. If the crimper does not release, you need to apply just a little more pressure.
6. Once your crimper releases, check your plug to insure the conductors are in place and enough jacket is crimped to provide strain relief.
7. When you have terminated both ends of the cable, use a cable tester to check your cable. You should be checking for shorts, opens or mis-wires.

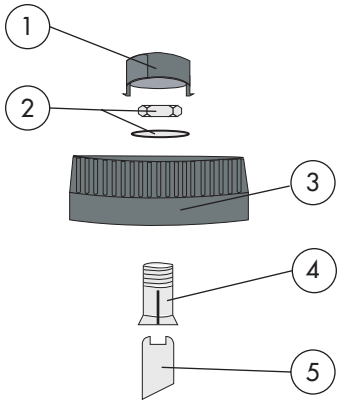
Appendix B: Installing ZAC-60 Faceplate Kits

There are several different colors and finishes available for the ZAC-60 controller (white, ivory, black, primed and custom simulated woodgrain). To install a different color kit, you will need to know how to remove the ZAC-60 faceplate and jog wheel.

You will need the following tools to complete this task:

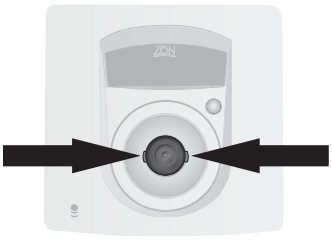
- A small, flat bladed screwdriver
- A 7/16" nut driver
- A ZAC-60 faceplate kit (available in white, ivory, black and primed)

ZAC-60 Jog Wheel Assembly



1. Center Button
2. Jog Wheel Nut and Washer
3. Jog Wheel
4. Collet
5. ZAC-60 Shaft

Removal



1. Remove the center button. Using a small, flat blade screwdriver, gently pry off the center button by applying a small amount of pressure to one of the locking tabs. Use caution not to damage the plastic on the wheel or the center button.
2. Remove the jog wheel nut and washer. Using a 7/16" nut driver, remove the nut and washer from the shaft. Retain these parts for re-installation.
3. Remove the jog wheel. Slide the wheel off the shaft. If the collet is removed with the wheel, keep it available for re-installation. If you do not see the collet, check the center of the wheel - sometimes the collet remains in the center of the wheel.
4. Remove the ZAC-60 faceplate. Carefully remove by lifting out and up from the center of the lower edge of the faceplate.

Use extreme care while handling your ZAC-60 controller without the faceplate installed. It is possible to damage the LCD screen by applying pressure to the screen or by dropping the unit.

Installation

1. Install the ZAC-60 faceplate. Place the top edge of the faceplate on the controller's top edge. Snap in place by applying pressure at the bottom center of the controller.
2. Install the collet (if this part was removed). The top edge of the collet should be flush with the top of the shaft.
3. Install the wheel. Slide the wheel on to the shaft. The wheel should not be allowed to rest on the opaque plastic of the volume dial. Turn the wheel to check that it clears the plastic underneath it. Some slight upward adjustment of the collet may be necessary.
4. Install the jog wheel washer and nut. Slide the washer, then nut on to the collet. Hold the wheel in place while you tighten the 7/16" nut. Don't over-tighten. When properly installed, the wheel should not rub against the plastic underneath, it should turn freely, and have enough play so that the wheel can be pushed in to activate the switch on the shaft.
5. Install the center button. Align the center button so that it's locking pins line up with the receiver slots on the jog wheel. Apply gentle pressure to snap the button into place.

Additional Information

Improper removal/installation of the faceplate and jog wheel can cause damage to your controller. Such damage may not be covered under Oxmoor's factory warranty.

Appendix C: Using Multiple ZON Routers in a Single System

Multiple ZON routers can be linked together to create a whole house audio system with virtually any number of listening zones. For every four listening zones, you will need one ZON router.

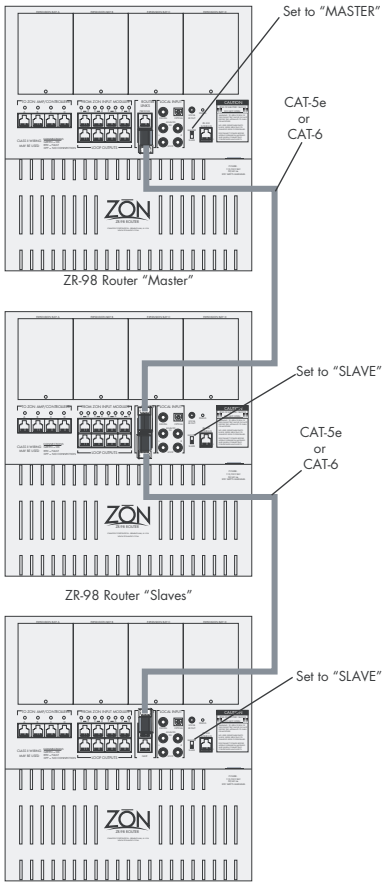
Routers do not have to be co-located to be linked, which adds to the flexibility of the system and it's design. The distance between ZON routers can be up to 200 feet if you use CAT-5e cable, and up to 250 feet if you use CAT-6 cable.

There are two main wiring requirements to consider when planning more than one router in a system:

1. Router-to-router links - This ties the router's paging bus, infrared bus and other "administrative" functions of the routers together. There is a set of "Router Link" jacks on each router to accommodate these types of connections.
2. ZIM-4 input module loops - This ties the audio sources between routers together. There are input module loop out jacks on each router to accommodate these types of connections.

Linking Routers Using the Router Link Connections

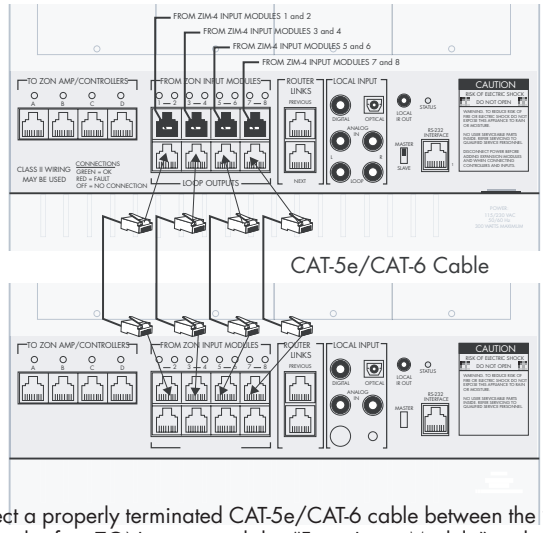
Follow the instructions below to successfully link routers:



1. Mount each router per the instructions provided.
2. Determine which router will be the main ("Master") unit. This should be the first ZON router in the chain. Make sure that this unit's "Master/Slave" switch is set to "Master".
3. Switch all other routers in the system to the "Slave" position.
4. Connect properly terminated CAT-5e/CAT-6 cable from the Router Link "Loop" jack on the main router to the "In" jack on the next router in the system.
5. Connect successive ZON routers using the same method. You leave the router via the "Loop" jack and connect to the next via the "In" jack.

Looping ZIM-4 Input Modules Router-to-Router

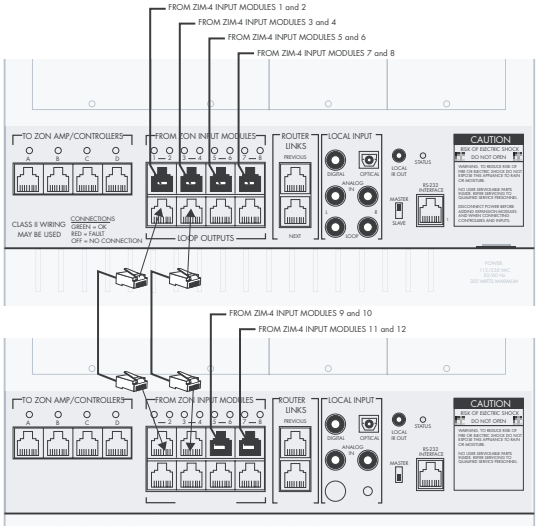
After you link routers together, you will need to loop input modules from the main router to the other routers in the chain. This creates concurrent source inputs between routers.



Connect a properly terminated CAT-5e/CAT-6 cable between the "Loop Out" jack on the first ZON router and the "From Input Module" jack on the next router as illustrated above. It is important that you keep the positions the same between routers (e.g., "1-2" loop out needs to go to the "1-2" input jack).

Creating Global and Regional Source Inputs

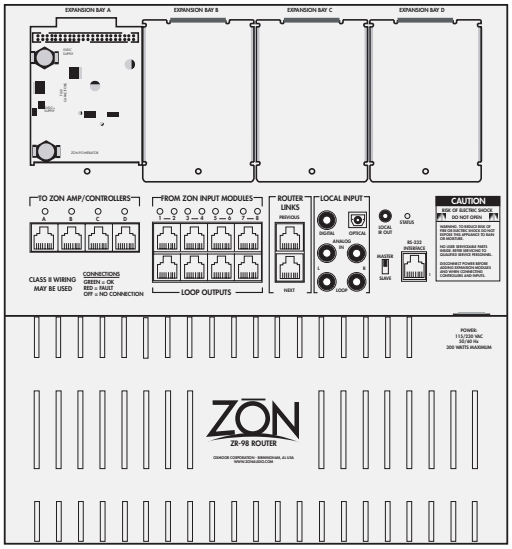
For advanced system designs that have more than one ZON router, it is possible to create "global" and "regional" source inputs. Global sources are those that are looped from one router to the next, to the next and so on. These sources are available to all the controllers in the system. Regional sources are those that are connected to a ZON router but not looped. These sources are only available to the controllers connected to that router.



In the illustration above, controllers connected to the master and slave router will receive source inputs from input modules 1, 2, 3 and 4. The four controllers connected to the master router will receive inputs from input modules 1 through 8. The controllers connected to the slave router will receive inputs from ZIMs 1, 2, 3, 4 and 9, 10, 11 and 12.

Appendix D: Installing ZON Expansion Modules

The ZON router will accommodate up to four (4) specially-designed expansion modules (e.g. ZIR-232 Device Commander, ZEP-11 External Paging Interface). All expansion modules have basically the same form factor - a metal enclosure that mates to the ZON router frame, and a 40-pin ribbon cable.



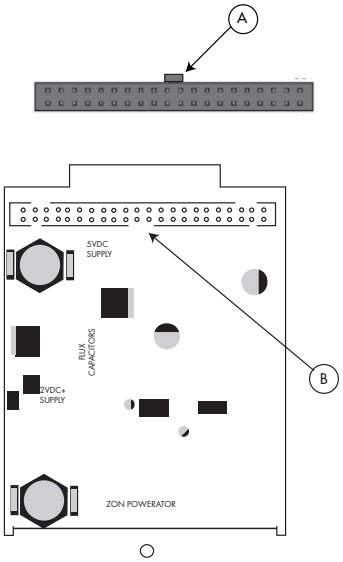
Special Notice

When installing ZON Expansion Modules, make certain that the router's AC power cord is disconnected. Never install or remove expansion bay covers with the router connected to AC power.

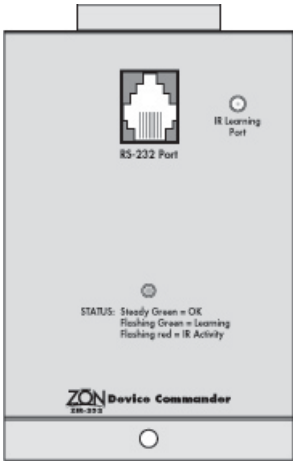
Likewise, never connect/disconnect expansion modules with a live (powered) ZON router. Doing so will cause permanent damage to your expansion module and could damage your ZON router.

Expansion modules require the router it is installed in have a certain firmware level to operate properly. It is recommended that your ZON router's firmware be compatible with the expansion module before you install the hardware. Read the documentation that accompanies your expansion module or contact Oxmoor technical support for more information.

Installing Expansion Modules



1. Disconnect the AC power cord from the ZON router.
2. Using a #2 Phillips screwdriver, remove expansion bay cover plate and screw. Keep the screw handy.
3. Connect the 40-pin ribbon cable to the module. The cable provided with the module is the proper length and form factor for the ZON router. The cable is "keyed" to help you get the right pin placement.
4. Connect the ribbon cable to the router. Make sure that the key on the cable (A) is aligned with the key slot (B).
5. Insert the module into the ZON router. Align the tab on the module's top with the tab opening on the ZON router's frame. Slide the module in and up. This should hold the module in place.
6. Re-install the screw removed in step 1. When the module is properly installed, the screw hole on the bottom tab of the module will be aligned with the e threaded hole on the router's frame.
7. Re-connect power to the ZON router.



Additional Information

You should read the documentation that accompanies your expansion module to find out more details on how to use and/or configure the device.

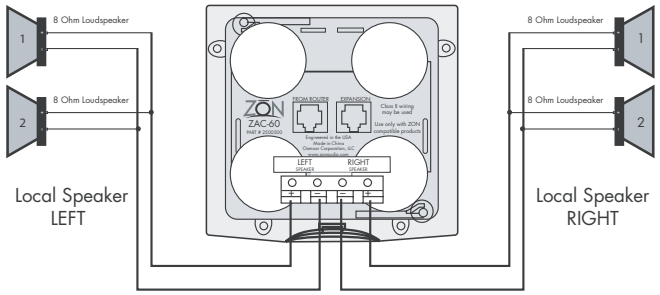
Appendix E: Alternate Loudspeaker Connections

A ZAC-60 controller will support the use of more than one pair of loudspeakers. However, there are some things for you to consider when planning more than one pair of loudspeakers per ZAC-60:

- The added loudspeakers share the power output of a ZAC-60. For example, a pair of loudspeakers share the 60 watt output (30 Watts each). Two pairs of loudspeakers would share the 60 watt output four ways, or 15 Watts each.

  Typically, designs that use multiple loudspeakers allow you equally distribute the audio within a specific space (e.g. an area that has an open floor plan), or to help you work around architectural barriers that prevented ideal loudspeaker placement (e.g., an "L" shaped room).
- More than two pairs of loudspeakers on a single ZAC-60 will require the use of 25 Volt transformers with a specific wattage to help maintain the overall impedance of the loudspeaker system. The ZAC-60 operates optimally between 4 and 8 ohms.
- A ZAC-60 controller is designed to only accommodate one 14 or 16 gauge speaker wire in each of it's four loudspeaker terminals. For ease in wiring, you should wire speakers from one to the next as shown below.

Connecting Two Pairs of Loudspeakers to a Controller



A parallel connection of two pairs of loudspeakers is acceptable as long as the resulting impedance does not go below 4 ohms (i.e., you use 8 ohm loudspeakers as shown in the illustration above).

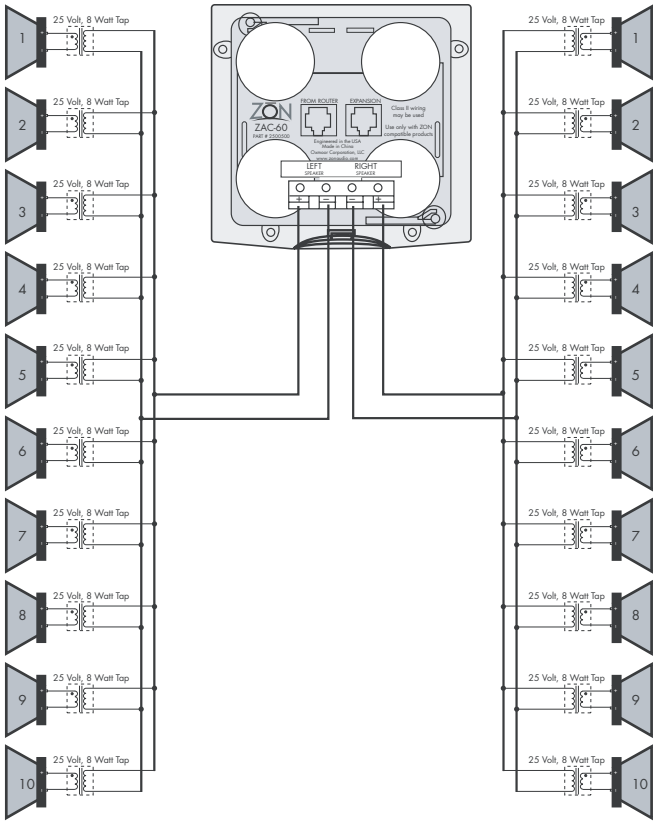
Connecting More than Two Pairs of Loudspeakers to a Controller

When using more than two pairs of loudspeakers, we recommend that you use 8 ohm loudspeakers in conjunction with 25 Volt transformers. Transformers are widely available and can be purchased with various wattage taps. When choosing a transformer for your application, you should review the transformer's specifications to make sure it operates within a desired frequency range. The ZAC-60 can reproduce signals between 20 hZ and 20 kHz. Less expensive transformers typically have a smaller frequency range.

The following chart shows the proper relationship between the number of 8 ohm loudspeaker pairs and the wattage setting required on the 25 Volt transformer. Also note the resulting impedances.

Loudspeaker Pairs	Transformer Volts	Transformer Wattage	Impedance Per Channel
4 to 5	25	30	5.2 to 4.15
6 to 9	25	15	6.6 to 4.7
10 to 14	25	8	7.8 to 5.6
15 to 20	25	5	8.3 to 6.3

The following illustration shows a wiring diagram of a typical distributed loudspeaker system using 10 8 ohm loudspeakers. You will note that the 25 volt transformer is using an 8 Watt voltage tap.



The final result of the system as drawn above would allow the twenty loudspeakers to share the available power of the ZAC-60, which would result in each loudspeaker receiving approximately 3 Watts each. The impedance per channel would be about 7.8 ohms, which is within the operating parameters of the controller.

Additional Information

Impedance ratings describe how efficiently an amplifier will transfer its power. For instance, the ZON amplifier will produce its maximum power when the loudspeaker load is in the 4 to 8 ohm range. The ZON amplifier will work into higher impedances, but the result will be a poor transfer of power (i.e.,. not very loud).

If you have questions about a distributed loudspeaker arrangement for your design, contact Oxmoor for more details. We can help you determine the right hardware and wiring configurations to meet your needs.

Appendix F: Hardware Troubleshooting Guide

For your assistance, the following troubleshooting guides can help you solve common operational difficulties.

Step 1: Check Your Wiring

Most operational difficulties are the result of bad wiring and/or connections. Check your wiring to make sure that it meets the requirements of the ZON system installation. For more about CAT-5e/CAT-6 wire and the ZON system, see Appendix A on page 16.

ZON system indicators are also a great tool to help you determine possible wiring problems:

Step 2: Check Status Indicators

ZON ROUTER (ZR-98) STATUS INDICATOR		
INDICATOR	TROUBLE	SOLUTION
red	• Improper wiring creating a fault condition	• Correct wiring problem causing fault
none	• No AC power • Blown AC fuse	• Connect AC power cord • Contact your ZON Dealer

ZON ROUTER (ZR-98) ZON AMP/CONTROLLER & ZON INPUT MODULE (ZIM-4) CONNECTION		
INDICATOR	TROUBLE	SOLUTION
red	• Improper wiring creating a shorted connection	• Correct wiring on connection
none	• Improperly wired connection that does not create a fault, but does not create a positive connection	• Correct wiring on connection

ZON AUDIO CONTROLLER/AMPLIFIER (ZAC-60)		
INDICATOR	TROUBLE	SOLUTION
	• Indicates loudspeakers for controller have been muted	• Turn the jog wheel to the right to de-select MUTE or press MUTE on the ZON remote control.
	• Indicates local microphone is in use, which also mutes local loudspeakers	• Stop active monitoring of the zone.

If you are unable to clear the status indicators, but still experience problems, move on to Step 3 below:

Step 3: Check Audio Sources

For each audio source in the system check the following:

a. Proper operation of the source.
b. Quality and condition of the audio cable used for the connection.
c. Proper connection of the audio source cable to the ZIM-4 input module.
d. If you are using a digital or optical output, confirm that your audio device is configured to send audio signals through that type of output. Some devices require that you enable digital audio outputs via the audio device menu or setup screen.
e. Encoded, multi-channel audio (e.g., 5.1, 7.1 etc.) will not work with the ZON system. Check that you are not using this type of audio format.
f. Low bit rate MP3 files sent digitally via TOSLink or COAX will not work with the ZON system. Check that you are not using this type audio file.

If you are still experiencing difficulties after this step, move on to Step 4 below:

Step 4: Power Cycle the System

Correct any protection faults that may be affecting the microprocessors used in the system. Disconnect the AC power cord from the ZON router. Wait approximately 60 seconds, then reconnect the power cord.

If you are still experiencing difficulties after this step, move on to Step 5 below:

Step 5: Contact Technical Support

You should contact the party from which you purchased your hardware. If you are a qualified ZON dealer or authorized ZON reseller, contact Oxmoor technical support. If you purchased your system from an authorized ZON dealer or reseller, contact them before calling Oxmoor technical support.

You may also want to visit the official ZON web site: www.zonaudio.com to view the Frequently Asked Questions database, and to find out additional technical information that can help you. Also, refer to page 23 to learn how to obtain service for your ZON product.

Appendix G: Regulatory Agency Information

FCC Regulations

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with these instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

UL Listing

The UL marking shows applicable UL Standards and requirements by Underwriters Laboratories Inc. The UL Mark means that UL has tested and evaluated representative samples of this product and determined that they meet UL's safety requirements. In addition, ZON components are periodically checked by UL at the manufacturing facility to make sure they continue to meet UL requirements. This product is UL listed.

CE Marking

The CE marking is a European marking of conformity that indicates that a product complies with the essential requirements of the applicable European laws or Directives with respect to safety, health, environment and consumer protection. Generally, this conformity to the applicable directives is done through self-declaration.

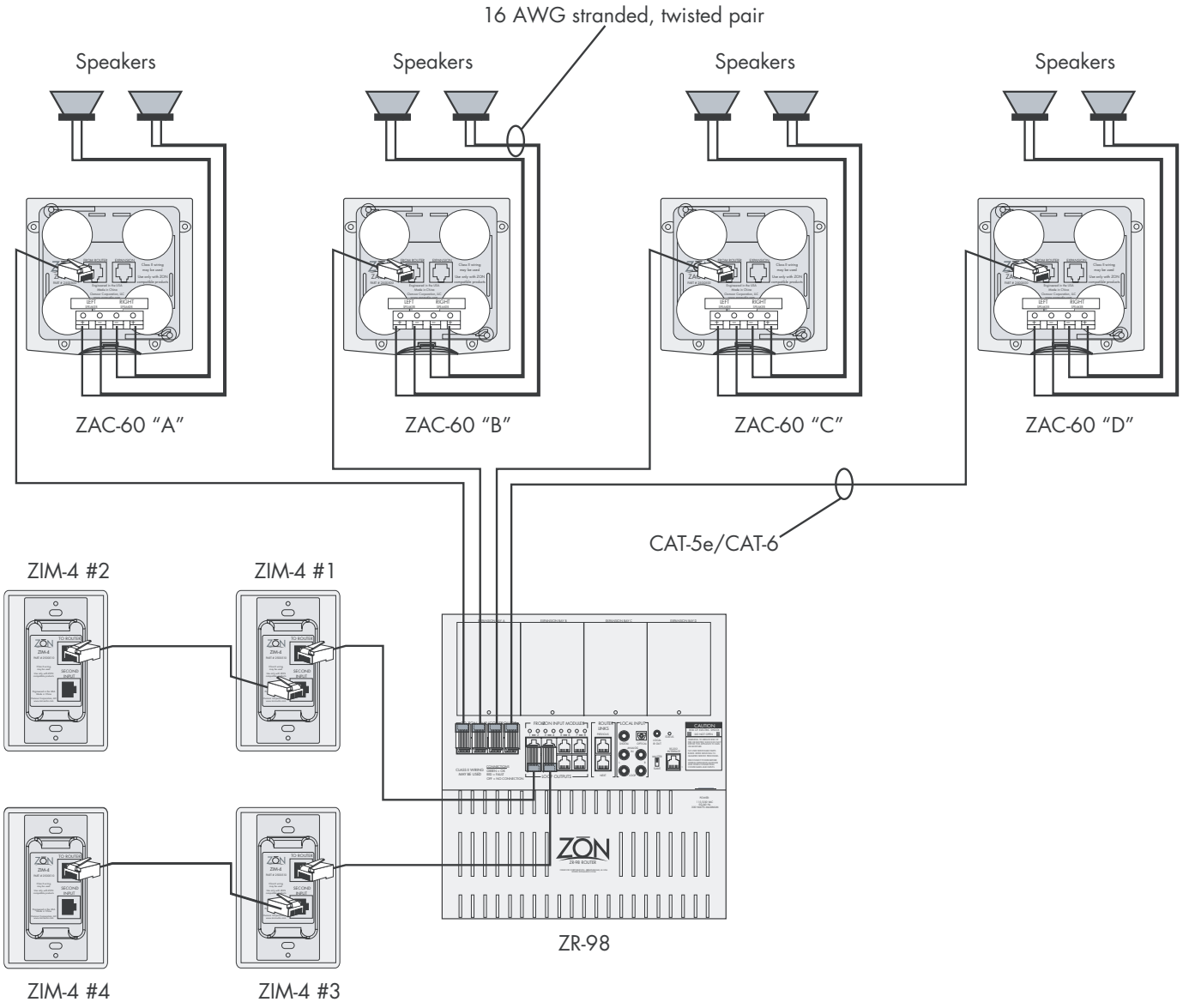
The CE Marking is required on products in the 18 countries of the European Economic Area (EEA) to facilitate trade between the member countries. The manufacturer or their authorized representative established in the EEA is responsible for affixing the CE Marking to their product.

The CE Marking provides a means for a manufacturer to demonstrate that his product complies with a common set of laws required by all of the countries in the EEA to allow free movement of trade within EEA countries.

The CE Mark is affixed to this Oxmoor Corporation product to confirm compliance with the following European Community Directives:

- Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of Member States relating to electromagnetic compatibility; and
- Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits; each amended by
- Council Directive 93/68/EEC of 22 July 1993 on the harmonization of CE Marking requirements.

Appendix H: Sample Wiring Diagram (Four Listening Zones, Four Sources)



Wiring Recommendations:

- Speaker Cable: 16 AWG stranded, twisted pair
- ZON Component Connections: CAT5e (24 AWG, 0.5mm) or CAT-6 (23 AWG, 0.57 mm)
- Maximum CAT-5e cable length between any two ZON components: 200 feet
- Maximum CAT-6 cable length between any two ZON components: 250 feet

WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

1. Product that has been subjected to misuse, accident, shipping or other physical damage, improper installation, abnormal operation or handling, neglect, inundation, fire, water or other liquid intrusion; or
2. Product that has been damaged due to repair, alteration, or modification by anyone other than an authorized service representative or Oxmoor Corporation, LLC; or
3. Product to the extent that the problem experienced is caused by signal conditions, network reliability or cable or antenna systems; or
4. Product to the extent that the problem is caused by use with non-Oxmoor electrical accessories; or
5. Product whose warranty/quality stickers, product serial numbers, plates or electronic serial numbers have been removed, altered or rendered illegible; or
6. Product returned without valid proof of purchase; or
7. Charges for installation or set-up, adjustment of customer controls, and installation or repair of system outside the unit.

WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

To obtain warranty service call 1-205-982-8200 for instructions regarding where to return the product.

Except as provided by applicable law, you assume the risk of loss or damage during transit and transportation and are responsible for delivery or handling charges incurred in the transport of product(s) to the service location. Oxmoor Corporation, LLC will return repaired or replaced product under this limited warranty to you, prepaying transportation, delivery or handling charges. Oxmoor Corporation, LLC assumes no risk for damage or loss of the product in transit.

If the product failure is not covered by this limited warranty, or proof of purchase does not meet the terms of this limited warranty, Oxmoor will notify you and will request that you authorize the cost of repair and return shipping costs for the repair of products that are not covered by this limited warranty.

WHAT MUST YOU RETURN WITH THE PRODUCT TO GET WARRANTY SERVICE?

1. Return the product and accessories in the original packaging (if possible) along with a description of the malfunction or difficulty; and
2. Include “valid proof of purchase” (sales receipt) identifying the product purchased and the date of purchase; and
3. Provide your name, correct mailing address, telephone number, e-mail address or other contact information.

OTHER LIMITATIONS

This warranty is the complete and exclusive agreement between you and Oxmoor Corporation, LLC. IT supersedes all other written or oral communications related to this product. Oxmoor provides no other warranties for this product. The warranty exclusively describes all of Oxmoor’s responsibilities regarding the product.

There are no other express warranties. No one is authorized to make modifications to this limited warranty, and you should not rely on any such modification.

State Law Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

OXMOOR TWO YEAR LIMITED WARRANTY

Oxmoor Corporation, LLC warrants that each Oxmoor electronic product shall be free from defects in workmanship and materials and will, at its option, repair or replace any part of the product without charge provided the product is delivered to Oxmoor Corporation, LLC within two years of date of original purchase from or delivery by an authorized Oxmoor dealer. Excluded from this warranty are finish and appearance items and malfunction resulting from abuse, from use that is not in accordance with instructions, or operation under other than specified conditions. Also excluded are incidental or consequential damages except where precluded by applicable law. This warranty provides the customer with specific legal rights; there may be also other rights which vary from state to state.

Repair by other than Oxmoor Corporation, LLC Factory Service Department or its authorized service agency, unauthorized modification, or the removal or defacing of the serial number will void this warranty.

Products returned for factory warranty service must be prepaid and packaged in such a way as to insure safe transit and must be accompanied by a sales slip or other valid proof of purchase date.

PRIOR AUTHORIZATION FROM OXMOOR CORPORATION, LLC IS REQUIRED FOR RETURN. Contact Oxmoor Corporation, LLC for a Return Authorization (RA) Number and shipping information before returning product for service.

OXMOOR FACTORY SERVICE

For service information contact:

Oxmoor Corporation, LLC
Sales Department
309A Cahaba Valley Parkway North
Indian Springs, AL 35124 USA

Telephone: 1-205-982-8200
Fax: 1-205-982-8292

End User/Installer Notes

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