AMP1-MADIe

- AMP1-MADIe-SM
- AMP1-MADIe-MM

1RU, 8 of 64 Channel, MADI Audio Monitor

User Guide
(Software Release: V3.0x)

Part Number 821091, Revision F

Reproduction

Licensed users and authorized distributors of Wohler Technologies, Inc. products may copy this document for use with Wohler Technologies., Inc. products provided that the copyright notice above is included in all reproductions.

Customer Support

Wohler Technologies, Inc.
31055 Huntwood Avenue
Hayward, CA 94544
www.wohler.com

Phone: 510-870-0810
FAX: 510-870-0811
US Toll Free: 1-888-596-4537
(1-888-5-WOHLER)
Web: www.wohler.com
Sales: sales@wohler.com
Support: support@wohler.com

Disclaimers

Even though Wohler Technologies, Inc. has tested its equipment and software, and reviewed the documentation, Wohler Technologies, Inc. makes no warranty or representation, either express or implied, with respect to software, documentation, their quality, performance, merchantability, or fitness for a particular purpose.

In no event will Wohler Technologies, Inc. be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect in the hardware, software, or its documentation, even if advised of the possibility of such damages.

Some states do not allow the exclusion or limitation for incidental or consequential damages, so the above exclusion or limitation may not apply to you.

Printing

This document is intended to be printed on a duplex printer, such that the copy appears on both sides of each page. This ensures that all new chapters start on a right-facing page.

This document looks best when printed on a color printer since some images may be indistinct when printed on a black and white printer.

PDF

All text strings appearing in this shade of blue are hyperlinks.

Other Technologies and Products

Microsoft Windows, and Internet Explorer are registered trademarks of Microsoft Corporation.

Evertz and MAGNUM are registered trademarks of Evertz Microsystems Ltd.

Last Update

July 2, 2013

Table of Contents

CHAPTER 1
Installation

Introduction

Overview

The AMP1-MADIe-SM and AMP1-MADIe-MM are 1RU, 8 of 64 channel MADI audio monitors. Each contains a BNC MADI input and output plus (depending upon the model purchased) either a single-mode or a multi-mode fiber input and output. Although the AMP1-MADIe-SM (single-mode fiber) and AMP1-MADIe-MM (multi-mode fiber) are distinct models, largely their operation is identical, so they will be referred to in this manual as simply AMP1-MADIe. This unit comes with two 2.4" graphics screens that display eight channels of audio level metering. Any eight channels in the MADI stream may be audibly and visually monitored. The AMP1-MADI*e* is small, low-cost, and simple to operate. Its setup configuration can easily be copied to other AMP1-MADI*e* units.

Note that very little configuration should be necessary. We have already configured the unit to the most commonly requested settings. However, should you need to change these settings, you can access the unit either through the front panel menu system, or remotely through a PC graphical user interface (GUI).

Topics

Safety

Instructions

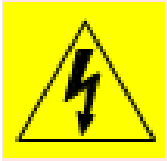
1. Read, keep, and follow all of these instructions; heed all warnings.
2. Do not use this equipment near water.
3. Use only a dry cloth to clean the equipment.
4. Do not block any ventilation openings.
5. Do not install near any heat source such as a radiator, heat register, amplifier, or stove.
6. Do not attempt to plug the unit into a two-blade outlet (with only two prongs of equal width).

IMPORTANT: By design, this monitor will only plug into a three-prong outlet for your safety. If the plug does not fit into your outlet, contact an electrician to replace the obsolete outlet.

7. Protect the power cord from being walked on or pinched, particularly at plug's source on the equipment and at the socket.
8. Use only the attachments/accessories specified by the manufacturer.
9. Unplug the equipment during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
    - The equipment has been damaged in any way, such as when the power-supply cord or plug is damaged.
    - Liquid had been spilled or objects have fallen onto the equipment.
    - The equipment has been exposed to rain or moisture.
    - The equipment does not operate normally.
    - The equipment has been dropped.

Safety Symbols

WARNING:



The symbol to the left warns of electric shock hazard inside the unit. Disconnect the power cord before removing access panels when installing upgrades. Only qualified service personnel are to operate the equipment with covers removed, and are to exercise caution to avoid personal injury.

Mounting

The unit is designed for a standard 19" rack. Install it at ear/eye level for best high frequency response and visual observation of the display screens. Please adhere to the following clearances:

Clearance	Surface
24″	Front
3″	Rear
2″	Sides
1.75″	Top and Bottom (if either radiates heat)
0″	Top and Bottom (if no heat)

Heat Dissipation

The ambient temperature inside the mounting enclosure should not exceed 40° Celsius (104° Fahrenheit). Adjacent devices can be rack mounted (or stacked) in proximity to the unit if this temperature is not exceeded. Otherwise, allow a 1RU (1.75″/44.45mm) space above and below the unit for air circulation.

Important: To reduce noise, the monitor does not have any fans. As a result, the heat generated by the class D power amplifiers, power supplies, and other components is vented by slots in the sides and back of the unit. Therefore, as a safety precaution, you must allow proper ventilation on these surfaces.

Sympathetic Vibration

Sympathetic vibration from other equipment (cables, etc.,) in the rack may be serious enough to interfere with the unit's sound quality. If you experience sympathetic vibrations, use thin card stock, felt, foam, or

weather-stripping between the vibrating surfaces. Tie loose cables securely with cable ties.

Mechanical Bracing

The 1RU chassis is securely attached to the front panel. In addition, the chassis has mounting tabs through which you attach it to the rack rail. This feature will reduce or eliminate rear bracing requirements in many mobile/portable applications. The weight of internal components is distributed fairly evenly around the unit.

Electrical Interference

Be careful to avoid mismatched cable types and other similar causes of undesired reflections in digital signal systems. If severe enough, such reflections can result in corruption of the digital data stream. As with any audio equipment, maximum immunity from electrical interference requires the use of shielded cable; however, satisfactory results can sometimes be obtained without it. The internal circuitry ground is connected to the chassis.

Power

The unit comes with a standard internal power supply and connects an A/C mains power source (60W, 100 to 240 VAC, ±10%, 50/60Hz) through the IEC connector provided on the rear panel of the unit.

When the mains plug or appliance coupler is used as the disconnect device, the disconnect device should remain operable.

Compliance

FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio

frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

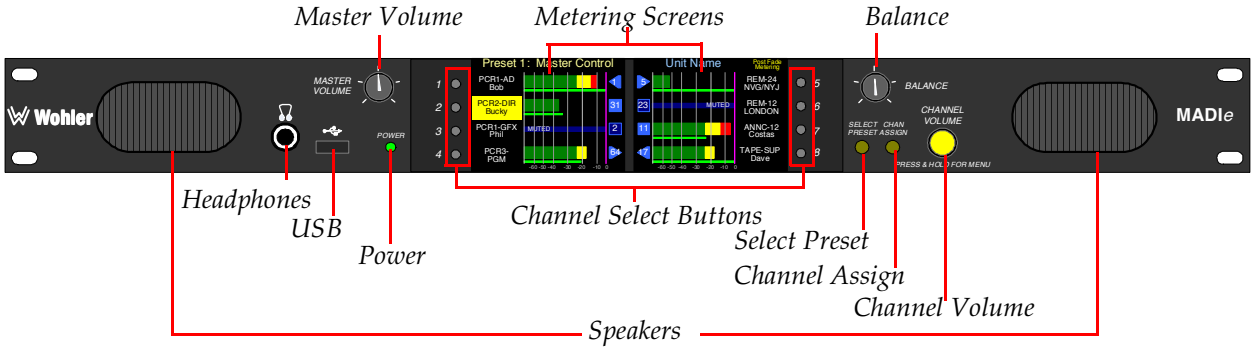
ICES-003

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Front Panel

Figure 1–1 Front Panel Layout



- **Speakers:** Audio monitoring is achieved through the use of class D amplifiers driving two (left/right) wide range speakers.
- **Headphone Jack (1/4”):** A 1/4" jack for an optional headphone is provided on the front panel.
- **USB 2.0 Port**: This USB Type A connector allows you to use a flash drive (not supplied) to copy system configurations to another AMP1-MADI*e* or to a PC.
- **Master Volume:** The left knob controls the **Volume** of the internal speakers, headphones, and optionally the rear panel balanced analog outputs.

- **Power Indicator**: This tri-color LED indicates power and basic status information. See Table 1–1 below.

Table 1–1 Power Color/Indication Descriptions

LED Color	Description
Green	Steady Green: The AMP1-MADI*e* is functioning normally. Flashing Green: The unit is waiting for an update either via a USB stick or over the Ethernet connection.
Red	When the LED flashes green or yellow followed by a series of red flashes, each flash sequence indicates an error code. Try restarting the unit, and if the problem persists, contact Wohler Technical Support.
Yellow	Steady Yellow: The system is booting. Flashing Yellow: A firmware update is in progress.
Off	The AMP1-MADI*e* is not receiving AC power.

- **Metering:** These screens display bar graphs and the configuration menus.

- **Channel Select Buttons:** Used in conjunction with the **Channel Volume** knob, these eight buttons allow you to select the audio channels you want to monitor or adjust their individual volume level. You can limit the selection of channels to one channel at a time or allow multiple channels to be selected for adjustment with the **Audio Channel Select** option in the **Audio 2 Menu**.
  - **Single**: Used to adjust the channel volume of a single channel.
  - **Multiple**: Used to adjust the channel volume of multiple channels.
  - **Quick**: Used to quickly mute or unmute one or more channels (one-touch operation).

  Note: The **Channel Select** buttons can be named via the Ethernet connection using the PC GUI software. They are also used in conjunction with the internal menu system.

- **Balance**: This knob adjusts the **Balance** between the speakers, headphones, and optionally between the rear panel balanced analog outputs.

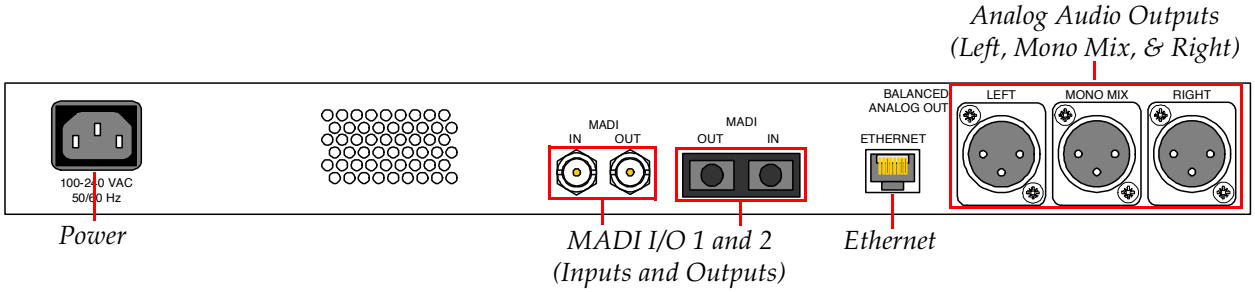
- **Select Preset**: Presets are complete configurations of monitoring channels, including individual channel volume levels. Pressing this button displays the **Preset Selection Menu**.

- **Channel Assign**: Pressing this button displays the **Channel Assignment Menu** in which you can select the exact eight (of the 64) MADI channels you want to monitor. Note that the channels you monitor need not be contiguous.

- **Channel Volume**: After the **Channel Select** buttons are pressed to highlight the monitoring channels in yellow, the yellow **Channel Volume** adjusts the individual level of each highlighted channel. Pressing the yellow **Channel Volume** mutes or unmutes the yellow highlighted channels, except in Quick Mode, where it simply ends the channel volume adjustment.

Rear Panel

Figure 1–2 Rear Panel Layout



- **Power:** The AMP1-MADI*e* uses a standard IEC power cord for the 100 to 240 VAC ±10%, 50/60 Hz power connection.

- **MADI Inputs:** (1 Coax, 1 Optical) These two connectors accept either 56- or 64-channel MADI input signals.

- **MADI Outputs:** (1 Coax, 1 Optical) These two connectors output either 56- or 64-channel MADI output signals.

- **Ethernet:** The Ethernet port can connect to either a LAN or to a PC to let you customize the AMP1-MADI*e* configuration. It will also allow you to copy system configurations from one AMP1-MADI*e* to

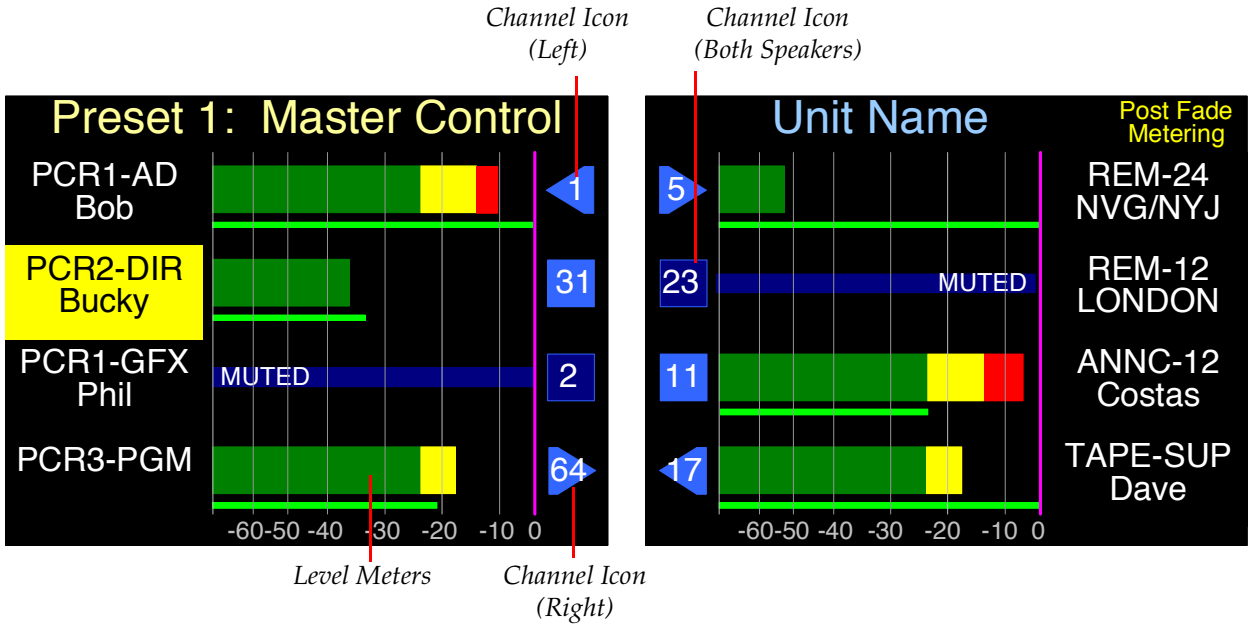
another. Lastly, it can be used to update the AMP1-MADI*e* software and firmware. Refer to Chapter 3, Appendix A, and Appendix B for details.

- **Analog Outputs:** These male XLR connectors provide three balanced analog outputs: **Left**, **Mono Mix**, and **Right**. The source of these signals is the mix of audio monitored by the internal speakers.

Main Screen

After powering up the AMP1-MADI*e* and connecting a MADI signal to one of the inputs, you will see the **Main Screen**, similar to the one shown in Figure 1–3 below.

Figure 1–3 Main Screen



- **Channel Icons**: These indicators identify the channel number and the status of the channel. Refer to Table 1–2 on page 9 for the channel legend.

Table 1–2 Channel Icon Descriptions

Channel	Unmuted	Muted
Left		
Right		
Center		

- **Level Meters**: You can monitor and display meters for any eight channels in the MADI input signal. When a channel is muted, the system replaces the level meter with a thin line indicating the channel is muted.

  You can also give the channels unique names. Simply connect a PC to the Ethernet port and run the AMP1-MADI*e* GUI setup program. Refer to Appendix A on page 59 for details.

  You can also give this AMP1-MADIe unit a unique name. Simply connect a PC to the Ethernet port and run the AMP1-MADIe GUI setup program. Refer to Appendix A on page 59 for details.

For more information on using the AMP1-MADI*e*, continue on to Chapter 2: Operation on page 11.

CHAPTER 2
Operation

Introduction

Overview

This chapter describes how to operate the AMP1-MADI*e*'s **Main Screen** and how to transfer configuration files to/from a flash drive.

Topics

Initial Operation

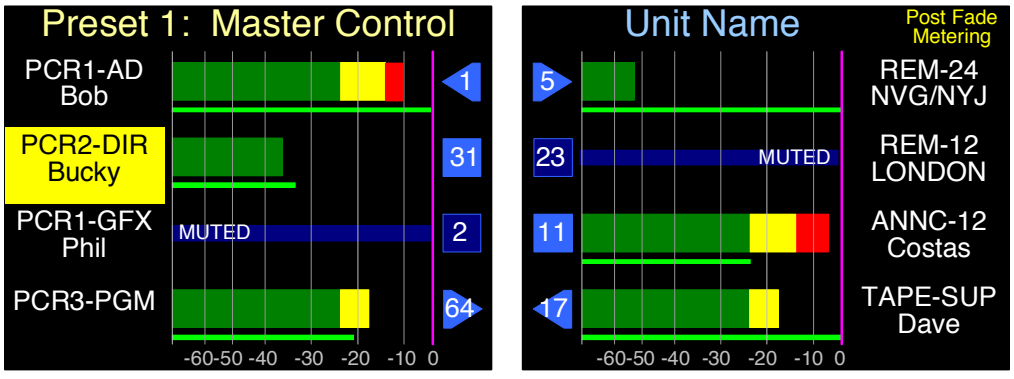
When you first power your AMP1-MADI*e*, it will be ready to monitor the first eight MADI channels from the BNC input. Turning up the **Master Volume** will let you hear all eight channels at once. By default, the odd-numbered channels will sound in the left speaker, and the even-numbered channels will sound in the right speaker.

Chances are that you will want to change this operation to better suit your needs. This chapter is devoted to explaining how to easily make the changes you need so that the AMP1-MADI*e* operates just the way you need it to.

Monitor Channel Selection

By default, selection of channels for mute/volume adjustment is limited to one channel at a time. To select multiple channels for adjustment, set the **Audio Channel Select** option in the **Audio 2 Menu** to **Multiple**. The blue channel icons in the middle of the screens are bright if the channel is audible (unmuted) or dark if it is muted.

Figure 2–1 Main Screen with One Channel Selected for Modification



You can mix and monitor any or all of the eight metered channels in three different methods: quick selection, single channel selection, or multiple channel selection.

Quick Selection

If you need to mute and unmute channels frequently, use the **Quick** setting. It shortcuts the mute/unmute action, while still allowing you to adjust the channel volume when necessary.

1. Press and hold the **Channel Select** button(s) for one second to highlight one or more channels to adjust.
2. Turn the **Channel Volume** knob to adjust the volume of the highlighted channel(s).
3. Press the **Channel Volume** knob to end adjustment and unhighlight channels.

Single-Channel Selection

If you listen to the same channel set predominantly, or use the AMP1-MADI*e* as a hot mic mixer with mono channels, use the **Single** setting. It lets you mute, unmute, and adjust the volume of any channel. Because selecting a channel to adjust automatically deselects the last adjusted channel, it is less likely you will accidentally mute or adjust an unintended channel.

1. Press the **Channel Select** button of the channel whose volume you want to mute or adjust.
2. Press the **Channel Volume** knob to mute or unmute the highlighted channel.
3. Turn the **Channel Volume** knob to adjust the volume of highlighted channel.

Multiple-Channel Selection

If you usually listen to the same set of channels, or use the AMP1-MADI*e* as a hot mic mixer to adjust stereo channels, use the **Multiple** setting. It lets you mute, unmute, and adjust the volume of multiple channels simultaneously. Because the adjustment and muting is a two step process, it is less likely you will accidentally mute or adjust an unintended channel.

1. Press the **Channel Select** buttons of the channels whose volume you want to mute or adjust.

2. Press the **Channel Volume** knob to mute or unmute the highlighted channels.

3. Turn the **Channel Volume** knob to adjust the volume of highlighted channels.

Using and Defining Presets

Default Presets

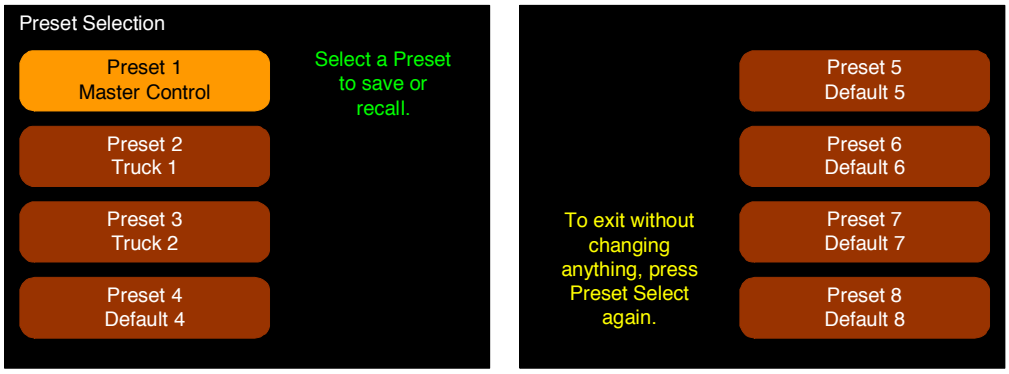
By default, the eight presets in the AMP1-MADI*e* are set to monitor the 64 MADI channels as shown in Table 2–1 below.

Table 2–1 AMP1-MADIe Preset Defaults

Preset	Monitored Channels							
	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	9	10	11	12	13	14	15	16
3	17	18	19	20	21	22	23	24
4	25	26	27	28	29	30	31	32
5	33	34	35	36	37	38	39	40
6	41	42	43	44	45	46	47	48
7	49	50	51	52	53	54	55	56
8	57	58	59	60	61	62	63	64

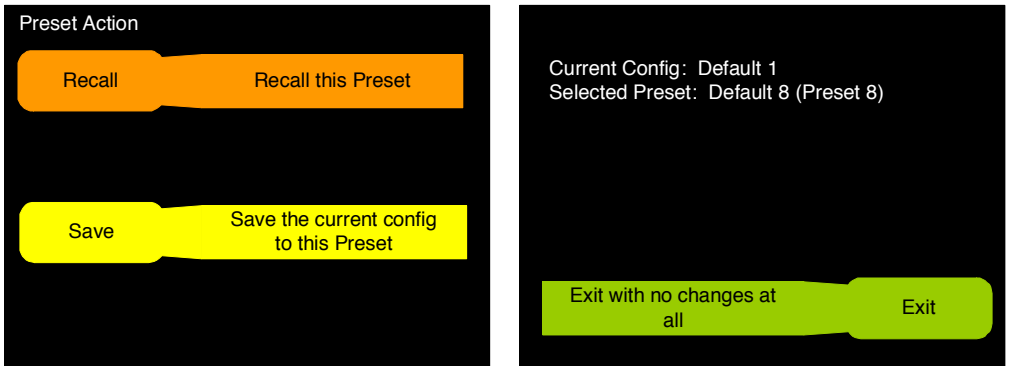
So, to monitor Channels 9 through 16 instead of 1 through 8, press the **Select Preset** button. The **Preset Selection Menu** will appear as shown in Figure 2–2 on page 15.

Figure 2–2 Preset Selection Menu



Then press the button corresponding to **Preset 2** on the screen and the **Preset Action Menu** will appear as shown in Figure 2–3 on page 15.

Figure 2–3 Preset Action Menu



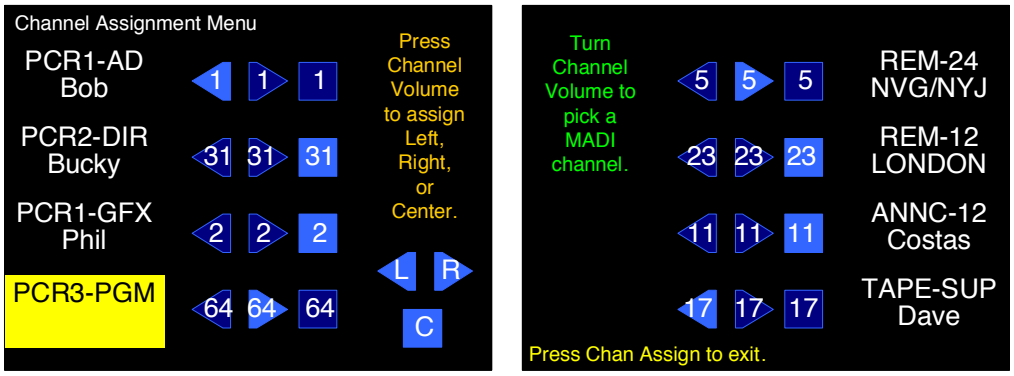
Press the **Recall** button. Now the second eight channels, 9 through 16 will be monitored.

Press the **Exit** button to return to the **Main Screen**.

Selecting Any Eight Channels

Pressing the **Channel Assign**ment button lets you quickly assign any MADI channel to any metering channel position. Press the **Channel Assign**ment button to display the **Channel Assignment Menu** as shown in Figure 2–4 below.

Figure 2–4 Channel Assignment Menu



Basic instructions are on the screen. Press the **Channel Select** button corresponding to the metering channel position you want to reassign. It will highlight in yellow.

- Press the **Channel Volume** knob to select where you want to monitor this channel: the **Left**, **Right**, or **Center** (both channels).
- Rotate the **Channel Volume** knob to select a MADI channel.

Note: The channel names shown cannot be changed from this menu. They can be changed from the Manager software. Refer to Chapter 3.

Repeat this with other channels as needed. Press the **Channel Assign**ment button to exit this screen and return to the **Main Screen**.

Adjusting Channel Select Modes and Channel Volume

Three distinct **Channel Select** modes allow you to tailor the operation of your AMP1-MADIe to the way you need it for your specific application.

- **Single**: Used when it is more likely that channel volume adjustments are made to single channels at a time.
- **Multiple**: Used when it is more likely that channel volume adjustments are made to more than one channel at a time.

- **Quick**: Used when it is more likely necessary to mute or unmute channels quickly, with a one-touch operation.

Pressing the audio **Channel Select** button in **Audio Menu 2** selects between the three possible modes of operation for the **Channel Select** buttons on the **Main Screen**.

1. To adjust these controls, hold the **Channel Volume** knob for at least three seconds until **Audio Menu 1** displays.

2. Press the **Next** button to proceed to **Audio Menu 2**.

3. Press the **Channel Volume** knob for at least three seconds to return to the **Main Screen**.

You can adjust the volume of each channel individually. On the **Main Screen** press the **Channel Select** button adjacent to the channel you want to change to highlight it in yellow. Then turn the yellow **Channel Volume** knob. The green line under the meters for these channels will lengthen or shorten according to the **Channel Volume** knob position, indicating how much you are changing the volume.

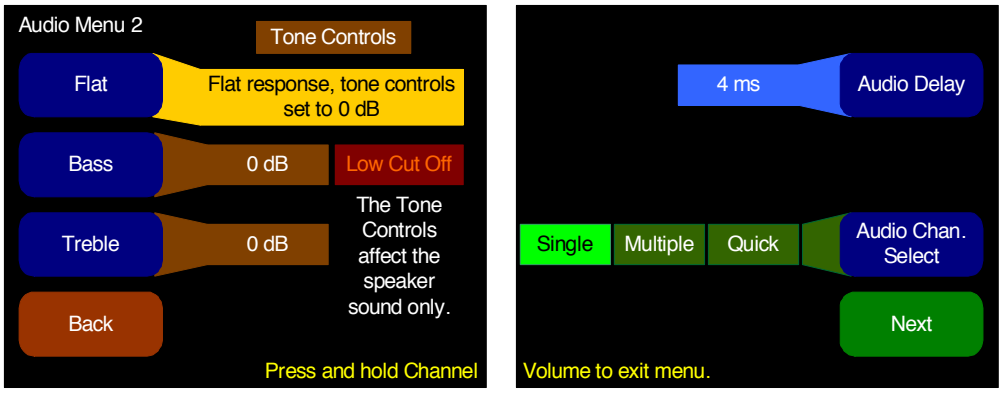
Adjusting the Speaker Audio Tone Controls

Depending on the listening environment, you may need to adjust the tone of the audio to improve the sound coming from the speakers. You can do this with the digital **Bass** and **Treble** tone controls as well as the low cut control provided in **Audio Menu 2**.

1. To adjust these controls, hold the **Channel Volume** knob for at least three seconds until **Audio Menu 1** displays.

2. Press the **Next** button to proceed to **Audio Menu 2**.

Figure 2–5 Audio Menu 2



Pressing the **Flat** button brightens the **Flat** setting and darkens the **Bass** and **Treble** settings to brown, and produces a flat response. This is the default setting. However, the **Bass** and **Treble** settings are retained so you can recall them the the next time you press the **Flat** button, the **Bass** button, or the **Treble** button.

Press either **Treble** or **Bass** and then rotate the **Channel Volume** to increase or decrease the response of each. The range is ± 12 dB in 2 dB steps.

Pressing **Bass** a second time moves the highlight to the **Low Cut** setting. Pressing the **Channel Volume** knob turns low cut on or off. When it is turned on, an additional low cut filter is engaged in the speaker path.

Press the **Channel Volume** knob for at least three seconds to return to the **Main Screen**.

Note: The tone controls only apply to the internal speakers, not to the analog outputs or headphone output.

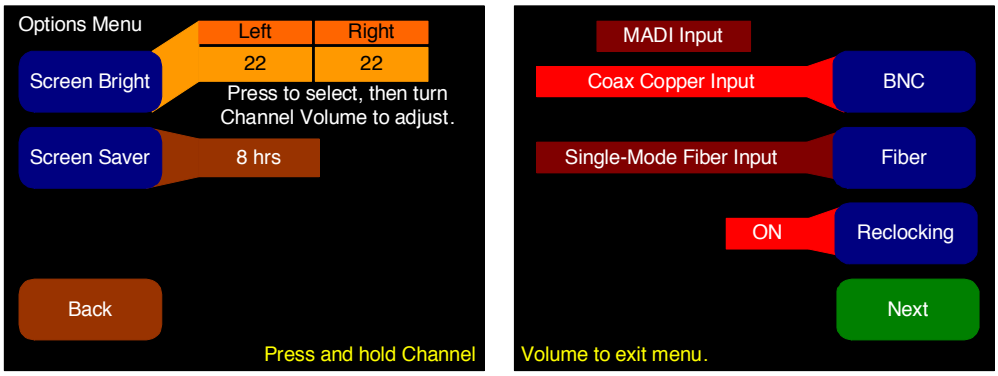
Selecting the Optical Input

The AMP1-MADI*e* can monitor either the BNC or the single-mode or multi-mode optical fiber inputs on the rear panel.

1. To switch between the two, hold the **Channel Volume** knob for at least three seconds until the **Audio Menu 1** displays.

2. Press the **Next** button several times until the **Options** Menu appears..

Figure 2–6 Options Menu



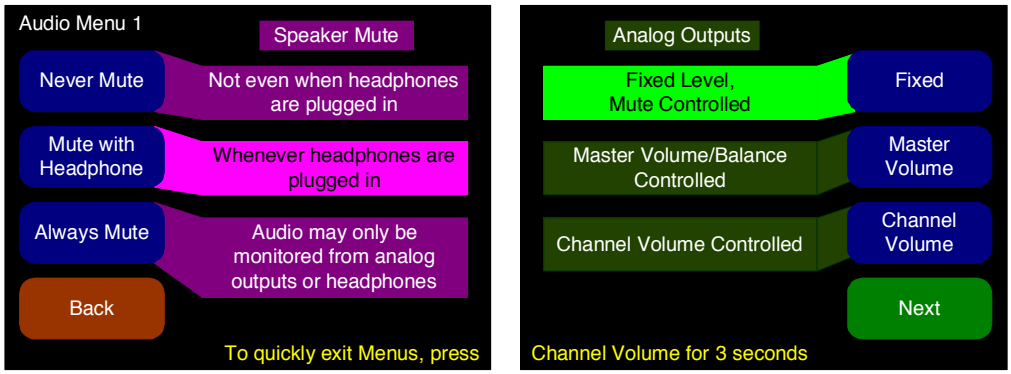
3. Press either **BNC** or **Fiber**. This menu contains a variety of useful options that can be used to customize the AMP1-MADI*e* to your needs. Refer to Chapter 4 for details. Exit this menu by pressing **Next** or pressing the **Channel Volume** knob for at least three seconds.

Using the Balanced Analog Outputs

The AMP1-MADI*e* contains **Left** and **Right** channel outputs, as well as a **Mono Mix** output. By default, these balanced analog outputs produce line level signals and are unaffected by the **Master Volume**, **Balance**, and **Channel Volume** controls. They output all unmuted channels, as indicated by the bright blue icons in the middle of the **Main Screen**.

Optionally, you can configure the system so that the **Channel Volume** controls and/or the **Master Volume** and **Balance** controls will control the balanced analog outputs. This configuration is useful if you will be using external amplifiers and speakers. To do this, press the **Channel Volume** button for at least three seconds until **Audio Menu 1** appears (Figure 2–7 below).

Figure 2–7 Audio Menu 1



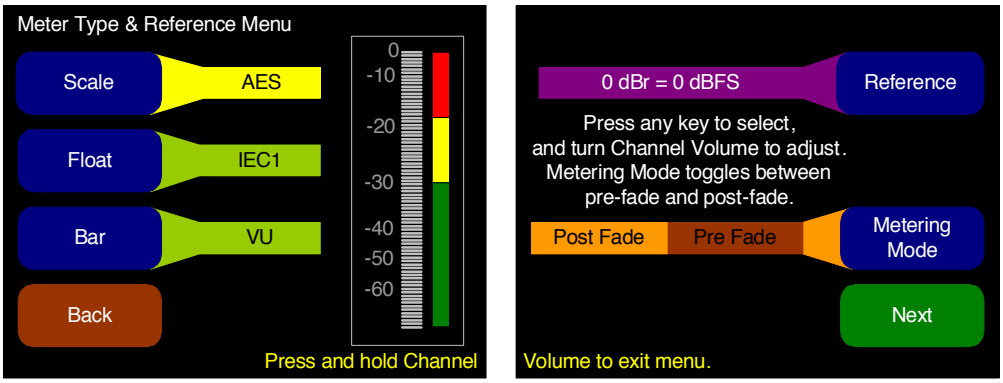
Click the **Master Volume** and/or the **Channel Volume** buttons to enable them on the balanced analog outputs. Press **Back** to return to the **Main Screen**.

Pre Fade or Post Fade Metering

By default, the AMP1-MADI*e* metering operates in a *Post Fade* mode. This means that the level indications show the channel levels after the individual **Channel Volume** settings are applied to the signals. You can also use *Pre Fade* metering instead, to show the true incoming signal levels on each channel, regardless of the **Channel Volume** settings.

To do this, hold the **Channel Volume** knob pressed for at least three seconds until the **Audio Menu** displays. Press the **Next** button several times until the **Meter Type & Reference Menu** appears.

Figure 2–8 Meter Type & Reference Menu

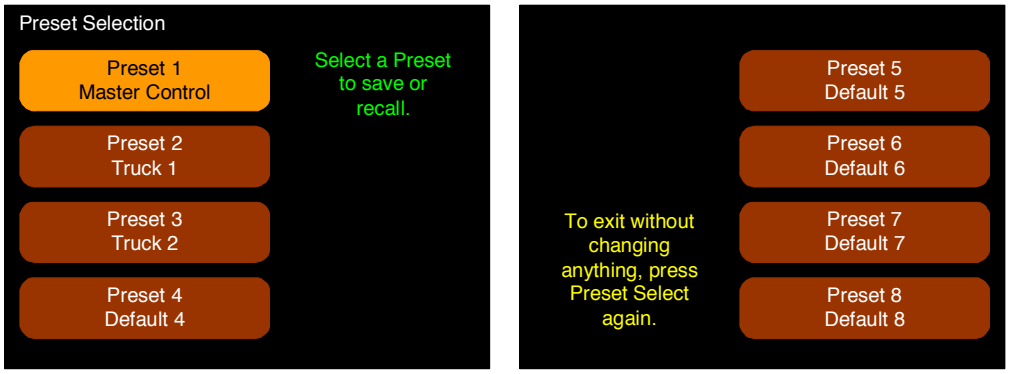


Press the **Metering Mode** button to change between **Post Fade** and **Pre Fade**. Then press the **Back** or **Next** buttons several times to exit to the **Main Screen**.

Saving Your Settings

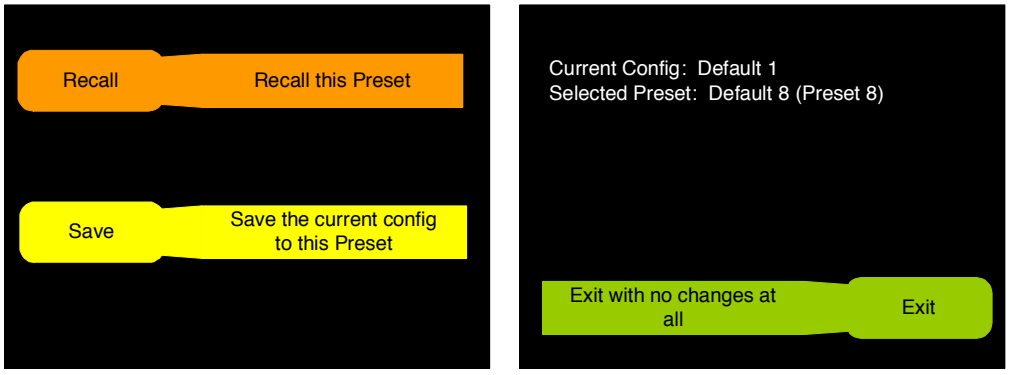
Once you have set up your AMP1-MADI*e* exactly the way you want it, you will probably want to save the settings for a quick recall, just in case someone else accidentally disturbs them. To do this, simply press the **Select Preset** button. The **Preset Selection Menu** will appear as shown in Figure 2–9 below.

Figure 2–9 Preset Selection Menu



The AMP1-MADI*e* provides eight presets. Press the number of the preset you want to save your settings to. The **Preset Action Menu** will display as shown in Figure 2–10 below.

Figure 2–10 Preset Action Menu



Press **Save** and your settings will be instantly saved.

USB Port Functionality

You can copy configuration files to and from your unit by using a flash drive connected to the USB port. You can also use a flash drive to update the software in the AMP1-MADIe. Refer to Appendix B for instructions.

Immediately after connecting the flash drive to your AMP1-MADI*e*, the **Flash Drive Connected** screen displays (interrupting any current functions except an Ethernet connection) as shown in Figure 2–12 below.

Figure 2–11 USB Flash Drive Navigation

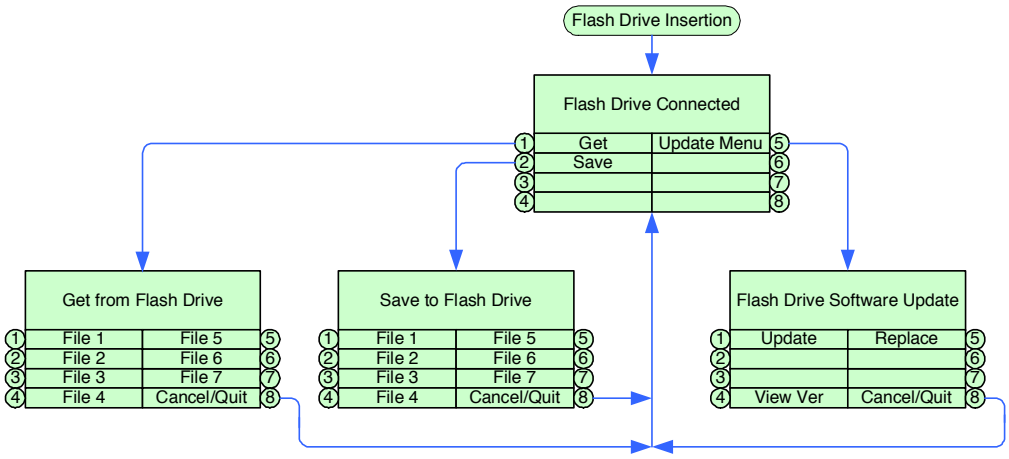
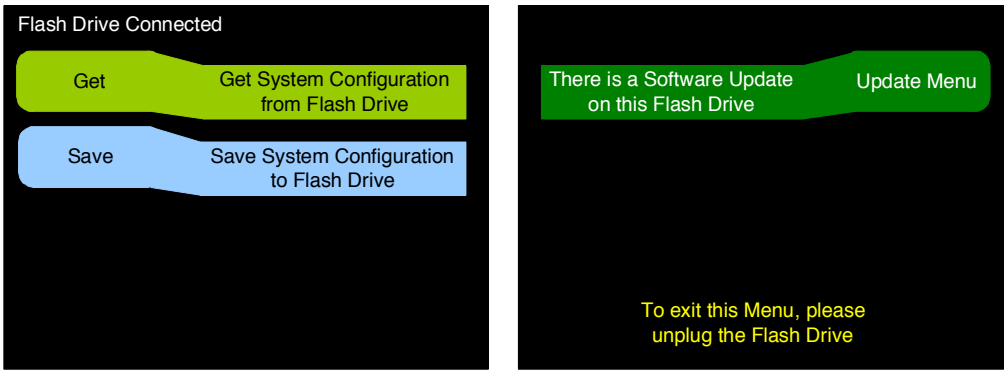


Figure 2–12 Flash Drive Connected Screen

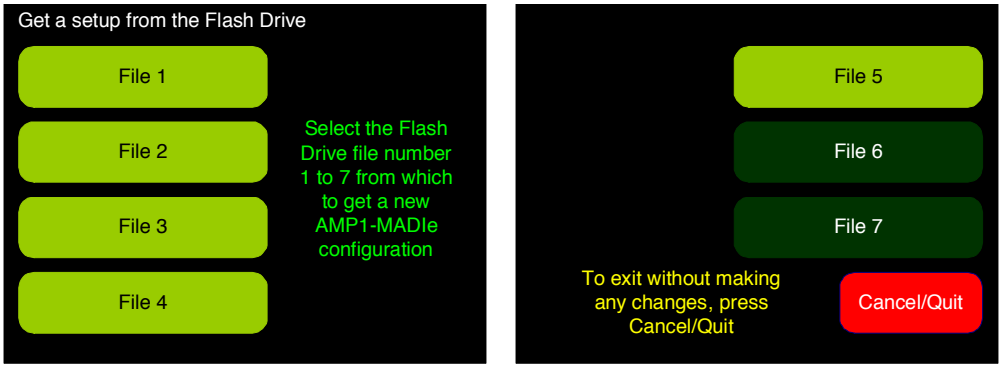


Note: All configuration files are automatically saved with a **.wmad** extension in the **\Wohler** folder.

Copying a Configuration to the AMP1-MADIe

1. To load a configuration file to the AMP1-MADI*e* from your flash drive, press **Get**. The **Get a setup from the Flash Drive** screen will display as shown in Figure 2–13 below. The files that exist on the flash drive will be lit in bright green.

Figure 2–13 Get a Setup From the Flash Drive Screen



2. From the bright green choices, select the configuration file you want to copy from the flash drive to the AMP1-MADI*e*. If you change your mind and no longer want to get a file, press the **Cancel/Quit** button. Once the copy process completes, the **Flash Drive Connected** screen re-displays.

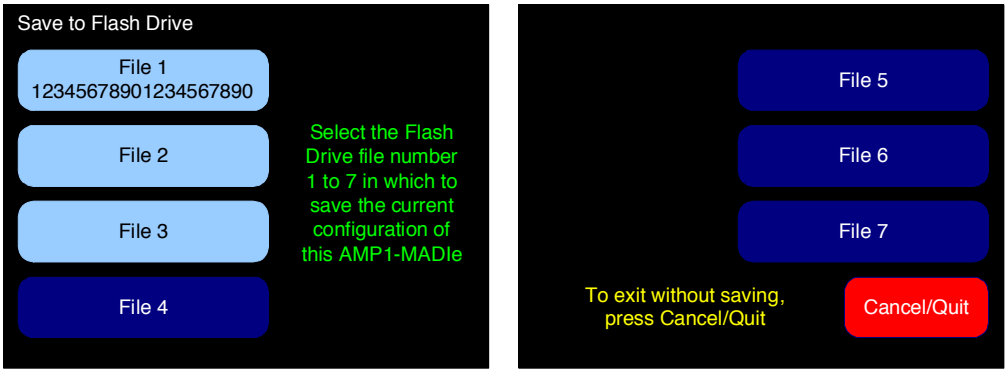
   Note: The configuration takes effect immediately when you press the **File** button. It includes all eight presets plus the current configuration.

3. Remove the flash drive from the USB port.

Copying a Configuration File from the AMP1-MADIe

1. To copy a file to the flash drive from the AMP1-MADI*e*, press **Save** from the **Flash Drive Connected** screen. The **Save to Flash Drive** screen will display as shown in Figure 2–14 on page 24.

Figure 2–14 Save to Flash Drive Screen



2. The bright blue choices indicate files that already exist. Press the file number that you want to copy the AMP1-MADI*e* configuration to (including all eight presets plus the current configuration). If you change your mind and no longer want to save a file, press the **Cancel/Quit** button. Once the copy process completes, the **Flash Drive Connected** screen re-displays.

3. Remove the flash drive from the USB port.

Update Menu

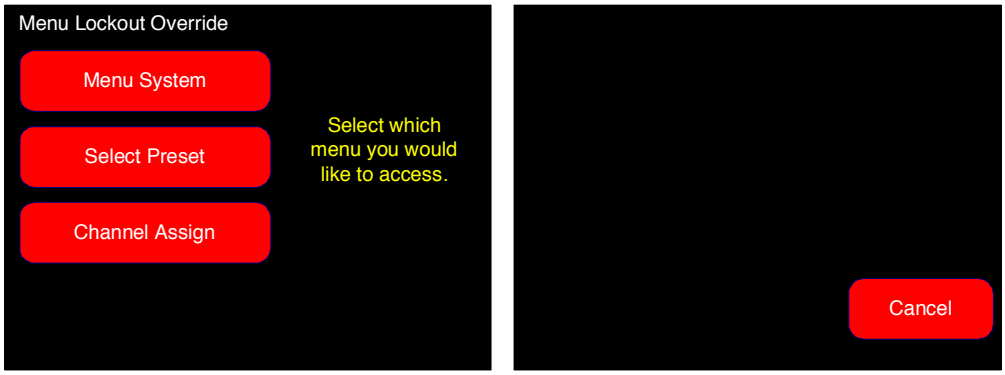
This button only appears if the inserted flash drive contains a software update. Press this button to proceed to the software updating menu. You can copy a software update onto a flash drive using the MADIe Manager PC GUI program available on the Wohler website (www.wohler.com). Refer to The USB Tab on page 41 for adding a software update to a flash drive. Refer to Appendix B: Performing the Upgrade on page 73 for upgrading the AMP1-MADIe software.

Menu Lockout Override

Even though you may have disabled the menu access in The Options Tab on page 34, you can override this lockout to gain access to the menu system. As long as the monitor is not currently being remotely accessed, you can hold down the **Channel Volume** knob while also

pressing both the **Select Preset** button and the **Channel Assign**ment buttons for three seconds or more to display the **Menu Lockout Override** screen as shown Figure 2–15 below.

Figure 2–15 Menu Lockout Override Screen



- **Menu System**: Press this button to enter the menu system.
- **Select Preset**: Press this button to display the **Preset Selection Menu**.
- **Channel Assign**: Press this button to display the **Channel Assignment Menu**.
- **Cancel**: Press this button to cancel the override request and return to the **Main Screen**.

CHAPTER 3
AMP1-MADIe Graphical User Interface (GUI) Manager

Introduction

Overview

This chapter describes how to use the AMP1-MADI*e* Manager to the configure the AMP1-MADI*e*.

Important: If you have not yet installed the AMP1-MADI*e* Manager setup software on your PC and connected it to the AMP1-MADI*e*, you **must** complete all the steps in Appendix A on page 59 before continuing.

Topics

Running the AMP1-MADIe Manager

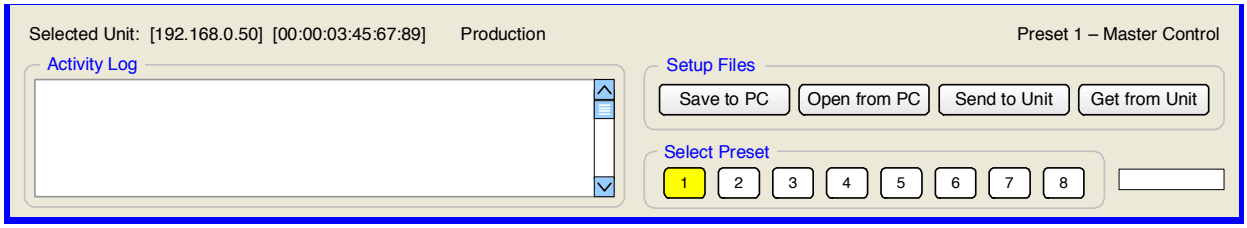
The AMP1-MADI*e* Manager allows you to customize the monitor's configuration to perfectly suit your needs.

Note: When the AMP1-MADI*e* manager is connected to a unit, the front-panel controls will return to the **Main Screen**, and will not allow the user to enter any of the menu screens or the **USB Screen** until the manager is disconnected from the unit. The indicator Remote Access will appear on the AMP1-MADIe screen.

Activity Log and Setup Files

Note that the **Activity Log** and the **Setup Files** areas (Figure 3–1 below) display at the bottom of the screen regardless of the tab you have selected.

Figure 3–1 AMP1-MADIe Manager SDI Setup Screen



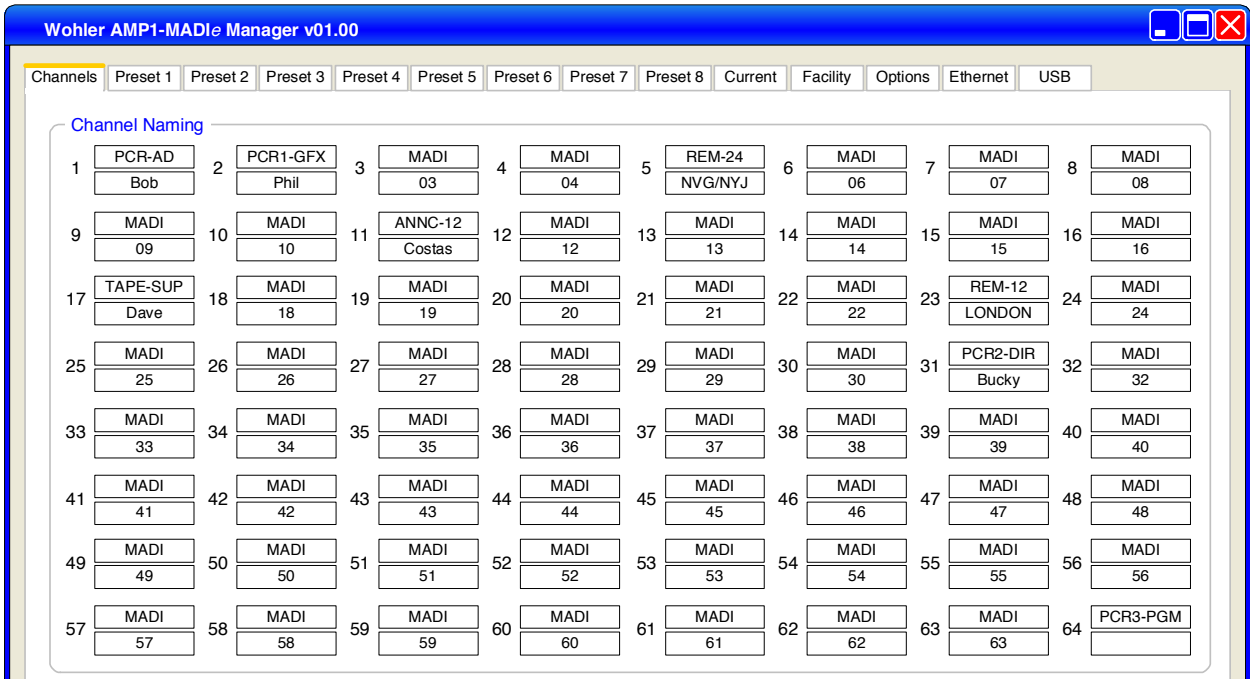
- **Status Line**: This line of text (above the **Activity Log**) shows the Ethernet Address, MAC Address, and the name of the connected unit on the left side, and the current preset name and number on the right.
- **Activity Log**: This area displays all the network activity between your PC and the AMP1-MADI*e* including connecting, disconnecting, saving files, and so on. It also shows information for monitoring network activity and for diagnostic purposes.
- **Save to PC**: Clicking this button displays the Windows **Save As** dialog so you can save your configuration file to your PC.

- **Open from PC**: Clicking this button displays the Windows **Open** dialog so you can open a configuration file on your PC.
- **Send to Unit**: Clicking this button sends a setup overwriting AMP1-MADI*e*'s current configuration (including options and presets). This AMP1-MADI*e* will then automatically be set to the configuration saved in **Preset 1**.
- **Get from Unit**: Clicking this button receives setups (options and presets) directly from the connected unit.

The Channels Tab

Note in the screen shot of the **Channels** tab shown in Figure 3–2 on page 29, each channel has two fields (eight characters each) that you can use for descriptive information. Channel names are shared among presets.

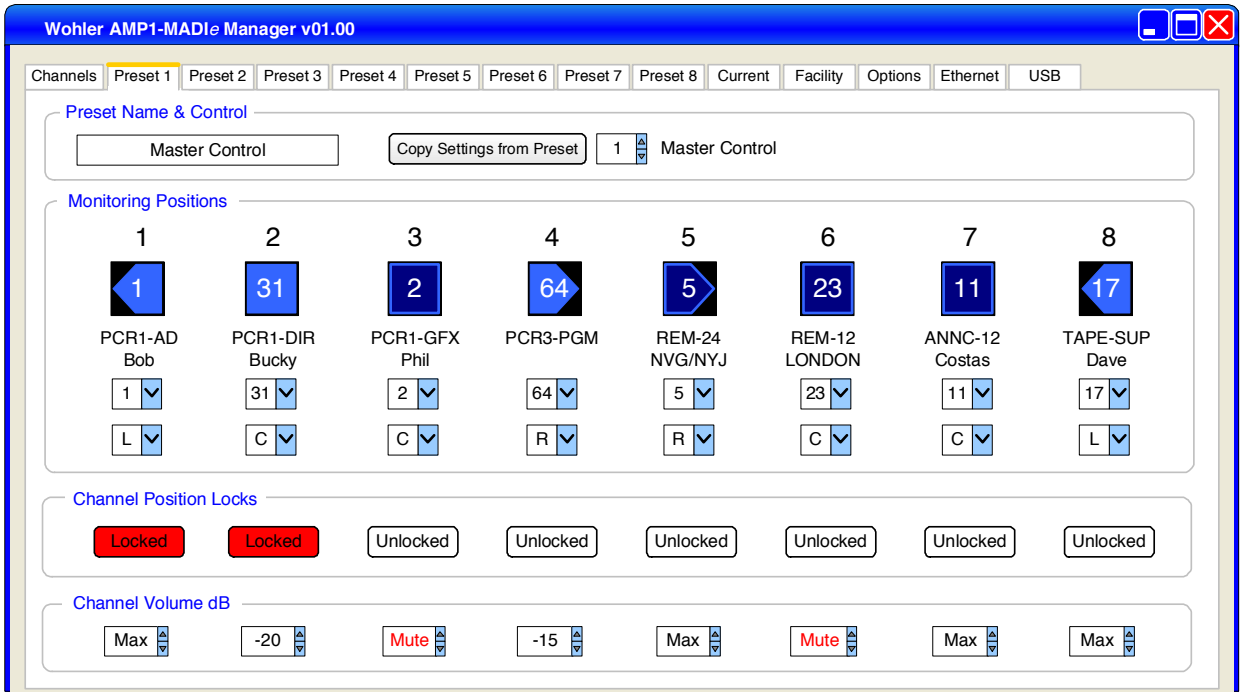
Figure 3–2 Channels Tab



The Preset Tabs

Since all the **Preset** tabs are identical we will only show the first one to explain the settings it provides for each preset.

Figure 3–3 Preset 1 Tab



Preset Name and Control Area

- **Preset Name**: Enter a name for the preset (up to 18 characters).
- **Copy Settings from Preset**: To speed configuration, you can use the arrow keys beside the preset number field to select an existing preset whose configuration you want to copy into this preset (identified by the tab number at the top of the screen). Enter a preset number and click the button to copy.

Monitoring Positions (1 through 8)

- **Channel Assignment Icon**: Click the blue icons to mute or unmute each channel. A bright icon indicates that the channel is unmuted, while a dark icon indicates that it is muted.

- **Channel Number**: Click the drop-down menu to select the MADI channel (1 through 64) you want to monitor in this position.
- **Speaker Assignment**: Click the drop-down menu to select the speaker(s) you want to hear this channel in: **L**eft, **C**enter (both), or **R**ight. The **Channel Assignment** icon will change accordingly.

Channel Position Locks

The **Channel Position Locks** keep individual channel positions from being assigned differently than the **Monitoring Position** in the section above on this tab. Click to toggle the indicators. Red means that the channel position is locked, as shown in channel positions 1 and 2 in Figure 3–3 on page 30.

Note: This lock applies to changes that can be made in the AMP1-MADIe **Channel Assignment Menu**.

Channel Volume dB

Channel Volume: Select the volume for this channel from -61 dB to 0 dB.

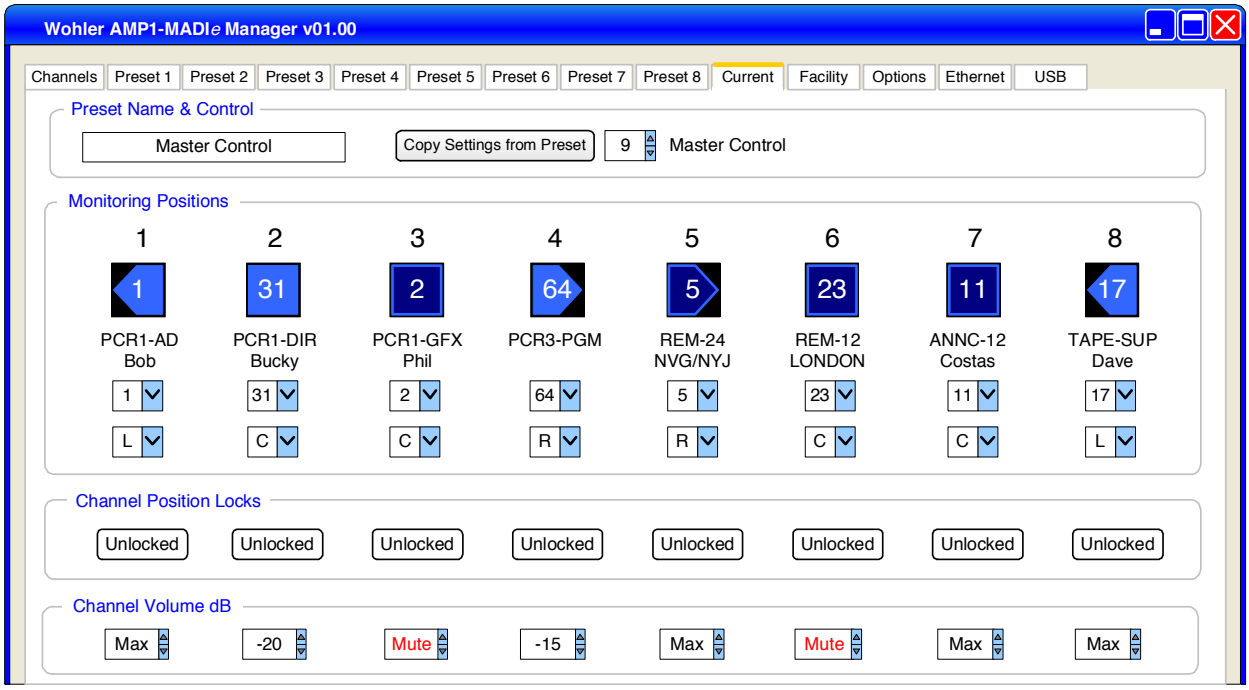
- Setting a volume to -61 dB displays **Mute** in the selection field.
- Setting a volume to 0 dB displays **Max** in the selection field.

The Current Tab

The **Current** tab shows the settings in actual use in the connected AMP1-MADIe selected on the **Ethernet** tab after you use the **Get from Unit** button to retrieve the settings.

Note: The name of the Current Preset cannot be changed: it is always called the **Current** preset.

Figure 3–4 Current Preset Tab



You can, however, use this screen to perform all of the following:

1. Copy the settings from another preset into this one using the **Copy Settings from Preset** button. Enter the preset number and then click the button.

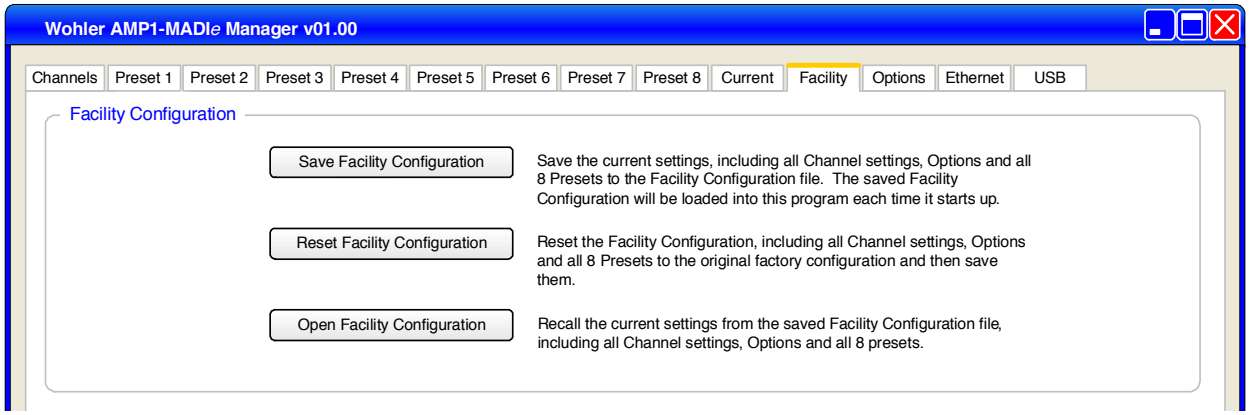
2. Select any MADI channel to any monitoring position. Click the drop-down menu to select the monitoring position for this channel.

3. Assign a channel on each monitoring position to left, right, or both speakers and analog outputs. Click the drop-down menu to select either **L** (left, **R** (right), or **C** (center).

4. Set the volume level for each channel by using the **Channel Volume dB** section settings. Enter any value from -61 dB (Mute) to 0 dB (Max).

The Facility Tab

Figure 3–5 Facility Tab



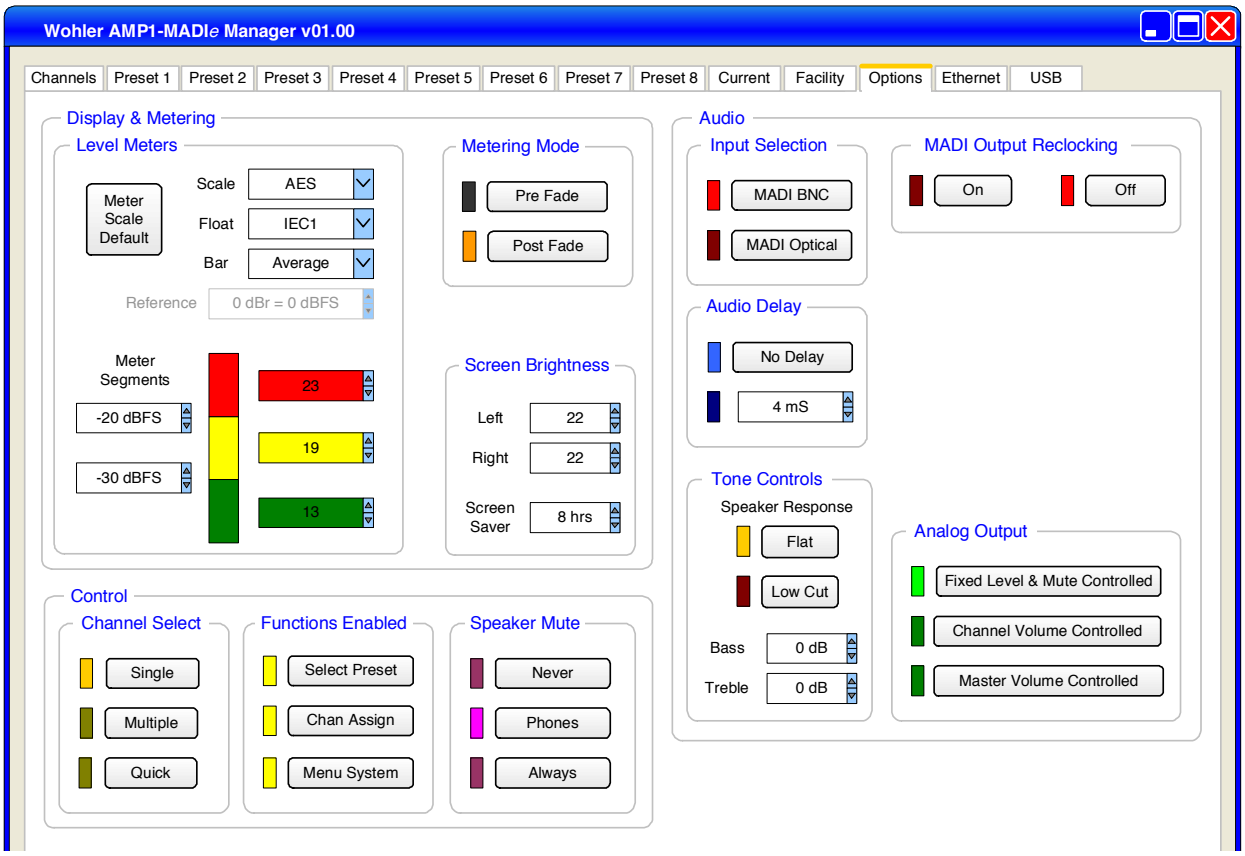
You can access the **Facility** tab whether an AMP1-MADIe is connected or not. It is a complete AMP1-MADIe configuration, including all channel settings, all presets, and all options and intended to contain the basic settings that are typically needed facility-wide. You can only have one facility configuration file at a time.

When you start the AMP1-MADIe Manager, it automatically recalls the **Facility** configuration file. The settings in the **Open Facility Configuration** initialize controls used throughout the manager. You can send this configuration to the selected AMP1-MADIe without changes, or you can modify it and then send it to the selected unit. The controls on the Facility tab are listed below.

- **Save Facility Configuration**: You can set up a system configuration, including all presets and options and save it as your facility file.
- **Reset Facility Configuration**: You can also reset the facility configuration file back to the way it was when it left the factory.
- **Open Facility Configuration**: Recall all the channel settings, options, and presets that pertain to your facility.

The Options Tab

Figure 3–6 Options Screen



Display and Metering

Level Meters

- Click the drop downs to select the **Scale**, and then the **Float**, and **Bar** for your level meter display. Alternatively, you can click the **Meter Scale Default** button to return to the defaults for the chosen meter scale.
- In the **Meter Segments** area, click the up or down arrows to select the levels at which the colors between the top and middle segments and the middle and lower segments change.
- Click the up or down arrows to select the colors for each of the level meter segments.

Metering Mode

Metering Mode: Click to select either **Pre Fade** or **Post Fade**.

- **Pre Fade**: Meters show the levels *before* the channel volumes are applied to the input signals.
- **Post Fade**: (Default) Meters show the levels *after* the channels are applied to the input signals.

Screen Brightness

Select the screen brightness for each screen and the duration for the screen saver.

- **Left/Right**: Either click the down arrow to increase or decrease the screen brightness value, or click the field and type in a value.
- **Screen Saver**: Enter the amount of time you want the monitor to wait until it invokes the screen saver. Allowable values range (in one minute increments) from five minutes to 119 minutes, and (in one hour increments) from two hours to 24 hours. The default setting is eight hours.

  If the AMP1-MADI*e* is in operation for the screen saver time out period and no front panel controls have been turned or pressed, the screens will dim. If double the screen saver time out period elapses without any front panel control activity, the screens will dim further. Operating any button or control will instantly brighten the screens.

  Note: Using low brightness values and small timeout values for the screen saver will prolong the life of the LCD displays.

Control

Channel Select

- **Single**: (default) For use in situations where changes are predominantly made on one channel at a time. It automatically deselects the last adjusted channel when a new one is selected.

- **Multiple**: For use in situations where changes are predominantly made on more than one channel at a time.
- **Quick**: For use in situations where channels need to be frequently muted or unmuted.

Functions Enabled

These controls allow you to lock operators out of these key functions if you do not want them changing these settings. Click to enable or disable the following front panel functions:

- **Select Preset** button
- **Channel Assignment** button
- **Menu** system

Speaker Mute

In the **Speaker Mute** area, click to select one of three speaker configurations:

- **Never**: Never mute the speakers even when headphones are connected.
- **Phones**: Only mute the speakers when the headphones are connected.
- **Always**: Always keep the speakers muted. This option may be useful if you only want to monitor audio externally, through the XLR audio outputs on the rear panel.

Audio

Input Selection

The AMP1-MADI*e* comes with two inputs, BNC and optical. Click the input you wish to use.

Audio Delay

This control can be used to adjust the *lip sync* between the MADIe and a video monitor. Click either **No Delay**, or click the up or down arrows to either increase or decrease the amount of audio delay time from 0 (default) to 170 ms in 1 ms increments.

Tone Controls

- **Flat**: (default) For a flat speaker response, click **Flat**.
- **Bass and Treble**: Press the **Flat** button to enable the **Bass** and **Treble** controls. Use the arrow keys next to the **Bass** and **Treble** fields to adjust the the internal speaker bass and treble from -12 dB to +12 dB in 2 dB steps.
- **Low Cut**: This option puts an additional low-cut filter in the path of the speakers. To enable this selection, press the Flat control, and then press the Low Cut button.

MADI Output Reclocking

The reclock option can be used to extend the operation of the unit in cases where a long cable is used before the unit, or a large number units are attached in series before the unit. Click either **On**, or **Off** to select whether the MADIe will reclock (on) or regenerate (off) the pass through BNC or optical signals.

Analog Output

Click to select one of three output volume options. **Fixed Level and Mute Controlled** is exclusive of the other two:

Note: If the **Analog Output** is set to **Fixed Level & Mute Controlled** and the **Speaker Mute** is set to **Always**, then plugging in the headphones will cause the analog outputs to mute.

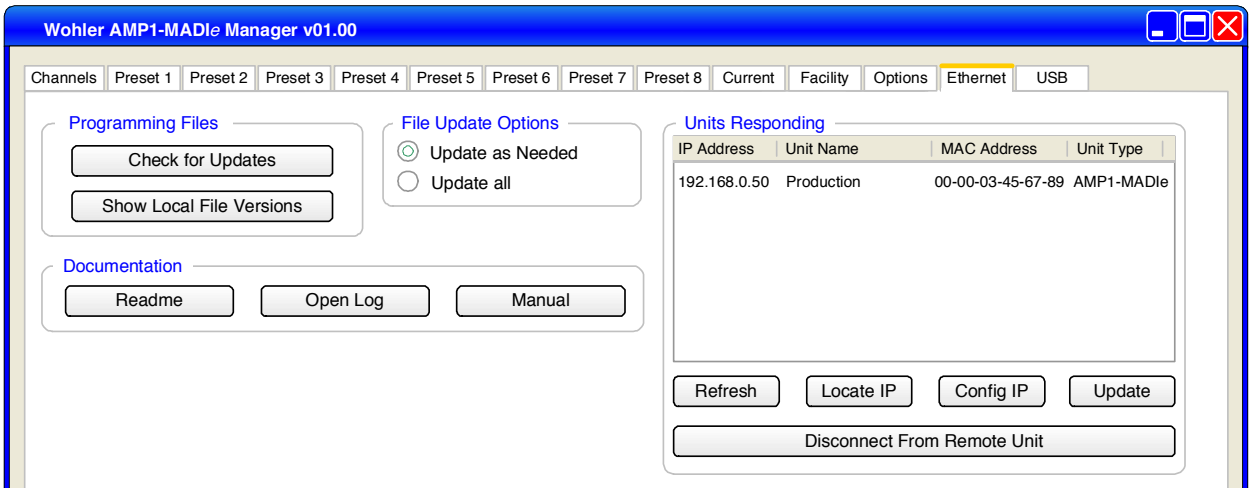
- **Fixed Level and Mute Controlled**: The volume of the output is fixed at line level.
- **Channel Volume Controlled**: The analog outputs are controlled by the **Channel Volume** settings.

- **Master Volume Controlled**: The volume of the outputs is controlled by the **Volume** and **Balance** knobs on the front panel.

  Note: The **Analog Output** can be both **Channel Volume Controlled** and **Master Volume Controlled**.

The Ethernet Tab

Figure 3–7 Ethernet Tab



The **Ethernet** tab allows you to transmit configurations and perform a variety of other tasks over a network. It also allows you to connect to an AMP1-MADI*e* over a LAN to remotely configure the unit.

Note: For a complete description of the functions in the **Programming Files** area (used to check on file versions) refer to Appendix B on page 67.

For a complete description of the functions in the **Units Responding** area when preforming a software upgrade, Refer to Appendix A on page 59 for details.

Click on one of the units in the **Units Responding** window to connect to it.

File Update Options

Before beginning any update procedure, click either **Update as Needed** or **Update All**.

- **Update as Needed** should be used for most updates.
- **Update All** should only be used at the direction of a tech support representative.

Note: To continue with a software upgrade, refer to Appendix B on page 67.

Units Responding

The large window in the **Units Responding** area displays all the AMP-MADI*e*s that the application found on the network.

- **Refresh**: Clicking this button causes the system to poll the network to find all the AMP1-MADI*e*s on the network.
- **Locate IP**: Clicking this button displays the **Enter AMP1-MADIe IP Address** dialog. Enter the **IP Address** and **IP Mask** of the unit to which you are trying to connect, and then click **Find**. If the specified unit is on the network, it will display in the **Units Responding** list.
- **Config IP**: To enable this button, click any one of the AMP1-MADIe units in the **Units Responding** list. Once you have selected a unit, the system enables the button. Clicking this button displays the **Configure AMP1-MADIe IP Address** dialog. Check with your IT administrator to determine what settings are best for your unit.

  The **Direct Connect** option enables a single-address DHCP server within the unit. It should only be used if the unit is connected directly to a Windows computer. Use this option carefully, because it may cause problems if the unit is actually connected to a local area network. Selecting this option will force the DHCP checkbox to be checked, and will disable the other IP entry fields.

  The **Use DHCP** checkbox will cause the unit to query the local area network to get its IP information. Use this option if your LAN supports DHCP addressing, and if it is approved by your IT

administrator. Checking this option will disable the other IP entry fields.

Use the **IP Address**, **IP Mask**, and **Gateway** fields to configure a static IP connection with a LAN or with a PC connected directly to the unit. Be sure check these settings with your IT administrator, because incorrect settings could disable the entire local area network, or even worse, cause intermittent connectivity issues with other equipment.

The **Unit Name** field is completely independent of the other fields, and may be used to enter a human-readable designation for this unit. It will be displayed on the unit's front panel, in the **Ethernet Configuration Menu**, and in the unit's displayed section of the Windows program.

- **Update**: After selecting an AMP1-MADI*e* from the **Units Responding** list, clicking this button displays a dialog warning you that the system is about to update the software in the selected unit. Click **Cancel** abort, or **OK** or to continue. After updating the selected unit, the system will restart it and display the **Update Complete** dialog. Refer to Appendix B on page 67 for more information.

- **Disconnect from Remote Unit**: Should you need to unselect an AMP1-MADI*e* to prevent making further configuration changes, you can either select a different unit, or click **Disconnect from Remote Unit**. This will also free the front panel of the unit so a local operator can enter any of the menu systems (provided they have not been locked in the **Options** tab).

Documentation

- **Readme**: Clicking this button displays the **README.PDF** file for the downloaded software updates.

- **Open Log**: Clicking this button allows you to open and view the update log file. You may also save the log file to a different location.

  Each time the application is opened, it creates a new log file in the `C:/Wohler/MADIe` directory. These log files are not deleted by the application, so you may refer back to them at any time.

- **Manual**: Clicking this button allows you to read this document in .pdf format.

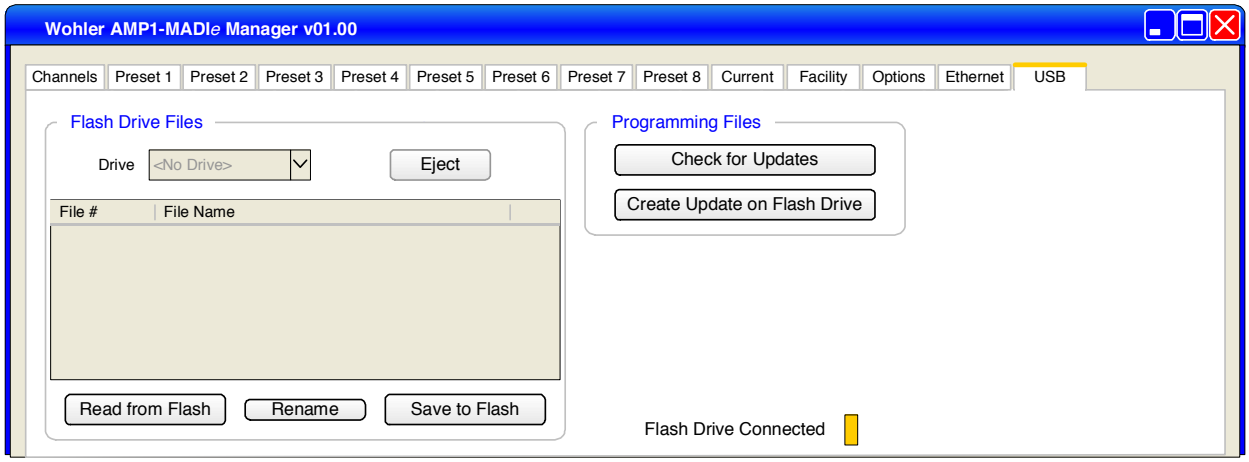
The USB Tab

Using a Flash Drive

You can use a USB flash drive to transfer settings from one AMP1-MADI*e* to another, and to or from any Windows computer. This tab allows you to save or retrieve files from a USB flash drive attached to the host computer.

Note: To use the USB port from the AMP1-MADI*e* menu system, refer to USB Port Functionality on page 22.

Figure 3–8 AMP1-MADIe Manager USB Screen



The **Flash Drive Connected** indicator (bottom right of the screen) shows when a flash drive is connected to the USB port of the host computer by turning gold (on). Otherwise, it is brown (off).

Flash Drive Files

This pane displays a list that shows the eight possible files in the **\Wohler** folder of the flash drive. If no **\Wohler** folder exists, the system will immediately create it when the flash drive is first connected. Clicking on any one of the files (or the empty file positions) selects it for other operations.

- **Read from Flash**: Clicking on the **Read from Flash** button loads the selected file into the program. This button is disabled if a valid

flash drive file is not selected. The system will only read the files from the **\Wohler** folder on the flash drive.

- **Rename**: To rename a configuration file, click on the filename you want to rename and then click **Rename**. When the dialog displays, rename the file and click **Save**.

- **Save to Flash**: Clicking the **Save to Flash** button saves all eight presets, the **Current** preset configuration, and the **Options** to the selected empty or existing file on the connected flash drive. If you want to save to an existing file, a dialog box opens to confirm that you really want to overwrite the file. If you want to save to an empty file, a dialog box opens so you can name the file. The saved file will automatically start with the same number (1 through 7) as the selected file. Files can only be saved to the **\Wohler** folder on the flash drive.

Programming Files

This pane relates to preparing a flash drive to be used to update the software in AMP1-MADIe units.

- **Check for Updates**: Clicking on this button checks the Wohler website for updated software, and if it exists, it downloads it.

- **Create Update on Flash Drive**: Whether a new update was available on the Wohler website or not, this button can be used to create a software update on the attached USB flash drive. After this operation is performed, AMP1-MADIe units will recognize that an update is available on the flash drive and will offer to update themselves from it.

  Note: Units with versions prior to 3.00 will not perform a software update from a USB stick. This must be done using the Ethernet port.

CHAPTER 4
Internal Menu System

Introduction

Overview

This chapter provides an in-depth description of all the features, specifications, and menus and all their respective options and functions.

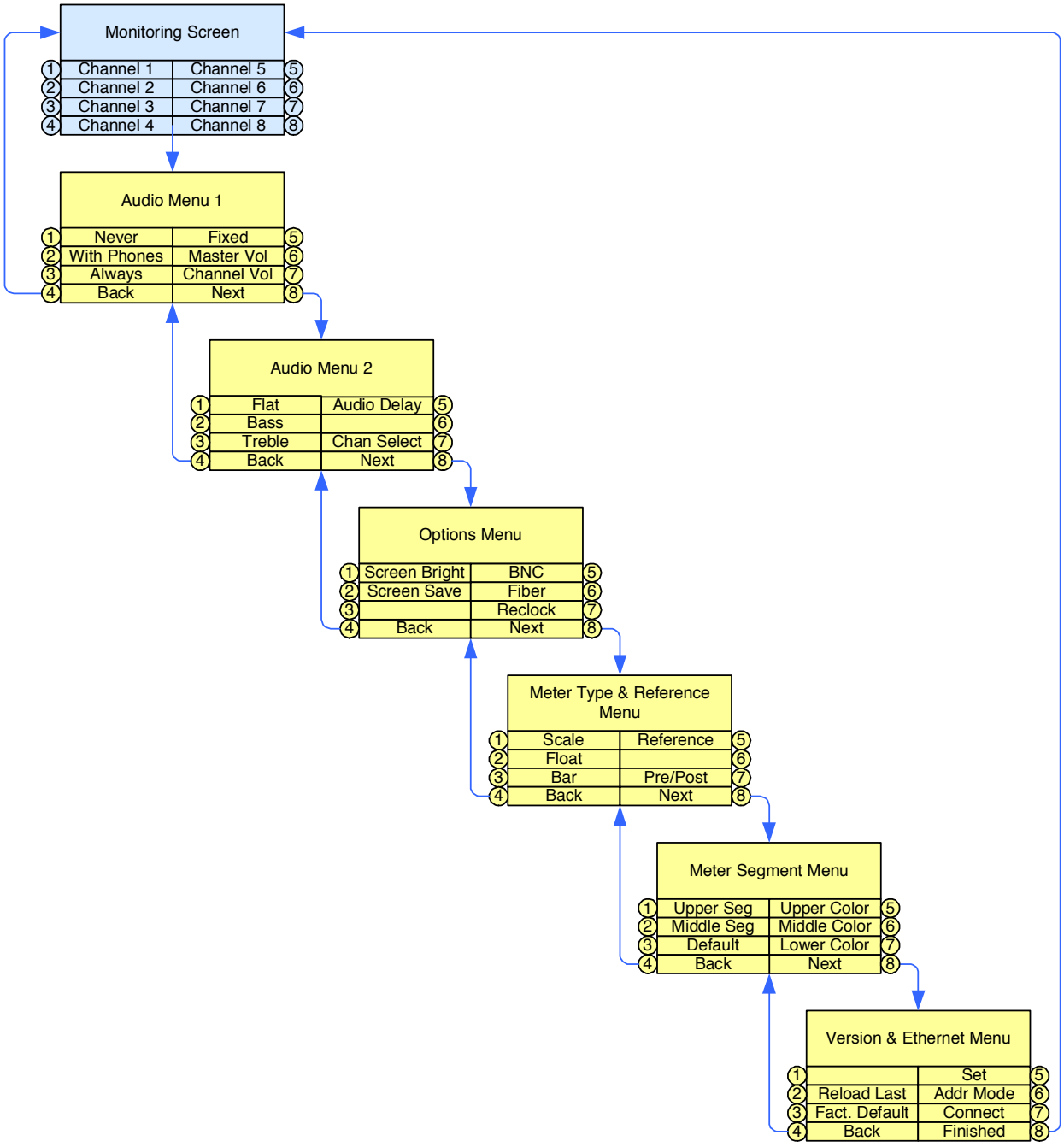
Important: The AMP1-MADI*e* local menus cannot be used at the same time that the PC setup software is connected. If this happens, the PC setup software will take precedence and display the words *Remote Access* notifying you about the PC connection. When the PC access is finished, this notification will disappear once again enabling local menu access.

Topics

Menu Navigation Overview

You can launch the menu system by pressing and holding the **Channel Volume** knob for three seconds. Navigate the menu tree with the **Back** and **Next** buttons at the bottom of each screen.

Figure 4–1 Menu Tree



- **Back**: Pressing this button closes this menu and opens the previous menu, one step up the menu tree.
- **Next**: Pressing this button closes this menu and opens the next menu, one step down the menu tree.
- Pressing a menu setting button will light the button name in yellow if it requires the use of the yellow **Channel Volume** control for its adjustment.

Audio Menu 1

This menu allows adjustment of various audio related settings. Buttons 1, 2, and 3 together form a **Speaker Mute** selector. The default **Speaker Mute** is **Mute with Headphone**. Buttons 5 and 6 together form an **Analog Output** selector. The default **Analog Output** is **Fixed Level, Mute Controlled**.

Figure 4–2 Audio Menu 1

- **Never Mute**: Pressing this button prevents the speakers from muting when headphones are plugged into the headphone jack.
- **Mute with Headphone**: Pressing this button mutes the speakers when headphones are plugged into the headphone jack. This is the default setting.
- **Always Mute:** Pressing this button keeps the speakers muted. This setting can be convenient to use when monitoring is always done through the analog outputs with external amplifiers and speakers.

- **Fixed**: Pressing this button prevents the **Master Volume** and **Channel Volume** controls from affecting the analog outputs. They will output all unmuted channels at a fixed line level.

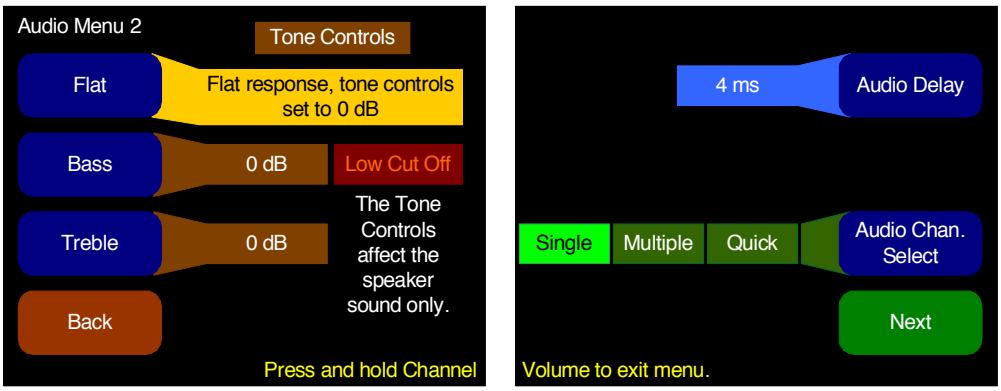
- **Master Volume**: Pressing this button enables the **Master Volume** and **Balance** controls to affect the analog outputs. This setting can be convenient to use when monitoring is always done through the analog outputs with external amplifiers and speakers.

  Note: Note, if the **Analog Output** is set to **Master Volume/ Balance Controlled** and the **Speaker Mute** is set to **Always**, then plugging in the headphones will cause the analog outputs to mute.

- **Channel Volume**: Pressing this button enables/disables the individual channel volume settings to affect the analog outputs.

Audio Menu 2

Figure 4–3 Audio Menu 2



Flat, **Bass**, and **Treble** together form a **Tone Control**. The bright gold color indicates the settings that are in effect.

Note: The **Tone Control** only affects audio to the speakers. The analog outputs and headphone output are not affected.

- **Flat**: Pressing this button sets the **Bass** and **Treble** to 0 dB, producing a flat response. However, the system retains the **Bass**, **Treble**, and **Low Cut** settings, so they can be quickly restored by pressing any of the three controls..

- **Bass**: Pressing this button and then turning the **Channel Volume** knob adjusts the bass response up or down in 2 dB steps to as low as -12 dB or as high as +12 dB. Pressing **Bass** a second time moves the highlight to the **Low Cut** setting. Pressing the **Channel Volume** knob turns low cut on or off. When it is turned on, an additional low-cut filter is engaged.

- **Treble**: Pressing this button and then turning the **Channel Volume** knob adjusts the treble response up or down in 2 dB steps to as low as -12 dB or as high as +12 dB.

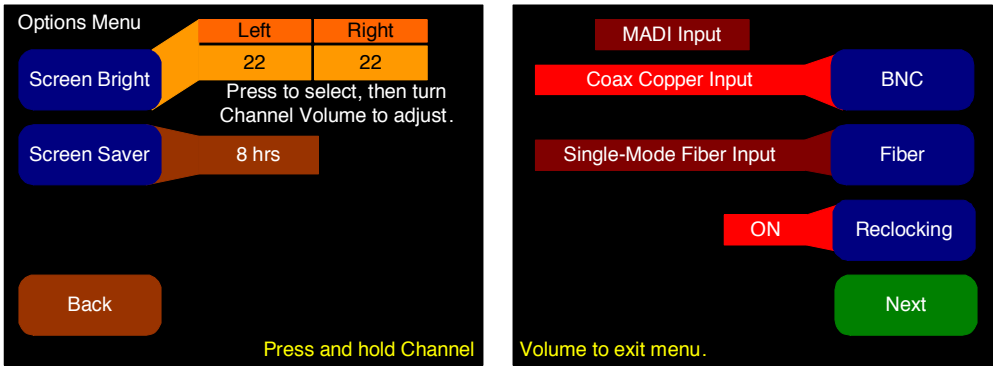
- **Audio Delay**: You can add up to 170 ms of delay to the speaker and analog outputs in one ms increments. Turn the knob clockwise to increase the delay, or counter-clockwise to decrease. When the value reaches zero, the screen will display **Off**.

- **Audio Channel Select**: When on the **Main Screen** you can choose to limit the selection of channels to be adjusted to either a single one or to multiple channels. Pressing this button alternates the choice between **Single**, **Multiple**, and **Quick**.

Options Menu

The **Options Menu** allows you to adjust the brightness of each screen independently, and to set the duration of inactivity before the screen saver activates. It also allows you to specify the selected input.

Figure 4–4 Options Menu



- **Screen Bright**: Press this button to toggle between the adjustment for the left screen and the right screen. After selecting a screen,

rotate the **Channel Volume** knob to adjust the screen brightness. Thirty-two adjustment steps are provided for each screen from very dim to bright to compensate for dimly or brightly lit rooms. The actual brightness of each screen will change as the control is turned. The default brightness for both screens is 22.

- **Screen Saver**: Pressing this button and then rotating the **Channel Volume** knob selects the screen saver time out. Select values from 5 minutes to 119 minutes (in 1-minute increments) and from 2 hours to 24 hours (in 1-hour increments). The default setting is 8 hours. If the AMP1-MADI*e* is in operation for the screen saver time out period and no front panel controls have been turned or pressed, the screens will dim by a certain amount. If double the screen saver time out period elapses without any front panel control activity, the screens will dim further. Operating any button or control will instantly brighten the screens.

- **BNC**: Pressing this button selects the BNC input as the MADI source. The system will reclock the signal and feed it to both the BNC and fiber outputs.

  Note: Operating the unit with lower brightness settings and smaller screen saver timeout values will prolong the life of the displays.

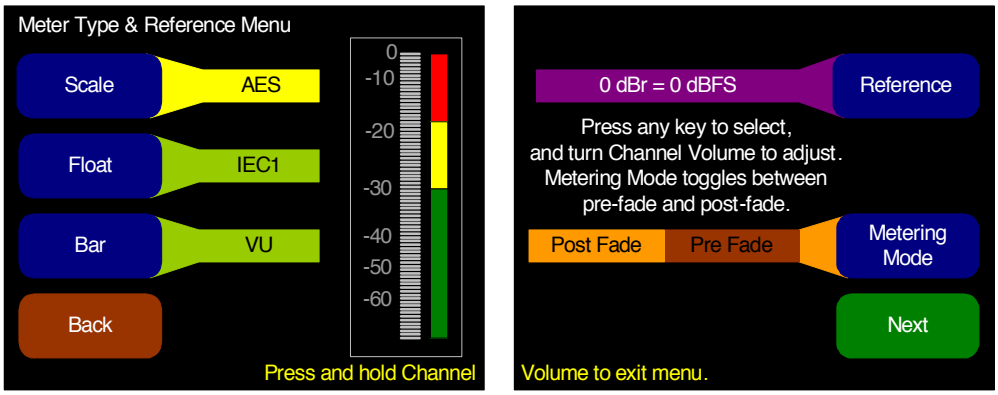
- **Fiber**: Pressing this button selects the fiber optical input as the MADI source. The system will reclock the signal and then feed it to both the optical output and to the BNC output.

- **Reclocking**: The reclock option can be used to extend the operation of the unit in cases where a long cable is used before the unit, or a large number units are attached in series before the unit. Pressing this button toggles between **On** and **Off**. The reclocking feature is turned off by default and allows you to specify whether the BNC or optical signals that pass through the AMP1-MADIe are to be regenerated (**Off**) or reclocked (**On**). If the source of the MADI signal is connected with a long cable or fiber, reclocking will improve the signal as it passes through. If short cables are used, regeneration only allows more units to be connected in series.

Meter Type and Reference Menu

The **Meter Type and Reference Menu** allows you to define the level meter scale, float, bar and reference.

Figure 4–5 Meter Type and Reference Menu



- **Scale**: Pressing this button and then rotating the **Channel Volume** knob steps through the scales for the level meters. Six selections are available as shown in Table 4–1 below.

Table 4–1 Meter Limits and References

Scale	Bottom Limit	Top Limit	Default Reference	Default Color Bounds		Default Ballistics	
				Lower	Upper	Float	Bar
AES	-72 dBFS	0.0 dBFS	0 dBFS = 0 dBFS	-30 dBFS	-20 dBFS	IEC Type I	VU
VU	-45 dBr	+3.5 dBr	-20 dBFS = 0 dBr	-3 dBr	0 dBr	—	VU
Extd VU	-56 dBr	+16.0 dBr	-20 dBFS = 0 dBr	-10 dBr	0 dBr	—	VU
BBC (EBU)	-13.25 dBr	+13.25 dBr	-18 dBFS = 0 dBr	0 dBr	8 dBr	—	IEC Type II
Nordic	-42 dBr	+12.5 dBr	-18 dBFS = 0 dBr	-10 dBr	0 dBr	—	IEC Type I
DIN	-53 dBr	+5.5 dBr	-15 dBFS = 0 dBr	-5 dBr	0 dBr	—	IEC Type I

- **Float**: Pressing this button and then rotating the **Channel Volume** knob adjusts the ballistics of the floating segment.

Table 4–2 Meter Timings

Ballistics	Rise	Fall	
		Level Change	Time
Average	Not Specified		
IEC Type I	5 ms to reach -2 dB of settled reading	-20 dB	1.7 sec.
IEC Type II	10 ms to reach -2 dB of settled reading	-24 dB	2.8 sec.
None	Bar or Floating Segment Not Displayed		

- **Bar**: Pressing this button and then rotating the **Channel Volume** knob steps through the available settings for the bar ballistics. Refer to Table 4–1 on page 49.

- **Reference**: Pressing this button and then rotating the **Channel Volume** knob adjusts the reference. Refer to Table 4–1 on page 49 for the reference standards for each scale.The reference is the relationship between the 0 dBr point of the scale and the digital input level in dBFS.

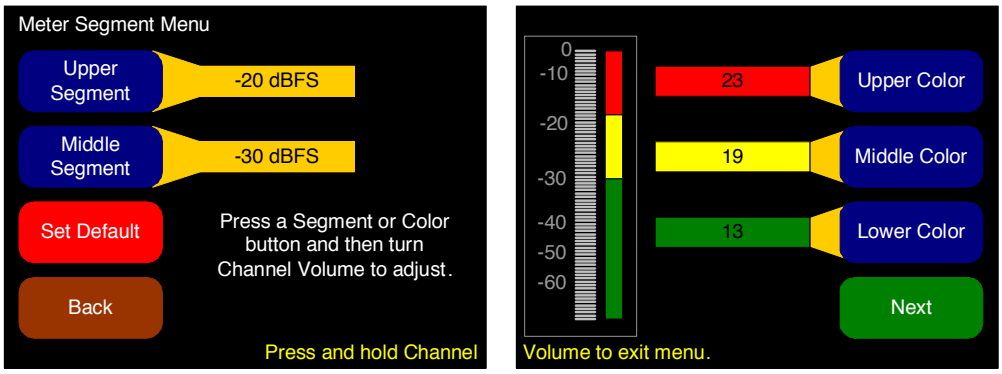
  Note: The AES scale has a fixed reference.

- **Metering Mode**: Pressing this button toggles between **Post Fade** and **Pre Fade** metering modes. The default **Post Fade** causes the meters to display the adjusted levels after **Channel Volume** adjustments. **Pre Fade** mode may be used to display the channel levels before any adjustments.

Meter Segment Menu

On the **Meter Segment Menu**, you can customize the look of your meters.

Figure 4–6 Meter Segment Menu



- **Upper Segment**: Pressing this button and then rotating the **Channel Volume** knob adjusts the division between the upper and middle segments. You can adjust the color boundary in one dBr increments, and it has the same range as the bottom and top limits of the meter.

- **Middle Segment**: Pressing this button and then rotating the **Channel Volume** knob adjusts the division between the middle and lower segments. You can adjust the color boundary in one dBr increments, and it has the same range as the bottom and top limits of the meter.

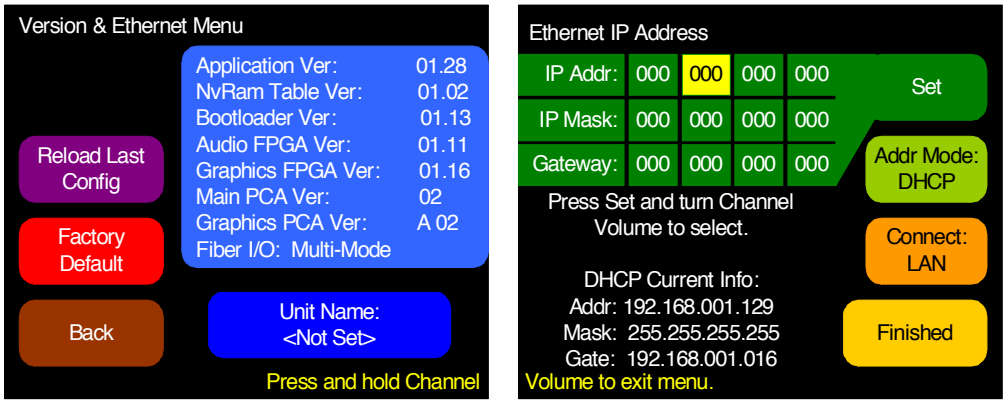
- **Default**: Pressing this button changes the settings on this menu and on the **Meter Type and Reference Menu** back to the factory settings for the chosen scale type.

- **Upper, Middle, and Lower Color**: Pressing any of these buttons and then rotating the **Channel Volume** knob cycles the upper, middle, or lower color of the displayed sample level meter color through a wide variety of colors.

Version and Ethernet Menu

This menu displays software and hardware versions, as well as Ethernet settings. By default, the DHCP setting is enabled and the IP Address and IP Mask settings are shown as 0.0.0.0. This means it will automatically attempt to get the needed IP Address, IP Mask, and Gateway settings from the network.

Figure 4–7 Version and Ethernet Menu



- **Reload Last Config**: Pressing this button returns the system to the last configuration that was loaded either via the Ethernet or from a USB flash drive.

- **Factory Default**: Pressing this button opens a cautionary window to verify that you really want to restore the AMP1-MADI*e* setup to the factory default. If you press the **Factory Default** button again, the action proceeds and the unit will restart. Otherwise, after five seconds, the factory default request is cancelled. You can also cancel the factory default request by pressing any other button.

  Note: The **Factory Default** action restores the entire unit to its factory condition. The unit name is deleted, the **IP Address** is set to DHCP, and the **Connect:** setting is reset to LAN.

- **Set IP Address, IP Mask, or Gateway**: Pressing this button highlights the first of the four octets, turning the **Channel Volume** knob clockwise increases the octet; turning it counterclockwise reduces the octet. Pressing either the **Set** or the **Channel Volume** knob advances the highlight to the next octet. Advancing beyond the last octet returns the highlight to the first octet.

Important: If the IP information has been changed, the unit will have to restart. A warning diamond will display, and you will need to confirm or cancel before proceeding.

When using static IP settings, be sure to check the settings with your network administrator. Incorrect settings may cause intermittent problems with the network that may be very difficult to solve.

If the information in the IP fields is not correct, the changes made in the IP fields will be ignored. The IP address is valid if the screen reads "DHCP Mode Enabled" or "Static IP Mode Enabled."

- **Addr Mode**: Pressing this button selects between **DHCP** and **Static** address modes.

- **Connect LAN**: Pressing this button selects between a **LAN** connection and a **Direct** connection.

Important: This enables a single-address DHCP server. Thus, when a computer is connected directly, both the unit and the host computer will be assigned a DHCP address, and they will be able to communicate. However, this setting will cause problems with some LANs. If this unit will be connected to a LAN, leave this setting in the **Connect: LAN** setting which disables the internal DHCP server.

- **Finished**: Pressing this button closes this menu and returns to the **Monitoring Screen**.

CHAPTER 5
Features and Specifications

Introduction

Overview

This chapter lists the features and specifications.

Topics

Features

- Totally digital system architecture with high fidelity Class D amplifiers
- Coax MADI input and output with passive power fail bypass
- Optical MADI I/O
- Regenerated or reclocked BNC coax and Optical MADI outputs
- Models available with either multi-mode or single-mode optical MADI inputs/outputs
- Automatic format conversion from coax to optical or optical to coax. Reclocked output latency: 10 ns
- Compatibility with the Evertz MAGNUM Unified Facility Control for setting up channel names and preset changes
- Stereo or mono monitoring
- User selectable meter scale, color thresholds, and ballistics
- Quick selection of any channels to sum and monitor
- Eight configuration presets
- Balanced stereo analog outputs on male XLR: optionally controlled by **Master Volume**/**Balance** or individual channel volume controls or fixed line output
- Digital **Bass** and **Treble** tone controls for the speaker audio
- Front panel ¼" headphone jack
- Optional speaker mute on insertion of headphone jack
- High resolution metering with 170 segments displayed
- Level Meter Representation: Simultaneous average and PPM
- Brightness control for each screen, 32 levels
- Permanent internal storage for all options and settings

- Easy update and management software
- Shallow chassis depth (4.25″)
- IEC power input, 100 – 240 VAC +/- 10%, 50/60 Hz

Specifications

Table 5–1 Specifications

Specification	Values/Domains
Power requirements	100 V to 240 V AC ± 10%, 50/60Hz
Power consumption	60 Watts
Dimensions (H x W x D)	1.75″ x 19″ x 4.25″ (44mm x 483mm x 107mm)
Weight	5 lbs. (2.3 kg)
Space Required	1 RU in a standard 19″ rack
Supplied Accessories	AC Power Cord (North America)
Display Type	TFT LCD
Number of Displays	2
Screen Size	2.4″ diagonal per screen
Screen Resolution	320 x 240
Sample Rate	48kHz
De-Multiplexing	8 channels from a 56- or 64-channel stream
Inputs	• Multi-Mode Fiber: 1 MADI Optical SC-Connector, 1300nm or Single-Mode Fiber: 1 MADI Optical SC Connector, 1310nm • 1 MADI BNC

Table 5–1 Specifications (Continued)

Specification	Values/Domains
Outputs	• Multi-Mode Fiber: 1 MADI Optical SC-Connector, 1300nm or Single-Mode Fiber: 1 MADI Optical SC Connector, 1310nm • 1 reclocked MADI BNC • 1 headphone (1/4" jack) • 3 balanced analog audio outputs (left, mono mix, and right) (XLR-M)
Cable/Fiber Length (max)	COAX (such as Belden 1694A): 300 m
	Multi-mode fiber: 2 km
	Single-mode fiber: 10 km
Level Meters	170 segments
Analog Output Frequency Response	40 Hz to 20 kHz (± 1dB)
Analog Output Distortion	<0.01% THD+N
Analog Output Dynamic Range	> 100 dB
Analog Output Reference Level	-20 dBFS = +4 ± 1.0 dBu
Speaker Bass and Treble Tone Control Range	± 12 dB in 2 dB steps
MADI to Analog Output Delay	1 ms to 170 ms adjustable
MADI Input to MADI Output Latency	10ns
Level Meter Scales	Selectable: • AES, • DIN, • BBC, • EBU, • Std VU, • Ext VU, • Nordic

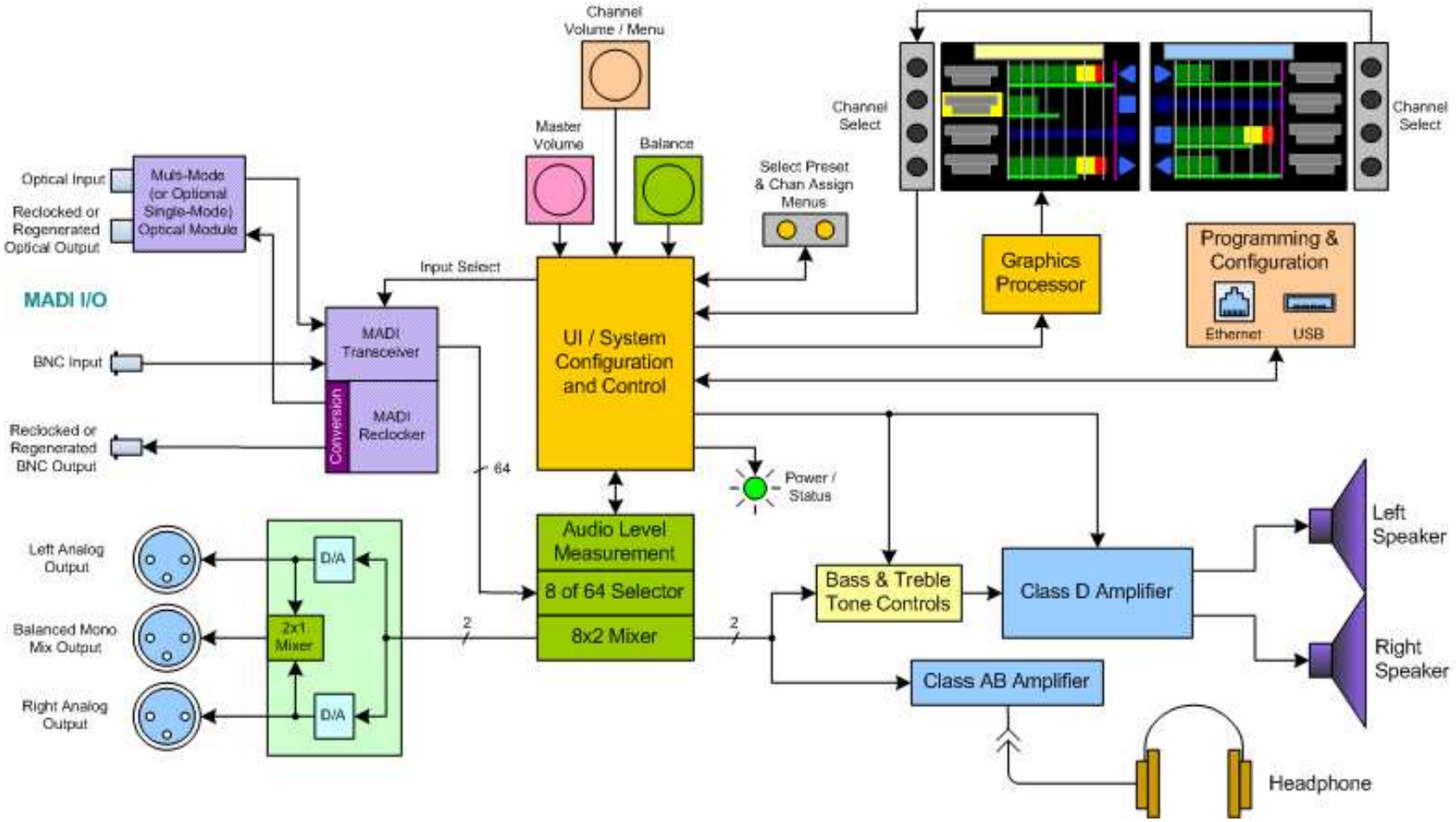
Table 5–1 Specifications (Continued)

Specification	Values/Domains
Level Meter Characteristics	Selectable: • Meter thresholds, • Reference, • Segment Colors, and • Ballistics
Peak Acoustic Output	90dB SPL (@ 2 feet)
Power Output RMS	6 Watts RMS, 12 Watts peak (each side)
Acoustic Frequency Response	150 Hz to 16 kHz (± 5 dB)

Technical Functional Overview

Figure 5–1 on page 58 illustrates the overall functionality of the AMP1-MADI*e* monitor.

Figure 5–1 AMP1-MADIe Block Diagram



APPENDIX A
Connecting the AMP1-MADIe to a LAN

Introduction

Overview

This chapter describes how to connect your PC to your AMP1-MADIe through a local area network (LAN) and to configure the monitor using the graphical user interface (GUI) on a PC.

Topics

Requirements

- You must have a PC or laptop that:
  - Is running Windows XP or Windows 7,
  - Is connected to a LAN, and
  - Has access to the Internet.
- An IP address from your network administrator (not required if your network uses DHCP)
- An IP mask from your network administrator (not required if your network uses DHCP)
- A standard Ethernet cable to connect the AMP1-MADI*e* to your LAN
- Your product's serial number (if you have not already created a user ID and password for the Wohler web site)

Downloading the Installation File

You will need to download the AMP1-MADI*e* Manager from the Wohler web site.

1. Power up your PC.
2. Launch the web browser and navigate to the Wohler web site: www.wohler.com.

Decision Point:

If you already have a member user ID and password for the Wohler web site, then log in by clicking on the Member Sign In link at the top right hand corner of the home page and sign in.

Otherwise, if you do *not* already have a member user ID and password then you must click Register as New User at the top right hand corner of the home page, and enter the requested data. Remember to log in after you have created your account.

3. Once you have successfully logged into the Wohler web site, click **Products** from the home page menu bar.

   A. Move the cursor down the menu to highlight **Audio.**

   B. Then move the cursor to the sub-menu to highlight **MADI**.

   C. Finally, move the cursor to the right to click on **AMP1-MADIe**. When the monitor's web page displays, click on the **Downloads** tab in the middle of the page.

4. Download the AMP1-MADI*e* configuration Manager.

   A. Double-click **AMP1-MADIe Manager** to begin the download.

   B. When the **File Download** dialog appears, click **Save**.

   C. When the **Save As** dialog appears, save the file to the desktop.

5. Double-click the **AMP1-MADIe Manager** on the desktop to display the contents.

6. Extract the folder it contains to your desktop.

Installing the AMP1-MADI*e* Manager

Important: You must use an extracted setup file. Running the installer from within the .zip file does not work.

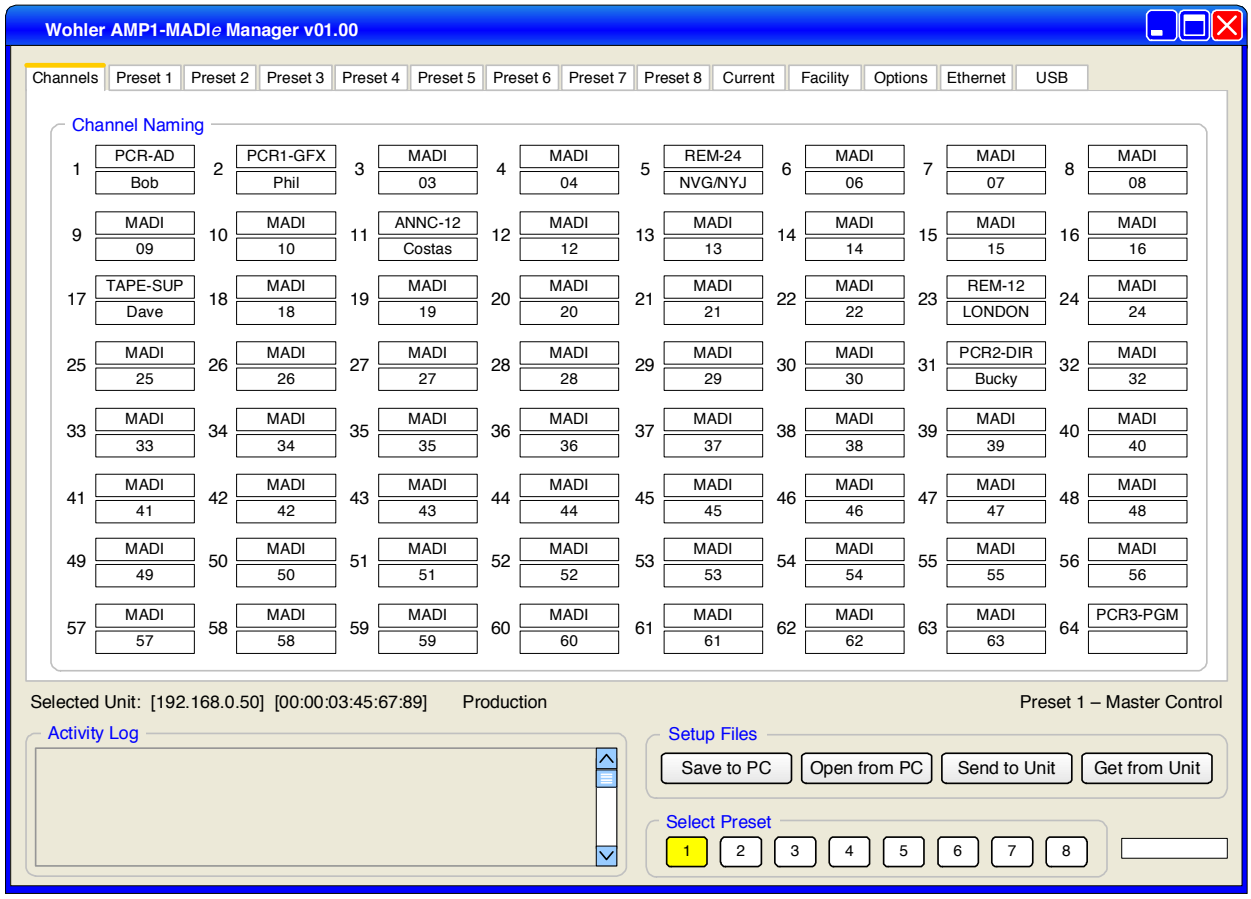
Locate and double-click the **Setup.exe** file in the folder that you extracted and follow the steps through the installation.

When the installation successfully completes, you may delete both the zip file and the folder you extracted from it. They will no longer be needed.

Launching the AMP1-MADIe Manager

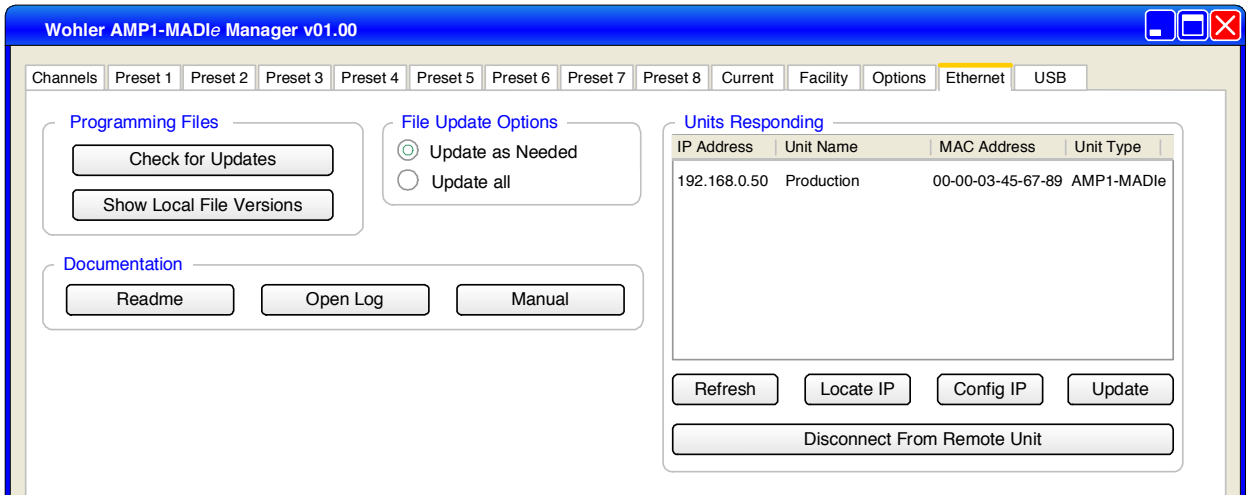
1. Launch the **AMP1-MADIe Manager** from the Desktop. When the **AMP1-MADIe Manager** appears, it will display the **Channels** tab by default.

Figure A–1 AMP1-MADIe Manager Channels Tab



2. Click the **Ethernet** tab (shown in Figure A–2 on page 63).

Figure A–2 AMP1-MADIe Manager Ethernet Tab



If the unit does not appear, click the **Refresh** button.

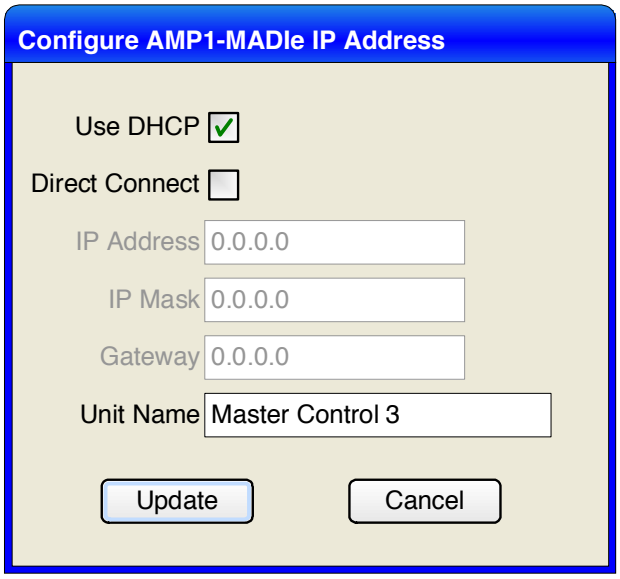
Important: If your network is configured for DHCP, and your screen displays your AMP1-MADI*e* in the **Units Responding** list, you have successfully completed your network connection.

Adding Your AMP1-MADIe to Your Network

Note: Usually, you will set up the IP address of your AMP1-MADI*e* using the **Versions and Ethernet** menu on the unit. This section is provided when only remote access is available.

1. If you have not already done so, connect an Ethernet cable from the Ethernet port of the AMP1-MADI*e* (labeled **Ethernet**) to the network.
2. Click **Refresh**.
3. Click on the unit you wish to configure in the **Units Responding** list.
4. Click **Config IP**.

Figure A–3 Configure AMP1-MADIe IP Address Dialog



5. When the **Configure AMP1-MADIe IP Address** dialog displays, do the following:

   A. Click the **Use DHCP** check box to select DHCP.

Important: If your network uses DHCP, then skip Steps B and C and continue on to Step D below. Use this option if your local area network automatically provides the IP information for the unit when it is connected.

Be sure to check with your network administrator to obtain valid static settings for this device. Failure to do so may cause intermittent problems to appear on the entire network.

   B. If your network does not use DHCP, enter the **Unit IP Address**.

   C. If your network does not use DHCP, enter the **Unit IP Mask** and **Gateway**.

   D. Type in up to 16 characters to give this unit an unique, human-readable **Unit Name**. This will prove helpful if you have more than one AMP1-MADIe.

Important: The name you select for this AMP1-MADI*e* should denote its position or function within your facility so that it can be easily recognized later.

E. Click **OK** to close the dialog.

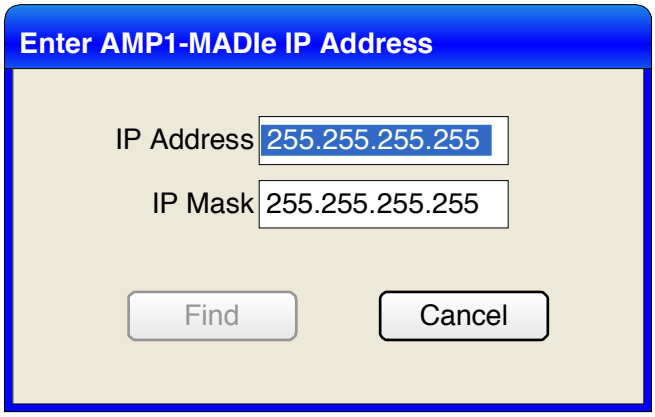
Note: To change the IP settings, the unit must restart. The Windows application will automatically restart the unit, and display the unit with its new address after it has rebooted. This takes approximately 10 seconds.

6. Click **Refresh**. After the system polls the network, all the AMP1-MADI*e*s on the network will display in the **Units Responding** box.

7. In the event that the AMP1-MADI*e* you're looking for does not appear in the **AMP1-MADIe Units** box, click **Locate IP** to display the following dialog so you can enter the IP address of the AMP1-MADI*e* unit you're looking for.

Note: This could happen over a WAN where VPN access is used since most WAN configurations do not allow searching for units with the methods used by this equipment. This is also necessary when the Windows host and the unit are on different subnets of the network.

Figure A–4 Enter AMP1-MADIe IP Address Dialog



A. Enter the **IP Address** of the AMP1-MADI*e* that you're trying to locate on the network.

B. Enter the **IP Mask**.

C. Click **Find**.

Important: You must see your AMP1-MADI*e* listed in the **AMP1-MADIe Units** area. If not, double-check your connections. If the monitor still does not display, call Wohler's technical assistance. (See Wohler's contact into on page ii.)

8. If the monitor does not automatically show up in the **AMP1-MADIe Units** area, click the **Refresh** button.

Disconnecting From an AMP1-MADI*e*

To disconnect from an AMP1-MADIe, you can either select a different unit, or click **Disconnect from Remote Unit**.

APPENDIX B
Software Upgrades

Introduction

Overview

This chapter describes how to download software upgrades to your PC and then transfer and install them to your AMP1-MADI*e*.

Important: If you have not yet installed the AMP1-MADI*e* Manager setup software into your PC and connected it to the AMP1-MADI*e*, you **must** complete all the steps in Appendix A before continuing.

The two software upgrade methods include:

1. Using a USB flash drive.
2. Using the AMP1-MADIe Manager over Ethernet.

Topics

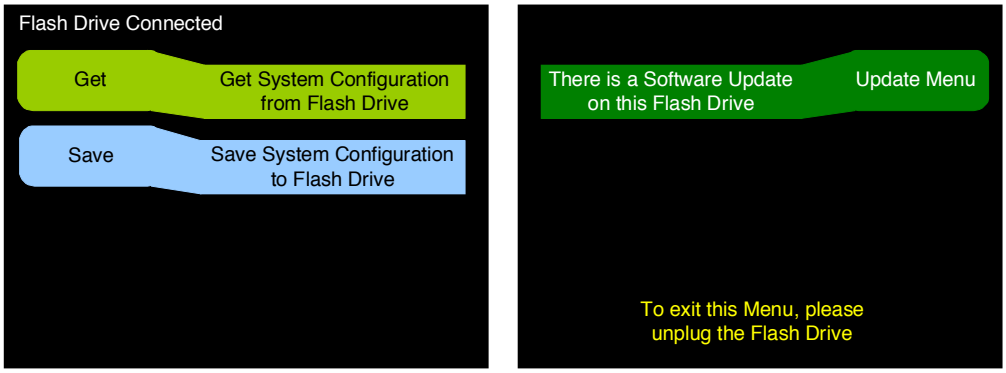
Upgrading the Software Using a USB Flash Drive

Important: If you have not already done so, place a software update onto the flash drive using the instructions in Programming Files on page 42.

USB software updates can only be performed if the unit has firmware version 3.00 or later. Earlier versions must be updated using the Ethernet port.

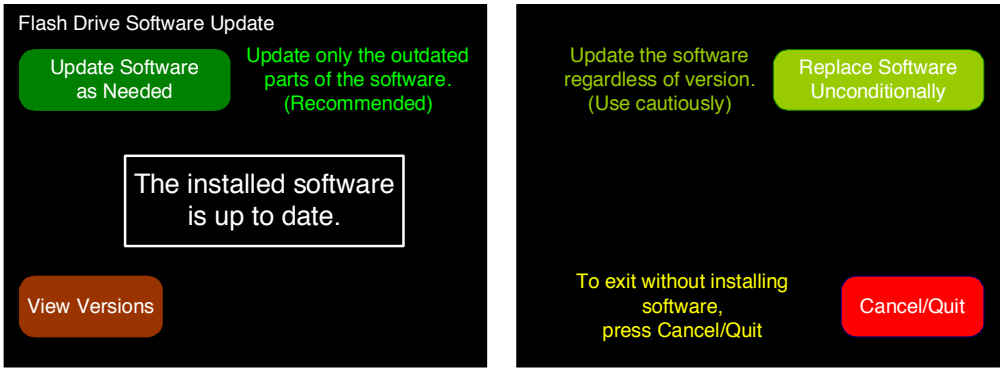
If a product software upgrade appears on the flash drive after insertion, the **Flash Drive Connected** screen displays as shown in Figure B–1 below.

Figure B–1 Flash Drive Connected Screen



1. Press **Update Menu** to display the **Flash Drive Software Update** menu in Figure B–2 below.

Figure B–2 Flash Drive Software Update

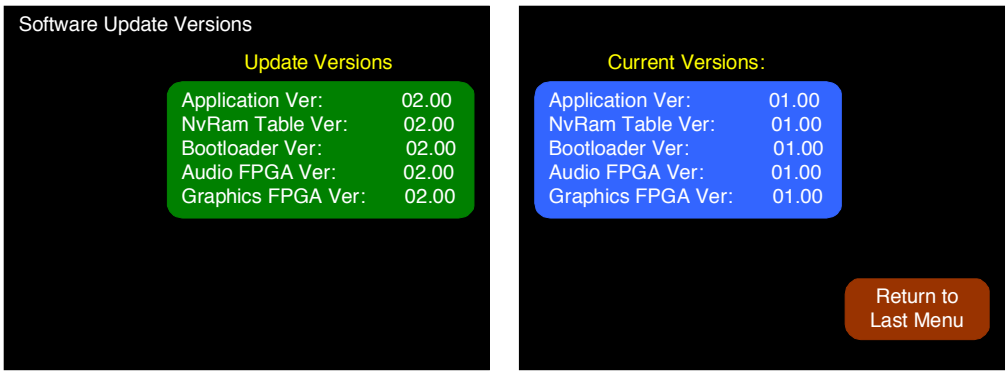


Note: In Figure B–2, the software version is up to date and no update is needed.

(Optional) Before updating the software in the AMP1-MADIe, you may want to compare the versions already installed versus the new version in the software update. Pressing the **View Versions** button displays the **Software Update Versions** screen shown in Figure B–3 below.

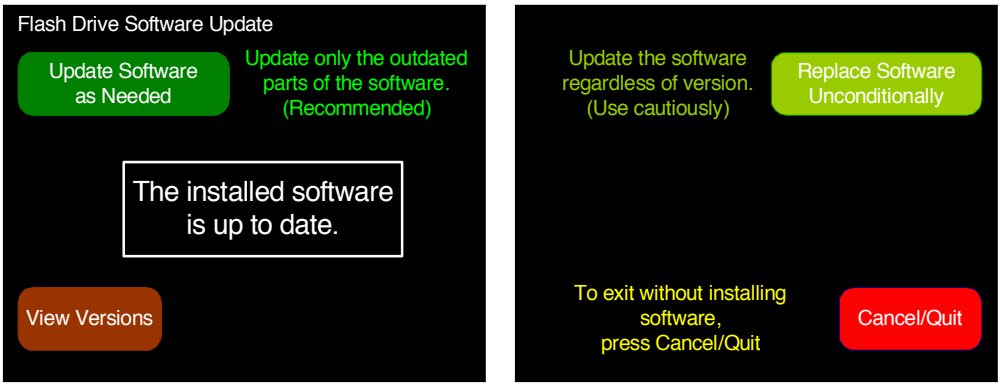
To abort the process, press the **Cancel/Quit** button to cancel the update request and return to the **Flash Drive Connected** menu instead.

Figure B–3 View Versions Screen



2. From the **Software Update Versions** menu, press **Return to Last Menu** to return to the Flash Drive Software menu shown in Figure B–4 below.

Figure B–4 Flash Drive Software Update



Note: In Figure B–2, the software version is up to date and no update is needed.

3. If the screen does *not* indicate that the software is up to date, you can select one of two update options:

A. Press the **Update Software as Needed** button to install only newer software versions contained in the flash drive into the AMP1-MADIe. The next screen to appear will describe what to expect in the installation process.

B. Alternatively, you can press the **Replace Software Unconditionally** button to install the software contained in the flash drive into the AMP1-MADIe, even if it the same version already is installed and even if the flash drive version is a lower version than what is already installed. The next screen to appear will describe what to expect in the installation process.

After you have selected a software installation option, the system will display the **Software Update** screen shown in Figure B–5 below.

Figure B–5 The Software Update Screen

Pressing **Start the Update** button will start the installation process, which will automatically continue until its conclusion. Instructions are provided on this screen to explain the process. When the software is finished installing, the AMP1-MADIe will restart and the **Main Screen** will display.

Alternatively, you can press the **Cancel/Quit** button to return to the **Flash Drive Software Update** menu and not perform the software update.

Important: This concludes the AMP1-MADI*e* software upgrade procedure.

Upgrading the AMP1-MADIe Over Ethernet

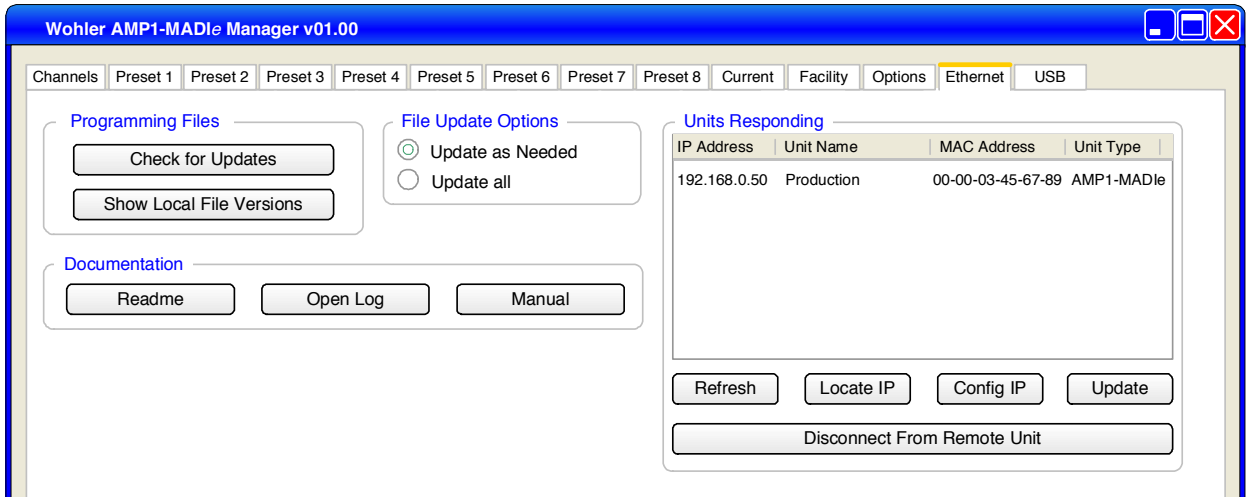
Checking for Updates

Before establishing the connection to the AMP1-MADI*e*, you should check to see if any software updates are currently available.

1. Launch the **AMP1-MADIe Manager** from your PC's desktop.

2. Click the **Ethernet** tab.

Figure B–6 AMP1-MADIe Manager SDI Ethernet Screen

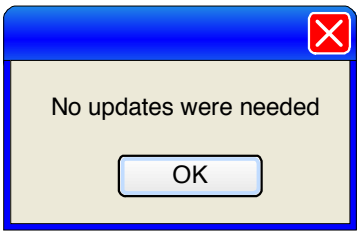


3. Click **Show Local File Versions** to display the versions of the programming files on your hard drive.

4. Click **Check for Updates**. At this point, the system will respond with one of two dialogs:

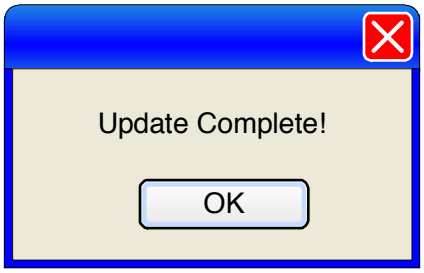
   A. **No New Updates**: In the event that no new updates are available, the system will display the dialog shown in Figure B–7 below.

Figure B–7 No Updates Dialog



B. In the event the system discovers updates to the AMP1-MADI*e* firmware stored on your hard drive, the system will update the unit and display the dialog shown in Figure B–8 below.

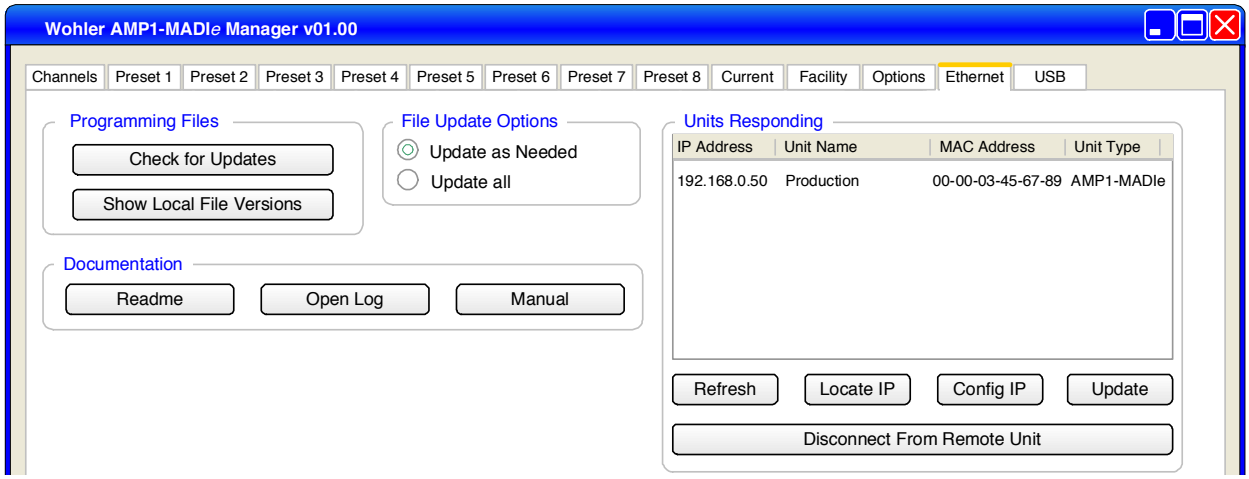
Figure B–8 FTP Success Dialog



Note: In the event the system informs you that an updated version of the AMP1-MADIe Manager is available, you must go to the Wohler web site and download the application. Refer to Downloading the Installation File on page 60.

Performing the Upgrade

Figure B–9 AMP1-MADIe Manager SDI Ethernet Screen



1. To update the AMP1-MADI*e* of your choice, click the one you want to update from the **Units Responding** area.

2. Click **Update.**

WARNING! Do not interrupt the process of automatically installing and verifying the software.

Note: The AMP1-MADI*e* will discontinue its normal operation while the software update is taking place. Do not interrupt the process of automatically installing and verifying the software. This process will take several minutes after which the AMP1-MADI*e* will restart.

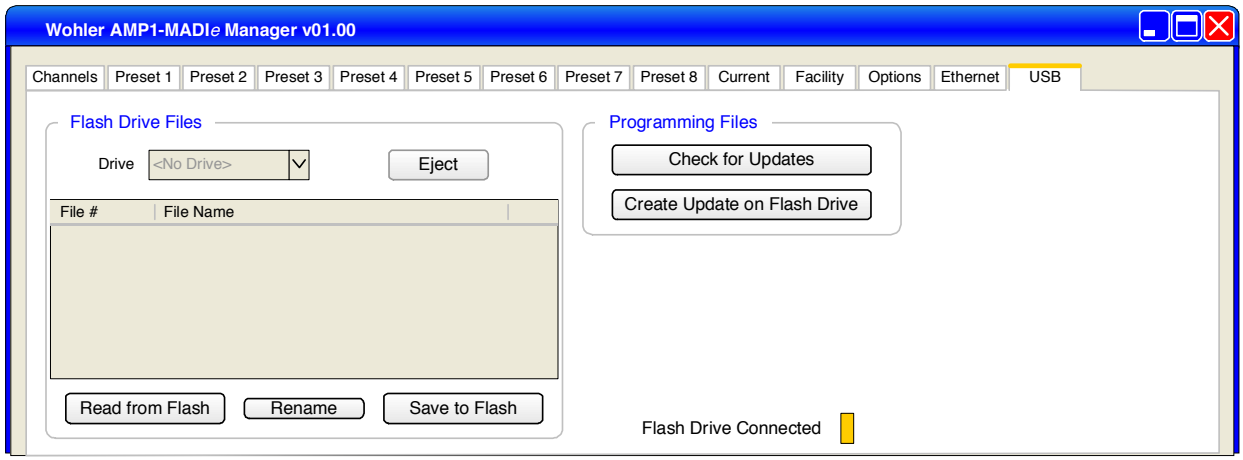
Important: This concludes the AMP1-MADI*e* software upgrade procedure.

Upgrading the AMP1-MADIe via a Direct Connection

A direct connection should only be used when a LAN (local area network) is not available or is not connected to the unit. A direct connection to any unit can be tricky if you're not familiar with setting static IP addresses. Fortunately, this unit has a DHCP server embedded in it, which will make a direct connection much easier. All of these instructions may not be needed in your particular situation, but following them ensures success.

1. Ensure the computer has the latest MADIe manager installed by opening the application and choosing **Check for Updates** shown in Figure B–10 below. In some cases, you may need to download a new manager from www.wohler.com.

Figure B–10 USB Tab



2. Disconnect the computer from any LAN.

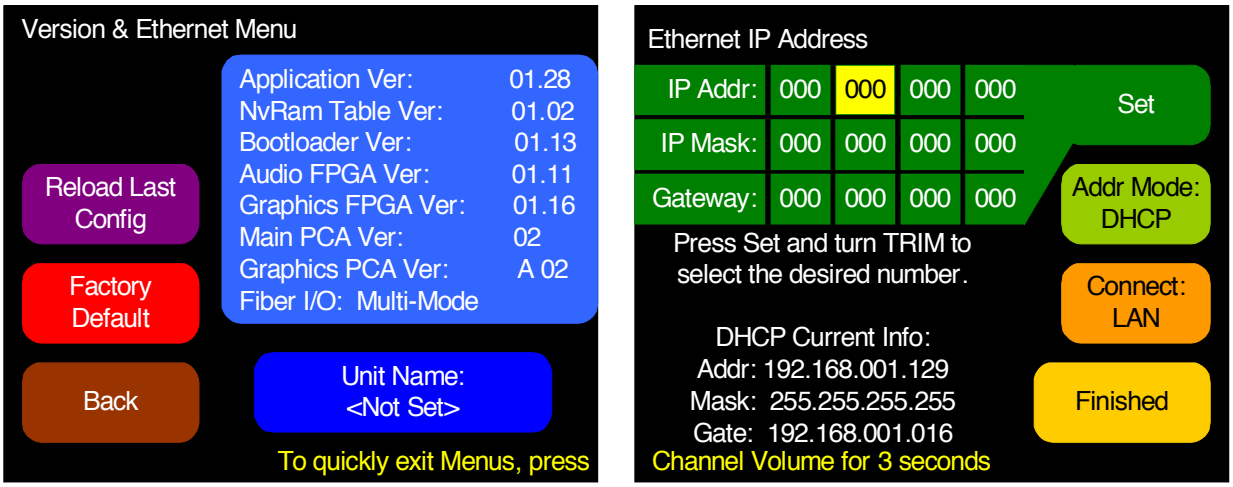
3. Make sure the unit is NOT connected to a LAN (Local Area Network). If it is, disconnect it.

4. Connect the unit to the host computer through either a standard network "patch" cable or "crossover" cable. The unit will recognize which is being used automatically, and act accordingly.

5. Turn the unit on, and set the unit for direct mode and DHCP. This can be done in the **Version and Ethernet Menu**, **Connect: Direct**.

   Note: You might want to write down the values for the **IP Address**, **IP Mask**, and **Gateway** so you can reset them later.

Figure B–11 Version and Ethernet Menu



6. Press **Finished**. The unit may restart if it was not previously set to direct mode.

7. On your host computer, close any running applications, especially those using the internet or maintaining a VPN (virtual private networking) connection.

8. If your host computer has multiple network interfaces (such as wireless and wired Ethernet), disable the ports you will not be using (especially wireless port(s)).

9. Restart your computer.

10. Start the MADIe Manager, and complete any desired operations.

11. When finished, disconnect the computer from the unit.

12. Be sure to disable the **Direct Mode** on the unit, and return to the previous Ethernet settings if connecting to a LAN.

13. Enable any network interfaces on the computer that were disabled and restart the computer.

Of course, if you are familiar with setting compatible static IP addresses and subnets in both your host computer and the MADIe, that option is open to you as well, and again, you can use either an Ethernet patch cable or a crossover cable.

Important: This concludes the AMP1-MADI*e* direct connection procedure.