Ultra-robust multiple-patented pro-ribbon transducer technology

Intuitive 1:1 linear response with unparalleled definition and dynamics

Very precise horizontal and vertical projection control

Fully integrated solution with processing & amplification, rigging & transportation

Factory-direct application and dry-hire support

Future-proof for excellent return on investment

The LR24 is a mid-size line-array sound system, designed to enable a 1:1 non-compromised reproduction of the original sound source at any sound pressure level. Due to the unparalleled, neutral response of the system, it can be used for any application and venue possible, from speech to classical music, pop all the way to pop and hard rock performances.

The system is characterized by a fully predictable, linear response from the lowest to the highest SPL’s, with a complementary 70kHz frequency response up to 20kHz, giving room for full artistic “sound sculpturing”, without having to work around or against the system.

What You Mix Is What You Get

The compact LR24 system contains no less than 6 global patents and patent-applications.
The power behind the glory

Conveying emotions through the pro-ribbon transducer

The heart of the J84 system is the purpose-designed RN1202s 12" pro-ribbon transducer. This technology combines a very high dynamic range with an ultra-low distortion. The all-natural cylindrical waveform and the patented horizontal projection bring a unique pattern control in both the vertical as well as the horizontal plane, up to the highest frequencies without any complex distortion-inducing horn constructions.

The constrained horizontal dispersion extends the imaging sweet-spot to a larger audience. The ultra-coherent vertical dispersion enables a perfect inter-cabinet coupling for ultimate HF throw and wind stability.

The ear-catching intelligibility and remarkable dynamic headroom reserve is due to the RN1202s’s enormous power handling of 250W and RMS-to-peak power handling ratio of 1:15, from 1 kHz to 20 kHz.

Literally the center-piece of the J84 is the RN1202s.

The R&D team at Alcons Audio, led by Philip “Dr. Phil” de Haan, has a 30+ year background in the research and development of pro-ribbon transducer technology. This has resulted in numerous patents and pending patents, through which Alcons Audio can be seen as leader in this technology.

30+ years of pro-ribbon technology

12" J84 RN1202s
pro-ribbon transducer
The unique Acos® pro-ribbon mid and high frequency transducers reproduce the original sound without adding any coloration or distortion. The multiple-patented technology has some significant advantages over traditional transducer technology.

**Highest dynamics, lowest distortion**

- **HI-FI sound at concert sound pressure levels.** The RBN® pro-ribbon drivers have up to 50% less distortion than any conventional mid/high transducer (at same SPLs), due to the light-weight diaphragm and the lack of a compression chamber.

- **Unlimited” headroom.** The unique RBN®-type power input of 1:15:1:1/2 of traditional technology completely facilitates the dynamic range of live sound and high-resolution digital audio. This results in a virtually infinite headroom.

- **Perfect speech-intelligibility.** The fast transient response and the lack of a compression “breakthrough” brings a perfect intelligibility and identical tone balance, from the lowest to the highest SPLs.

- **No listening fatigue.** The non-occurrence of listening fatigue, even after prolonged listening hours, is another benefit of the superb transient response and the lack of “dina-swear” (common in other, traditional HI-FI transducers).

- **No ringing.** The mechanical system is completely free of vibrations and feedback.

- **Absolute maximum “gain-before-feedback.”** The light weight of the moving mass offers an unprecedented fast transient response. In combination with the flat frequency response, this enables an absolute maximum “gain-before-feedback.”

- **Incredible reliability.** In practice, the “high-reliability” pro-ribbon driver proves to be much more reliable than a compression driver, as a result from the light weight of moving parts and high power handling. No break-up occurs, even at the highest frequencies.

- **Fully scalable experience.** Acon® pro-ribbon technology brings HI-FI at concert SPLs with identical positioning in any installation, for any size audience. From the smallest studio to the largest stadium concert.

- **Unmatched throw and wind stability.** The “all-round”, fully coherent wavefront in front of the vertical plane, significantly eliminates destructive interferences, resulting in unmatched throw-efficiency and wind stability.
LR24 ‘under the hood’

- Patented 12” pro-ribbon Ne o HP driver with 12” voice-coil and 2500W peak power handling.
- Double 6.5” high efficiency Ne o MF drivers, crossed mounted and horn loaded.
- Double 12” Ne o LF drivers with dual voice-coils, extended excitation and ultra-low distortion.
- Acoustically and electronically symmetrical component configuration.
- Bi-amped for simpler infrastructure and economical powering while guaranteeing maximum output.
- SSS™ pre-wiring ensures dynamic cable connection between LR4 and amplifier controller.
- Patent pending flying system facilitates both compressed and non-compressed suspension.
- Easy to operate transportation and rigging system. 

6.5 kg of 24 cassettes under 10:1 safety.
The LR4 is a 3-way, bi-amplified mid-sized line-array module. It contains the RNN280a full-range transducer for mid and high frequencies, double 6.5” for the mids and dual 1” for the low/mid frequencies. The system is available with 90-degree or 120-degree horizontal dispersion.

The LR24 is a compact suitcase with a 3-way high-output carbon-core woofer, offering selectable cardiod low-frequency pattern control and selectable rear rejection (up to 40dB). It combines with the dedicated on-board processing in the Sentinel.

The Sentinel is the "engine" for the LR system; A 4-in/4-out dedicated DSP drive processor, with 160kHz capable AES3 inputs, touch screen and multi-color encoder control and 4 independent amplifier stages totaling more than 100kW of output power. Signal Integrity Sensing™ dynamic cable-length compensation, auto-peak/limit power supplies, modular amp/SMT55 design.

ALControl™
AlControl™ is Alcons’ proprietary ALC software program. It can control and monitor individual or matrixes of Sentinel amplified loudspeaker controllers, that can be accessed from anywhere within a network. Features include off-line, on-production configuration, auto-selected, extensive monitoring and control options and auto-update.

ARCC™
ARCC™ is a GLL-based simulation software for the Alcons array systems. Based on actual system design, output data, the high measurement resolution (up to 1 degree accuracy) offers horizontal/vertical modeling, making the LR24 into a true precision tool.
Alcons audio

Quality, not a chosen strategy, but a way of thinking

The LRQ4 system is handcrafted with pride in The Netherlands, combining the latest production techniques and technologies with traditional craftsmanship.

As each Alcons product, the LRQ4 speaker design had to pass a rigorous 10,000 (10) hour durability test (the industry standard) resembling years of non-stop, day-to-day hard usage in the field. The LRQ4 is backed by a 6 year warranty.

The manufacturing tolerance on the pro-ribbon transducers is less than 0.1%, which makes any two RBQ pro-ribbon transducers a “matched pair”. A requirement typically only found in high-end studio monitoring.

From the wood shop, to the electronics and transducer departments and Quality Control, “good enough” is not the benchmark, when “excellent” is just barely satisfying for the Alcons Audio team.

The Alcons Audio team continually strives for obtaining the most natural possible sound reproduction at any SPL with almost clay-to-clay consistency and reliability. This is achieved through a timeless curiosity combined with a fearless drive to develop and implement unconventional solutions.

But for Alcons Audio, quality goes beyond making a great sounding product. Understanding the day-to-day challenges of this industry, the experienced Alcons Audio team sees the successful deployment of Alcons systems as their personal challenge and responsibility.

Moreover, all three company share holders are active in the daily operations. Not having to rely on external financing enables the company to maintain focus on a long term presence in the pro audio market.
The Ribbon Network

Like its larger sibling LR28 and smaller sibling LR18, the LR24 is inventory of "The Ribbon Network", Acreo Audio’s international network for hire cooperation of Acreo systems.

Today’s rental market place requires much more than “getting the job done”; rental company client’s expectations have risen to very high standards, sometimes even asking the rental companies capabilities (requiring irresponsible investments).

The Ribbon Network offers its “members the (International) support to exceed client’s expectations in increasingly competitive marketplaces. This is realized by direct factory support, coordinating dry (or "wet") hire cooperation between members, create product development and other initiatives.

With a fast growing number of members worldwide, The Ribbon Network is capable of offering the recognized Acreo sound quality for any type and size of sound reinforcement application. A very high system integration through identical equipment in combination with the TRN member’s expertise, guarantees member’s clients the best sound reproduction possible.

Every owner of an Acreo line array system is a member of The Ribbon Network and has therefore access to the distinct advantages of the network.

the ribbon network
LR24 specifications

Dimensional drawing

Technical specifications

Frequency response
50 Hz - 20,000 Hz (± 3 dB)

Sensitivity nominal
106 dB (200 Hz - 12 kHz)

Nominal impedance
1.48 ohms, 50 ohms cross

Nominal throw distance
Same as max. 3 pairs per channel in throw

Nominal S/N ratio
140 dB

Sensitivity (200 Hz - 10 kHz)
50.5 x 100 depending on array height

Expansion in (x) range
96.5 x 100 depending on array height

Physical specifications

System
3-way, 4-range

Filtering
3-way crossover, 2-way passive

Drivers LF
2x AM7421D-60, 12" woofer

Drivers MF
2x AM9421D-5.25", 5.25" woofers

Drivers HF
1x AM25125Q-1", 1" dome tweeter

Connections
2x Speaker bus, 4-pin Speakon

Physical dimensions
Height
625 mm

Width
950 mm

Depth
547 mm

Weight (per pair)
45 kg

Warranty
4 years limited

Due to Klipsch Audio continuous R&D, all specifications are subject to change without prior notice.
System configuration examples

**Small**
- 16x LR24
- 8x BC543
- 3x Touring rack AST3 (6x ALC S10)

**Medium**
- 24x LR24
- 12x BC543
- 4x Touring rack AST3 (12x ALC S10)

**Large**
- 36x LR24
- 18x BC543
- 6x Touring rack AST3 (18x ALC S10)

**X-large**
- 48x LR24
- 24x BC543
- 8x Touring rack AST3 (24x ALC S10)

Scalable solution in any application
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