Application Note

Product: Minilyzer ML1
Subject: Monitor output

This application note informs you about the features of the ML1 monitor output.

By connecting a headphone to the monitor output you can listen to the signal fed into the XLR- or into the RCA-input.

Is the signal you hear just the input signal ? Not in any case. An automatic gain control is applied to the input signal before being analyzed and made audible from the monitor jack. The input signal is amplified or attenuated with the intention to bring it's peak value to an almost constant level. The control range of the automatic gain control is +/- 20 dB.

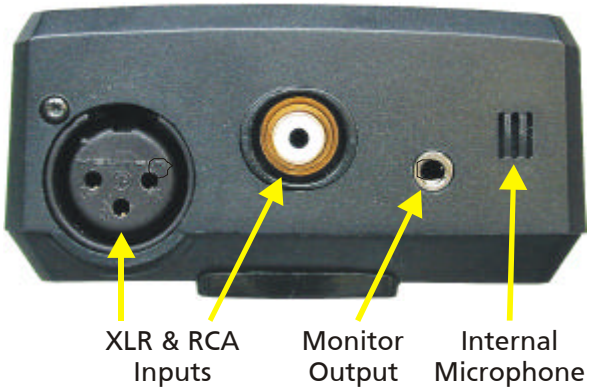

Fig 2, In-/Outputs of Minilyzer ML1

Fig 1, 3.5 mm headphone-connector

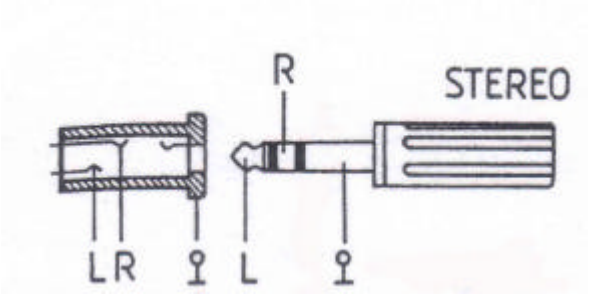

Fig 3, left and right channel stereo connections

Example:

Let's take a sine as input signal with a level in the range of –20 dBu to +20 dBu. This signal is audible with near constant sound level. Input levels below –20 dBu will produce less volume, levels exceeding the +20 dBu margin will be audible with more intense sound and eventually be distorted or even clipped if input level exceeds the instruments input voltage range.

As automated gain control forms a control loop it shows time dependence of amplification (or attenuation) at input signal level changes.

Two characteristics governing gain control time response are implemented into your ML1:

1. The response to level changes of signals like sines is very quick (they exhibit a well predictable envelope). This enables quick display of measurement results with best precision.

2. With music or music like input signals quick amplification shifts as described above would be audible and bothering. Therefore the response is decelerated and smoothed at such signals. The result is a monitor signal being alike a signal coming out of a AGC (automatic gain control) of a tape recorder - as long as the +/-20dB control range margins aren't exceeded.

The following measurement functions include the automatic gain control:

LEVEL RMS, REL
THD+N
POLARITY
BALANCE
SWEEP
SCOPE

Functions not including the automatic gain control are:

LEVEL SPL
vu + PPM
1/3rd Octave

These operation modes restrict amplification to certain fixed values.

Specifications:

Size
3,5 mm (1/8") jack

Connectors
L - Signal of XLR-input, pin 2 (or RCA)
R - Signal of XLR-input, pin 3

Impedance
1 kohm each channel

Voltage Swing
2.4 Vpp approx (sine, AGC active)