LUKA Series DATASHEET

General description & specifications

LUKA series is the new series of digital signal processors from Lynx Pro Audio. The series are conformed by the LUKA-224, LUKA-226 and LUKA-248.

The LUKA series are the latest in the series of digital processors designed, assembled and manufactured by Lynx Pro Audio offering 3 different models with an AES3 input and 2 or 4 analog inputs each and with up to 8 outputs.

• • • Double Dynamics (RMS & Peak) are standard in all processors. These double dynamics lower levels of distortion and provide protection for all the speaker components and internal electronics.

• • • All LUKA units deliver a wide dynamic range of 121dB, high performance AD & DA 32 bit converters running at 48 KHZ. The internal DSP processing works with double precision, achieving an internal resolution of 64 bits, one of the largest resolutions available on the market today.

• • • Equalisation:
User EQ: High-Pass[1] + 10 Parametric[2]
Mode EQ: High-Pass / Low-Pass[1] + 10 Parametric[2]
Out EQ: High-Pass / Low-Pass[1] + 12 Parametric[2] + FIR custom (vary Magnitude and Phase). Taps File (import external FIR) up to 1000 taps.

PEQ Type filters 2: Parametric, Shelving High, Shelving Low, Low-Pass, High-Pass, Low-Pass Q variable, High-Pass Q variable, BandPass, Reject Band, AllPass order 1, AllPass order 2.

Moreover, crossover filters with high and low cuts of Linkwitz Riley, Bessel, Butterworth upto 48 dB/oct slopes in 6 dB steps are available. A 6 dB/octave slope, for instance, corresponding to a first order filter, allows for frequency shading.

• • • LUKA series include three types of presets: Snapshot, User memories and Speaker. Snapshot allows you to capture the complete DSP of all processing, including inputs, priorities, matrix, labels... User memories collect the parametrics/Xover, gain and delay. The Speaker preset consists of the entire process necessary to configure a speaker from 1 to several ways per speaker.

• • • Multiple security levels and types.

• • • Input matrix with three types of configuration: Simple route, Basic and Advanced.

• • • This system features configurable priority inputs. You can define several backup inputs and dynamically choose the highest priority one at any given time.

• • • All processors can be configured and monitored in real time by OCS Software. This software has been designed for fast user access to make each processing zone simpler for the user.

As well as being able to import measurement curves from the principal systems (SMAART LIVE, CLIO, SAT Live etc), they can also be seen directly in the final frequency response window showing the effects of the process applied.

• • • Other features include advanced security features, polarity, gain and delay on ins and outs, routing of any input to any output.

Technical Data

General

Power supply: 85-240 V ~ 40-400 Hz. IEC connector. (Switching power supply, wide range)
Consumption: 20 W.
Operating temperature: -5° to 60° C (23° to 140° F).
Storage temperature: --60° to 75° C (-76° to 167° F).
Humidity: Max. 90% non-condensing.
Dimensions: 483 x 45 x 200 mm.
Weight: 3 Kg

Input

2 or 4 analogic + digital AES3 2 channel
Impedance: 10 K Ohm Balanced (5 K Ohm unbalanced)
Connector: Balanced XLR (pin 2 +)
AD converter: 32 bit-768KHz Sigma-Delta, 512x Oversampling.
Dynamic Range: 121 dB
Max. level: +24 dBu
Digital AES3: 2 channel up to 24 bits 192 KHz

Communication

USB and Ethernet

Audio

Frequency Range: 10 Hz – 24 KHz.
DSP Process: Internal resolution with 64 bit double precision (48 KHz)
Converters: 32 bit resolution.
Propagation Delay: 1.17 miliseconds.

Input matrix

Input Routing matrix Analog/AES3
Configurable backup inputs

Crossover [1]

Linkwitz Riley with 12, 24, 48 dB/oct.
Butterworth and Bessel with 6, 12, 18, 24, 30, 36, 42 and 48 dB/oct.

RMS Limiter-Compressor

1 per output.
Threshold: in Watts.
Compression Ratio: 1:1 to 1:10 (1:infinite with limiter).
Power indication: shows the maximum power applied to the speaker.

Peak Limiter

1 per output
Thershold: In Volts
Peak Indication: Shows the maximum peak Voltage applied to the speaker for the selected threshold.

Front Panel

Display: IPS 320 x 170 mm colour + joystick encoder + up to 12 buttons for Edition and Mute, with light indications.

Level meter:
Input: LED signal + Over Limit.
Output: LED signal + Compression.

Output

4 / 6 / 8
Impedance: 200 K Ohm Balanced (100 K Ohm unbalanced)
Connector: Balanced XLR (pin 2 +)
DA converter; 32 bit-768KHz
Dynamic Range: 120 dB
Max. level: +24 dBu (balanced)

Latency

1.17 ms

Equalisation

User EQ: High-Pass[1] + 10 Parametric[2]
Mode EQ: High-Pass / Low-Pass[1] + 10 Parametric[2]
Out EQ: High-Pass / Low-Pass[1] + 12 Parametric[2] + FIR custom (vary Magnitude and Phase). Taps File (import external FIR) up to 1000 taps.
PEQ Type filters [2]: Parametric, Shelving High, Shelving Low, Low-Pass, High-Pass, Low-Pass Q variable, High-Pass Q variable, BandPass, Reject Band, AllPass order 1, AllPass order 2.

Delay

Input / output: up to 206 ms (70 m)

Other functions

Presets memories library: User (up to 999), Snapshot (up to 999) and Speaker (up to 999).

Control by OCS software:
- Copy / paste function.
- Speaker data import from main audio measurement systems.
- Export & Import EQ files, etc.
- Control groups
- Smaart Link