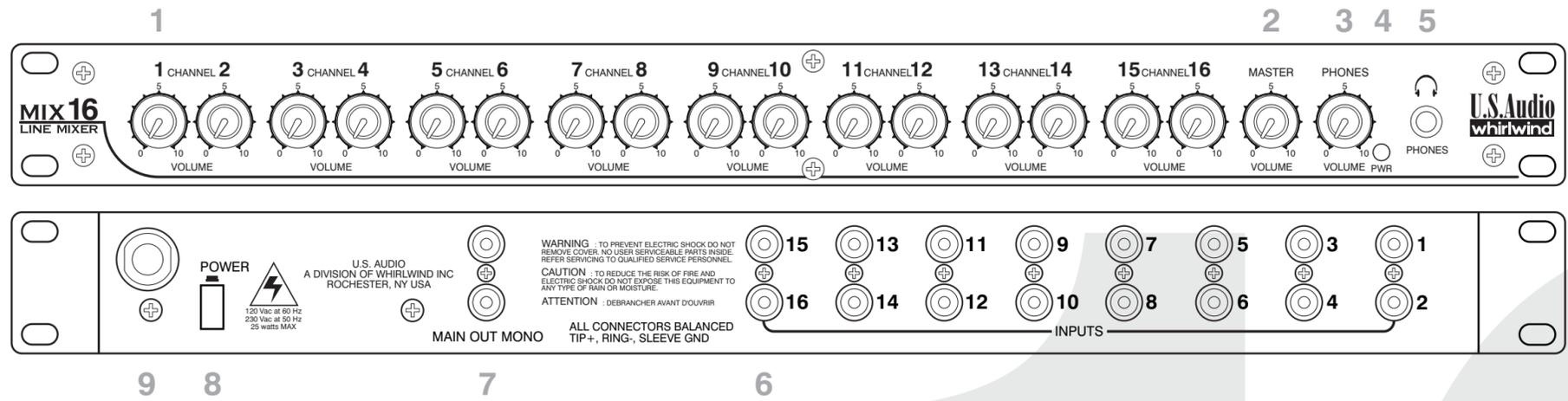


MIX 16



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
One Channel Unity Gain	-81 dBm
All Channel Unity Gain	-76 dBm
T.H.D. + n	.015%
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)

MIX 16 MONO REVISION 2.1
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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INTRODUCTION

Thank you for selecting the U.S. Audio Mix 16 line mixer. This mixer represents an excellent value for monitoring and mixing multiple feeds, delivering the highest quality audio performance in a compact one rack space package. The U.S. Audio Mix 16 is a 16 channel balanced 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 channel level controls, and a headphone monitor circuit with individual volume control. The Mix 16 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 16 is a line level mixer with 1/4" tip-ring-sleeve input jacks. Each input signal is actively balanced through a differential buffer amp and sent to the channel gain circuit. Each channel has a level control with a gain range of -60 to +18 dBm, allowing operation with a wide range of input volume 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 the master gain stages and to the headphone driver circuit. There are two main output jacks controlled by a single volume pot which has a gain range of -60 to +18 dBm. Each output jack is balanced (tip is positive) and driven by a separate circuit. The 60 dBm of attenuation turns off the audio signal at the main outputs if necessary. The Mix 16 headphone circuit monitors the summing buss 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 76 dB below 0 dB with all channels up at unity.

The Mix 16 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. INPUT JACKS** for each of the 16 channels are balanced 1/4" TRS.
- 7. MAIN OUT JACKS** controlled by the front master volume pot are balanced 1/4" TRS and will drive balanced or unbalanced inputs. Each jack has a separate drive circuit.
- 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

