MR88
AM/FM/XM/HD Tuner
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 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-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.

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.**

The mains plug of the power supply cord shall remain readily operable.
Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charge. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regards to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, and size of ground conductors, location of antenna-discharge unit, connection to ground electrodes and requirements for the grounding electrode.

Example of antenna grounding as per National Electrical Code, ANSI/NFPA 70

Listening to Satellite Radio
To listen to Satellite Radio, you’ll need to connect an XM Satellite Radio tuner (sold separately) to your XM-Ready receiver. XM Satellite Radio is available to residents of the US (except Alaska and Hawaii) and Canada.

Satellite Radio delivers a variety of commercial-free music from categories ranging from Pop, Rock, Country, R&B, Dance, Jazz, Classical and many more plus coverage of all the top professional and college sports including play by play games from select leagues and teams. Additional programming includes expert sports talk, uncensored entertainment, comedy, family programming, local traffic and weather and news from your most trusted sources.

Once you’ve purchased an XM tuner you’ll need to activate and subscribe to begin enjoying the service. Easy to follow installation and setup instructions are provided with the satellite tuners. There are a variety of programming packages available, including the option of adding “The Best of SIRIUS” programming. The “Best of SIRIUS” service is not available to XM Canada subscribers at this time.

Family friendly packages are also available to restrict channels featuring content that may be inappropriate for children.

To subscribe to XM, U.S. customers should visit xmradio.com or call 1-800-XMRADIO (1-800-967-2346); Canadian customers should visit xmradio.ca or call XM Listener Care at 1-877-GETXMSR (1-877-438-9677).

XM Ready Legal
XM, SIRIUS and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All other marks and logos are the property of their respective owners. All rights reserved. XM subscription sold separately. Taxes and a one-time activation fee may apply. XM tuner and home dock required (each sold separately) to receive the XM service. All programming and fees subject to change. It is prohibited to copy, decompile, disassemble, reverse engineer, hack, manipulate or otherwise make available any technology or software incorporated in receivers compatible with the XM Satellite Radio System. Service not available in Alaska or Hawaii.
Thank You

Your decision to own this McIntosh MR88 AM/ FM/XM/HD Tuner 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

General Information

1. For additional connection information, refer to the owner’s manual(s) for any component(s) connected to the MR88 AM/FM/XM/HD Tuner.

2. The Main AC Power going to the MR88 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 MR88 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. The MR88 is an XM Ready® Tuner. For reception of XM Radio Programs using the MR88, the XM Mini-Tuner with Home Dock and a monthly service subscription are required. The XM Mini-Tuner with Home Dock and monthly service subscription are both sold separately. Contact your McIntosh Dealer for additional information.

4. The Balanced and Unbalanced Outputs may be used simultaneously.

5. The Remote Control Supplied with the MR88 Tuner is capable of operating other components. For additional information go to www.mcintoshlabs.com.

6. 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.

7. For additional information on the MR88 and other McIntosh Products please visit the McIntosh Web Site at www.mcintosh-labs.com.

Connector and Cable Information

XLR Connectors

Below is the Pin configuration for the XLR Balanced Output Connectors on the MR88. Refer to the diagrams for connections:

- PIN 1: Shield/Ground
- PIN 2: + Signal
- PIN 3: - Signal

Power Control Connectors

The MR88 Power Control Input/Output Jacks receive/ send Power On/Off Signals when connected to other McIntosh Components. A 1/8 inch stereo mini phone plug is used for connection to the Power Control Input/Output on the MR88.

Note: The Data and 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.
Data and IR Input Port Connectors
The MR88 Data In Port receives Remote Control Signals. A 1/8 inch stereo mini phone plug is used for connection. The IR Port also use a 1/8 inch stereo mini phone plug and allow the connection of other brand IR Receivers to the MR88.

RAA2 Connectors

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Wire Color</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>White/Orange</td>
</tr>
<tr>
<td>2.</td>
<td>Orange</td>
</tr>
<tr>
<td>3.</td>
<td>White/Green</td>
</tr>
<tr>
<td>4.</td>
<td>Blue</td>
</tr>
<tr>
<td>5.</td>
<td>White/Blue</td>
</tr>
<tr>
<td>6.</td>
<td>Green</td>
</tr>
<tr>
<td>7.</td>
<td>White/Brown</td>
</tr>
<tr>
<td>8.</td>
<td>Brown</td>
</tr>
</tbody>
</table>

*Note: The RAA2 Connecting Cable is available from the McIntosh Parts Department: RAA2 Antenna Cable Part No. 171844 Twenty foot, shielded 8 conductor, with a shielded RJ45 connector on each end.

Introduction
The MR88 AM/FM/XM/HD Tuner is an elegant instrument for superb reception from both Terrestrial and Satellite Radio Stations. The MR88 uses the latest in technology for the best sound quality, along with the convenient operation of a Dial Glass with Tuning Pointer used in classic McIntosh Analog Tuners.

Performance Features
• HD Reception Radio for both AM and FM Stations
The sound quality of a received HD Radio™ FM Broadcast is of “CD-Quality”. This includes an extended Frequency Response and greater Stereo Channel Separation with non existing reception noise, interference and multi path. HD Radio™ AM Broadcast reception has sound quality equivalent to a good FM-Stereo Broadcast, again with no reception noise or interference.

• Multiple Programs with Information Service
The HD Radio Broadcast format allows a radio station to send out multiple programs simultaneously. The MR88 will indicate various text information such as Station Call Sign, Music Genre, Artist Name and Song Title when transmitted by the Radio Station.

• Optional XM Radio
With the addition of XM Radio, choose from over 170 different Channels, Commercial-Free Music Channels, over 5,000 Live Sports Broadcasts, the Biggest Names in News & Talk and all with Digital Quality Sound.

• Special FM RF Tuned Circuitry
The MR88 Tuned RF Circuitry receives strong local FM Station Signals without distortion and receives even the weakest of FM Signals with low noise.

• RAA2 External AM Antenna
The RAA2 External AM Antenna allows placement of the AM Antenna for the best reception.

• Preset Stations and Permanent Memory
The MR88 Tuner stores up to twenty AM, FM and XM Station presets and they are retained in Permanent Memory.

• Multiple Outputs
The MR88 provides unbalanced, balanced, digital coaxial and optical audio outputs.

• Multifunction Fluorescent Display
The Front Panel Display indicates various setup and tuner functions.

• 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 and Super Mirror Chassis Finish
The famous McIntosh Illuminated Glass Front Panel and the Stainless Steel Chassis with Super Mirror Finish ensures the pristine beauty of the MR88 will be retained for many years.

HD Radio™ Technology Manufactured Under License From iBiquity Digital Corp. U.S. and Foreign Patents. HD Radio™ and the HD Radio logo are proprietary trademaks of iBiquity Digital Corp.
The following dimensions can assist in determining the best location for your MR88.

**Front View of the MR88**

17-1/2”
44.45cm

5-3/8”
13.69cm

6”
15.24cm

**Side View of the MR88**

15-7/8”
40.32cm

5/8”
1.59cm

14-1/2”
36.83cm

**Rear View of the MR88**

17”
43.18cm

4-5/8”
11.75cm

13-1/4”
33.65cm
**Installation**

The MR88 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 MR88 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 MR88 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 MR88. Cool operation ensures the longest possible operating life for any electronic instrument. Do not install the MR88 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.

When the MR88 is placed free-standing on a flat surface, allow at least 2 inches (5.08cm) above the top, 2 inches (5.08cm) below the bottom and 2 inches (5.08cm) on each side of the Tuner, so airflow is not obstructed. Allow 19-1/2 inches (49.53cm) depth behind the front panel. Allow 1-7/16 inch (3.66cm) in front of the mounting panel for knob clearance.

A custom cabinet installation should provide the minimum spacing dimensions for cool operation. Allow at least 2 inches (5.08cm) above the top, 2 inches (5.08cm) below the bottom and 2 inches (5.08cm) on each side of the Tuner, so airflow is not obstructed. The Custom Cabinet should be open backed and at least 12 inches (30.48cm) away from any surface such as a wall. Be sure to cut out a ventilation hole in the mounting shelf according to the dimensions in the drawing. Allow 1-7/16 inch (3.66cm) in front of the mounting panel for knob clearance.

**Note:** Center the cutout Horizontally on the unit. For purposes of clarity, the above illustration is not drawn to scale.
Connect the MR88 power cord to a live AC outlet. Refer to information on the back panel of your MR88 to determine the correct voltage for your unit.

RS232 connector for communications with an external control device.

POWER CONTROL IN receives signals from a McIntosh component (5-15 Volts ON, 0 Volts OFF). POWER CONTROL OUT sends out (12 Volts ON) signal to another McIntosh Component when the MR88 is On.

DATA IN receives operating data from a McIntosh Preamplifier or Control Center.

75 OHM FM ANT (Antenna) connects to an external FM Antenna or cable.

Connect to the RAA2 AM ANT connector on MR88 using the supplied cable.

Connecting the MR88 power cord to a live AC outlet. Refer to information on the back panel of your MR88 to determine the correct voltage for your unit.

DATA IN connector for connecting an IR Receiver.

Connects to the XM Mini-Tuner Home Dock.

AM ANT (Antenna) connector allows a McIntosh RAA2 Remote Antenna to be connected.

COAXIAL AND OPTICAL DIGITAL AUDIO OUTPUTS send signals to a Preamplifier or Control Center with a D/A Converter or a decoder.

UNBALANCED AUDIO OUTPUTS supply analog audio signals to Unbalanced Inputs of other components.

UNBALANCED AUDIO OUTPUTS supply analog audio signals to Unbalanced Inputs of other components.

BALANCED AUDIO OUTPUTS supply analog audio signals to Balanced Inputs of other components.

RS232 connector for communications with an external control device.

POWER CONTROL IN receives signals from a McIntosh component (5-15 Volts ON, 0 Volts OFF). POWER CONTROL OUT sends out (12 Volts ON) signal to another McIntosh Component when the MR88 is On.

DATA IN receives operating data from a McIntosh Preamplifier or Control Center.

75 OHM FM ANT (Antenna) connects to an external FM Antenna or cable.

Connect to the RAA2 AM ANT connector on MR88 using the supplied cable.

Connecting the MR88 power cord to a live AC outlet. Refer to information on the back panel of your MR88 to determine the correct voltage for your unit.

DATA IN connector for connecting an IR Receiver.

Connects to the XM Mini-Tuner Home Dock.

AM ANT (Antenna) connector allows a McIntosh RAA2 Remote Antenna to be connected.

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POWER CONTROL IN receives signals from a McIntosh component (5-15 Volts ON, 0 Volts OFF). POWER CONTROL OUT sends out (12 Volts ON) signal to another McIntosh Component when the MR88 is On.

DATA IN receives operating data from a McIntosh Preamplifier or Control Center.

75 OHM FM ANT (Antenna) connects to an external FM Antenna or cable.

Connect to the RAA2 AM ANT connector on MR88 using the supplied cable.
How to Connect Antenna Components

1. Using the supplied shielded cable, connect one end into the RAA2 AM Antenna jack and the other end of the same cable into the MR88 Tuner jack labeled RAA2 AM ANT.

Note: If a longer length cable needs to be used between the MR88 and the RAA2 AM Antenna, use an 8 conductor straight-thru cable with an outer shield and RJ45 connectors on each end (shielded CAT5 or CAT6 patch cable).

2. Connect a 75 ohm coax cable from a FM Antenna or cable system to the MR88, 75 OHM FM ANT Connector.

Mounting the RAA2 AM Antenna

Tune to a station with the weakest signal and orient the RAA2 Antenna for maximum signal with minimum noise and distortion. After the location is determined, the RAA2 AM Antenna may be secured to a suitable surface by using two 6-32 1-3/4 to 2 inches (4.44 to 5.08cm) long screws, refer to the illustration to the right.

How to Connect Optional XM Components

1. Connect the XM Antenna cable to the XM Home Dock.
2. Connect the XM Home Dock Cable to the XM Connector on the Rear Panel of the MR88 Tuner.
3. Plug in the XM Mini-Tuner into the XM Home Dock.
4. Refer to instructions supplied with the XM Product for activation procedures and antenna orientation. Also refer to Setup “XM Radio Antenna Aim” on page 18 and “XM Ready® Subscription” on page 24 in this Owner’s Manual.
How to Connect the MR88

The MR88 has the ability to be remotely switched On/Off from a McIntosh Preamplifier or A/V Control Center via the Power Control connection. The MR88 Data Port Connection allows for the remote operation of basic functions using the Preamplifier or A/V Control Center Remote Control. With an appropriate IR Sensor connected to the MR88, remote control operation is possible from another room and/or when the MR88 is located in a cabinet with the doors closed.

The connection instructions below, together with the MR88 Connection Diagram located on the opposite page, is an example of a typical audio or audio/video 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 pages 4 and 5.

Power Control Connections:
1. Connect a Control Cable from the Preamplifier or A/V Control Center to the appropriate (Tuner/Trigger 4) Power Control (or Trigger) Jack to the POWER CONTROL IN Jack on the McIntosh MR88 Tuner.
2. Optionally, connect a Control Cable from the MR88 Tuner POWER CONTROL OUT jack to the next McIntosh Source Component Power Control In Jack.

Data Control Connections:
3. Connect a Control Cable from the Preamplifier or A/V Control Center to the appropriate (Tuner/4) Data Port Out Jack to the McIntosh MR88 Tuner DATA IN Jack.

Sensor Connections:
4. Optionally, connect an appropriate IR Sensor to the McIntosh MR88 Tuner IR IN Jack.

Digital Audio Connections:
5. Optionally, connect a Cable from the McIntosh MR88 Tuner OPTICAL or COAXIAL to the appropriate Optical or Coaxial Input (Tuner/9) on the Preamplifier or A/V Control Center.  
   Note: Coaxial connections may be used instead of the Optical Connections.
6. Optionally, connect a Cable from the McIntosh MR88 Tuner remaining DIGITAL Output to the appropriate Optical or Coaxial Input on another Preamplifier or A/V Control Center.

Analog Audio Connections:
7. Connect Balanced Cables from the McIntosh MR88 Tuner BALANCED OUTPUT Connectors to the appropriate (Tuner/Balanced Audio In 2) Preamplifier or A/V Control Center Balanced Input Connectors.
8. Optionally, connect an Audio Cable from the MR88 Tuner UNBALanced OUTPUT Jacks to the appropriate (Tuner/Stereo Audio In 4) Preamplifier or A/V Control Center Balanced Input Jacks.  
   Note: Preamplifiers require either a Balanced or Unbalanced audio connection. A/V Control Centers usually require unbalanced connections for proper operation of Zone B and the record output, with Balanced connections as optional.

AC Power Cords Connections:
9. Connect the McIntosh MR88 Tuner AC Power Cord to a live AC outlet.
A/V Control Center

Connect to AC Outlet
Remote Control Push-Buttons

Press to Power the MR88 ON or OFF

Press to go down through the stored Tuner Presets

Press to Seek down the dial to find the next channel, station, program or XM category

Press to step down the dial to the next HD Radio Program

Press to tune down the dial to the next XM channel. Press for manual tuning down the dial on AM/FM

Press to activate the XM Category Mode

Press to direct select the AM or FM Tuning Bands

Press to direct access a XM Channel, stored preset and the AM/FM Station Frequency

Press to select the AM, FM or XM Tuning Bands

Press to go up through the stored Tuner Presets

Press to Seek up the dial to find the next channel, station, program or XM category

Press to tune up the dial to the next XM channel. Press for manual tuning up the dial on AM/FM

Press to step up the dial to the next HD Radio Program

Press to complete the desired direct entry function

Press to select the various information available on XM Channels and HD Radio Programs

Used to activate the Preset Direct Access Mode

Note: Push-buttons whose function is not identified above are for use with other McIntosh Products.
How to use the Remote Control

The Remote Control is capable of performing basic Operating Functions for the MR88 AM/FM/XM/HD Tuner.

Note: Refer to the “How to Operate” Section of this manual for additional information using this Remote Control, starting on page 20.

Manual Tuning
Use the BAND Push-button to select AM, FM or XM. Press the DIRECTIONAL Up ▲ or Down ▼ Push-button to move from station to station (AM or FM) or from channel to channel (XM).

Automatic Tuning
Use the BAND Push-button to select AM, FM or XM. Press the SEEK ◀ down or ▶ up the dial Push-button to move to the next station (AM or FM) or to the next channel (XM).

Preset Tuning
Use the BAND Push-button to select AM, FM or XM. Press the PRESET ◀ down or ▶ up the dial Push-button and the MR88 will stop on the next Station, Program or Channel in Preset Memory.

Note: For information on entering a Channel, Station or Program into memory, refer to pages 21 and 25.

Direct Preset Access
To access the desired Station, Program or Channel previously assigned to a Preset stored in memory, perform the following:
1. Press the BAND Push-button to select AM, FM or XM desired Preset.
2. Press the PRESET ◀ down or ▶ up the dial Push-buttons.
3. Using the 0 through 9 numeric Push-buttons enter the Preset Number.

Note: When selecting a Preset 1 through 9 and there are more than ten Presets entered into memory for the given Band (AM, FM or XM) there is a two second delay before the MR88 will go to the single digit Preset.

Direct Station or Channel Access
To access a desired Station or Channel perform the following:
1. Press the BAND Push-button to select AM, FM or XM desired Preset.
2. Using the 0 through 9 numeric Push-buttons enter the Frequency Number of the Station (for AM or FM) or the Channel Number (for XM).

Note: When entering a FM Station, there is no need to enter the decimal point.

Selecting FM HD Radio Programs
To access a desired Program on a FM HD Radio Broadcast perform the following:
1. Press the BAND Push-button to select FM.
2. Using the SEEK ◀ down or ▶ up the dial Push-buttons or the DIRECTIONAL Up ▲ or Down ▼ Push-button to select the desired HD Station.
3. Once the MR88 Tuner HD indicator illuminates, select the desired Program by using the DIRECTIONAL Left ◄ or Right ► Push-buttons.

Selecting XM Category
To access a desired Category on XM perform the following:
1. Press the BAND Push-button to select XM.
2. Press the MODE Push-button to activate the Category Mode.
3. Select the desired Category by using the SEEK ◀ down or ▶ up Push-buttons.

4. Press the DIRECTIONAL Up ▲ or Down ▼ Push-button to select the desire XM Channel.
Front Panel Displays, Controls, and Push-buttons

- **CATEGORY Push-button** with indicator, selects groups of XM Channels via music/talk genre.

- **PRESET/MENU Control** selects for listening or storing the desired radio station, HD Radio Station Program or XM Channel. Also used to select various menus when in the setup mode.

- **IR Sensor** receives commands from a Remote Control.

- **TUNE/ADJUST Control** selects the desired radio station, HD Radio Station Program or XM Channel. Also used to select various items when in the setup mode.

- **DISPLAY** selects from various information such as program type, music format artist/song name and is indicated on the Information Display when tuned to a HD Radio Station or XM Channel.

- **MONO/SETUP Push-button** with indicator, combines the Left and Right Channel signals for Monophonic Sound on FM Stations, used to enter/exit the Setup Mode.

- **STORE/EXIT Push-button** with indicator, used to enter and clear channels, stations and programs in Preset Memory; it is also used for various functions in the Setup Mode.

- **SEEK/CATEGORY Push-buttons** used to find the next channel, station or program.

- **STANDBY/ON Push-button** with indicator, switches the MR88 ON or OFF (Standby) and resets the microprocessors.

- **Electronic Pointer** Indicates the FM and AM Station tuning dial location.

- **BAND Push-button** is used to select the AM, FM or XM tuning band.

- **INFORMATION DISPLAY** indicates various Operational Functions and Setup Mode Settings.

- **Indicates the active Tuning Band AM, FM or XM. Also indicates STEREO and/or HD Radio reception.**
How to Operate the Tuner Setup Mode

Your McIntosh MR88 has been factory configured for default operating settings that will allow immediate enjoyment of superb audio from AM, FM, HD Radio™ Stations and the optional XM Radio without the need for further adjustments. Proceed to “How to Operate the MR88 Tuner” at this time unless you wish to make changes to the MR88 factory default settings.

A Setup Feature is provided to customize the operating settings using the Front Panel Information Display. Refer to the MR88 Front Panel Illustration on the opposite page while performing the following steps.

Note: If the MR88 is currently On, proceed to step 2.

1. Press the STANDBY/ON Push-button to switch On the MR88. The MR88 will go through a brief startup initialization with the Front Panel Information Display indicating the last station, program or channel.

   Note: The first time the MR88 is switched On, proceed to step 2.

2. Press the MONO/SETUP Push-button until the Front Panel Information Display indicates McIntosh MR88 V_.___ firmware version, refer to figure 1.

The firmware version numbers identify the type of operational functioning of the MR88 Tuner. At this time the LEDs above the STORE/EXIT Push-button will be illuminated.

3. Rotate the MENU (PRESET) Control and notice the Setup Mode goes forward through nine different possible adjustment selections and five informational displays.

4. To exit from the Setup Mode, press the MONO/SETUP Push-button. The LED above the STORE/EXIT Push-button will extinguish and the Front Panel Display will revert back to its normal display. Refer to figure 2.

Default Settings

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

<table>
<thead>
<tr>
<th>Function Name</th>
<th>Setting</th>
<th>Page no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>McIntosh MR88</td>
<td>V_.___</td>
<td>15</td>
</tr>
<tr>
<td>Clear Presets</td>
<td>None</td>
<td>15</td>
</tr>
<tr>
<td>Dial Brightness</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Display Brightness</td>
<td>3</td>
<td>16</td>
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<td>Display Auto Fade</td>
<td>Off</td>
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<tr>
<td>Remote IR Sensor</td>
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<td>Remote Power IR</td>
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<td>MC_ _ _ _ _</td>
<td>17</td>
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<tr>
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<td>DRI_ _ _ _ _</td>
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<td>HD Radio Blend Mode</td>
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Clear Presets

The MR88 AM/FM/XM/HD Tuner has three different Tuning Modes. One of the Tuning Modes is Preset Tuning, where favorite stations are entered into memory for quick recall. Any preset station may be removed from memory at any time. There are times when it may be desirable to remove from memory all or some of the preset stations. To accomplish this perform the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SETUP: PRESETS”. Refer to figure 3.

2. Rotate the TUNE/ADJUST Control to select one of five choices:
   - NONE (default setting, No Presets are cleared)
   - AM (all AM Presets are cleared)
   - FM (all FM Presets are cleared)
   - XM (all XM Presets are cleared)
   - All (all AM, FM and XM Presets are cleared).

   Note: The Presets are cleared when the Setup Mode is exited.

3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Dial Brightness

The brightness level of the Dial may be changed from the default setting. To change the brightness perform the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-
Dial Pointer Brightness, con’t

UP: DIAL BRIGHTNESS”. Refer to figure 4.

2. Rotate the TUNE/ADJUST Control to select the desired brightness. The range of adjustment is from 0 to 20.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Information Display Brightness

The brightness level of the Front Panel Information Display may be changed from the default setting. To change the brightness perform the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: DISPLAY BRIGHTNESS”. Refer to figure 5.

2. Rotate the TUNE/ADJUST Control to select the desired brightness. The range of adjustment is from 1 to 4.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Information Display Auto Fade

The Front Panel Information Display Auto Fade Feature may be activated by performing the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: DISPLAY AUTO FADE”. Refer to figure 6.

2. Rotate the TUNE/ADJUST Control to select ON. Approximately 17 seconds after there is no change to the operating function (Front Panel or Remote Control), the Front Panel Information Display will blank out until an operating function is accessed.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Remote IR Sensor

When an external IR Sensor is connected to the MR88 and located in the same room as the tuner, it is advisable to disable the built-in IR Sensor located on the Front Panel. Disable the sensor by performing the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: REMOTE IR SENSOR”. Refer to figure 7.
2. Rotate the TUNE/ADJUST Control to select OFF.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Remote Control Power Command

In a typical audio system, the MR88 switches On and Off with the McIntosh Preamplifier or A/V Control Center when a Power Control Connection is made between the units. When the MR88 is used alone, it can be switched On or Off using the Push-button on the MR88 Remote Control. To activate the Remote Control On/Off feature perform the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: REMOTE POWER IR”. Refer to figure 8.
2. Rotate the TUNE/ADJUST Control to select ON.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.
Remote Control Codes
The Remote Control included with the MR88 utilizes the NORMal McIntosh Control Codes. The Second Set of Control Codes the MR88 will respond to is referred to as the ALTernate Codes. The ALTernate Codes are used when the MR88 is used in the same location as a McIntosh Preamplifier and/or A/V Control Center. 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 the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: REMOTE CODES”. Refer to figure 9.
2. Rotate the TUNE/ADJUST Control to select ALT.
3. To change the MR88 Remote Control to the Alternate Codes perform the following steps:
   A. Press the “Mc” Push-button.
   B. Press the SET Push-button until the “Mc” Push-button flashes twice.
   C. Press the 3, 2, 4, 2 and 9 Push-buttons within 5 seconds.
   D. The “Mc” Push-button flashes twice.
   Note: To reset the Remote Control to normal codes perform steps A and B then enter 3, 2, 4, 2 and 8 for step C.
4. Press the MONO/SETUP Push-button to exit the Setup Mode. Press the BAND Push-button on the Remote Control to verify proper operation.
5. Proceed to the next Setup Menu Item or “How to operate the Tuner” starts on page 20.

Comm Port Baud Rate
The MR88 may be remotely controlled from other equipment connected to the Rear Panel RS232C connector. The speed at which the MR88 communicates 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 the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: COMM PORT BAUD RATE”. Refer to figure 10.
2. Rotate the TUNE/ADJUST Control to select the desired speed.
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Tuner SDK
The MR88 Tuner SDK Firmware version may be checked by performing the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: HD TUNER SDK”. Refer to figure 11.
2. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

Tuner DSP
The MR88 Tuner DSP Firmware version may be checked by performing the following steps:
1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: HD TUNER DSP”. Refer to figure 12.
2. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.
HD Radio Blend Mode

The MR88 BLEND MODE allows selection of the different signal types received from AM and FM Broadcast Stations. Conventional Radio Broadcast Signals contain Analog Audio Information only. A HD Radio™ Broadcast Signal includes both Analog Audio Information and Digital Audio Information. The Tuners Blend Mode may be changed from the default setting of AUTO to either ANALOG only or DIGITAL only audio information. In the AUTO Blend Mode the Tuner Audio Output can vary between the transmitted Analog Audio only, the transmitted decoded Digital Audio only or a blending of the two. This blending produces the best possible sound quality even with varying reception conditions. To change from the default setting of AUTO perform the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: HD TUNER Blend Mode: AUTO”. Refer to figure 13.

   SETUP: HD TUNER Blend Mode: AUTO
   Figure 13

2. Rotate the TUNE/ADJUST Control to select either Analog (only) or Digital (only).
3. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

XM Tuner

Selection of the XM Band may be switched off when the optional XM Mini-Tuner is not connected to the MR88 Tuner, by performing the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: XM TUNER Enable”. Using the TUNE/ADJUST Control select “SET-UP: XM TUNER Disable”, refer to figure 14A.

   SETUP: XM TUNER Disable
   Figure 14A

2. Press the MONO/SETUP Push-button to exit the Setup Mode. The MR88 Tuner will now switch Power OFF to process the change.

   Note: To reactivate XM Operations on the MR88 Tuner perform step 1 and select “Enable”. Then perform step 2.

3. Press the STANDBY/ON Push-button to switch Power ON to the MR88. Press the MONO/SETUP Push-button to re-enter the Setup Mode or proceed to “How to operate the Tuner” starting on page 20.

   Note: The following XM Setup Modes are only available when a XM Mini-Tuner is connected to the MR88 and the XM Band was selected before entering the Setup Mode.

XM Radio ID

The XM Mini-Tuner Module ID Number may be checked at any time by performing the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: XM RADIO ID”. Refer to figure 14B.

   SETUP: XM RADIO ID
   Figure 14B

2. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

XM Radio Antenna Aim

The MR88 Front Panel Information Display will indicate the signal strength of the received XM Radio Satellite and Terrestrial Signals on the Front Panel Information Display. This can assist in the positioning of the XM Antenna for the best reception. Check the signal strength by performing the following steps:

1. Press the MONO/SETUP Push-button until the Setup Mode is active. Then rotate the PRESET/MENU Control to select Setup Menu item “SET-UP: ANTENNA AIM”. Refer to figure 15.

   SETUP: ANTENNA AIM
   Figure 15

   SAT: TERR:

The more columns and column segments illuminated after display colon, the stronger the signal. In certain reception areas a Terrestrial signal might replace or supplement the Satellite Signal.

2. Proceed to the next Setup Menu Item or press the MONO/SETUP Push-button to exit the Setup Mode. “How to operate the Tuner” starts on page 20.

   Note: The XM Setup Modes appearing after the “XM Radio Antenna Aim” Mode are for XM Diagnostic purposes. Refer to pages 28-29.
How to Operate

The McIntosh MR88 AM/FM/XM HD Tuner incorporates an advanced design AM/FM/XM Tuner with many desirable performance features to enhance your enjoyment of radio broadcasts. Reception of XM is optional. It requires a XM Antenna, XM Home Dock, XM Mini-Tuner and a XM Monthly Service Subscription. Contact your McIntosh Dealer for additional information.

Power On

Press the STANDBY/ON Push-button on the Front Panel or the (Power) Push-button on the Remote Control. Refer to figures 16 and 25. The MR88 will go through a brief startup initialization with the Front Panel Information Display indicating the last Station, Program on a HD Radio Station or XM Channel.

Note: The first time the MR88 is switched On the Tuner will default to the FM Band and is tuned to 87.5MHz.

Band Selection

Press the BAND Push-button on the Front Panel or Remote Control to select either AM, FM or XM.

There are LEDs located in the MR88 Dial Glass Window to indicate which Band is active. There are also LEDs to indicate when a received radio broadcast is Stereo and/or HD Radio Signal. Several seconds after the AM or FM Band is selected, the Front Panel Information Display will change to indicate the frequency the tuner is currently tuned to. Refer to figure 16.

Tuning Broadcasts

There are three Tuning methods for selection of AM, FM or XM Broadcasts as follows:

1. MANUAL - Allows Manual Tuning of available AM, FM and XM broadcasts.
2. SEEK - Automatic Tuning of available AM, FM and XM broadcasts.
3. PRESET - Selection of AM, FM and XM broadcasts entered into memory.

Manual Tuning

Rotate the TUNE/ADJUST Knob counter-clockwise or clockwise to the desired broadcast. For AM and FM broadcasts the Electronic Dial Pointer and Dial Glass Graduations will indicate the approximate Station Frequency. It will also indicate the locations of HD Radio Programs and a XM Channels. The Front Panel Information Display will indicate the exact Broadcast Frequency and if the Station is transmitting in Stereo and/or HD Radio Signal.

On the right side of the Front Panel Information Display, the vertical columns indicate the relative signal strength of the received Station or Channel. Refer to figures 17, 18 and 19.

When manually tuning a XM Broadcast, the Front Panel Information will indicate the XM Channel number tuned to. Refer to figure 19.

Seek Tuning

The SEEK Tuning Mode (Automatic Tuning) searches the AM, FM or XM Broadcast Bands for available Stations/HD Radio Programs/XM Channels. To use the SEEK Tuning Mode, press and release the SEEK Up ▲ or Down ▼ Push-buttons on the Front Panel to go up or down the dial; or use the SEEK ← or SEEK → up the dial Push-buttons on the Remote Control. Refer to Figures 16 and 25. The MR88 Tuner will automatically stop on the next Station/HD Radio Program/XM Channel.

Note: If the signal strength of a Station/Channel is very weak SEEK Tuning will not stop.
How to Operate

Preset Tuning

The MR88 allows for presetting 20 AM/20 FM Stations/Programs and 20 XM Channels into memory for rapid recall without having to manually tune through unwanted Broadcasts. By rotating the PRESET/MENU Control, a Preset may be selected. Initially, when the AM or FM Broadcast Bands are selected the Front Panel Information Display will indicate “NO PRESETS STORED”. Refer to figure 20.

Note: By default all of the XM Presets are assigned to XM1, the XM Preview Channel.

Creating Presets

Tune to a Station/Program/Channel to be entered into memory either by Manual Tuning or Seek Tuning and then perform the follow steps:

1. Momentarily press and release the Front Panel STORE Push-button. The Front Panel Information Display will indicate “PRESET 1: AVAILABLE”, which is the first of 20 Preset Numbers to be assigned. Refer to figure 21. The Station/Program/Channel to be entered into memory may also be assigned to a different Preset Number (2-20) by rotating the PRESET/MENU Control to select the desired Preset Number.

Notes: 1. Presets are automatically assigned in order from 1 to 20 unless a different Preset Number is selected.

2. To exit without entering a new Preset into memory, momentarily press the Front Panel EXIT (STORE) Push-button.

3. Assign additional Station/Program/Channel Presets by performing steps 1 and 2.

Note: If all 20 Presets are assigned and the STORE Push-button is pressed, the display will indicate the Station/Program/Channel selected for Preset Number 1. Refer to figure 24.

4. To verify the Preset(s) just entered into memory, rotate the Front Panel PRESET/MENU Control or use the PRESET or PRESET Push-buttons on the Remote Control.

Clearing Presets

5. Select the Preset to be removed by using the Front Panel PRESET/MENU Control or by using the PRESET or PRESET Push-buttons on the Remote Control.

6. Press and hold in the Front Panel STORE Push-button until the Front Panel Information Display indicates “PRESET CLEARED” then release the STORE Push-button. Refer to figure 26.

Notes: 1. To exit without clearing a Preset from memory, momentarily press the Front Panel EXIT (STORE) Push-button.

2. If you wish to replace an already assigned Station Preset with another radio Station/Program/Channel, it is not neces-
How to Operate, con’t

To change the reception mode to MONO press and release the Front Panel MONO Push-button to combine left and right stereo signals to a FM Monophonic signal. The LED above the MONO Push-button will illuminate. Refer to figure 27.

RBDS Text Information
The MR88 Tuner supports display of RBDS (Radio Broadcast Data Service) text from many FM radio Stations/Programs/Channels. When available from a FM Broadcast Station, the text information appears on the second line of the Front Panel Information Display. It may also scroll from right to left, this is for information not possible to display at the same time. This information may include some or all of the following:
A. Station Call Letters and/or Frequency.
B. Type of Program and/or music format.
C. Name of the Artist.
D. Name of the Song.
The Type of Program and/or music format may be recalled at any time by pressing the DISPLAY Push-button on the Front Panel or by pressing the DISPLAY Push-button on the Remote Control. Refer to figure 25. Also refer to figures 28, 29, 30 and 31 for examples of RBDS Text Information.

Note: Reception of a weak broadcast signal sending out Text Information might result in an interruption of the text information and/or incorrect characters displayed. If this occurs, try re-orienting the FM Antenna and/or replacing the antenna with an improved reception model. See your McIntosh Dealer for assistance.

HD Radio Reception
Tuning to a HD Radio Station on the MR88 is the same as tuning to any AM or FM Broadcast. Once the MR88 is tuned to a HD Radio Station Broadcast several benefits are immediately apparent. First, there is the improvement in sound fidelity and sonic imaging. Second, many Stations will offer the choice of listening to Multiple Programs. Lastly, most HD Radio Stations send out Text Information which is displayed on the Front Panel of the MR88.

When tuned to a HD Radio Station, the HD” LED behind the dial glass will illuminate and the Front
To select HD Radio Station Programs perform one of the methods below, after the Front Panel Display indicates HD1 with an arrow. Refer to figure 35.

**Manual HD Radio Program Selection**

1. Rotate the TUNE/ADJUST Control to select the desired program from the HD Radio Broadcast or press the Right\(\uparrow\) or Left\(\downarrow\) directional Push-buttons on the Remote Control.

   Note: A HD Radio Station Program may be assigned to a Preset (stored in memory) by pressing and holding in the STORE Push-button until the Front Panel Information Display indicates “PRESET STORED”, then release the STORE Push-button.

**Selecting HD Radio Program Preset**

2. Select the HD Radio Program Preset by using the Front Panel PRESET/MENU Control or using the Remote Control PRESET \(\uparrow\) or PRESET \(\downarrow\) Push-buttons.

**Automatic Selection of HD Radio Program**

3. Press and release the SEEK Up\(\uparrow\) or Down\(\downarrow\) Push-buttons on the Front Panel to go up or down the dial; or use the SEEK \(\leftarrow\) down or SEEK \(\rightarrow\) up the dial Push-buttons on the Remote Control. The MR88 Tuner will automatically stop on the next HD Radio Station Program.

**Reset of Microprocessors**

In the unlikely event the controls of the MR88 stop functioning, the microprocessors can be reset by performing the following:

1. Press and hold in the STANDBY/ON Push-button for approximately five seconds and then release the push-button.

2. Press the STANDBY/ON Push-button, the MR88 will resume normal operation.
XM Radio Operation

XM Ready® Subscription
Once you have installed the XM Mini-Tuner Home Dock, inserted the XM Mini-Tuner, connected the XM Mini-Tuner Home Dock to your XM Ready® audio system, and installed the antenna, you are ready to subscribe and begin receiving XM programming. There are three places to find your eight character XM Radio ID: On the XM Mini-Tuner, on the XM Mini-Tuner package, and on XM Channel 0. Record the Radio ID below for reference.

Note: The XM Radio ID does not use the letters “I”, “O”, “S” or “F”.

Activate your XM Satellite Radio service in the U.S. online at http://activate.xmradio.com or call 1-800-XMRADIO (1-800-967-2346). Activate your XM Satellite Radio service in Canada online at https://activate.xmradio.ca or call 1-877-GET-XMSR (1-877-438-9677). You will need a major credit card. XM will send a signal from the satellites to activate the full channel lineup. Activation normally takes 10-15 minutes, but during peak busy periods you may need to keep your XM Ready audio system on for up to an hour. When you can access the full lineup on your XM Ready audio system you are done.

XM Radio Channel Selection
With the addition of the optional XM Radio, the MR88 provides additional sources of commercial free music playing, exclusive concerts, original music series, sports coverage, breaking news, up to date weather forecasts and the biggest names in entertainment. Add to that superb sound quality, freedom from interference and over 170 channels to choose from.

The MR88 has four methods for XM Radio Channel selection. The first three selection methods are identical to tuning in an AM/FM Broadcast Station and the fourth method is Category Selection and is exclusive to XM Radio:

1. MANUAL - Allows Manual Tuning of available XM broadcasts.
2. SEEK - Automatic Tuning of available XM broadcasts.
3. PRESET - Selection of XM broadcasts entered into memory.
4. CATEGORY - Selection of Channels using the Category Tuning Mode.

Manual Tuning
Rotate the TUNE/ADJUST Knob counter-clockwise or clockwise to the desired XM Channel. Refer to figure 39. The Electronic Dial Pointer and Dial Glass Center Portion will indicate the approximate location of the XM, Channel 0 located on the far left side of the dial and Channel 247 on the far right side of the dial. The Front Panel Information Display will indicate the Channel Number and the Category of Programming available on the Channel. On the right side of the Front Panel Information Display the vertical columns indicate the relative signal strength of the received Channel. Refer to figure 40. When first tuned to a channel the Front Panel Information Display might indicate “No Signal” momentarily until the MR88 has started to process the Digital Signal. Refer to figure 41. During the time the Digital Signal is being processed the Front Panel Information Display might indicate “Loading”. Refer to figure 42.
Note: After tuning to a XM Channel and the Front Panel Information Display indicates “No Signal”, the MR88 Tuner will wait approximately 10 seconds to aquire the signal. If no signal is aquired the tuner will go back to the previously selected XM Channel.

Seek Tuning
The SEEK Tuning Mode (Automatic Tuning) searches the XM Band for available XM Channels. To use the SEEK Tuning Mode press and release the SEEK Up or Down Push-buttons on the Front Panel to go up or down the dial; or use the SEEK < down or SEEK > up the dial Push-buttons on the Remote Control. Refer to Figures 40 and 25. The MR88 Tuner will automatically stop on the next XM Channel.

Note: If the signal strength of a Channel is weak, SEEK Tuning will not stop.

Preset Tuning
The MR88 allows for presetting 20 XM Channels into memory for rapid recall without having to manually tune through unwanted Channels. By rotating the PRESET/MENU Control a Preset may be selected. Initially, when the XM Band is selected the Front Panel Information Display will indicate XM1 for each of the 20 XM Presets. Refer to figure 43.

Creating Presets
Tune to XM Channel 30 either by Manual Tuning or Seek Tuning and then perform the follow steps to enter it into memory:
1. Momentarily press and release the Front Panel STORE Push-button. The Front Panel Information Display will indicate “XM30 Pop PRESET :1 XM1”, which is the first of 20 Preset Numbers to be assigned. Refer to figure 44.

It is not necessary to clear the Preset first, just enter in the new Preset. The new Channel will automatically replace the previously assigned Channel. The new Channel selected to be entered into memory may also be assigned to a different Preset Number (2-20) by rotating the PRESET/MENU Control to select the desired Preset Number.

Notes: 1. Presets are automatically assigned in order from 1 to 20 unless a different Preset Number is selected.
2. To exit without entering a new Preset into memory, momentarily press the Front Panel EXIT (STORE) Push-button.

2. To enter Channel 30 into memory, press and hold in the STORE Push-button until the Front Panel Information Display indicates “PRESET STORED”, then release the STORE Push-button. Refer to figure 45.

The just entered Preset will be assigned Preset Number 1 (or the Preset number you selected) and is displayed on the Front Panel Information Display. Refer to figure 46.
XM Radio Operation, con’t

3. Assign additional Channel Presets by performing steps 1 and 2.
   Note: If all 20 Presets are assigned and the STORE Push-button is pressed, the display will indicate the Channel selected for Preset Number 1. Refer to figure 47.

4. To verify the Preset(s) just entered into memory, rotate the Front Panel PRESET/MENU Control or use the PRESET: or PRESET: Push-buttons on the Remote Control.

Clearing Presets

5. Select the Preset to be removed by using the Front Panel PRESET/MENU Control or by using the PRESET: or PRESET: Push-buttons on the Remote Control.

6. Press and hold in the Front Panel STORE Push-button until the Front Panel Information Display indicates “PRESET CLEARED” then release the STORE Push-button. Refer to figure 48.

7. To clear any additional Channel Presets perform steps 5 and 6 again.
   After the creation of Preset(s), use the Front Panel TUNE/ADJUST Control or use the Remote Control PRESET: or PRESET: Push-buttons. Direct access is also possible by pressing the PRESET Push-button followed by entering the number of Preset using the 0-9 numeric Push-buttons on the Remote Control.

Category Tuning

The Category Tuning on the MR88 allows for selection of XM Channels with similar type of music (Pop, Rock, Jazz, Classical, etc.) or program type such as (Sports, Talk Shows, Traffic, etc.). Perform the following steps to use Category Tuning:

1. Press the Front Panel CATEGORY Push-button or the MODE Push-button on the Remote Control. Refer to figures 39 and 25. The LED above the CATEGORY Push-button will illuminate. The Second Row of the Front Panel Information Display will now indicate the current music/program type. Refer to figure 49.

2. Press the Front Panel CATEGORY/SEEK Up or Down Push-buttons or use the SEEK: down or SEEK: up the dial Push-buttons on the Remote Control to select the desired Category Type. Refer to figure 50.

3. Once the Category has been selected, either use the Front Panel TUNE/ADJUST Control or the Up or Down: directional Push-buttons on the Remote Control to select the desired XM Channel within the selected Category Type. Refer to figures 51 and 52.
The MR88 Front Panel Information Display will then return to indicating the Artist Name and Song Title on the second line. Refer to figure 53.

Figure 52

XM72  JzStndrd  Spa

Figure 53

XM72  JzStndrd  Autumn Leaves

Figure 25
## XM Radio Diagnostic Assistance

<table>
<thead>
<tr>
<th>MR88 Information Display Indication</th>
<th>Possible Cause</th>
<th>Suggested Remedy</th>
<th>For Assistance Refer to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Check XM Tuner</strong></td>
<td>The XM Mini-Tuner is not installed or not fully seated in the XM Mini-Tuner Dock or the XM Mini-Tuner dock is not connected to the MR88 Tuner.</td>
<td>Confirm the XM Mini-Tuner is fully seated in the dock and check the XM Mini-Tuner dock cable is connected to the MR88 Tuner.</td>
<td>MR88 Owner’s Manual page 9 “How to Connect Optional XM Components”.</td>
</tr>
<tr>
<td><strong>Check Antenna</strong></td>
<td>The XM antenna is not connected to the XM Mini-Tuner Dock or the XM antenna cable is damaged.</td>
<td>Check that the XM antenna is securely connected to the XM Mini-Tuner Dock and check the antenna cable for damage.</td>
<td>MR88 Owner’s Manual page 9 “How to Connect Optional XM Components”.</td>
</tr>
<tr>
<td><strong>Loading</strong></td>
<td>The XM Mini-Tuner is acquiring audio or program information from the XM satellite signal. This message can also occur in weak XM signal conditions. Note: The MR88 Tuner may not respond to additional commands while this message is displayed.</td>
<td>This message should disappear in a few seconds in good signal conditions. If you see this message often, reposition the XM antenna for better signal reception.</td>
<td>MR88 Owner’s Manual page 18 Setup Mode “XM Radio Antenna Aim”. See instructions supplied with the XM Mini-Tuner and Dock for antenna installation information.</td>
</tr>
<tr>
<td><strong>No Signal</strong></td>
<td>The XM Mini-Tuner is not receiving the XM satellite signal. Something may be blocking the XM antenna’s view of the satellites or the antenna is not properly aimed.</td>
<td>Check for antenna obstructions and reposition the XM antenna to get better signal reception.</td>
<td>MR88 Owner’s Manual page 18 Setup Mode “XM Radio Antenna Aim”. See instructions supplied with the XM Mini-Tuner and Dock for antenna installation information.</td>
</tr>
<tr>
<td><strong>Off Air</strong></td>
<td>You selected a XM channel not currently broadcasting.</td>
<td>Check back later; in the mean time, select another channel.</td>
<td>MR88 Owner’s Manual page 24 “XM Radio Channel Selection”.</td>
</tr>
<tr>
<td><strong>CH Unauthorized</strong></td>
<td>You selected a XM channel that is blocked or cannot be receive with your XM subscription package.</td>
<td>Consult the latest channel guide at <a href="http://www.xmradio.com">www.xmradio.com</a> for the current list of channels.</td>
<td>For information on receiving this channel, visit <a href="http://www.xmradio.com">www.xmradio.com</a> or contact XM Satellite Radio at 1-800-967-2346.</td>
</tr>
<tr>
<td><strong>CH Unavailable</strong> (Channel Unavailable)</td>
<td>The selected channel is not available. The channel may have been reassigned to a different channel number. This message may occur initially with a new radio or a radio that has not received XM’s signal for an extended period.</td>
<td>Consult the latest channel guide at <a href="http://www.xmradio.com">www.xmradio.com</a> for the current list of channels. For cases of a new radio or a radio that has not received XM’s signal for an extended period, allow the radio to receive the XM satellite signal for at least 5 minutes and then try to select the channel again.</td>
<td></td>
</tr>
<tr>
<td><strong>_ _ _</strong></td>
<td>No artist name or song title is available for this selection.</td>
<td>No action required.</td>
<td></td>
</tr>
</tbody>
</table>
XM Radio Phone Assistance

In the unlikely event it becomes necessary to call XM Satellite Radio for Assistance to resolve a reception difficulty, the MR88 will need to be placed in the “XM Radio Diagnostic” Mode to aid the technician in resolving the problem. Please perform the following steps:

1. Place the MR88 in the XM Receiving Mode by using the BAND Push-button.
2. Press the MONO/SETUP Push-button until the Front Panel Information Display indicates McIntosh MR88 V____ firmware version, refer to figure 54.
3. Rotate the MENU (PRESET) Control clockwise until the informational display indicates “XM DIAGNOSTIC PRESS STORE”. Refer to figure 55.
4. Press the STORE/EXIT Push-button to enter the XM Diagnostic mode. At this time the Front Panel Information Display will indicate “DIAGNOSTIC MODE POWER OFF TO EXIT”. Refer to figure 56.

At this time follow the instruction given by the XM technician.

XM Radio Diagnostic Assistance

Figure 54
McIntosh MR88
V1.00

Figure 55
SETUP: XM DIAGNOSTIC PRESS STORE

Figure 56
DIAGNOSTIC MODE POWER OFF TO EXIT

Figure 61
BER %
100 100 100

Figure 62
RS ERRORS
BK 0 BY 0

Figure 63
AGC 61

Figure 64
SDEC VERSION 43 12/09/2005

Figure 65
XMSTK VERSION 09 06/22/2004

Figure 66
CBMSTK VERSION 80 03/02/2006

Figure 67
MMI VERSION 1.04 03/24/2009

Figure 68
CLEAR NVM PRESS STORE

Figure 69
DEBUG MODE: OFF PRESS STORE
## Specifications

### FM HD Radio Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>-85dBm</td>
</tr>
<tr>
<td>Signal To Noise Ratio</td>
<td>85dB</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>20 to 20,000Hz</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>0.1%</td>
</tr>
<tr>
<td>Stereo Separation</td>
<td>75dB</td>
</tr>
<tr>
<td><strong>AM Analog Specifications</strong></td>
<td></td>
</tr>
<tr>
<td>Useable Sensitivity</td>
<td>1.6uV (15.2dBf)</td>
</tr>
<tr>
<td>50dB Quieting Sensitivity</td>
<td>1.8uV (16.2dBf)</td>
</tr>
<tr>
<td>Signal To Noise Ratio</td>
<td>Mono: 75dB; Stereo: 72dB</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>20 to 15,000Hz</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>Mono: 0.1%; Stereo: 0.4%</td>
</tr>
<tr>
<td><strong>General Specifications</strong></td>
<td></td>
</tr>
<tr>
<td>Frequency Response</td>
<td>20 to 15,000Hz</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>0.1%</td>
</tr>
<tr>
<td>Stereo Separation</td>
<td>75dB</td>
</tr>
<tr>
<td><strong>AM HD Radio Specifications</strong></td>
<td></td>
</tr>
<tr>
<td>Signal To Noise Ratio</td>
<td>85dB</td>
</tr>
<tr>
<td>Useable Sensitivity</td>
<td>1.6uV (15.2dBf)</td>
</tr>
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<td>1.8uV (16.2dBf)</td>
</tr>
<tr>
<td>Signal To Noise Ratio</td>
<td>Mono: 75dB; Stereo: 72dB</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>20 to 15,000Hz</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>Mono: 0.1%; Stereo: 0.4%</td>
</tr>
</tbody>
</table>

### AM Analog Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digital Output</strong></td>
<td></td>
</tr>
<tr>
<td>Optical</td>
<td>-15dbm to -21dbm (PCM)</td>
</tr>
<tr>
<td>Coaxial</td>
<td>0.5V p-p/75 ohm (PCM)</td>
</tr>
<tr>
<td>Sampling Frequency</td>
<td>48kHz (PCM)</td>
</tr>
<tr>
<td><strong>AM Antenna Input</strong></td>
<td></td>
</tr>
<tr>
<td>Balanced, RJ45 connector</td>
<td>(for use only with supplied McIntosh RAA2 Remote AM Antenna)</td>
</tr>
<tr>
<td><strong>RAA2 Remote AM Antenna Overall Dimensions</strong></td>
<td>Width is 6 inches (15.24cm) Height is 2-1/2 inches (6.35cm) Depth is 1-1/2 inches (3.81cm)</td>
</tr>
</tbody>
</table>

### Power Requirements

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Voltage Ranges</th>
<th>Watts</th>
</tr>
</thead>
<tbody>
<tr>
<td>110V ~ 50/60Hz</td>
<td>30 watts</td>
<td></td>
</tr>
<tr>
<td>120V ~ 50/60Hz</td>
<td>30 watts</td>
<td></td>
</tr>
<tr>
<td>220V ~ 50/60Hz</td>
<td>30 watts</td>
<td></td>
</tr>
<tr>
<td>Standby</td>
<td>less than 0.5 watt</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Refer to the rear panel of the MR88 for the correct voltage.*

### Overall Dimensions

- Width: 17-1/2 inches (44.45cm)
- Height: 6 inches (15.24cm) including feet
- Depth: 18 inches (45.72cm) including the Front Panel, Knobs and Cables

### Weight

- 25.5 pounds (11.6 kg) net
- 40 pounds (18.1 kg) in shipping carton

### Shipping Carton Dimensions

- Width: 26-1/2 inches (67.3cm)
- Depth: 24-1/4 inches (62.2cm)
- Height: 11-3/4 inches (29.9cm)
Packing Instructions

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

Use the original shipping carton and interior parts only if they are all in good serviceable condition. If a shipping carton or any of the interior part(s) are needed, please call or write Customer Service Department of McIntosh Laboratory. Refer to page 4. Please see the Part List for the correct part numbers.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>033838</td>
<td>Shipping carton only</td>
</tr>
<tr>
<td>4</td>
<td>033837</td>
<td>End cap</td>
</tr>
<tr>
<td>1</td>
<td>033836</td>
<td>Inside carton only</td>
</tr>
<tr>
<td>1</td>
<td>033725</td>
<td>Inner carton top pad</td>
</tr>
<tr>
<td>1</td>
<td>034301</td>
<td>Bottom pad</td>
</tr>
<tr>
<td>2</td>
<td>034446</td>
<td>Foam plug</td>
</tr>
<tr>
<td>4</td>
<td>017937</td>
<td>Plastic foot</td>
</tr>
<tr>
<td>4</td>
<td>400159</td>
<td>#10-32 x 3/4” screw</td>
</tr>
<tr>
<td>4</td>
<td>404080</td>
<td>#10 Flat washer</td>
</tr>
</tbody>
</table>
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