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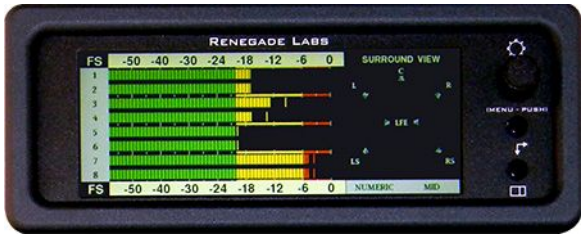
Renegade Labs unveils new Loudness Monitoring for 328 Series Digital Audio Mixers at NAB2012

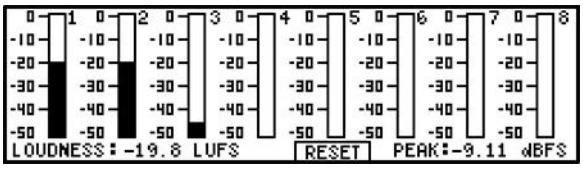
Mixers display gated-loudness level acquired over time, along with peak signal on Meter View.

Las Vegas Convention Center, NV: During this year's NAB2012 Convention Renegade Labs unveiled a new Loudness Monitoring feature for the successful 328 Series digital audio mixers. Using the ITU-R BS.1770-2 gated algorithm, the mixers will display the gated-loudness level acquired over time, along with the peak signal; both levels are displayed on the mixer's Meter View. Both the loudness level and peak signal can be easily reset or cleared to initiate a new loudness-monitoring session.

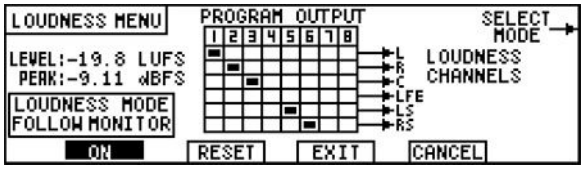
"As loudness conformance has become an issue within the broadcast industry," explains company co-founder/president Kirk Bradford, "Renegade Labs felt that loudness monitoring was an important feature to add to our 328 Series of digital audio mixers. When enabled, loudness level and peak signal are displayed on the mixer's Meter View. A new menu also allows the loudness monitoring to follow the mixer's monitor mode, or be set to manual mode where custom configurations can be created. For example, the user may be mixing multiple channels with more than one dialog track and wants to check the loudness on a particular dialog track without affecting the actual program mix. A custom configuration can be easily created to accomplish this."



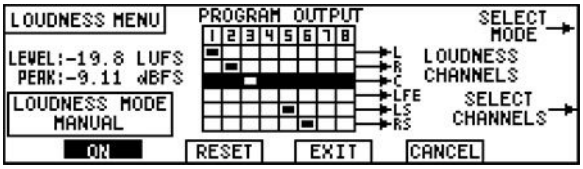
MX Meter – Surround Level Display



Meter View – Loudness level and Peak signal



Loudness Menu – Monitor Mode



Loudness Menu – Manual Mode

Note to editors and writers: High-resolution images of these Loudness Monitoring displays in TIFF/JPEG formats are available upon request.

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The Series 328 mixer's flexible input architecture enables loudness to be monitored for analog, AES/EBU-format digital (with or without sample-rate conversion) or SD/HD-SDI de-embedded audio sources. Because all loudness monitoring is performed on the mixer's program buses, any combination of inputs can be monitored for loudness levels.

More extensive loudness monitoring will be available on the Mx Metering System, which adds flexible level-metering to any Renegade Labs audio mixer. Fully customizable with VU, PPM or K meter ballistics and a wide range of industry-standard meter scales, all Mx Metering scales use accurate, true RMS ballistics, instead of simplified peak or average values. "Surround monitoring is straightforward with a single push of a button," Bradford adds, "using the Mx Metering System's built-in surround views." Available in panel mount or in a separate 2RU panel, the Mx Metering System can accommodate the most demanding metering applications.

ITU-R BS.1770 Specifications

Ratified in 2007, ITU-R BS.1770 specifies a method to compute long-term loudness and peak-level detection, utilizing a K-weighting filter that approximates the frequency sensitivity of human hearing at moderate listening levels. The measurement results are referenced to digital full-scale and indicated by LKFS (loudness that is K-weighted relative to full scale). Many countries, including the majority of those in Europe and North America, have adopted ITU-R BS.1770 to measure loudness levels and then use that value to set metadata values or, in the absence of such data, to use such levels to scale the material so that it matches a consistent, BS.1770-codified value.

In August 2010, the European Broadcasting Union's PLOUD Loudness Group developed EBU Recommendation R128, which specifies a technique for metering and normalizing audio, based on ITU-R BS.1770. Since the specification lacks a gating function, low-level audio can produce a reduced loudness reading. As a result, R128 is accompanied by EBU Loudness Metering specification EBU Tech 3341, which includes an EBU Mode with gating thresholds and other parameters, including Momentary (400 mS), Short Term (3 second) and Integrated (from start to stop) modes, plus signals to test such meters. A Loudness Range parameter also was defined in EBU Tech 3342, which, for the first time, measures the difference between the soft and loud parts of a program.

Within North America, it is recommended that a Loudness Target Level of -24 LKFS be used by broadcasters; within Europe the target value is -23 LUFS (loudness units referenced to digital full-scale; functionally equivalent to LKFS) with a gate of -10 LU (1 LU being equivalent to 1 dB) relative to the ungated loudness level.

About The Company

Team Renegade enjoyed the benefit of working together for over a decade before creating this new company. As part of the Emmy® Award-winning Graham-Patten Systems team, each of the Renegade founders gained extensive knowledge and experience in designing, building, testing, selling and supporting industry-leading products for the video professional worldwide.

Renegade Labs has taken this experience, applied new technologies, added a keen desire to create products that our customers want and need, and threw in a bit of renegade-styled energy. The result is the creation of a family of high-quality products that the company hopes its customers will rely on for years to come.