

CF / CFX

powered & non-powered loudspeakers



OUR GOALS - ADVANCING SOUND, PROVIDING SOLUTIONS

Our quest for significant, measurable and audible improvements ranges from classic acoustical physics to advanced digital technologies. So far, six of our innovations have been awarded US patents. Each discovery opens new avenues for investigation, fresh opportunities to enhance the accuracy, efficiency and reliability of Renkus-Heinz loudspeaker systems.

INTEGRATED SYSTEM DESIGN

Our first US patent (#4,336,425) came out of new thinking in compression driver design. But even the best components yield only incremental improvements.

Breakthrough performance uses all available tools – acoustic and mechanical, analog and digital – to bring reproduction closer to reality. We introduced our first integrated systems over two decades ago, exploding boundaries that separated loudspeakers from signal processing, power amplification, cabling and hardware.

Today, we're equally at home with acoustics, electronics, and mechanical design. Each step in the system design process is time-consuming and data-intensive: matching amplifier output to transducer power handling; precisely adjusting limiter behavior, crossover frequencies and slopes, equalization and delay; optimizing gain staging; simplifying the installation and secure mounting of the cabinets.

But when you hear the results, you'll agree they're worth the effort we invest. With a Renkus-Heinz loudspeaker system, you can focus on enhancing the listening experience, rather than making the system work.

PUT THE CF/CFX SERIES TO THE ULTIMATE TEST: LISTENING IN A REAL WORLD ENVIRONMENT

No matter how excellent it's performance, a loudspeaker system alone cannot deliver the kind of sound quality that wins repeat business. The acoustical complexities of typical public listening spaces can easily overwhelm the performance of the most advanced integrated loudspeaker system.

Since 1990, we have been the exclusive worldwide distributor for EASE, Acoustic Design Ahnert's industry standard suite of acoustic simulation programs. We're also fortunate to have close relationships with leading audio designers worldwide.

The CF/CFX Series incorporates many lessons learned from EASE – and from the consulting community – about sound system performance in real acoustic spaces. With the help of this invaluable experience and feedback, we have developed a broad range of systems that provide effective solutions for almost any sound reinforcement problem.

BEFORE WE'LL SHIP YOUR LOUDSPEAKERS, THEY HAVE TO MEET OUR STANDARDS

Every CF/CFX Series loudspeaker system is designed to the highest standards of innovation and quality – ours. They're built to the same exacting standards we use for all our products, and then rigorously tested before shipment to make sure that they live up to the distinguished name we put on every box, and inside every loudspeaker: Renkus-Heinz. We know your reputation depends on reliable, consistently superior performance – and so does ours.



REALITY: OUR ULTIMATE REFERENCE POINT

We are serious about making the world sound better. We built our company on better ideas, better products, and better service. We don't have to put stock prices and quarterly earnings above innovation, product quality and performance.

We treasure our freedom to explore new ideas and technologies - and to work with people who share our enthusiasm for great sound. There's almost nothing we won't do for someone who shares this enthusiasm, from traveling the world to provide technical and sales support, to making sure that equipment arrives on time and works "out of the box."

**PF-1 INTELLIGENT DIGITAL AMPLIFIER:
Advanced Power for CF Series Speakers**

At Renkus-Heinz, we've always looked at the entire signal chain, from line level to listener, as a complete system. The latest example of our approach is the PF-1 Intelligent Digital Amplifier that drives the CF Series to unprecedented levels of accuracy and performance. The PF-1 combines comprehensive driver protection, equalization and light, cool Class D power amplification into a single compact unit.

EXCEPTIONAL ACCURACY

The PF-1 boasts specs that would make any audiophile manufacturer proud. 0.02% distortion means your sound arrives at the speaker just the way you produced it. Hum and noise are over 100 dB down from 20 Hz to 20 kHz, so there's nothing to interfere with subtle low-level signals. A damping factor of >100 helps control the woofer for tight, well-defined bass.



EFFICIENT DESIGN

The PF-1's Class D power circuitry and switching power supply enable it to convert AC electrical power into acoustic power with maximum efficiency. That means it's light, compact and cool-running: ideal for integrating into CF Series loudspeakers since it doesn't need a cooling fan, adds very little weight to the system, and doesn't take up a lot of enclosure volume.

INTELLIGENT SPEAKER-SPECIFIC PROCESSING

Renkus-Heinz Engineering integrates the PF-1 into each CF Series loudspeaker system. Measuring and adjusting critical parameters such as thermal protection, peak limiting and parametric equalization, Renkus-Heinz Engineering makes sure that the PF-1 is perfectly adapted to the drivers in each CF Series loudspeaker.

Speaker-Specific Processing enables your CF Series system to deliver peak performance, day in, day out, under a wide range of operating conditions.

**COMPLEX CONIC HORNS:
Naturally Superior Design**



Renkus-Heinz innovation takes many forms. None is as well known or widely respected as our Complex Conic horns. Their unique design is based on the spherical expansion of the acoustic pressure wave, so they don't distort sound while controlling it, the way ordinary horns can.

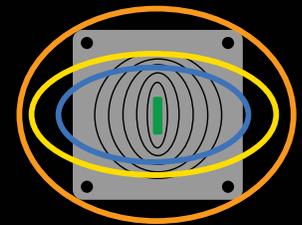
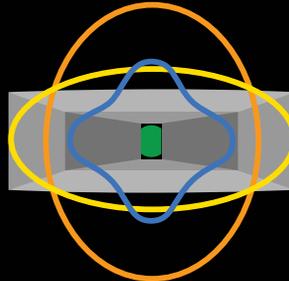
The Complex Conic flare changes smoothly from a narrow diffraction slot, through an oval expansion, to a circular mouth. There's no "pattern flip" at the low end of the range, or "feathering" at the high end – just smooth and consistent pattern control. Complex conic horns work better than ordinary horns, and they sound more natural too, with lower distortion and minimal coloration.



Coverage Patterns

Constant Directivity Horn

Complex Conic Horn

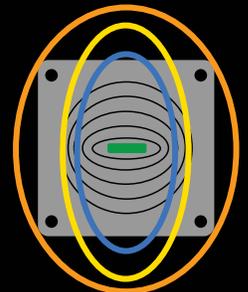
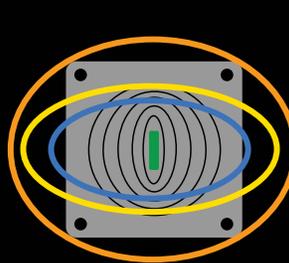


One of the many practical benefits of Complex Conic horns is their "squared circle" mounting. This enables the horn to be easily rotated in the cabinet. If you need to turn a small PA speaker into a floor monitor, or mount to the ceiling instead of the wall, CF/CFX Series speakers are ready to work with you instead of against you.

Coverage Patterns

Standard Coverage

With Horn Rotated 90°





POWER



CF61 & CFX61 - 6,5"

CF81 & CFX81 - 8"

Full Range

The miniturized CF61/CFX61 and compact CF/CFX81 still feature full-size 80 to 20 kHz performance. With their small size and light weight they are ideal for a wide range of side and front fill applications in both portable and permanent installation. Small enough to virtually disappear they blend effortlessly with their surroundings in piano bars, live music clubs, conference halls, waiting rooms, etc.

Their light weight, easy portability and natural sound make them a favorite with lecturers, performing artists, choral groups and other similiar professionals. In fixed installations, their small size and flexible mounting facilities make them ideal for many side and front fill applications and for foreground music systems in shopping malls, retail stores and offices.

The 8" CF81/CFX81 are slightly larger than the 6 1/2" CF61/CFX61 and a full 3 dB more powerful. The CF61 and CF81 are self-powered while the CFX 61 and CFX81 are intended for use with external amplifiers.

PERFORMANCE

CF121 & CFX121 - 12"

Full Range

The CF121 and CFX121 offer outstanding performance and great versatility in a wide variety of applications. Compact, but extremely powerful (129 dB peak SPL) they are widely used for all types of small rental and portable sound systems by performing artists, small bands and choral groups. When combined with the CF/CFX18S 18" subs, they form a system that any performer can be proud of. Fixed installation users include clubs and discos, houses of worship and sports arenas and stadiums.

CF121M & CFX121M - 12"

Floor Monitor

The CF121M and CFX121M feature the same high performance as the trapezoidal CF121 and CFX121 in a classic sloping-front floor monitor configuration. Their Complex Conic horns can easily be rotated 90 degrees to suit the personal preference of individual performers or to accomodate different setups. In either orientation, the even coverage pattern and smooth, peak free response of the complex conic horns allows maximum freedom of movement without feedback.

CF151 & CFX151 - 15"

Full Range

The larger brothers of the CF/CFX121, the CF151 and CFX151 feature a 15" woofer and a larger format Complex Conic horn with a 90° by 40° coverage pattern. They offer tighter directional control along with deeper bass.

The CF151 is self powered while the CFX151 is intended for use with external amplifiers.



ANCE RELIABILITY

CF18S & CFX18S - 18"

Subwoofers

The CF18S and CFX18S subwoofers have been designed to complement the performance of other CF/CFX Series loudspeakers in any application that needs the visceral impact only high powered subs can provide. They combine cutting edge high-power 18" woofers with rock-solid enclosures in a classic direct radiating design that delivers the smooth natural sub bass favored by audio professionals around the world.

Both are equipped with top mounted pole sockets that allow them to be used as stand bases with other CF/CFX Series loudspeakers.



BUILT IN VERSATILITY



CF and CFX Series loudspeakers are equipped for easy use in both portable and permanent applications.

All are equipped with a Tripod socket to allow pole mounting in portable use, except for the miniature CF/CFX61 and the floor mounting CF/CFX121M floor monitor.



All are equipped with U-Bracket attachment points for easy wall and ceiling mounting in fixed installations, except for the CF/CFX121M floor monitor and the CF/CFX18S subs



All are also provided with 6 UMH (Universal Mounting Hardware) attachment points making it easy to fly the cabinets using eye bolts, except for the CF/CFX121M floor monitor



The CF/CFX18S subs tripod socket is top mounted to allow their use as a stand base.

All CFX models are provided with both looping 4-pin Neutrik SpeakOn type connectors and screw type terminal strips. Self-powered CF models have looping 3-pin XLR type connectors.

SYSTEM SPECIFIC ELECTRONICS



Whether we're integrating PF Series amplifier inside our CF Series Loudspeakers or configuring external rack mounting devices, making the signal chain System Specific means measuring and adjusting critical parameters to optimize the performance.

The PF-1 Intelligent Amplifiers built into CF loudspeakers include System Specific EQ and protection circuitry. The same tight system integration is available for externally powered CFX Series loudspeakers. Loudspeaker specific Processor Modules plug into our X Series rack-mounting analog controllers. They provide complete individual loudspeaker output protection and optimization.



X24 Dual channel, 2-way analog controller

For room equalization, delay and other commissioning or setup functions, the D26A Digital Controller provides two-in, six-out processing with comprehensive EQ, crossover, delay and limiting functions. The D26A can be controlled via MIDI or RS232 from SMART LIVE's dual-FFT EQ window, so that critical parameter values can be quickly and precisely "dialed-in."



D26A Digital Controller

Our **System Configurator** is available on our website, www.renkus-heinz.com, by selecting the Customize/Place Order button.

The **System Configurator** takes the guesswork out of designing or ordering single loudspeakers or loudspeaker arrays. The program walks you through each design choice, clarifying options that are available, and ensuring that when you are done the resultant design/order is complete and accurate.

TECHNICAL DATA

CF SERIES SELF-POWERED LOUDSPEAKERS

MODEL	FREQUENCY	MAX SPL pgm / peak	COVERAGE degrees	HEIGHT x WIDTH x DEPTH	WEIGHT	POWER
CF61	80 - 20 kHz	111 / 114 dB	150 H x 60 V	16" x 9 3/4" x 11 1/8" 40.6 cm x 24.8 cm x 28.2 cm	23.2 lbs 10.5 Kg	
CF81	80 - 20 kHz	114 / 117 dB	150 H x 60 V	19 7/8" x 11 1/8" x 12 1/4" 50.5 cm x 28.2 cm x 31.1 cm	27.2 lbs 12.3 Kg	
CF121	70 - 18 kHz	124 / 127 dB	90 H x 60 V	23 1/8" x 15 3/4" x 14 1/2" 58.7 cm x 40 cm x 36.8 cm	54.4 lbs 24.7 Kg	90-136 VAC or 180-260 VAC, 50/60 Hz. 2.4 A @ 120 V, 1.2 A @ 240 V
CF121M	70 - 18 kHz	124 / 127 dB	90 H x 60 V	18 1/4" x 15 1/2" x 23 3/4" 46.4 cm x 39.4 cm x 60.3 cm	50.6 lbs 23 Kg	
CF151	60 - 18 kHz	126 / 129 dB	90 H x 40 V	29 3/8" x 19" x 16 7/8" 74.6 cm x 48.3 cm x 42.8 cm	70.2 lbs 31.8 Kg	
CF18S	35 - 100 Hz	125 / 128 dB		29 1/2" x 22 1/4" x 23 1/2" 75 cm x 56.5 cm x 59.7 cm	92.6 lbs 42 Kg	

Note:

1. All CF Series loudspeakers are equipped with Looping (in & out) 3-pin XLR type connectors and PowerCon AC connectors
2. All CF Series loudspeakers, except for the CF121M, are provided with 6-point UMH (universal mounting hardware) and U-bracket attachment points.
3. All CF Series loudspeakers, except for the CF121M and CF61 are provided with tripod sockets.



CF61 - CFX61

CF81 - CFX81

CF121M - CFX121M

CF121 - CFX121

CF151 - CFX151

CF18S - CFX18S

CFX SERIES EXTERNALLY POWERED LOUDSPEAKERS

MODEL	FREQUENCY	MAX SPL pgm / peak	COVERAGE degrees	HEIGHT x WIDTH x DEPTH	WEIGHT	POWER
CFX61	80 - 20 kHz	111 / 114 dB	150 H x 60 V	16" x 9 3/4" x 11 1/8" 40.6 cm x 24.8 cm x 28.2 cm	13 lbs 5.9 Kg	120 W pgm @ 8 Ohms
CFX81	80 - 20 kHz	114 / 117 dB	150 H x 60 V	19 7/8" x 11 1/8" x 12 1/4" 50.5 cm x 28.2 cm x 31.1 cm	13 lbs 5.9 Kg	200 W pgm @ 8 Ohms
CFX121	70 - 18 kHz	126 / 129 dB	90 H x 60 V	23 1/8" x 15 3/4" x 14 1/2" 58.7 cm x 40 cm x 36.8 cm	13 lbs 5.9 Kg	500 W pgm @ 4 Ohms
CFX121M	70 - 18 kHz	126 / 129 dB	90 H x 60 V	18 1/4" x 15 1/2" x 23 3/4" 46.4 cm x 39.4 cm x 60.3 cm	13 lbs 5.9 Kg	500 W pgm @ 4 Ohms
CFX151	60 - 18 kHz	127 / 130 dB	90 H x 40 V	29 3/8" x 19" x 16 7/8" 74.6 cm x 48.3 cm x 42.8 cm	13 lbs 5.9 Kg	700 W pgm @ 4 Ohms
CFX18S	35 - 100 Hz	127 / 130 dB		29 1/2" x 22 1/4" x 23 1/2" 75 cm x 56.5 cm x 59.7 cm	13 lbs 5.9 Kg	900 W pgm @ 4 Ohms

Note:

1. All CFX Series loudspeakers are equipped with Looping (in & out) 4-pin Neutrix SpeakOn connectors and screw type terminal strips
2. All CFX Series loudspeakers, except for the CFX121M, are provided with 6-point UMH (universal mounting hardware) and U-bracket attachment points.
3. All CFX Series loudspeakers, except for the CF121M and CF61 are provided with tripod sockets.



Working together, there's no problem we can't solve, no schedule we can't meet, no project we can't take to a higher level of excellence, from the White House to the Olympic SuperDome, from corner churches to major metropolitan concert halls. Much as we love technology, our greatest satisfaction comes through helping people communicate through music, dance, theater, or the power of a new idea brilliantly expressed. When we make those kinds of connections, there's nothing more exciting – or more powerful.

Here are some of the unique technologies we use to help people communicate:



Patented CoEntrant Topology integrates midrange and high frequency drivers into wideband point sources.



Complex Conic Topology, the first new approach to horn design in decades, has proven its superior performance worldwide.



TRAP (TRue Array Principle) design aligns acoustic centers so loudspeaker clusters produce coherent output.



Reference Point Array engineering optimizes the entire signal chain from line level to listener for unprecedented performance.



System Specific Electronics integrate preconfigured signal processing and protection with high performance amplifiers.



The R-Control Remote System Supervision Network is based on Echelon's LonWorks® protocol (ANSI/EIA 709.1).



PowerNet Series loudspeakers incorporate System Specific Electronics and can be upgraded for R-Control remote operation.



EASE, EASE JR and EARS are the industry standard modeling programs for acoustic environments and sound system performance.



EASERA is uniquely powerful and flexible software architecture, which allows extensive post-processing and comparison of different measurement and analysis methods.



CobraNet routes 64 channels of 20-bit digital audio over CAT 5 copper or fiber optic cable using Ethernet protocols.

For more information on the latest integrated sound reinforcement innovations from R-H Engineering, visit us on our website. www.renkus-heinz.com.



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