C49

Audio Preamplifier

Owner's Manual

**Important Safety Information is supplied in a separate document "Important Additional Operation Information Guide"**

## Thank You

Your decision to own this McIntosh C49 Audio Pre-amplifier ranks you at the very top among discriminating music listeners. You now have "The Best." The McIntosh dedication to "Quality," is assurance that you will receive many years of musical enjoyment 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 C49 Audio Preamplifier.

2. The Main AC Power going to the C49 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 the C49 and 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. Balanced and Unbalanced Inputs and Outputs can be mixed. For example, you may connect signal sources to Unbalanced Inputs and send signals from the Balanced Outputs. You can also use Balanced and Unbalanced Outputs simultaneously, connected to different Power Amplifiers.

4. The C49 internal Digital Circuitry is designed to decode 2-channel PCM (Pulse Code Modulation) and DSD (Direct Stream Digital) Digital Signals. The Coaxial and Optical Digital Audio Inputs are for PCM Digital Signals. The Digital MCT and USB Audio Inputs are for PCM and DSD Digital Signals. Other Digital Audio Signal Format Types will cause the Audio Outputs of the C49 to be muted and the Front Panel Information Display will indicate an error message.

5. Sound Intensity is measured in units called Decibels and "dB" is the abbreviation.

6. The McIntosh C49 is factory configured for immediate use. It can also be customized to complement the components making up your system. Refer to the C49 "Setup Mode" starting on page 13 for additional information.

7. The Remote Control Supplied with the C49 Preamplifier is capable of operating other components. For additional information go to www.mcintoshlabs.com.

8. The IR Input, with a 3.5mm mini phone jack, is configured for non-McIntosh IR sensors such as a Xantech Model HL85BK Kit. Use a Connection Block such as a Xantech Model ZC21 when two or more IR sensors need to be connected to the C49. The signal from a connected External IR Sensor will have priority over the signal from the Front Panel IR Sensor.

9. 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.

10. For additional information on the C49 and other McIntosh Products please visit the McIntosh Web Site at www.mcintoshlabs.com.

## Connector and Cable Information
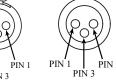
### XLR Connectors
Below is the Pin configuration for the XLR Balanced Input and Output Connectors on the C49. Refer to the diagrams for connections:
PIN 1: Shield/Ground
PIN 2: + Output
PIN 3: - Output

PIN 2    PIN 1        PIN 1    PIN 2
      PIN 3              PIN 3

### Power Control and Trigger Connectors
The C49 Power Control Out, Trigger and PASSTHRU Output Jacks send Power On/Off Signals (+12 volt/0 volt) when connected to other McIntosh Components. An additional connection is for controlling the illumination of the Power Output Meters on McIntosh Power Amplifiers. A 3.5mm stereo mini phone plug is used for connection to the Power Control, Trigger and PASSTHRU Outputs on the C49.

**Main, Triggers 1-4 and PASSTHRU**

Power Control
Meter Illumination Control
Ground

*Note: The Power Control, Trigger, PASSTHRU and Data Connecting Cable is available from the McIntosh Parts Department:*
***Power Control, Trigger, PASSTHRU and Data Cable Part No. 170-202***
*Six foot, shielded 2 conductor, with 3.5mm stereo mini phone plugs on each end.*

### Data Port Connectors
The C49 Data Out Ports send Remote Control Signals to Source Components. A 3.5mm stereo mini phone plug is used for connection.

Data Signal
N/C
Data Ground

### IR IN Port Connectors
The IR IN Port also uses a 3.5mm stereo mini phone plug and allows the connection of other brand IR Receivers to the C49.

IR Data Control
N/C
Ground

### RS232 Data Port Cable
The RS232 Data Cable is a 3.5mm stereo mini phone plug to a subminiature DB 9 connector:

Data In (DB9-pin2)
Data Out (DB9-pin3)
Ground (DB9-pin5)

DB9 (male connector)
PIN 1    PIN 5
PIN 6    PIN 9

## Introduction

The McIntosh C49 Audio Preamplifier is one of the finest Preamplifiers ever created with connections for both analog and digital sources. The C49 Outputs have the ability to drive multiple Power Amplifiers. The C49 reproduction is sonically transparent and absolutely accurate. The McIntosh Sound is "The Sound of the Music Itself."

## Performance Features

**• Electromagnetic Input Switching with Level Trim Adjustment**
Digital Logic Circuits drive Electromagnetic Switches on all Inputs and operating functions for reliable, noiseless, distortion free switching. The Analog Inputs can be matched in level, preventing abrupt changes in volume levels.

**• Moving Coil and Moving Magnet Phono Inputs**
The C49 has two precision Phono Preamplifier Circuits, one for Moving Coil Phono Cartridges and the other for Moving Magnet Cartridges. Both phono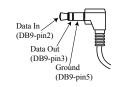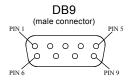 inputs have selectable loading. The circuits use the latest designs providing the lowest possible noise and distortion. The close tolerance resistors and capacitors used in the RIAA Correction Equalization Circuitry provides an extremely flat frequency response.

**• Digital Audio Inputs**
The Digital Inputs decode PCM and DSD Signals from external sources. Coaxial and Optical Inputs process Digital Signals up to 192kHz with 24-Bit resolution. The Digital MCT Input Circuitry directly decodes SACD/CD signals from an external Transport component. The USB Input for streaming audio processes Digital Signals up to 384kHz with 32Bit resolution, decodes up to DSD256 Digital Signals and DXD 24Bit with a sampling rate up to 384kHz.

**• Balanced Inputs**
The Balanced Inputs allow the connection of a source component using long cable lengths without a loss in sound quality.

**• Precision Tracking Volume Control**
Volume levels are controlled by a Precision Balanced Digitally Controlled Attenuator System with an Optical Encoder Rotary Control. This assures a 0.1dB tracking accuracy between channels. There are 214 individual 0.5dB volume level steps with no noise as the volume level is changed.

**• Variable Rate Volume and Balance Controls**
The C49 Preamplifier's Volume and Balance Control Circuitry provides an ideal rate of change with control rotation.

**• Tone Controls**
The Bass and Treble Trim Controls provide up to 12dB of boost or cut. The C49 remembers the Bass and Treble Setting for each input.

**• HXD® for Headphones**
The C49 Headphone Crossfeed Director Circuitry (HXD®) improves the sound localization for Headphone Listening. HXD™ restores the directionality component of the spatial sound stage normally heard with Loudspeaker listening.

**• Alphanumeric Fluorescent Display**
The Front Panel Information Display indicates the Source Selection, Volume/Balance Levels and Setup Mode Selections. The display intensity is adjustable.

**• PASSTHRU Mode**
The Automatic PASSTHRU Mode allows the C49 to become part of a Home Theater Multichannel Sound System.

**• Remote Control with External Sensor Input**
The Remote Control provides control of the C49 operating functions and McIntosh Source Components connected to it. Enjoy your McIntosh System from another room in your home by connecting an external sensor.

**• Power Control Output and Trigger Assignment**
A Power Control connection for convenient Turn-On of McIntosh Power Amplifiers, Source Components and Accessories is included. The Power Control Trigger Ouputs may be assigned to activate when a given Input/Output is selected.

**• Special Power Supply**
Fully regulated Power Supplies and a special R-Core Power Transformer ensure stable noise free operation even though the power line varies.

**• Glass Front Panel with LED Illumination**
The famous McIntosh Glass Front Panel is evenly Illuminated by multiple extra long life Light Emitting Diodes (LEDs) arranged with a special orientation. The pristine beauty of the C49 will be retained for many years.

HXD® is a registered trademark of McIntosh Laboratory, Inc.

## Dimensions

The following dimensions can assist in determining the best location for your C49. There is additional information on the next page pertaining to installing the C49 into cabinets.

**Front View of the C49**

17-1/2"
44.4cm

5-3/8"
13.7cm

6"
15.2cm

**Side View of the C49**

16-1/2"
41.9cm

14-1/2"
36.8cm

3/16"
0.48cm

4-13/16"
12.22cm

**Rear View of the C49**

17-1/8"
43.5cm

4-5/8"
11.8cm

13-1/4"
33.7cm

13/16"
2.1cm

10-9/16"
26.8cm

2"
5.1cm

1-15/16"
4.9cm

## Installation

The C49 can be placed upright on a table or shelf, standing on its four feet. It also can be custom installed in a piece of furniture or cabinet of your choice. The four feet may be removed from the bottom of the C49 when it is custom installed as outlined below. The four feet together with the mounting screws should be retained for possible future use if the C49 is removed from the custom installation and used free standing. The required panel cutout, ventilation cutout and unit dimensions are shown.

Always provide adequate ventilation for your C49. Cool operation ensures the longest possible operating life for any electronic instrument. Do not install the C49 directly above a heat generating component such as a high powered amplifier. If all the components are installed in a single cabinet, a quiet running ventilation fan can be a definite asset in maintaining all the system components at the coolest possible operating temperature.

A custom cabinet installation should provide the following minimum spacing dimensions for cool operation.

Allow at least 2 inches (5.1cm) above the top, 2 inches (5.1cm) below the bottom and 1 inch (2.5cm) on each side of the Preamplifier, so that airflow is not obstructed. Allow 20 inches (50.8cm) depth behind the front panel.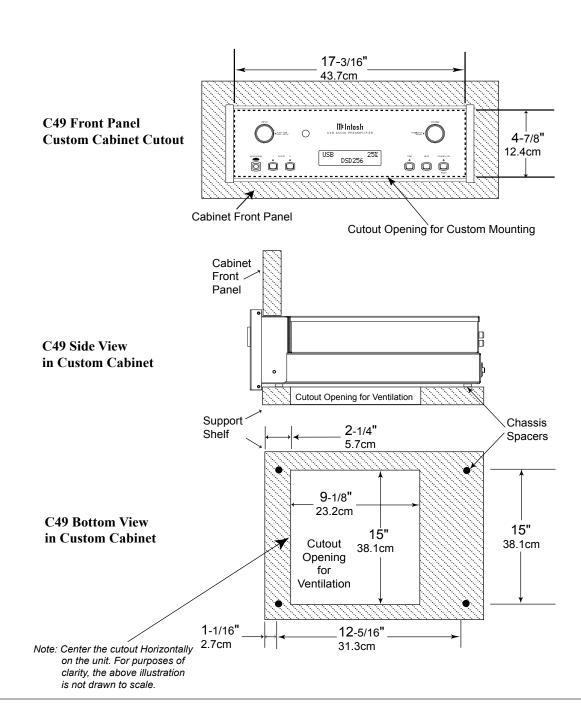 Allow 1-7/16 inch (3.7cm) in front of the mounting panel for knob clearance. Be sure to cut out a ventilation hole in the mounting shelf according to the dimensions in the drawing.

**C49 Front Panel Custom Cabinet Cutout**

17-3/16"
43.7cm

4-7/8"
12.4cm

Cabinet Front Panel

Cutout Opening for Custom Mounting

**C49 Side View in Custom Cabinet**

Cabinet Front Panel

Cutout Opening for Ventilation

Support Shelf

Chassis Spacers

**C49 Bottom View in Custom Cabinet**

2-1/4"
5.7cm

9-1/8"
23.2cm

15"
38.1cm

15"
38.1cm

Cutout Opening for Ventilation

1-1/16"
2.7cm

12-5/16"
31.3cm

*Note: Center the cutout Horizontally on the unit. For purposes of clarity, the above illustration is not drawn to scale.*

## Rear Panel Connections

The identification of Rear Panel Connections for the C49 Audio Preamplifier is located on a separate folded sheet contained in the Owner's Manual Packet. Refer to separate sheet "**Mc2B**" for the Rear Panel Connections.

C49 Audio Preamplifer Rear Panel



## Connecting Components

The C49 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 C49 Remote Control HR085. With an external sensor connected to the C49, remote control operation of the system is possible from another room and/or when the C49 is located in a cabinet with the doors closed.

The connection instructions below, together with the C49 Input/Output/Control Connection Diagrams located on the separate folded sheets "**Mc1A/1B** and **Mc2A**", 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 3.

*Notes: 1. The C49 allows renaming of the Audio Inputs Names as indicated on the Front Panel Information Display. Example, "UNBAL 1" may be changed to "TUNER" or your own personal preference. Refer to Setup "Renaming Input" on page 14.*

*2. For convenience, an "Input Assignment Chart" on a separate sheet "**Mc5A/5B**" has been provided to keep track of changes.*

### Power Control Connections:

1. Connect a Control Cable from the C49 POWER CONTROL MAIN Jack to the Power Control In on the Turntable.

2. Connect a Control Cable from the Turntable Power Control Out Jack to the Digital Audio Player Trigger In Jack.

3. Connect a Control Cable from the Digital Audio Player Trigger Out Jack to the SACD Transport Power Control In Jack.

4. Connect a Control Cable from the SACD Transport Power Control Out Jack to the Tuner Power

Control In Jack.

5. Connect a Control Cable from the Tuner Power Control Out Jack to the Media Bridge Pwr Ctrl (Power Control) In Jack.

6. Connect a Control Cable from the C49 POWER CONTROL TRIG (Trigger) 1 Jack to the Power Amplifier Power Control In Jack.

   *Notes: 1. If two separate Power Amplifiers are used (Left and Right Channels), connect the Power Control Output of the first Amplifier to the Power Control Input on the second Amplifier.*
   *2. By the defaut settings, POWER CONTROL Triggers 1 and 2 will be active when the C49 OUTPUT 1 and/or 2 is selected by the Front Panel or Remote Control Push-buttons.*

7. Optionally, connect a Control Cable from the C49 POWER CONTROL TRIG (Trigger) 2 Jack to the Power Amplifier (Secondary Room) Power Control In Jack.

8. Connect any additional Components in a similar manner, as outlined in steps 1 thru 5.

**Data Control Connections:**

9. Connect a Control Cable from the C49 DATA PORTS 2 Jack to the TUNER Data In Jack.

   *Note: To have source components (e.g. Tuner) respond only to their specific "Function Commands" issued by the Remote Control, it is first necessary to change the Data Ports Default settings for the "Tuner" Input. Refer to Setup "Data Port Assignment"on page 16.*

10. Connect a Control Cable from the C49 CD DATA PORT 3 Jack to the SACD/CD Transport Data In Jack.

11. Connect a Control Cable from the C49 DATA PORT 1 Jack to the Media Bridge Data In Jack.

12. Connect any additional McIntosh Components in a similar manner, as outlined in steps 9 thru 11.

**Sensor Connection:**

13. Connect a Control Cable from the C49 IR Input Connector to the external Sensor. For additional information, refer to "General Information" note 8 on page 3.

**Audio Connections:**

14. Connect an Audio Cable from the C49 UNBALANCED INPUT 1 (Tuner) Jacks to the Tuner Unbalanced Output Jacks.

15. Using the "DIN Cable-Twisted Pair" cable (supplied with a MCT Transport) from the C49 MCT DIGITAL AUDIO INPUT connector to the SACD/CD Transport DIN Output connector.

16. Connect an XLR Audio Cable from the C49 BALANCED INPUT 1 connectors to the Media Bridge Balanced Output connectors.

17. Connect a Digital Coaxial Cable from the C49 DIGITAL AUDIO INPUT COAXIAL Jack to the Digital Audio Player Digital Coax Output Jack.

18. Connect the Audio Cables coming from the Turntable to the C49 MC PHONO INPUT Jacks.

    *Note: If the Turntable has a Moving Magnet Cartridge, connect the audio cables to the C49 MM PHONO INPUT instead of the MC Input.*

19. Connect XLR Audio Cables from the C49 BALanced OUTPUT 1 connectors (Left and Right) to the Power Amplifiers (Primary Room) Balanced (Left and Right) Inputs.

20. Optionally, connect XLR Audio Cables from the C49 BALanced OUTPUT 2 connectors (Left and Right) to the Power Amplifier (Secondary Room) Balanced (Left and Right) Inputs.

21. Connect any additional McIntosh Components in a similar manner, as outlined in steps 14 thru 20.

**Optional "PassThru" Connections:**

22. Connect XLR Audio Cables from the A/V Processor, Front Channels (Left and Right) Balanced Output connectors to the C49 BALANCED INPUT 2 connectors.

    *Note: Refer to Setup "PASSTHRU" on page 17 to activate the BALANCED 2 Input.*

23. Connect a Control Cable from the C49 PASSTHRU Jack to A/V Processor Power Control Zone ZA Jack.

**Optional USB Connection:**

24. Connect a USB cable with (type A to type B) connectors from the C49 USB DIGITAL AUDIO INPUT connector to an available USB connector on the computer.

**Ground Connections:**

25. Connect the Ground Cable coming from the Turntable to the C49 PHONO INPUT GND Binding Post.

**AC Power Cord Connections:**

26. Connect the C49 to a live AC Outlet using the supplied Power Supply Cord.

LEDs illuminate during the time a remote command is sent and when programming the remote control

Select the DEVICE to issue a remote control command to

SETUP Push-button is used as a "Shift Key" to select a function with blue color nomenclature

Selects AM Tuner Operating Functions, select Output 1 when used with the SETUP/shift Push-button and Track Selection on certain McIntosh CD Players

Press the Trim Push-button and then the LEVEL UP Push-button to select and adjust various functions. MENU is used with McIntosh Models displaying choices on a video screen

Activates the TRIM Mode. GUIDE is used with McIntosh Models displaying instructions on a video screen

Press the Trim Push-button and then the LEVEL DOWN Push-button to select and adjust various functions. INFO is used with McIntosh Models displaying information on a video screen
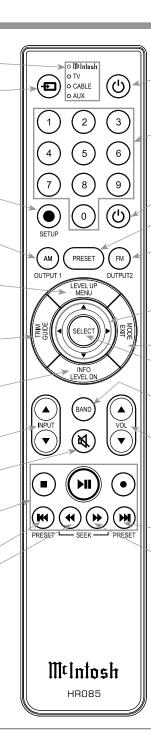
Scrolls through the available INPUTS

Mutes the audio

Selects transport functions of STOP, PLAY/PAUSE, RECORD, BACK for the previous-selection, FAST-RE-VERSE, FAST-FORWARD and NEXT for the next selection

Selects Previous Tuner Station PRESET

Tuner scans Down the dial to SEEK the next Station

Press to Power the Preamplifier ON

Use to select tuner presets, direct access an AM/FM Station Frequency, disc tracks or any numbered operation

Press to Power the Preamplifier OFF

Direct access to stored Tuner PRESETS when used with the numeric Push-buttons (0 thru 9)

Selects FM Tuner Operating Functions, select Output 2 when used with the SETUP/shift Push-button and Track Selection on certain McIntosh CD Players

Use ▲ and ▼ to tune Up or Down the AM/FM Dial, use ▶ and ◀ for the next or previous HD Radio Program (were applicable)

EXIT the TRIM Menu and is used with McIntosh Models displaying information or choices on a video screen

Used to SELECT/Enter the indicated choice

Press to change broadcast bands on a connected Tuner. Select certain functions on a variety of McIntosh Models

Adjusts the VOLume level up or down

Selects Next Tuner Station PRESET

Tuner scans Up the dial to SEEK the next Station

*Note: Push-buttons whose function is not identified above are for use with other McIntosh Products.*

## How to use the Remote Control

The supplied C49 Remote Control (HR085) is capable of directly controlling the functions of contemporary McIntosh Source Components connected to the C49 via the Data Ports.

> Notes: 1. *If at any time the C49 seems unresponsive to the HR085 Remote Control Commands, press the ⊡ DEVICE Push-button to select McIntosh first.*
> 2. *For additional information on using the HR085 Remote Control with the McIntosh Model, please refer to the "How to Operate" starting on page 20.*
> 3. *For additional information on assigning the Data Ports, refer to "How to Setup" on page 13.*

### Trim

Press the TRIM Push-button until the desired Trim function (Balance, Trim Level, etc.) appears on the C49 Front Panel Display, then press the LEVEL Up or Down Push-button to adjust the Trim setting.

> Note: *Press the TRIM Push-button to recall the last Trim function selected. For additional information on using the Trim Functions refer to "How to Operate" pages 20-23.*

### Output Selection

Press the BLUE (Setup) Push-button followed by the AM (Output 1) or FM (Output 2) Push-button, to control the Rear Panel Audio OUTPUTS 1, 2 (ON or OFF) and Power Control TRIG 1 / TRIG 2.

> Note: *For additional information on assigning the Outputs (1 and 2) and Power Control Triggers (1 and 2) refer to page 16.*

INPUT Control used to select a source for listening and recording. The control is also used to enter the TRIM or SETUP Modes and select the various functions

VOLUME Control allows adjustment of the listening level for both channels. Also used to change the various TRIM and SETUP Functions

IR Sensor receives commands from a Remote Control

INPUT

PUSH - TRIM
HOLD - SETUP

McIntosh
C49 AUDIO PREAMPLIFIER

VOLUME

TRIM / SETUP
ADJUST

HEADPHONES
HXD

1    OUTPUT    2

USB                25%
DSD256

TONE        MUTE        STANDBY / ON

RESET

Connection for low impedance dynamic headphones, for private listening

INFORMATION DISPLAY indicates the Sources, Volume, other Audio Settings, Operational Functions and Setup Mode Settings

MUTE Push-button mutes the audio from the Loud-speakers and Headphones

OUTPUT 1 and 2 Push-buttons with indicators, switch the Preamplifier Outputs 1 and 2 On or Off

TONE Push-button with indicator, when de-activated the audio signal bypasses the Trim Tone Controls

STANDBY/ON Push-button with indicator, switches the C49 ON or OFF (Standby) and resets the microprocessors

## How to Operate the Setup Mode

Your McIntosh C49 has been factory configured for default operating settings that will allow immediate enjoyment of superb audio without the need for further adjustments. If you wish to make changes to the factory default settings, a Setup Feature is provided to customize the operating settings using the Front Panel Information Display. Refer to the C49 Front Panel Illustration on the previous page while performing the following steps.

*Note: If the C49 is currently On, proceed to step 2.*

1. Press the STANDBY/ON Push-button on the Front Panel or press the ⏻ (Power ON) Push-button on the Remote Control to switch On the C49. The C49 will go through a brief startup initialization with the Front Panel Information Display indicating the last used source and volume setting. This is followed by the volume setting indication starting at zero and then increasing to the last used volume setting. Refer to figure 1.

```
BAL 1          15%
```
Figure 1

2. Press and hold in the INPUT Control until the Front Panel Information Display indicates "C49 V1.00 - S/N: AHF____" (or higher Firmware version). Refer to figure 2.

```
C49      V1.00
S/N:  AHF____
```
Figure 2

3. Rotate the INPUT Control to select the next Setup Mode Menu item, "SETUP: Inputs, (Hold INPUT)". Refer to figure 3. Continue to rotate the INPUT CONTROL to view the other SETUP Mode Options.

```
SETUP: Inputs
(Hold INPUT)
```
Figure 3

4. To exit from the SETUP Mode, press and hold in the INPUT Control and the Front Panel Display will revert back to its normal display. Refer to figure 1.

## Default Settings

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

| Default Settings | | |
|---|---|---|
| **Function Name** | **Setting** | **Page No.** |
| C49 | V_.__ | 13 |
| DA1 | V_.__ | 13 |
| INPUTS | On / Rename | 13-15 |
| OUTPUTS (1 & 2 & Headphones) | Switched | 15 |
| TRIGGER 1 | Output 1 | 16 |
| TRIGGER 2 | Output 2 | 16 |
| DATA PORTS (1 thru 4) | All Data | 16 |
| PASSTHRU | OFF | 17 |
| USB Automute | ON | 17 |
| Comm Port Baud Rate | 115200 Baud | 17 |
| Remote Control Codes | Normal | 18 |
| IR Sensor | Enabled | 18 |
| Power Mode | Enabled | 18 |
| Factory Reset | Default Settings | 19 |
| Reset of the Microprocesors | Enabled | 19 |

## Firmware Version

The C49 functionality is controlled by internal software that is know as Firmware. There are two Firmware Identification Numbers for the C49. The first Firmware Number is for the Main Circuitry of the C49 and can be identified at any time by utilizing the Setup Mode.

1. Press and hold in the INPUT Control to enter Setup Mode.
2. Referring to the Front Panel Information Display-the number after the character "V" is the Firmware number. Refer to figure 2.

To view the second Firmware Number, which is for the Digital Audio Circuitry of the C49, perform the following steps:

3. Press and hold in the INPUT Control to enter Setup Mode.
4. Rotate the INPUT Control until the Front Panel Information Display indicates "DA1 Firmware, V1.00" (or higher Digital Audio Firmware version). Refer to figure 4.

```
DA1 FIRMWARE
V1.00
```
Figure 4

5. To exit the Setup Mode, press the INPUT Control.

## Input Settings

The C49 provides the ability to switch unused INPUTS Off (or back On if they have been previously switched Off). The default INPUT Names can be changed to match the name of the component connected to it or any other custom name desired (within 10 Characters).

INPUT SWITCHED ON/OFF:

In the following example, the UNBAL 3 Input will be switched Off.

*Note: When an INPUT is swiched Off, its name will no longer appear on the Front Panel Information Display when using the INPUT Control (Front Panel or Remote Control).*

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2.

## Input Settings, con't

2. Rotate the INPUT Control until "SETUP: Inputs, (Hold INPUT)" appears on the Information Display. Refer to figure 3 on page 13.
3. Press and hold in the INPUT Control until "SETUP: UBAL 3, On / Rename" appears on the Display. If necessary rotate the INPUT Control to select the UNBAL 3 Input. Refer to figure 5.

```
SETUP: UNBAL 3
On/Name (Hold INPUT)
```
Figure 5

4. To switch the UNBAL 3 Input Off, rotate the VOLUME Control Couterclockwise until the display indicates "SETUP: UNBAL 3, Off". Refer to figure 6.

```
SETUP:  UNBAL 3
        Off
```
Figure 6

5. Exit the SETUP Mode by several presses of the INPUT Control.

In the following example, the UNBAL 3 Input will be switched On.

*Notes: 1. When an INPUT is swiched ON, its name will appear on the Front Panel Information Display when using the INPUT Control (Front Panel or Remote Control).*

6. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2, on page 13.
7. Rotate the INPUT Control until "SETUP: Inputs, (Hold INPUT)" appears on the Information Display. Refer to figure 3, on page 13.
8. Press and hold in the INPUT Control until "SETUP: UNBAL 3, Off" appears on the Display. If necessary rotate the INPUT Control to select the UNBAL 3 Input. Refer to figure 5.

9. To switch the UNBAL 3 Input On, rotate the VOLUME Control until the display indicates "SETUP: UNBAL 3, On / Rename"
10. Exit the SETUP Mode by several presses of the INPUT Control.

RENAME INPUT:

In the following example, the BALANCED 1 (BAL 1) Input will be renamed to match up with the component connected (refer to page 8, step 16).
The C49 Default Input Names (UNBAL 1, BAL 1, COAX 1, etc.) as indicated on the Front Panel Display can be customized to a different name up to ten characters long (TUNER, CD PLAYER, etc.). The available characters for renaming the input include the following: ! < > * , / - _ 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z .
In the following example, the BAL 1 Input will be renamed to "MEDIA BRDG".

11. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2, on page 13.
12. Rotate the INPUT Control until "SETUP: Inputs, (Hold INPUT)" appears on the Information Display. Refer to figure 7.

```
SETUP: Inputs
   (Hold INPUT)
```
Figure 7

13. Press and hold in the INPUT Control until "SETUP: BAL 1, On/Name (Hold INPUT)" appears on the Display. If necessary rotate the INPUT Control to select the BAL 1 Input. Refer to figure 8.

```
SETUP: BAL 1
On/Name (Hold INPUT)
```
Figure 8

14. Press and hold in the INPUT Control until "RENAME: BAL 1, >BAL 1  < " appears on the

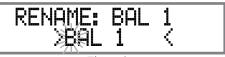Display. The character "B" is flashing to indicate it is ready to be changed. Refer to figure 9.

```
RENAME: BAL 1
   >BAL 1   <
```
Figure 9

15. Rotate the VOLUME (ADJUST) Control to change the character "B" to "M". Refer to figure 10.

```
RENAME: BAL 1
   >MAL 1   <
```
Figure 10

16. Rotate the INPUT Control until the character "A" is flashing, then rotate the VOLUME (ADJUST) Control to change the character "A" to "E". Refer to figure 11.

```
RENAME: BAL 1
   >MEL 1   <
```
Figure 11

17. Rotate the INPUT Control until the character "L" is flashing, then rotate the VOLUME (ADJUST) Control to change the character "L" to "D". Refer to figure 12.

```
RENAME: BAL 1
   >MED 1   <
```
Figure 12

18. Rotate the INPUT Control until the "_" empty space to the right of character D is flashing, then rotate the VOLUME (ADJUST) Control to change the "_" empty space to character to "I". Refer to figures 13 and 14.

```
RENAME: BAL 1
   >MED     <
```
Figure 13

```
RENAME: BAL 1
    >MEDI     <
```
Figure 14

19. Repeat steps 15 thru 18 until the new name of "RENAME: BAL 1, MEDIA BRDG" is indicated on the Front Panel Display. Refer to figures 13 thru 20.

```
RENAME: BAL 1
    >MEDIA    <
```
Figure 15

```
RENAME: BAL 1
    >MEDIA     <
```
Figure 16

```
RENAME: BAL 1
    >MEDIA B    <
```
Figure 17

```
RENAME: BAL 1
    >MEDIA BR    <
```
Figure 18

```
RENAME: BAL 1
    >MEDIA BRD   <
```
Figure 19

```
RENAME: BAL 1
    >MEDIA BRDG  <
```
Figure 20

20. To save the new name, press and hold in the IN-PUT Control until "SETUP: MEDIA BRDG , ON / Rename" appears on the Front Panel Information Display. Refer to figure 21.

```
SETUP: MEDIA BRDG
On/Name (Hold INPUT)
```
Figure 21

21. Exit the SETUP Mode by several presses of the INPUT Control.

> *Note: For convenience, an "Input Assignment Chart" on a separate sheet "Mc5A/5B" has been provided to keep track of changes.*

## Output Settings

The Output Settings provide the ability to change how the C49 Output 1, Output 2 and Headphones function.
OUTPUT 1 and 2:
By defaut OUTPUT 1 and 2 are set to go On/Off by using the Front Panel OUTPUT 1 and 2 Push-buttons or by using the OUTPUT 1 and 2 Push-buttons on the Remote Control. If it is desirable to have OUTPUT 1 and/or 2 always On regardless of the OUTPUT 1 and 2 Push-button settings perform the following:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: Outputs, (Hold INPUT)" appears on the Information Display. Refer to figure 21.

```
SETUP: Outputs
   (Hold INPUT)
```
Figure 21

3. Press and hold in the INPUT Control until "SETUP: OUTPUT 1, Switched" appears on the Display. Refer to figure 22.

```
SETUP: OUTPUT 1
    Switched
```
Figure 22

4. Rotate the VOLUME (ADJUST) Control to change from the "Switched" setting to "Unswitched". Refer to figure 23.

```
SETUP: OUTPUT 1
    Unswitched
```
Figure 23

5. In a similar manner, perform steps 3 and 4 to change the OUTPUT 2 setting. Refer to figures 24 and 25.

```
SETUP: OUTPUT 2
    Switched
```
Figure 24

```
SETUP: OUTPUT 2
    Unswitched
```
Figure 25

The C49 Default Setting for using Headphones is to automatically mute all the Output Connectors when the Headphone Cable Plug is inserted into the C49 Front Panel HEADPHONES Jack. There are three available settings:

> Mute All Outputs
> Mute Main Output
> Mute No Outputs

6. Rotate the INPUT Control until "SETUP: HEAD-PHONES, Mute All Outputs " appears on the Information Display. Refer to figure 26.

```
SETUP: HEADPHONES
   Mute All Outputs
```
Figure 26

7. Rotate the VOLUME (ADJUST) Control to change the current HEADPHONES setting from "Mute All Outputs" to "Mute No Outputs". Refer to

figures 27.

```
SETUP: HEADPHONES
  Mute Main Output
```
Figure 27

8. Exit the SETUP Mode by several presses of the INPUT Control.

## Power Control Triggers 1 and 2

By default the Power Control TRIGger 1 and TRIGger 2 are assigned to activate when Output 1 or Output 2 is selected. Both Triggers can also be reassigned to a given Input or Inputs or go On/Off with the C49 power.

In the first example, the Power Control Trigger 1 will be assigned to MAIN:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: TRIGGER 1, Main" appears on the Information Display. Refer to figure 29.

```
SETUP: TRIGGER 1
      Main
```
Figure 29

3. Rotate the VOLUME (Adjust) Control until "SETUP: TRIGGER 1, Output 1" appears on the Information Display. Refer to figure 30.

```
SETUP:  TRIGGER 1
      Output 1
```
Figure 30

4. Rotate the VOLUME (ADJUST) Control again to select "SETUP: TRIGGER 1, Input (Hold INPUT)". Refer to figure 31.

```
SETUP: TRIGGER 1
Input (Hold INPUT)
```
Figure 31

5. Press and hold in the INPUT Control until "SETUP: TRIGGER 1, (BAL 1: OFF)" Refer to figure 32.

```
SETUP: TRIGGER 1
    BAL 1: OFF
```
Figure 32

Then rotate the INPUT Control to select which one of the Inputs the TRIGGER 1 will switch OFF when that input is selected. To change the Balance 1 Input status from "BAL 1: OFF" to BAL 1: ON rotate the VOLUME (ADJUST) Control. Refer to figure 33.

```
SETUP: TRIGGER 1
    BAL 1: ON
```
Figure 33

To make changes to the default Trigger 2 Setting, perform steps 1 thru 5 again except select SETUP: TRIGGER 2 first.

## Data Ports

Data Ports Connections between the C49 and a McIntosh Source Component allow for basic function control of the source component using the C49 supplied HR085 Remote Control. By default, all of the four Data Ports are set to send the same Data to the selected source. To dedicate a given Data Port for only one source component (example, source component connected to the BAL 1 Input will be assigned to Data Port 1) perform the following Steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: Data Ports, (Hold INPUT)" appears on the Information Display. Refer to figure 34.

```
SETUP: Data Ports
    (Hold INPUT)
```
Figure 34

3. Press and hold in the INPUT Control until "SETUP: DATA PORT 1, All Data" appears on the Display. Refer to figure 35.

```
SETUP: DATA PORT 1
     All Data
```
Figure 35

4. Rotate the VOLUME (ADJUST) Control to select "BAL 1" Input. Refer to figure 36.

```
SETUP: DATA PORT 1
      BAL 1
```
Figure 36

5. In a similar manner, perform steps 3 and 4 to assign any additional Data Ports.
6. Exit the SETUP Mode by several presses of the INPUT Control.

## Passthru

When the C49 is part of a Home Theater or Multichannel Audio System the Right and Left Front Channels from an Audio/Video Processor or Surround Decoder can "Passthru" the C49 and onto its associated Power Amplifier(s). The Setup Mode allows selection of the specified C49 Input to be used for the Right and Left Front Channels. In the example below, the Right and Left Front Channels from the Audio/Video Processsor will be connected to the BALanced 2 Input Connectors on the C49. Refer to pages 8 and 9 for additional connection information.

*Note: The Phono and Digital Inputs are not assignable as a Passthru Input.*

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
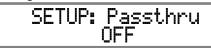2. Rotate the INPUT Control until "SETUP: Passthru, OFF" appears on the Information Display. Refer to figure 37.

```
SETUP: Passthru
       OFF
```
Figure 37

3. Rotate the VOLUME (ADJUST) Control to select "BAL 2" Input. Refer to figure 38.

```
SETUP: Passthru
      BAL 2
```
Figure 38

4. Exit the SETUP Mode by several presses of the INPUT Control.

## USB Automute

The USB Automute Feature helps to ensure noise free playback of streaming music via the C49 USB AUDIO Input, as the Digital Audio Signal format changes (PCM, DSD, etc.). On occasion due to the way a Digital Audio Music Recording was made, it may become desirable to switch Off the USB Automute Feature. To switch Off Automute, perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: USB Automute, ON" appears on the Information Display. Refer to figure 39.

```
SETUP: USB Automute
        ON
```
Figure 39

3. Rotate the VOLUME (ADJUST) Control to select "SETUP: USB Automute, OFF" Input. Refer to figure 40.

```
SETUP: USB Automute
        OFF
```
Figure 40

4. Exit the SETUP Mode by several presses of the INPUT Control.

## Comm Port Baud Rate

The C49 may be remotely controlled from other equipment connected to the Rear Panel RS232 Jack. The speed at which the C49 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, perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: RS232, 115200 Baud" appears on the Information Display. Refer to figure 41.

```
SETUP: RS232
115200 Baud
```
Figure 41

3. Rotate the VOLUME (ADJUST) Control to select the desired Baud Rate Speed.
4. Exit the SETUP Mode by several presses of the INPUT Control.

## Remote Control Codes

The Remote Control included with the C49 utilizes the NORMAL McIntosh Control Codes. The Second Set of Control Codes the C49 will respond to is referred to as the ALTERNATE Codes. The Alternate Codes are used when the C49 is used in the same location as another McIntosh Preamplifier and/or A/V Processor. This will prevent the Remote Control from affecting the operation of both units at the same time. To activate the Remote Control ALTERNATE Codes perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: IR Codes,  Normal" appears on the Information Display. Refer to figure 42.

```
SETUP: IR Codes
    Normal
```
Figure 42

3. Rotate the VOLUME (ADJUST) Control to the Alternate Codes. Refer to figure 43.

```
SETUP: IR Codes
   Alternate
```
Figure 43

4. It is now necessary to change the HR085 Remote Control over to the Alternate Codes. Information on the HR085 Remote Control is available for download from the McIntosh Web Site:
   *http://www.mcintoshlabs.com/us/Products/pages/ProductDetails.aspx?CatId=preamplifiers&ProductId=C49*
5. Exit the SETUP Mode by several presses of the INPUT Control.

## IR Sensor

The C49 Front Panel Sensor, which receives the signals from the HR085 Remote Control, can be switched off to prevent interference when an external IR Sensor is connected. To de-activate the Front Panel IR Sensor perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: Front IR,  Enabled" appears on the Information Display. Refer to figure 44.

```
SETUP: Front IR
    Enabled
```
Figure 44

3. Rotate the VOLUME (ADJUST) Control to select "Disabled". Refer to figure 45.

```
SETUP: Front IR
    Disabled
```
Figure 45

4. Exit the SETUP Mode by several presses of the INPUT Control.

## Power Mode

The C49 incorporates an Auto Off Feature, which automatically places the Preamplifier into the Power Saving Standby/Off Mode. This occurs approximately 30 minutes after there has been an absence of user activity (includes changes to any of the Operation Functions such as source selection, volume adjustment, etc) or absence of an audio signal. If it is desirable to disable the Auto Off Feature perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "SETUP: Auto Off,  Enabled" appears on the Information Display. Refer to figure 46.

```
SETUP: Auto-Off
    Enabled
```
Figure 46

3. Rotate the VOLUME (ADJUST) Control to select "Disabled". Refer to figure 47.

```
SETUP: Auto-Off
    Disabled
```
Figure 47

## Factory Reset

If it becomes desirable to reset all the adjustable settings (Setup and Trim Settings) to the factory default values, perform the following steps:

1. Press and hold in the INPUT Control to enter the SETUP MODE. Refer to figure 2 on page 13.
2. Rotate the INPUT Control until "FACTORY RESET,   (Hold INPUT)" appears on the Information Display. Refer to figure 48.

```
FACTORY RESET
 (Hold INPUT)
```
Figure 48

3. Press and hold in the INPUT Control until "FACTORY RESET, In Progress!" appears on the Information Display, then release the INPUT Control. Refer to figures 49 and 50.

```
FACTORY RESET
 In Progress!
```
Figure 49

```
FACTORY RESET
  Completed!
```
Figure 50

4. Press the Front Panel STAND/BY Push-button to switch the C49 on.

## Reset of the Microprocessors

**Reset of Microprocessors**
In the unlikely event the controls of the C49 stop functioning, the microprocessors can be reset by performing the following:

1. Press the STANDBY/ON Push-button until the STANDBY/ON LED Indicator switches Off in approximately five seconds.
2. Then release the STANDBY/ON Push-button and the C49 will switch Off.
3. When the STANDBY/ON LED is illuminated press the STANDBY/ON Push-button, the C49 will resume normal operation.

> *Note: This can be performed with the C49 On or in the Standby Mode.*

## How to Operate the C49

### Power On and Off
The Red LED above the STANDBY/ON Push-button lights to indicate the C49 is in Standby mode. To switch ON the C49, press the STANDBY/ON Push-button on the Front Panel or the ⏻ (Power - Green) Push-button on the Remote Control. The C49 will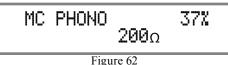 go through a brief startup initialization with the Front Panel Information Display indicating the last used source and volume setting, this is followed by the volume setting indication starting at zero and then increasing to the last used volume setting. Refer to figures 60, 61, 62 and 63. To switch OFF the C49 press the STANDBY/ON Push-button on the Front Panel or the (Power - Red) OFF Push-button on the Remote Control.

*Note: For an explanation of the Remote Control Push-button functions, refer to pages 10 and 11.*

```
BAL 1            15%
```
Figure 61

### Source Selection
Rotate the INPUT Control to select the desired source or press the INPUT Up▲ or Down▼ Push-button on

the Remote Control. Refer to figures 60, 62 and 63.

```
MC PHONO         37%
         200Ω
```
Figure 62

### Volume Control
Rotate the Front Panel VOLUME Control or use the VOLUME Up▲ or Down▼ Push-buttons on the Remote Control for the desired listening level. Refer to figures 60 and 63.

### Trim Functions
The C49 has nine different Trim Selections with Adjustments. The Trim Selections include Balance, Input Trim Level, Tone Control Functions, Treble, Bass, Mono/Stereo Mode, Amplifier Meter Lights, Display Brightness, Phono Cartridge (MC & MM) Loading (when the Input is Selected) and when Headphones are connected HXD Mode. The Trim Settings are stored in memory independently for each Input Source Selected, except the Meter Illumination and Display

Brightness settings of On or Off, which are the same for all inputs.
*Note: Selection and Adjustment of all Trim Functions may be performed by pressing the Front Panel INPUT Trim Control and then rotating it to select the desired Trim Function. Then use the VOLUME Adjust Control to change the setting. Remote Control TRIM Push-Button together with the LEVEL UP / LEVEL DN Push-button may also be used. Refer to figures 60 and 63.*

### BALANCE
Listening balance varies with different program sources, room acoustics and listening positions relative to the Loudspeakers. Use the Balance (Trim Function) as needed to achieve approximately equal listening volume levels in each Loudspeaker. To adjust the Balance perform the following:
1. Press the TRIM Push-button repeatedly on the Remote Control until "L  BALANCE R" appears on the Front Panel Information Display. Refer to figure 64.
*Note: The Front Panel INPUT Trim and VOLUME Adjust Controls may also be used.*


Figure 63


Figure 60

```
USB            25%
    DSD256
```
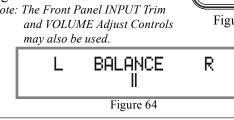
```
L     BALANCE     R
         ‖
```
Figure 64

2. Press the LEVEL UP / DOWN Push-buttons on the Remote Control to emphasize the Right Channel (refer to figure 65) or the Left Channel (refer to figure 66).

```
L     BALANCE      R
                 ■■■■■■■
```
Figure 65

```
L     BALANCE      R
      ■■■■■■■■
```
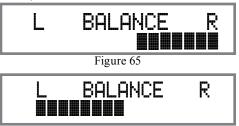Figure 66

The Front Panel Display indicates the Balance changes are from 0 to 50dB. After approximately 4 seconds the Information Display returns to indicate the Source Selection and Volume Level. To verify the Balance setting without changing it, use the TRIM Push-button and select Balance.

TRIM LEVEL
Source Components can have slightly different volume levels resulting in the need to readjust the C49 Volume Control when switching between different sources. The C49 allows the adjustment of levels for each of the Source Inputs for the same relative volume. To adjust the Trim Level for the currently selected Input Source perform the following steps:
  1. Select "INPUT TRIM, 0.0dB" as indicated on the Front Panel Information Display. Refer to figures 60, 63 and 67.
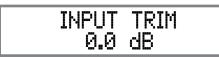
```
INPUT TRIM
0.0 dB
```
Figure 67

2. Adjust the Trim Level of each Input to match the average volume level of the Input most frequently listened to. The range of adjustment is ± 6.0dB in

half dB steps. Refer to figures 68 and 69.

```
INPUT TRIM
-2.5 dB
```
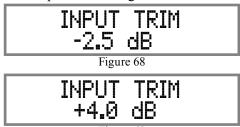Figure 68

```
INPUT TRIM
+4.0 dB
```
Figure 69

After approximately 6 seconds the Information Display returns to indicate the Source Selection and Volume Level.

TONE CONTROL
The Tone Controls default setting is Off. The TRIM TREBLE and BASS Settings may be adjusted for the currently selected Input Source, by first setting the Tone Control Trim Setting to On. The LED above the TONE Push-button will be illuminated. When the Tone Controls are Disabled, the previous settings for Treble and Bass are bypassed from the signal path. To activate the Tone Controls perform the following:
  1. Select the desired Input Source.
  2. Press the TRIM Push-button on the Remote Control until "TONE CONTROLS, Off" appears on the Front Panel Display. Refer to figure 70.
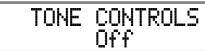
```
TONE CONTROLS
Off
```
Figure 70

*Note: When a Headphone is Connected pressing the Remote Control TRIM Push-button to set the Tone Controls Off, the next two press of the TRIM Push-button, the Front Panel Display will indicate "BASS, Tone Off" and "TREBLE, Tone Off".*

3. Press TRIM LEVEL UP / DOWN Push-button to activate the "Tone Controls, On" function.

Refer to figure 71.

```
TONE CONTROLS
On
```
Figure 71

After the Tone Control is switched On, the LED above the Front Panel Tone push-button will be illuminated. Approximately 6 seconds later, the Front Panel Display returns to indicate the Input Source Selection and Volume Level.
  The Tone Control setting may also be turned On using the Front Panel Controls by performing the following steps:
  1. Select the desired Input Source.
  2. Press the INPUT Control and then rotate the INPUT Control until the Front Panel Display indicates "TONE CONTROLS, Off". Refer to figure 70.
  3. Then rotate the VOLUME Control until the Display indicates "TONE CONTROLS, ON" appears on the Front Panel Display and the LED above the Front Panel Tone push-button is On. Refer to figure 71.

TREBLE
After the Tone Controls Function is set On, the High Frequencies in the music can be increased or decreased by using the Trim Adjust Control (Step 1)or Front Panel Input Control (Step 2). To make an Treble Adjustment perform either step 1w following:
  1. Press the TRIM Push-button on the Remote Control several times until "TREBLE, 0 dB" appears on the Front Panel Display. Refer to figure 72 on the next page.
  2. Press the INPUT Control and then rotate it until "TREBLE, 0 dB" appears on the Front Panel Display.

## How to Operate the C49, con't

play. Refer to figure 72.

```
TREBLE
  0 dB
```
Figure 72

The change in the high frequencies volume level (TREBLE) can be performed by pressing the Remote Control LEVEL UP / DOWN Push-buttons or by rotating the Front Panel Volume Control to increase the Treble (refer to figure 73) or to decrease the Treble (refer to figure 74) of the high frequencies.

```
TREBLE
 +12dB
```
Figure 73

```
TREBLE
 -12dB
```
Figure 74

The Front Panel Display indicates the Treble changes in 1dB steps from +12dB to -12dB. After approximately 6 seconds the display returns to indicate the Source Selection and Volume Level.

### BASS
The intensity of the low frequencies in the music can be increased or decreased by using the same functioning of the Remote Control and/or Front Panel Controls as previously performed for Treble Changes in the music.
The change in the low frequencies volume level (BASS) can be performed by pressing the Remote Control LEVEL UP / DOWN Push-buttons or by rotating the Front Panel Volume Control. Refer to figure 75.

```
 BASS
  0 dB
```
Figure 75

The appearance of Increasing the Bass (refer to figure 76) or to decrease the Bass (refer to figure 77).
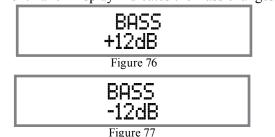The Front Panel Display indicates the Bass changes in

```
 BASS
 +12dB
```
Figure 76

```
 BASS
 -12dB
```
Figure 77

1 dB steps from +12dB to -12dB. After approximately 6 seconds the Display returns to indicate the Source Selection and Volume Level.

### MONO/STEREO MODE
By default the Stereo Mode is active for all Input Sources however, any Input Source may be assigned to the Mono Mode of operation. To change Stereo Mode to Mono for a given Input Source, perform the same type of steps by using the Front Panel Controls or the Remote Control Pushbuttons as done for Treble and/or Bass Settings:
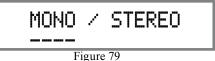
> Note: The audio signal present at the FIXED OUT Jacks is affected by the Stereo/Mono setting.

1. Select the desired Input Source.
2. Select "MONO / STEREO, ————–" as indicated on the Front Panel Information Display. Refer to figure 78.

```
MONO / STEREO
   ──────
```
Figure 78

3. To select MONO Mode adjust the TRIM LEVEL. Refer to figure 79.

```
MONO / STEREO
    ────
```
Figure 79

After approximately 6 seconds the Information Display returns to indicate the Source Selection and Volume Level.

### AMPLIFIER METER ILLUMINATION
The Meter Illumination of McIntosh Power Amplifiers when connected to the C49 (refer to pages 7-8) may be switched On or Off by performing the same type

Figure 60

of operational steps for adjusting the TREBLE, BASS and MODE Selection:

1. Select "AMP METERLIGHT, On" as indicated on the Front Panel Information Display. Refer to figure 80.

```
AMP METERLIGHT
      On
```
Figure 80

2. Switch Off the Meter Illumination by using the Front Panel Controls or Remote Control Push-buttons. Refer to figure 81.

```
AMP METERLIGHT
     Off
```
Figure 81

After approximately 6 seconds the Information Display returns to indicate the Source Selection and Volume Level.

INFORMATION DISPLAY ILLUMINATION
The Brightness Level of C49 Front Panel Information Display can be adjusted from bright to dim by performing the same type of operational steps for adjusting the TREBLE, BASS, MODE, etc:

1. Select "DISPLAY, BRIGHTNESS" as indicated on the Front Panel Information Display. Refer to figure 82.

```
  DISPLAY
 BRIGHTNESS
```
Figure 82

2. Reduce the Brightness level by adjusting the TRIM LEVEL. Refer to figure 83.

```
  DISPLAY
 BRIGHTNESS
```
Figure 83

After approximately 6 seconds the Information Display returns to indicate the Source Selection and Volume Level.

PHONO ADJUSTMENTS
First select the Phono MC or Phono MM Input for the type of Phono Cartridge installed on the Turntable currently be used. Then press and then rotate the INPUT Control to display the active type of load setting for the Phono Cartridge Selected. Refer to figures 84 (Moving Coil Cartridge) or 85 (Moving Magnet Cartridge).

```
PHONO RESISTANCE
     100Ω
```
Figure 84

```
PHONO CAPACITANCE
     50 pF
```
Figure 85

Then rotate the VOLUME Control to to adjust the Phono Cartridge load value. After approximately 6 seconds the Alphanumeric Display returns to indicate the Source Selection and Volume Level.

**Mute**
Press the MUTE Push-button, on the C49 Front Panel or on the Remote Control, to Mute the Audio in all outputs (Main, Output 1, Output 2 and Headphones) except the FIXED OUTPUT. The Front Panel Information Display will indicate the Source Name and the word MUTE in place of the actual volume setting. Refer to figure 86.

```
BAL 1          MUTE
```
Figure 86

Pressing the Mute Push-button a second time or adjusting the volume control (either the Front Panel or Remote Control) will unmute the C49.

**Tone**
Press the Front Panel TONE Push-button to activate the C49 TREBLE and BASS Tone Control Circuitry for the currently selected Input Source. Refer to Page 21 and 22 for operation. The LED above the TONE Push-button will illuminate. To bypass the TONE CONTROL CIRCUITRY for the currently selected Input Source press the TONE Push-button. The LED above the TONE Push-button will extinguish. Refer to figure 60. The C49 remembers for each selected Input whether the Tone Control Circuitry is active or bypassed.
*Note. The audio signal present at the FIXED OUT Jacks is unaffected by the Equalizer Circuitry.*

**Output 1 and 2**
Press the Front Panel OUTPUT 1 or OUTPUT 2 Push-button or use the Remote Control and press the SETUP/BLUE Push-button followed by the OUTPUT 1 or OUTPUT 2 Push-button, to send audio to separate Power Amplifiers connected to the rear panel OUTPUT 1 or 2 Jacks. It also activates the POWER CONTROL TRIGger 1 or 2 Jacks on the rear panel of the C49. To stop the Audio and Power Control Signals from going to the separate Power Amplifiers, press the same Push-button(s) a second time.

## How to Operate the C49, con't

### Trim
Momentarily press the Front Panel INPUT Control to activate the C49 Trim Functions. Rotate the INPUT Control to select the desired Trim Function and then use the VOLUME (adjust) Control to change the Trim setting. Refer to figure 60 on page 20. The Remote Control TRIM and LEVEL UP / DOWN Push-buttons may also be used. Approximately 6 seconds after Trim Function Selection and/or adjustments have stopped, the C49 will switch the Trim Mode Off.

### Passthru
Refer to Passthru Information in the C49 Setup Section on page 17, to activate the function and select the desired Input on the C49.

   The C49 will automatically turn On and switch to the previously setup Passthru Input when the McIntosh A/V Processor or Multichannel Surround Decoder is turned-on. The Audio Preamplifier Front Panel Alpha-numeric Display will indicate "PASSTHRU". Refer to figure 87.

```
PASSTHRU
```
Figure 87

The C49 OUTPUT 1 and 2 are active when in the Passthru Mode. The other Front Panel Controls and Push-buttons are deactivated as long as the Passthru Mode is active.

### Headphones Jack
Connect a pair of dynamic headphones to the Head-phones Jack with a 1/4" (0.635cm) stereo phone type plug for private listening. The default setting is for all of the Power Amplifier Output Connections (1 and 2) to automatically mute.

   When headphones are connected to the C49 Front Panel Jack, an additional TRIM function becomes available. McIntosh's HXD brings the acoustical depth and spatiality of music normally heard with loudspeakers, to your headphones. Momentarily press the INPUT Control, then rotate it to select "HEAD-PHONE HXD,  On". To deactivate the HXD Mode rotate the VOLUME Adjust Control until the Front Panel Display indicates "HEADPHONE HXD,  Off". Refer to figures 88 and 89.

   *Note: The Headphone Output is optimized for imped-ances ranging from 100 to 600 ohms.*

```
HEADPHONES HXD
On
```
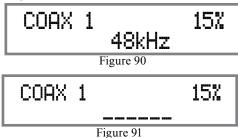Figure 88

```
HEADPHONES HXD
Off
```
Figure 89

### How To Make a Recording
1. Select the desired signal source you wish to record by using the Front Panel INPUT Control or us-ing the INPUT UP / DOWN Push-button on the Remote Control.
2. Adjust the record level using the recorder level con-trol and proceed with the recording process.
3. Listen to the playback of the program source just recorded by selecting the Input Source connected to the recorder component output.

### Optical and Digital Inputs
When a Digital Input (Optical or Coxial Connection) on the C49 is selected, the Front Panel Information Display indicates the sampling frequency when a signal is present.

Refer to figure 90. During the time there is no Digital Signal present the display will indicate "_____". Refer to figure 91.

```
COAX 1           15%
48kHz
```
Figure 90

```
COAX 1           15%
_____
```
Figure 91

### USB Input Operation and Driver Installation
The C49 USB Input provides the capability to play-back music from a computer, when the computer is connected to the rear panel USB connector.

   *Note: The USB Input is for direct connection to a com-puter only. To playback music from an USB Drive, connect the USB Drive to another USB Port on the computer and select the USB Drive with the Media Playback Program.*
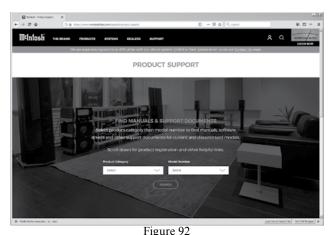
   The C49 USB Input is compatible with PC Com-puters using Microsoft®, Windows 7 (SP1), Windows 8.1 and Windows 10. It is also compatible with Ap-ple® Macintosh® Computers using OS-10.6.8 or later.

   When using a PC Computer with Windows, a spe-cial McIntosh USB Audio Software Driver needs to be installed on the PC Computer. The driver needs to be installed before connecting the C49 USB Input to the USB Port on the computer.

   *Note: If an Apple Macintosh computer is used with the C49, no additional driver is required.*

   The McIntosh USB Audio Windows Driver is available for download from the McIntosh Web Site:
   *http://www.mcintoshlabs.com/support/product-support*
   Refer to figure 92.

Figure 92

Under "PRODUCT CATEGORY" select "Pre-amplifiers" then under "MODEL NUMBER" select "C49". Click on "SEARCH" then select McIntosh-HD USB Audio Windows Drive D v1.0 and download the PC Windows Driver. Follow the instructions below to install the McIntosh C49 Driver:

Refer to figure 93.


Figure 93

**Purpose:** To Install the McIntosh USB Audio Windows Driver for use with McIntosh Products with an USB-Digital Audio Input.

**Requirements:** 1. A PC Computer with a functioning USB Port.
2. Windows 7 (SP1 or greater), Windows 8 (8.1) or Windows 10 Operating System.
3. An USB Cable with Type A to Type B Connectors.

**Installing the Software**
It is important to first install the downloaded software on your computer before connecting the McIntosh Product to the computer. The USB Driver is included in the downloaded software package.

*Note: Before installing this software, please check to see if the McIntosh Product(s) with the USB-Digital Audio Input has the latest firmware version, if not update the firmware first.*

1. Unzip the downloaded McIntosh Windows USB Driver Software Package.
2. Run *"McIntoshHDSwPkg_20150814_v1p9p110p2.zip"*. Refer to figures 94 thru 99 and figures 100 thru 106 on the next page.
3. When the Windows Security window appears check the *Always trust software from "Savitech Corp."* box and then the Install button. When the software has been installed, it is necessary to re-boot the computer. Refer to figure 92 on page 26.
After rebooting, a McIntosh-HD icon will appear on the desktop. Refer to figure 94.

**USB Connection**
Connect the USB Cable with Type A to Type B connectors between the PC Computer and the McIntosh Product with the USB-Digital Audio Input. An Icon will appear On-Screen indicating Windows has found new hardware. Refer to figure 95.


Figure 94


Figure 95

Upon completion of installing the driver, figure 96 will appear.
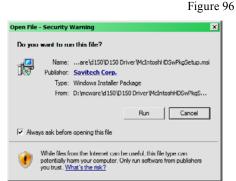

Figure 96

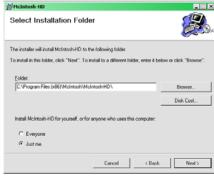
Figure 97


Figure 98


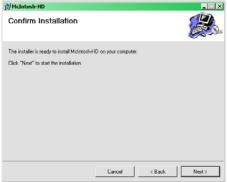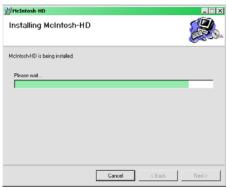Figure 99

Figure 100

Figure 101
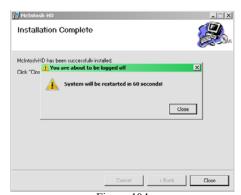
Figure 102

Figure 103

Figure 104

Figure 105

Figure 106

**Windows Sound Settings**
For proper operation of the McIntosh Product via the
Computer USB Connection, it is required to make
changes to Windows Sound Settings:
1. From the Windows START button, click on
   "CONTROL PANEL" followed by selecting
   "SOUND". Refer to figure 105.
2. Referring to figure 106, first select "McIntosh-
   HD HS USB Audio" and then click on the "Set
   Default" button.
   *Notes: 1. When the McIntosh USB Audio Product is
   not connected to your computer, the previ-
   ous default Audio Device will be selected.*

*2. If other McIntosh Products with USB
Audio Connections are also connected to
the computer, an additional "McIntosh
USB Audio" playback device will appear in
the listing. Make sure to select the "McIn-
tosh-HD HS USB Audio" from available
playback devices listed when using this
McIntosh Product for USB Audio.*

**Control Panel Settings**

To activate the McIntosh-HD USB Audio Control Panel Click on the "McIntosh Icon" (located in the Windows notification area on the right side of the Task Bar) or click on the Windows "Show hidden icons", then select the "McIntosh Icon". Refer to figures 107 and 108.

*Notes: 1. It is not necessary for the McIntosh-HD USB Audio Control Panel to be running, unless it is desired to make changes to the default settings.*
*2. The McIntosh-HD USB Audio Control Panel displays the current Sampling Rate, Bit-Rate and Buffer Size for the music streaming from the computer into the C49.*
*3. When the Media Stream Program on the computer is set to output in the "ASIO" format, the McIntosh -HD USB Audio Control Panel allows for changing the settings parameters on the fly.*
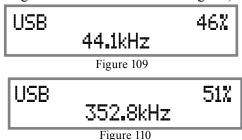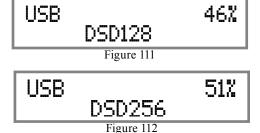

Figure 107


Figure 108

**USB Music Playback**

When the USB Input is selected on the McIntosh C49, the Front Panel Display indicates the Sampling Rate (refer to figures 109 and 110 for PCM Signals).


Figure 109


Figure 110

Figures 111 and 112 indicate a Sampling Rate of 128 or 256 times the Sampling Rate of a CD Disc for the incoming DSD Digital Audio Signal.


Figure 111


Figure 112

The Sampling Rate and the Bit Rate are determined by the original recording, the Application Output Format (when available) and the McIntosh-HD Control Panel Settings.

*Note: In general, when the original music is recorded at a higher Sampling Rate, the result is usually more detail in the music. However, this higher rate results in consuming larger amounts of storage space. The Sample Rate usually should be set to match the Sample Rate of the music recording being played back.*

There are many third party Applications (besides Applications like Windows Media Player) for steaming music from the computer to McIntosh C49 USB Input.

An example of just one of the available applications is "JRiver Media Center".
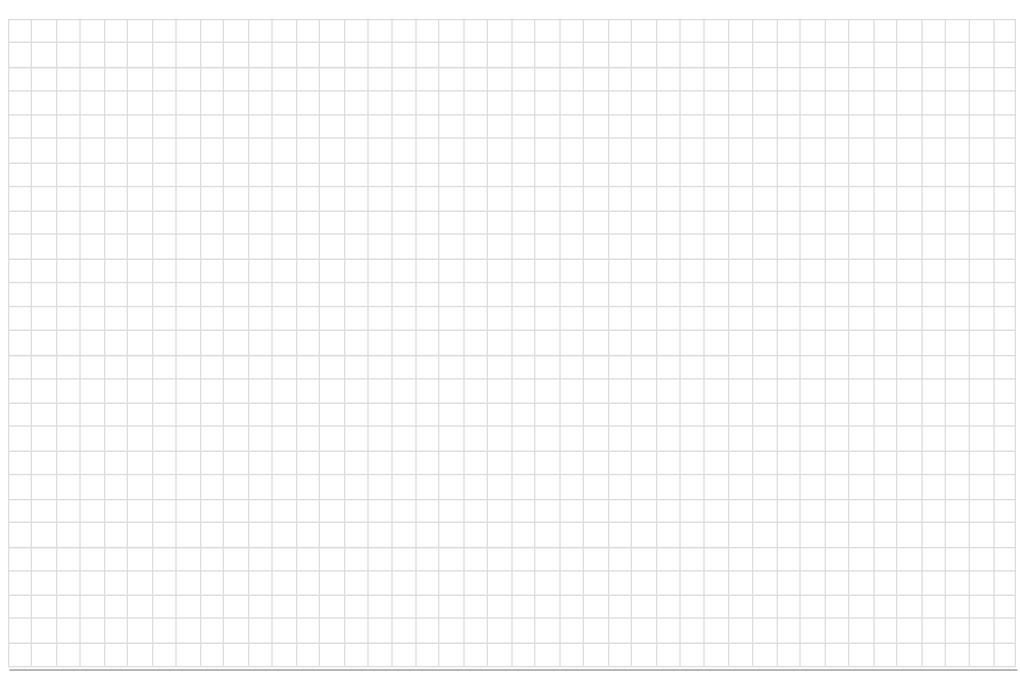
**Reset of Microprocessors**

In the unlikely event the controls of the C49 stop functioning, the microprocessors can be reset by performing the following:

1. Press and hold in the STANDBY/ON Push-button until the LED above the STANDBY/ON Push-button illumination is extinguished. Then release the STANDBY/ON Push-button.
2. To switch the C49 back On, press the STANDBY/ON Push-button.

*Note: This can be performed with the C49 On or in the Standby Mode.*

## Specifications

**Frequency Response**
+0, -0.5dB from 20Hz to 20,000Hz
+0, -3dB from 15Hz to 100,000Hz

**Total Harmonic Distortion**
0.005% from 20Hz to 20,000Hz

**Rated Output**
2.5V Unbalanced, 5V Balanced (Main)
450mV (Fixed Output)

**Maximum Voltage Output**
8V RMS Unbalanced, 16V RMS Balanced

**Sensitivity (for rated output)**
High Level, 450mV Unbalanced, 900mV Balanced
Phono MM, 4.5mV
Phono MC, 0.45mV

**Signal To Noise Ratio (A-Weighted)**
High Level - 100dB (Below rated output)
MM Phono - 82dB (Below 5mV input)
MC Phono - 80dB (Below 0.5mV input)

**Input Impedance**
High Level - 22K ohms Unbalanced
            44k ohms Balanced

Phono MM - 50 to 800pF, in 50pF steps;
              47K ohms
Phono MC - 25, 50, 100, 200, 400 or 1,000 ohms;
              100pF

**Maximum Input Signal**
High Level, 5V Unbalanced, 10V Balanced
Phono MM, 80mV
Phono MC, 8mV

**Voltage Gain**
High Level to Fixed Output: 0dB
High Level to Main Output: 15dB
Phono MM to Record Output: 40dB
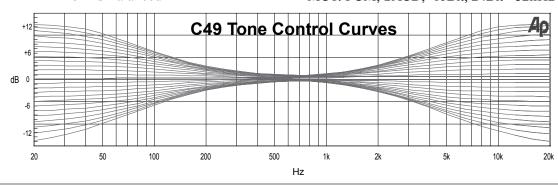Phono MC to Record Output: 60dB

**Output Impedance**
100 ohms Unbalanced
200 ohms Balanced

**Headphone Load Impedance**
100 ohms to 600 ohms

**Digital Input Sample Rates**
Optical: PCM - 16Bit, 24Bit - 32kHz to 192kHz
Coaxial: PCM -16Bit, 24Bit - 32kHz to 192kHz
MCT: PCM, SACD, -16Bit, 24Bit - 32kHz to 192kHz

USB:   PCM - 16Bit, 24Bit, 32Bit - 32kHz to 384kHz
       DXD - DXD352.8kHz, DXD384kHz
       DSD - DSD64, DSD128, DSD256

**Power Control and Trigger Output**
12VDC, 25mA

**Power Requirements**
*Field AC Voltage conversion of the C49 is not possible. The C49 is factory configured for one of the following AC Voltages:*
100 Volts, 50/60Hz at 30 watts
110 Volts, 50/60Hz at 30 watts
120 Volts, 50/60Hz at 30 watts
220 Volts, 50/60Hz at 30 watts
230 Volts, 50/60Hz at 30 watts
240 Volts, 50/60Hz at 30 watts
Standby Power, less than 0.5 watts
   *Note: Refer to the rear panel of the C49 for the correct voltage.*

**Overall Dimensions**
Width is 17-1/2 inches (44.4cm)
Height is 6 inches (15.2cm) including feet
Depth is 18 inches (45.72cm) including the Front Panel, Knobs and Cables
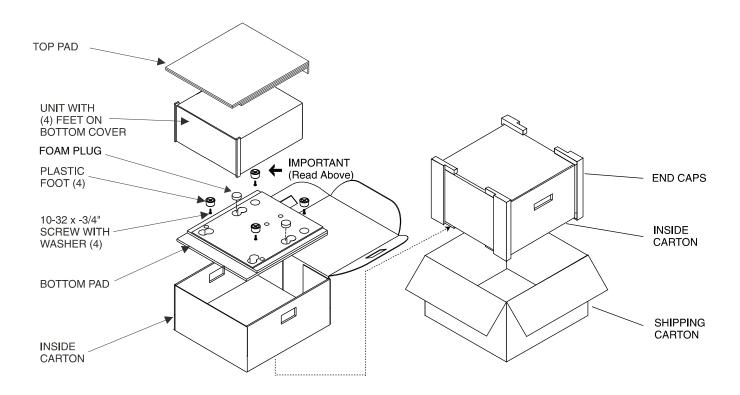
**Weight**
23 pounds (10.4 kg) net, 37.5 pounds (17 kg) in shipping carton

**Shipping Carton Dimensions**
Width is 27 inches (68.6cm)
Height is 12 inches (30.5cm)
Depth is 25 inches (63.5cm)



C49 Tone Control Curves

## Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below. <u>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.</u>

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 3. Please see the Part List for the correct part numbers.

| Quantity | Part Number | Description |
|---|---|---|
| 1 | 033838 | Shipping carton only |
| 4 | 033837 | End cap |
| 1 | 033836 | Inside carton only |
| 1 | 033725 | Inner carton top pad |
| 1 | 034576 | Bottom pad |
| 2 | 034446 | Foam plug |
| 4 | 017937 | Plastic foot |
| 4 | 400159 | #10-32 x 3/4" screw |
| 4 | 404080 | #10 Flat washer |



TOP PAD

UNIT WITH
(4) FEET ON
BOTTOM COVER

FOAM PLUG

PLASTIC
FOOT (4)

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

BOTTOM PAD

INSIDE
CARTON

IMPORTANT
(Read Above)

END CAPS

INSIDE
CARTON

SHIPPING
CARTON

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