UNIQUE SOLUTIONS for ARCHITECTURAL and ACOUSTICAL CHAL-

iCONYX

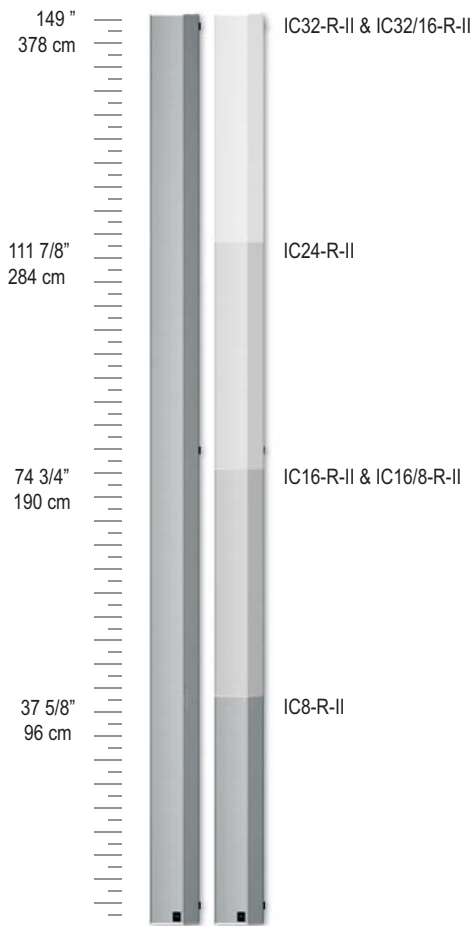**DIGITALLY STEERABLE LINE ARRAY LOUDSPEAKER SYSTEMS**

DIGITALLY STEERABLE LINE ARRAY LOUDSPEAKER SYSTEMS

To deliver performance that used to be impossible without bulky clusters or complex systems, Renkus-Heinz engineering integrates today's most advanced audio technology into a compact, powerful and sophisticated system - Iconyx. Arrays are rapidly assembled on site using the compact IC8-R-2 module.

Each IC8-R-II module has eight high performance coaxial transducers. Each transducer is individually controlled by its own pure digital processor/amplifier. By controlling the behavior of each sound source, Iconyx can tailor its performance to the venue and the audience in ways that are impossible using conventional technology.

For instance, a single Iconyx array can cover both floor and balcony seating by producing multiple beams of acoustic energy. Each beam can be as vertically wide as 30° or as narrow as 10°. Each beam can be aimed up or down by 20° - while the Iconyx array remains flush against the wall or column to which it's mounted.

Even the acoustic center (the apparent origin) of the beam can be raised or lowered without moving the physical enclosure.

149 ” 378 cm	IC32-R-II & IC32/16-R-II
111 7/8” 284 cm	IC24-R-II
74 3/4” 190 cm	IC16-R-II & IC16/8-R-II
37 5/8” 96 cm	IC8-R-II

"Experts told us the atrium of the Nasher Museum of Art at Duke University would be unusable for public speaking and events without adding acoustical treatment. Iconyx proved them wrong."

Wendy Livingston
Duke University, Durham, NC, USA

"On behalf of the Ministers, Session, Property Committee and the entire congregation of First Presbyterian Church, Durham, please accept our deepest appreciation for the marvelous job that you and your associates have rendered to us in the newly installed sound system. Your results were nothing short of breathtaking."

Lanny Pratt, Chair - Property Committee
First Presbyterian Church, Durham, NC, USA

"In Notre Dame du Cap Basilica, two IC32s have replaced 26 loudspeakers, amplifiers, crossovers, racks and cabling - and perform far better. With Iconyx, we have restored our cathedral to its original - uncluttered beauty. Congregants appreciate that."

Jean Giroux
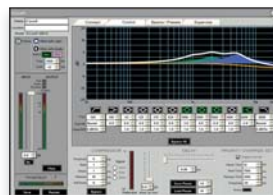**Siscom Inc., Quebec, Canada**

RHAON

RENKUS-HEINZ AUDIO OPERATIONS NETWORK

RHAON (Renkus-Heinz Audio Operations Network) is the culmination of more than 20 years experience integrating electronics with loudspeakers. RHAON makes it easy to connect multiple Iconyx Mk II arrays and other Renkus-Heinz powered loudspeakers using standard Ethernet cabling and switches. On the network, you can distribute multi-channel digital audio with CobraNet, control array-specific DSP functions, and supervise the entire system from a centrally located computer. RHAON's comprehensive network capabilities make it easy to add one-touch presets, zone control and life safety functions to any Iconyx R system. RHAON gives you Maximum Control of:
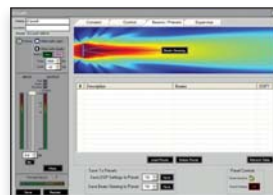
- Real time digital audio distribution over standard Ethernet: proven CobraNet technology delivers up to 64 channels of high quality digital audio over a single CAT 5 cable.

- A powerful DSP inside each Iconyx MkII array on the network. Adjust eight bands of parametric EQ, high and low frequency shelving filters, input level control, muting, dynamics and 340 milliseconds of delay in real time.

- Monitoring and supervisory functions. RHAON tracks critical operating parameters such as signal clipping, amplifier output voltage, current and temperature with automatic alert functions.
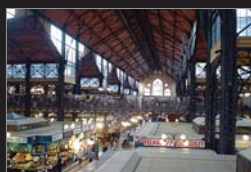

Connect

Control

Beams / Presets

Supervise

Mount Sinai Medical Center, New York, NY, USA

ADVANCED DSP / AMPLIFIER SYSTEM

Renkus-Heinz engineering team developed the pure digital Iconyx multi-channel processor / amplifier to make individual control of each array element - a theoretical ideal for decades - into a practical reality. Its high-current audiophile output stage ensures articulate, natural and musical reproduction.

REFERENCE QUALITY COAXIAL TRANSDUCERS

Controlled sound coverage is a very effective sound designer's tool, if that sound is accurate, natural and listenable. The advanced coaxial transducers used in Iconyx MkII modules deliver high output, full range response and wide horizontal dispersion. Unlike conventional "full range" speakers, coaxial Iconyx transducers deliver consistent wide coverage in the upper octaves, so every listener enjoys crisp, detailed sound.

ICONYX CERTIFIED DEALER

Iconyx Certified Dealers have completed special training in the advanced acoustical concepts behind Iconyx, the technology we use to implement those concepts, and the application of Iconyx software and hardware to complex situations where both architectural and acoustical factors must be taken into consideration. If you want to know more about what Iconyx can do for you, and you are not already working with an Iconyx Certified audio professional, please contact us for a list of qualified firms.

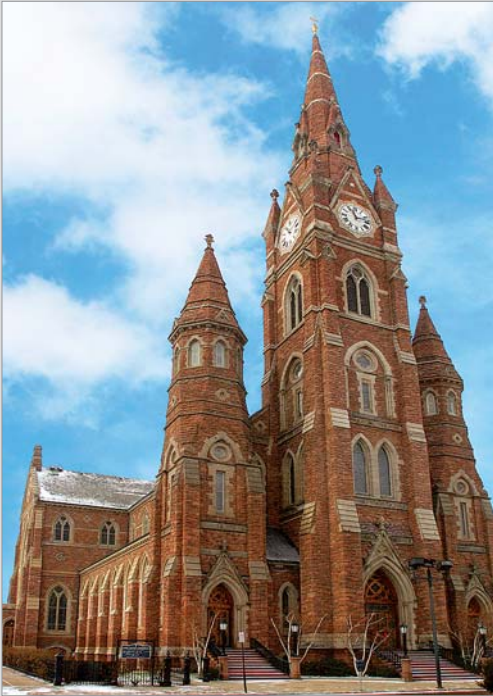**UNIQUE SOLUTIONS** for ARCHITECTURAL and ACOUSTICAL CHALLENGES

"We have gone from wholesale complaining every weekend to a quiet satisfaction. In-house surveys have been conclusive that we have hit the mark. I am grateful to all who worked with us in this critical project. Finally, we have solved the unsolvable."

**Monsignor William E. Biebel,
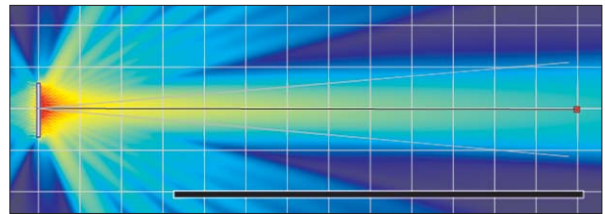Rector St. Peter Cathedral, Erie, PA, USA**
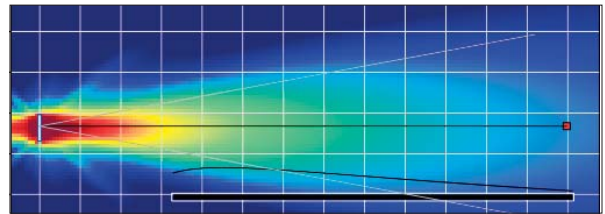

MUSICAL & NATURAL SOUND

Communication is about more than consonants – meaning is conveyed by the tone of voice as well as the text. Architecture and music project powerful messages of their own: beautiful spaces deserve beautiful music. That's why Iconyx MkII modules use audiophile-quality multi-channel amplifiers to drive purpose-designed coaxial transducers with three dome tweeters.

Each trio of tweeters is aligned vertically, acting as an "array within an array." By controlling vertical directivity at higher frequencies, they produce more coherent output with greatly reduced grating lobes.
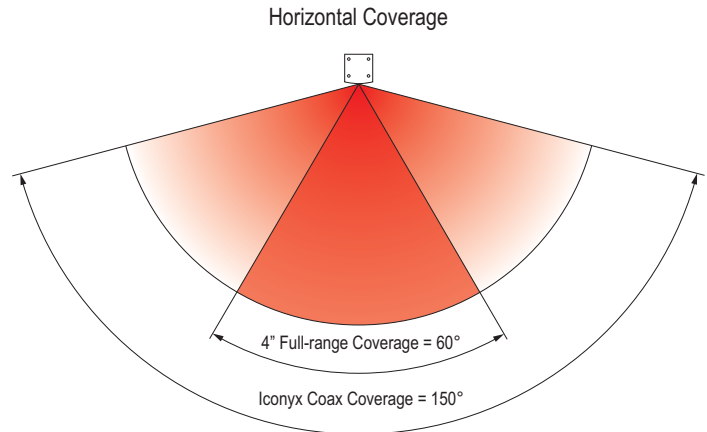
The vertical alignment maintains consistently broad horizontal dispersion, allowing each Iconyx MkII array to cover a wide section of the audience. The coaxial transducers reproduce the full frequency spectrum with accuracy and balance, so instruments and voices sound as they should. Iconyx Mk II arrays and subwoofers bring music alive with full detail and impact throughout the entire listening area.

An acoustical characteristic of all vertical line arrays.
Graphic display of grating lobes.

BeamWare display of an IC8R illustrating the reduced grating lobes.

Horizontal Coverage

4" Full-range Coverage = 60°

Iconyx Coax Coverage = 150°

Coaxial transducers provide more consistent horizontal coverage, broader HF beamwidth.

UNIQUE SOLUTIONS for ARCHITECTURAL and ACOUSTICAL CHALLENGES

"The loudspeakers are of course more expensive as items, but we saved so much of the electricians' time and the cables that the overal cost of the Kirkelandet installation was less than with a conventional solution. The Iconyx system works extremely well for both speech and music."
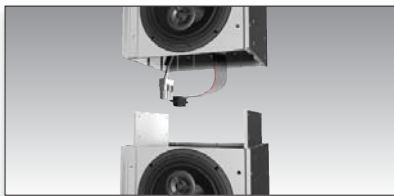
Jo Tore Bæverfjord
Molde Forum, Norway

"Iconyx is a good choice for the Temple. Listening to the system with the Temple both unoccupied and occupied revealed extremely good performance. Sound coverage was very uniform including the rostrum and the choir loft. The quality of the spoken word was very natural and extended well into the balcony without energizing the large volume of the space. Music sounded particularly good as well."

Ian Wolfe

MODULAR / EXPANDABLE DESIGN, EASE of USE & TRANSPORT

To suit different needs, Iconyx MkII systems are available in four sizes: all are constructed from a basic eight-channel module to simplify shipping and transportation.

A single module forms the IC8-R-II, two modules form the IC16--R-II, three the IC24-R-II and four the IC32-R-II. All bring high output, crisply articulated, naturally balanced sound to every listener.
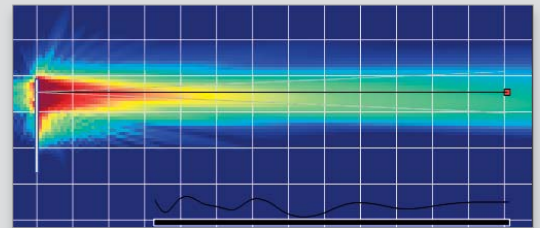
The 16-transducer IC16-R-II and 32-transducer IC32-R-II are available in two versions, the basic model with a DSP processor/amplifier channel for each transducer and the IC16/8-R-II and IC32/16-R-II with a DSP processor/amplifier for each pair of transducers. These models serve applications that need the beam control offered by the basic models but don't need as much sound level.

The modules are easily trans-ported and quickly joined to-gether in the field.
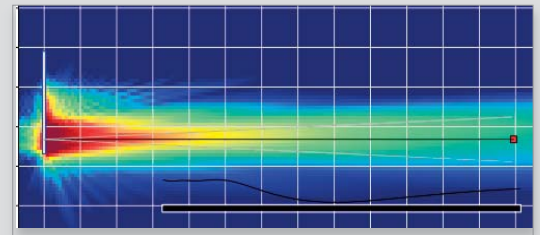

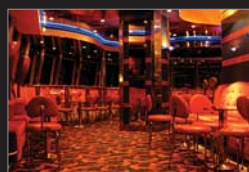## FLEXIBLE COVERAGE PATTERNS & MOUNTING POSITIONS

The apparent origin of Iconyx sound beams (the "acoustic center") can be raised or lowered in software without moving the enclosure. This feature alone can save hours of time and hundreds of dollars in labor costs.
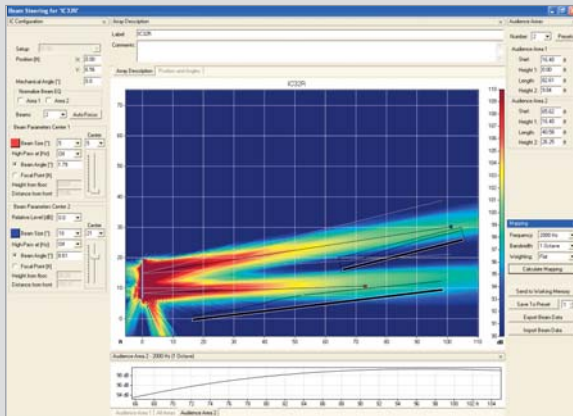

Iconyx IC32-R-II - Acoustic Center at 28

Iconyx IC32-R-II - Acoustic Center at 5

BEAMware

POWERFUL ALGORITHMS
INTUITIVE INTERFACE

The software algorithms that shape and aim the output of an Iconyx MkII array are complex, but the user interface is intuitively simple. Our BeamWare Windows application lets you model the audience area, then drag and drop beams until coverage is optimized. BeamWare then calculates a set of FIR (Finite Impulse Response) filters that control the array. At installation time, simply download the full set of FIR filters from your computer to the Iconyx MkII Series arrays over Ethernet.

BeamWare's intuitive graphic interface

MULTIPLE PRESETS, EASY SELECTION

Iconyx MKII can store multiple configurations in memory. For example, you might optimize one BeamWare configuration for small events on the main floor, and another for larger occasions with listeners in the balcony. Once the configurations are stored, it's easy to switch from one to another.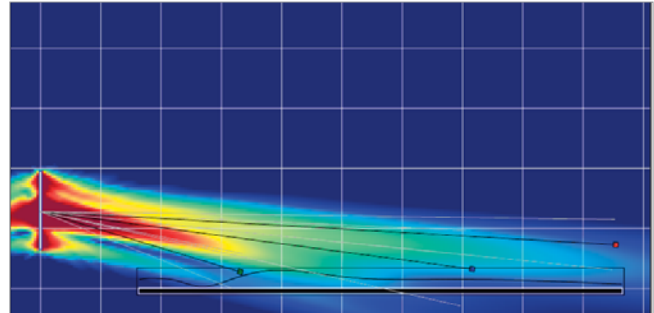 Up/Down buttons and indicator LEDs on the rear panel allow an operator to scroll through the available presets. This function can also be performed remotely from the controlling computer, from a wall mounted remote control or from tghird party controllers such as those provided by Crestron.

"Iconyx saved us - and Salem Lutheran Church - the time and expense of installing a delayed cluster to cover the rear seating. Iconyx sounds better as well, because its tight vertical beam eliminates any delayed reflections from the 30 Ft. high ceiling. The client is thrilled."

David Bick
McClure Engineering Associates, St. Louis, MO, USA

"Iconyx has enabled us to achieve high levels of intelligibility in reverberant spaces without compromising natural speech and music reinforcement. Iconyx has proven to have superior horizontal coverage, sometimes eliminating the need for extra side-fill speakers. The software-movable acoustic center adds great flexibility to the mounting height and beam control for difficult applications. This is a real advance in technology as compared to previous designs. Our clients have been very pleased with the results."
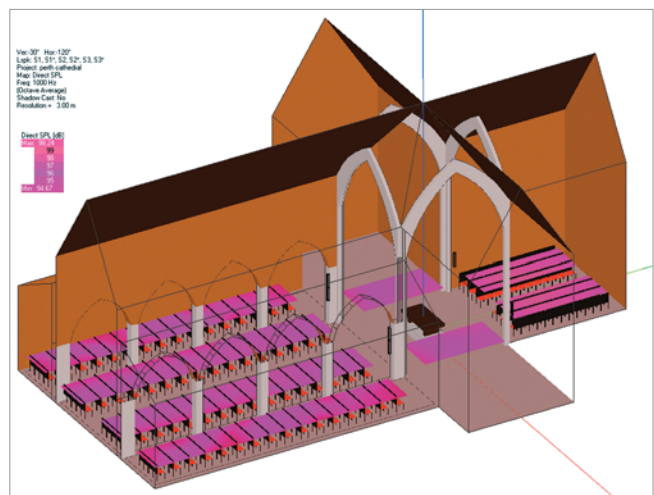
Peter Borchard AV Design Office
MuSonics, Golden, CO, USA

BeamWare display showing the IC32-R-II with multiple beams and a single acoustic source

BeamWare data can also be transferred to EASE, the industry-standard modeling program, for further analysis (below). The 3D mapping provided by EASE is an essential tool when designing systems using more than one Iconyx array.

Direct SPL (Sound Pressure Level) coverage as shown in EASE

Model	Height	Beam Control Effective Down To	Peak SPL @ 100Ft / 30.5 m	Coverage	Applications
IC8-R-II	37 5/8" 98 cm	800 Hz	96 dB	66 Ft / 20 m	Houses of Worship: Traditional and Modern
					Transport Terminal: Train Stations, Airports, etc.
IC16-R-II IC16/8-R-II	74 3/4" 190 cm	400 Hz	99 dB 96 dB	135 Ft / 40 m	Stadiums & Sport Arenas: Lobbies and Forecourts
					Convention Centers, Warehouses, etc.
IC24-R-II	111 7/8" 284 cm	250 Hz	102 dB	195 Ft / 60 m	Museums: Lobbies, Galleries, etc.
					Performing Arts Centers: Vocal/Orchestral "lift", Lobbies, etc.
IC32-R-II IC32/16-R-II	149" 378 cm	200 Hz	103 dB 100 dB	270 Ft / 80 m	Large-scale Video Signage Applications
					Casinos

For more information visit us on our website **www.renkus-heinz.com/Iconyx**