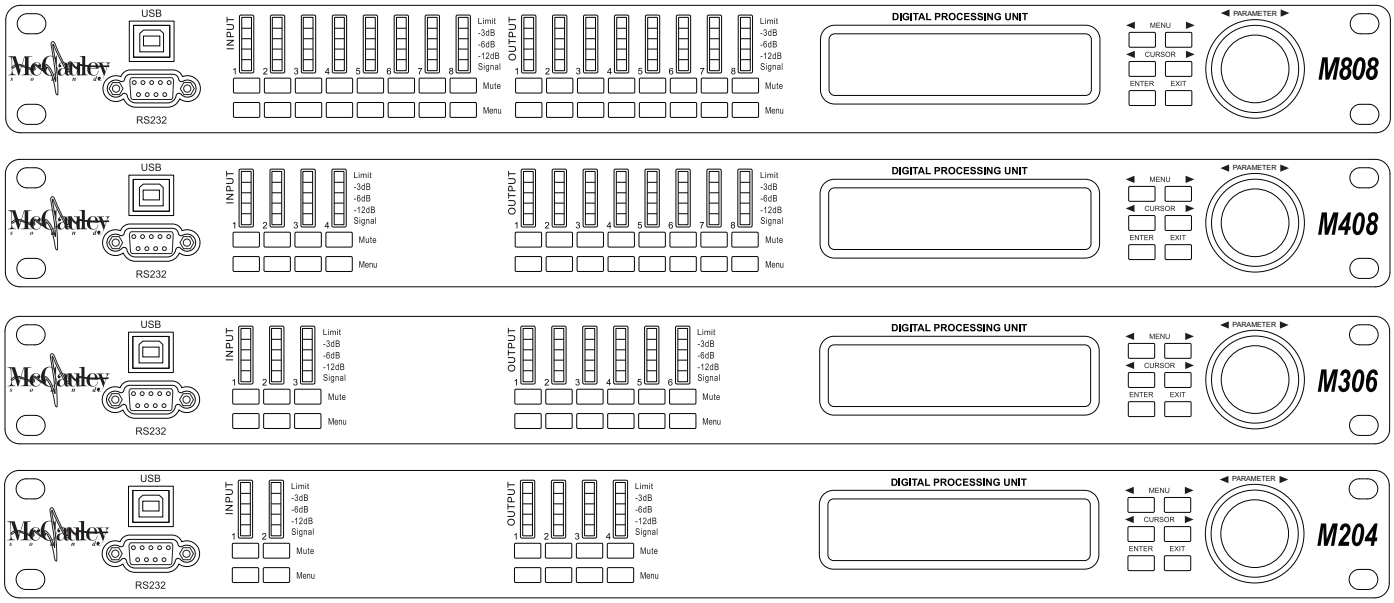
McCauley sound



M Series Digital Processing Unit

Operation Manual

McCauley sound

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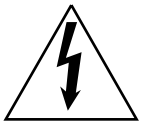
http://www.mccauleysound.com
http://www.linearray.com



CAUTION

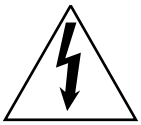
RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols



The lightning flash with arrowhead symbol 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.

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 product.

SAFETY INSTRUCTIONS

READ THOROUGHLY BEFORE PROCEEDING

Read These Instructions
All safety and operating instructions should be read before the DPU is operated.

Keep These Instructions
The safety and operating instructions should be retained for future reference.

Heed All Warnings
All warnings on the product and in the operating instructions should be adhered to.

Do Not Use This Apparatus Near Water
The risk of electrical shock is greatly increased when operated in a wet environment.

Clean Only With Dry Cloth
Unplug the DPU from the wall outlet before cleaning using a damp cloth. Do not use liquid or aerosol cleaners.

Do Not Attempt Self-Repair
Contact McCauley Sound Inc. when servicing is required.

Do Not Defeat the Grounding Plug
If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Do Not Compromise the Power Cord
Protect the power cord from being walked on or pinched particularly at plugs, and the point where they exit from the DPU.

Do Not Use Unsupported Components
Only use attachments and accessories provided by McCauley Sound Inc.

Do Not Mount In Unstable Apparatus
If mounted improperly the DPU may fall, causing serious bodily harm and serious hardware damage.

Do Not Block Any Ventilation Openings
Slots and openings in the DPU side are provided for ventilation, to ensure reliable operation and to protect from overheating. These openings must not be blocked or covered.

Keep this manual in a safe and accessible place for future reference.

CONTENTS

INTRODUCTION

The McCauley M Series line of Digital Processing Units have been engineered to meet the needs and expectations of the most demanding live sound and installation environments. With a sleek and space saving design, intuitive front panel, and precise software control, the M Series is well equipped to provide the quality and performance you have come to expect from McCauley Sound.

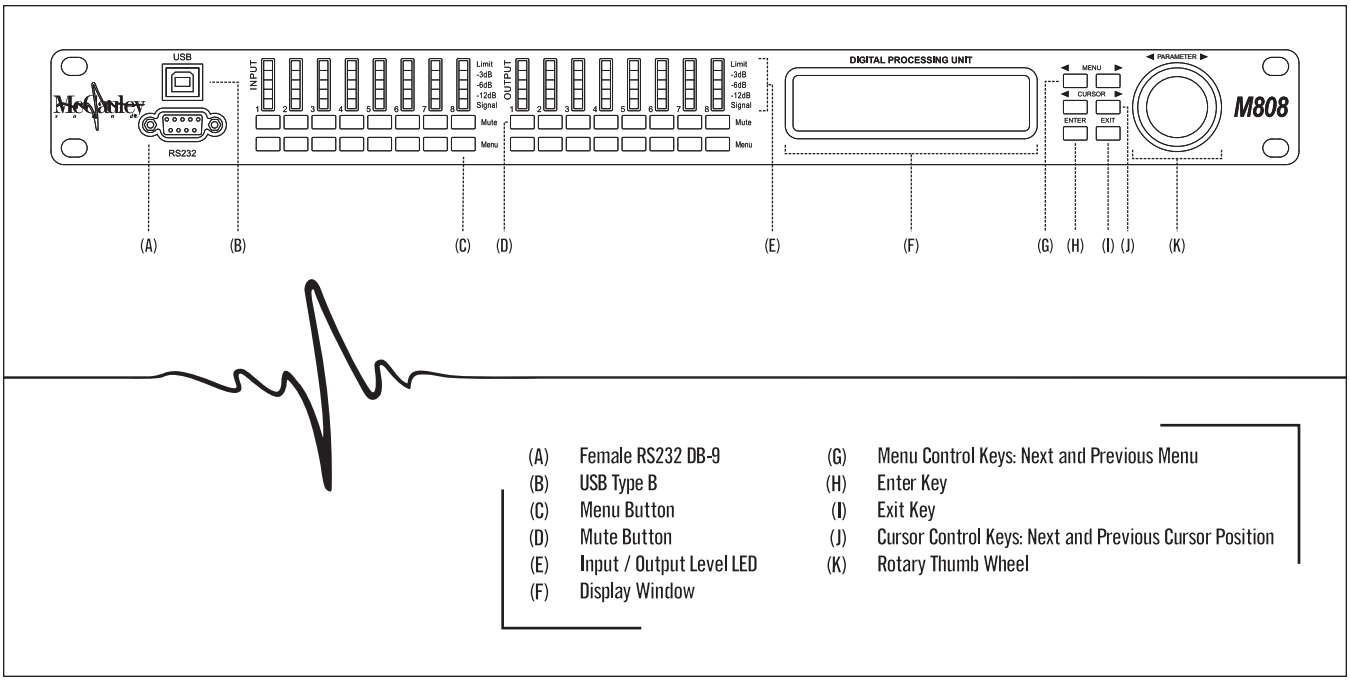
Features

- □ 400 MHz Analog Devices SHARC™ 21369 DSP
- □ Extended 40-bit Arithmetic for All Signal Operations
- □ Up to 8 Inputs And 8 Outputs With Configurable Routing and Mixing Capability
- □ 64-bit Internal Program and Data Memory Bus
- □ Dual Address Generators and Zero-Overhead DMA
- □ 96 kHz Sampling Rate
- □ 24-bit Low Noise Analog to Digital and Digital to Analog Converters
- □ 1 Hz Frequency Resolution
- □ 8 Parametric Equalizers on Each Input and Each Output
- □ 31 Band Graphic Equalizer on Each Input
- □ Up to 48 dB/Octave IIR Crossover for Each Input and Output
- □ Up to 1200 Tap FIR Filters for Each Output
- □ Upgradable Firmware Through PC Connection
- □ Storage for Up to 30 System Presets
- □ Each System Function Individually Lockable for Security
- □ XLR or EUROCON Analog Inputs and Outputs
- □ Serial, USB, and Ethernet for PC Control
- □ 1 Sample 0.011ms Delay Capability Up to 650ms on Both Input and Output

Contents of Kit

- □ 1 Digital Processing Unit
- □ 1 IEC 60320 C13 Power Cord
- □ User Manual

FRONT PANEL FEATURES



(A) Female RS232 DB-9
(B) USB Type B
(C) Menu Button
(D) Mute Button
(E) Input / Output Level LED
(F) Display Window
(G) Menu Control Keys: Next and Previous Menu
(H) Enter Key
(I) Exit Key
(J) Cursor Control Keys: Next and Previous Cursor Position
(K) Rotary Thumb Wheel

Female RS232 DB-9 Connection

For serial communication, a standard male to female RS232 cable with DB-9 connectors is required for connecting the DPU to a host PC.

USB Connection

The DPU features an internal USB to serial adapter that requires a USB cable for connection to the host PC. USB drivers are included with the McCauley DSP console installation: the drivers can be found under the installation directory.

Mute Button

Input and output channels can be muted and un-muted by using the mute button located beneath each channel's output level LED. When a channel is muted the button will illuminate red.

Menu Button

Input and output channels can be selected by using the menu button located beneath each mute button. When a channel is selected the button will illuminate green. While selected you are able to modify various parameters through the display window.

Linking multiple channels together is accomplished by pressing and holding the menu button for the first channel. While still holding down the first button, select the other channels. This eases programming for the same parameters across multiple channels. Multiple inputs can be linked together and multiple outputs can be linked together but inputs and outputs are linked separately.

Output Level LED

Each input and output has a five segment LED for audio level display. The meter scale is factory set so that 0 on the meter is 0dBu (0.775Vrms) and ranges from -20 through clipping.

Display Window

A 4x26 character LCD shows all of the necessary information for controlling the unit during operation.

Rotary Thumb Wheel

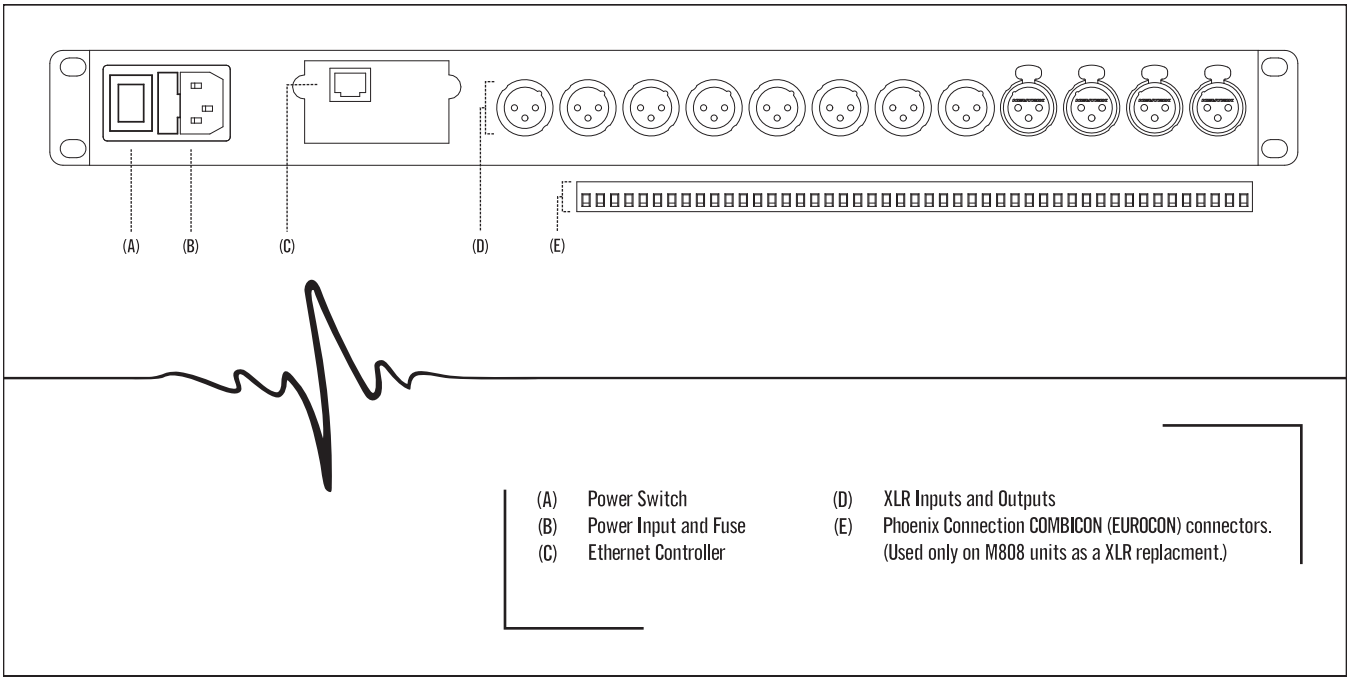
Parameter data values are changed by using the travel velocity sensing rotary thumb wheel. The increment of adjustment varies in size based upon the speed and distance of wheel rotation. This aids in both small and large incremental data modifications.

Menu Control Keys

There are 6 menu keys:

Menu:	◄	Previous menu.
Menu:	►	Next menu.
Cursor:	◄	Previous cursor position.
Cursor:	►	Next cursor position.
Enter:		At the main menu enter can be used to open the system menu. Inside the system menu, enter is used to proceed with selected actions.
Exit:		Exit to the main menu.

REAR PANEL FEATURES



Main Power

The DPU is powered by a low noise universal input power supply with an operating range from 90VAC to 240VAC, 50-60Hz. Never defeat the grounding on the DPU's power supply; this could result in injury or death.

Main Fuse

The power supply uses a slow blow type T2.5A-250V fuse. In the event of fuse failure, always replace with the same type and rating fuse. If the fuse fails immediately after replacement, discontinue use of the DPU and contact McCauley Sound Support.

Power Switch

Controls power On/Off.

Differential Input and Outputs

The M204, M306, and M408 use AES14-1992 standard XLR connections. The M808 uses Phoenix Connection 1754562 MSTB 2.5/ 8-ST COMBICON (EUROCON) connectors. Inputs and outputs are electronically precision balanced to obtain maximum common mode rejection. To prevent significant signal loss when an unbalanced signal is used, consult Appendix E for connection recommendations. It is strongly recommended that balanced signals be used whenever possible.

A Note About Input Signal Levels

There is no analog gain adjustment on the M Series DPU, all the processing (including gain) is performed digitally. As a consequence of this, it is important to supply the processor with the optimum signal level to achieve good signal to noise performance as

well as adequate headroom before clipping. The DPU is designed to clip at signal levels above +20dBu (7.75Vrms) which places the noise floor below -90dBu. The optimum input signal level to supply a M Series processor is 0dBu (.775Vrms). This input level will allow 20dB of headroom while keeping the signal >90dB above the noise floor.

Ethernet Control

The DPU features a 10/100 auto switching controller connected to an industry standard RJ-45 port. The controller will also auto detect crossover cables to simplify installation.

Wireless Control

The M Series DPU can be controlled wirelessly by connecting it to a wireless gateway and then using the McCauley DSP Console on a computer attached to the same network.

DEVICE OPERATION

Powering Up the Device

- After powering up the unit, the following initialization screen is displayed on the LCD:

```
      MCCAULEY SOUND INC.
    DIGITAL SYSTEM PROCESSOR
 M-0-       V1.00B    11110000
  ------ INITIALIZING ------
```

- The initialization process takes about 8 seconds. During that period the unit boots and displays the DPU firmware version.
- After the initialization process is finished the DPU displays its main screen:

```
          MCCAULEY M808
     DIGITAL SYSTEM PROCESSOR
DEVICE: ____________________
PROG    : MEMORY
```

- The screen shows the current program number and program name assigned to the unit. The DPU always returns to the state it was in when power was removed.

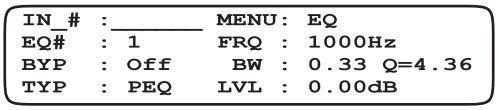
INPUT MENUS

Signal – Signal Parameters

```
IN_#   :_______ MENU: Signal
LEVEL  : 0.00dB
POL    : +
DELAY  : 0 (000.000ms)
```

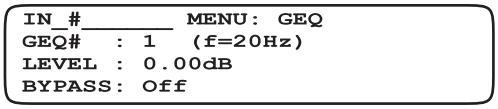
- LEVEL Sets the signal gain from -40.00dB to +15.00dB in steps of 0.25dB.
- POL Polarity can be normal (+) or inverted (-).
- DELAY A maximum of 650ms (62400 steps) in 21us steps. Units of delay can be changed in the system menu to milliseconds, feet, or meters.

EQ – Parametric Equalizer Settings



- EQ# Selects one of the 8 available parametric equalizers.
- TYP Type of equalizer: peak/notch (PEQ), Low-Shelf (LO-SHF), High-Shelf (HI-SHF), or All Pass (AP-1, AP-2).
- FRQ Equalizer center frequency ranges from 20Hz to 30,000Hz in either 1Hz or 1/36 octave steps. The frequency steps can be changed in the system menu.
- BW Equalizer bandwidth ranges from 0.02 to 2.50 octaves in steps of 0.01. The Q value automatically updates. Low-Shelf or High-Shelf can be either 6 or 12dB/Oct.
- LVL Equalizer gain ranges from -30.00dB to +15.00dB in steps of 0.25dB.
- BYP Enable/Disable EQ section.

GEQ – Graphic Equalizer Settings

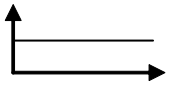
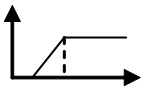
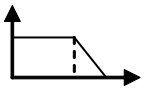
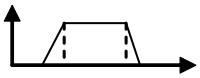


- GEQ Selects one of the 31 available equalizer bands.
- LEVEL Equalizer gain ranges from -30.00dB to +15.00dB in steps of 0.25dB.
- BYPASS Enable/Disable EQ Section.

XOver IIR – Crossover Parameters

- HPF High pass filter type: Butterworth (Buttwrth), Linkwitz-Riley (Link-Ri), or Bessel.
- FQHP High pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.
- SLHP High pass filter slope ranges from 6dB/Oct. to 48dB/Oct. in 6dB steps for Butterworth/Bessel and 12dB steps for Linkwitz-Riley.

- LPF — Low pass filter type: Butterworth (Buttwrth), Linkwitz Riley (Link-Ri), or Bessel.
- FQLP — Low pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.
- SLLP — Low pass filter slope ranges from 6dB/Oct. to 48dB/Oct. in 6dB steps for Butterworth/Bessel and 12dB steps for Linkwitz-Riley.

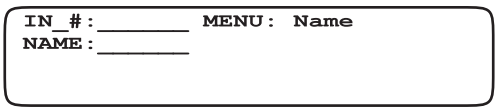
Filter Configuration	Low Crossover Point	High Crossover Point	
None	HPF Off	LPF Off	
Highpass	HPF On	LPF Off	
Lowpass	HPF Off	LPF On	
Bandpass	HPF On	LPF On	

Comp – Compressor Parameters

```
IN_#:_______ MENU: Comp
THRESH   : 0.0dBu
ATTACK   : 10ms    RATIO: 1:1
RELEASE  : 8X (80ms)
```

- THRESH — Limit threshold ranges from -20 to +20dBu in steps of 0.5dB.
- ATTACK — Attack time ranges from 0.3 to 1ms in steps of 0.1ms, and from 1 to 100ms in steps of 1ms.
- RELEASE — Release time can be 2X, 4X, 8X, 16X or 32X the attack time.
- RATIO — Compression ratio ranges from 1:40 to 1:1.

Name - Channel Name



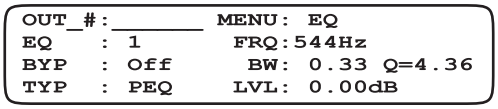
- □ Name — Channel name can be up to 6 characters in length.

OUTPUT MENUS

Signal – Signal Parameters

- □ LEVEL — Sets the signal gain from -40.00dB to +15.00dB in steps of 0.25dB.
- □ POL — Polarity can be normal (+) or inverted (-).
- □ DELAY — A maximum of 650ms (62400 steps) in 21us steps. Units of delay can be changed in the system menu to milliseconds, feet, or meters.

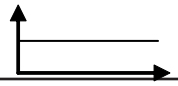
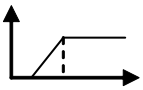
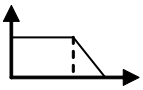
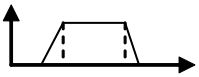
EQ – Parametric EQ Settings



- □ EQ# — Selects one of the 8 available parametric equalizers.
- □ TYP — Type of equalizer: peak/notch (PEQ), Low-Shelf (LO-SHF), High-Shelf (HI-SHF), or All Pass (AP-1, AP-2).
- □ FRQ — Equalizer center frequency ranges from 20Hz to 30,000Hz in either 1Hz or 1/36 octave steps. The frequency steps can be changed in the system menu.
- □ BW — Equalizer bandwidth ranges from 0.02 to 2.50 octaves in steps of 0.01. The Q value automatically updates. Low-Shelf or High-Shelf can be either 6 or 12dB/Oct.
- □ LVL — Equalizer gain ranges from -30.00dB to +15.00dB in steps of 0.25dB.
- □ BYP — Enable/Disable EQ section.

```
OUT_#:_______ MENU: XOvr IIR
HPF  : Off     LPF: Off
FQHP : 44Hz  FQLP: 78Hz
SLHP : 24dB  SLLP: 48dB
```

- HPF — High pass filter type: Butterworth (Buttwrth), Linkwitz-Riley (Link-Ri), or Bessel.
- FQHP — High pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.
- SLHP — High pass filter slope ranges from 6dB/Oct. to 48dB/Oct. in 6dB steps for Butterworth/Bessel and 12dB steps for Linkwitz-Riley.
- LPF — Low pass filter type: Butterworth (Buttwrth), Linkwitz Riley (Link-Ri), or Bessel.
- FQLP — Low pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.
- SLLP — Low pass filter slope ranges from 6dB/Oct. to 48dB/Oct. in 6dB steps for Butterworth/Bessel and 12dB steps for Linkwitz-Riley.

Filter Configuration	Low Crossover Point	High Crossover Point	
None	HPF Off	LPF Off	
Highpass	HPF On	LPF Off	
Lowpass	HPF Off	LPF On	
Bandpass	HPF On	LPF On	

FIR – Crossover Parameters

```
OUT_#:_______ MENU: XOvr FIR
ENHP : Off     NLP: Off
FQHP : 1000Hz QLP: 1000Hz
```

- ENHP — Enable/Disable high pass.
- ENLP — Enable/Disable low pass.
- FRHP — High pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.
- FRLP — Low pass filter cut-off frequency ranges from 20Hz to 30,000Hz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the system menu.

Note: The slope is set by the allocating filter taps in the system menu.

Limit – Limiter Parameters

```
OUT_#:_______ MENU: Limit
THRESH   : +20.0dB
ATTACK   : 0.9ms
RELEASE  : 32X (28.8ms)
```

- THRESH — Limiter threshold ranges from -20 to +20dBu in steps of 0.5dB.
- ATTACK — Attack time ranges from 0.3 to 1ms in steps of 0.1ms, and from 1 to 100ms in steps of 1ms.
- RELEASE — Release time can be 2X, 4X, 8X, 16X or 32X the attack time.

Source – Input Mixer

```
OUT_#:_______ MENU: Source
1: 0.00          4: 0.00
2: 0.00
3: Off
```

- 1,2,3,4 — Input channel source for the current output channel. If more than one input source is enabled, they are added together to form the output.

Name – Channel Name

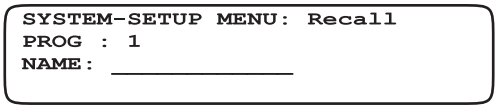
- Name — Channel name can be up to 6 characters in length.

SYSTEM MENUS

The system menu allows the user to control and change parameters that are related to the system's behavior and general operation. It can be accessed by pressing the enter key at the main menu. All system menus require the enter key to be pressed to confirm the selected action.

Recall - Preset Recall

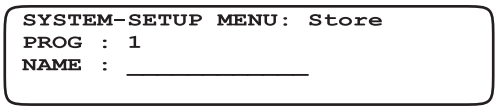
The DPU has memory to store up to 30 different program setups. A program can be recalled using this menu, overwriting any current configuration.



- PROG — Program number to be recalled.
- NAME — Program name.

Store - Program Store

A program can be stored using this menu, overwriting any program already saved under the selected number. Once the program is stored in flash memory, it can be recalled at a later time.



- PROG — Program number under which to store the current configuration.
- NAME — Program name up to 12 characters in length.

Config - Device Configuration

A pre-defined input/output configuration can be selected using this menu. Crossover point parameters such as filter type, cut-off frequency and slope are not affected and have to be configured manually for each Output. These configurations are not saved in memory during shutdown.

□ MODE Changes the mode of operation.

Mode:	Out 1	Out 2	Out 3	Out 4	Out 5	Out 6
None	Any	Any	Any	Any	Any	Any
Stereo 2-Way	In 1	In 1	In 2	In 2	Any	Any
Stero 3-Way	In 1	In 1	In 1	In 2	In 2	In 2

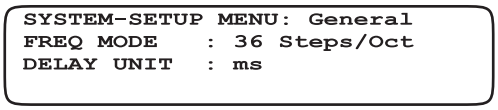
Copy - Copy Channels

Copy channel parameters from a source channel to a target channel(s). When the source and target(s) are either inputs or outputs, all audio parameters will be copied. When either the source or the target is an input while the other is an output, only the level, polarity, delay and parametric EQ settings are copied.

□ SOURCE Channel to be copied from.

□ TARGET Channel to be copied to.

General - General System Parameters



□ FREQ MODE Selects the frequency increment for EQ and crossover settings, 36 steps/octave or all frequencies (1 Hz resolution).

□ DELAY UNIT Milliseconds (ms), feet (ft), or meters (m).

Comm – Serial Communication Parameters

```
SYSTEM-SETUP MENU: Comm
BAUD     :115200
DEV #1   :1    NET ID: 0
```

- BAUD RATE — Select the baud rate for serial communication.
- DEVICE # — Assigns the device ID from 1 to 16, when used in single master multiple slave (SMMS) serial configurations.

FIR Taps – FIR Filter Taps Parameters

FIR filter slope steepness is controlled by allocating space for coefficients. The DPU contains a total of 1600 memory locations for all of the outputs. Use this page to allocate memory based on your application. Exceeding 1600 filter taps can lead to unexpected behavior.

```
SYSTEM-SETUP MENU: FIR Taps
1-2: 50          7-8:50
3-4: 50
5-6: 50
```

- 1 to 8 — Select the order for output FIR filters in 50 tap steps. The sum of all taps cannot exceed 1600.

Filter Order	Minimum Frequency(Hz)
50	4800
100	2400
150	1600
200	1300
250	1000
300	850
350	700
400	625
450	550
500	500
550	450
600	425
650	400
700	390
750	385
800	340

850	310
900	285
950	275
1000	265
1050	250
1100	230
1150	220
1200	210

Ethernet – Ethernet Settings

```
SYSTEM-SETUP MENU: Ethernet
IP ADR  : 255.255.255.255
GATEWAY : 255.255.255.255
SUBNET  : 255.255.255.255
```

- IP ADR — Changes the IP address of the DPU.
- GATEWAY — Changes the gateway address.
- SUBNET — Changes the subnet mask.

Set PW – Set Password

```
SYSTEM-SETUP MENU: Set PW
OLD PW :_____
NEW PW :_____
```

- OLD PW — You must enter the old password before you can change it.
- NEW PW — Enter the new password.

Security - Security Locks

The M Series enables the user to secure the unit to prevent undesired changes in the setup. In order to switch between the security levels the user must enter the correct password.

```
SYSTEM-SETUP MENU: Security
MENU     : In-Signal
LOCK     : No
PASSWORD:_____
```

- MENU — Selects the menu to be locked/unlocked.

The options are:

- In-Signal — Input Signal Menu (Level, Polarity, Delay).
- In-EQ — Input EQ Menu.
- In-GEQ — Input GEQ Menu.
- In-XOvr IIR — Input Crossover IIR Menu.
- In-Comp — Input Comp Menu.
- In-Name — Input Channel Name Menu
- Out-Signal — Output Signal Menu (Level, Polarity, Delay).
- Out-EQ — Output EQ Menu.
- Out-XOvr IIR — Output Crossover IIR Menu.
- Out-XOvr FIR — Output Crossover FIR Menu.
- Out-Limit — Output Limit Menu.
- Out-Source — Output Source Menu.
- Out-Name — Output Channel Name Menu.
- System — System Menu.
- Mute — Channel Mute.

- LOCK — Selects to lock (Yes) or unlock (No) the corresponding menu.
- PASSWORD — The password of the M Series is 4 characters in length. It can be changed from the McCauley DSP Console software application. A factory default unit does not require a password.

WARRANTY INFORMATION

The M Series is warranted covering materials and workmanship for a period of two years, as determined by the date of retail purchase (according to the sales receipt from an authorized dealer) or the date of manufacture if the sales receipt is not available (according to the serial number).

This warranty applies to the product; therefore, the remainder of the warranty period will be automatically transferred to any subsequent owner.

This warranty applies only to failure of a McCauley Sound Inc. product caused by defects in materials and workmanship during the stated warranty period. It does not apply to a unit that has been subjected to abuse, accident, modification, improper handling/installation, or repairs made without factory authorization or by anyone other than authorized McCauley Sound Inc. Field Service Stations.

This warranty is void if the serial number has been defaced, altered or removed. Products covered by this warranty will be repaired or replaced at the option of McCauley Sound Inc., without charge for materials or labor, provided all the terms of this warranty have been met.

Model Number _____

Serial Number _____

Date of Purchase _____

Dealer _____

Dealer's Address_____

_____

_____

Dealer's Phone _____

Salesperson _____

SPECIFICATIONS

Inputs and Outputs	Input Impedance	>10k Ohms
	Output Impedance	50 Ohms
	Maximum Level	+20dBu
	Type	Electrically Balanced
Audio Performance	Freq Response	+/- 0.1dB (20 to 30 kHz)
	Dynamic Range	115dB typ (un-weighted)
	CMMR	> 60dB (50 to 10 kHz)
	Crosstalk	< -100dB
	Distortion	0.002% (1 kHz @+4dBu)
Digital Audio Performance	Processor	40-bit floating point
	Sampling Rate	96 kHz
	Analog Converters	24-bit
	Propagation Delay	1.5ms
Front Panel Controls	Display	4 x 26 Character Backlit LCD
	Level Meters	5 segment LED
	Buttons	Mute Controls, Menu Controls
	Dial Encoder	Jog Wheel
Connectors	Analog I/O	3-pin XLR
	Analog I/O (M808 Only)	Eurocon
	RS-232	Female DB-9
	USB	Type B
	Ethernet	Standard CAT-5
	Power	Standard IEC Socket
General	Power	90-240 VAC (50 / 60Hz) 20VA
	Dimensions	19”x1.75”x9” (483x44x229mm)
	Weight	10 lbs / 4.6 kg
Audio Control Parameters	Gain	-40 to +15dB in 0.25dB steps
	Polarity	+/-
	Delay	Up to 650ms per I/O

Parameters	Menu	Cursor Position	Min	Max	Steps	Units
Level	Signal	LEVEL	-40	+15	0.25	dB
Polarity	Signal	POL	+ / -			
Delay	Signal	DELAY	0	62400	1	10us steps
EQ Number	EQ	EQ#	1	8	1	Numerical
EQ Bypass	EQ	BYP	Off / On			
EQ Type	EQ	TYP	PEQ / LO-SH / HI-SH / AP-1/ AP-2			
EQ Level	EQ	LEVEL	-30	+15	0.25	dB
EQ Frequency	EQ	FREQ	20	30,000	1	Hz
EQ Bandwidth	EQ	BW	0.02	3.61	0.01	Octave
GEQ Number	GEQ	GEQ#	1	31	1	Numerical
GEQ Level	GEQ	LEVEL	-30	+15	0.25	dB
GEQ Bypass	GEQ	BYPASS	Off / On			
XOver-IIR High Type	XOver IIR	LPF	Off / Butterworth / Linkwitz-Riley / Bessel			
XOver-IIR High Freq	XOver IIR	FQHP	20	30,000	1	Hz
XOver-IIR High Slope	XOver IIR	SLHP	6	48	6	dB/octave
XOver-IIR Low Type	XOver IIR	HPF	Off / Butterworth / Linkwitz-Riley / Bessel			
XOver-IIR Low Freq	XOver IIR	FQLP	20	30,000	1	Hz
XOver-IIR Low Slope	XOver IIR	SLLP	6	48	6	dB/octave
XOver-FIR High Enable	XOver FIR	ENHP	Off / On			
XOver-FIR High Freq	XOver FIR	FQHP	20	30,000	1	Hz
XOver-FIR Low Enable	XOver FIR	ENLP	Off / On			
XOver-FIR Low Freq	XOver FIR	FQLP	20	30,000	1	Hz
Compressor Threshold	Comp	THRESH	-20	+20	0.5	dBu
Compressor Attack	Comp	ATTACK	0.3	100	0.1/1	Ms
Compressor Release	Comp	RELEASE	2 / 4 / 8 / 16 / 32X Attack time			
Compressor Ratio	Comp	RATIO	1:1 to 1:40			
Limiter Threshold	Limit	THRESH	-20	+20	0.5	dBu
Limiter Attack	Limit	ATTACK	0.3	100	0.1/1	ms
Limiter Release	Limit	RELEASE	2 / 4 / 8 / 16 / 32X Attack time			
Source Select	Source	1, 2, 3, 4, 5, 6, 7, 8	Off	+15	0.25	dB
Channel Name	Name	NAME	6 characters			

INSTALLATION RECORD

Installation Name: _____ Date: _____

Installation Performed By: _____ Phone Number: _____

Venue Contact Name: _____ Address: _____

Venue Contact Phone Number: _____ _____

System Description: _____

_____

_____

_____

M_____ Preset Information: _____ **Preset No.** _____ **Preset Name:** _____

System Settings

General Settings

Frequency Mode: _____

Delay Units: ms / ft / m

Communication Settings

Baud Rate: _____

Device Number: _____

Ethernet Settings

IP Address: _____ . _____ . _____ . _____

Gateway: _____ . _____ . _____ . _____

Subnet Mask: _____ . _____ . _____ . _____

Password Settings

Locked Sections:	Locked Status:	Password:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Examples: All - Yes/No
IN - Yes/No
OUT - Yes/No

Input 1:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 2:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 3:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 4:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 5:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 6:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 7:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Input 8:

Gain

Gain: _____ db

Compression

Threshold: _____ dbu

Attack: _____ ms

Release: _____ X

Ratio: _____ : 1

Equalization

EQ1. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ2. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ3. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ4. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ5. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ6. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ7. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

EQ8. Type: _____ Gain: _____
Frequency: _____ Bandwidth(Octave): _____

Delay

Input Delay: _____ ms / ft / m

Graphic Equalizer

Frequency	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630
Gain																

Frequency	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Gain															

Output 1:

Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 2:

Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 3: Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 4: Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 5:

Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 6: Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 7: Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

Output 8: Channel Mixing / Routing

In 1: _____ In 5: _____

In 2: _____ In 6: _____

In 3: _____ In 7: _____

In 4: _____ In 8: _____

Gain

Output Gain: _____ db

Delay

Output Delay: _____ ms / ft / m

Limiting

Threshold: _____ Attack: _____ Release: _____

Crossover / Equalization

Crossover Prarameters

IIR High Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

IIR Low Pass Filter

Enable: Yes / No

Type: _____

Frequency: _____

Slope: _____

FIR High Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

FIR Low Pass Filter

Enable: Yes / No

Number of Taps: _____

Frequency: _____

Equalization

EQ1. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ2. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ3. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ4. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ5. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

EQ6. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

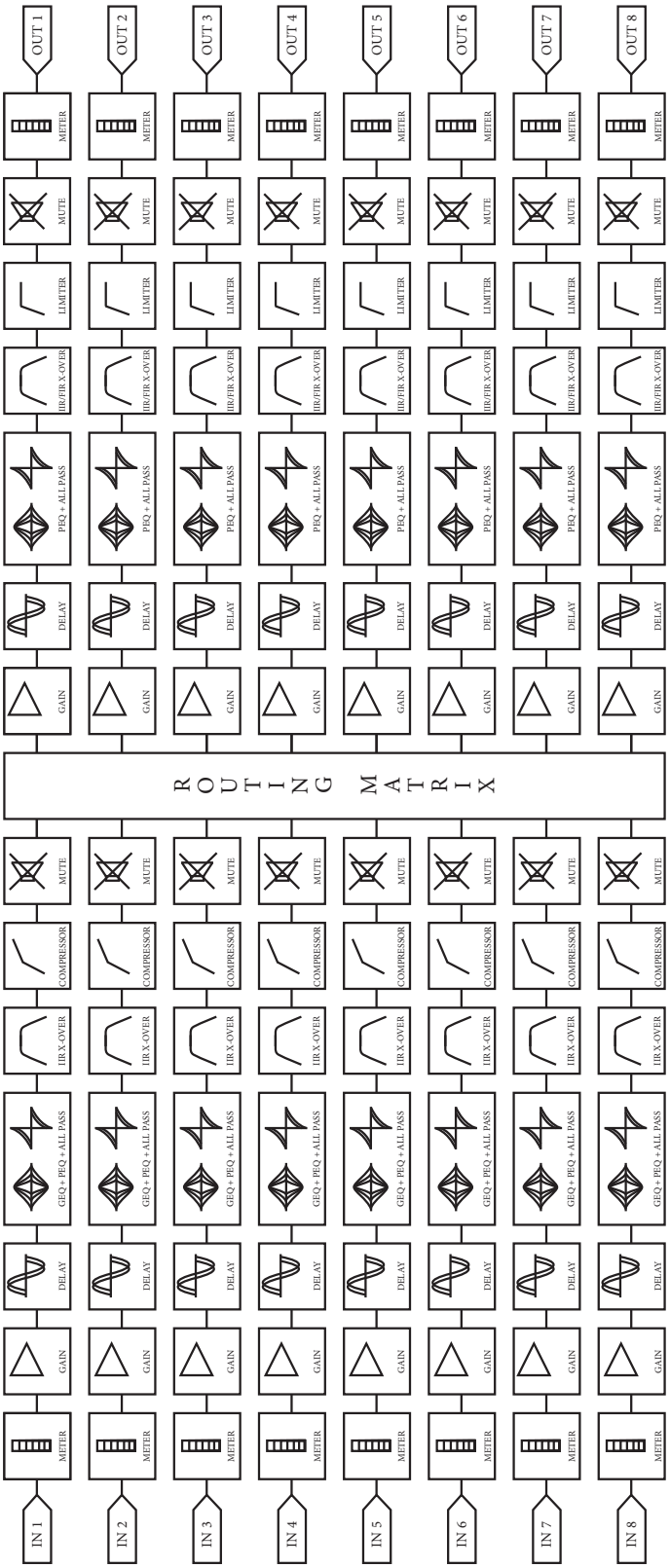
EQ7. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

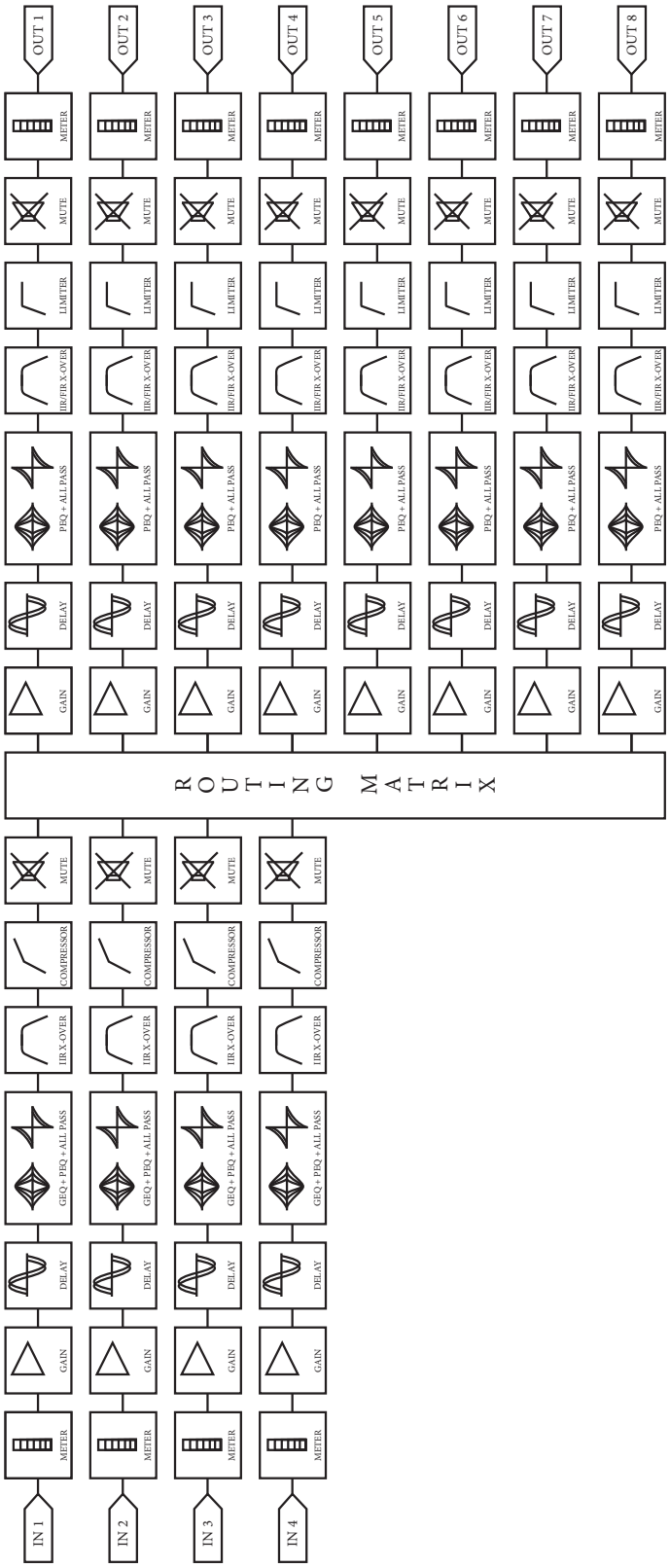
EQ8. Type: _____ Gain: _____

Frequency: _____ Bandwidth / Q / Degrees: _____

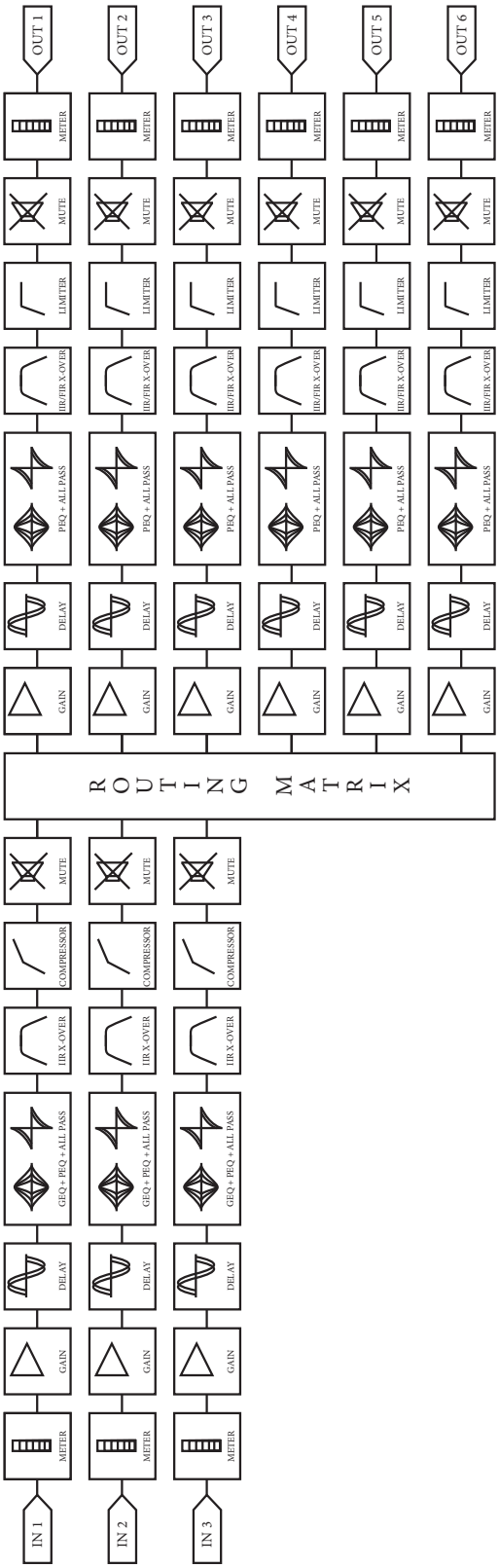
APPENDIX A - SCREEN LAYOUT



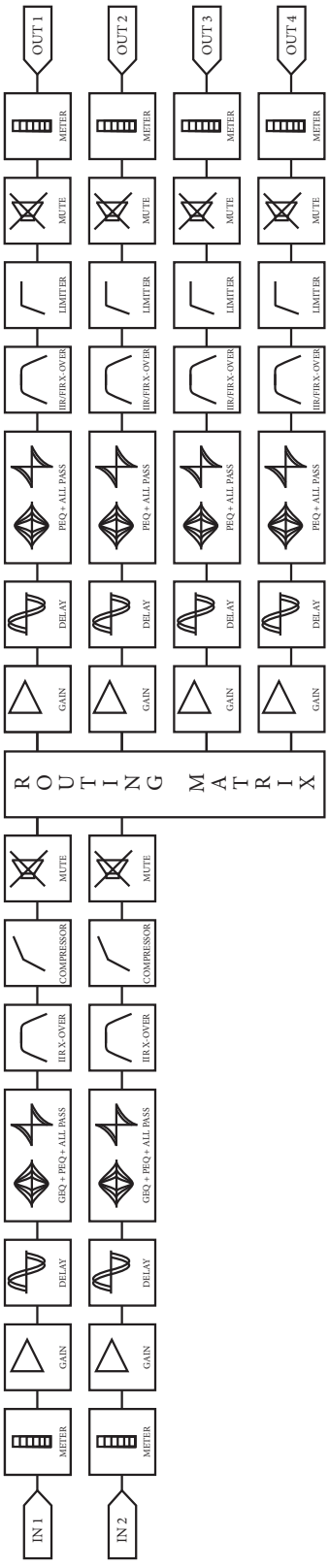
APPENDIX B - M808 ROUTING MATRIX



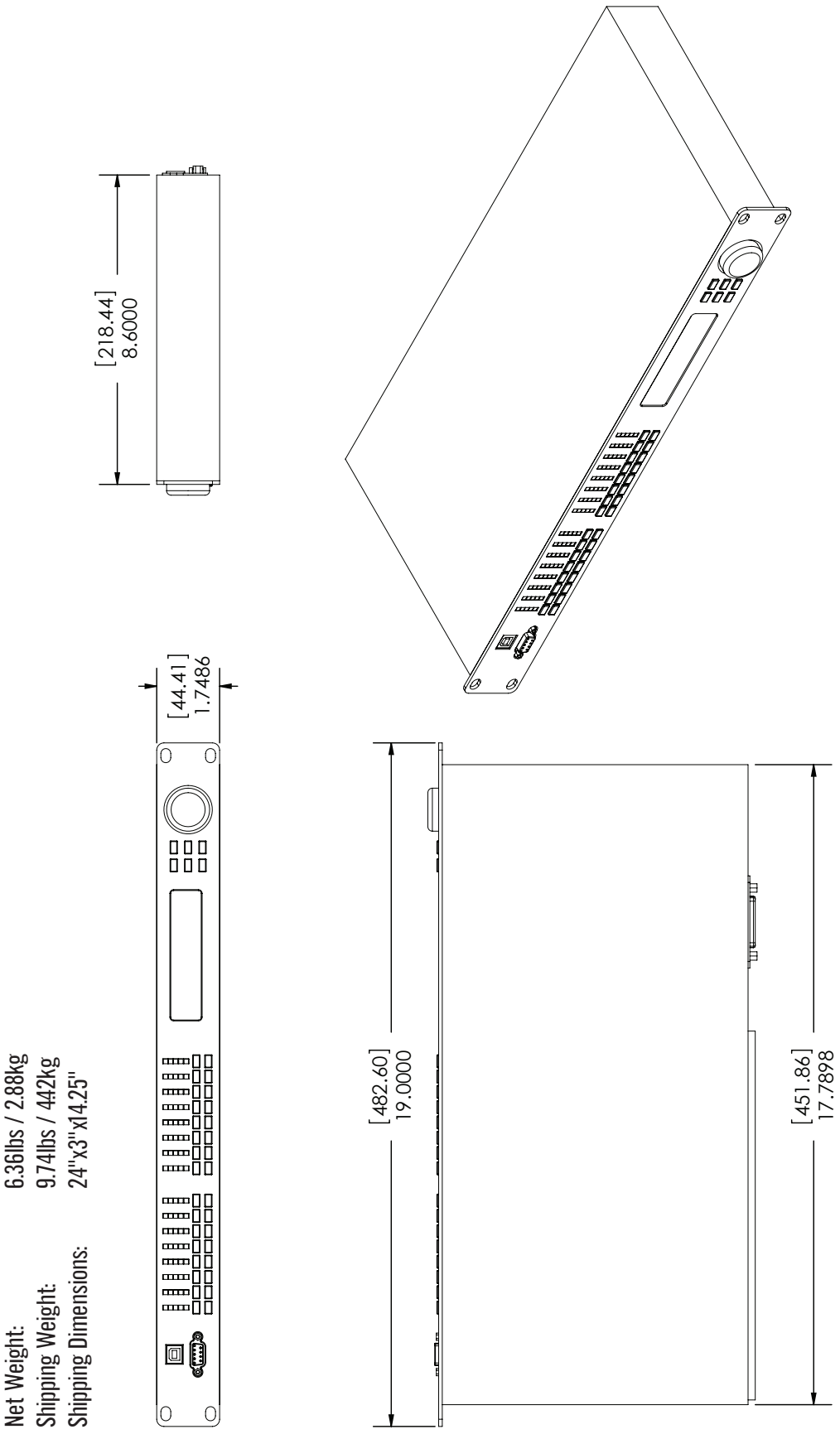
APPENDIX C - M408 ROUTING MATRIX



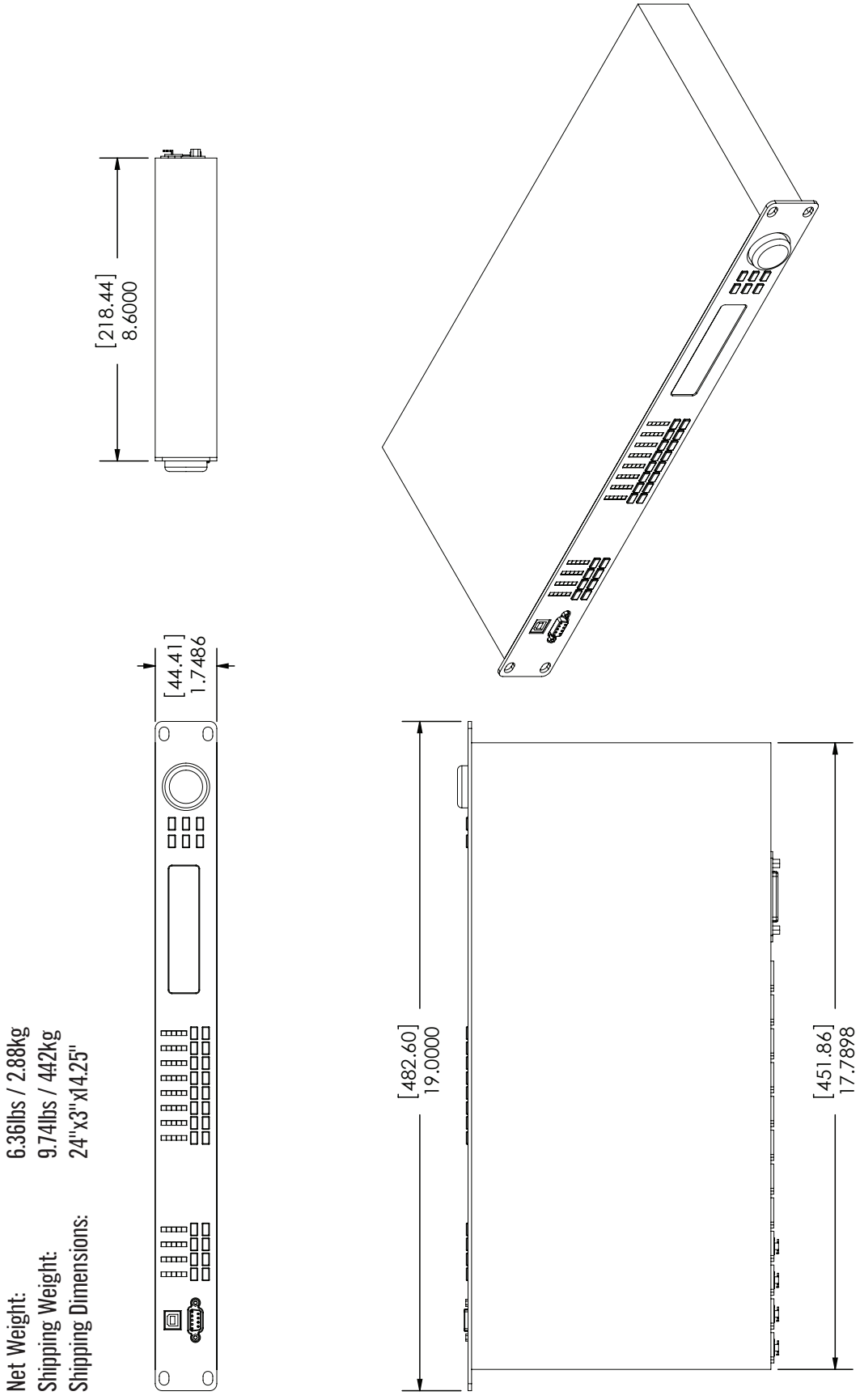
APPENDIX D - M306 ROUTING MATRIX



APPENDIX E - M204 ROUTING MATRIX

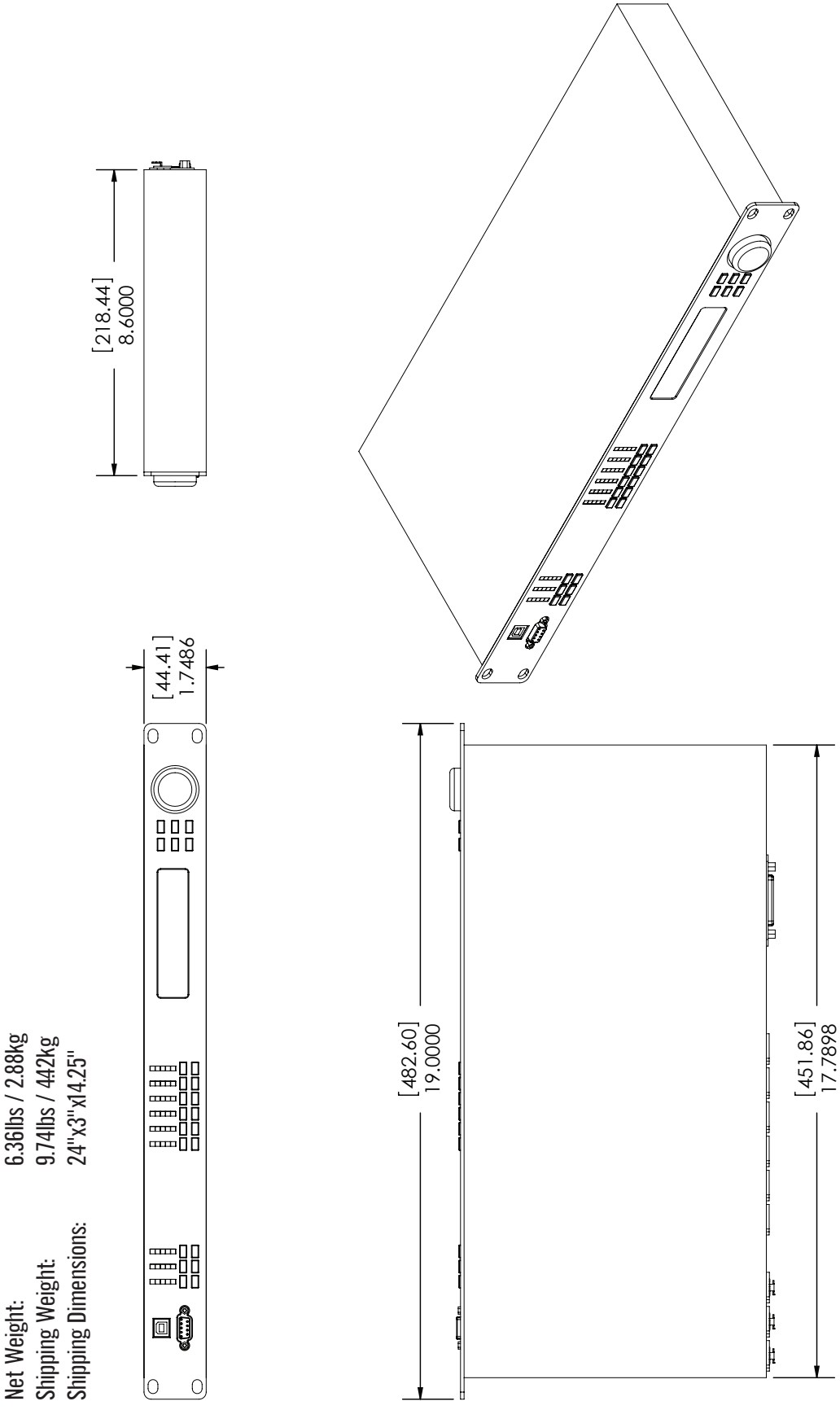


APPENDIX F - M808 DIMENSIONS

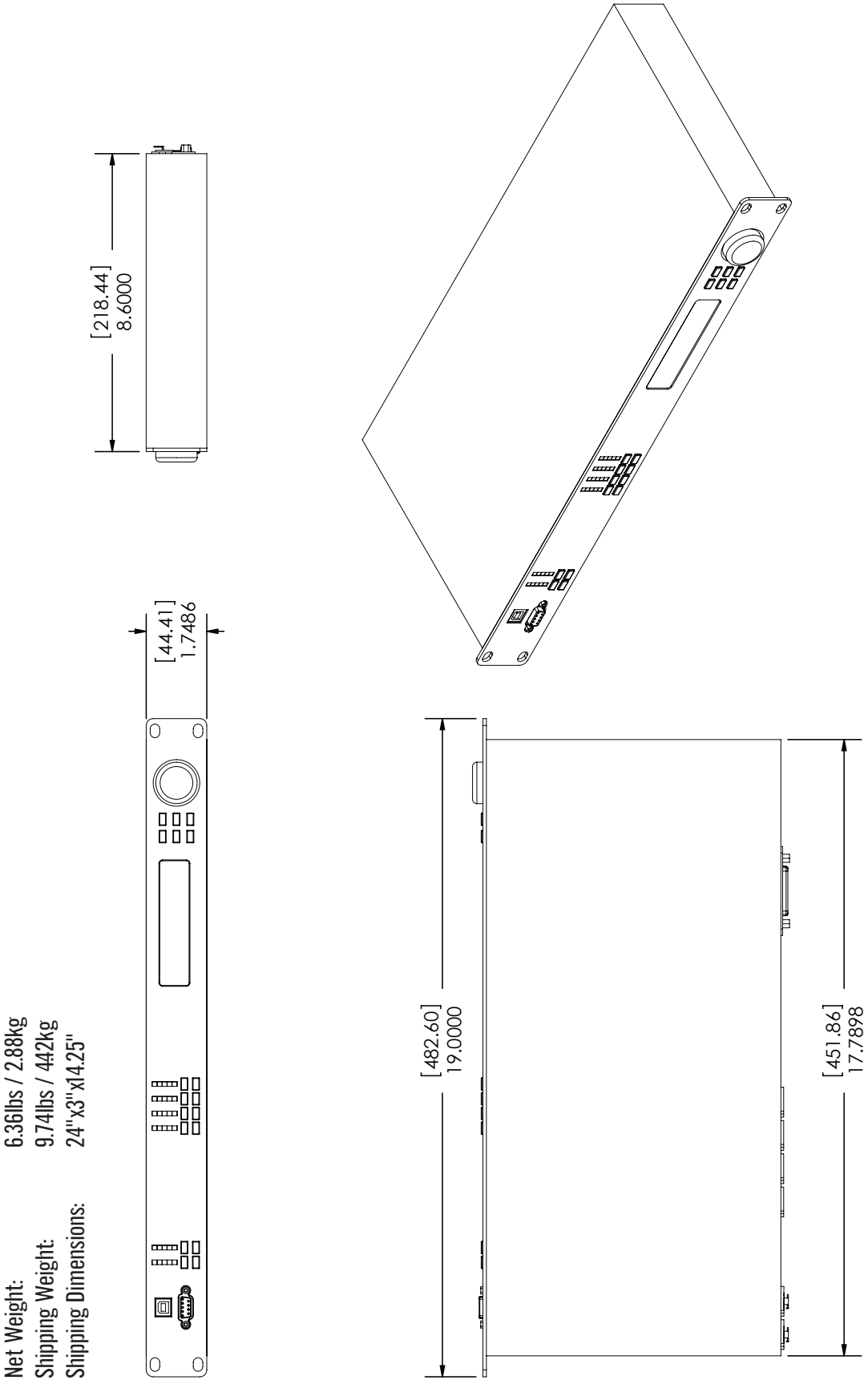


Net Weight: 6.36lbs / 2.88kg
Shipping Weight: 9.74lbs / 442kg
Shipping Dimensions: 24"x3"x14.25"

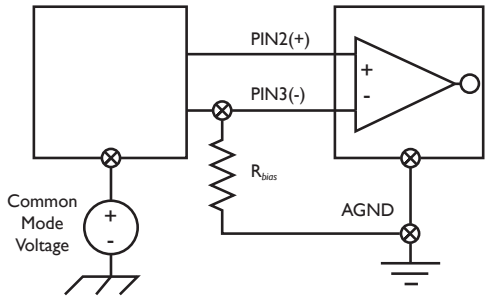
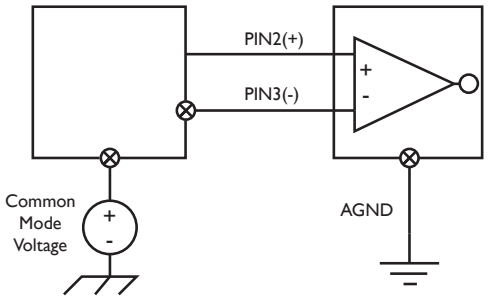
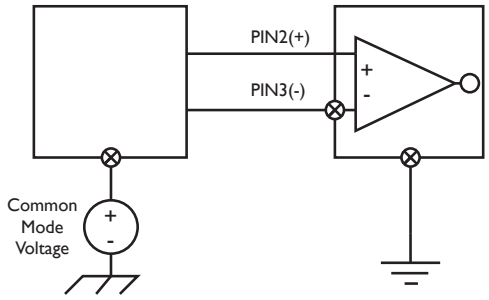
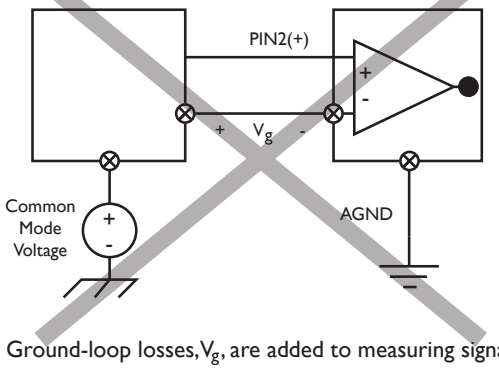
APPENDIX G - M408 DIMENSIONS



APPENDIX H - M306 DIMENSIONS



APPENDIX I - M204 DIMENSIONS

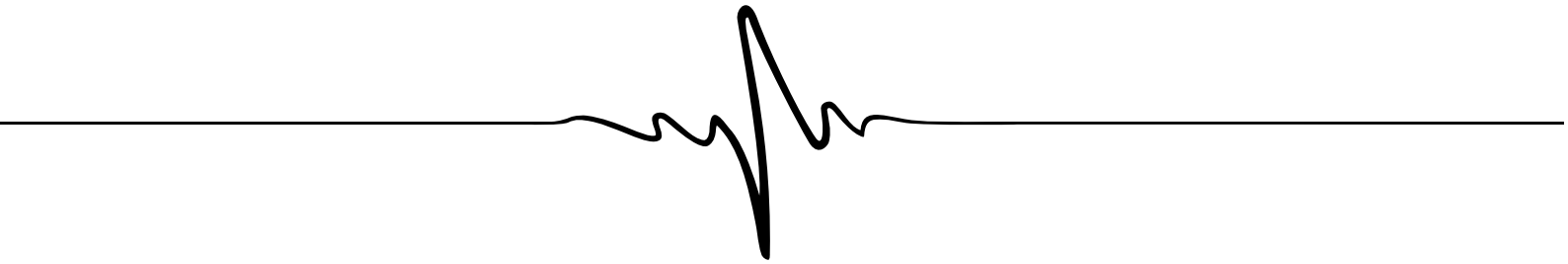
<table>
<tr><th rowspan="2">Input</th><th colspan="2">Signal Source Type</th></tr>
<tr><th>Floating Signal Source
(Not Connected to Building Ground</th><th>Grounded Signal Source</th></tr>
<tr><td>Differential</td><td> 
</td><td> 
</td></tr>
<tr><td>Single-Ended</td><td> 
</td><td>NOT RECOMMENDED
 

Ground-loop losses, V_g, are added to measuring signal.</td></tr>
</table>

The bias resistor should be chosen to provide approximately ±200pA of current. A resistor value of 10kΩ to 100kΩ is normally sufficient.

APPENDIX J - XLR/EUROCON DIAGRAM

NOTES



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