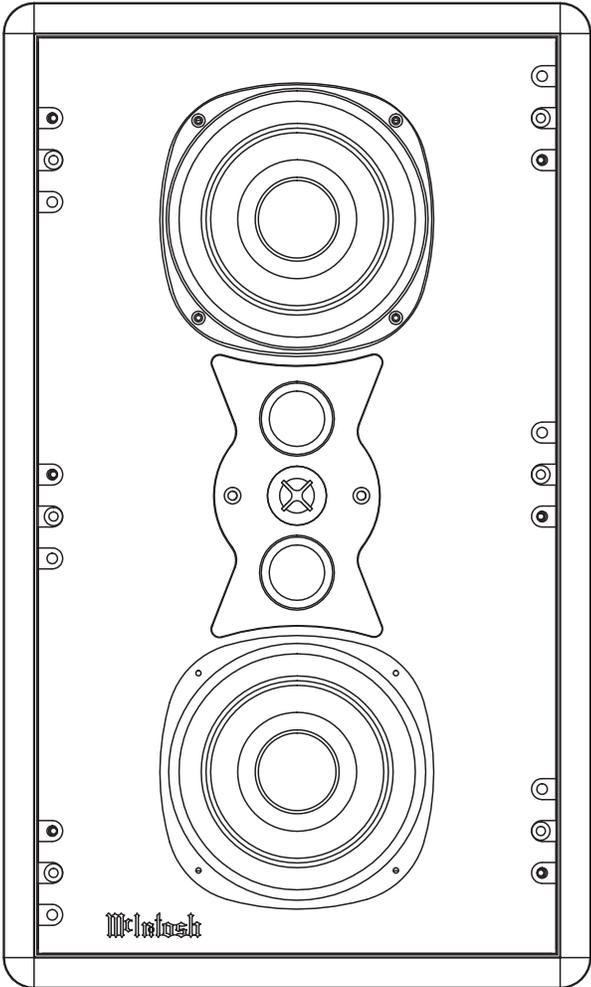




# WS500

In-Wall Loudspeaker System  
Installation Guide





## Important Safety Instructions

WARNING - TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED PERSONNEL.

## IMPORTANT SAFETY INSTRUCTIONS!

### PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.

#### General:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Warning: To reduce risk of fire or electrical shock, do not expose this equipment to rain or moisture. This unit is capable of producing high sound pressure levels. Continued exposure to high sound pressure levels can cause permanent hearing impairment or loss. User caution is advised and ear protection is recommended when playing at high volumes.
6. Only use attachments/accessories specified by the manufacturer.

#### Installation:

7. Install in accordance with the manufacturer's instructions.
8. When mounting the Ceiling Loudspeaker System to a building structure it is important to follow all of the local building/construction codes. Make sure the ceiling structural members can support a total weight of five times the weight of the Ceiling Loudspeaker System.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produce heat.
10. Do not use this equipment near water.
11. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.

#### Care of Equipment:

12. Clean only with a dry cloth.
13. Do not permit objects or liquids of any kind to be pushed, spilled and/or fall into the equipment through enclosure openings.

#### Repair of Equipment:

14. Refer all servicing to qualified service personnel. Servicing is required when the equipment has been damaged in any way, liquid has been spilled or objects have fallen into the equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not attempt to service beyond that described in the operating instructions. All other service should be referred to qualified service personnel.
16. When replacement parts are required, be sure the service technician has used replacement parts specified by McIntosh or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
17. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Please read these Safety Instructions as well as the "Important Additional Operation Information Guide" that is enclosed.

### Thank you from all of us at McIntosh

You have invested in a precision instrument that will provide you with many years of enjoyment. Please take a few moments to familiarize yourself with the features and instructions to get the maximum performance from your equipment.

If you need further technical assistance, please contact your McIntosh Dealer who may be more familiar with your particular setup including other brands. You can also contact us at McIntosh with additional questions or in the unlikely event of needing service.

#### McIntosh Laboratory, Inc.

2 Chambers Street  
 Binghamton, New York 13903  
 Technical Assistance Phone: (607) 723-3512  
 Customer Service (for repairs)  
 Phone: (607) 723-3515  
 Fax: 607-724-1917  
 support@mcintoshlabs.com  
 Website: mcintoshlabs.com

### Make a Note

For future reference, you can write your serial number and purchase information here. We can identify your purchase from this information if the occasion should arise.

Serial Number:	
Purchase Date:	
Dealer Name:	

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## Tools Needed

- #2 Phillips Screwdriver
- Drywall Knife or Saw
- Pencil
- Tape Measure
- Stud finder
- Bubble Level

## Parts Included

- Loudspeaker Baffle
- Baffle Box
- Frame
- Frame Gaskets (2)
- Grille
- Cutout Template
- Clamping Pieces (2)
- Fiberglass Packing
- Airtight Electrical Connector
- Frame Screws #10-24 x 3 inch (6)
- Baffle Washers #8 (6)
- Baffle Screws #10-24 x 1-1/2 inch (6)

## Ready To Perform

The WS500 In-Wall Loudspeaker System is designed to provide exceptional performance. This 3-way loudspeaker features McIntosh's acclaimed MTM speaker array and shallow woofer design contained in a fully enclosed back chamber. The design allows for expansive sound performance with a shallow footprint perfect for in-wall mounting.

The WS500 is a versatile loudspeaker and can be

employed in many applications. The use of audio design specialists is recommended for complex installations to achieve the highest level of performance. Your McIntosh Dealer is experienced in all aspects of audio/visual setup.

The Low Profile Micro-Flange Grille is magnetically held in place. These grilles are ready to be painted if you wish.

## Making a Hole

For new construction, the RK500 rough-in bracket is recommended. The RK500 is available from your McIntosh Dealer. If you have installed the RK500 skip ahead to "Installing the Frame".

Choose the proper position for the WS500 keeping in mind acoustical properties, the positions of studs and the ability to run speaker wire to the WS500. When the proper location is found:

1. Hold the supplied cutout template against the wall and align it using a bubble level and tape the template to the wall.
2. Trace the opening.
3. For dry wall installation, use a drywall knife or saw to cut a hole. The hole should be 13 1/4 inches (33.66cm) wide by 22 7/16 inches (56.99cm) in height.

## Installing the Frame

The Frame Assembly has two Clamping Pieces connected to the Frame by Six 3-inch screws (3 each). The bolt at the end of each screw is there to make sure it stays connected and need not be moved.

Install the "L" shaped self-adhesive Frame Gaskets to the rear of the Frame so that the Gaskets will sit between the Frame and the wall when installed.

With the Clamping Pieces loose, manipulate the frame into the opening in the wall. The Clamping Pieces can be moved to allow the frame to fit. Once in place, position the Clamping Pieces against the back of the wallboard on each side.

When satisfied that the Frame is level (using a bubble level), tighten all six screws until the Frame is securely attached to the wall. Avoid over tightening to prevent damaging the drywall.

## Connecting to Speaker Wire

Prepare Speaker Wires for connection to the WS500. Remove 1/2 inch (12.7mm) of insulation from the wire end and twist the strands together. For runs under 25 feet

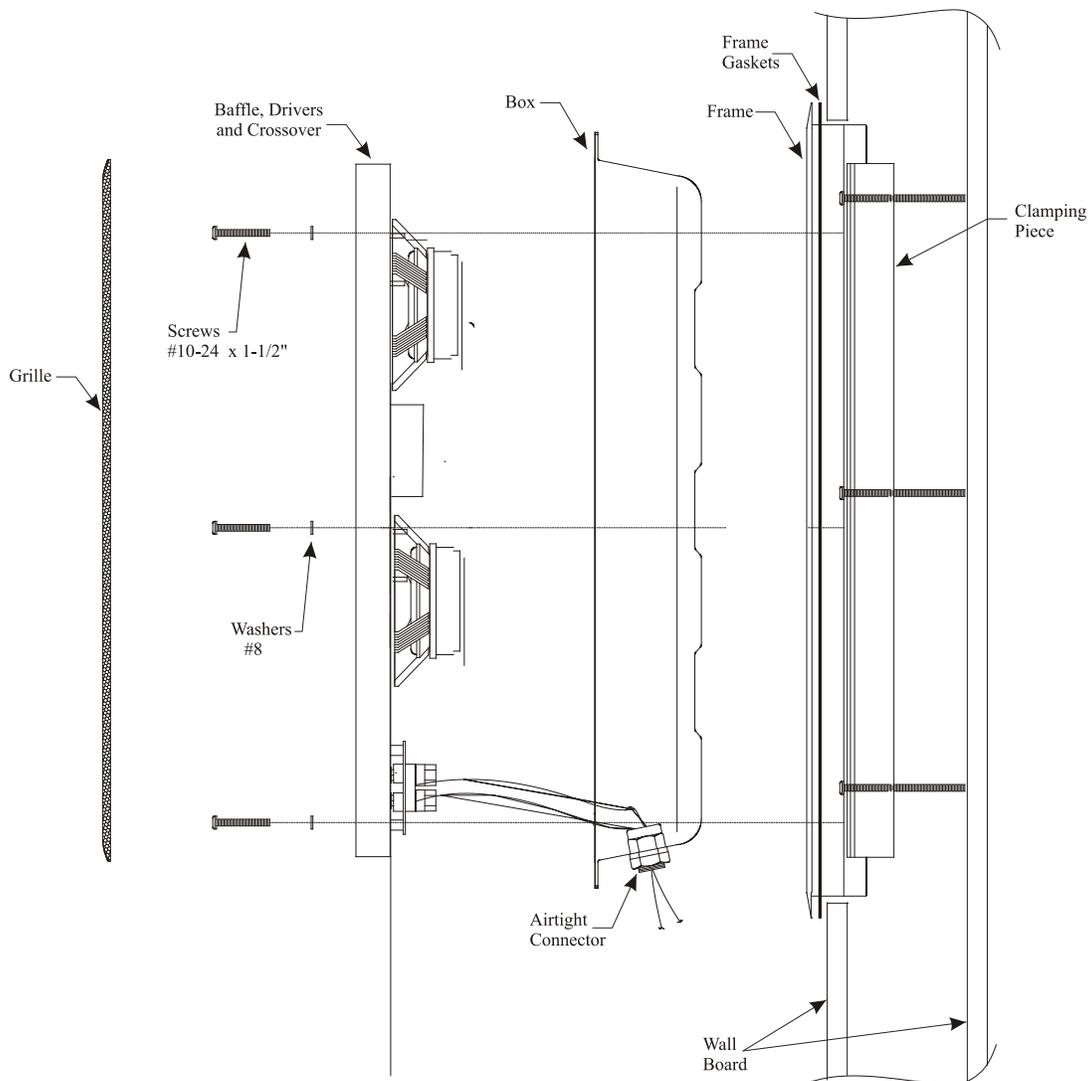


(7.62m) use at least 16AWG wire. For runs under 50 feet (15.24m) use at least 14AWG, and for longer runs up to 100 feet (30.48m) use 12AWG. 12AWG, being the larger wire, can be used in all the above cases if desired.

1. Pull enough speaker wire through the opening in the Frame to connect to the WS500.
2. Run the speaker wire through the Airtight Connector on the Box that will fit on the rear of the Baffle. The Airtight Connector can be positioned as the top or the bottom of the Box.
3. Loosen the Loudspeaker Binding Posts on the rear of the Baffle to reveal a hole for the speaker wire.
4. Insert the wire making sure no loose strands are exposed. Connect the positive speaker wire to the red terminal and the negative to the black terminal.
5. Tighten the Binding Posts.

## Putting it in the Wall

1. The Baffle will sit inside the Box.
2. Place Fiberglass Packing between the Baffle and the Box and then place the Baffle in the Box.
3. Place the Box and the Baffle inside the Frame.
4. Use the 6 supplied #10-24 x 1-1/2 inch Screws to secure the Baffle and Box to the Frame. Place a #8 Baffle Washer on each screw before fastening. Use care to hold the Baffle in place until there are at least two screws installed.
5. Place the Grille in front of the Baffle. It is held on by magnets.





## LOUDSPEAKER PRODUCTS FIVE YEAR LIMITED WARRANTY

**W**elcome to the family of McIntosh owners. This is the Warranty for your new McIntosh Loudspeaker Product (the "Speaker"). Your Speaker has been designed to give many years of trouble-free performance. Nonetheless, failures do sometimes occur even with equipment as well-built as McIntosh's. Therefore, please read this Warranty carefully, because it contains rights, as well as limitations, exclusions, and obligations, which in the event of such a failure may be very important to you. If after reading it thoroughly, you have any questions about the Warranty, please do

not hesitate to write or telephone McIntosh at the address or phone number shown on the back of this warranty. Please note that this is the only Warranty which McIntosh provides for your Speaker, and that no one, including your dealer, has any authority to either modify or expand upon this Warranty. If your dealer has offered or made any warranties or representations concerning the Speaker which differ from those contained in this Warranty, they are strictly between you and the dealer, and will neither be binding upon McIntosh nor change any of the provisions in this Warranty.

### Scope and Duration of Warranty

Subject to the terms and conditions stated below, McIntosh Laboratory, Inc. ("McIntosh") warrants to the original owner that this Speaker shall be free from defects in workmanship or materials for a term of five (5) years from the date when it was purchased from an Authorized McIntosh Dealer.

### Limitations on Persons and Speakers Covered by this Warranty

This Warranty and all rights provided here under are limited to the original owner. In the event that the original owner transfers ownership of the Speaker prior to expiration of the five-(5) year term, this Warranty shall terminate in its entirety upon the date of such transfer. In addition, McIntosh does not warrant in any way Speakers which are purchased from anyone who is not an Authorized McIntosh Dealer, or which have had their Serial Numbers altered or defaced. Therefore this Warranty is void and inapplicable if this Speaker has been purchased from someone other than an Authorized McIntosh Dealer, or has had its original Serial Numbers altered or defaced.

### Geographical Limitations

This Warranty has been included with a McIntosh Speaker that is designed, intended to be sold and used only within the United States and Canada. Accordingly, this Warranty only applies to Speakers which are purchased in the United States or Canada, and only applies while such Speakers are used in the United States or Canada. Speakers purchased outside the United States or Canada, and failures occurring outside the United States or Canada, are not covered by this Warranty.

### What McIntosh will do under the Warranty

In the event of any defect covered by this Warranty, McIntosh shall without charge provide all parts, materials, and labor necessary to restore the Speaker to its original specifications. After repair, McIntosh shall return the Speaker to its owner at the owner's expense. In the alternative, McIntosh may at its sole option either replace the Speaker without charge, or if replacement is not commercially practicable or repair or replacement cannot be accomplished within a reasonable time, McIntosh may refund the purchase price of the Speaker, subject where appropriate to reasonable depreciation for actual use in accordance with applicable laws, in full satisfaction of its warranty obligations. McIntosh or its Authorized Service Agency will undertake to complete the repair and return of the Speaker as soon as circumstances permit, unless prevented by causes beyond their reasonable control.

### Limitations on McIntosh's Obligations under the Warranty

McIntosh's sole obligation under this Warranty shall be to repair or replace the Speaker, or at its option refund the purchase price, as provided for hereinabove. McIntosh does not warrant against, nor shall it be liable for, any of the following: removal or installation charges; shipping expenses either to or from McIntosh or its Authorized Service Agency; loss of use; property damage of any kind; or other incidental or consequential damages or losses of any kind.

*Note: Some states do not allow exclusion or limitation of consequential damages, so the foregoing exclusions may not apply to you.*

### Parts and Occurrences that are not Covered by the Warranty

This Warranty does not cover any of the following: (a) glass panels, cabinetry, trim, or other appearance items (except where they are defective at the time of original sale and the Speaker is delivered for repair within the first thirty (30) days thereafter); (b) batteries, or damage to the Speaker caused by failure of batteries; (c) failures arising from accident, catastrophe, misuse, neglect, or failure to properly connect and operate the Speaker in accordance with the accompanying instructions; (d) failures arising from improper installation or removal of the Speaker; or (e) failures arising from any tampering, alteration, or attempted servicing of the Speaker by anyone other than McIntosh or an Authorized McIntosh Service Agency; and McIntosh shall have no liability or obligation of any kind with respect to any of the foregoing types of failures.

### What the Owner must do to obtain service under this Warranty

To obtain service under this Warranty, the owner must at the owner's expense arrange for any necessary de-installation of the Speaker, and deliver or ship the Speaker to McIntosh at the address below, or to an Authorized McIntosh Service Agency, properly packaged, prepaid, and insured at the owner's expense. In addition, the owner must provide evidence that the Speaker is at the time of delivery within the scope of his Warranty, by either having completed and submitted to McIntosh on a timely basis the accompanying Warranty Registration Card, or by including the original sales receipt (photocopies are not acceptable) with the Speaker when it is delivered for repair.

### What the Owner must Pay For

As noted above, the owner must pay any expense of removing the Speaker from its installation, and must pay any expenses for delivery of the Speaker to McIntosh or the Authorized McIntosh Service Agency. Upon return of the Speaker to the owner following repair, it shall be the owner's responsibility to pay for the shipping charges incurred in return of the Speaker, as well as to arrange and pay for any re-installation which may be required. In addition, it shall be the owner's obligation to pay for any repairs made to any Speaker for which the owner has neither completed and submitted the Warranty Registration Card at the time of purchase nor included the original sales receipt with the Speaker when delivered for service, at McIntosh's or its Authorized Service Agency's then-current repair rates.

### How to learn where the nearest Authorized McIntosh Service Agency is, or obtain answers to other questions concerning this Warranty

In order to learn the name and address of the nearest Authorized McIntosh Service Agency, obtain instructions for shipment of a covered Speaker to McIntosh, or obtain the answers to any other questions you may have concerning this Warranty, you may telephone McIntosh's Customer Service Department between the hours of 9:00 a.m. and 4:30 p.m. Eastern Time, Monday through Friday, at 888-979-3737 (607-723-3512) or write to McIntosh at 2 Chambers Street, Binghamton, New York 13903-2699, Attention: Customer Service Department.

*Note: This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.*



## Specifications

### Drivers

Two 6-1/2 inch Woofers  
Two 50mm Inverted Dome Midranges  
One 20mm Titanium Dome Tweeter

### Impedance

4 Ohm Nominal

### Frequency Response

80Hz - 20kHz  $\pm$ 3dB (Anechoic Response)

### Sensitivity

86dB (2.8V/1m equivalent)

### Crossover Frequencies

350Hz  
2,500Hz

### Power Handling

250 Watts Maximum

### Operating Temperature

41°-95°F  
5°-35°C

### Operating Humidity

30-85%

### Overall Dimensions

Height is 23.5 inches (59.7cm)  
Width is 14 inches (35.5cm)  
Depth is 3.65 inches (9.3cm)

### Shipping Carton Dimensions

Width 27-1/4 inches (69.22cm)  
Height 18-3/8 inches (46.67cm)  
Depth 8-3/4 inches (22.23cm)

### Weight

24 pounds (10.9kg) net,  
29 pounds (14.1kg) in shipping carton

### Optional Rough-in Kit

RK500



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The continuous improvement of its products is the policy of McIntosh Laboratory, Inc. who reserves the right to improve design without notice.  
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