RENKUS-HEINZ

Line Array Systems

CF101LA
Self-Powered

CFX101LA-8
Non-Powered

Modular Point Source Line Arrays

Typical CF101LA/CFX101LA-8 Point Source Line Array

A New Concept - Point Source Line Arrays

CF/CFX101LA point source line arrays deliver the performance and pattern control of line arrays with the clarity of point source systems. Designed with portability and versatility in mind, they are equally at home in portable applications and permanent installations. They represent the ideal solution to the sound problems of many small and medium size venues.

In small venues a single cabinet offers 90º horizontal coverage and a narrow 15º vertical pattern, ideal for many small venues. Additional cabinets add vertical coverage in 15º increments. Up to four cabinets can be ground stacked, pole mounted or flown, either with or without matching subwoofers.

Both self-powered and non-powered models are available; RHAON, the Renkus-Heinz Audio Operations Network, is an option. It places total control and supervision of the loudspeaker system on your computer at your fingertips, no matter how far away you are.

Applications

- Virtually any application where outstanding sonic performance is required and sound level and coverage needs cannot be satisfied with conventional loudspeaker systems.
- Live sound reinforcement in small and medium size venues; auditoriums, night clubs, houses of worship, etc.
- Outdoor events; corporate picnics, political rallies, etc.

CF/CFX101LA-8 Point Source Line Array Modules

The self-powered CF101LA and the non-powered CFX101LA-8 are the basic building blocks in the Renkus-Heinz CF/CFX family of point source line array systems. Their unique design allows arrays of all sizes to be quickly and easily assembled and safely and securely installed.

HF Balance Control

An adjustable HF balance control allows adjustment of the HF output of individual modules in multi-module arrays to maintain the natural balance between high and low frequencies and make sure every member of the audience receives the same well balanced sound.

Intelligent Amplifiers

The intelligent amplifiers integral to the CF101LA are a new kind of electronics system. They combine Class D digital amplification with comprehensive signal processing into a single lightweight unit. Protection, crossovers and parametric EQ are integrated into the signal path.

RHAON empowers you with a new level of control over your loudspeaker system. It adds on-board DSP control of each loudspeakers EQ and level, on-going supervision of critical operating parameters and digital audio distribution - all over a standard Ethernet network.

- **Outstanding Performance**
  Provide point source clarity with the pattern control and high level performance of line arrays.
- **Dual 1" HF Drivers and High Power 10" Woofer**
  With Neodymium magnets deliver smooth, low distortion 128 dB peak SPL performance from 60 Hz to 20 kHz.
- **Great Versatility**
  Can be used as a stand-alone loudspeaker or as an array module in a ground stacked, pole mounted or flown point source line array.
- **Exclusive Tuned Conic Diverter**
  Provides constant beamwidth / directivity down to 300 Hz.
- **Tight Pattern Control**
  Single cabinets provide 90º horizontal and 15º vertical coverage; additional cabinets increase vertical coverage in 15º increments.
- **Reliable, Easy-To-Use Hardware**
  Assemble easily, safely stack or fly multi-cabinet arrays and subwoofers.
- **Flexible Input Configurations**
  Choose passive inputs, or go self-powered with either the PF1-500 amplifier or the RHAON empowered PF1-500R or PF2-500R bi-amplifier.

Advanced Audio Technology

Designed for power, portability and versatility, CF /CFX101LA modular point source line array systems from Renkus-Heinz are the ideal solution for today's small and mid-sized venues, including auditoriums, night clubs, theaters and houses of worship.

With the flexibility to be flown, ground-stacked or pole-mounted, the modular CF/CFX101LA point source line array systems deliver the high level performance and pattern control of a line array, with the clarity of a point source system, in a compact, sleek and affordable design that's equally at home as a portable system or in a permanent installation.

CF101LA / CFX101LA-8
Point Source Line Array Module

Individual full range cabinets can be used as a stand-alone system, either with or without an associated subwoofer. They can be flown using Metric M10 eye-bolts or pole mounted on a matching subwoofer or standard loudspeaker tripod stand. A multi-angled pole socket allows them to be aimed stright ahead or angled up or down.

Suited equally to fixed installation or portable applications the full range cabinets offer consistent 90° horizontal and tight 15° vertical coverage. Their controlled coverage pattern allows them to outperform larger 12" and 15" loudspeakers in many applications as their output can be directed onto the audience instead of into the walls and ceiling.

CF101LA/CFX101LA-8 Point Source line Array
with matching subwoofer

Individual full range cabinets can be stacked or arrayed with each cabinet increasing the vertical coverage by 15° degrees. Up to four full-range modules can be arrayed to provide a 90° by 60° coverage pattern, delivering up to 9 dB more output and tighter vertical pattern control than a conventional single cabinet. Traditional line arrays require two or three times as many cabinets to provide the same range of coverage and control.

The CF/CFX101LA point source line array modules and matching subwoofers have been designed with portability and flexibility in mind. Alone or combined with the matching CF/CFX15S 15" subwoofer, the full-range CF/CFX101LA module can be flown, ground-stacked, pole-mounted or used as a center cluster to complement an existing left-right system, making it the perfect solution for a wide range of installed or portable sound needs. The possible combinations and applications are almost endless.

Neodymium magnets on the single 10" low frequency woofer and dual 1" High Frequency compression drivers provide the ideal balance of power and portability, while the revolutionary performance of the Tuned Conic Diverter waveguide ensures the smoothest possible transition between cabinets.

CF101LA and CFX101LA point source line arrays are true point source line array systems offering the benefits of both point source loudspeakers and line arrays.

Ground Stack
with dual array modules & single subwoofer

Floor System
with single array module & subwoofer

Floor System
with dual array modules & dual subwoofers

The Tuned Conic Converter

When it comes to innovation, once again Renkus-Heinz leads the way.

Line arrays rely upon their ability to convert the spherical wavefront of a typical loudspeaker into a planar (flat) wavefront that couples coherently with the output of adjacent modules to create a plane wave. Plane waves diminish less rapidly over distance (3 dB loss for every doubling of distance) than spherical waves that decay 6 dB every time the distance doubles.

Our new Tuned Conic Diverter carefully shapes the curvature of the wavefront within the horn so that it's curvature matches the curvature of the array and couples seamlessly with adjacent modules.

As sound progresses through the horn, it's wavefront is progressively manipulated, passing through a tuned conic diverter, slowing the wavefront's expansion in the center and modifying its curvature to match the shape of the cabinet.

HF Balance Control

An adjustable HF balance control panel on each full range module allows you to adjust the high frequency output of each module to compensate for the changes in high frequency coupling that occurs between adjacent modules in multi-module line arrays.

It is invaluable in helping you assure that every member of the audience receives the same well balanced sound, even those seated in the rear of the audience area.

Safe & Simplified Hardware

Simple, rugged, integral hardware allows for maximum versatility, maximum safety, and fast setup and teardown.

Metric M10 attachment points allow individual modules to be easily flown with eye bolts.

Arrays of up to 4 full range modules can be ground stacked, pole mounted using the matching subwoofer as a base or flown. The array modules are joined together with heavy-duty tie bars and quick-disconnect pins that provide easy assembly along with metal-to-metal reliability.

The matching subwoofers employ the same simple yet sturdy hardware enabling full range array modules to be flown beneath the subwoofer. An associated fly-bar that attaches easily to the subwoofer completes the package.

CF/CFX101LA hardware has been designed to work either way so left and right systems can be setup symmetrically without the need for mirror image cabinets.

Multi-Angle Pole Sockets

Multi-angle 35 mm pole sockets allow CF101LA and CFX101LA array modules to be mounted on standard loudspeaker stands or on heavy duty pole mounts attached to an associated CF15S or CFX15S subwoofer.

The multi-angle socket allows the cabinet to be aimed straight ahead or angled up or down depending on the needs of the venue.

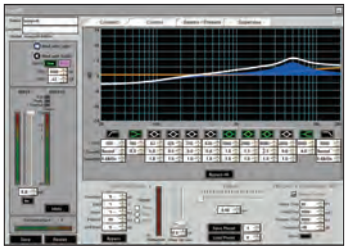
RHAON Renkus-Heinz Audio Operations Network

RHAON is the first practical system to combine individual loudspeaker control and supervision of self-powered loudspeaker systems with digital audio distribution. RHAON puts you in total control of:

– A powerful DSP inside each loudspeaker on the Ethernet network that includes eight bands of parametric EQ, high and low frequency shelving filters, input level control, muting and up to 340 ms of delay.

– Monitoring of each loudspeakers critical operating parameters such as signal clipping, amplifier output voltage and current and temperature with automatic alert functions.

– Real time digital audio distribution over standard Ethernet networks using proven CobraNet technology to deliver multiple channels of high quality digital audio over a CAT 5 cable.



TECHNICAL INFORMATION

Sensitivity:
CF101LA-5, -5R & -52R: 1.4 V for rated power output
CFX101LA-8: 96 dB (1W/1m)

Max SPL: 125 dB pgm, 128 dB peak

Dispersion: 90º Horizontal, 15º Vertical

Freq. Response: 60 Hz to 20 kHz

HF Drivers: Two 1" SSDCDXI-1730-8 HF Neodymium drivers; 75 W RMS @ 8 Ohms, 150 W pgm each

LF Driver: CF101LA: 10" Neodymium woofer, model SSL10-8, 250 W RMS @ 8 Ohms, 500 W pgm
CFX101LA-8: 10" Neodymium woofer, model SSL10-10, 250 W RMS @ 8 Ohms, 500 W pgm

Crossover: 1.0 kHz

Enclosure: Multi-ply hardwood, perforated metal grille

Power:
CF101LA-5, -5R & -52R: 115 V AC or 230 V AC, 50/60 Hz
CFX101LA-8: 500 W pgm at 8 Ohms

Controls: Array Balancing

Connectors: CFX101LA-8: Neutrik 4-pin Speakon style connectors, screw terminals

Finish: Black or white

Hardware: Four Metric M10 attachment points
Multi-angle pole socket

Associated Hardware: RHANG101LA Flybar
POLE-CF101 Mounting Pole

Dimensions: 13" H x 23 3/4" W x 15" D
(33 cm x 60.3 cm x 38.1cm)

Weight:
CF101LA-5 & -5R: 56 Lbs. (25.5 Kg) net
CF101LA-52R: 57 Lbs (26 Kg) net
CFX101LA-8: 51 Lbs (23.3 Kg) net

PF1-500 DIGITAL AMPLIFIER

Power: PF1-500; 500 W RMS @ 4 Ohms
Freq. Resp: +0.0, -.5 dB, 20 Hz to 20 kHz
THD Distortion: < 0.02% typical
Hum & Noise: <100 dB (A weighted)
Damping: >100
Input: 10K Ohm balanced differential
Sensitivity: 1.0 V for RPO
CMR: 74 dB

Controls: Gain (screwdriver adjustable)
Power Connector: IEC Power connector
Input: Looping XLR; female in, male out (pin 1 chassis, pin 2 +, pin 3 -)
Power Switchable, 115 or 230 V AC, 50/60 Hz
5 A @ 120 V, 2.5 A @ 240 V
Idle current: 400 ma @120 V;
200 ma @ 240 V
Max inrush current: 1 A

PF1-500R RHAON EMPOWERED AMPLIFIERS

The PF1-500R is identical to the PF1-500 except for the addition of the RHAON Network Interface; additional capabilities include:

Inputs: CobraNet: Dual RJ45 connectors; accept Cat 5 copper cable.
AES/EBU: Phoenix connectors;
Analog: Phoenix connectors
Digital Format: 16, 20 or 24 bit PCM; 48 or 96 kHz sample rate; selectable Network Latency.
Protection: Soft & Peak limiting, Excursion Control & Thermal Regulation

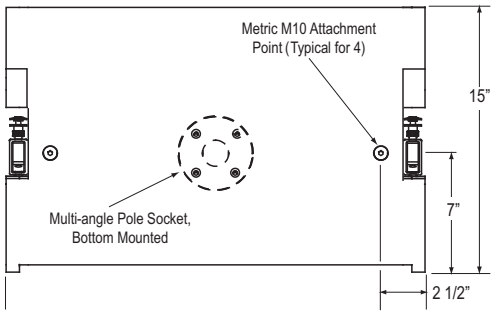
PF2-500R RHAON EMPOWERED AMPLIFIERS

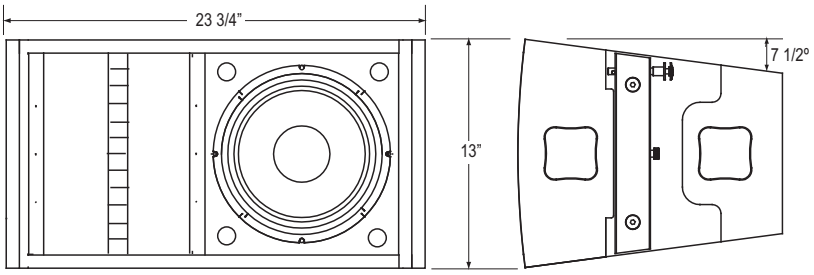
The PF2-500R is a RHAON empowered 500/200 W RMS bi-amplifier. It is identical to the PF1-500R except for also having a 200 Watt HF amplifier and associated electronic crossover.

Power: 6 A @ 120 V, 3 A @ 240 V
Idle current: 500 ma @ 120 V; 250 ma @ 240 V. Max inrush current: 1 A

For additional details on the RHAON Audio Operations Network, refer to www.renkus-heinz.com/Rhaon/Index.html.

Note: All analog inputs and outputs comply with AES Standard 48-2005 on interconnecting, grounding and shielding.





DIMENSIONAL INFORMATION

Note: The cabinet is shown without its protective metal grille.

For more detailed dimensional information, please refer to the 2D and 3D drawing files on our website, www.renkus-heinz.com.

RENKUS-HEINZ
Renkus-Heinz, Inc., 19201 Cook Street, Foothill Ranch, CA 92610-3501, USA
Tel: +1 949-588-9997 • Fax: +1 949-588-9514 • Sales@renkus-heinz.com • www.renkus-heinz.com
RH 696 October 2010