

# MEN220

ROOM CORRECTION SYSTEM  
OWNER'S MANUAL



## 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 dealer who may be more familiar with your particular setup including other brands. You can also contact McIntosh with additional questions or in the unlikely event of needing service.

### McIntosh Laboratory, Inc.

2 Chambers Street  
Binghamton, New York 13903

**Technical Assistance** (607) 723-3512  
Fax (607) 724-0549

**Customer Service** (607) 723-3515  
Fax (607) 723-1917

**Email** support@mcintoshlabs.com

**Website** www.mcintoshlabs.com

## Please Take A Moment

For future reference, you can write down 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:** \_\_\_\_\_

## Table of Contents

<b>General Information</b> .. .. .	<b>3</b>
<b>Connector Information</b> .. .. .	<b>3</b>
XLR Input Connectors .. .. .	3
XLR Output Connectors .. .. .	3
Power Control Connectors .. .. .	3
RCA Connectors .. .. .	3
<b>Performance Features</b> .. .. .	<b>4</b>
<b>Installation</b> .. .. .	<b>5</b>
<b>Dimensions</b> .. .. .	<b>5</b>
<b>Connection Diagram Option 1</b> .. .. .	<b>6 - 7</b>
<b>Connection Diagram Option 2</b> .. .. .	<b>8 - 9</b>
<b>Front Panel Knobs and Buttons</b> .. .. .	<b>10</b>
<b>Connections</b> .. .. .	<b>11</b>
<b>Navigating the Remote Control</b> .. .. .	<b>12</b>
<b>Using the Remote Control</b> .. .. .	<b>12</b>
<b>How to Operate the Setup Mode</b> .. .. .	<b>13</b>
<b>Default Settings</b> .. .. .	<b>13</b>
<b>Input Connection Settings</b> .. .. .	<b>14</b>
<b>Output Settings</b> .. .. .	<b>15 - 17</b>
<b>Advanced Settings</b> .. .. .	<b>18 - 19</b>
<b>RoomPerfect</b> .. .. .	<b>19 - 22</b>
<b>How to Operate the MEN220</b> .. .. .	<b>22 - 23</b>
<b>Specifications</b> .. .. .	<b>18</b>
<b>Setup Menu Screens</b> .. .. .	<b>24 - 29</b>
<b>Specifications</b> .. .. .	<b>30</b>
<b>Packing Instructions</b> .. .. .	<b>31</b>
<b>Parts List</b> .. .. .	<b>31</b>

## Introduction

The MEN220 Room Correction System is an elegant instrument for restoring superb sound reproduction to your audio system by measuring and correcting for less than ideal room acoustics. The MEN220 uses the latest in technology to quickly restore proper musical balance in a minimum amount of time.

### TRADEMARK LOGO



### LICENSE INFORMATION

Manufactured under license from Lyngdorf Audio A/S. RoomPerfect™ is a registered trademark and the RoomPerfect™ logo is a trademark of Lyngdorf Audio A/S. (C) Lyngdorf Audio A/S 2009.

## Safety First

Please read the safety instructions included in a separate document called **Important Additional Operation Information Guide**.

## General Information

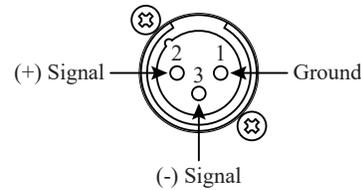
1. For additional connection information, refer to the owner's manual(s) for any component(s) connected to the MEN220.
2. The Main AC Power going to the MEN220 and any other McIntosh component(s) should not be applied until all the system components are connected together. Failure to do so could result in malfunctioning of some or all of the system's normal operations.
3. When the MEN220 is in its remote standby power off mode, a small section of the circuitry is actively waiting to receive a remote control command via the unit's power control in jack.
4. The MEN220 has been tested and certified for indoor use only.
5. For additional information on the MEN220 and other McIntosh products please visit the McIntosh website at [www.mcintoshlabs.com](http://www.mcintoshlabs.com).

## Connecting Components

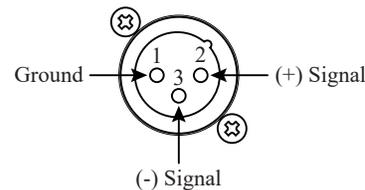
The MEN220 has the ability to automatically switch power On/Off to Source Components via the Power Control connections. The Data Port Connections allow for the remote operation of basic functions using the MEN220 Remote Control HR074. With an external sensor connected to the MEN220, remote control operation of the system is possible from another room and/or when the MEN220 is located in a cabinet with the doors closed.

## Connector Information

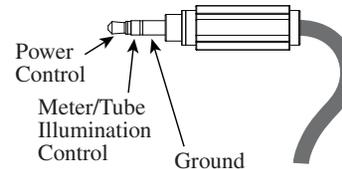
### XLR Input Connectors



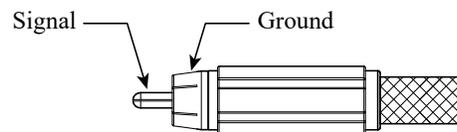
### XLR Output Connectors



### Power Control Connectors



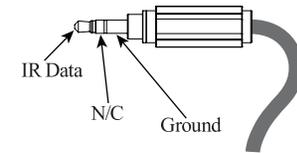
### RCA Connectors



### Data Ports and External Control Connectors

Data IN receives IR commands from other McIntosh components. A 3.5mm stereo mini phone plug is used for connections.

The IR IN port also uses a 3.5mm stereo mini phone plug and allows the connection of other brand IR receivers to the MEN220. The IR receiver must provide its own power supply.



### NETWORK Port (Ethernet / 10baseT LAN)

Use an Ethernet cable to connect the MEN220 to a network router. The network connector is located on the rear panel of the MEN220 to the right of the CAUTION label. It is labeled NETWORK.

By default, the MEN220 has DHCP set to ON and will automatically receive an IP address from the router. This setting can be changed.

## Performance Features

---

- **Room Correction**

The MEN220 uses the latest in technology to restore musical balance to audio systems located in rooms with less than ideal acoustics, whether the system is two channel or multichannel.

- **Focus and Global Settings**

The MEN220 provides for measurement and correction for up to eight specific listening locations (Focus Positions) in a room. It also measures additional locations in the room and produces a Global Room Correction for listening anywhere in the room.

- **Electronic Crossover**

The advanced two way electronic crossover built into the MEN220 provides the best way for adding true bi-amplification to your audio system.

- **Variable Crossover Settings**

The variable crossover in the MEN220 allows the crossover frequency to be set from 10Hz to 20,000Hz.

Select from three available crossover slope rates for both the Butterworth or Linkwitz-Riley Filter Types.

- **Listening Equalization Curves**

The MEN220 has six preset Equalization Curves to choose from when listening to various type of music.

- **Custom Equalization Curves**

Create up to six Custom Equalization Curves using the Built-In Web Menu for Custom Equalization Curves.

- **Precision Measurement Microphone**

The MEN220 is supplied with an Omnidirectional Electret Condenser Microphone to accurately measure the Loudspeaker performance together with Room Acoustics. The microphone has high resistance to vibrations, flat frequency response and a high signal-to-noise ratio. It is “phantom power” from the MEN220 via the balanced cable.

- **Professional Microphone Stand with Boom**

The MEN220 is supplied with a professional type adjustable height microphone stand. The Boom Adapter allows for easy placement of the Precision Microphone for precise Focus Measurements.

- **Multiple Outputs**

The MEN220 has both Unbalanced and Balanced Outputs of which permit long cable lengths without a loss in sound quality.

- **Multi-Function Front Panel Display**

The Front Panel Information Display indicates various setup and operational functions.

- **Power Control and Full Function Remote Control**

The Power Control Input connection provides convenient Turn-On/Off of the MEN220 when connected to a McIntosh System. The Remote Control push-buttons provide complete control of the MEN220 operating functions.

- **Special Power Supply**

The custom designed high efficiency Power Supply has Multiple Regulators to ensure stable noise free operation even with power line variation.

- **Solid State Front Panel Illumination**

The even illumination of the glass front panel features long life Light Emitting Diodes (LEDs). This provides even front panel illumination and is designed to ensure the pristine beauty of the MEN220 will be retained for many years.

- **Simple Setup**

Setup is provided through either Front Panel display or through new Built-In Web Menu.

## Installation

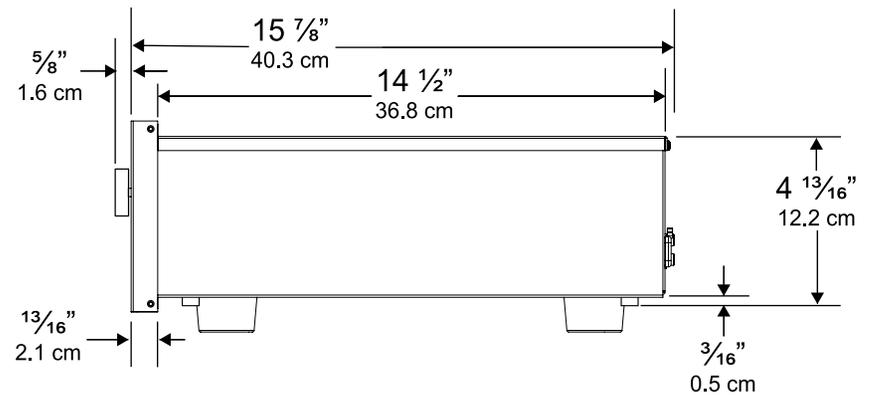
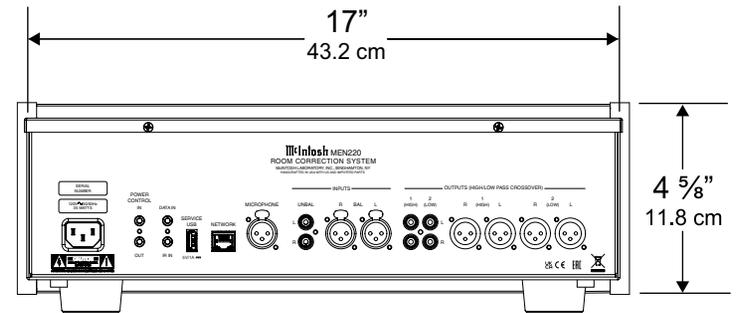
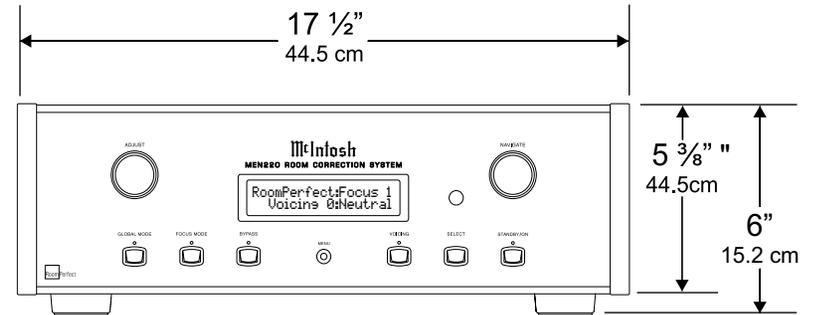
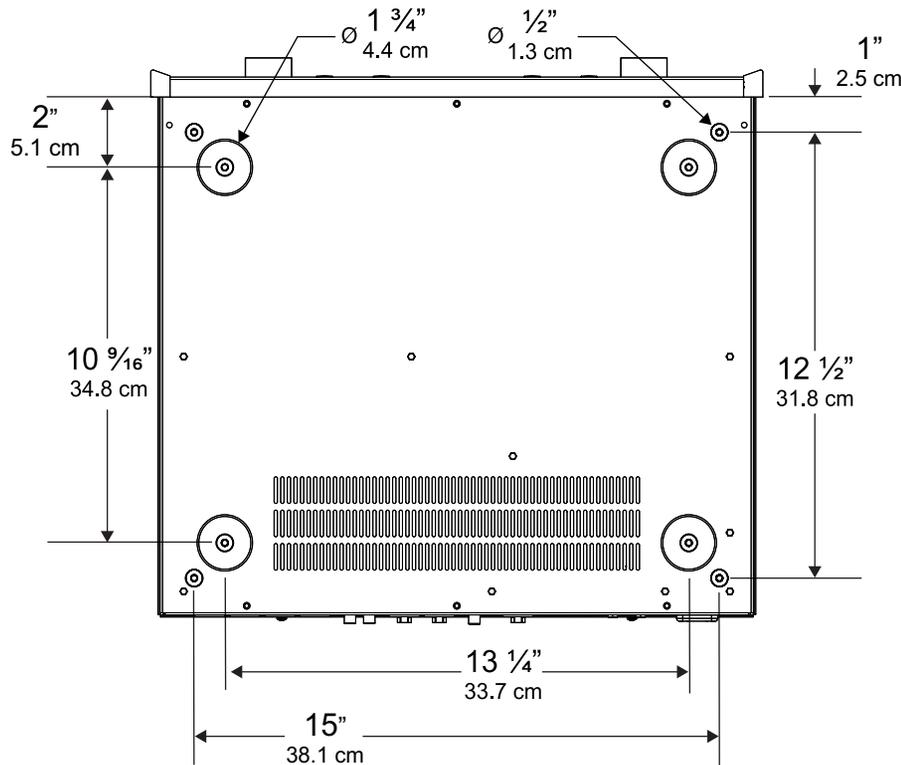
The MEN220 should be installed upright on its four feet. Adequate ventilation is important and will aid in a long trouble-free life of the MEN220.

## Dimensions

The following dimensions can assist in determining the best location for your MEN220.

### A Note on Placement:

To protect the anodized finish on your MEN220 it is important to limit exposure to certain types of lighting and only use appropriate gentle cleaners. Direct sunlight, other forms of UV light, high intensity lighting and aggressive cleaners with harsh chemicals can result in discoloration of the anodized finish.

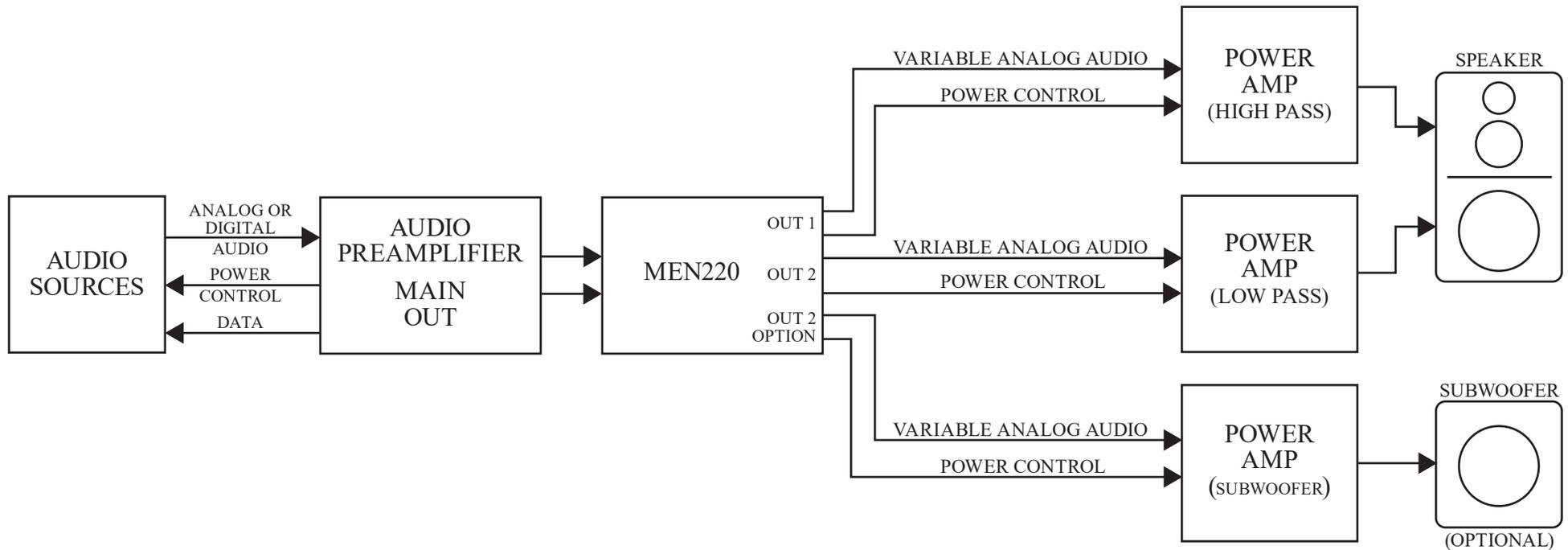
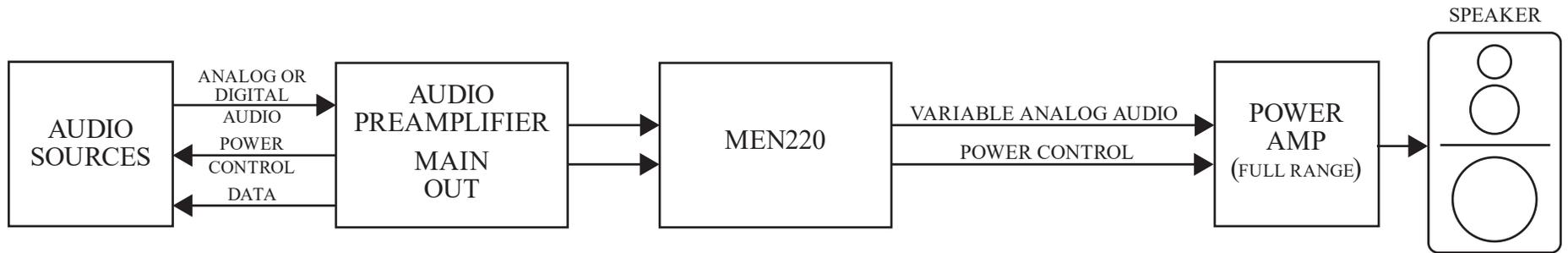


## Connection Diagram Option 1 (Using the MEN220 Between a Preamp and Power Amp)

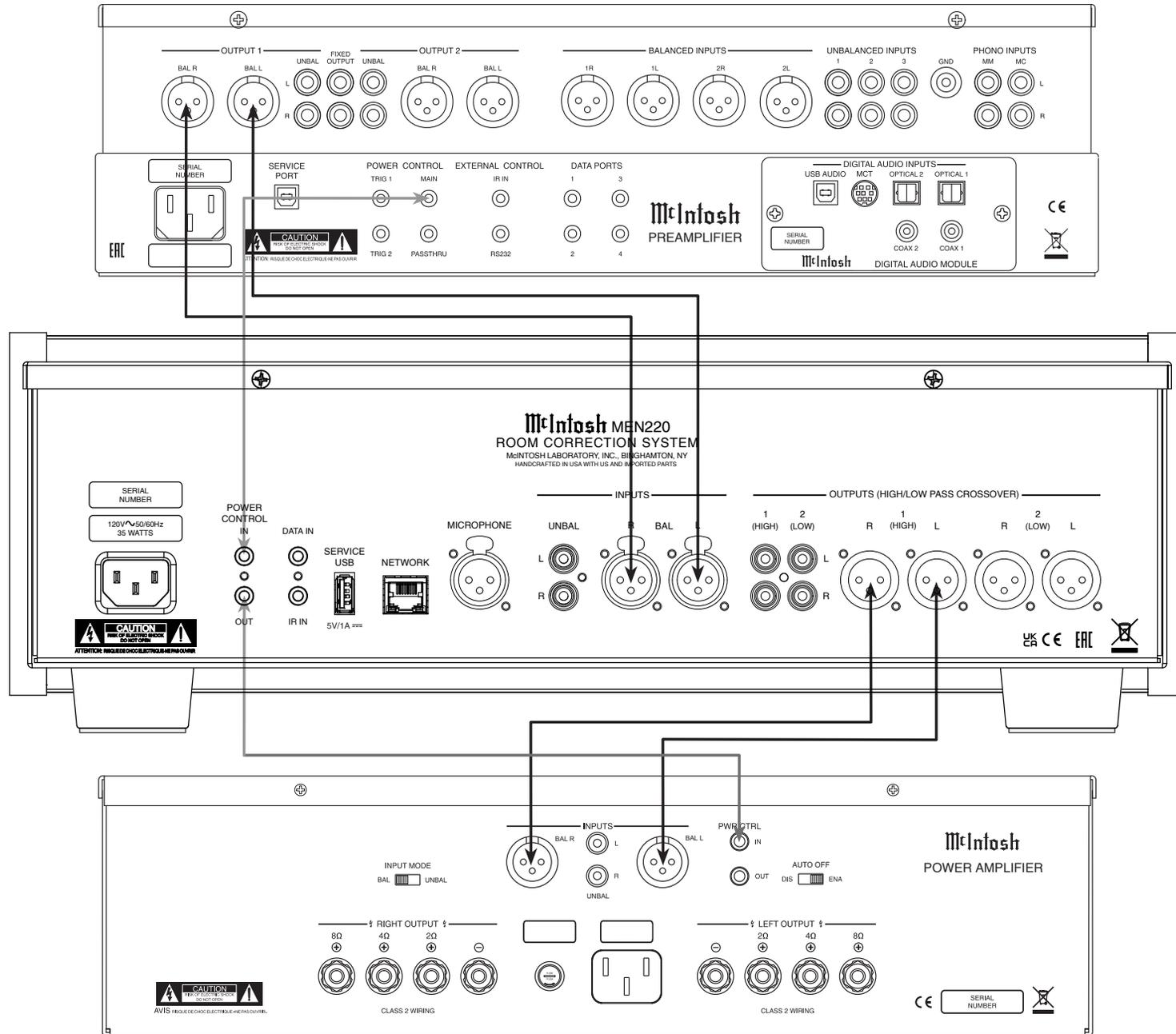
### System Configuration

Shown below are two typical system configurations. Your system may vary from this, however the actual components would be connected in a similar manner.

*Note: The preamplifier or power amplifier may be connected to the MEN220 balanced or unbalanced outputs.*



# Connection Diagram Option 1 (Using the MEN220 Between a Preamp and Power Amp)

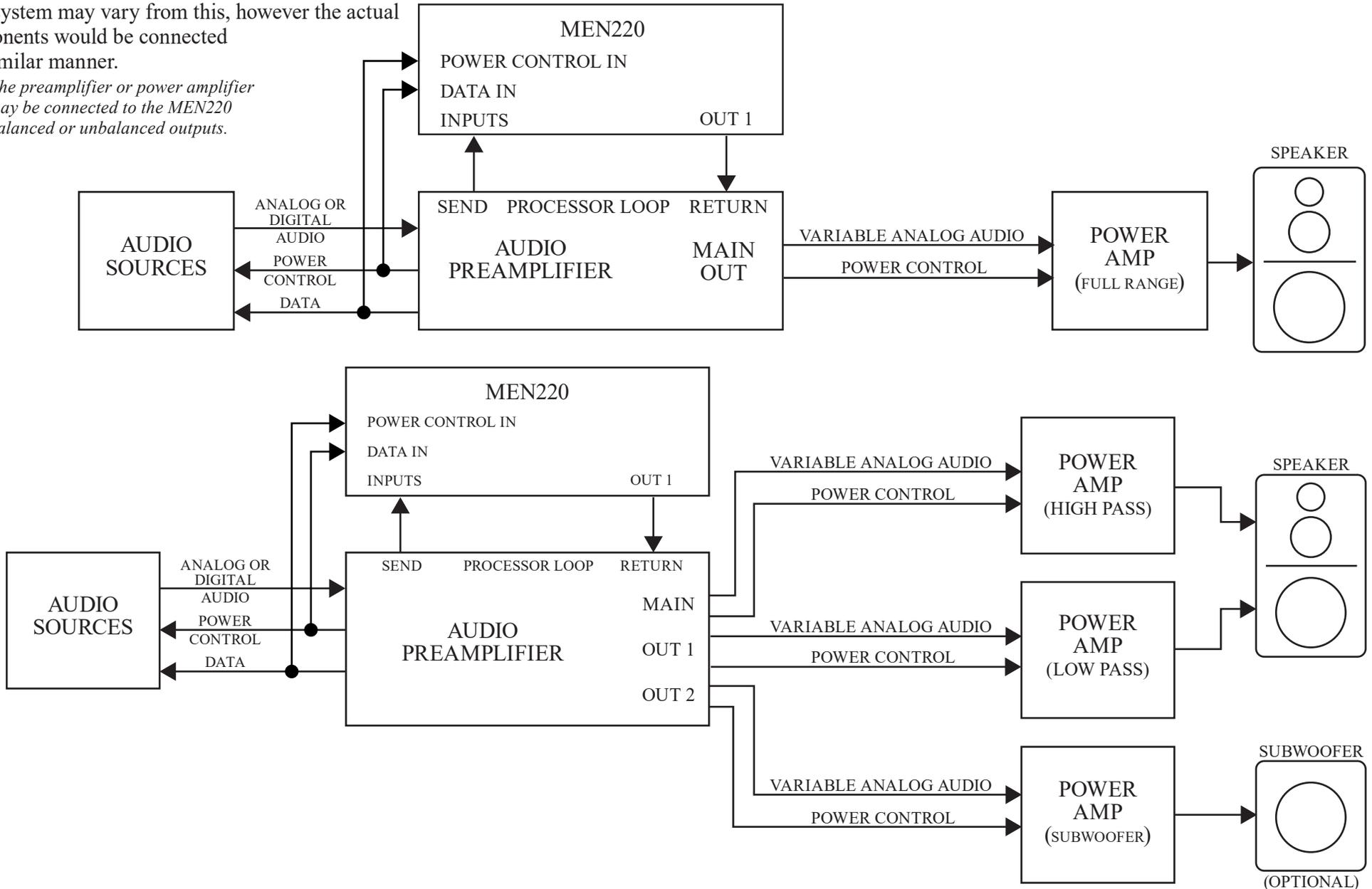


## Connection Diagram Option 2 (Using the MEN220 in a Processor Loop)

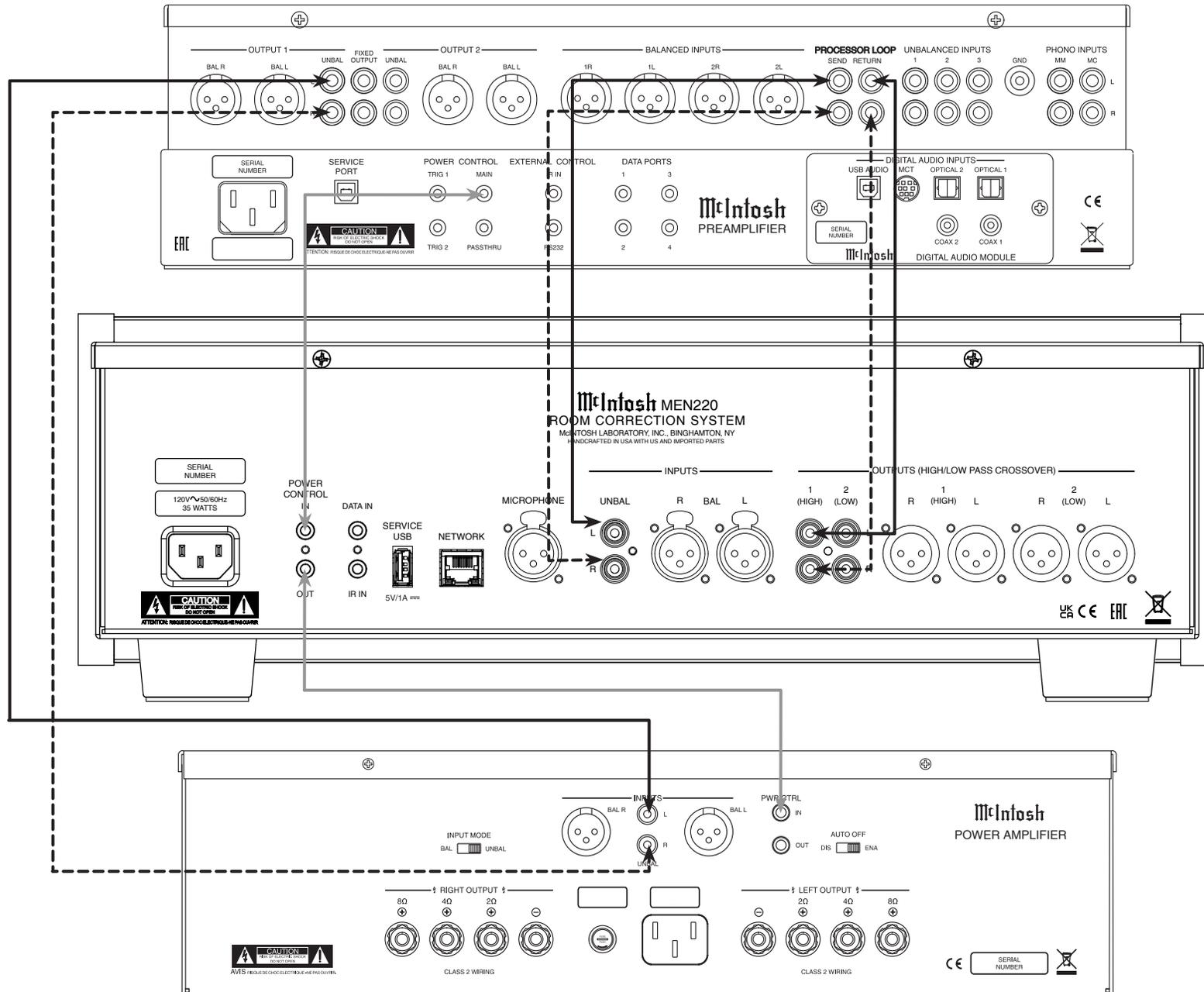
### System Configuration

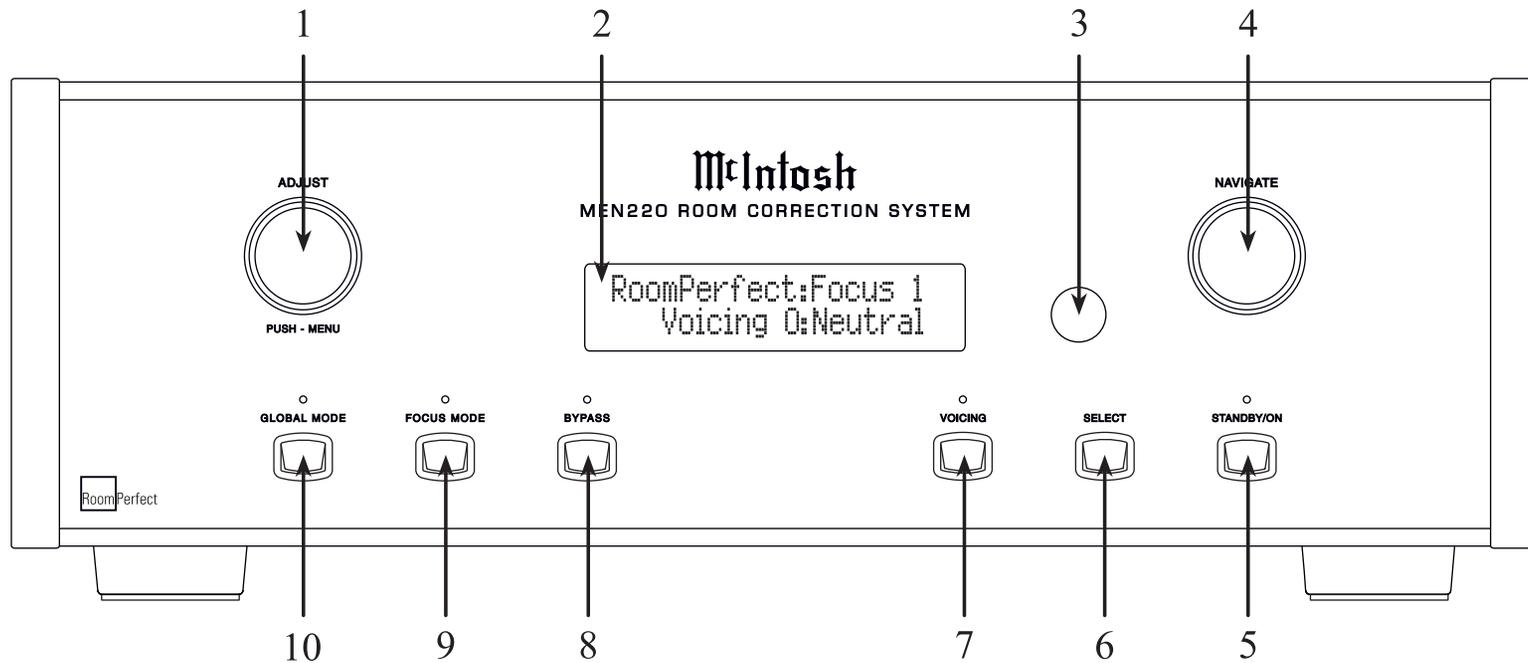
Shown below are two typical system configurations. Your system may vary from this, however the actual components would be connected in a similar manner.

*Note: The preamplifier or power amplifier may be connected to the MEN220 balanced or unbalanced outputs.*



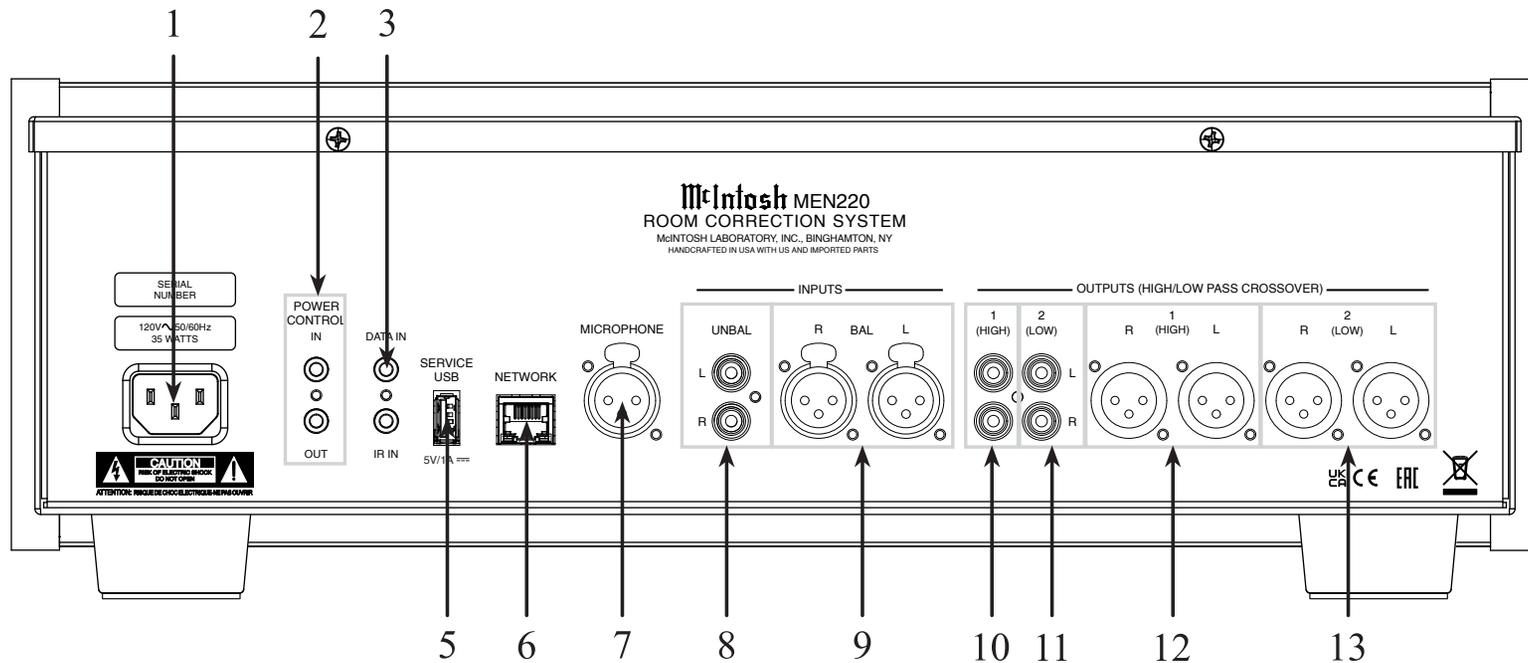
# Connection Diagram Option 2 (Using the MEN220 in a Processor Loop)





## Front Panel Knobs and Buttons

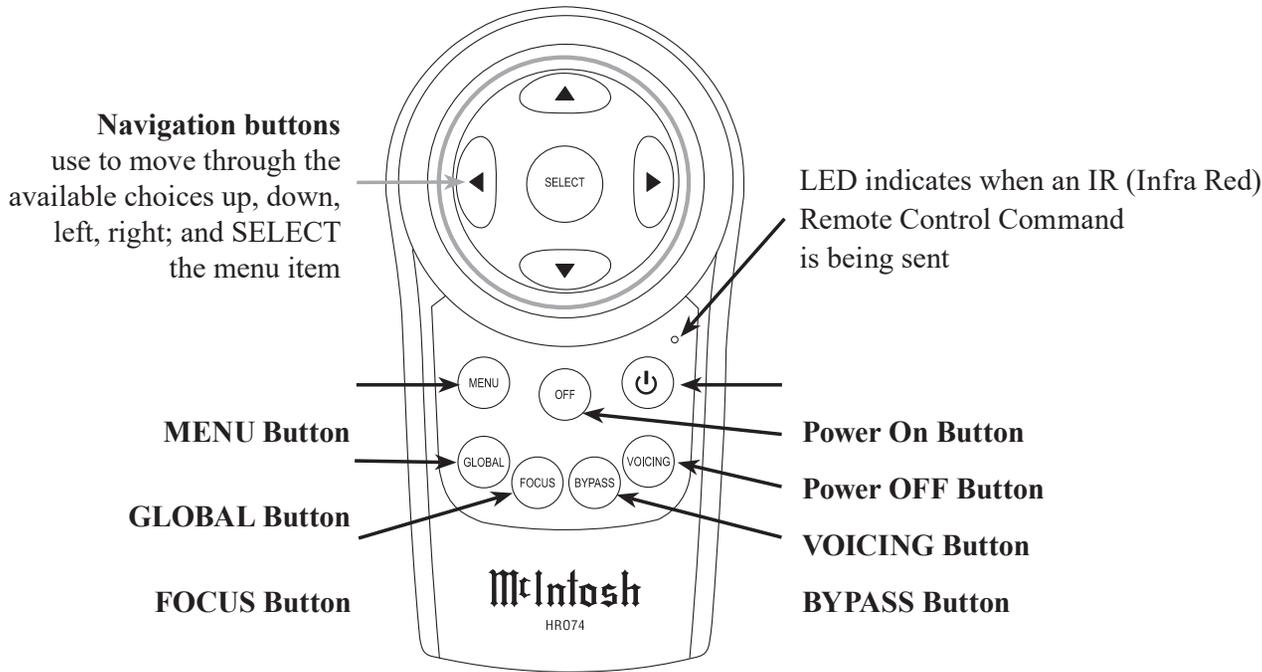
- 1. ADJUST/MENU Knob** allows selection of various types of audio settings and is also used in the Menu Mode (Setup) for various functions.
- 2. VFD Information Display** indicates various operational functions and Menu Mode settings.
- 3. IR Sensor** receives commands from a Remote Control.
- 4. NAVIGATE Knob** is used in the Menu Mode for various functions.
- 5. STANDBY/ON Button** switches the MEN220 ON or OFF. **Standby Indicator LED** illuminates when the MEN220 is connected to AC power.
- 6. SELECT Button** selects the current choice as indicated on the VFD Information Display when in the Menu Mode.
- 7. Voicing Button with LED indicator** selects between six different equalization variations.
- 8. BYPASS Mode button with LED indicator** removes all Room Correction (RoomPerfect Focus or Global) from the MEN220 audio signal output.
- 9. FOCUS Mode Button with LED indicator** selects a narrow listening area of Room Correction.
- 10. GLOBAL Mode Button with LED indicator** selects a wide listening area of Room Correction.



## Connections

1. Connect the MEN220 power cord to a live AC outlet. Refer to information on the back panel of your MEN220 to determine the correct voltage for your unit.
2. **POWER CONTROL IN** receives signals from a McIntosh component (5-15 Volts ON, 0 Volts OFF).  
**POWER CONTROL OUT** sends out a (12 Volts ON) signal to another McIntosh Component when the MEN220 is On.
3. **DATA IN** receives operating data from a McIntosh Preamplifier or Control Center.
4. **IR IN**put for connecting an IR Receiver.
5. **SERVICE USB** is a USB Type-A port used for service purposes only.
6. **NETWORK** for a wired Local Area Network connection via ethernet.
7. Connect the MEN220 Calibration **MICROPHONE** with the supplied cable.
8. **UNBALANCED INPUTS** receive audio signals from a Preamplifier, Integrated Amplifier, or an A/V Control Center.
9. **BALANCED INPUTS** receive audio signals from a Preamplifier, Integrated Amplifier, or an A/V Control Center.
10. **Unbalanced OUTPUT 1 (HIGH)** supplies Full Range or High Frequency audio signals to a Power Amplifier.
11. **Unbalanced OUTPUT 2 (LOW)** supplies Full Range or Low Frequency audio signals to a Power Amplifier.
12. **Balanced OUTPUT 1 (HIGH)** supplies Full Range or High Frequency audio signals to a Power Amplifier.
13. **Balanced OUTPUT 2 (LOW)** supplies Full Range or Low Frequency audio signals to a Power Amplifier.

## Navigating the Remote Control



```
RoomPerfect:Global
Voicing 0:Neutral
```

### Focus Button

Press to activate the Focus Mode for Room Correction applied in a narrow area of the room in the MEN220 Audio Signal Output.

*Note: In order for the MEN220 to provide room correction, the Setup Mode "RoomPerfect" must be performed first.*

```
RoomPerfect:Focus 1
Voicing 0:Neutral
```

### Bypass Button

Press to remove all Room Correction (RoomPerfect Focus or Global) from the MEN220 Audio Signal Output.

*Note: Crossover Settings made in the Setup Mode are still active and effecting the MEN220 Audio Signal Outputs.*

```
RoomPerfect:Bypass
Voicing 0:Neutral
```

### Voicing Button

Used to select one of seven different Equalizer Settings for slight equalization modifications to restore musical balance.

```
New Voicing:
3: Mellow
```

```
RoomPerfect:Focus 1
Voicing 3: Mellow
```

*Note: The Voicing Mode may be used even when the RoomPerfect Mode is not active, however its effect may become less noticeable.*

```
RoomPerfect:Bypass
Voicing 3:Mellow
```

## Using the Remote Control

The Remote Control is capable of performing both basic Operating Functions and Setup Options for the MEN220 Room Correction System.

*Notes: Refer to the "How to Operate" and "How to Operate Setup Mode" Sections of this manual for additional information using this Remote Control.*

### Power On Button

Used to turn On the MEN220. The Front Panel Information Display top line will indicate "RoomPerfect: Muted" for approximately two seconds after turn on.

```
RoomPerfect: Muted
Voicing 0:Neutral
```

### Menu Button

Press to enter the Setup Mode, step through the Setup Menus, return to the previous Menu, and exit from the Setup Mode.

```
MEN220 Setup Menu
Input Settings >
```

### Global Button

Press to activate the Global Mode for Room Correction applied over a wide area in the room in the MEN220 Audio Signal Output.

*Note: In order for the MEN220 to provide room correction, the Setup Mode "RoomPerfect" must be performed first.*

## How to Operate the Setup Mode

The McIntosh MEN220 has been factory configured for default settings allowing for very basic operation. To benefit from all the MEN220 capabilities including Room Correction and the Electronic Crossover, it will require using the MEN220 Setup Mode and going through the options and functions. This is performed using the Front Panel Information Display and supplied RoomPerfect Calibration Microphone.

*Notes: 1. Assemble the supplied Microphone Holder/Stand/ Boom Adapter and connect the Microphone to the MEN220 Microphone Connector on the Rear Panel using the supplied cable.*

*2. If the MEN220 is currently On, proceed to step 2.*

When performing the following Setup Instructions please refer to the MEN220 Setup Menu Diagram located on the separate folded sheet “Mc3B” for an overall view of the menu structure.

1. Press the STANDBY/ON Push-button on the Front Panel or press the  (Power) Push-button on the Remote Control to switch On the MEN220. The Front Panel Information Display top line will indicate “RoomPerfect: Muted” for approximately two seconds after turn on.

```
RoomPerfect:Muted
Voicing 0:Neutral
```

The Front Panel will then indicate the previous operation settings for RoomPerfect and Voicing.

```
RoomPerfect:Bypass
Voicing 0:Neutral
```

2. Press the MENU Push-button to enter the Setup Mode.

```
MEN220 Setup Menu
Input Settings >
```

3. Rotate the NAVIGATE Control one detent position at a time or use the directional ◀ ▶ Push-buttons on the Remote Control to view the main Setup Menu Modes (Connections, RoomPerfect, Device, Network, Software and Exit Menu).

```
MEN220 Setup Menu
Connections >
```

```
MEN220 Setup Menu
RoomPerfect >
```

```
MEN220 Setup Menu
Device >
```

```
MEN220 Setup Menu
Network >
```

```
MEN220 Setup Menu
Software >
```

```
MEN220 Setup Menu
Exit_Menu >
```

4. To exit from the Setup Mode, press the MENU Push-button and the Front Panel Display will revert back to its normal display.
5. **It is important to follow the sequence of the Setup Mode Adjustments starting on page 14, as some of these adjustments are interactive.**

## Default Settings

The Default Settings Chart below indicates the Function Name, Default Setting and the Page Number for additional information.

MEN220 Default Settings		
Function Name	Setting	Page No.
Input Connection	Unbalanced	14
Out 1 (Hi)	Full Range	15
Out 2 (Lo)	Full Range	15
Output 1 (Hi)	0.0dB	16
Output 1 (Lo)	0.0dB	16
High Pass Filter Type	Butterworth 1 ord	16
High Pass Frequency	300Hz	16
Low Pass Filter Type	Butterworth 1 ord	16
Low Pass Frequency	300Hz	16
Distance Units	Inches	16
L1	0"	16
R1	0"	16
L2	0"	16
R2	0"	16
Auto Power On	Disabled	18
Auto Power Off	Enabled	18
Standby Power Mode	Deep Sleep	18
Front Panel Sensor (remote)	On	18
Display Intensity	75%	18
Network Type	DHCP	---
McIntosh MEN220	SW Version: _ _ _	19

## Input Connections Settings

The MEN220 Input Setup allows for the selection of input connection type, Unbalanced or Balanced.

1. Press the MENU Push-button to enter the Setup Mode.

```
MEN220 Setup Menu
Connections >
```

2. Press the SELECT Push-button and the “Connection, Input Selection” will appear on the Information Display.

```
Connections
Input Selection >
```

3. Press the SELECT Push-button again and the following will appear:

```
Input Connection
Unbalanced >
```

4. The MEN220 default Input Connection Type is the Unbalanced Inputs. To change to the Balanced Inputs rotate the ADJUST Control or use the Directional ▲ ▼ Push-buttons on the Remote Control to select the Balanced Inputs.

```
< Input Connection
Balanced
```

5. Press the SELECT Push-button to enter either choice.
6. Rotate the NAVIGATE Control one detent position at a time or use the Directional ◀ ▶ Push-buttons on the Remote Control to select “Input Settings, System Connection”, or the “Exit Menu”.

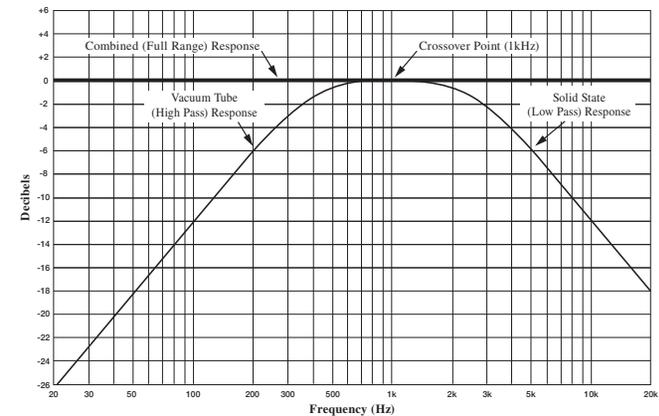
```
MEN220 Setup Menu
< Exit Menu
```

7. Proceed to “Output Routing” or to exit from the Setup Mode, press the MENU Push-button and the Front Panel Display will revert back to its normal display.

```
RoomPerfect:ByPass
Voicing 0:Neutral
```

### Bi-Amp Frequency

Bi-amping your speakers with the MEN220 is easy. No longer do you need fiddle with an external crossover, and a lot of trial and error to properly configure the two separate amplifiers with often times only so-so results. The MEN220 solves these hassles thanks to its internal, adjustable crossover. The MEN220’s crossover tailors the output frequency range of each amplifier section to the attached loudspeaker. Simply set the High Pass and Low Pass frequencies to the loudspeaker’s crossover point, then frequencies above the crossover point will be sent to the OUT1 and frequencies below the crossover point will be sent to OUT2. As an example the High Pass Outputs could be sent to a vacuum tube amplifier, and the Low Pass Outputs could be sent to a solid-state amplifier. This adjustable crossover allows you to optimize the performance of your amplifiers to your speaker’s specifications and to your listening preferences. Gain levels for the Outputs is adjustable from 0dB to -12dB. A direct feed can also be connected to each amplifier section, thus bypassing the internal crossover.



### Introduction to Crossovers

Almost all Loudspeakers incorporate acoustic drivers and a passive crossover network. The passive crossover network channels the various audio frequencies to the appropriate acoustic driver taking into account the amplitude and phases of the audio signals the Loudspeaker reproduces. When an electronic crossover such as the MEN220 is used together with multiple Power Amplifiers and Loudspeakers, it is very important to maintain the correct amplitude and phases of the audio signals for accurate sound reproduction. McIntosh’s Acoustics Laboratory has measured McIntosh Loudspeakers (with separate Low Frequency/High Frequency connections) when used with the MEN220 and has arrived at the optimum settings. There are three different settings for use with McIntosh Loudspeakers, with a crossover frequency of 80Hz, 250Hz or 300Hz between the Low Frequency (Woofer) to High Frequency (Midrange/Tweeter). When the MEN220 is used with non-McIntosh Loudspeakers it is highly recommended to contact your Dealer for assistance. Your Dealer has the necessary measurement equipment and knowledge

to properly set up the electronic crossover in the MEN220 for your Loudspeakers.

### Crossover Options:

There are four different Crossover Settings for Frequency Response Options:

- **Full Range:** the default setting for both Outputs 1 and Outputs 2 bypasses the built-in electronic crossover network circuitry. This sends the entire audio frequency range from 20Hz to 20,000Hz on to the Power Amplifier.
- **High-Pass:** allows all the frequencies above the crossover point to pass on to the Power Amplifier while at the same time reducing the amplitude of the frequencies below the crossover point.
- **Low-Pass:** allows all the frequencies below the crossover point to pass on to the Power Amplifier while at the same time reducing the amplitude of the frequencies above the crossover point.
- **Lo-Pas (Low-Pass) Mono:** is a variation of the Low-Pass setting and is designed to be used with a Subwoofer(s). It combines the Left and Right Channels together into a Mono Signal before the signal is processed by the MEN220 Crossover Circuitry. The crossover signal is available at the number 2 Outputs Left and Right
- When setting the crossover frequencies, it's recommended that you set the MEN220 crossovers away from the crossovers in the speakers. This avoids the potential of the MEN220 crossovers combining with the speaker crossovers and creating unwanted attenuation around those frequencies. It's always best to send a little more bandwidth to the speakers and let their built-in crossovers have the final effect. This ensures that your speakers will maintain the sound they were designed to have.

### How to Change the Crossover Setting

1. Press the MENU Push-button to enter the Setup Mode and select "Connections".

```
MEN220 Setup Menu
< Connections >
```

2. Press the SELECT Push-button and the "Connections, Output Routing" will appear.

```
Connections
Output Routing >
```

3. Press the SELECT Push-button and the default Crossover Setting will appear.

### High and Low Pass Filter Settings

In the following steps the Crossover Settings will be set up for a Bi-Amplified System using McIntosh Loudspeakers. If your Loudspeakers are not McIntosh contact your Dealer for assistance.

1. Press the MENU Push-button to enter the Setup Mode and select "Output Settings".
2. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select "Out1(Hi):High-Pass".

```
Out1(Hi):Full Range
Out2(Lo):Full Range
```

3. Rotate the NAVIGATE Control (or use the directional ◀ ▶ Push-buttons on the Remote Control) to select "Out2(Hi):Full Range". Then Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select "Out2(Lo):Low-Pass".

```
Out1(Hi):High-Pass
Out2(Lo):Low-Pass
```

4. Press the SELECT Push-button and "Output Settings Crossover Options" will appear.
5. Rotate the NAVIGATE Control (or use the Directional ◀ ▶ Push-buttons on the Remote Control) to select "Output Settings, High Pass Filter".

```
Output Settings
< High Pass Filter >
```

6. Press the SELECT Push-button and the default Crossover Setting will appear. Refer to Line Number 1 in the chart below "MEN220 Crossover Settings, High Pass Filter (selection and display).

*Note: For selection of the MEN220 Crossover Filter Type and Frequency when using McIntosh Loudspeakers, refer to lines 2, 3 and 4 in the chart below for the settings and the Front Panel Display Indications. If any other brand Loudspeaker is being used with the MEN220, contact your Dealer and/or Loudspeaker Manufacturer for optimum settings.*

7. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select "HighPass Filter Type, LinkwitzRiley 4 ord".
8. Press the SELECT Push-button and "High Pass Frequency, 300Hz" will appear. At this time refer the Loudspeaker Owner's Manual to determine if Low Frequency (Woofer) to High Frequency (Midrange/Tweeter) crossover frequency is 80Hz, 250Hz or 300Hz.
9. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select
  - If the Loudspeaker Crossover Frequency is 80Hz, select "High Pass Frequency, 40Hz".

## Output Settings (continued)

- If the Loudspeaker Crossover Frequency is 250Hz, select “High Pass Frequency, 125Hz”.
- If the Loudspeaker Crossover Frequency is 300Hz, select “High Pass Frequency, 150Hz”.

Notes: 1. 40Hz is one-half times the Loudspeaker Low Frequency/High Frequency passive crossover point of 80Hz.  
 2. 125Hz is one-half times the Loudspeaker Low Frequency/High Frequency passive crossover point of 250Hz.  
 3. 150Hz is one-half times the Loudspeaker Low.

10. Press the SELECT Push-button.
11. Rotate the NAVIGATE Control (or use the Directional ◀ ▶ Push-buttons on the Remote Control) to select “Connections, Low Pass Filter”.
12. Press the SELECT Push-button and the default Crossover Setting will appear. Refer to Line 1.
13. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “LowPass Filter Type, LinkwitzRiley 4 ord”.



14. Press the SELECT Push-button and “Low Pass Frequency, 300Hz” will appear.
15. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select
  - If the Loudspeaker Crossover Frequency is 80Hz, select “Low Pass Frequency, 160Hz”. Refer to Line 2.
  - If the Loudspeaker Crossover Frequency is 250Hz, select “High Pass Frequency, 500Hz”. Refer to Line 3.
  - If the Loudspeaker Crossover Frequency is 300Hz, select “High Pass Frequency, 600Hz”. Refer to Line 4.

Notes: 1. 160Hz is two times the Loudspeaker Low Frequency/High Frequency passive crossover point of 80Hz.  
 2. 500Hz is two times the Loudspeaker Low Frequency/High Frequency passive crossover point of 250Hz.  
 3. 600Hz is two times the Loudspeaker Low Frequency/High Frequency passive crossover point of 300Hz.

16. Press the SELECT Push-button followed by the MENU Push-button.
17. Proceed to “Output Levels” or to exit from the Setup Mode, press the MENU Push-button and the Front Panel Display will revert back to its normal display.

Loudspeaker Crossover Frequency	High Pass Filter (selection and display)		Low Pass Filter (selection and display)	
	High Pass Filter Type	High Pass Frequency	Low Pass Filter Type	Low Pass Frequency
300Hz (Default Settings)	Butterworth 1 ord	300Hz	Butterworth 1 ord	300Hz
80Hz (McIntosh Loudspeaker)	LinkwitzRiley 4 ord	40Hz	LinkwitzRiley 4 ord	160Hz
250Hz (McIntosh Loudspeaker)	LinkwitzRiley 4 ord	125Hz	LinkwitzRiley 4 ord	500Hz
300Hz (McIntosh Loudspeaker)	LinkwitzRiley 4 ord	150Hz	LinkwitzRiley 4 ord	600Hz
__ _ Hz				

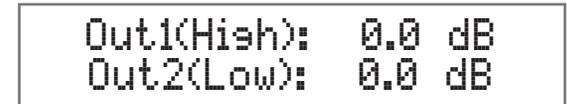
## Output Levels

The MEN220 “Output Level” default setting for both Output 1 and Output 2 is 0.0dB, no change in volume between input and output. In some system component configurations it might be desirable to change the volume level going to the Power Amplifier connected to Output 1 versus the Power Amplifier connected to Output 2. The range of adjustment for both Output 1 and Output 2 is 0.0dB to -12.0dB with one tenth of a decibel steps. To make changes in the Output Levels perform the following:

1. Press the MENU Push-button to enter the Setup Mode and select “Output Settings”.
2. Press the SELECT Push-button and the “Output Settings, Crossover Options” will appear.
3. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Output Settings, Output Levels”.



4. Press the SELECT Push-button and the default Output Level Settings will appear.



5. Select either Output 1 or 2 by using the NAVIGATE Control (a flashing cursor will indicate which Output is selected).



- Rotate the ADJUST Control to reduce the Output volume to the desired level.

### Distance Settings

In the ideal audio system the Left and Right Loudspeakers would have the same measured distance to the Focus Listening Position. Due to room dimensions, furniture placements, etc. the distances may not be identical. The MEN220 can delay the sound coming from the closer Loudspeaker, assuring the sound arrives at the same time to the Focus Listening Position. Perform the following steps on the next page to correct for different distances:

- Press the MENU Push-button to enter the Setup Mode and select “Connections”.
- Press the SELECT Push-button and the “Connections, Output Routing” will appear.
- Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Connections, Distance Settings”

```

Connections
< Distance Settings >

```

- Press the SELECT Push-button and the default Delay Distance Units of “Inches” will appear.

```

Distance Unit
Inches

```

- To change the distance measurement to “Centimeters” rotate the ADJUST Control.

```

Distance Unit
Centimeters

```

- First measure the actual distance from each Loudspeaker to the Focus Listening Position.
- Press the SELECT Push-button, then rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to position the cursor and the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to enter the distance (0-999) in inches or centimeters.

```

L1    0"    R1    0"
L2    0"    R2    0"

```

```

L1    0cm   R1    0cm
L2    0cm   R2    0cm

```

```

L1    0"    R1    0"
Out2  (Mono): 0"

```

*Notes: 1. L1 and R1 are for Loudspeaker connected to the Power Amplifier 1 (Power Amplifier 1 is connected to the MEN220 Output 1).  
 2. L2 and R2 are for Loudspeakers connected to the Power Amplifier 2 (Power Amplifier 2 is connected to the MEN220 Output 2).  
 3. When the MEN220 Electronic Crossover is configured for Low Pass Mono on Output 2 and two Subwoofers are connected, measure the distance to each Subwoofer. Then add together both distances and divide by two for the distance measurement for Output 2 (Mono).*

### Remote Control

In a typical Audio/Video System, the MEN220 Power Control and Data Port Connections are made to the Audio Preamplifier or A/V Control Center. This allows the MEN220 to switch On or Off with the Audio Preamplifier or A/V Control Center. The commands coming from the Remote Control (supplied with the MEN220) are received by the Audio Preamplifier or A/V Control Center and are passed on to the MEN220. The MEN220 Front Panel Sensor needs to be disabled to prevent possible interference. To de-activate the MEN220 Front Panel Sensor perform the following steps:

1. Press the MENU Push-button to enter the Setup Mode and select “Device”.

```
MEN220 Setup Menu
<      Device      >
```

2. Press the SELECT Push-button and the “Device, Front IR Sensor” will appear.

```
Device
Front IR Sensor >
```

3. Press the SELECT Push-button and the default Remote Control Setting will appear.

```
Front Panel Sensor
On
```

4. Rotate the ADJUST Control to switch Off the Front Panel Remote Control Sensor.

```
Front Panel Sensor
Off
```

### Display Intensity

The MEN220 Front Panel Information Display Intensity has four different settings 100%, 75% (default), 50% and 25%. To change from the default setting perform the following:

1. Press the MENU Push-button to enter the Setup Mode and select “Device”.

```
MEN220 Setup Menu
<      Device      >
```

2. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Display”.

```
Device
Display >
```

3. Press the SELECT Push-button and “Display Intensity, 75%” will appear.

```
Display Intensity
75%
```

4. Rotate the ADJUST Control to select the desired Display Intensity.

```
Display Intensity
50%
```

### Power Mode

The MEN220 incorporates an Auto On and Auto Off feature, which automatically turns the processor on when audio is detected, and places the sound processor into the Power Saving Standby/Off Mode. This occurs approximately 15 minutes after there has been an absence of an audio input signal or user activity (includes any changes made such as Focus Mode, Voicing, etc). If it is desirable to disable the Auto OFF Feature perform the following steps:

1. Press the MENU Push-button to enter the Setup Mode and select “Device”.

```
MEN220 Setup Menu
< Device >
```

2. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Auto Power”.

```
Advanced Settings
< Auto Power >
```

3. Press the SELECT Push-button and “Auto Off” will appear.

```
Auto On Enabled
Auto Off: Enabled
```

4. Rotate the ADJUST Control to select disabled.

```
Auto On: Disabled
Auto Off: Disabled
```

## Advanced Settings (continued)

### Software Version

1. Press the MENU Push-button to enter the Setup Mode and select “Advanced Settings”.

```
MEN220 Setup Menu
< Software >
```

2. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Software Versions”.

```
Software
< Software Versions >
```

3. Press the SELECT Push-button and the “McIntosh MEN220: . \_ \_ ” will appear.

```
McIntosh MEN220
. _ _
```

4. Rotate the Navigate Knob to see the DSP Module SW version.

### Factory Reset

1. Press the MENU Push-button to enter the Setup Mode and select “Advanced Settings”.

```
MEN220 Setup Menu
< Software >
```

2. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Factory Reset”.

```
Software
< Factory Reset
```

3. Press the SELECT Push-button and the “Factory Reset?, No” will appear.

```
Factory Reset?
No
```

4. Rotate the NAVIGATE Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to select “Factory Reset?, Yes”.

```
Factory Reset?
Yes
```

5. Press the SELECT Push-button and the MEN220 will switch Off. MEN220 Display will show ‘Resetting to Factory Defaults’, and the MEN220 will switch off.

6. Press the STANDBY/ON Push-button on the Front Panel or press the ⏻ (Power) Push-button on the Remote Control to switch On the MEN220.

## RoomPerfect

The RoomPerfect Measure and Adjustment Process takes acoustic measurements in the listening room and then applies corrections for achieving the best possible results. The Focus Position (location in the room) is typically where one would be during serious listening. Measurements will also be taken in additional room locations for a more complete analysis of your listening room acoustics.

*Notes:* 1. Set the tone/equalizer controls on the Preamplifier to the flat setting position, the balance control to the 12 O'clock position and the volume control to the normal listening volume level.

2. Make sure the MEN220 Voicing is set to “Neutral” (as indicated on the Front Panel Display) before proceeding. Refer to page 28 for additional information.

3. It might be advisable to temporarily switch off the room/house heating/cooling system while the Room Perfect measurement process is occurring. If there are open windows, they should be closed. All of these steps will allow lower testing volume levels and more accurate measurements.

4. If the MEN220 is already in the Setup Mode proceed to step 2.

5. The MEN220 Front Panel Display Illustrations in this RoomPerfect Setup Section of the Owner’s Manual are from actual room measurements. The information displayed on your MEN220 may be different to reflect the difference in room acoustics.

1. Press the MENU Push-button to enter the Setup Mode and select “MEN220 Setup Menu, RoomPerfect”.

```
MEN220 Setup Menu
< RoomPerfect >
```

2. Press the SELECT Push-button and the following will appear:

```
RoomPerfect  
Guided Setup >
```

3. Press the SELECT Push-button and place the microphone in the focus location with the front of the microphone pointing towards the loudspeakers (center location between the Left and Right Loudspeakers). The height of the microphone should be at ear level.

```
Place mic in focus  
pos and press select
```

*Note: The Microphone Stand Boom Adaptor allows the microphone to be placed over objects such as a chair or table.*

4. Press the SELECT Push-button and the following will appear:

```
Measuring level  
Please Wait...
```

5. The MEN220 will send out to the loudspeakers a test tone to obtain a measurement level about 20dBs above the background noise level in your room. After several minutes, the MEN220 might indicate the need for a louder or quieter test level.

- Rotate the MEN220 ADJUST Control clockwise if the following appears:

```
Adjust level: 17 Up  
Save Current Retry
```

- Rotate the MEN220 ADJUST Control counterclockwise if the following appears:

```
Adjust level: 3down  
Save Current Retry
```

6. Press the SELECT Push-button and the “Volume Calibration measuring” will appear again. When the correct Volume Test Level has been achieved the following will appear:

```
Ready - Press select  
to start measurement
```

7. Then press the SELECT Push-button and the MEN220 will start measuring the Focus Position the following will appear:

```
Measuring Focus pos  
Please wait...
```

*Note: If the requested test volume level is already too loud as to be uncomfortable to your ears and figure 74 appears, rotate the NAVIGATE Control (or use the Directional ◀▶ Push-buttons on the Remote Control) to select “Save Current”. Then press the SELECT Push-button. The MEN220 will then test at the previous lower volume setting.*

8. When the following appears relocate the microphone to another place in the listening room and point it in a different direction. Then press the SELECT Push-button.

```
Place mic in random  
pos and press select
```

*Note: When the microphone is relocated to additional room locations, it is advisable to place it randomly at various heights off the floor and pointed in different directions. It is also advisable the positions be at least 2 feet (60.69cm) from previous measurement locations and from the Loudspeakers; and never behind the Loudspeakers.*

9. After Room Position No. 1 has been measured, the Front Panel Information Display will indicate the computed Room Knowledge similar to the following:

```
RoomKnowledge: 55%  
move mic to new pos
```

10. Press the SELECT Push-button the following will appear. Place the microphone in another room location, then press the SELECT Push-button.

```
Place mic. in room  
position no. 2
```

11. After measuring room location 2, the VFD might show the following:

```
Room: 90% Pos: 4  
Add more pos? Yes
```

Once RoomPerfect has achieved a Room Knowledge score of 90% or above, it will ask if you want to make additional measurements. Additional measurements will make improvements, however it might take many more measurements to achieve the higher Room Knowledge score.

- If you want to achieve a reading closer to 100%, select Yes and repeat step 10.
- If not, select No and the following will appear:

```
Calculating Filters  
Please wait
```

**Room Perfect (continued)**

12. When the MEN220 has finished calculating and applying filters to the audio signal path, the Front Panel Display will once again briefly indicate “RoomPerfect Guided Setup” and then indicate the following:

```
RoomPerfect:Focus1
Voicins 0:Neutral
```

**Additional Focus Positions**

The MEN220 allows for measurement and storage of seven additional Focus Positions. To add additional Focus Positions perform the following:

1. Press the MENU Push-button to enter the Setup Mode and select “MEN220 Setup Menu, RoomPerfect”.

```
MEN220 Setup Menu
< RoomPerfect >
```

2. Press the SELECT Push-button and the following will appear and rotate the NAVIGATE Control (or use the directional ◀ ▶ Push-buttons on the Remote Control) to select “RoomPerfect, Add Focus Position”.

```
RoomPerfect
< Add Focus Position >
```

3. Press the SELECT Push-button and the “Place microphone in new focus position” will appear.

```
Place microphone in
new focus position
```

4. Press the SELECT Push-button and the “Measuring new Focus position...” will appear.

```
Measuring new
Focus position
```

5. When the measurements are completed, the following will appear:

```
Store measurement
as position no. 2
```

The MEN220 will automatically assign the next available focus position number to the just completed measurement. If you would like to assign a different focus position number, rotate the ADJUST Control to select a different number.

6. Press the SELECT Push-button to save the focus position.

**Additional Measurements**

The MEN220 allows for additional room measurements to be added to the initial RoomPerfect measurements. These additional measurements will increase the percentage of Room Knowledge and potentially improve the sound quality from the initial correction.

1. Press the MENU Push-button to enter the Setup Mode and select “MEN220 Setup Menu, RoomPerfect”.

```
MEN220 Setup Menu
< RoomPerfect >
```

2. Press the SELECT Push-button and rotate the NAVIGATE Control (or use the directional ◀ ▶ Push-buttons on the Remote Control) to select “RoomPerfect, Add Room Measurement”.

```
Room Perfect
< Add Room Measur. >
```

3. Press the SELECT Push-button and the following will appear:

```
Place mic. in room
position no. 4
```

4. Press the SELECT Push-button and the following will appear:

```
Measuring room
position no. 4
```

5. The MEN220 will add the new measurement to the previous measurements and recalculate for the best room response.

## Room Perfect (continued)

### RoomPerfect Status

After the initial measurements have been taken the results can be recalled at any time by performing the following steps:

1. Press the MENU Push-button to enter the Setup Mode and select “MEN220 Setup Menu, RoomPerfect”.

```
MEN220 Setup Menu
< RoomPerfect >
```

2. Press the SELECT Push-button and rotate the NAVIGATE Control (or use the directional ◀ ▶ Push-buttons on the Remote Control) to select “RoomPerfect, Status”.

```
RoomPerfect
< RoomPerfect Status >
```

3. Press the SELECT Push-button and the number of room measurements and percentage of room knowledge will appear.

```
3 Room Measurements
Room Knowledge: 95%
```

4. Rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to one.

*Note: The RoomPerfect Room Correction Percentage is an indication of the degree of acoustic problems measured and corrected. This includes room acoustics and Loudspeaker placement in the room. The Correction Percentage is not an indication of performance of the MEN220 or Loudspeaker.*

### RoomPerfect Bypass Gain

There may be a difference in overall volume levels when comparing the RoomPerfect Focus or Global Modes and the Bypass Mode. The RoomPerfect (RP) Bypass Gain adjustment allows trimming the Bypass Mode overall volume level by performing the following steps:

1. Press the MENU Push-button to enter the Setup Mode and select “MEN220 Setup Menu, RoomPerfect”.

```
MEN220 Setup Menu
< RoomPerfect >
```

2. Press the SELECT Push-button and rotate the NAVIGATE Control (or use the directional ◀ ▶ Push-buttons on the Remote Control) to select “RoomPerfect, RP Bypass Gain”.

```
RoomPerfect
< RP Bypass Gain >
```

3. Press the SELECT Push-button and the “RP Bypass Gain , 0.0dB” will appear.

```
RP Bypass Gain
0.0 dB
```

4. Select either the Global or Focus Mode by pressing the appropriate push-button on the Front Panel or Remote Control. Establish a suitable volume level while listening to music with a wide range of musical instruments. Then select the Bypass Mode and rotate the ADJUST Control (or use the Directional ▲ ▼ Push-buttons on the Remote Control) to closely match the volume level of the Global or Focus Modes.

## How to Operate

### Power On and Off

Press the STANDBY/ON Push-button on the Front Panel or the ⏻ (Power) Push-button on the Remote Control. The MEN220 will go through a brief startup initialization with the Front Panel Information Display indicating the audio is muted.

```
RoomPerfect: Muted
Voicings 0:Neutral
```

The Front Panel Information Display will then indicate the current RoomPerfect Focus selection (Focus 1 thru Focus 8) or “Bypass” if the RoomPerfect Mode has been switched Off.

```
RoomPerfect:Focus 1
Voicings 0:Neutral
```

```
RoomPerfect:Bypass
Voicings 0:Neutral
```

To switch OFF the MEN220, press the STANDBY/ON Push-button on the Front Panel or the OFF Push-button on the Remote Control.

*Note: The MEN220 incorporates an Auto Off Feature and the default setting is enabled. If there is need to disable this feature, refer to page 18 “Power Mode” for additional information.*

### Global Mode

Press the GLOBAL MODE Push-button to activate the RoomPerfect Global Setting.

```
RoomPerfect: Global
Voicings 0:Neutral
```

## How to Operate

The Global Setting is a combination room performance measurements including Focus and additional locations in the room. Use the Global Mode when the listening will be performed in a variety of different locations or when more than one person will be listening in the room at the same time.

### Focus Mode

Press the FOCUS MODE Push-button to activate the RoomPerfect Focus Setting. Continued presses of the FOCUS MODE Push-button will allow selection of seven possible additional room measurement Focus locations which were performed during the RoomPerfect Setup.

```
RoomPerfect: Focus 2
Voicing 0:Neutral
```

### Bypass Mode

Press the BYPASS MODE Push-button to deactivate the RoomPerfect Room Corrections. This includes both the Focus and Global settings.

### Menu

Press the MENU Push-button to enter the Setup Mode. Refer to “How to Operate the Setup Mode”, on page 13. The MENU Push-button may also be used for returning to the previous menu and repeated presses will exit out of the Setup Mode.

```
MEN220 Setup Menu
Input Settings >
```

### Voicing

Press the VOICING Push-button to select one of 7 different preset equalization curves for altering the sound of the program material and/or your listening mood. Also refer to the Equalization Curves for all the presets that are located on the separate folded sheet “MEN220 GRAPHS”.

```
New Voicing:
0: Neutral
```

```
New Voicing:
1: Music1
```

```
New Voicing:
2: Music2
```

```
New Voicing:
3: Mellow
```

```
New Voicing:
4: Soft
```

```
New Voicing:
5: Party
```

```
New Voicing:
6: Loudness
```

### Custom Voicing

When the MEN220 is connected to a PC, or mobile device through a home network, any or all of those six preset curves may be replaced with custom created curves. These custom curves can be saved by the MEN220.

### Select

The SELECT Push-button is used to select various options when in the Setup Mode together with the ADJUST Control, NAVIGATE Control and MENU Push-button.

### Reset of Microprocessors

In the unlikely event the controls of the MEN220 stop functioning, the microprocessors can be reset by removing AC Power from the MEN220 for several minutes. This can be accomplished by disconnecting the AC Power cord from the Rear Panel of MEN220 or removing the “Plug” end of the MEN220 AC Power Cord from the AC Outlet.

All of the Setup menus that are contained in the front panel menus are mirrored in the built-in Web Menu.

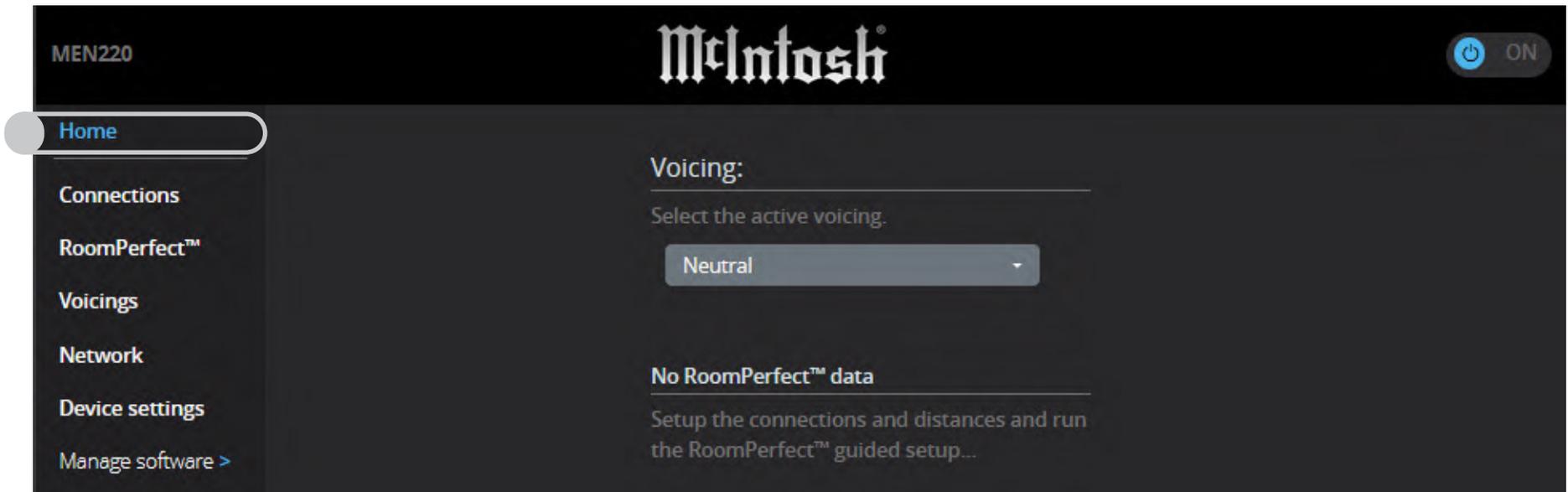
Follow these steps for a quick connection:

- Connect the rear panel NETWORK jack to your home network.
- Connect your unit to AC power.
- Turn On your unit by pressing the front panel Standby/On button.
- Press the front panel SELECT button to see the IP address on the front display.
- Using a PC or mobile device connected to the same network, type in the IP address of your unit into a web browser. Press Enter.
- The Home page should appear.

*\*Note: To maintain Network connection even in Standby, go into the Device Settings page and enable the Network Standby feature.*

### Home Page:

Allows turning the unit On and Off and selection of Voicing.



## Connections Page:

Select Input connection type, Output signal routing, and speaker Distance settings.

MEN220

McIntosh

ON

Home

Connections

RoomPerfect™

Voicings

Network

Device settings

Manage software >

### Input and Output Connections

#### Input connection

Select whether to use the balanced or the unbalanced input connections.

Unbalanced  Balanced

#### Output 1 (high) settings

Settings for the first output (high).

##### Output routing

Select which signal to route to the output.

Full range

##### Output level

Set level for output 1.

0 dB

#### Output 2 (low) settings

Settings for the second output (low).

##### Output routing

Select which signal to route to the second output.

Full range

##### Output level

Set level for output 2.

0 dB

#### Distance settings

Set the distances for the speakers at each output.

##### Distance units

Select inches or centimeters for the distances entered.

Centimeters  Inches

##### Left distance, output 1 (high)

Set the distance to the speaker connected to the left channel of the first output (high).

0

##### Right distance, output 1 (high)

Set the distance to the speaker connected to the right channel of the first output (high).

0

##### Left distance, output 2 (low)

Set the distance to the speaker connected to the left channel of the second output (low).

0

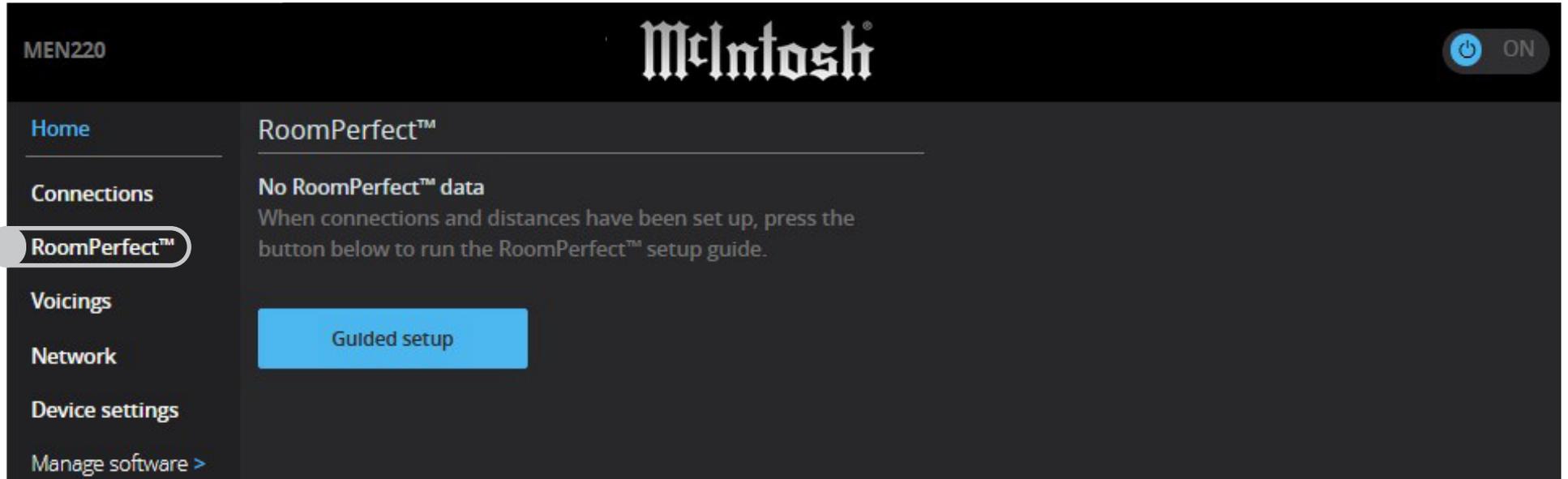
##### Right distance, output 2 (low)

Set the distance to the speaker connected to the right channel of the second output (low).

0

### RoomPerfect Page:

Run a fresh RoomPerfect calibration, Add a new Focus position, or add additional Room positions to gain more Room Knowledge.



**Voicing setup Page:**  
Modify existing voicings, or create new ones.

MEN220

McIntosh

ON

**Home**

**Connections**

**RoomPerfect™**

**Voicings**

**Network**

**Device settings**

Manage software >

**Voicing setup**

Manage the available voicings by adding, editing or deleting voicings here. You can also add voicings by uploading a single voicing file or you can replace the entire set of voicings from a file. These files can be downloaded from another device or be provided to you by a dealer or similar.

**Manage voicings**  
Manage existing voicings - select a voicing and  
- press the "Edit" button to edit it  
- press the "Delete" button to delete it  
- click the download-link to download it to a file.

select voicing

Edit

Delete

**Add new voicing**  
Add a new voicing by entering a name and pressing the "Add new" button. This will open the voicing editor with a new, empty voicing.

Add new

**Replace all voicings from file**  
Replace all of the voicings in the device with a set from a file..

Browse... No file selected.

Replace

**Add voicing from file**  
Add a new voicing by uploading a single-voicing file.

Browse... No file selected.

Add from file

[Download all voicings to a file](#)

### Network configuration:

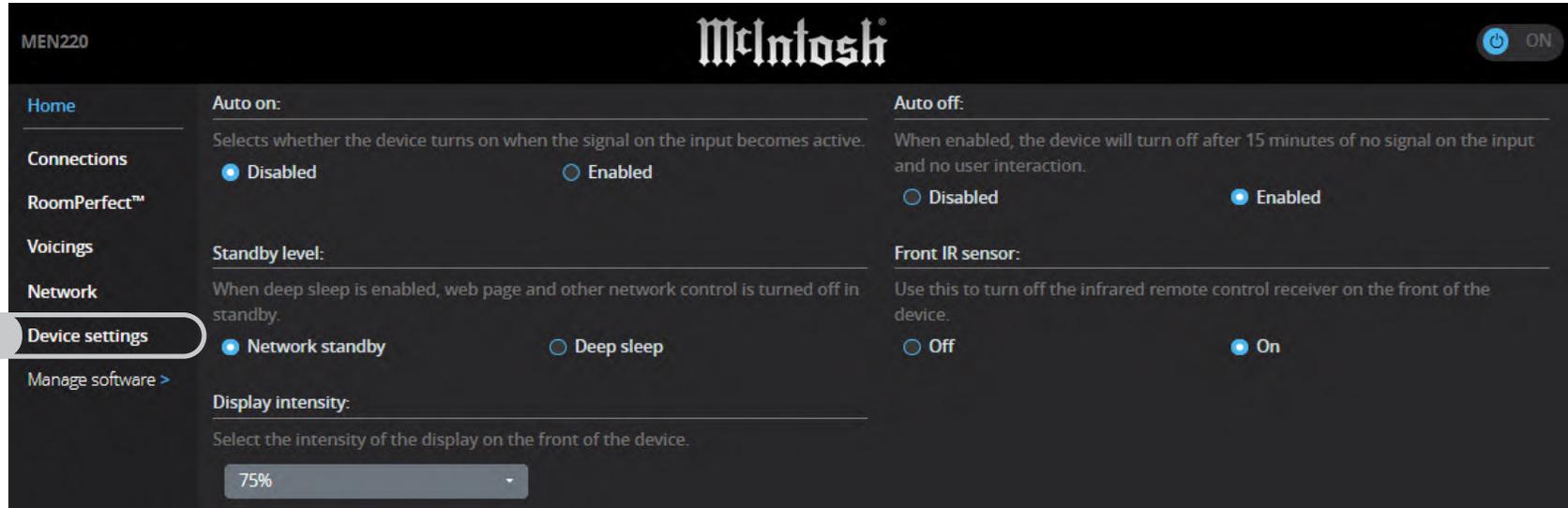
Allow a dynamic address or select a fixed manual IP address when using external control systems.

The screenshot shows the McIntosh web interface for network configuration. The top bar includes the device ID 'MEN220', the McIntosh logo, and a power status indicator 'ON'. A left sidebar contains navigation options: Home, Connections, RoomPerfect™, Voicings, Network (highlighted), Device settings, and Manage software >. The main content area is titled 'Network configuration' and includes a warning: 'Network setup can be viewed and changed here. Notice that if you change network settings, the IP address of your device might change and you will have to go to the new address in your browser to reconnect to the device.' Below this, there are two sections: 'Network registration mode' with radio buttons for 'Manual' and 'Auto' (selected), and 'Details about the network' which lists various network parameters in a table.

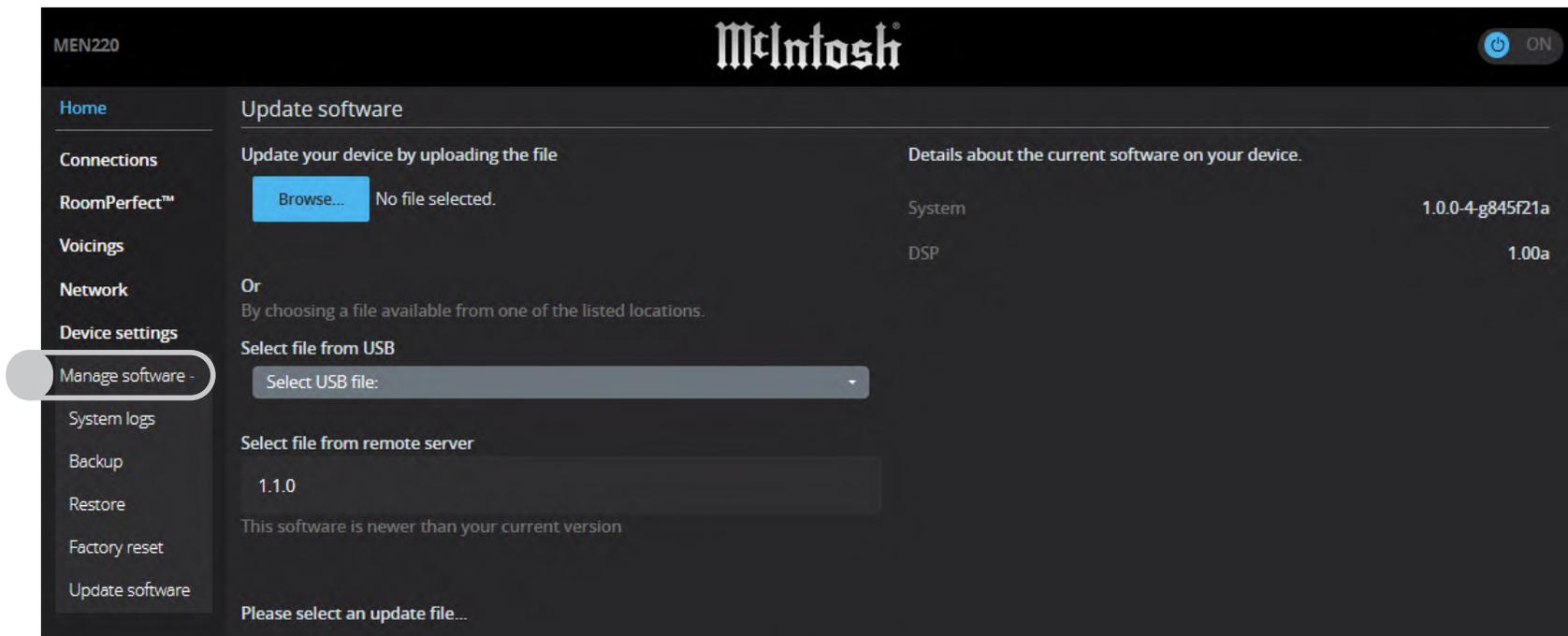
Network registration mode		Details about the network	
<input type="radio"/> Manual	<input checked="" type="radio"/> Auto	Hostname	
<b>IP address</b>		Hardware address	00:50:C2:7C:74:79
<input type="text" value="192.168.1.33"/>		IP address	192.168.1.33
<b>Subnet mask</b>		Subnet mask	255.255.255.0
<input type="text" value="255.255.255.0"/>		Default route	192.168.1.1
<b>Gateway</b>		Primary DNS	192.168.1.1
<input type="text" value="192.168.1.1"/>		IPv6 address	fe80::250:c2ff:fe7c:7479%eth0
<b>DNS</b>			
<input type="text" value="192.168.1.1"/>			

**Device settings:**

Configure Auto On / Auto Off, Standby power mode, and Front IR sensor setting.



**Manage software:** Collect System logs for troubleshooting, Backup and Restore all system settings and RoomPerfect calibration, perform a Factory reset, and Update software as needed.



## Specifications

*Note: all measurements with EQ filters and output filters bypassed.*

### Frequency Response

+0, -0.5dB from 20Hz to 20,000Hz

### Total Harmonic Distortion

0.002% from 20Hz to 20,000Hz

### Maximum Input Voltage

4.5V Unbalanced and Balanced

### Output Voltage

2.0V Unbalanced and Balanced

### Maximum Output Voltage

4.5V Unbalanced and Balanced

### Signal To Noise Ratio (A-Weighted)

100dB

### Input Impedance

10K ohms Unbalanced and Balanced

### Voltage Gain

0dB

### Output Impedance

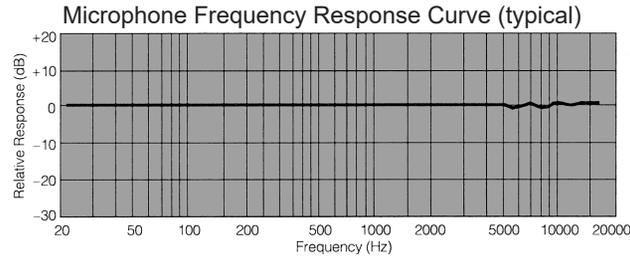
50 ohms

### Crossover Filter Types, Order and Slope

Butterworth,	1st order,	6 dB /octave
Butterworth,	2nd order,	12 dB /octave
Butterworth,	4th order,	24 dB /octave
Linkwitz-Riley,	2nd order,	12 dB /octave
Linkwitz-Riley,	4th order,	24 dB /octave
Linkwitz-Riley,	8th order,	48 dB /octave

### Measurement Microphone

Omnidirectional Electret Condenser Microphone



**The MEN220 has been tested and certified for indoor use only.**

### Power Requirements

100V ~ 50/60Hz at 35 watts

110V ~ 50/60Hz at 35 watts

120V ~ 50/60Hz at 35 watts

220V ~ 50/60Hz at 35 watts

230V ~ 50/60Hz at 35 watts

240V ~ 50/60Hz at 35 watts

Standby, less than 0.5 watt

*Note: Refer to the rear panel of the MEN220 for the correct voltage.*

### Overall Dimensions

Width is 17 ½ inches (44.5cm)

Height is 6 inches (15.2cm) including feet

Depth is 15 ¾ inches (40cm) including the Front Panel and Knobs

### Weight

15 pounds (6.8 kg) net

24.5 pounds (11.1 kg) in shipping carton

### Shipping Carton Dimensions

Width is 26 ½ inches (67.3cm)

Depth is 24 ¼ inches (62.2cm)

Height is 11 ¾ inches (29.9cm)

### Trademarks of McIntosh Laboratory, Inc.

The following are Registered Trademarks of McIntosh Laboratory, Inc. in multiple jurisdictions around the world: the written McIntosh logo; the McIntosh Globe logo; the Mc logo; Power Guard; Power Guard Screen Grid Sensor; Power Guard SGS; LD/HP; Dynamic Power Manager; the 4DPM8 logo; HXD; the HXD logo; Behind The Sound; Legendary Performance.

The following are Trademarks of McIntosh Laboratory, Inc. in multiple jurisdictions around the world: Autoformer; Sentry Monitor; Solid Cinch; McIntosh Monogrammed Heatsinks; Hybrid Drive; DualView; TripleView; Made of Sound.

The foregoing trademarks, registered and otherwise, are not to be used, reproduced, or registered in any way without the express written permission of McIntosh Laboratory, Inc.

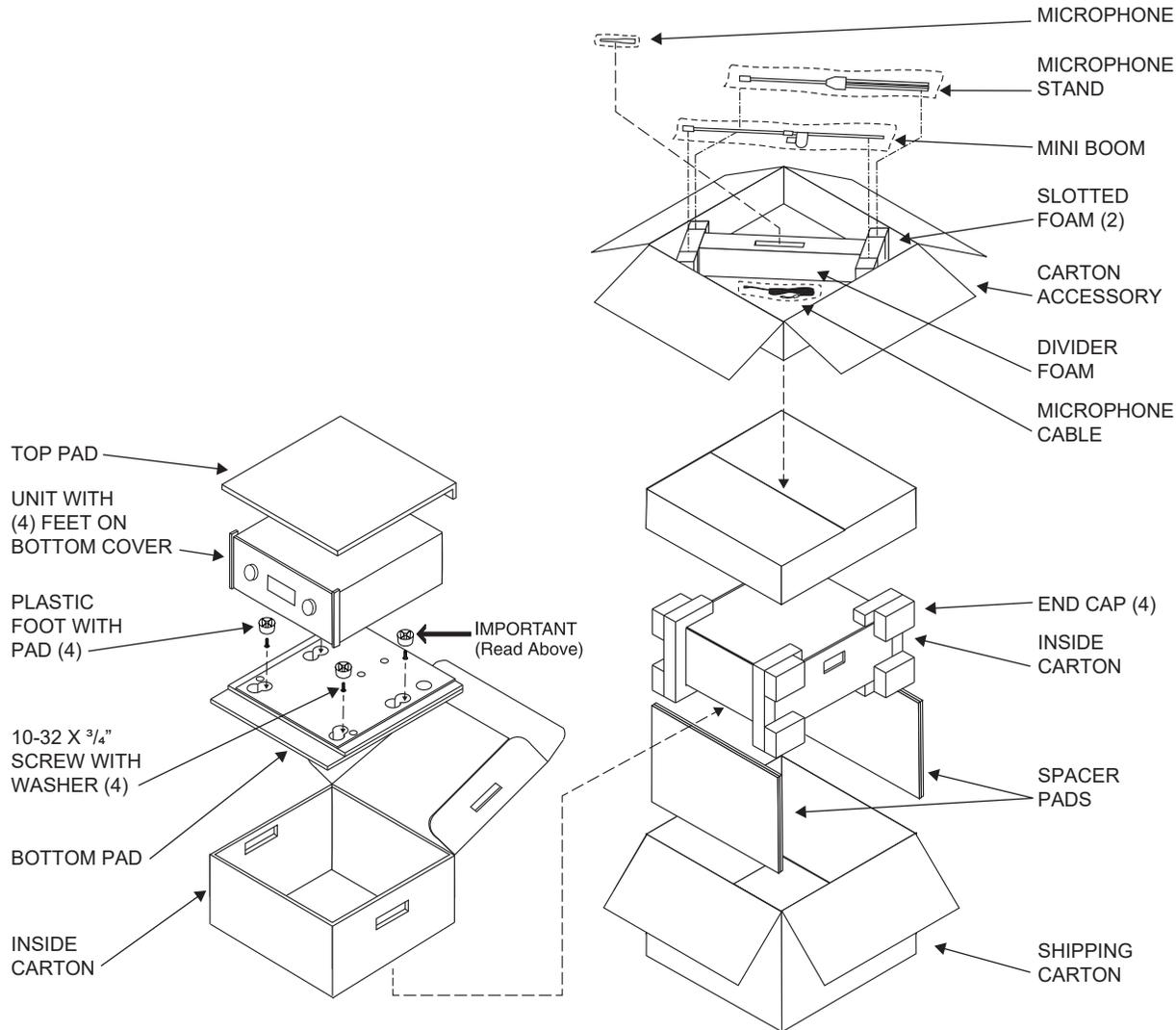
## Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below. **It is very important that the four plastic feet are attached to the bottom of the equipment. This will ensure the proper equipment location on the bottom pad. Failure to do this will result in shipping damage.**

Use the original shipping carton and interior parts only if they are all in good serviceable condition. If a shipping carton or any of the interior part(s) are needed, please call or write Customer Service Department of McIntosh Laboratory. Refer to page 2. Please see the Part List for the correct part numbers.

## Parts List

Quantity	Part Number	Description
1	034492	Shipping Carton Only
4	034669	Foam End Cap
1	033836	Inside Carton Only
1	033725	Top Pad
1	034576	Bottom Pad
2	034493	Spacer Pad
4	017937	Plastic Feet
4	400159	#10-32 x 3/4" Screw
4	404080	#10-7/16" Flat Washer
1	034499	Carton Accessory



# McIntosh®

MADE OF SOUND™

McIntosh Laboratory, Inc.  
2 Chambers Street  
Binghamton, NY 13903  
[www.mcintoshlabs.com](http://www.mcintoshlabs.com)

The continuous improvement of its products is the policy of McIntosh Laboratory Incorporated who reserve the right to improve design without notice. The MEN220 is designed to employ non-McIntosh-provided services some of which require separate customer subscriptions and some of which do not, as part of the Product's functionality. Because McIntosh cannot control the providers of such services or the services themselves, the owner of the Product therefore assumes all risks related to the use of services provided by anyone other than McIntosh itself. McIntosh cannot and does not warrant against, and shall have no liability of any kind for any of the following that are attributable to non-McIntosh providers or services: (i) interruption, discontinuance, or other unsatisfactory performance of service; (ii) reduced Product functionality that is so attributable; or (iii) any other loss or damage of any kind that is so attributable.

Printed in the U.S.A.

© 2024 McIntosh Laboratory, Inc.  
McIntosh Part No. 24127700