TLM 1

RC AUDIO

TOTAL LEVEL MANAGEMENT SYSTEM

(aka TOLEM)

Introducing the TLM 1

The TLM is a totally new type of product.
It features an array of unique tools specifically designed to work seamlessly together to provide a complete and transparent audio level control solution.
There is no other similar product available that will manage average loudness levels, maximum loudness levels and sub/bass levels in such an effective and transparent manner.
It is a real game changer for managing levels of sound systems and events accurately yet transparently. Total control of loudness and sub/bass, but without the audible degradation associated with other solutions.

The TLM1 features:-
-An advanced version of our proven LEVELIZA system to manage average loudness levels.
-Our new NOPE LIMITER system to restrict maximum loudness levels.
-Our new OVERLYSER circuit to analyse musical content and identify significant program level increases so that the LEVELIZA can more quickly adapt to them, whilst preventing the LEVELIZA from being prejudiced by other short term loud bursts such as over-gained microphones/sound effects/etc.
-Our unique and proven BASSWATCH system to manage maximum
sub/bass levels.
-Both analogue and AES digital inputs and outputs.

In a world where so many top quality sound systems are audibly crushed by limiters, the TLM finally offers an automated way to «engineer» your optimum and maximum levels while maintaining complete fidelity and dynamic range in the system.

What does the TLM 1 do?

he TLM's LEVELIZA identifies the audibly loudest significant components in a music signal, and then analyses them over a period of time to identify the average perceived loudness of the music. When this drifts above the set threshold the LEVELIZA very slowly and subtly adjusts the system gain to try to maintain the average perceived loudness around the threshold.

-Just like an engineer would listen and monitor average loudness levels, then gently ease the fader down or up a tiny bit at a time to maintain the necessary loudness.

The NOPE LIMITER allows a specified amount of headroom above the LEVELIZA's average loudness threshold, above which it will quickly yet subtly limit any louder content to keep the maximum loudness within the specified headroom.

If there is a slow increase in level then the LEVELIZA will slowly adjust system gain back to maintain consistent loudness. If there is a sudden dramatic increase in level then the NOPE LIMITER will quickly respond to limit this excessively loud content within the prescribed headroom. If the NOPE LIMITER is limiting significantly for more than a few seconds then the OVERLYSER circuit will analyse the content to identify if the LEVELIZA should adapt quicker to a program level increase or if the NOPE LIMITER should keep handling the excess if it is an over-loud microphone or sound effects, etc.

Aside from the «loudness» of the signal, the BASSWATCH system will continuously monitor the sub/bass content below 100hz and will restrict the maximum levels of this low frequency content to a specified threshold without any affect on the content above 100hz. The BASSWATCH does this without audible compression or pumping, just totally transparent and effective sub/bass level control.

AES Digital Inputs and Outputs as well as conventional balanced analogue ones are provided to allow flexibility in installation.

Benefits for noise level compliance

The LEVELIZA system is uniquely beneficial in situations requiring dB LAeq noise level compliance.

- Typically the requirement is for an average dB LAeq level not to be exceeded at specific location(s), and this is usually measured over a specific period such as 15 minutes.

Unlike other conventional limiters and solutions that simply limit the MAXIMUM level, the LEVELIZA works differently to limit the AVERAGE level, and it is usually the AVERAGE (not the MAXIMUM level) that is being measured. So, the LEVELIZA is controlling the signal precisely in accordance with what is required to satisfy an «LAeq» average offsite noise measurement.
The audible result for the music venue is unbelievably good.

With a conventional system limiter all the sound becomes compressed at the threshold level. This delivers a sound suffering from compromised dynamic range and every part of the music is being delivered crushed down at the threshold loudness.

- With a LEVELIZA there is no compression of the sound at all. Much of the music content will be peaking above the threshold level, so the music will actually sound noticeably louder and totally dynamic, and equally the quieter content will be heard quieter as it was supposed to be. The LEVELIZA will however be monitoring the AVERAGE loudness and will consistently maintain this AVERAGE level at no more than the threshold level.

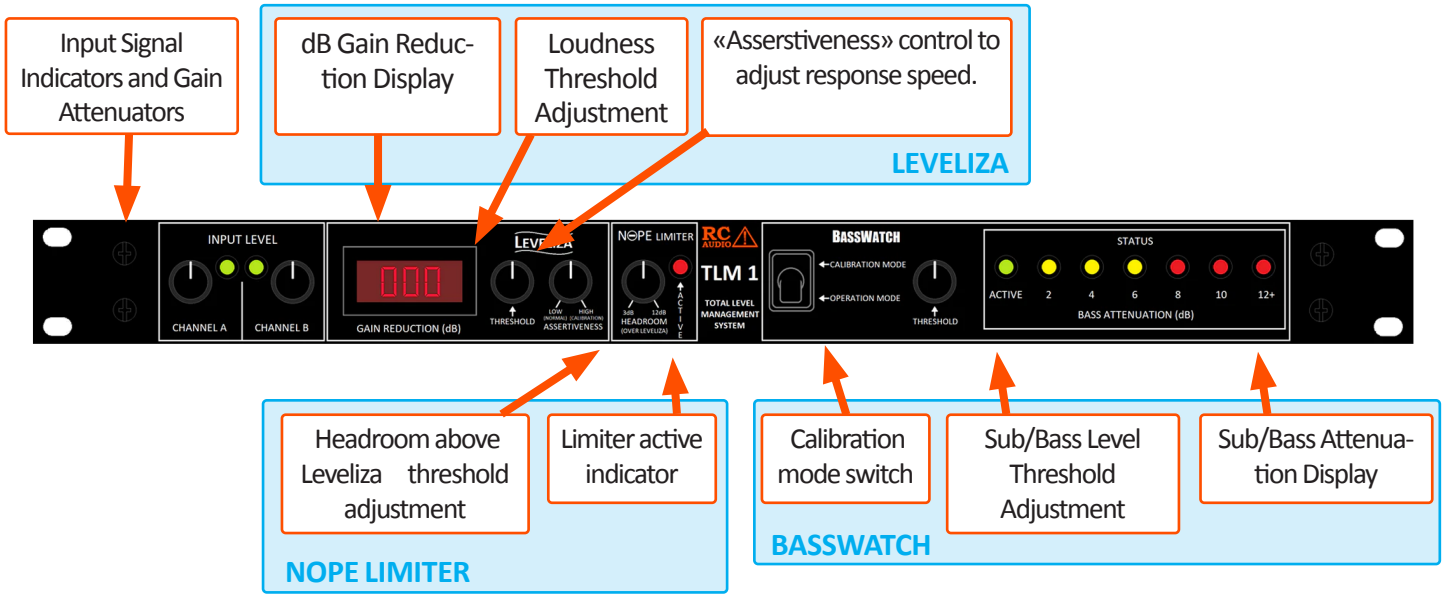
- So, with the LEVELIZA the sound is totally dynamic and audibly louder, whereas with other system limiters it is compressed and quieter, yet the offsite noise readings will measure the same!

BASSWATCH - Other than managing the loudness of the music, as above, there are many situations that require careful management of offsite sub/bass levels and often for this reason require compliance with levels measured on a C or Z weighting.
The BASSWATCH system is uniquely beneficial in these situations because it will maintain the level of the lower frequencies consistently around a preset threshold.

- Once a maximum offsite bass level has been decided upon the BASSWATCH can ensure that this level is complied with regardless of the music/signal that is played, and it will do that without limiting, compressing or pumping the sound so the audible result is very good.

TECHNICAL INFORMATION

Dimensions:	BStandard 19 inch 1U rack case by 300mm deep
Power requirement:	100-240V AC, 47-63 Hz, maximum 0.45A current
Audio Connections:	Balanced XLR in and out per channel for analogue signal
Power Connection:	Standard IEC power inlet type C14
Maximum input level:	analogue 20V RMS (balanced) or 10V RMS (unbalanced) before clipping
AES3 input/output:	up to 96Khz rate, connection as stereo signal with XLR in and XLR out



TLM 1 OPERATIONAL FLOWCHART