MIP200

POWER CONTROLLER

OWNER'S MANUAL

McIntosh

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.

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Binghamton, New York 13903

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

Introduction

Protect your home audio investment with the MIP200 Power Controller. The MIP200 delivers AC power line surge protection, such as from a lightning strike, overvoltage protection (when there is too much power) and under voltage protection (commonly referred to as a brownout). All of this protection comes with a host of programmable control options.
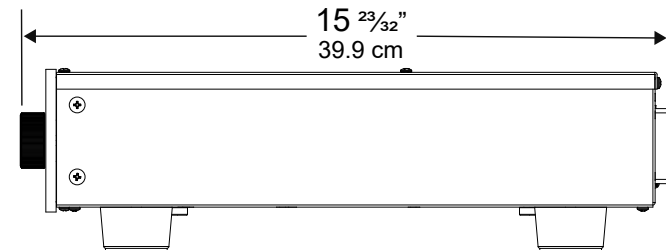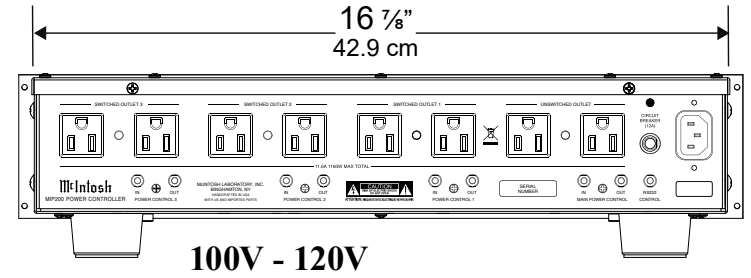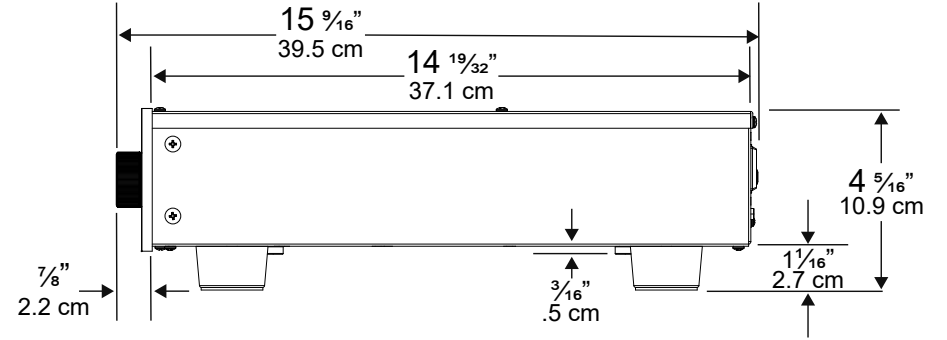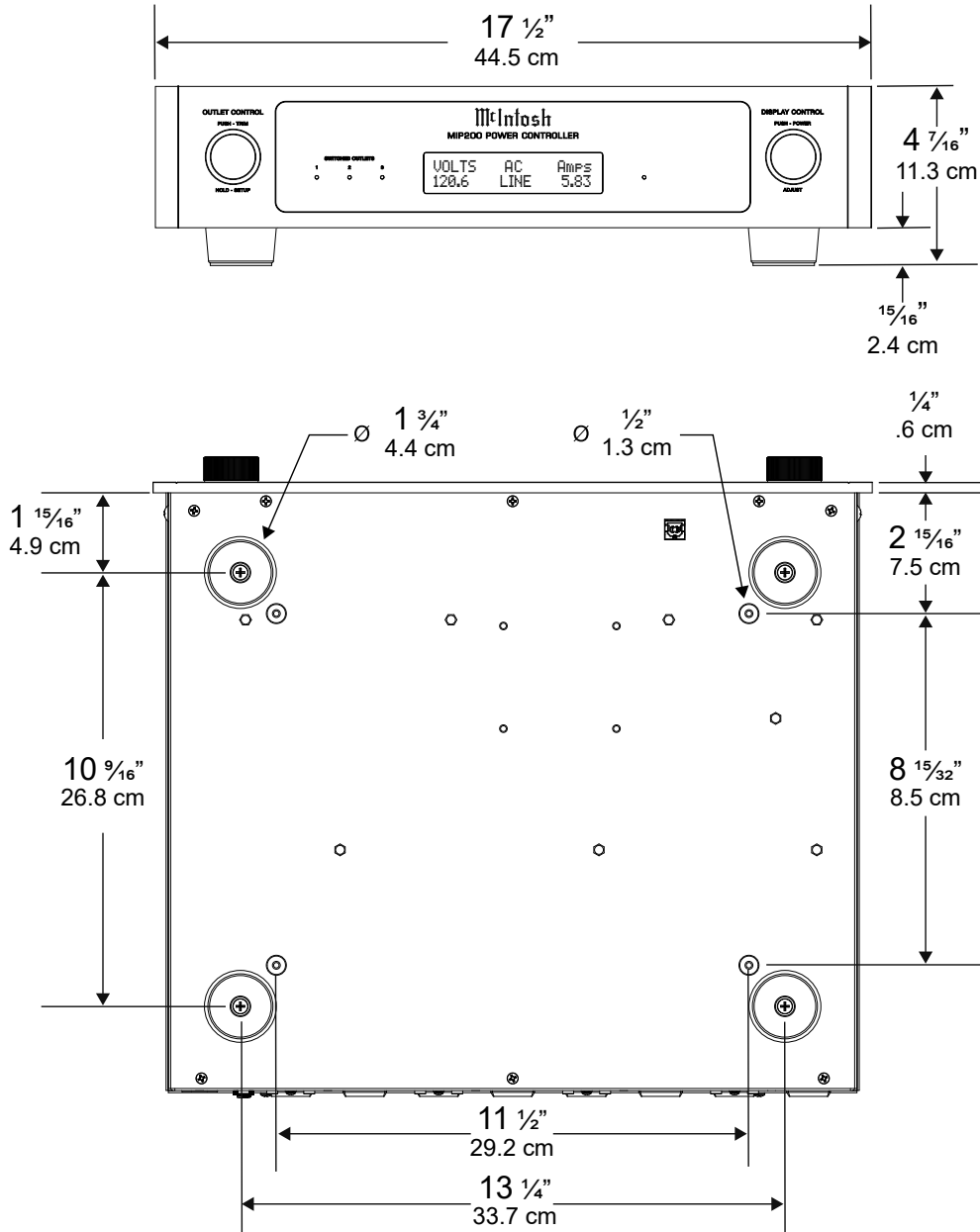
Safety First

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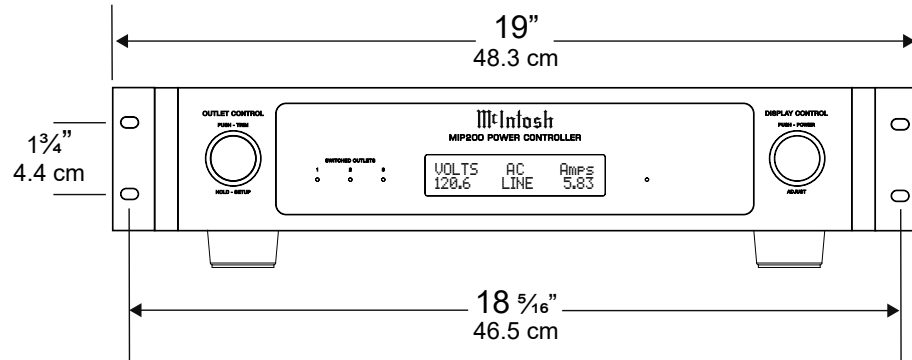
General Information

1. For additional connection information, refer to the owner's manual(s) for component(s) connected to the MIP200.

2. There are two different versions of the MIP200. Each version has different AC outlet connectors and operate on either 100-120Volts or 220-240Volts. This MIP200 owner's manual contains information about both versions of the MIP200 to meet the different AC power and safety requirements for use in your country.

3. The Main AC Power going to the MIP200 and any other 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.

4. The MIP200 is designed for connection with audio/video components. This would include components such as preamplifiers, A/V control centers, source components, integrated amplifiers and power amplifiers with low to modest power output.

5. The total amount of current drawn by all the components connected to the MIP200 should not exceed the current amperage rating indicated on the rear panel of your MIP200. Typically, components consuming low amounts of energy are rated in wattage instead of current.

6. The MIP200 has been tested and certified for indoor use only.

7. To protect the anodized finish on your MIP200, 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.

8. For additional information on the MIP200 and other McIntosh products please visit the McIntosh website at www.mcintoshlabs.com.

Performance Features

- **Illuminated Glass Front Panel**

  The famous McIntosh illuminated front panel is made from $\frac{1}{8}$ inch thick glass and uses Light Emitting Diodes (LEDs) for even illumination and long life.

- **AC Line Surge Protection**

  The MIP200 uses a TPMOV (Thermally Protected Metal Oxide Varistor) that eliminates common failure modes associated with standard MOVs.

- **AC Line Filtering**

  The MIP200 offers EMI filtering that provides electromagnetic noise suppression to all components connected to the outlets.

- **AC Line Meter / Monitor**

  The MIP200 uses a power line monitoring IC (Integrated Circuit) to constantly monitor and display AC line voltage, current, and power. Over and under voltage limits can be set to automatically turn the outlets off should those conditions occur.

- **Power Control**

  The MIP200 power control inputs provide remote control of the switched outlets and can be configured individually. Power control outputs pass control signals on to other components.

- **RS232 Control**

  The MIP200 RS232 port allows for connection of third party control systems. Control of the switched outlets and various operating functions can be made remotely using RS232 protocol.

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Dimensions

OUTLET CONTROL PUSH · TRIM / HOLD · SETUP

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MIP200 POWER CONTROLLER

SWITCHED OUTLETS
1 2 3

VOLTS   AC   Amps
120.6   LINE   5.83

DISPLAY CONTROL PUSH · POWER / ADJUST

17 ½"
44.5 cm

4 ⁷⁄₁₆"
11.3 cm

¹⁵⁄₁₆"
2.4 cm

15 ⁹⁄₁₆"
39.5 cm

14 ¹⁹⁄₃₂"
37.1 cm

4 ⁵⁄₁₆"
10.9 cm

⁷⁄₈"
2.2 cm

³⁄₁₆"
.5 cm

1¹⁄₁₆"
2.7 cm

Ø 1 ¾"
4.4 cm

Ø ½"
1.3 cm

¼"
.6 cm

1 ¹⁵⁄₁₆"
4.9 cm

2 ¹⁵⁄₁₆"
7.5 cm

10 ⁹⁄₁₆"
26.8 cm

8 ¹⁵⁄₃₂"
8.5 cm

11 ½"
29.2 cm

13 ¼"
33.7 cm

16 ⁷⁄₈"
42.9 cm

100V – 120V

15 ²³⁄₃₂"
39.9 cm

220V – 240V

4

Dimensions (continued)

19"
48.3 cm

1¾"
4.4 cm

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MIP200 POWER CONTROLLER

OUTLET CONTROL
PUSH · TRIM

HOLD · SETUP

SWITCHED OUTLETS

VOLTS   AC   Amps
120.6   LINE   5.83

DISPLAY CONTROL
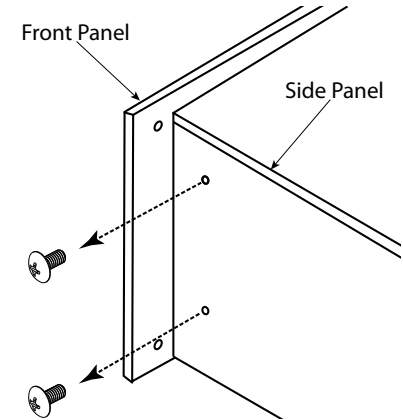PUSH · POWER

ADJUST

18 ⁵⁄₁₆"
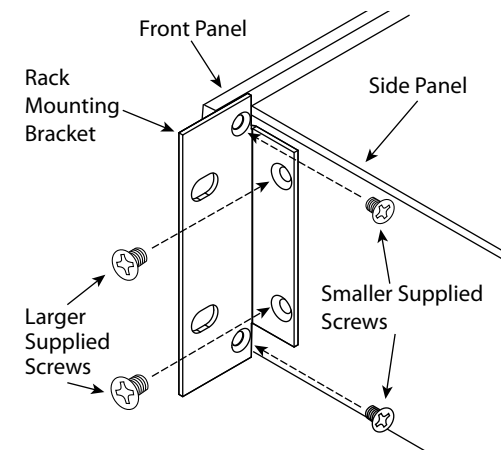46.5 cm

Rack Mounting

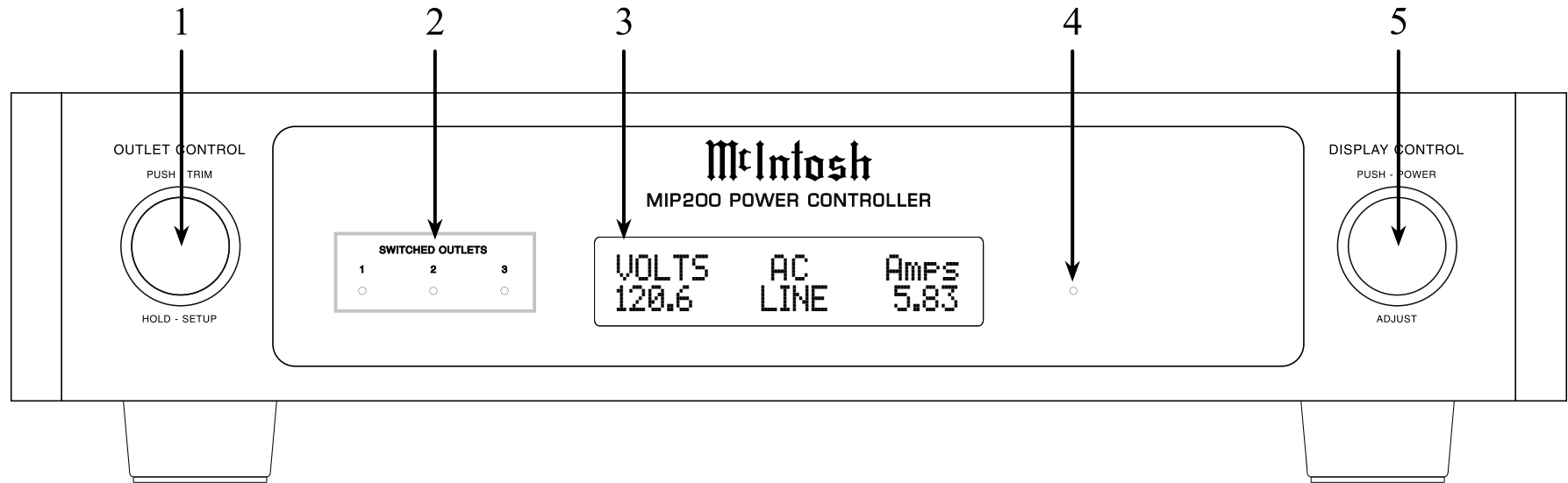To rack mount the MIP200, the two included rack mounting brackets should be installed.
Follow these instructions for each side:

1. Remove the two screws from the MIP200's side panel. Save these for future use if the mounting brackets are removed.

Front Panel

Side Panel

2. Secure the rack mounting bracket to the MIP200 side panel using 2 of the 8-32 thread (larger) flathead screws. Do not re-use the previously removed screws. Use 2 of the supplied 6-32 thread (smaller) flathead screws to secure the bracket to the front panel.

Front Panel

Rack Mounting Bracket

Side Panel

Larger Supplied Screws

Smaller Supplied Screws

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MIP200 Front Panel

OUTLET CONTROL
PUSH - TRIM

HOLD - SETUP

SWITCHED OUTLETS
1   2   3

McIntosh
MIP200 POWER CONTROLLER

VOLTS   AC   Amps
120.6   LINE   5.83

DISPLAY CONTROL
PUSH - POWER

ADJUST

Front Panel Displays and Switches

1. OUTLET CONTROL knob
   Rotate to select which of the three
   SWITCHED OUTLETS are to be controlled.
   PUSH to access the trim menu. HOLD to
   access the setup menu.

2. SWITCHED OUTLET Indicators
   Indicates the state of each of the three
   SWITCHED OUTLETS. When illuminated,
   the outlet is on.

3. Information Display
   Indicates AC line monitor readings as well
   as options for the SWITCHED OUTLETS,
   trim menu and setup menu.
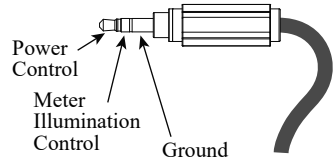
4. AC Power Indicator
   Illuminates whenever the MIP200 is
   connected to a live AC circuit. Flashes when
   AC surge protection has triggered, or an
   over/under voltage condition has occurred.
   Also used to indicate a reset of the internal
   microprocessor.
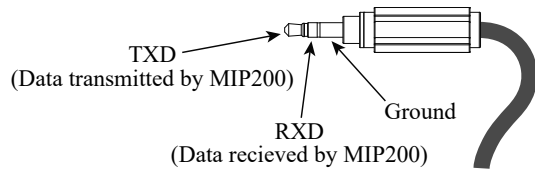
5. DISPLAY CONTROL knob
   PUSH to turn the MIP200 on or off. Rotate
   to select various display options for the AC
   line monitor. ADJUST (rotate) to change
   states when controlling the SWITCHED
   OUTLETS and to select trim and setup
   menu options.
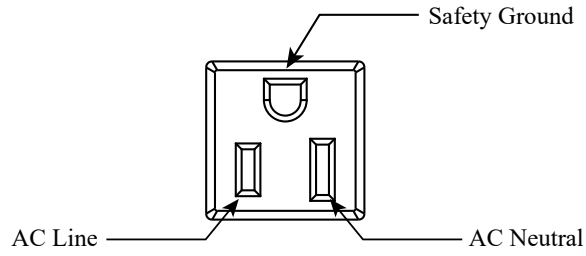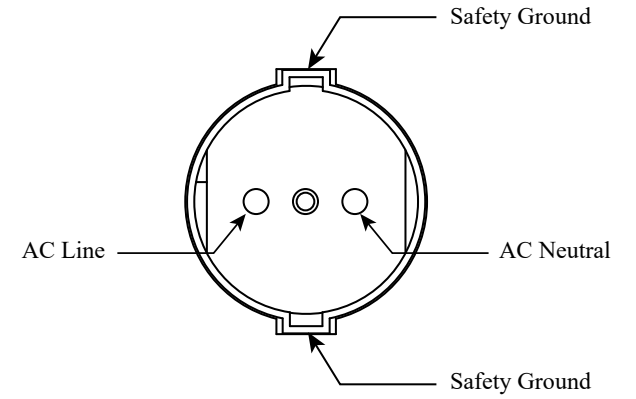
Connector Information

Power Control Connectors

Power
Control

Meter
Illumination
Control

Ground

RS232 Connectors

TXD
(Data transmitted by MIP200)

RXD
(Data recieved by MIP200)

Ground

100V - 120V Outlets

Safety Ground

AC Line

AC Neutral

220V - 240V Outlets

Safety Ground

AC Line

AC Neutral

Safety Ground

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MIP200 Rear Panel

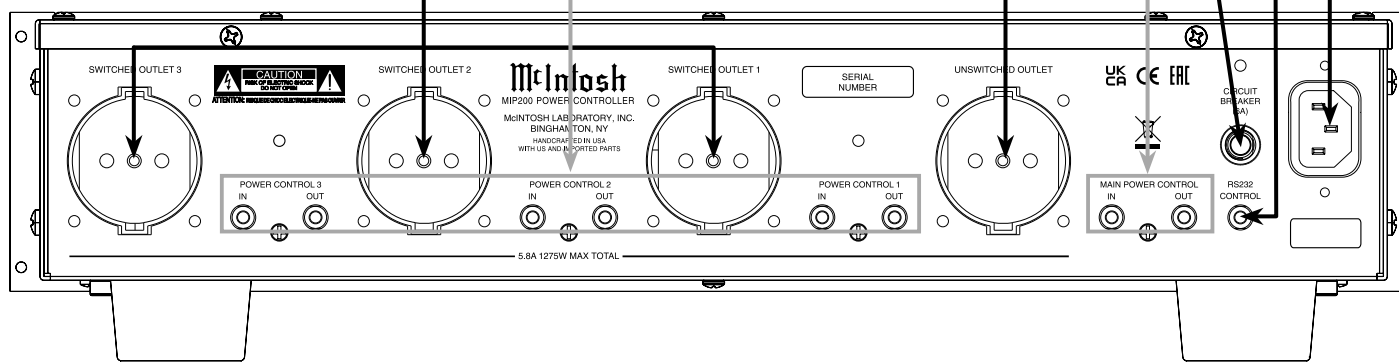**100V - 120V**
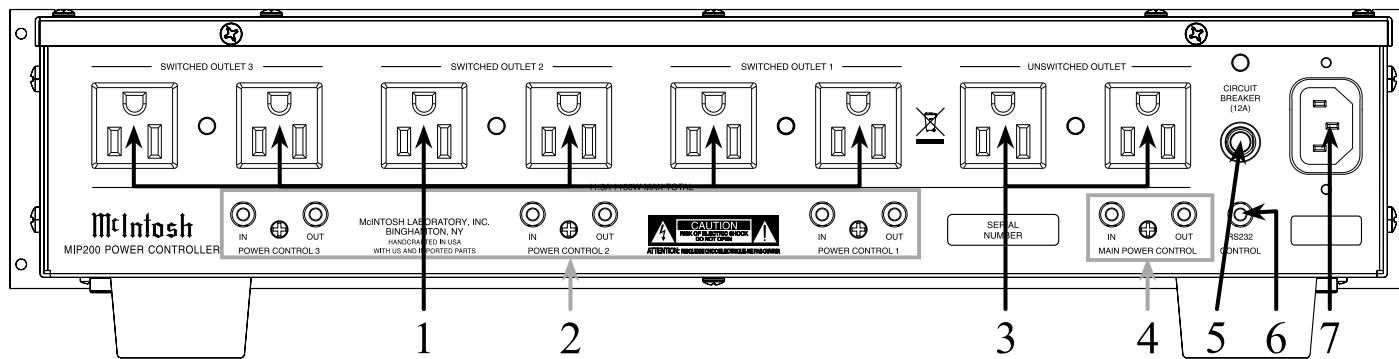
220V - 240V

Rear Panel Connections and Switches

1. SWITCHED OUTLETS
These outlets can be turned on and off using the front panel OUTLET CONTROL knob or rear panel POWER CONTROL IN connectors. If over/under voltage protection has been enabled, these outlets will switch off should that condition occur.

2. POWER CONTROL 1, 2, 3
IN connectors are used to turn on the front panel lighting and display and then turn on the SWITCHED OUTLET that has been configured to respond to its associated POWER CONTROL IN. The OUT connectors pass the POWER CONTROL IN signal onto other system components.

3. UNSWITCHED OUTLET
This outlet is always on whenever the MIP200 is connected to a live AC circuit. If over/under voltage protection has been enabled, the outlet will switch off should that condition occur.

4. MAIN POWER CONTROL
The IN connector is used to turn on the front panel lighting and display and then turn on any SWITCHED OUTLET that has been configured to respond to MAIN POWER CONTROL IN. The OUT connector generates a 12V DC signal whenever the MIP200 is powered on.

5. CIRCUIT BREAKER
Should the MIP200 input current exceed its rating, the CIRCUIT BREAKER will activate and disconnect AC power to the MIP200. Should this happen the tip of the breaker will pop out. Reset the breaker by pushing in on the tip.
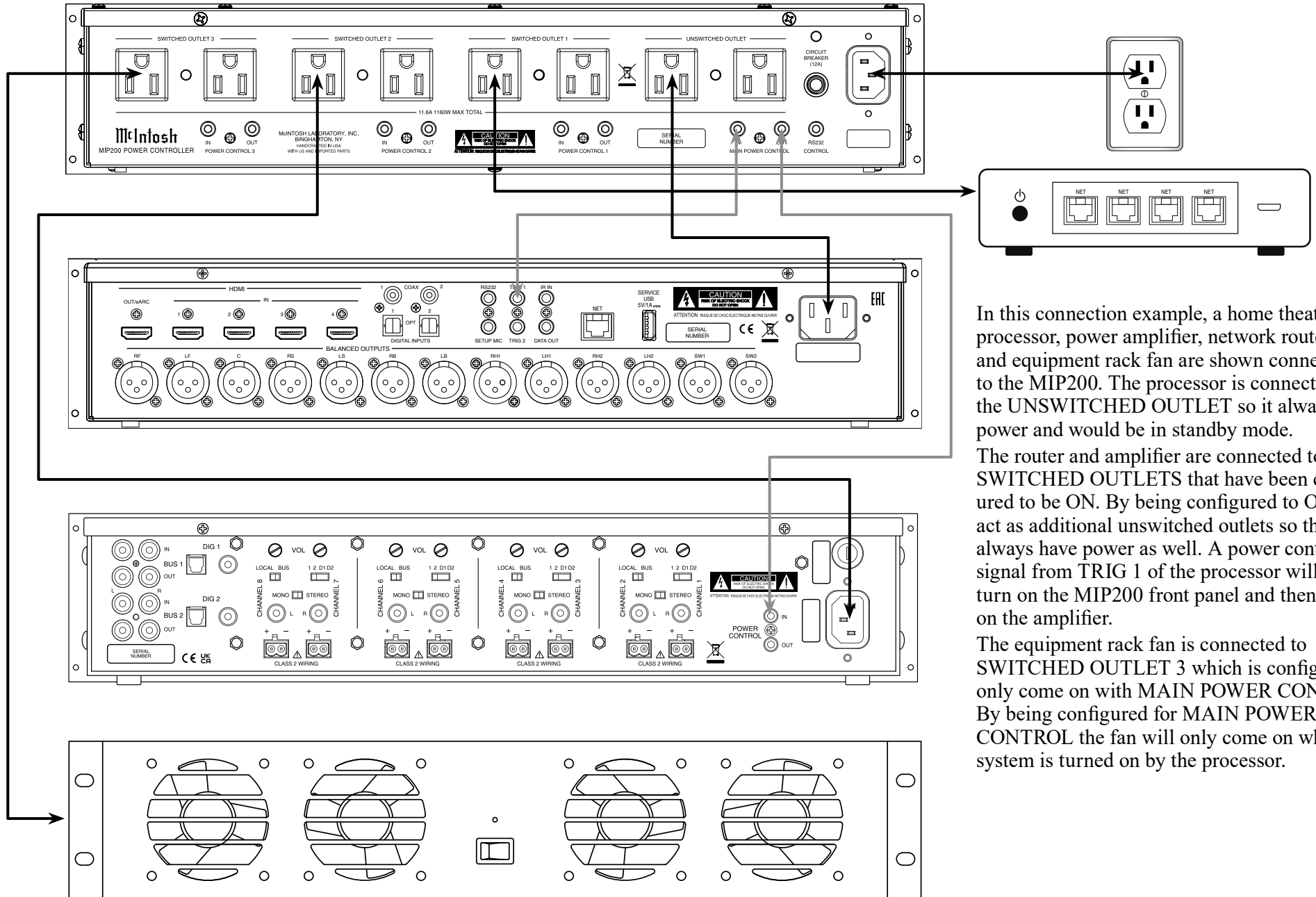
6. RS232 CONTROL
This connector is used for external control devices that use RS232 protocol. Control of the SWITCHED OUTLETS as well as trim menu functions can be controlled using pre-defined RS232 commands.

7. AC Input
Connect to a live AC outlet according to the AC input rating label.

MIP200 Connection Diagram

In this connection example, a home theater processor, power amplifier, network router and equipment rack fan are shown connected to the MIP200. The processor is connected to the UNSWITCHED OUTLET so it always has power and would be in standby mode.

The router and amplifier are connected to SWITCHED OUTLETS that have been configured to be ON. By being configured to ON they act as additional unswitched outlets so they always have power as well. A power control signal from TRIG 1 of the processor will then turn on the MIP200 front panel and then turn on the amplifier.

The equipment rack fan is connected to SWITCHED OUTLET 3 which is configured to only come on with MAIN POWER CONTROL. By being configured for MAIN POWER CONTROL the fan will only come on when the system is turned on by the processor.

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Your McIntosh MIP200 has been factory configured for default operating settings that allow immediate operation. If you wish to make changes to the default configurations, a Setup Menu is provided to customize the operating settings using the Information Display.

Navigating the Setup Menu

1. To open the Setup Menu, press and hold in the OUTLET CONTROL knob until the Information Display indicates:

```
SETUP:    Product  >
      MIP200-AMR####
```

2. Rotate the OUTLET CONTROL knob to select the desired setting.

3. Rotate the DISPLAY CONTROL knob to change the selected setting's options.

4. To exit from the Setup Menu or a submenu, press the OUTLET CONTROL knob.

Settings	Options
Product Information	MIP200-AMRXXXX
Version	__.__.__
Outlet 1	Remote, Delay, Name
Outlet 2	Remote, Delay, Name
Outlet 3	Remote, Delay, Name
Nominal Voltage	100, 110, 120 (220, 230, 240)
RS232 Baud Rate	9600, 19200, 38400, 57600, **115200** Baud
Factory Reset	Reset to defaults

Product Information

The product information contains the product name and serial number.

Version

The version number indicates the version of the MIP200 firmware. The firmware controls the internal circuitry of the MIP200.

Outlet 1

Refer to the Outlet Submenu section on the following page for a description of how to configure Outlet 1.

Outlet 2

Refer to the Outlet Submenu section on the following page for a description of how to configure Outlet 2.

Outlet 3

Refer to the Outlet Submenu section on the following page for a description of how to configure Outlet 3.

Nominal Voltage

The nominal voltage sets the expected AC Line voltage that the MIP200 will be plugged into. Based on your version of the MIP200, this will be either 100, 110, 120 Volts, or 220, 230, 240 Volts. Your MIP200 should already be configured to the correct Nominal Voltage based on your country. To change the nominal voltage, rotate the DISPLAY CONTROL knob until the correct voltage is selected.

RS232

The MIP200 may be remotely controlled from other equipment connected to the Rear Panel RS232 Jack. The speed at which the MIP200 communicates (8 bit, no parity and 1 stop bit) with other equipment is adjustable from 9,600 bits per second to 115,200 bits per second. To change from the default speed of 115,200 bits per second, rotate the DISPLAY CONTROL knob until the desired bit rate is selected.

Factory Reset

To reset all adjustable settings to the factory default values, perform the following steps:

1. Hold the OUTLET CONTROL knob until the following appears on the Information Display, then release the INPUT knob.

```
SETUP: <  Factory
      In Progress...
```

2. Once the factory reset is completed, the MIP200 will turn off. Push the DISPLAY CONTROL knob to turn the MIP200 on.

Outlet Submenu

Outlets 1, 2, and 3 each have their own submenu to configure them individually. To enter an outlet's submenu, rotate the OUTLET CONTROL knob in the Setup Menu until the desired outlet is selected, then hold the OUTLET CONTROL knob. Each submenu has three configuration options: Remote Power Control, Delay, and Name.

Settings	Options
Remote Power Control	**Main Power Control**, Power Control #
Delay	**Off**, 1 second, 2 seconds, 3 seconds
Name	

Remote Power Control

The Remote Power Control setting determines which type of POWER CONTROL IN connectors control the switched outlet. By default, it is set to the Main Power Control connector. To change the Remote Power Control to Power Control 1, 2, or 3 (outlet specific), perform the following steps:

1. Rotate the DISPLAY CONTROL knob until the following appears on the Information Display.

```
OUTLET #:  Remote >
<  Power Control 1
```

2. To exit the Outlet Submenu and return to the Setup Menu, press the OUTLET CONTROL knob again or use the OUTLET CONTROL knob to navigate to the next setting.

Delay

The Delay setting controls how long the outlet takes to turn on after a Remote Power Control signal. By default, the Delay is set to Off, but can be configured to 1, 2 or 3 seconds. To change the Delay, perform the following steps:

1. Rotate the OUTLET CONTROL knob until the following appears on the Information Display:

```
OUTLET #: < Delay >
      Off      >
```

2. Rotate the DISPLAY CONTROL knob until the desired setting is selected.

```
OUTLET #: < Delay >
   <  2 seconds >
```

3. To exit the Outlet Submenu and return to the Setup Menu, press the OUTLET CONTROL knob again or use the OUTLET CONTROL knob to navigate to the next setting.

Name

1. To change the name of Outlet 1, rotate the OUTLET CONTROL knob until the Information Display indicates:

```
OUTLET #: < Name
   (Hold OUTLET)
```

2. Press and Hold the OUTLET CONTROL knob to enter the Outlet 1 naming menu:

```
RENAME: OUTLET 1
  >OUTLET 1  <
```

3. The character you are currently changing will be blinking. Rotate the OUTLET CONTROL knob to select which character to change, then rotate the DISPLAY CONTROL knob to change the selected character.

4. To save the new name, press and hold the OUTLET CONTROL knob. The new name will replace the old name.

5. To exit the naming menu, press the OUTLET CONTROL knob.

6. To exit the Outlet Submenu and return to the Setup Menu, press the OUTLET CONTROL knob again.

Trim Menu

How to Select and Adjust Trim Functions

1. Press the Front Panel OUTLET CONTROL knob to open the Trim Menu.

2. Rotate it to select the desired Trim Function.

3. Rotate the DISPLAY CONTROL knob to change the setting.

Approximately 5 seconds after making any changes, the Information Display will return to indicate the AC line monitor / meter.

Trim Functions Menu Options

Settings	Options
Brightness	4 Levels from Dim ⟶ Bright
Display	**Always On**, Auto Sleep
Over Voltage	**Off**, 5%, 10%
Under Voltage	**Off**, 5%, 10%

Brightness

The brightness level of the Information Display can be adjusted. It has 4 levels that vary from dim to bright.

Display

When the Display control is set to Auto Sleep, the Information Display will automatically turn off. This occurs approximately 30 minutes after there has been an absence of user activity (includes power controls). By default, it is set to Always On.

Over Voltage

The Over Voltage protection feature will turn off all outlets if the AC line exceeds the set limit. This threshold can be configured to protect against voltages either 5% or 10% above the Nominal Voltage value (see Setup Menu). By default, the Over Voltage is set to Off, which disables the protection.

Under Voltage

The Under Voltage protection feature will turn off all outlets if the AC line falls below the set limit. This threshold can be configured to protect against voltages either 5% or 10% below the Nominal Voltage value (see Setup Menu). By default, the Under Voltage is set to Off, which disables the protection.

How to Operate

Display On and Off

To turn on the Information Display, push the DISPLAY CONTROL knob. The MIP200 will go through a brief initialization, and then indicate the last used AC line display.

```
 Volts    AC     Amps
 118.0    LINE    0.00
```

To turn off the Information Display, push the DISPLAY CONTROL knob. Turning the Information Display does not control any Switched or Unswitched Outlets

AC Line Monitor Readings

The MIP200 provides four different AC line readings: Composite, Power, Voltage, and Current. To select the desired reading, rotate the DISPLAY CONTROL knob.

```
     AC LINE POWER
        0.0 Watts
```

Switched Outlet Control

The MIP200 has three Switched Outlets that are independently configurable. Rotate the OUTLET CONTROL knob to select the desired Outlet. If an outlet has been renamed in the Setup Menu, its custom name is displayed here. Each Outlet has two control modes, which can be selected by rotating the DISPLAY CONTROL knob:

- Off/Remote (Default) – Outlet is Off unless controlled by a POWER CONTROL IN connection. When configured for Off/Remote, the type of Remote Power Control is indicated in parentheses.

```
       OUTLET 1    >
     Off/Remote (Main) >
```

- On – Outlet behaves as Unswitched

```
       OUTLET 1    >
     <   On
```

To return to the AC Line Readings, push the OUTLET CONTROL knob.

Remote Power Control Connections

Each Outlet can use one of two control signals:
- MAIN POWER CONTROL (Default) – a universal signal that can control multiple Outlets simultaneously
- POWER CONTROL X – each Outlet has its own corresponding power control, where X is the Outlet number

The control type for each Outlet can be configured in the Setup Menu.

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MIP200 (100V-120V) Specifications

Input Rating

100V 50/60Hz 12A (Max)
110V 50/60Hz 12A (Max)
120V 50/60Hz 12A (Max)

Output Rating

11.6A (1160W) Total

AC Surge Protection

Thermally Protected Metal Oxide Varistor (TPMOV)
50 kA - 8/20us Line to Neutral

AC Voltage Protection

±5% or ±10% from Nominal

Power Control Input

5-12VDC (All inputs)

Power Control Output

12VDC, 25mA (Main)
Vout = Vin (PC1, PC2, PC3)

Overall Dimensions

Width is 17 ½ inches (44.5cm)
Height is 4 ⅜ inches (11.1cm)
Depth is 15 ⁹⁄₁₆ inches (39.5cm)

Weight

17 pounds (7.7 kg) net
33 pounds (15 kg) in shipping carton

Shipping Carton Dimensions

Width is 27 inches (68.6cm)
Depth is 25 inches (63.5cm)
Height is 12 inches (30.5cm)

MIP200 (220V-240V) Specifications

Input Rating

220V 50/60Hz 6A (Max)
230V 50/60Hz 6A (Max)
240V 50/60Hz 6A (Max)

Output Rating

5.8A (1275W) Total

AC Surge Protection

Thermally Protected Metal Oxide Varistor (TPMOV)
50 kA - 8/20us Line to Neutral

AC Voltage Protection

±5% or ±10% from Nominal

Power Control Input

5-12VDC (All inputs)

Power Control Output

12VDC, 25mA (Main)
Vout = Vin (PC1, PC2, PC3)

Overall Dimensions

Width is 17 ½ inches (44.5cm)
Height is 4 ⅜ inches (11.1cm)
Depth is 15 ²³⁄₃₂ inches (39.9cm)

Weight

17 pounds (7.7 kg) net
33 pounds (15 kg) in shipping carton

Shipping Carton Dimensions

Width is 27 inches (68.6cm)
Depth is 25 inches (63.5cm)
Height is 12 inches (30.5cm)

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 on the right for the correct part numbers.
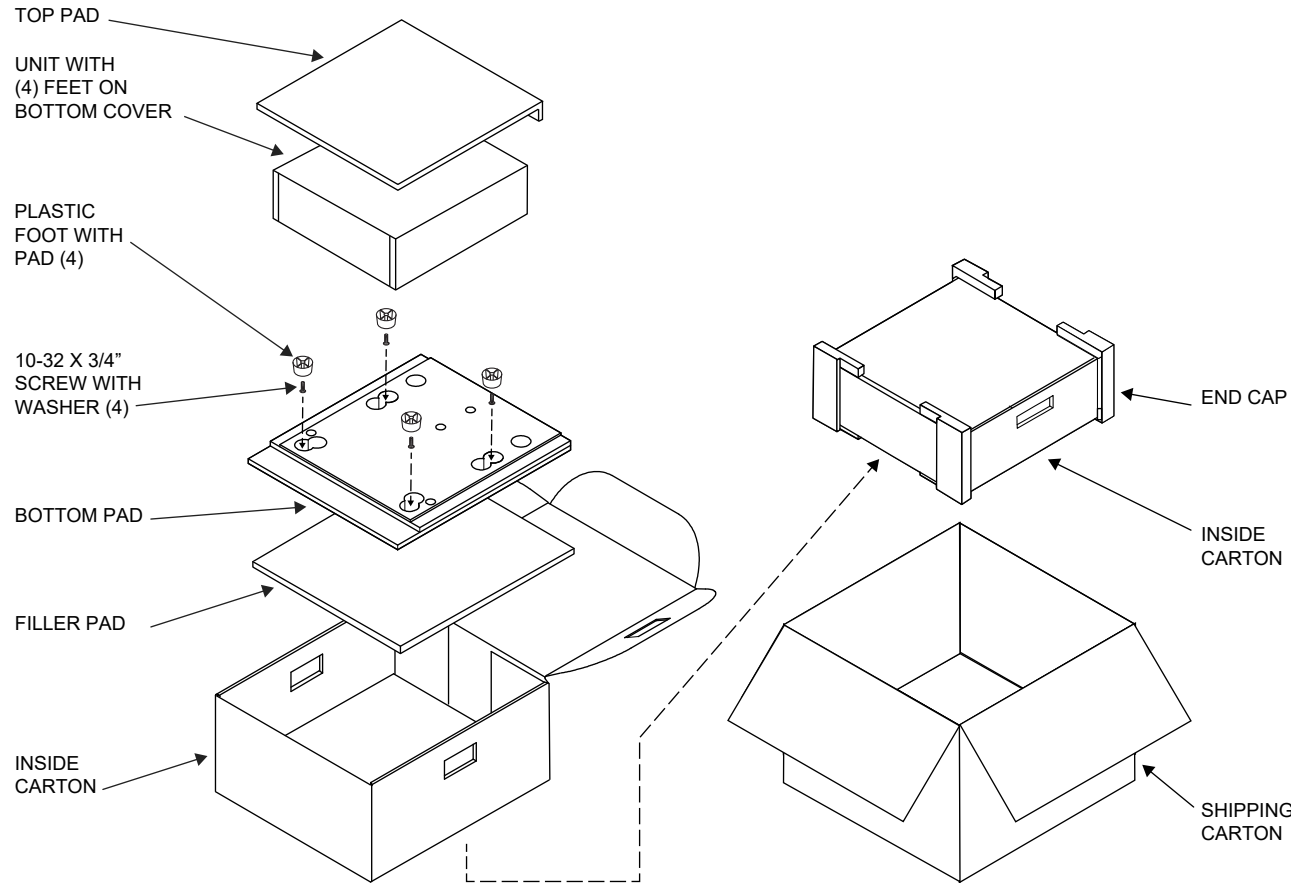
Part List

Qty	Part Number	Description
1	033838	Shipping carton
2	034669	End caps
1	033836	Inside carton
2	033725	Top / Filler pad
1	034576	Bottom pad
4	017937	Plastic feet
4	024036	Foot pads
4	400159	#10-32 x ¾" screws
4	404080	#10 Flat washers

TOP PAD

UNIT WITH (4) FEET ON BOTTOM COVER

PLASTIC FOOT WITH PAD (4)

10-32 X 3/4" SCREW WITH WASHER (4)

BOTTOM PAD

FILLER PAD

INSIDE CARTON

END CAP

INSIDE CARTON

SHIPPING CARTON

McIntosh®

MADE OF SOUND™

Printed in the U.S.A.