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## **Audio Meter and Audio Mixer**

### **Technical Features: Audio Meter and Audio Mixer**

The Dorrough 12- A Analog Loudness Meter's is 8 ¾" W x 3 1/8"H x 3" D. It is a small curved dual channel with 14 dB (decibel, one decibel is one tenth of a Bel, describes the quantity of what is being measured and a reference)<sup>1</sup> of Headroom (safety zone, allowing transient audio peaks to exceed the normal level without damaging the system or the audio signal)<sup>2</sup>. The meter is based on the American Standard for the Western (VU) Meter. VU are voltmeters calibrated in power<sup>3</sup>. This is a reading device to ensure that the audio signal complies with safety standards.

The audio meter works with the audio mixer to transfer the audio signal. According to the Dorrough manual, PEAKS can be read by the three red LEDs, and RMS are driven to the center of 3 red LED's<sup>4</sup>. It is important to pay attention for relative loudness, which when the operator sees red on the audio meter, then the levels should be pulled back slightly<sup>5</sup>. According to the RANE manual, the RANE AM 1 is an audio mixers that consists of inputs and outputs. The mixer has mic input level controls, mic mix level control, aux 1 and aux 2 mix level, USB mix

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<sup>1</sup> "Understanding DB." *Understanding DB*, [www.jimprice.com/prosound/db.htm](http://www.jimprice.com/prosound/db.htm).

<sup>2</sup> [https://en.wikipedia.org/wiki/Headroom\\_\(audio\\_signal\\_processing\)](https://en.wikipedia.org/wiki/Headroom_(audio_signal_processing))

<sup>3</sup> [https://proaudio.com/images/InstructionManual\\_Dorrough\\_A-and-Bseries](https://proaudio.com/images/InstructionManual_Dorrough_A-and-Bseries)

<sup>4</sup> "Audio/ Video Meters Ans Test Equipment." *Dorrough*, [www.dorrough.com/12.html](http://www.dorrough.com/12.html).

<sup>5</sup> "Audio/ Video Meters Ans Test Equipment." *Dorrough*, [www.dorrough.com/12.html](http://www.dorrough.com/12.html).

level, main output level, phones source, phones level, phones, locate indicator, and power indicator.

### **How Do They Work**

The audio meters check in real time the peaks that sometimes aren't heard, and displays the audio signal that you are capturing. Whereas the audio mixer is used to route or combine the audio signal, and can make any adjustments to it<sup>6</sup>. Audio meter is set up to monitor the audio signal coming from the analog signal. The audio meter is hooked up to the analog and the captured card. There are certain sections in the meter that one should pay close attention to, to ensure that the signal is not being transmitted too loud, or not staying within standards. The audio mixer is connected to the meter and captured box. The mixer is essentially directing the analog signal to be transferred onto the captured card. What ends up on the captured card, the signal can also be seen on the audio meter equipment, to ensure that it not only is the original signal but there isn't any error that can be detected, for example being too loud of a signal. This process requires the use of XLR connectors and RCA connectors<sup>7</sup>.

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<sup>6</sup> "AV Basics: Mixers and Amplifiers." *Meeting Tomorrow*, [meetingtomorrow.com/content-library/av-basics-mixers-and-amplifiers](http://meetingtomorrow.com/content-library/av-basics-mixers-and-amplifiers).

<sup>7</sup> Haydon, Kelly R. "NTSC Components, Signal Flow, Test Patterns." *Google Slides*, Google, [docs.google.com/presentation/d/13PS06HgV\\_NfL4bJeawixbCJF529tBJnkS03N0M3G0rw/edit#slide=id.g2705f784f1\\_0\\_302](https://docs.google.com/presentation/d/13PS06HgV_NfL4bJeawixbCJF529tBJnkS03N0M3G0rw/edit#slide=id.g2705f784f1_0_302).