ICONYX

Iconyx Compact Series
User's Manual

Digitally Steerable Line Array Loudspeaker Systems

RENKUS-HEINZ

IMPORTANT SAFETY INSTRUCTIONS
ICC12/3 and ICC24/3

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions
5. Do not use this apparatus near water. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on it.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Make sure the power cord remains readily accessible at all times.
12. The AC Power Cord is the AC Mains disconnect.
13. Only use attachments/accessories specified by the manufacturer.
14. Disconnect this apparatus during lightning storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

"WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE"

"CAUTION: THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO".

Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the use to the presence of uninsulated "Dangerous Voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

The exclamanation point, within an equilateral presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Erklärung der graphischen Symbole

Der Blitz mit nach untenzielendem Pfeil in einem gleichseitigen Dreieck weist den Benutzer auf das Vorhandensein einer unisolierten, "gefährlichen Spannung" im Gehäuse hin, die stark genug sein kann, einer Person einen gefährlichen elektrischen Schlag zu versetzen.

Das Ausrufezeichen in einem gleichseitigen Dreieck weist den Benutzer auf wichtige Betriebs- und Wartungsvorschriften in den beiliegenden Unterlagen des Gerätes hin.

CAUTION

**RISK OF ELECTRONIC SHOCK:
OPEN ONLY IF QUALIFIED AS
SERVICE PERSONNEL**

To reiterate the above warnings: servicing instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than that contained in the Operation Instructions unless you are qualified to do so. Refer all servicing to qualified personnel.

VORSICHT

**GEFAHR EINES ELEKTRISCHEN SCHLAGES:
NUR VON QUALIFIZIEREM WARTUNGSPERSONAL
ZU ÖFFNEN**

Eindrigliche Warnung: Wartungsvorschriften dienen nur der Benutzung durch qualifizieres Personal. Zur Vermeidung eines elektrischen Schlages keine anderen als die in den Betriebsvorschriften beschriebenen Wartungsarbeiten ausführen, es sei denn Sie sind dafür qualifiziert. Wartungsarbeiten auszuführen.

IMPORTANT

Your Iconyx Steerable Column Loudspeaker contains no user-serviceable parts, all service should be referred to qualified service personnel.

IMPORTANT SAFETY INSTRUCTIONS
ICC36/3 and ICC48/3

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions
5. Do not use this apparatus near water. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on it.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not operate without an All Poles Disconnect Circuit Breaker in line with the unit.
10. The Power Switch on the back of the unit is the AC Mains disconnect.
11. Only use attachments/accessories specified by the manufacturer.
12. Disconnect this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

"WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE"

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⚠ **WARNING**	EARTH CONNECTION ESSENTIAL
HIGH LEAKAGE CURRENT	BEFORE CONNECTING SUPPLY

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⚠ **AVERTISSEMENT**	RACCORDEMENT À LA TERRE OBLIGATORIE
FUITE ÉLEVÉ DE COURANT	AVANT DE RACCORDEMENT AU RÉSEAU.

Erklärung der graphischen Symbole

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IMPORTANT

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IMPORTANT WEATHER RESISTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Means of disconnection of the unit from the AC mains shall be specified, including the electrical ratings of the disconnect device.
9. Only use attachments/accessories specified by the manufacturer.
10. Disconnect this apparatus during lightning storms or when unused for long periods of time.
11. Install all cabling or conduit with drip loops to prevent water wicking.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the interior of the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

THE INSTALLATION SHALL BE CARRIED OUT IN ACCORDANCE WITH ALL APPLICABLE INSTALLATION RULES IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70 AND CANADIAN ELECTRICAL CODE PART I.

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Contents

Introduction

Congratulations on your purchase of a Renkus-Heinz Iconyx Compact Series Digitally Steerable Loudspeaker. Your Renkus-Heinz loudspeaker has been designed to provide years of trouble-free, high performance operation. We hope you enjoy it.

Your Renkus-Heinz loudspeaker was completely tested and inspected before leaving our factory and should have arrived in perfect condition. Please carefully inspect your loudspeaker and its shipping carton for any noticeable damage, and if any damage is found, immediately notify the shipping company.

Only the consignee may institute a claim with the carrier for any damage incurred during shipping. Be sure to save the carton and all packing materials for the carrier's inspection.

Important:

Your Renkus-Heinz loudspeaker and its built-in amplifier contain no user-serviceable parts and all service should be referred to qualified service personnel. We recommend that it be returned to the factory in its original packing carton if factory service is required.

General Information

The Iconyx Compact Series is an incredibly compact, flexible, digitally steerable loudspeaker system composed two base modules that can be combined into 4 different array types. The base modules are the ICC12/3, and the ICC24/3; with Master and Aux versions of each. The base Master modules are combined with specific base Aux modules to create an ICC36/3 or an ICC48/3. The table below illustrates the combination of boxes for each product in the Iconyx Compact Series. Please note that due to mechanical differences between the master modules, it is impossible to add aux units to extend columns after initial purchase.

MODEL NUMBER	MASTER MODULE	AUX MODULE
ICC12/3-RN or -RD1	ICC12/3-RN or -RD1	X
ICC24/3-RN or -RD1	ICC24/3-RN or -RD1	X
ICC36/3-RN or -RD1	ICC24/3-RN or -RD1	ICC12/3-RA
ICC48/3-RN or -RD1	ICC24/3-RN or -RD1	ICC24/3-RA

Models covered in this manual:

ICC12/3	ALL VARIANTS	ICC36/3	ALL VARIANTS
ICC24/3	ALL VARIANTS	ICC48/3	ALL VARIANTS

Iconyx Compact versions and models

Iconyx Compact modules are optimized for fixed installation applications. All models feature Phoenix and RJ45 connections for cost effective, reliable installation of Audio and Data. All versions of the Iconyx Compact Series are available in –RN and –RD1 versions.

The –RN models have Ethernet networked amplifiers controlled and beam steered with RHAON II software. All –RN models have the following features:

- Analog audio input/output
- AES-3 audio inputs
- Two switched Ethernet/RHAON II network connections
- RHAON II beam steering
- Onboard DSP featuring:
  - Eight-band fully parametric EQ
  - High and low shelving filters
  - High and low pass filters
  - User delay up to 170 ms
  - Nine user savable presets recallable from RHAON II

The –RD1 models add the following features:

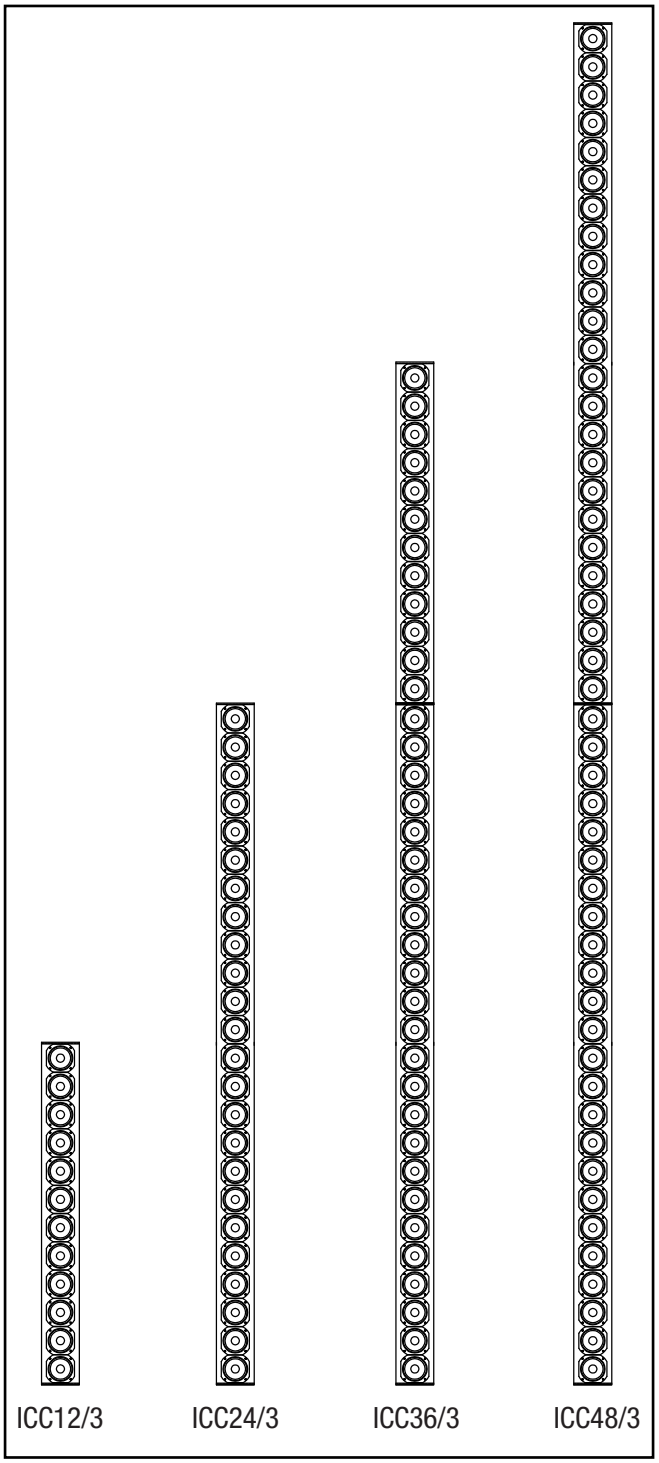
- Single Dante digital audio input
- Remote control via Crestron

Understanding Iconyx Compact Series model numbers

Iconyx Compact model numbers are descriptive, here's how to understand them:

- ICC12/3: the basic model
- –RN: RHAON II networked
- –RD1: Dante equipped
- –BK: Black
- –WT: White
- –CC: Custom paint color
- –WR: Weather resistant

An **ICC24/3-RD-CC-WR** is an ICC24/3 with Dante, custom color and weather resistant.



Iconyx Compact ICC12/3 and ICC24/3 Connections

Connections for all models are made on the rear of the enclosure.

- Analog Inputs/Outputs A1 on Phoenix pluggable terminal blocks, 3.5 mm pitch. Recommended wiring with Belden 8770 or equivalent shielded 3 conductor cable.
- Fault Relay on a Phoenix pluggable terminal block, 3.5 mm pitch. The fault relay is a SPDT relay that changes state when a fault is detected with the amplifier. The normal state, i.e. normally open, fault closed or normally closed, fault open is selectable in RHAON II
- AES-3 digital audio input on a Phoenix pluggable terminal block, 3.5 mm pitch. Recommended wiring with Belden 1800F or equivalent 110 ohm digital audio cable.
- Ethernet/RHAON II connection on RJ45 connectors, CAT5e or CAT6 wiring.
- Reset Button: Push and hold for 3-5 seconds to reset unit to factory default settings. *Note, any user presets are saved, but working memory is cleared when a unit is reset.*
- AC Mains Power for ICC12/3 and ICC24/3 modules are on an IEC 15A connector. AC Mains Power for ICC36/3 and ICC48/3 are hardwired. Input voltage 100-240 volts, 50/60 Hz., auto-switching.

Dante -RD1 units

All connections for the ICC12/3-RD1 and ICC24/3-RD1 units are the same as the -RN.

- Dante Input is on the primary Primary port, and Dante Loop Out is on the Secondary port on RJ45 connections, CAT5e or CAT6 wiring.
- *Note, the Dante Secondary port can ONLY be used either as a switched, network "looping" connection. The -RD1 options do not feature redundant Dante Audio.*

Iconyx Compact ICC36/3 and ICC48/3 Connections

Connections for all models are made on the rear of the enclosure.

- All connections, including Reset Button, are the same as the ICC12/3 and ICC24/3 except for the AC Mains power connection.
- AC Mains Power for ICC36/3 and ICC48/3 are hardwired via Wago Connectors and Ground Lug Terminal. Input voltage 100-240 volts, 50/60 Hz., auto-switching.
- Your ICC36/3 or ICC48/3 will come shipped with a conduit punch out cover installed, this cover must be removed in order to install the permanent power wires.
- The ICC36/3 and ICC48/3 offer standard 1/2" and 3/4" conduit punch out; remove the desired conduit punch out.
- Thread wires for Line, Neutral, and Earth Ground through the conduit punch out and install into the Wago Connectors as well as the Ground Lug.
- Secure conduit connection through the cover plate, and reinstall the cover plate onto the back of the unit.
- ** AC Circuit should not be live when installing Line, Neutral, and Earth Ground wires. **
- ** Unit shall not be operated without cover plate installed. **
- ** Ground wire MUST be a minimum of 12 AWG or equivalent. **
- ** An All Pole Disconnection Breaker must be installed in line with the hardwired power connection. **

Dante -RD1 units

All connections for the ICC36/3-RD1 and ICC46/3-RD1 units are the same as the -RN.

- Dante Input is on the primary Primary port, and Dante Loop Out is on the Secondary port on RJ45 connections, CAT5e or CAT6 wiring.
- *Note, the Dante Secondary port can ONLY be used either as a switched, network "looping" connection. The -RD1 options do not feature redundant Dante Audio.*

Wall Mounting Iconyx Compact Arrays

- The Iconyx Compact range was designed to be installed simply and efficiently. The ICC12/3 and ICC24/3 are both single modules, both use a single wall mount bracket which saves time on installations. The ICC36/3 and ICC48/3 are both made from 2 modules, and both use a pair of wall brackets. The brackets for ICC36/3 and ICC48/3 interlock, reducing the time needed to install larger columns, and eliminating potential to have the entire weight of the column resting on one bracket due to slight errors in measurements.
- As the installer you must insure that the wall or other mounting surface is capable of safely supporting the weight of the array plus the safety margin legally required for your territory. Weights for the Iconyx Compact Series is as follows:

  ICC12/3: 26 lbs./12 kgs.

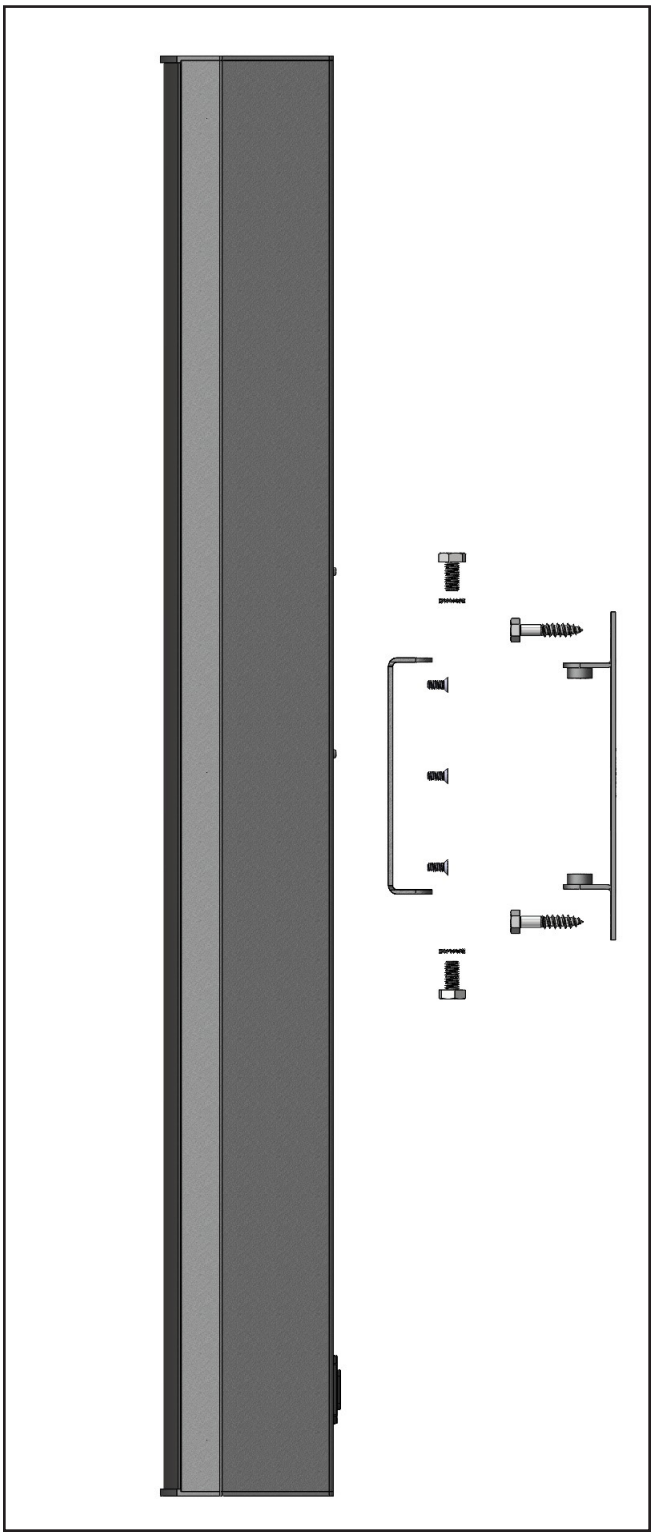
  ICC24/3: 52 lbs./24 kgs.

  ICC36/3: 78 lbs./ 36 kgs.

  ICC48/3: 104 lbs./ 48 kgs.
- Iconyx Compact arrays are too heavy to be supported by gypsum wallboard alone, you must anchor the brackets to structure able to support the weights listed above.

Wall Mounting ICC12/3 and ICC24/3

- Disassemble the bracket into the wall and loudspeaker halves by removing the 12 mm bolts and star washers. Remove the three, 6 mm Phillips-head screws from the back of the loudspeaker using a #3 Phillips screwdriver. Be sure to use a #3 Phillips, using a #2 may damage the screws.
- Mount the loudspeaker half of the bracket to the loudspeaker cabinet using the three 6 mm Phillips screws. Use thread locking compound to prevent the screws from loosening.
- The wall half of the bracket is intended to be installed with the bolts facing up. This allows the loudspeaker column to rest on the wall before tightening the nuts and locking splay angles.
- Follow the instructions on the following page for the type of wall to which you are mounting. If you are mounting to a wall type other than those listed below, you must insure that the method you use can safely support the weights listed.



Wooden Stud Wall

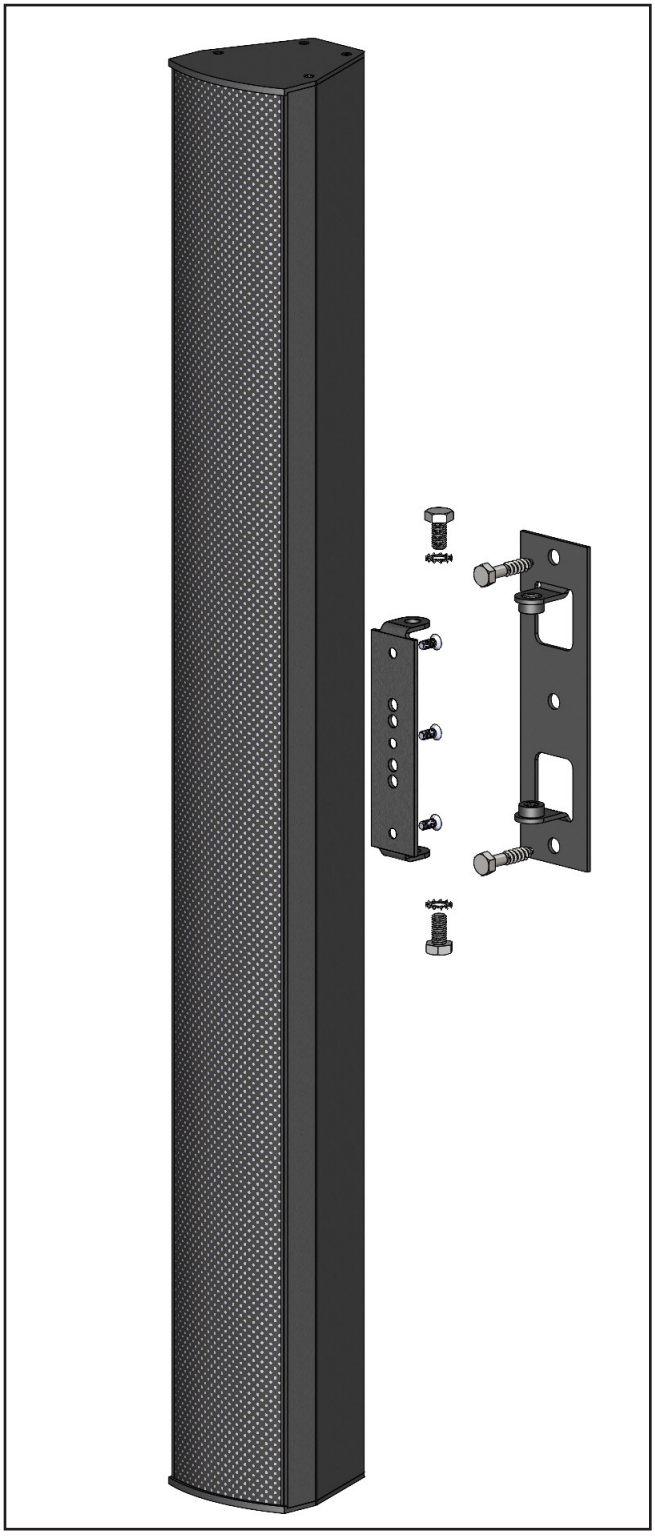
- Determine the desired mounting location on the wall. Locate a stud at the desired mounting location. If there isn't a stud at your desired mounting location, you will need to locally reinforce the wall as the loudspeakers are too heavy to mount directly to gypsum wall board.
- The mounting bracket is centered on the loudspeaker, the center hole of the wall bracket is a good reference point for the center of the mounted loudspeaker.
- Mark and drill pilot holes for the mounting screws.
- Mount the wall bracket to the wall using ¼ in. diameter x 2 in. long (6 mm dia. x 50 mm long) lag bolts or equivalent. Use at least two mounting screws or bolts.

Masonry Walls

- Determine the desired mounting location on the wall. The mounting bracket is centered on the loudspeaker, the center hole of the wall bracket is a good reference point for the center of the mounted loudspeaker.
- For mounting on concrete, CMU (concrete block) or brick walls, use masonry sleeve anchors, ¼ in. diameter x 1-½ in. long (6 mm dia. x 38 mm long) Red Head Dynabolt or equivalent. Use at least two mounting screws or bolts.
- Mark and drill clearance holes for the mounting anchors following the anchor manufacturer's instructions for diameter and depth.

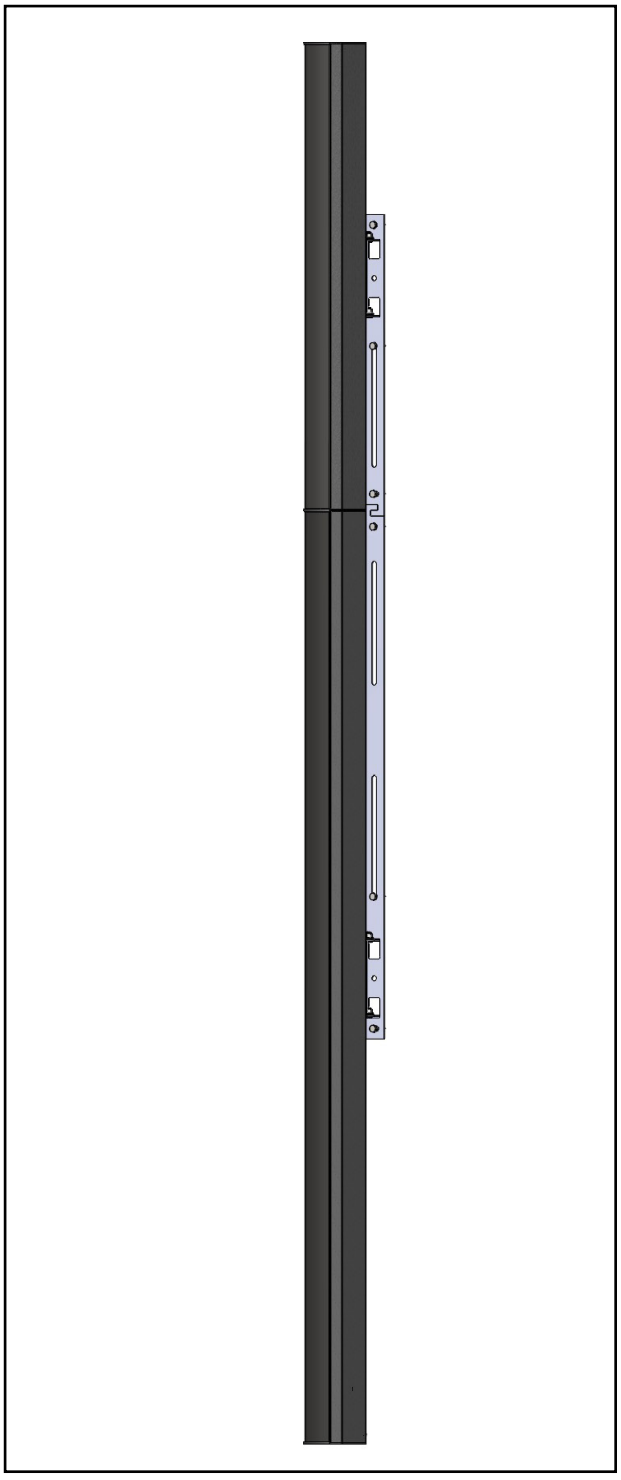
Mounting the loudspeaker to the bracket

- Slide the loudspeaker and it's bracket half over the wall bracket, drop down onto the 12mm bolts, and secure with the nuts and star washers.
- Select the horizontal aiming and tighten the bolts securely to lock the aiming angle in place.
- Connect the audio and power cables and your loudspeaker is ready to program and enjoy.



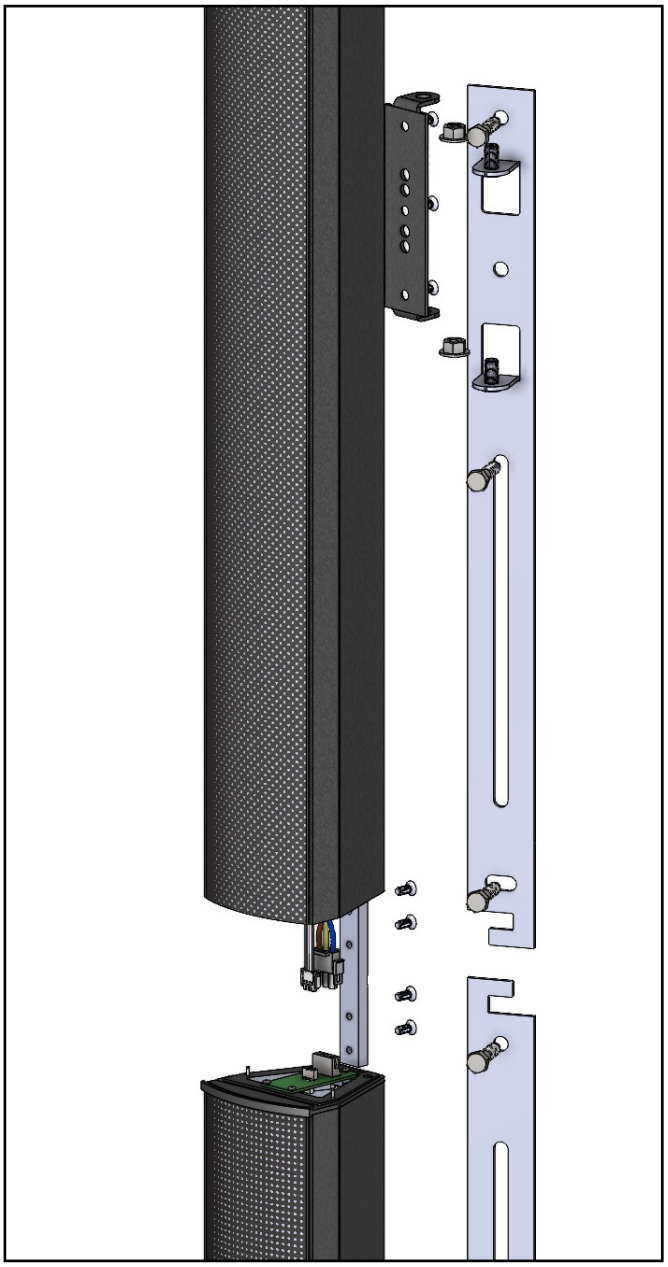
Building and Wall Mounting ICC36/3 and ICC48/3

- The ICC36/3 and ICC48/3 both consist of two individual modules, and 2 wall-mount brackets. One wall mount bracket is intended to hang the bottom module, and will have a small hook at the TOP of the bracket. The second wall mount bracket, is intended to hang the top module, will have a hook at the BOTTOM of the bracket.
- The wall halves of the brackets use an interlocking "hook" system to ensure safe, simple, and time effective installation.
- The orientation of the wall mount-brackets should be such that the set-screws that hold the loudspeaker should be facing UP.
- Utilize the instructions on the previous page for the type of wall to which you are mounting. If you are mounting to a wall type other than those listed below, you must insure that the method you use can safely support the weights listed.
- Disassemble the brackets into the wall and loudspeaker halves by removing the 12 mm bolts and star washers. Remove the three, 6 mm Phillips-head screws from the back of the loudspeaker using a #3 Phillips screwdriver. Be sure to use a #3 Phillips, using a #2 may damage the screws.
- Mount the loudspeaker half of the bracket to the loudspeaker cabinets using the three 6 mm Phillips screws. Use thread locking compound to prevent the screws from loosening.
- Mount the first wall bracket onto the wall at the appropriate height.
- Next, second wall bracket should be interlocked into the first bracket and attached to the wall.



Building and Wall Mounting ICC36/3 and ICC48/3 cont.

- Once both wall brackets are safely installed onto the wall, the loudspeakers can be hung.
- Slide the ICC24/3 Master Unit over, and then down onto the lower bracket's bolts, and loosely attach the star washers and nuts.
- The ICC36/3 or ICC48/3 ships with the bottom, master IC24/3's top cap replaced with an open "Sandwich Cap". The "Sandwich Cap" allows for easy internal connect of Data, Audio, and Power between the Master and Aux units.
- Tthe ICC36/3 and ICC48/3 will also contain additional hardware including a "Locking Bar", and necessary attachment screws. The "Locking Bar" ensures both the Master and Aux modules splay as a single array.
- Slide the "Locking Bar" into the rear opening on the "Sandwich Cap", and attach using two (2) of the included attachment screws. Do not tighten all the way.
- Grab the ICC12/3-RA or ICC24/3-RA and slide it over and down onto the bolts of the upper, long wall mount bracket. Before dropping down onto the sandwich cap, please ensure proper connection of RJ45, and Power Connectors. Once the connections have been made, loosely attach the star washers and nuts to the Wall Mount bolts.
- Slide the Aux Unit over the "Sandwich Cap" and "Locking Bar". Utilizing the two additional attachment screws, tightly screw in the locking bar in the Master and Aux units.
- The ICC36/3 or ICC48/3 is now assembled, and wall mounted. Set the desired splay angle, and tightly fasten the nuts on the 2 wall-mount brackets to lock the splay angle.



Designing with Iconyx Compact

The Iconyx Compact series offers the system designer incredible performance and flexibility in a remarkably small form factor. Here we'll cover the basics of the decisions involved in designing an Iconyx Compact system. For a full discussion of the science of beam steering and steerable line arrays, please refer to the Iconyx Certification materials.

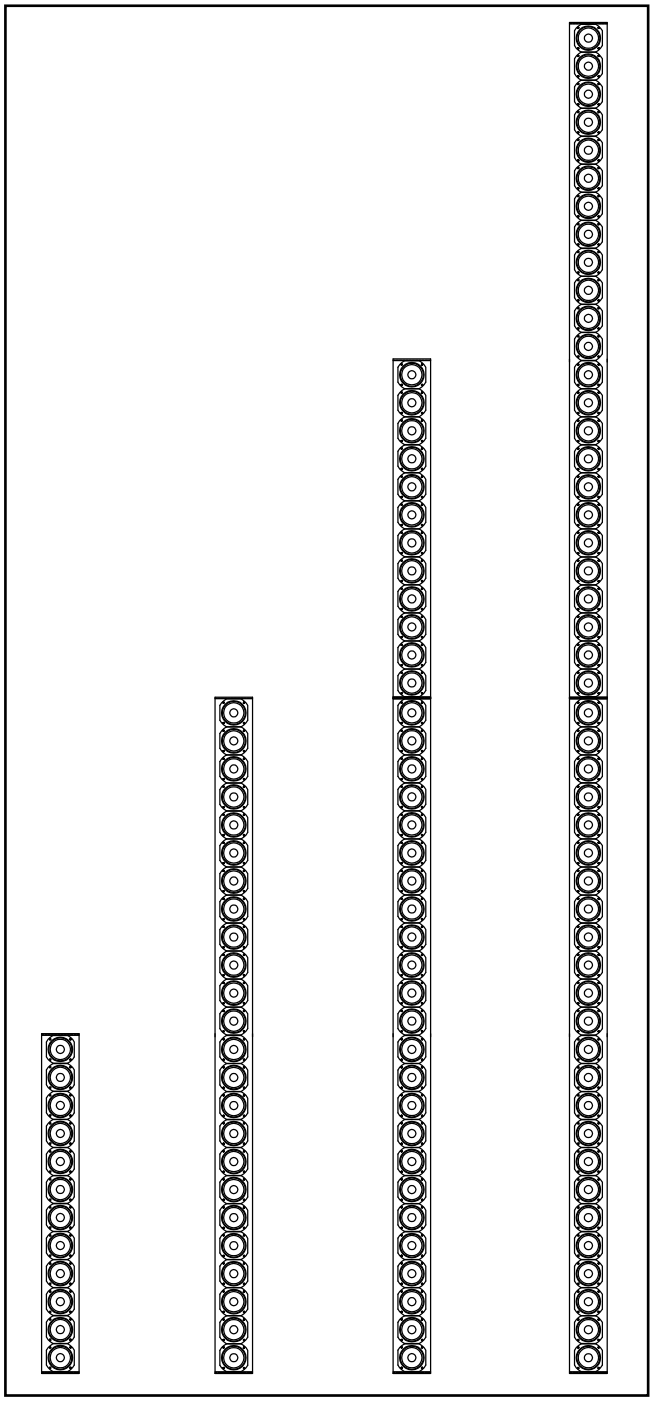
Two basic factors must be considered when designing with Iconyx Compact:

- Directivity and steering; taller arrays are more directional and can effectively steer to a lower frequency. Greater directivity also equates to increased intelligibility in reverberant environments.
- Output; taller arrays composed more array elements have more output capability than shorter arrays. Doubling the height of an Iconyx Compact array usually results in 2-3 dB of increased output potential.

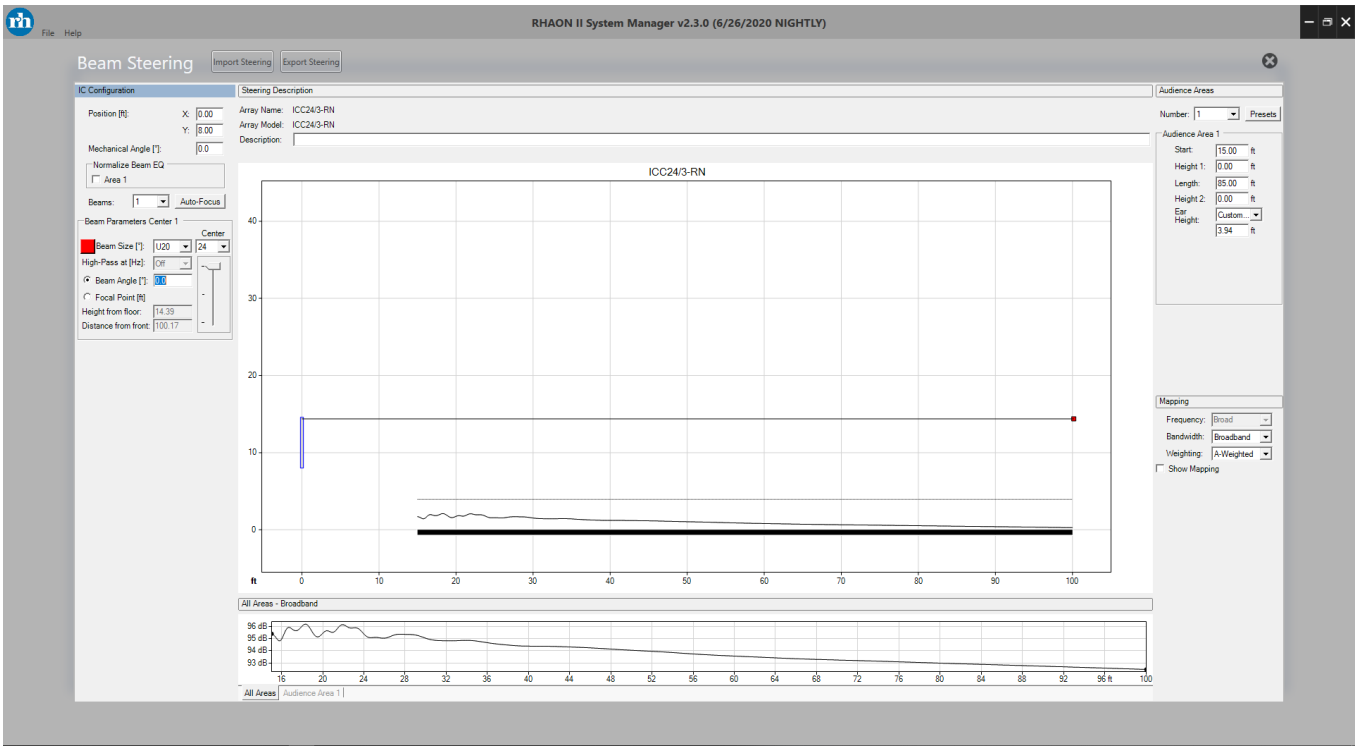
Model Selection Guidelines

When designing systems utilizing Iconyx Compact the following factors will determine which column type to go with.

- The longer the intended coverage distance, the taller the column is required. General limits for the various models is given below:
  A. ICC12/3: 50ft - 60ft / 15.25m - 18.3m
  B. ICC24/3: 100ft - 120ft / 30.5m - 36.6m
  C. ICC36/3: 150ft - 180ft / 45.75m - 54.9m
  D. ICC48/3: 200ft - 240ft / 61m - 73.2m
- As reverberation in a space increases, taller columns are often required. The limits above are given ideal acoustic room acoustics. If the acoustics of the space are incredibly challenging, using a taller column than coverage distance would indicate usually results in greater intelligibility.



MODEL NUMBER	ICC12/3	ICC24/3	ICC36/3	ICC48/3
Driver/Amplifier	12 // 12	24 // 24	36 // 36	48 // 48
Array Height	3.3 ft / 1 m	6.6 ft / 2 m	9.9 ft / 3 m	12.2 ft / 4 m
Steering Frequency	800	400	300	200
Coverage Distance	60 ft / 18.3 m	120 ft / 36.6m	180 ft / 54.9m	240 ft / 73.2m



Iconyx Compact Beam steering

This section assumes a working knowledge of our RHAON software. If additional resources about RHAON II are needed for correct operation, please refer to our RHAON II Users Manual.

To begin beam steering, click on the Beam icon in the control panel for the Iconyx Compact loudspeaker to be steered. The Beam Steering window will open.

Enter the room parameters for simulation.

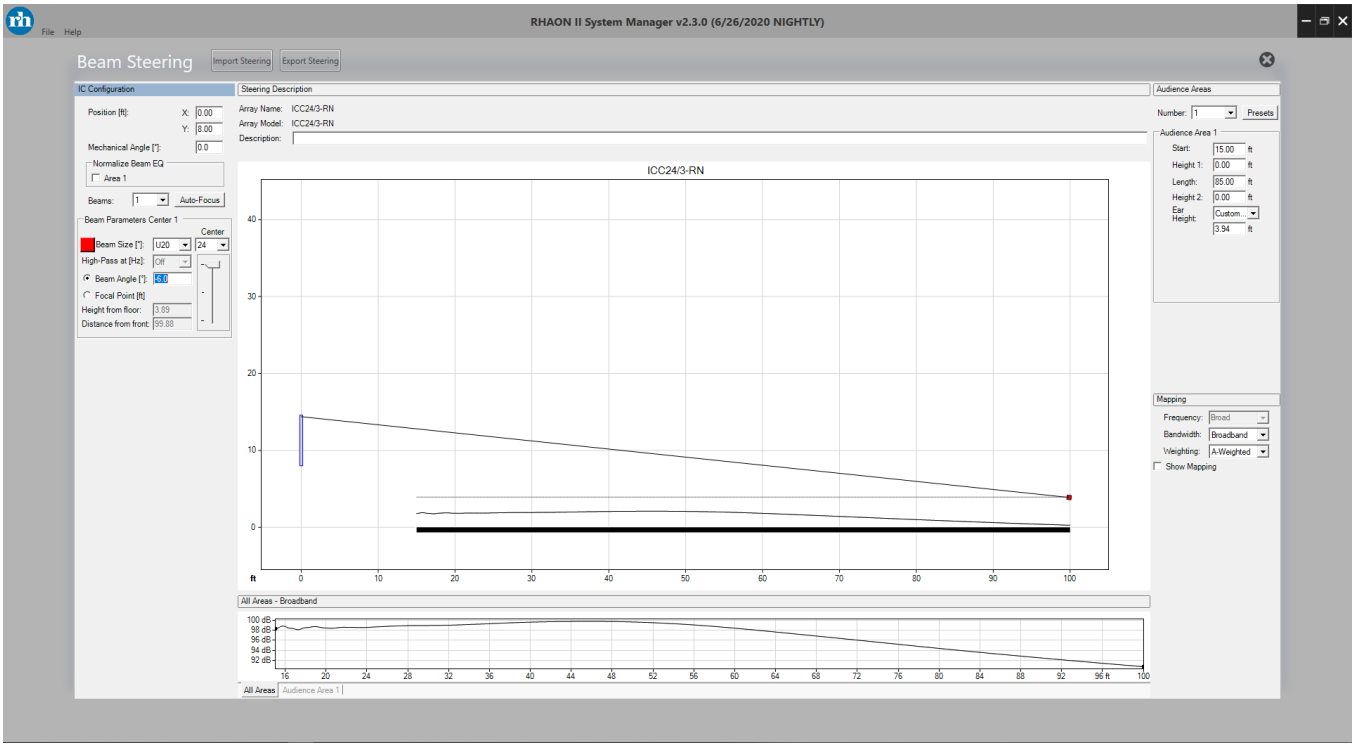
- On the left, enter the X and Y coordinates for the array. The Y coordinate is the distance from the finished floor to the **bottom** of the array. The X coordinate is normally left at 0, but can be set to other references if needed.
- Audience area coordinates are entered referenced to the finish floor level. The ear height simulation plane is then added automatically. The ear height is selectable for seated or standing audiences, or a custom value can be entered if desired.

U.R.G.O. Beams

The Iconyx Compact Series uses a new beam-steering algorithm developed specifically for it called U.R.G.O., or UniBeam Room Geometry Optimization.

U.R.G.O. simplifies the beam steering process, and delivers consistent results with a simplified workflow.

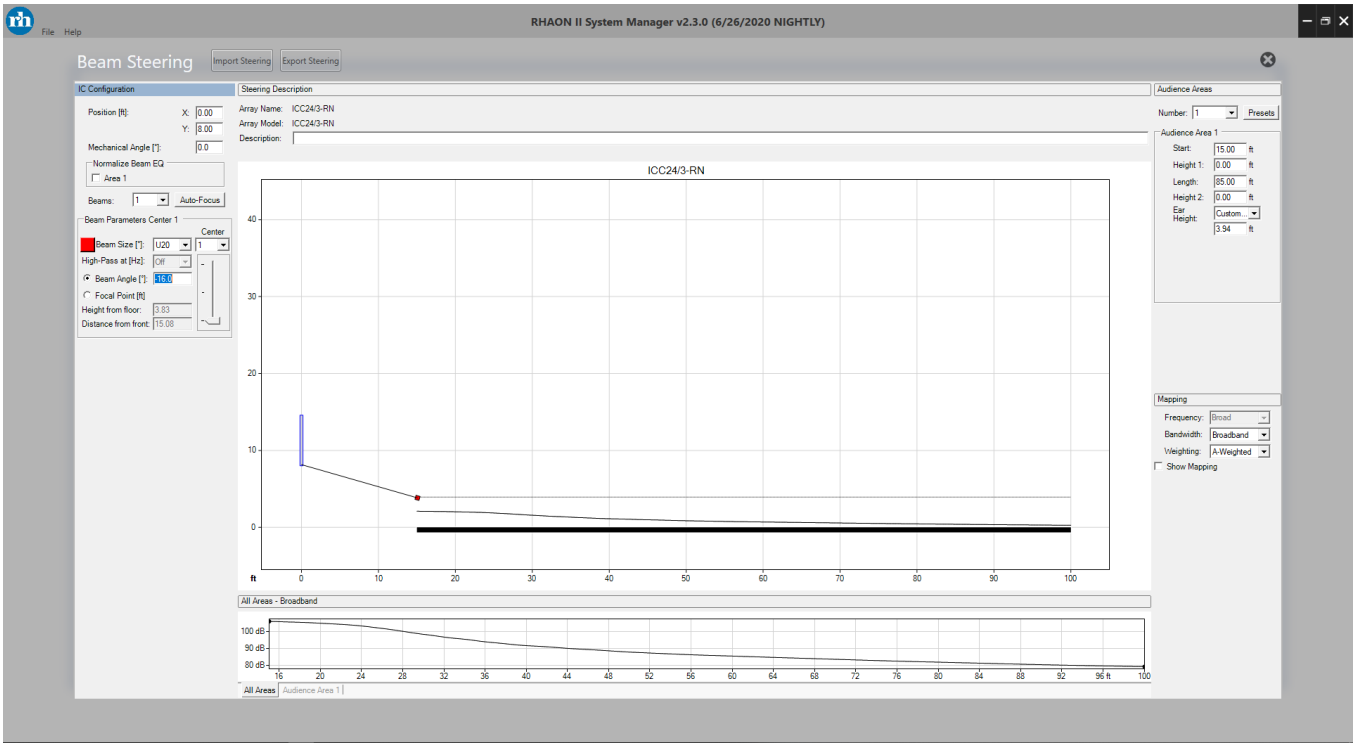
U.R.G.O. technology creates an asymmetrical lobe of coverage based on the opening angle required for optimal coverage. These opening angles are based on standard mounting heights for Iconyx and IC-Live loudspeakers, taken from over a decade of experience with steerable sound systems.



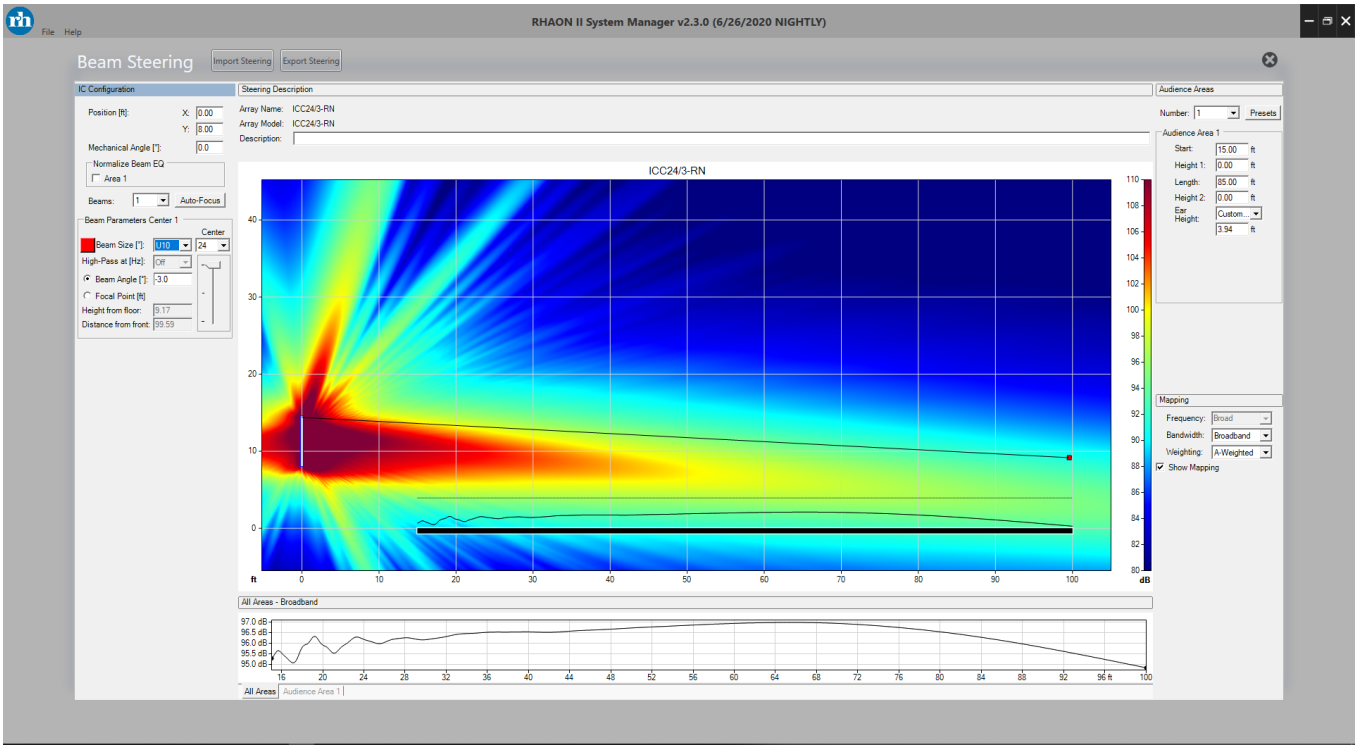
U.R.G.O. Workflow

Once the simulation parameters have been entered the U.R.G.O. workflow is as follows.

1. Ensure the aiming handle is at the top acoustic center.
2. Using the beam aiming handle, find the angle of inclination from the top of the HF array to the back of the room. Just grab the red handle and drag it to the end of the audience area at ear height. Be sure to aim at ear height, not the floor level.
3. Read the angle in the Beam Parameters pane on the left side of the Beam Steering window. In the example above, the angle is –6 degrees.
4. Make a note of this angle.



1. Next, move the beam center to the bottom position. Find the angle of inclination from the bottom of the HF array to the front of the audience area. As in the step above, drag the beam handle to the front of the audience area at ear height and read the angle in the Beam Parameters panel.
2. Make a note of the angle, in this case -16 degrees.
3. Find the difference between the “Top to Back” angle and “Bottom to Front” angle. In our example 16– 6 degrees is 10 degrees.
4. Select the beam size with the closest matching angle, for our example the 10 degree beam option is ideal.
5. Select the desired acoustic center.
6. Using the aiming handle, aim the beam at ear height at the back of the audience area.
7. Repeat these steps and add additional beams for each audience area in your project.
8. This process works for flat, and raked plane seating areas.



As can be seen in the results mapping above—a variation of + or -1.0 dB from front to back in a 100 ft./30 meter deep room—the U.R.G.O. workflow and beam results in excellent front to back coverage with minimal work.

U.R.G.O. Refinements

U.R.G.O. beams are simple, but there are still some adjustments and tweaks that can further refine the coverage to the specific venue. U.R.G.O. beams have two acoustic centers, the Top, and the Bottom of the High Frequency Array.

The aiming handle represents the upper boundary of coverage, combine that with the inherent assymetry of the U.R.G.O. beams, the aiming angle is typically above ear height at the back of the room for ideal coverage.

The Top acoustic center will keep most of the energy towards the top of the column. This allows greater down angles of inclination, which will often reduce reflections off side and rear surfaces. Additionally, the Top acoustic center can be used in an effort to increase gain before feedback with close proximity microphones.

The Bottom acoustic center will produce shallower angles of inclination, reducing the steering needed to achieve coverage, resulting in coverage to greater distances. The Bottom acoustic center can also be used to achieve greater front fill coverage. The single beam workflow that U.R.G.O. provides makes experimentation easy.

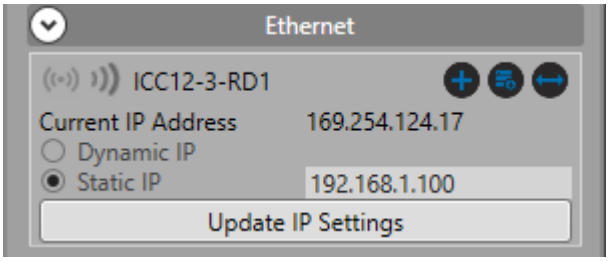
Managing ICC-RD1 Models on the Dante Network

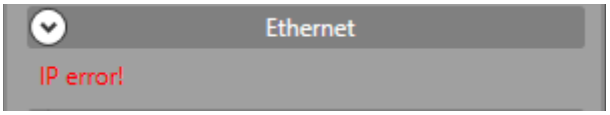
Discovery of Renkus-Heinz ICC-RD1 within RHAON 2 requires Dante Discovery Services to be installed and running. ICC-RD1 features Audinate's Dante Ultimo chipset, and because of that the network architecture is different to Renkus-Heinz' other Dante enabled products. The primary difference between the ICC-RD1 network implementation verus our standard Dante offerings is the split between RHAON Control and Dante Audio network chips, meaning there are two separate MAC and IP addresses per ICC-RD1 unit. We still only utilize one Ethernet cable, but there are two interfaces to manage.

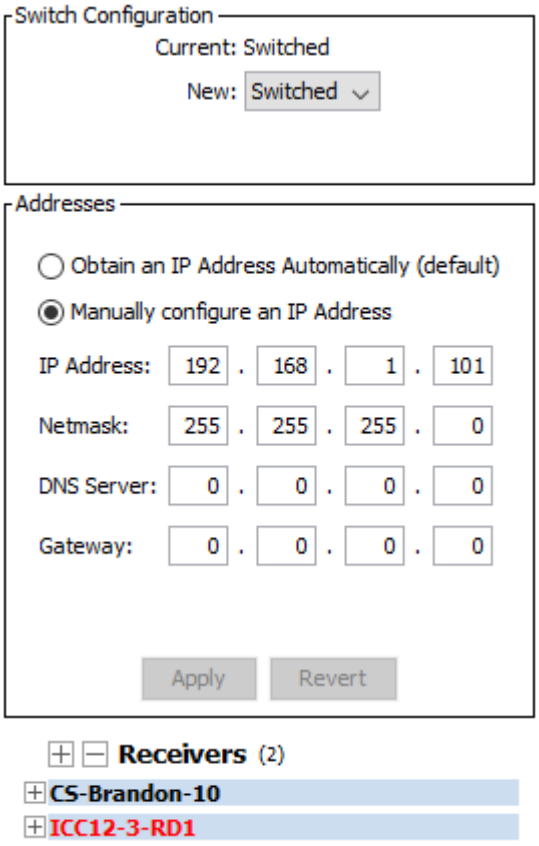
A brand-new ICC-RD1 will leave the factory with both the RHAON and the Dante IP addresses set to DHCP mode. This allows anyone with a DHCP server to easily connect to the loudspeakers once they're on a network. If static IP addresses are needed due to network infrastructure, follow the steps below to correctly assign the device's IP addresses.

The below steps can be follwed in order to change from Static IP addresses to a DHCP enabled network. Simply select "Dynamic IP" in step 2, and "Obtain IP Address Automatically" in step 9.

1. Within RHAON 2, right-click the device in question and select "Manage IP Addresses".
2. Select "Static IP" and enter in the appropriate IP address and subnet for your RHAON 2 network inside your ICC-RD1 device.
3. Click "Update IP Settings"
4. The unit will momentarily disappear from RHAON 2's network discovery tab, before coming back with "IP Error" displayed instead of a name.
5. Repeat the above steps 2-5 for as many units have IP addresses that need to be set.
6. Close RHAON 2.
7. Within Dante Controller, double-click on the unit in question to open up the Device View window.
8. Within the Device View window, navigate to the Network Properties Tab.
9. Select "Manually Configure an IP Address".
10. Enter in the relevant IP address, Subnet, DNS Server, and Gateway for the unit in question.
11. Click "Apply", then click "Reboot".
12. The unit in question will reappear in Dante Controller with red-text to indicate a connectivity problem.
13. Select another device you wish to change network settings on, and repeat steps 9-12 on all devices that need their Dante IP addresses assigned.
14. Change your Windows NIC to a static IP address in the same subnet, DNS Server, and Gateway as the network you're connecting to. Units should resume normal behavior in Dante Controller.
15. Reopen RHAON 2, devices should discover as normal.







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