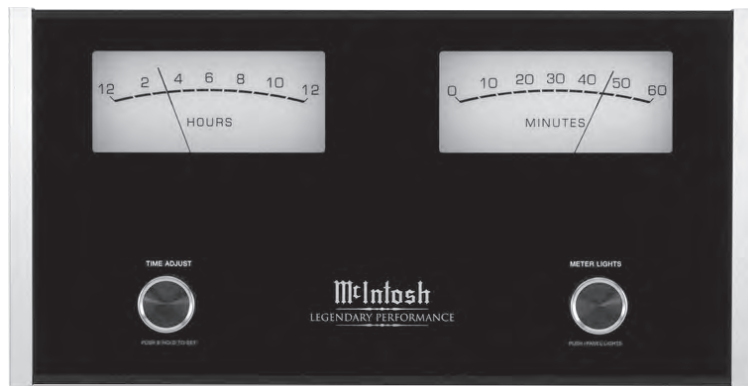




McIntosh Laboratory, Inc. 2 Chambers Street Binghamton, New York 13903-2699 Phone: 607-723-3512 www.mcintoshlabs.com

MCLK12
Analog Clock
Owner's Manual





The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

IMPORTANT SAFETY INSTRUCTIONS!

PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a



AVIS RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR.

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

third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

To prevent the risk of electric shock, do not remove cover or back. No user-serviceable parts inside.

supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. 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.
16. To completely disconnect this equipment from the a.c. mains, disconnect the power supply cord plug from the a.c. receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.
19. Connect mains power supply cord only to a mains socket outlet with a protective earthing connection.

CAUTION:

Danger of explosion if the battery is incorrectly installed. Only install one of the approved Lithium Batteries listed below.

Battery Installation

The McIntosh MCLK12 Analog Clock uses a long life Lithium Coin Cell type battery. The MCLK12 will function without a battery when connected to AC Power. However, the battery will keep the current time in the event there is an interruption of AC Power and thus prevents the necessity of having to reset the correct time when AC Power is restored. The MCLK12 may be supplied with a battery depending on the country where the MCLK12 is purchased. When purchasing a battery for use in the MCLK12 refer to the following list:

Approved Lithium Batteries		
Brand	IEC No.	ANSI/NEDA No.
Energizer	CR2032 ¹	5004LC ¹
Panasonic	CR2032(PA/1B) ¹	5004LC ¹

Access to the recessed battery compartment is located on the Rear Panel of the MCLK12. Refer to figure 1.

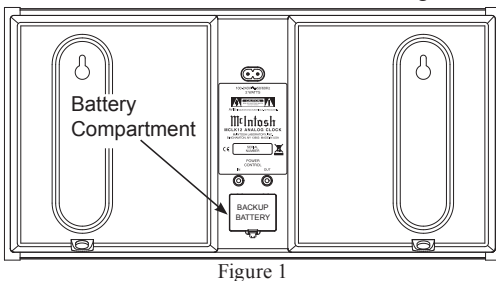


Figure 1

¹CR Lithium Coin Cells contain Perchlorate Material - special handling may apply. For additional information go to www.dtsc.ca.gov/hazardous_waste/perchlorate/index.cfm

Perform the following steps to install the battery:

1. Press the tab and lift up on the Backup Battery Cover and temporarily place it aside. Refer to figure 2.
2. Remove the CR2032 Battery from its packaging.
3. Orient the battery so the + symbol (engraved into one side of the battery) is facing up.
4. Referring to figures 3, 4 and 5 insert the battery

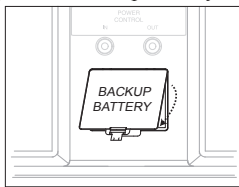


Figure 2

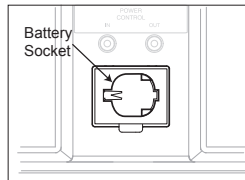


Figure 3

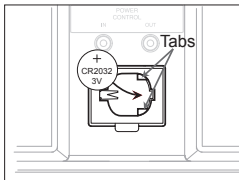


Figure 4

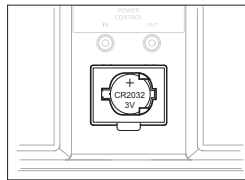


Figure 5

into the socket. Make sure the right side of the battery is seated under the two retaining tabs of the socket before pressing down on the left side of the battery.

5. Reinstall the Backup Battery Cover. Refer to figure 6.
6. The MCLK12 Analog Clock is now ready for installation, connection and operation.

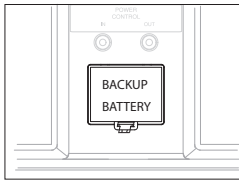


Figure 6

Battery Removal

The life of the Lithium Battery used in the McIntosh Clock is approximately the shelf life of the battery (10 - 15 years). However, it is advisable to remove the battery from the MCLK12 when the clock is not connected to AC Power for an extended period of time. This will help to extend battery life and avoid possible damage to the clock.

Perform the following steps to remove the battery from the clock:

1. Disconnect the AC Power Cord from the Rear panel of the McIntosh MCLK12 Clock. Refer to figure 1.
2. Press the tab and lift up on the Backup Battery Cover and temporarily place it aside. Refer to figure 2.
3. Referring to figure 7, use a small pocket size screw driver (or other suitable tool) and carefully insert the tip of the tool between the metal tab of the battery socket and the left side of the battery. Then rotate the tool to release the battery from the socket. Remove the battery from inside of the clock.
5. Reinstall the Backup Battery Cover. Refer to figure 6.

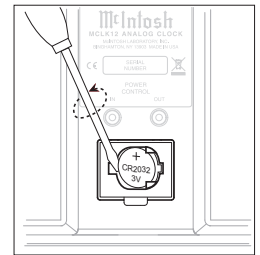


Figure 7

6. Store the battery in a cool dry place for future use or dispose of the battery in accordance with the local regulations for lithium battery disposal. Batteries should never be thrown away or incinerated.





Thank You

Your decision to own this McIntosh MCLK12 Analog Clock ranks you at the very top. You now have “The Best.” The McIntosh dedication to “Quality,” is assurance that you will receive many years of accurate time keeping from this unit.

Please take a short time to read the information in this manual. We want you to be as familiar as possible with all the features and functions of your new McIntosh.

Please Take A Moment

The serial number, purchase date and McIntosh Dealer name are important to you for possible insurance claim or future service. The spaces below have been provided for you to record that information:

Serial Number: _____

Purchase Date: _____

Dealer Name: _____

Technical Assistance

If at any time you have questions about your McIntosh product, contact your McIntosh Dealer who is familiar with your McIntosh equipment and any other brands that may be part of your system. If you or your Dealer wish additional help concerning a suspected problem, you can receive technical assistance for all McIntosh products at:

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3512
Fax: 607-724-0549

Customer Service



If it is determined that your McIntosh product is in need of repair, you can return it to your Dealer. You can also return it to the McIntosh Laboratory Service Department. For assistance on factory repair return procedure, contact the McIntosh Service Department at:

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3515
Fax: 607-723-1917

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General Information

1. For additional connection information, refer to the owner’s manual(s) for any component(s) connected to the MCLK12 Analog Clock.
2. The Main AC Power going to the MCLK12 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. When other McIntosh Components are in their Standby Power Off Mode, the Microprocessor’s Circuitry inside each component is active and communication is occurring between them.
3. When discarding the unit, comply with local rules or regulations. Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal. 
4. For additional information on the MCLK12 and other McIntosh Products please visit the McIntosh Web Site at www.mcintoshlabs.com. 

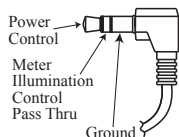
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Connector/Cable Information

Power Control Connector

The MCLK12 Power Control Input receives an On/Off signal from +5 to +12 volts. The Power Control Output will in turn provide a +5 to +12 volts Output Signal with a total current up to

50mA. An additional connection is for controlling the illumination of Hours and Minutes Meters on the MCLK12 along with Power Output Meters on compatible McIntosh Power Amplifiers. The 1/8 inch stereo mini phone plug connects to a McIntosh Preamplifier or A/V Control Center Power Control Output.



Note: The Power Control Connecting Cable is available from the McIntosh Parts Department:

Data and Power Control Cable Part No. 170-202
Six foot, shielded 2 conductor, with 1/8 inch stereo mini phone plugs on each end.

Introduction

The McIntosh MCLK12 Analog Clock is a precision time piece designed to complement any Audio or Audio/Video System.

Performance Features

• Illuminated Meters

The large Minutes and Hour Meters on the MCLK12 display the current time and are illuminated with extra long life Light Emitting Diodes (LEDs)

• Power Control

The Power Control Input and Output connections provides convenient Turn-On/Off of Front Panel Illumination of the MCLK12 along with other McIntosh Components.

• Precision Oscillator

The MCLK12 circuitry utilizes a precision temperature compensated quartz crystal oscillator for accurate time keeping, even with room temperature fluctuations.

• Lithium Battery

The long life Lithium Battery is used for backup of the crystal oscillator for accurate time keeping in the event there is an interruption of AC Power.

• Precision Parts

Only the finest precision parts are used throughout.

• Efficient Power Supply

Fully regulated Power Supply ensures stable, accurate time keeping operation even though the power line many vary. Its efficient design allow for very low energy consumption.

• Fiber Optic Solid State Front Panel Illumination

The even Illumination of the Front Panel is accomplished by the combination of custom designed Fiber Optic Light Diffusers and extra long life Light Emitting Diodes (LEDs).

• Glass Front Panel

The famous McIntosh Illuminated Glass Front Panel ensures the pristine beauty of the MCLK12 will be retained for many years.

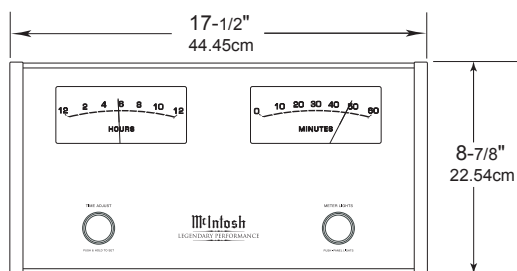




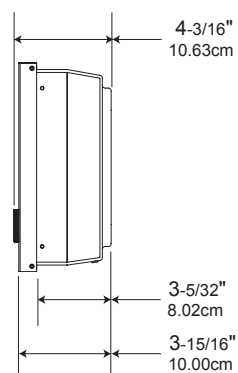
Dimensions

The following dimensions can assist in determining the best location for your MCLK12.

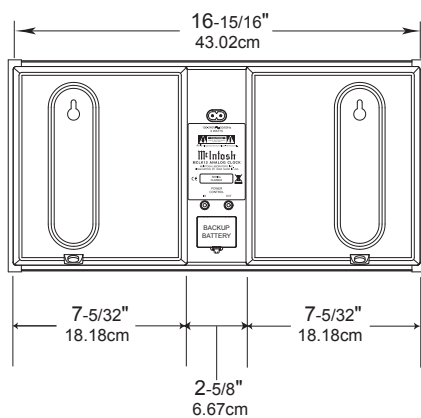
Front View of the MCLK12



Side View of the MCLK12



Rear View of the MCLK12



Installation

The MCLK12 Analog Clock is designed to be placed upright on a table or shelf, standing on its feet. It may also be wall mounted.

The clock produces very little heat of its own. However, it is advisable not to install the MCLK12 directly above a heat generating device. Cool operation ensures the longest possible operating life for any electronic instrument.

Wall Mounting

The MCLK12 is supplied with two Wall Anchors for mounting the clock on a wall. The Wall Anchors will accommodate wall thickness ranging from 1/8 inch (0.318 cm) to 5/8 inch (1.59 cm) thick (typical residential drywall construction). Refer to figure 2. Additional wall fasteners may be needed when the wall thickness is greater than 5/8 of an inch or with other types of wall construction. It is recommended that the Professionals at your McIntosh Dealer, who are skilled in all aspects of installation and operation, install the MCLK12 Analog Clock and any associated audio/video equipment.

1. Use the supplied MCLK12 Mounting Template sheet (drawn actual size) to determine the clock's location on the wall. Refer to figure 1.
2. Temporarily tape the Mounting Template to the wall in the desired location.
3. Before performing step 4, make certain there is no plumbing, electrical wires, electronic cables or any heating/cooling duct work located in the wall behind where the clock will be mounted.
4. Using a drill equipped with a 3/8 inch (9.5 mm) drill bit, drill two holes

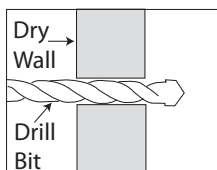


Figure 3

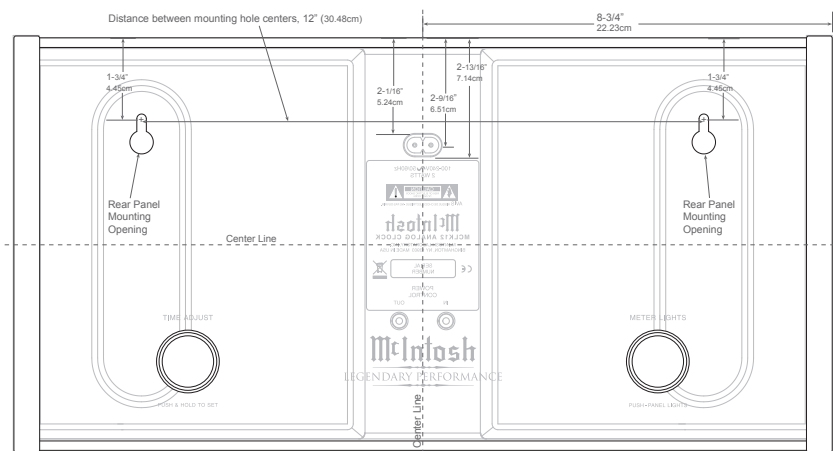


Figure 1

into the drywall as indicated on the Mounting Template. Refer to figures 1 and 3.

5. Remove the Mounting Template from the wall.
6. Locate the two supplied Wall Anchors and insert them into the just drilled openings in the wall. Refer to figures 2 and 4.
7. Using a suitable tool, lightly tap the Wall Anchors until the anti-rotation tabs are into the drywall.
8. Using a suitable tool, rotate the screw head clockwise of the Wall Anchors until it starts to tighten up. It will take many turns. Refer to figures 5, 6 and 7.

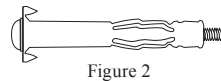


Figure 2

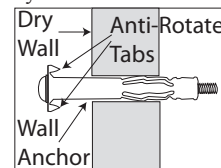


Figure 4

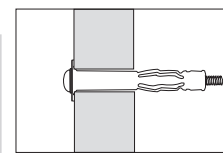


Figure 5

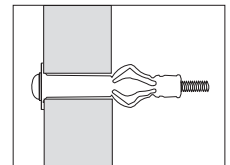


Figure 6

9. Now rotate the screw of the Wall Anchor counterclockwise about 6 and one half turns.

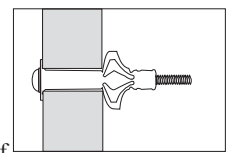
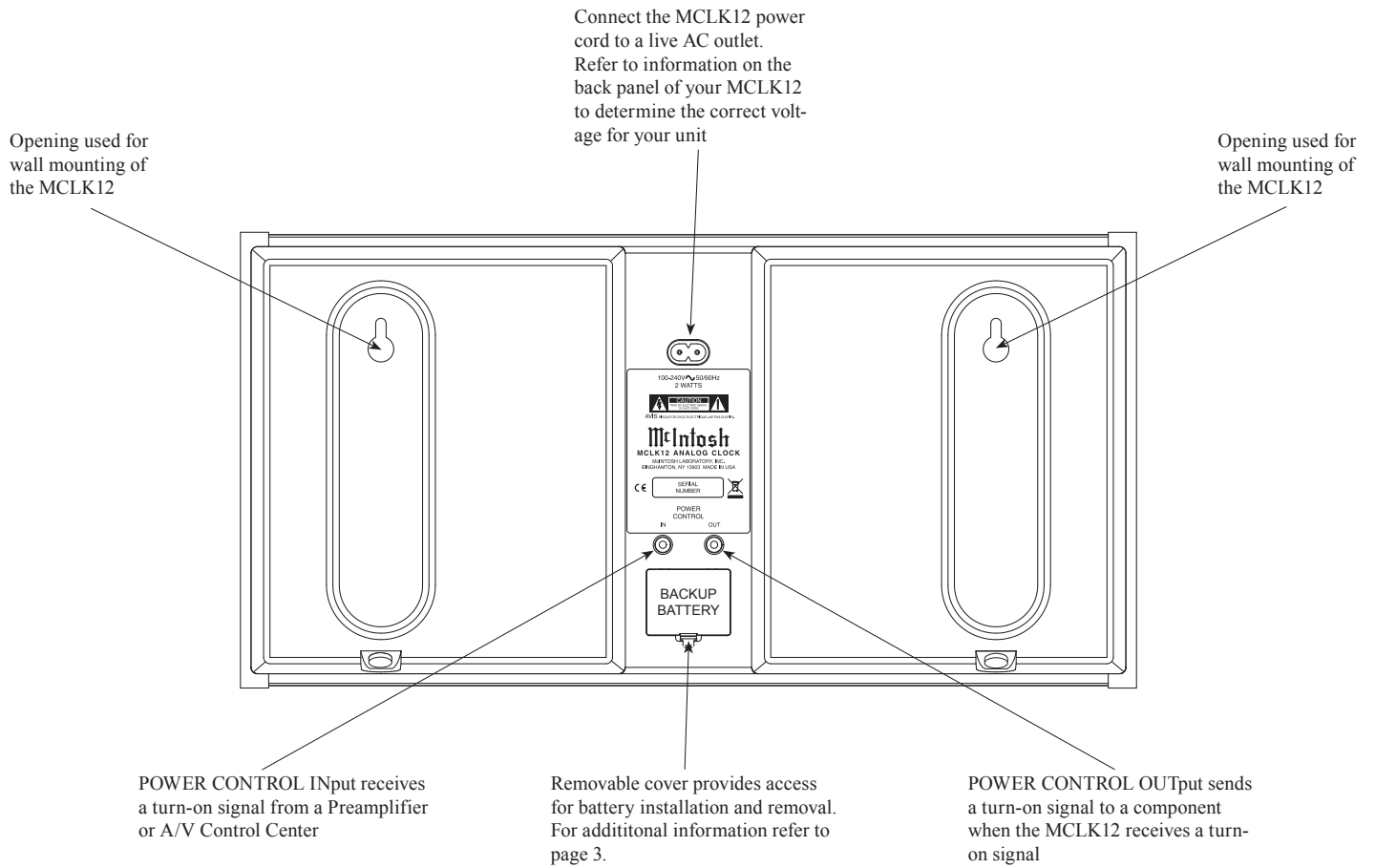


Figure 7

10. Try placing the MCLK12 on the wall by lining up the rear panel openings of the clock with the screw heads of the Wall Anchors. If necessary adjust the Wall Anchor screws.
11. Proceed to the MCLK12 Rear Panel Connections on page 8.



Connections

When the MCLK12 Power Control Input is connected to a McIntosh Preamp or A/V Control Center with Power Control Functions, the Clock's Front Panel Nomenclature and/or Meter Illumination can be remotely switched On/Off.

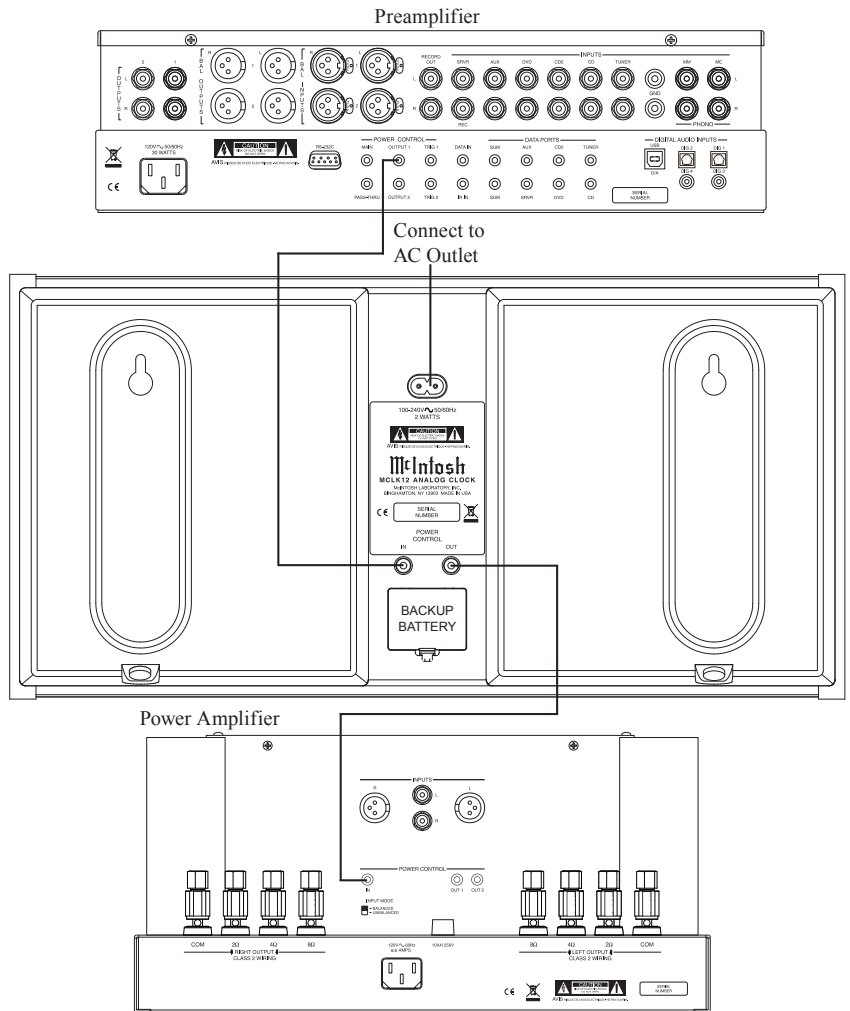
The connection instructions below, together with the Connection Diagram are an example of a typical audio system. Your system may vary from this, however the actual components would be connected in a similar manner. For additional information refer to "Connector and Cable Information" on page 5.

Power Control Connections:

1. Connect a Control Cable from the Preamp or A/V Control Center Power Control Output 1 Jack to the MCLK12 POWER CONTROL MAIN Jack.
2. Connect a Control Cable from the MCLK12 POWER CONTROL Out Jack to the Power Amplifier Power Control In Jack.

AC Power Cords Connections:

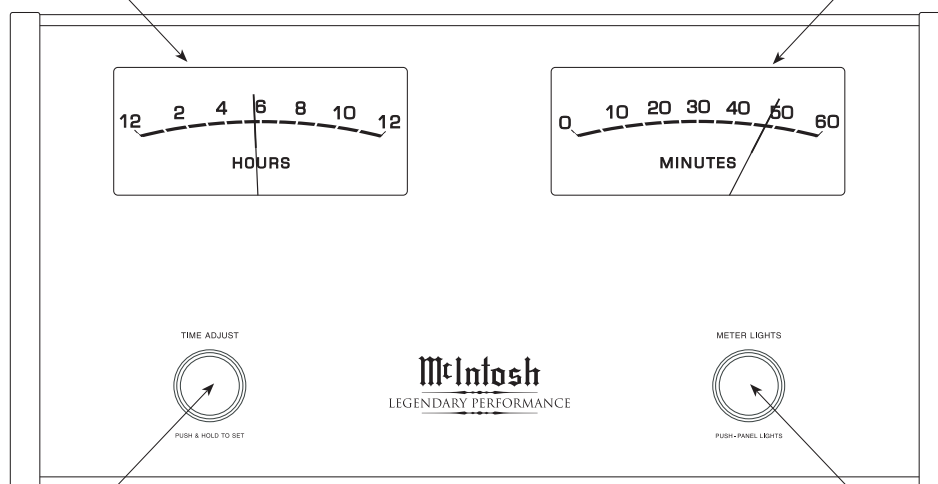
3. Connect the MCLK12 to a live AC outlet as illustrated.





Meter indicates the current Hour

Meter indicates the current Minute



TIME ADJUST Control allows setting the current time in Hours and Minutes

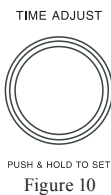
METER LIGHTS switches On/Off illumination of the Meters (Hours and Minutes) also switches On/Off illumination of the Front Panel nomenclature

How to Operate the Clock

Setting the Time

The internal time keeping circuitry of MCLK12 is always active when the clock is connected to a live AC Outlet. The correct time needs to be manually set when the clock is connected for the first time. To set the current time perform the following:

1. Press and hold in the TIME ADJUST Control until only the Meter indicating HOURS is illuminated. Refer to figures 10 and 11.



2. Rotate the TIME ADJUST Control clockwise or counterclockwise to set the current Hour on the Meter.

3. Press in the TIME ADJUST Control once and the Meter indicating MINUTES will now be illuminated. Refer to figures 10 and 12.

4. Rotate the TIME ADJUST Control clockwise or counterclockwise to set the current Minute on the Meter.

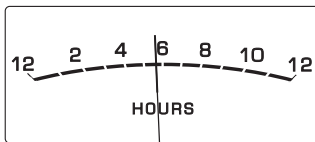


Figure 11

5. Press in the TIME ADJUST Control once and both Meters will now be illuminated displaying the current time.

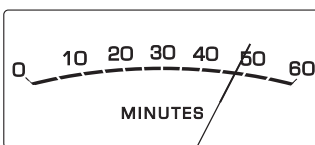


Figure 12

Front Panel Illumination

When the MCLK12 is connected to a McIntosh Pre-amplifier, A/V Control Center, Integrated Amplifier or A/V Receiver via the Power Control Connection, the Front Panel Illumination of the clock will go On/Off with the McIntosh Component.

The clock will continue to display the current time even when the Front Panel Illumination is Off. If the McIntosh Component offers remote control of meter illumination via the Power Control Connection the illumination of the Meters on the clock will also go On/Off.

The MCLK12 Front Panel METER LIGHTS Control also allows control of Meter and Front Panel Nomenclature Illumination. To select Meter and Nomenclature Illumination perform the following steps:

1. Rotate the METERS LIGHTS Control to switch the Meter illumination On/Off. Refer to figures 11, 12 and 13.
2. Press the METERS LIGHTS Control to switch On/Off illumination of the Meter and Nomenclature.

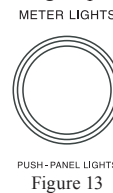
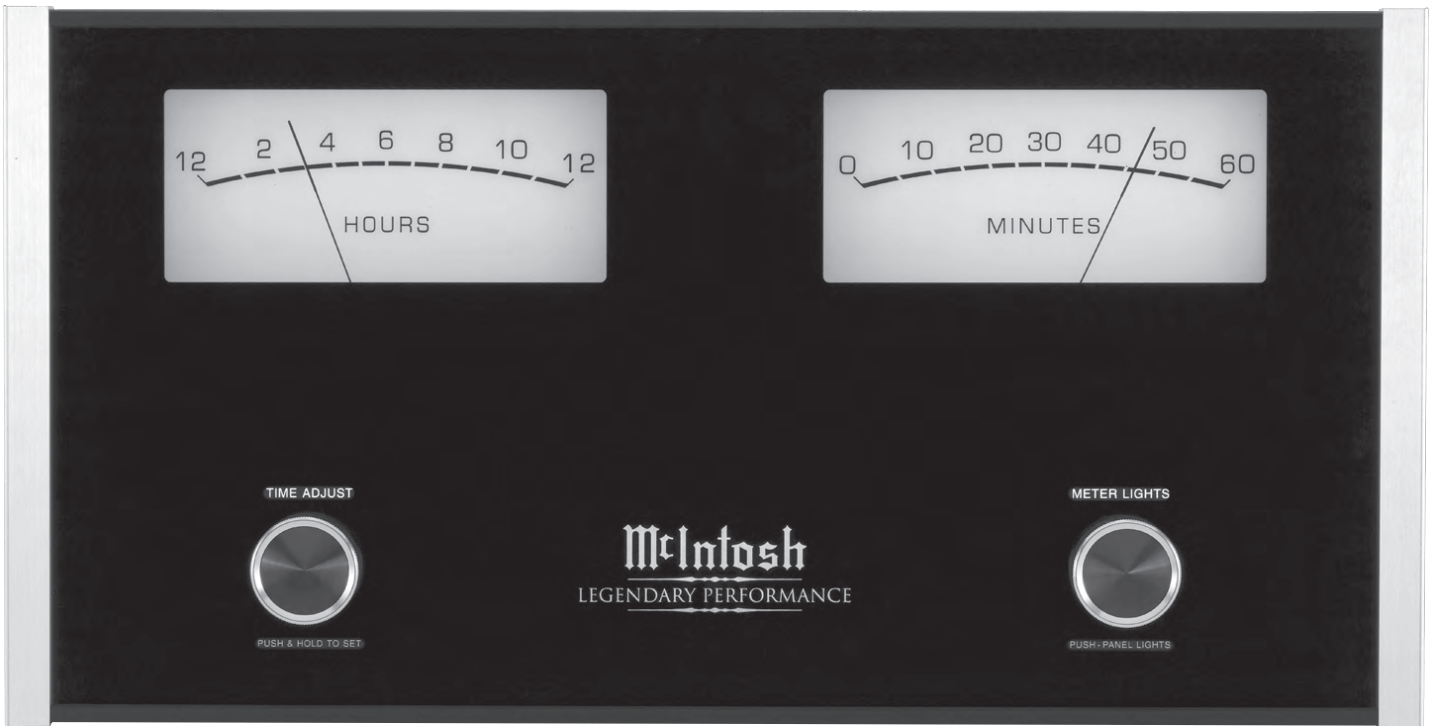


Figure 13





**Specifications****Time Base**

Temperature compensated quartz crystal oscillator

Time Base Accuracy

±2 parts per million from 0°C to +40°C

Clock Time Display

Dynamic magnetic meters

Backup Battery Type

Approved Lithium Batteries		
Brand	IEC No.	ANSI/NEDA No.
Energizer	CR2032 ¹	5004LC ¹
Panasonic	CR2032(PA/1B) ¹	5004LC ¹

Power Control Input and Output

5-15VDC, 50mA maximum

Power Requirements

100V ~ 50/60Hz at 2.0 Watts

110V ~ 50/60Hz at 2.0 Watts

120V ~ 50/60Hz at 2.0 Watts

220V ~ 50/60Hz at 2.0 Watts

230V ~ 50/60Hz at 2.0 Watts

240V ~ 50/60Hz at 2.0 Watts

Note: Refer to the rear panel of the MCLK12 for the correct voltage.

System Overall Dimensions

Width is 17-1/2 inches (44.45cm)

Height is 8-7/8 inches (22.54cm)

Depth is 5 inches (52.54 cm) with AC Cord connected

System Weight

8 pounds (3.62 Kg) net, 10 pounds (4.54 Kg) in shipping carton

System Shipping Carton Dimensions

Width is 22-3/4 inches (57.8cm)

Depth is 13-1/4 inches (33.7cm)

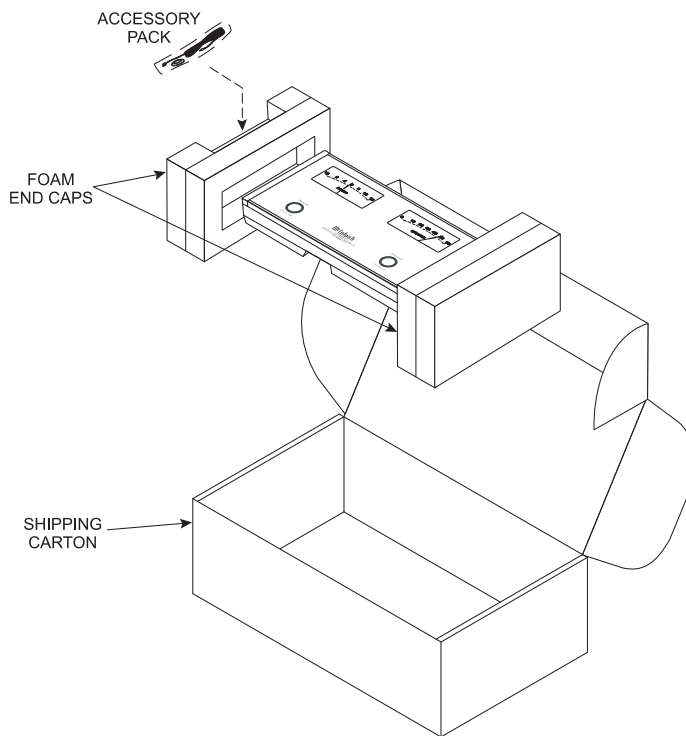
Height is 7-1/2 inches (19.1cm)

Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below. 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 4. Please see the Part List for the correct part numbers.

Quantity	Part Number	Description
1	034496	Shipping Carton Complete





McIntosh Laboratory, Inc.
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Binghamton, NY 13903
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