

RTW's TouchMonitor

The audio meter features a touch screen and a flexible configuration.

BY MIKE KAHSNITZ

The entire pro audio industry, particularly those working in broadcast, is currently undergoing a fast paradigm shift from traditional peak metering of audio programs towards integrated loudness management. This is mainly a result of some of today's current standards and recommendations, such as EBU R128, ITU 1770/1771, ATSC A/85, the CALM Act and ARIB. This change will soon affect the daily tasks of many audio teams, from content generation to the distribution of the final product over a number of channels. Today, older metering instruments hardly meet current requirements due to insufficient computing power.

Here in the U.S., the CALM Act that Congress passed last year requires the FCC to adopt the ATSC A/85 guidelines. Originally approved by the ATSC in 2009, an updated version of these guidelines was published in May, which has left the pro audio industry with the task of finding and implementing the best systems for adhering to these regulations.

As a member of the P/Loud group of the European Broadcasting Union (EBU), I work on loudness recommendations mainly for the EU. It became obvious, however, that the modern loudness measurement equipment required for putting these new regulations into practice should meet not only local, but any relevant international regulations as well. On top of this, as regulations on new topics tend to develop quite fast, it should be easy for the user to update his or her equipment to adapt to any upcoming version of such recommendations and regulations.

Finding solutions to meet these



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new regulations has been challenging, especially as we inch closer to the deadline for implementation of these new standards. From its years of research, expertise and involvement in groups such as the EBU, RTW has developed a new metering product: the TouchMonitor range. This family of products combines the technological benefits of dedicated hardware with the flexibility of software and an ergonomic touch-sensitive display. The first two models of the new range — the TM7 with a 7in display and the TM9 featuring a 9in display — integrate the entire signal processing functionality, the display unit and all interface ports into a hardware unit with an overall depth of 46mm.

A TouchMonitor simultaneously visualizes up to 16 signal sources using many flexible and advanced instruments. The 3G-SDI interface for the TM9 model is capable of processing and visualizing up to 32 input signals at the same time. In addition, the unit handles and displays many independent audio groups simultaneously within the same preset. Each group

can be displayed on different instruments. In addition, while the screen layout of traditional RTW meters was largely static, the new audio meter allows for freely arranging, scaling and, where appropriate, rotating all instruments that are part of a preset on the screen. Thus, the user can quickly access a large number of signal paths, each configured with the appropriate instruments using presets.

The system comes with no mechanical controls; the user controls the units using just the 16:9 touch-sensitive display screen. Alternatively, if the environment does not allow for touchscreen operation, the GUI can also be controlled using a mouse. Initially, the majority of instruments known from previous RTW metering products were made available on the system. These include a large number of peak-meter models, a vectorscope, an RTA and the Surround Sound Analyzer used for visualizing multichannel audio.

Meanwhile, the unit also supports various new developments, including several instruments for visualizing channel or sum loudness on a graphical or numerical basis that comply with the current EBU, ITU, ATSC and ARIB recommendations. Originally designed by TC Electronic, the loudness radar meter with its characteristic circular view was licensed for use on the system.

From the range of functions, the user can select exactly those instruments needed for his or her specific application thanks to the concept of software modules, which can be added at any time in the future with appropriate software licenses. Thus, the audio meter's universal hardware platform allows for configurations as simple as stereo peak meters to

full-fledged multifunctional multi-channel-enabled metering systems.

The menu system developed for the system guides the user through the process of making relevant settings, including the analog or digital domain, channel counts, and the loudness standard to be applied or the instrument selection. This allows for creating new presets quickly and in a target-oriented manner.

For each single-channel or multi-channel audio signal to be displayed on the system, the user sets up a separate audio group defining the desired input channels, the channel configuration and other details. Each audio group can be populated with instruments suitable for the selected domain and channel mode if the appropriate licenses have been unlocked. After creating the groups for all sources to be visualized within a preset, the user can freely place instruments from those groups on the

available screen area using the graphical view editor. This allows for displaying a number of entirely independent sources with their relevant instruments on the screen at the same time.

Without a doubt, loudness is one of the major reasons for the increased interest in audio metering today. When designing this new audio meter, RTW opted for a loudness implementation that fully complies with all current standards and recommendations but also allows for customizing all critical parameters such as integration times or gating. On the other hand, if you select an established setting such as the EBU mode that is specified by the EBU R128 standard, the standardized parameters cannot be altered. This way, the user always knows whether a measurement is standards-compliant or based on custom settings. **BE**

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