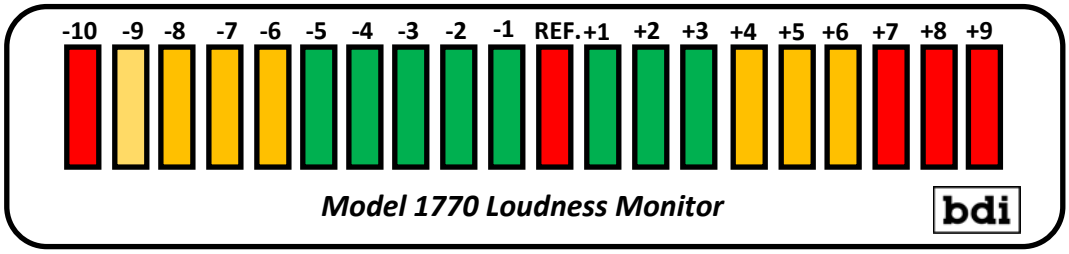
The 1770 Loudness Monitor

Monitor Loudness for Program Level Consistency



Description:

The VU meter standard was intended to offer stability in the transfer of program content. The VU meter was designed to measure "Volume" and to provide a meter movement standard with a cadence which reflected program content. Today audio is more complex with an emphasis of making programs louder.

Much of today's program content resides in a digital based file system. Content enters the file based system via many sources, satellite, internet, CDs, thumb drives and local input but the issue remains the same. The task is to insure content consistency in loudness throughout the physical plant.

The ITU BS-1770 document offers a standard by which to monitor program content for today's challenging audio environment. Each channel to be measured has its own separate path through low frequency roll off and mid frequency shelf equalization and into a RMS detector, which measures the energy content in that channel. The channels are then summed and presented to the indicator as a measure of the loudness content of the combined signals.

The 1770 Loudness Monitor is offered as a modular system consisting of a power supply, the audio interface and most importantly the display. The audio interface is placed where it is convenient for connection to either a two-channel stereo analog input or switchable to an equivalent AES digital input. Connection to the display is via a modular supplied cable. The display may then be placed in a convenient area on the operating surface.

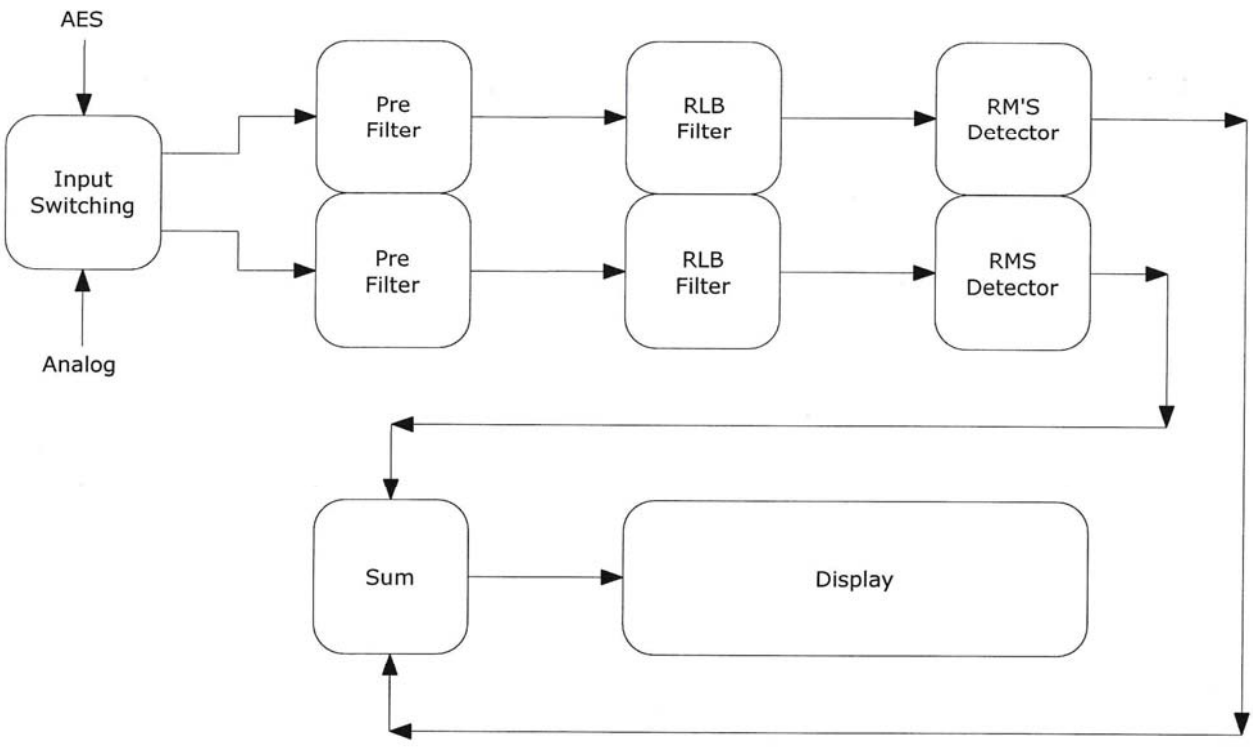
The device is calibrated for -24 dBfs, which is the recommended reference for program distribution here in the USA. There are differing recommended levels for providing programs on the Internet and elsewhere so provision is made for calibration to other references via USB connection to an external computer.

Operation is simple. The LED display is given in 1 dB steps. The reference point is a red LED located mid-scale. Colors suggest keeping the program material in the green, with an amber adjacent scale. Program levels outside of the "Comfort Zone" amber adjacency are displayed by adjacent red LED's.

Loudness control and more importantly consistent audio levels are important to film and television production in addition to broadcast TV/Radio and now Internet Streaming. If its audio that anyone else is going to listen to the monitor and standards by which audio levels are set for program content are more important than ever. That's why the BDI 1770 Loudness Monitor should be part of your production or post production suite of tools.

Technical Specifications

Input Types:	Balanced Analog Input or AES3 XLR—Switchable
Nominal Input Level:	-24 dBFS Equivalent to 0 dBm—adjustable
Display Type:	Multicolor LED Array
Power Requirement	100 – 240 VAC 50-60 Hz.
Environmental:	0-60 Degrees C. Non Condensing Atmosphere



The 1770 Loudness Monitor Block Diagram