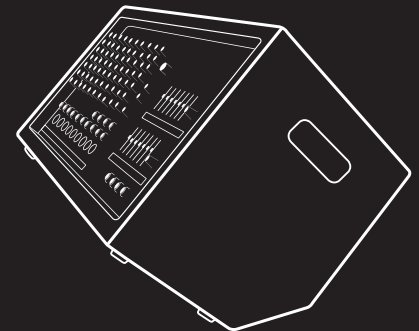
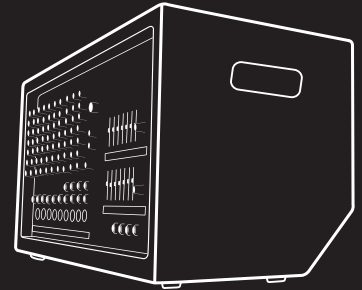


# HARBINGER®

## OWNER'S MANUAL

### HA1000 POWERED MIXER

### 10 | 2X500 | BUILT IN INPUTS | WATTS | DSP



1	2	3	4	5	6	7-8	9-10	11-12	13-14
PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k	HRH 100k
MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k	MD 2.50k
LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k	LOW 80k
MON	MON	MON	MON	MON	MON	MON	MON	MON	MON
FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST	FLUX POST
PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN	PAN
LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
PAD	PAD	PAD	PAD	PAD	PAD	PAD	PAD	PAD	PAD
LINE IN	LINE IN	LINE IN	LINE IN	LINE IN	LINE IN	LINE IN	LINE IN	LINE IN	LINE IN
MIC IN 1	MIC IN 2	MIC IN 3	MIC IN 4	MIC IN 5	MIC IN 6	MIC IN 7-8	MIC IN 9-10	MIC IN 11-12	MIC IN 13-14

### HA1000

14 CHANNEL • DSP • 2 X 500 WATTS

**DSP MULTITAP 24 BIT PROCESSOR**

PROGRAM

00-09 Vocal  
10-19 Small Room  
20-29 Large Room  
30-39 Echo  
40-49 Echo + Verb  
50-59 Reverb + Verb  
60-69 Reverb  
70-79 Chorus + GTR  
80-89 Reverb + GTR  
90-99 Tremolo + GTR

PUSH TO SELECT

DSP MUTE  CLIP MUTE

FX AUX to MON  +10 -10

FX AUX to MAIN  +10 -10

**MONITOR**

LEVEL

CLIP

POWER

**MAIN**

LEVEL

CLIP

POWER

STEREO IN/OUT

IN

OUT

LINE OUTS

AMP/BIAS ASSIGN

FOOTSWITCH

MONITOR OUT

MAIN OUT L

MAIN OUT R

POWER

ON OFF

PHANTOM POWER 12V

# Welcome

Thank you for your purchase of this Harbinger® Powered Mixer. It's packed with quality features usually found only on larger, more expensive systems. To get the most from your new HA1000, take a moment and read through this entire manual to learn about all its important features.

## Your new PA includes:

- 2 x 500W output power with Stereo, Main/Monitor, or Bridge Mono operation
- 6 Mic/Line inputs with XLR and ¼" input connectors, plus 12V phantom power
- 4 Mic inputs with XLR and Dual ¼" input connectors
- Built-in 24-bit DSP processor with 100 presets
- Two 9-band Graphic Equalizers
- Dual function FX/Aux send per channel
- 3-band EQ per channel
- Level control and bi-color Signal/Peak LED per channel
- Stereo Output for recording, Stereo Input for CD/MP3 playback  
Monitor Send per channel

# Important Safety Instructions

## DANGER

Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably to noise-induced hearing loss but most will lose some hearing if exposed to intense noise for a sufficient period of time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

DURATION PER DAY (HOURS)	8	6	4	3	2	1
SOUND LEVEL (dB)	90	93	95	97	100	103

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of inducing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.

**CAUTION**

**RISK OF ELECTRIC SHOCK**

**DO NOT OPEN**

**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE CHASSIS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.



APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

## IMPORTANT SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. Use only a dry cloth to clean this product.
7. Do not block any ventilation openings. The product should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
8. Do not install this product near any heat sources, such as radiators, heat registers, stoves or any other apparatus (including heat-producing amplifiers) that produces heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. When a cart is used, use caution when moving cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. Refer all servicing to a qualified service professional. Servicing is required when the apparatus does not operate normally or has been damaged in any way, including damage to the power cord or plug, damage due to liquids spilled or objects dropped inside the unit, dropping the unit, or anything else that interrupts normal use of the unit.
16. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. Protective Ground Terminal. The apparatus shall be connected to an AC main socket with a protective earth ground connection.



# Table of Contents

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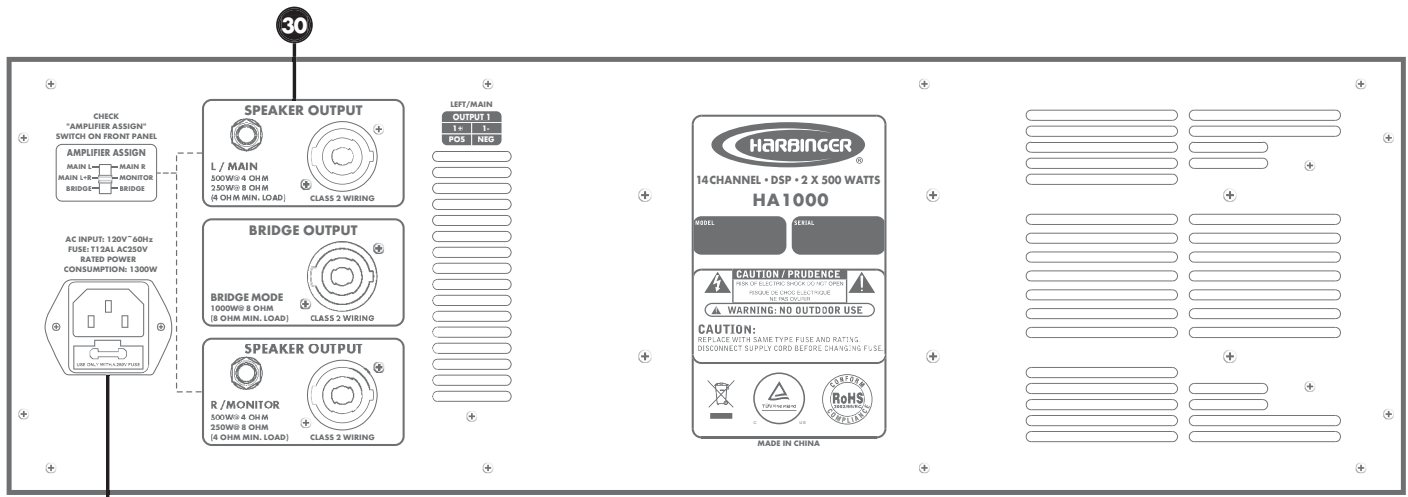
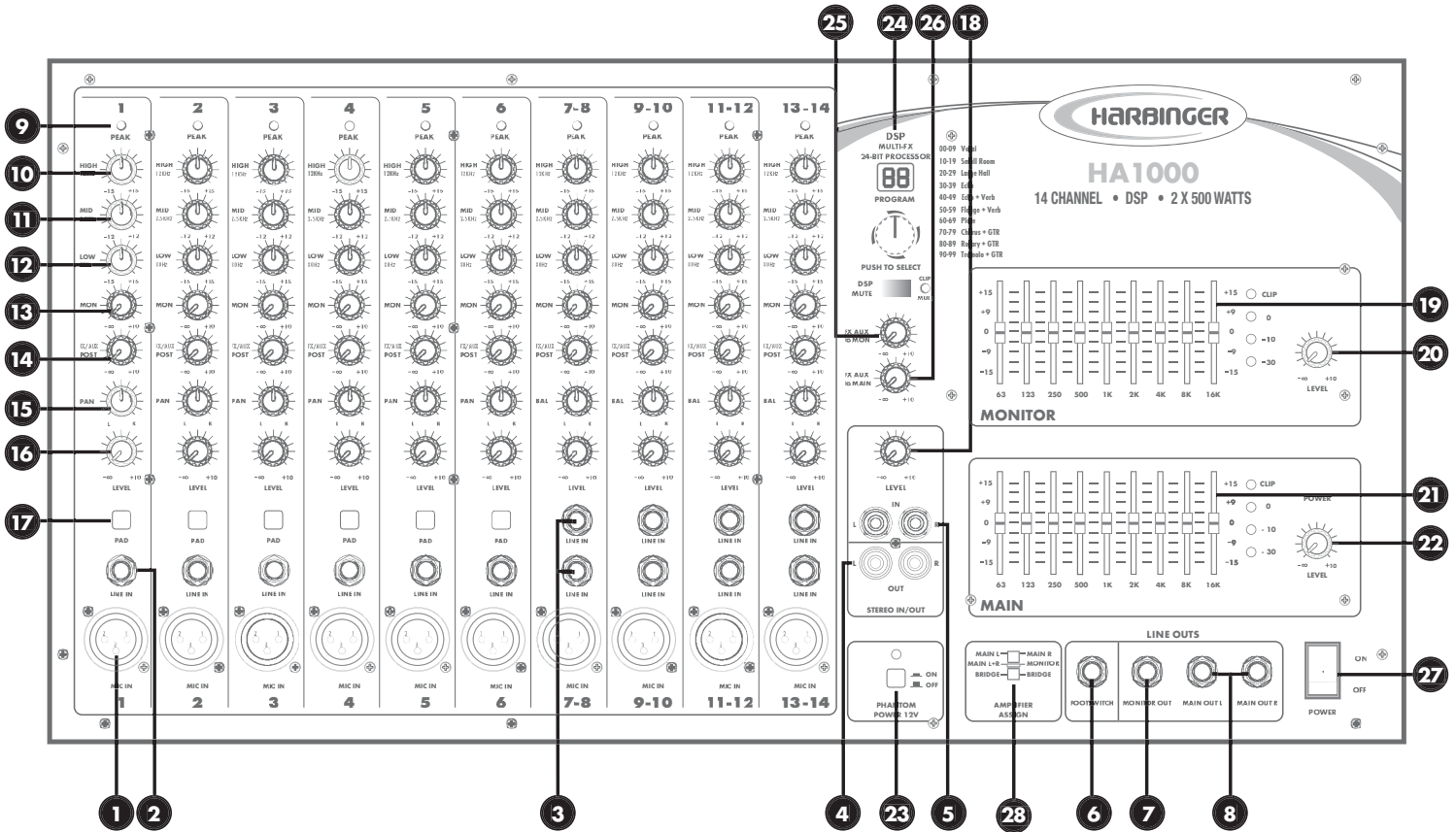
## Basic Operation

- **Ensure the HA1000's power is turned off.**
- Place the HA1000 on the floor, a table, or a sturdy stand.
- Turn down all Level, Monitor Level, and Main Level Controls.
- Plug speakers into the rear panel speaker jacks.

*NOTE: Speakers should be placed in a location that allows for unobstructed (line-of-sight) sound projection to the audience. In many venues, it is beneficial to place speakers on speaker stands for best results.*

- Plug sources such as microphones, instruments, or CD/MP3 players into the front panel jacks.
- Turn AC Power switch to "On".
- Plug in all AC connections for sound system and sources.
- Slowly turn the Main Level to 12 o'clock.
- Slowly turn the Level control on each input Channel up to the desired volume level.

# Front And Rear Panel Diagrams



# Front Panel Connections

**1 XLR Mic Input Jack Channel 1-14**  
Balanced. Appropriate for microphones, or direct connections from amplifiers or DI boxes.



MIC IN

**2 1/4" Line Input Jack Channel 1-6**  
Balanced or Unbalanced. Appropriate for instrument or line level equipment connections.



LINE IN

**3 Dual 1/4" Line Input Jack Channel 7-14**  
Balanced or Unbalanced. Appropriate for instrument or line level equipment connections.

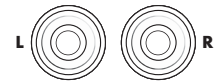


LINE IN



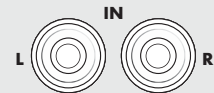
LINE IN

**4 Stereo Out**  
Unbalanced dual RCA outputs for connecting to MP3 recorders or computers. This connection has a fixed output that is fed from the MAIN output.



OUT

**5 Stereo In**  
Unbalanced inputs for CD/MP3 players. Use either the dual RCA jacks or the stereo 3.5mm mini jack. These inputs are controlled by the Stereo In Level control and are fed to the Main volume.



IN

**6 Footswitch DSP Mute**  
Plug in a latching footswitch (not included) to turn the DSP Multi-FX on/off remotely. Useful to turn the FX off when talking, and back on when singing/playing.



FOOTSWITCH

**7 Monitor Out/Main Out**  
Line level output controlled by the Monitor or Main Level knob to send the signal to external amplifiers or powered speakers.

**8**



MONITOR OUT

MAIN OUT L

MAIN OUT R

# Front Panel Controls

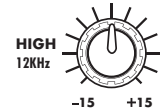
## 9 Signal/Peak LED

This LED turns green when a signal is present in the Mic/Line input, and turns red when the input signal is clipping. If this occurs, lower the source signal output if possible.



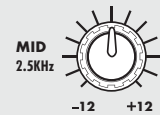
## 10 High EQ

This is the treble control used to boost or cut high frequencies on the input channel, using a high shelf filter with +/- 15dB of boost or cut above 12kHz. Useful for adding clarity to vocals or acoustic guitars, or removing hiss or unwanted cymbal pick-up.



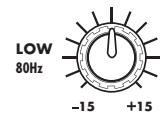
## 11 Mid EQ

This is the mid range control used to boost or cut mid frequencies on the input channel, using a band filter with +/- 12dB, centered at 2.5kHz. This range will affect vocals and most instruments.



## 12 Low EQ

This is the bass control used to boost or cut low frequencies on the input channel using a low shelf filter with +/- 15dB of boost or cut, below 80Hz. Useful for removing rumble on vocal or acoustic guitar inputs.



## 13 MON Send

This control sends the input signal to the Monitor Line Out jack and assigned Monitor power amp (speaker output #2 when MAIN L+R / Monitor is selected in the Amplifier Assign section). See "Amplifiers Assign Switch" on page 9.



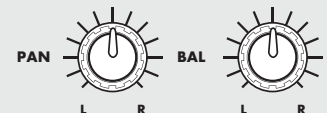
## 14 FX/Aux Send

This control sends the input signal to the built-in DSP FX processor and the Aux Send jack in the master section. This controls the amount of FX used on each input channel.



## 15 Pan Channel 1-6/Bal Channel 7-14

This control adjusts the balance of the input signal between the Left and Right outputs when the Amplifier Assign is MAIN L / MAIN R. See "Amplifiers Assign Switch" on page 9.



## 16 Channel Level

This is the volume control for individual input channels.



## 17 Input Pad Channel 1-6

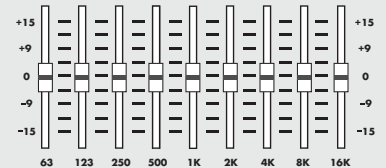
Reduces the input signal by -20dB. Useful when the input signal is very strong and overdriving the input (causing the clip light to constantly flash or remain lit).



- 18 Stereo-In Level**  
This is the volume level for any devices connected to the CD/MP3 inputs using RCA or mini-plug. The sound from CD/MP3 IN goes directly to the MAIN Output.



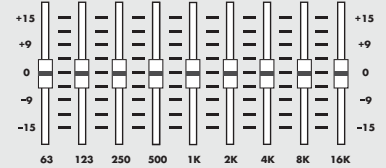
- 19 Monitor 9-Band Graphic EQ**  
Graphic Equalizer contains 9 filters that each cut or boost +/- 15dB around their center frequency. These filters can be used to contour the overall sound of all inputs, and reduce feedback (cut only). The EQ assign is the same as the Amplifier Assign.



- 20 Monitor Level**  
This knob controls the output level of the Monitor Out jack. Each input Level control feeds both the Main Out (power amp) and Monitor Line Out.



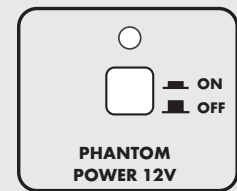
- 21 Main 9-Band Graphic EQ**  
Graphic Equalizer contains 9 filters that each cut or boost +/- 15dB around their center frequency. These filters can be used to contour the overall sound of all inputs, and reduce feedback (cut only). The EQ assign is the same as the Amplifier Assign.



- 22 Main Level**  
This knob is used to control the overall output level delivered to the speakers.



- 23 Phantom On/Off**  
This button is used when condenser microphones are connected to the HA1000, providing 12V to the XLR microphone inputs. Phantom power only applies to XLR input connections.





### DSP Program

**24** This knob is used to select the 100 preset FX programs from the built-in 24-bit DSP FX processor. Turn the knob to the desired FX preset, then push the knob to select the effect.

DSP 24-BIT FX PRESET TABLE		
NO.	PRESET	PARAMETER
00-09	Vocal	Reverb Delay Time: 0.8~0.9s; Pre-Delay: 0~45ms
10-19	Small Room	Decay Time: 07~2.1s; Pre-Delay: 20~45ms
20-29	Large Hall	Decay Time: 3.6~5.4s; Pre-Delay: 23~55ms
30-39	Echo	Delay Time: 145~205s
40-49	Echo+Reverb	Delay Time: 208~650ms; Decay Time: 1.7~2.1s
50-59	Flanger+Reverb	Decay Time: 1.5~2.9ms; Rate: 0.8Hz~2.5Hz
60-69	Plate	Decay Time: 09s~3.6s
70-79	Chorus+GTR	Rate: 0.92Hz~1.7Hz
80-89	Rotary+GTR	Modulation Depth: 20%~80%
90-99	Tremelo-GTR	Speed



### FX to Monitor Level

**25** This control sends a signal from the FX/Aux return to the Monitor speakers and Monitor Line Output.



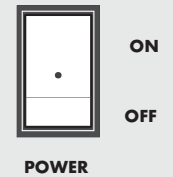
### FX to Main Level

**26** This control sends a signal from the FX/Aux return to the Main speakers and Main Line Output.



### Power On/Off

**27** This switch turns the HA1000 on and off. When the HA1000 is powered on, the blue Power LED will light.



### Amplifiers Assign Switch

The HA1000 features 2 separate 500-Watt amps

#### MAIN L – MAIN R

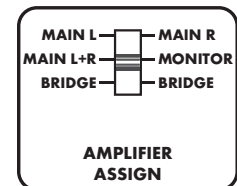
- Stereo Mode
- Output 1 is Left signal
- Output 2 is Right signal
- Monitor outputs to Monitor Out jack only
- 4Ω minimum speaker load per output

#### MAIN L+R – MONITOR

- Dual Mono Mode
- Output 1 is Main
- Output 2 is Monitor
- 4Ω minimum speaker load per output

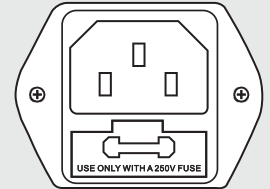
#### Bridge – Bridge

- Amplifier 1 and 2 combine into a single, larger amplifier (Mono)
- Bridge Output is typically used for subwoofer, with Main and Monitor Line Outputs connected to powered speakers
- 8Ω minimum speaker load



# Rear Panel Connections

AC INPUT: 120V ~ 60Hz  
 FUSE: T1.2AL AC250V  
 RATED POWER  
 CONSUMPTION: 1300W



29

## AC Power Cord Input

This is the AC Mains connection. Use only the supplied IEC cable or a UL listed replacement IEC Cable and 120V/60Hz AC outlet.

30

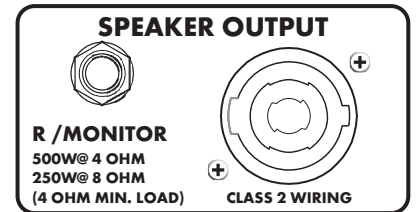
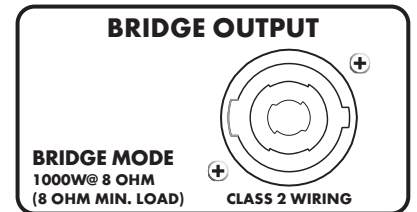
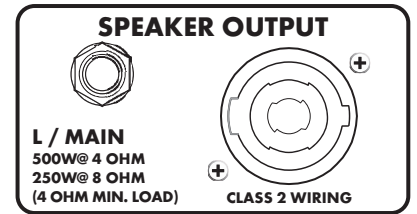
## Speaker Outputs

**L/Main** Connect up to two (2) loudspeakers to the speaker output jacks. Note that the HA1000 power amp is rated at 4Ω Minimum Load. You may safely connect 2 x 8Ω speakers or 1 x 4Ω speaker.

**Bridge Output (Mono)** Connect one (1) 8Ω speaker to this output. Note that damage may occur to the HA1000 if using Bridge Mode with more than one 8Ω speaker.

**R/Monitor** Connect up to two (2) loudspeakers to the speaker output jacks. Note that the HA1000 power amp is rated at 4Ω Minimum Load. You may safely connect 2 x 8Ω speakers or 1 x 4Ω speaker.

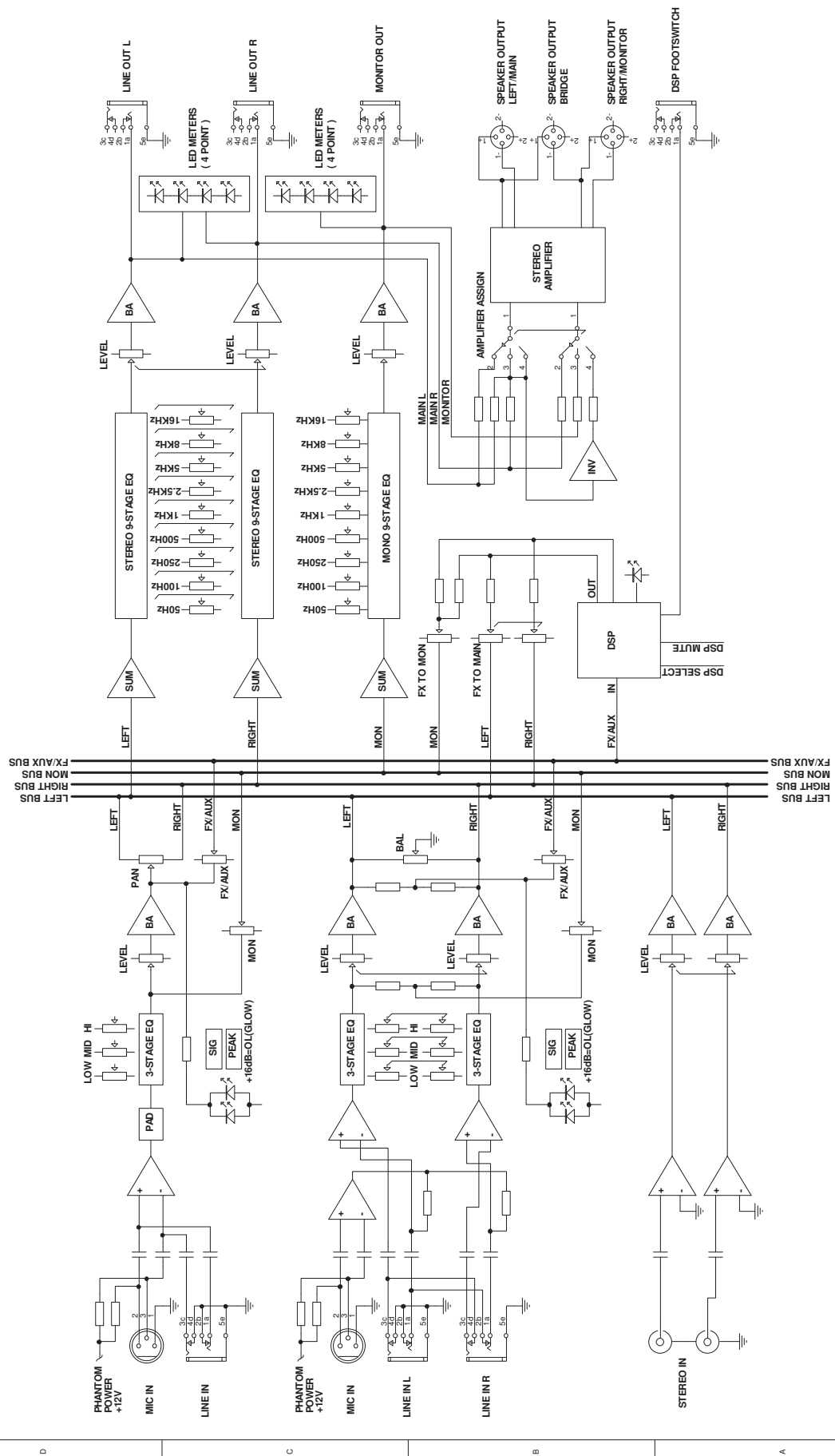
Note: Twist-lock outputs are configured 1+ (pos)/1- (neg).



# Specifications

<b>Power Amplifier (Output):</b>	(2x) 500 Watts	
<b>Input Channels</b>	Microphone Inputs	Electronically balanced, discrete input
	Frequency Response	20Hz to 20kHz, $\pm 3$ dB
	Gain	50dB
	Line Inputs	Electronically balanced
	Frequency Response	20Hz to 20kHz, $\pm 3$ dB
	Gain	20dB
<b>Impedance</b>	Microphone Input	1.5k $\Omega$
	All Other Inputs	10k $\Omega$ or greater
	Tape Out	1k $\Omega$
	All Other Outputs	120 $\Omega$
<b>Equalization</b>	High Shelving	$\pm 15$ dB@12kHz
	Mid Shelving	$\pm 12$ dB@2.5kHz
	Low Shelving	$\pm 15$ dB@80Hz
	Graphic EQ	(2x) 9-band, 4/3 Octave
<b>DSP section</b>	A/D and D/A Converters	24-Bit
	DSP Resolution	24-Bit
	Type of Effects	Vocal, Small Room, Large Hall, Echo, Echo+Reverb, Flanger+Reverb, Plate, Chorus+GTR, Rotary+GTR
	Presets	100
	Controls	100-position selector, Clip LED, Mute Switch with LED indicator
<b>Main Mix Section</b>	Noise (Bus noise)	Fader 0dB, channels muted = -85dBr (ref: +4dBu) Fader 0dB, all input channels assigned and set to Unity Gain = -81 dBr (ref: +4dBu)
	Monitor Max Out	+22dBu unbalanced, 1/4" jacks
	FX Sends Max Out	+22dBu unbalanced, 1/4" jacks
	Total Harmonic Distortion	< 0.5% @ 1 Watt output power; < 1% @ 300 Watt output
	Signal to Noise Ratio	Output line to 1kHz = >65dB
	Static Power Consumption	No output power state at 230V = < 50 Watts
	Power Source	110~127V/60Hz

HA1000 — BLOCK DIAGRAM



# Warranty

So we may serve you better, please register on-line at [www.HarbingerProAudio.com](http://www.HarbingerProAudio.com)

**2** **Harbinger Limited Warranty** Harbinger provides to the original purchaser a two (2) year limited warranty on materials and workmanship on all Harbinger cabinets and loudspeaker components from the date of purchase.

If your covered product is defective, ship the defective component together with proof of purchase – freight prepaid and insured – to an Authorized Harbinger repair center. Please contact Harbinger Support Headquarters for assistance at

[support@HarbingerProAudio.com](mailto:support@HarbingerProAudio.com), or visit [www.HarbingerProAudio.com](http://www.HarbingerProAudio.com).

A Return Authorization Number must be obtained from our Customer Service Department prior to shipping the product. To locate a repair center near you and to obtain a Return Authorization Number, contact [support@HarbingerProAudio.com](mailto:support@HarbingerProAudio.com) or visit [www.HarbingerProAudio.com](http://www.HarbingerProAudio.com).



**SOUNDENGINEERING**  
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This warranty does not cover service or parts to repair damage caused by neglect, abuse, normal wear and tear and cosmetic appearance to the cabinetry not directly attributed to defects in materials or workmanship. Also excluded from coverage are damages caused directly or indirectly due to any service, repair(s), or modifications of the cabinet, which have not been authorized or approved by Harbinger. This two (2) year warranty does not cover service or parts to repair damage caused by accident, disaster, misuse, abuse, burnt voice-coils, over-powering, negligence, inadequate packing or inadequate shipping procedures. The sole and exclusive remedy of the foregoing limited warranty shall be limited to the repair or replacement of any defective or non-conforming component. All warranties including, but not limited to, the express warranty and the implied warranties of merchantability and fitness for a particular purpose are limited to the two (2) year warranty period. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. There are no express warranties beyond those stated here. In the event that applicable law does not allow the limitation of the duration of the implied warranties to the warranty period, then the duration of the implied warranties shall be limited to as long as is provided by applicable law. No warranties apply after that period.

Retailer and manufacturer shall not be liable for damages based upon inconvenience, loss of use of product, loss of time, interrupted operation or commercial loss or any other incidental or consequential damages including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in equipment that is used with Harbinger products. This guarantee gives you specific legal rights. You may have other legal rights, which vary from state to state.

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