

MIX8S



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INTRODUCTION

Thank you for selecting the U.S. Audio Mix 8S stereo line mixer. This mixer represents an excellent value for monitoring and mixing multiple stereo feeds, delivering the highest quality audio performance in a compact one rack space package. The U.S. Audio Mix 8 is a true stereo 8 channel line level mixer, designed for use in broadcast production, as a studio mixdown / monitor mixer for multitrack recorders or in countless other applications. Features include stereo channel level controls, and a headphone monitor circuit with individual volume control. The Mix 8S can provide up to 36 dB of gain, with a professional quality signal to noise ratio and full frequency response. All connections are made through balanced 1/4" tip-ring-sleeve jacks.

UNPACKING

U.S. Audio has made every effort to ensure that your equipment is received in the same perfect condition it was when it left the factory. Please inspect your product for any signs of damage during shipping and report them to your dealer so that a claim can be made to the shipper. We recommend that you save your packing material for use in the unlikely event that you need to return your equipment for service.

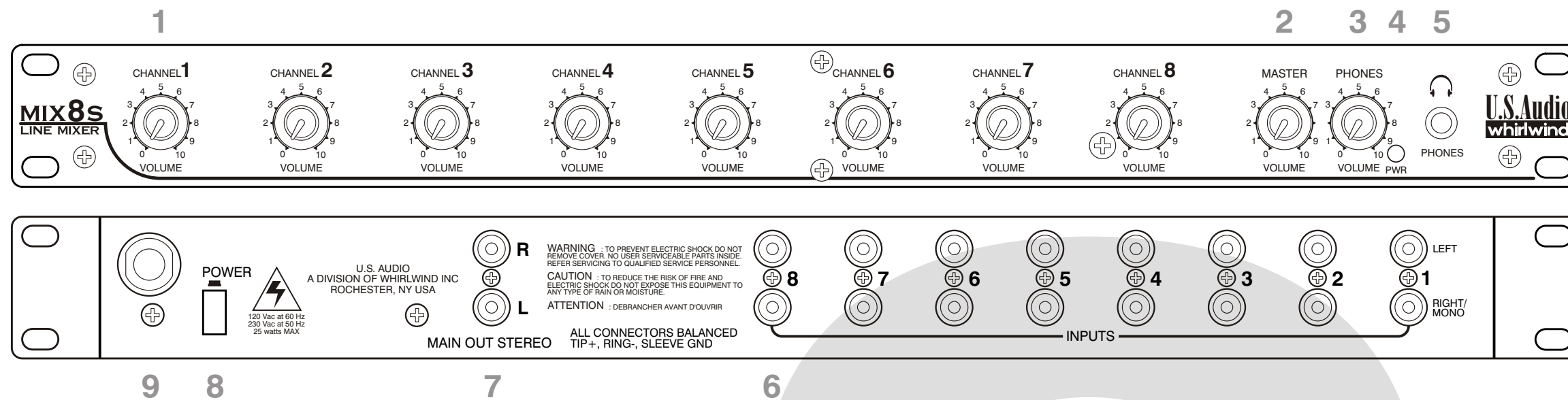
THEORY OF OPERATION

The U.S. Audio Mix 8S is a stereo line level eight channel mixer with separate left and right signal paths. Each of the 8 inputs has left and right balanced 1/4" input jacks. For mono input, the right jack can be used alone and it will "Y" the signal to both left and right busses. The signal is actively balanced through differential buffer amps and sent to gain circuits. Each channel has a dual element level control with a gain range of -60 to +18 dBm, allowing user control over a wide range of input audio levels. Unity gain is at the 12 o'clock position for both channel volume and the master volume.

Signals from individual channels are summed together and delivered to both master gain stages and to the headphone driver circuit. The left and right master outputs are controlled by a stereo volume pot which has a gain range of -60 to +18 dBm. The 60 dBm of attenuation turns off the audio signal at the main outputs if necessary.

The Mix 8S headphone circuit monitors the left and right busses and will drive stereo headphones with impedances greater than 30 ohms. The front panel stereo 1/4" headphone jack has a volume control with a range of -60 to +18 dB. The signal going into the headphone circuit is a pre master fader.

Careful layout of the circuit board and a star grounding scheme ensure no internal ground loops between channels and / or sections of circuitry. Using low noise components, noise is 81 dB below 0 dB at unity gain, with one channel up and 78 dB below 0 dB will all channels up at unity. The Mix 8S utilizes a dual transformer power supply which is configured with internal jumpers for 120 VAC 60 Hz or 230 VAC 50 Hz operation. There is an internal fuse on the hot side of the AC cord, and the power switch makes and breaks both the hot and neutral legs of the AC cord.



CONTROLS AND FUNCTIONS

1. INPUT LEVEL CONTROL varies the amount of signal sent to the master left and right busses through a range of 60 dBm attenuation at full off to +18 dBm of gain full on.

2. MASTER VOLUME CONTROL determines the amount of signal from the summing amps that is fed to the left and right outputs. This also has a gain range of -60 to +18 dBm.

3. HEADPHONE VOLUME CONTROL varies the signal at the headphone jack. The signal going into the headphone circuit is pre master fader and independent of the master volume pot.

4. POWER LED indicates that the unit is turned on.

5. HEADPHONE JACK drives stereo headphones with impedances greater than 30 ohms and is wired with left to tip and right to ring.

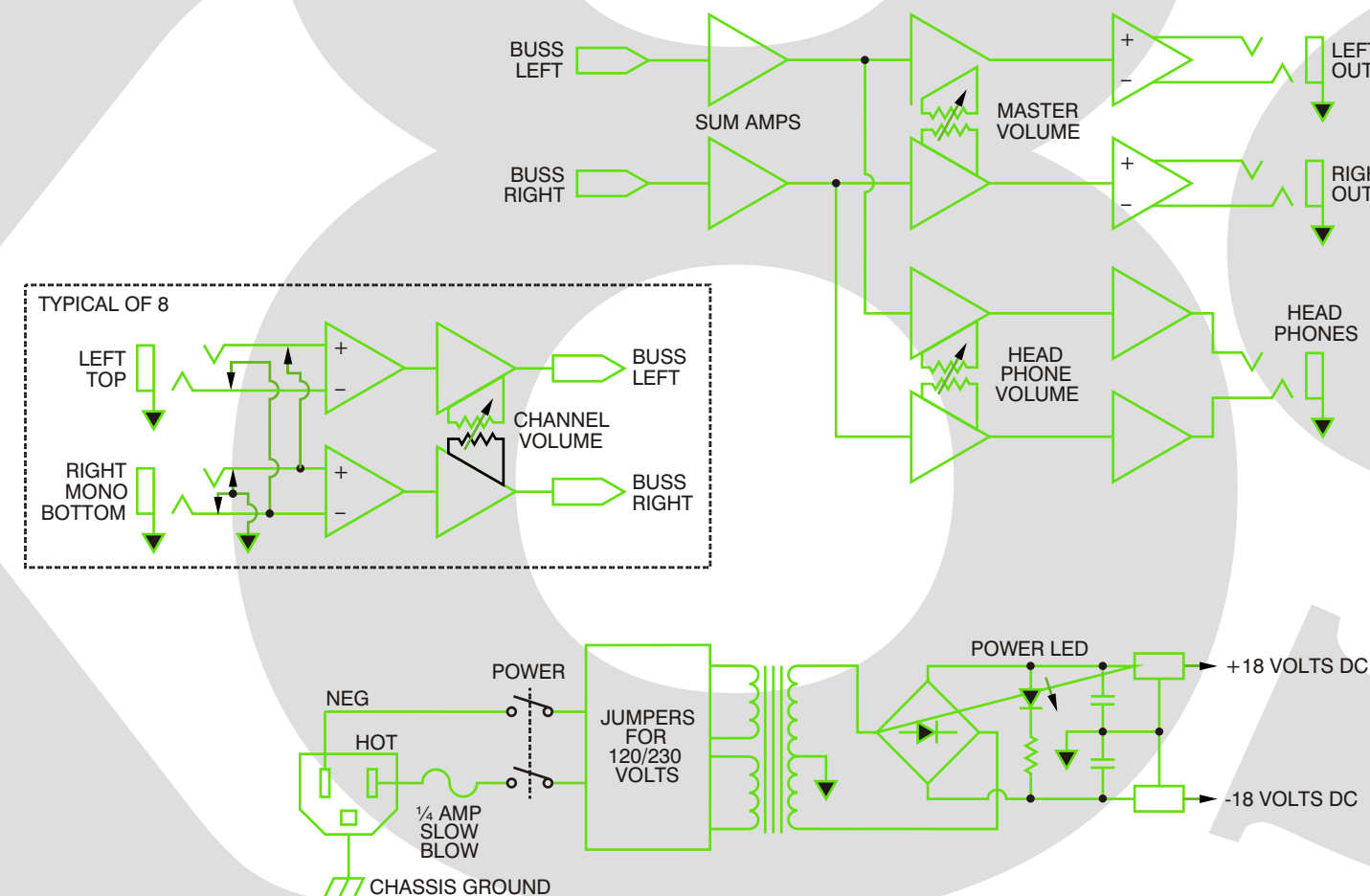
6. LEFT AND RIGHT INPUT JACKS for each of the 8 channels are balanced 1/4" TRS. For mono input, the right jack can be used alone and it will "Y" the signal to both inputs.

7. LEFT AND RIGHT MAIN OUT JACKS controlled by the front master volume pot are balanced 1/4" TRS and will drive balanced or unbalanced inputs.

8. POWER SWITCH connects AC to the transformer primary and the front panel LED indicates that the unit is working. Both sides of the AC line are switched and the main fuse is located on the circuit board inside the unit.

9. POWER CORD has a standard 15 amp plug for 120 VAC and has no plug on the Mix 8S 230 VAC model. Black is line, white is neutral and green is earth.

BLOCK DIAGRAM



SPECIFICATIONS

Frequency Response	+ .5 dBm 20 Hz to 20 kHz +3 dBm 7 Hz to 58 kHz
Input Impedance All Inputs	20 k ohm Unbalanced
Maximum Input Level All Inputs	+21 dBm
Output Impedance All Inputs	100 ohm
Maximum Output Level	+22 dBm
Rise Time	6 uS
Stereo Separation	>60 dBm
Minimum Headphone Impedance	30 ohms
Noise One Channel Unity Gain All Channel Unity Gain	-81 dBm -78 dBm
T.H.D. + n	<.01% 20-20kHz
Range of Gain Controls	-60 to +18 dBm
Mute Attenuation	60 dBm
Total Gain	36 dBm
Power Consumption	.15 Amps Max. A.C. At 120 VAC .15 Amps Max. A.C. At 230 VAC
AC Dropout Voltage	+105 VAC at 120 V nominal +205 VAC at 230 V nominal
Size	Single Space Standard E.I.A Spec 19.0" (482.6mm) Width 6.0" (152.4mm) Depth 1.75" (44.45mm) Height
Weight Shipping Weight Unit Weight	7.5 lbs (3.40 kg) 6.0 lbs (2.72 kg)

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

U.S. Audio
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