iCONYX Gen 5

Digitally Steerable Line Array Loudspeaker Systems

ICONYX Gen5

USERS MANUAL

Assembly & Installation Instructions

IC8-RN

IC16-8-RN • IC16-RN

IC24-16-RN • IC24-RN

IC32-24-RN • IC32-RN

rh RENKUS-HEINZ

IMPORTANT SAFETY INSTRUCTIONS

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.

This electronic equipment is for professional use and may have high leakage current. The unit should always be properly connected to the AC Mains including proper and permanent connectiion to Ground. The included cover for the connections pocket must be installed with all supplied screws. Do not use substiture screws. In the event of gasket damage, contact Renkus-Heinz for replacement parts.

This equipment must be connected to an earthed mains socket-outlet.

Laite on liitettävä suojamaadoituskoskettimilla varustet-tuun pistorasiaan

Apparatet må tilkoples jordet stikkontakt

Apparaten skall anslutas till jordat uttag

NON WEATHER RESISTANT MODELS

AVIS	CAUTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR	RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:
TO REDUCE THE RISK OF
ELECTRIC SHOCK, GROUNDING
OF THE CENTER PIN OF THIS
PLUG MUST BE MAINTAINED.
CLASS 1 WIRING.
DO NOT EXPOSE THIS EQUIPMENT
TO RAIN OR MOISTURE.

IP55 RATED WEATHER RESISTANT OPTION
SEPARATELY AVAILABLE

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 Sei sind dafür qualifiziert. Wartungsarbeiten auszuführen.

IMPORTANT
**Your Iconyx Gen5 Steerable Column Loudspeaker contains no user-serviceable
parts and all service should be referred to qualified service personnel.**

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INTRODUCTION

Congratulations on your purchase of a Renkus-Heinz RHAON II Empowered, digitally steered Iconyx Gen5 loudspeaker system.

We hope you enjoy it.

Your Iconyx Gen5 loudspeaker was carefully tested and inspected before leaving our factory and should have arrived in perfect condition. Please carefully inspect the shipping carton(s) and loudspeaker(s) for any noticeable damage, and if any damage is found, immediately notify the shipping company. Only you, the consignee, may institute a claim with the carrier for any damage incurred during shipping. Be sure to save the carton(s) and all packing material for the carrier's inspection. It is also a good idea to save the carton and packing material even though the loudspeaker arrived in good condition. If you should ever need to ship the loudspeaker, it should be shipped in its original factory packaging.

Technical Support

If you have any questions about Renkus-Heinz loudspeakers or encounter a problem designing, installing, setting up or operating a Renkus-Heinz system, please call our technical support staff at +1 949-588-9997 and ask the operator for technical support. Hours of operation are Monday through Friday from 8:00 AM to 5:00 PM US Pacific Time.

The latest information is always available online at http://www.renkus-heinz.com under the Service and Support heading. You will also find a support request form there.

About RHAON II

Your Iconyx Gen5 digitally-controlled, steerable column loudspeaker is RHAON II Empowered. RHAON II ("rayon two"), the Renkus-Heinz System Manager Software, combines digital audio distribution with precise control and supervision of Renkus-Heinz self-powered loudspeakers. RHAON II uses standard Ethernet hardware and on-board DSP (digital signal processing) to allow self-powered Renkus-Heinz loudspeakers to respond to user input in real time.

IMPORTANT

If you will be controlling/supervising your RHAON II empowered system with a laptop, do not close the laptop's lid or allow your laptop to go to sleep (hibernate) during operation.

General Information

Your RHAON II empowered loudspeaker's amplifier/DSP stores all configuration settings, including the input source se-lection, in non-volatile memory (settings will remain through a power cycle). Analog Input 1 has been pre-selected at the factory so you can use the loudspeaker as an ordinary self-powered loudspeaker out of the box. Just connect a line level audio signal to Analog Input 1 and connect the AC power. If the loudspeaker was previously put into its standby power mode or another input was selected, it will be necessary to connect it to a computer running RHAON II to change these settings or press the RESET button next to the RJ45 port (see page 11).

You will need a computer with a NIC (Network Interface Card) and Windows-based RHAON II software to change the input selection, beam steering or any of the other DSP settings. Once your DSP settings are stored in non-volatile memory, the computer can be disconnected from the network. You will need to connect a computer only when you want to change the settings or when you want to view the status of connected loudspeakers.

Renkus-Heinz engineering has programmed the on board DSP to optimize the loudspeaker's performance and to ensure its safe operation. Replace the amplifier module only with another unit that has been factory programmed for the same loudspeaker. Contact our Technical Support Department for details and assistance.

ASSEMBLY INSTRUCTIONS

Multi module Iconyx arrays can be operated as either individual Master & Slave devices or in an array of all Master devices. As a Master & Slave device, the module with the Ethernet and audio connections is the Master and all the other modules are Slaves controlled by the Master module. In an All Master Array, the array acts as a single device.

To simplify shipping and handling, Iconyx Gen5 loudspeakers are constructed from 8-channel modules and need to be assembled in the field. The assembly hardware is packed with the modules in cardboard boxes that double as carton fillers. The ones containing the hardware are marked "Hardware" to prevent the hardware from being accidentally dis-carded.

If you purchased an **IC8-RN**, all you need to do is remove the loudspeaker and its hardware box from the carton and install it.

If you purchased an **IC16-8-RN**, all you need to do is remove the loudspeaker and its hardware box from the carton and install it.

If you purchased an **IC16-RN** or an **IC24-16RN**, you should have received two cartons and will need to assemble them into a single unit. Each carton will include a hardware box.

If you purchased an **IC24-RN** or an **IC32-24-RN**, you should have received three cartons and will need to assemble them into a single unit. Each carton will include a hardware box.

If you purchased an **IC32-RN**, you should have received four cartons and will need to assemble them into a single unit. Each carton will include a hardware box.

The cartons will be marked to show the module's position in the finished column array; for example, top, bottom, center, etc.

Hinge hardware is included with the loudspeakers. Note that the hinges can be installed on either the right or the left side of the wall braket to allow the column to swing to either the right or to the left away from the wall.

Prepare an assembly area. Modules are 3 or 6 feet long, so a flat surface with enough space to assemble the complete array is required. We suggest covering the assembly area with a heavy cloth or some other soft material to prevent damaging the finish on the cabinets while assembling them. Avoid resting the modules on their grille. The modules are heavy and may deform the grille. Instead, rest the modules on their sides or back.

Place the modules in their respective positions in the assembly area.

Note: Be aware that If you purchased IC8-RN modules in the past and now want to turn them into larger arrays by purchasing IC8-RS slave modules, all the modules must be of the same Firmware version. **Refer to page 12 herein or the RHAON II User Manual for details on updating firmware.**

Before proceeding any further carefully check to make sure none of the modules are connected to the mains (main AC power line). If they are, disconnect them. Removing a module's top plate exposes terminals that carry AC power between the modules and poses a shock hazard if the unit is connected to the AC power line (mains).

You will first need to remove the top of the lower module and the bottom of the top module, and the tops and bottoms of any intermediate modules and their mounting brackets.
To remove an end cap, remove the eight machine screws from each side of the cabinet and lift the end cap and its mounting brackets out of the cabinet. It may be necessary to loosen the top hex bolts.

Now, use the mounting bracket machine screws you removed to install the two heavy joining plates. They will be packed with the hardware. Tighten the screws lightly. The joining plates need to be a little loose to slide easily into the other cabinet. Align the two modules to be joined on a tabletop or on the floor so that the top of the lower one and the bottom of the upper one are close to one another, about 4" (10 cm) apart.

There are only two connections to be made between Gen5 Iconyx modules. An RJ45 connection that carries control data & audio and a locking power connector. Each only fits one way in its own socket. Make sure the connectors are fully seated with their locking tabs in place. If necessary, use a flashlight to check because if the connectors are not seated properly, you may have to disassemble the column again in order to reseat them.

Align the two modules and slide them together, making sure the holes in the heavy joining plates align with the holes in the modules and that the cables do not get pinched. Install the remaining screws into the joining plates and tighten all the screws. The assembly is now complete.

Remove the end caps

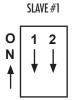**Line up modules and install joining plates**

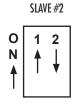**Make connections and slide the modules together**
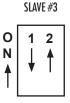
Address Number Verification

Next is to verify that the Slave modules are properly identified. The settings were set at the factory, but it's always a good idea to check them. This is accomplished with the dip switches located on the rear of each module. Set the switches in accordance with the illustrations shown below.
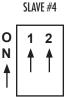
Normally the Master module (ID 0 in RHAON II) is on the bottom and the other modules will be Slave IDs 1, 2 & 3 in ascending order. However, the modules can be put in any order. For example, the Master may be on top to allow for a cable drop near the top of the array. The dipswitch ID settings on the Slaves must match the column order in RHAON II and both must match the vertical order of the modules. Refer to the section on Column Order in the RHAON II User Manual.
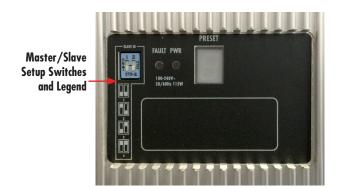
If power was connected to the Array before setting the dip switches, it will need to be disconnected and reconnected before the dip switch settings will take effect.

Master/Slave Setup Switches and Legend

INSTALLATION

General Information

Iconyx Gen5 hardware was designed to be easy to install on either a flat surface, such as a wall, or suspended from a ceiling. Note that it was not designed to be mounted in the wall or in an alcove. The amplifiers are convection cooled and their heat sinks require at least an inch of separation from the nearest surface.

The included hinge kits allow wall mounted arrays to be rotated 90 degrees away from the wall to provide easy access to the rear ports during installation and for any testing or service. They also provide the separation needed for cooling.

The actual installation should be made either by, or under the close supervision of, someone experienced in installation techniques, and rigging related to the type of mounting surface or wall.

Wall Mounting Information

The following instructions assume that the array(s) will be mounted using the included HK series hinge kits.

HK series hinge kits come standard with Gen5 arrays and will be packed in one of the cartons. Each mounting plate has a pin that may be moved to provide for either "right" or "left" swing away from the wall. IC8-RN columns will have two hinge sections; all others will have three hinge sections.

The female hinges are attached to the column and the male hinges to the wall. The photos below show the male mounting plates with pins in both positions for illustrative purposes.

Notice that one of the wall mounting hinge plates has a metal strap attached to it. This hinge plate can go on the top or bottom. The metal strap attaches to the top or bottom of the array after it is hung and is used to lock the column array in place.

Hint: To simplify the mounting many installers will first cut a "backing plate" the size of the column out of heavy plywood and mount the hinge plates on it. It's a lot easier to align the hinge sections on a piece of plywood than it is on the wall. Then, when the alignment is perfect they mount the "backing plate" to the wall. After that, it's usually a comparatively easy task to hang the column array on the backing plate.

After the column array is hung on the wall, remove the machine screw from the center of the end cap with the restraining strap and use it to attach the strap.

In outdoor or weatherized applications, the restraining strap should only be used on the bottom.

IMPORTANT WALL MOUNTING INSTRUCTIONS

WARNING: THIS APPARATUS MUST BE SECURELY ATTACHED TO THE WALL IN ACCORDANCE WITH INSTAL-LATION INSTRUCTIONS. FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS MAY RESULT IN INJURY.

To ensure proper air movement for the cooling of the amplifier, we recommend a minimum of 2 to 3 feet of clearance in front of the loudspeaker and 4 - 5 inches of clearance from the other cabinet surfaces.

Installation should only be performed by skilled and qualified personnel who are experienced in mounting heavy loads to the desired wall construction type.

These loudspeakers are intended to be securely mounted using the included Renkus-Heinz, Inc. HK Series hinge kits and are not intended to be free-standing:

Models IC8-RN, IC16-8-RN & IC16-RN   Hinge Kit Model HK-IC8R &16R
Models IC24-16-RN, IC24-RN, IC32-24-RN & IC-32-RN   Hinge Kit Model HK-IC24R &32R

These loudspeakers have not been evaluated for safety requirements using other mounting kits.
Renkus-Heinz is not responsible for the quality or effectiveness of an installer's mounting of this heavy load to the wall type encountered during installation.

Hardware Required

- Models IC8-RN, IC16-8-RN & IC16-RN
        Eight – Size M8, 11/32" or #20 fasteners suitable for mounting a heavy load to the desired wall
        One – Renkus-Heinz, Inc. Hinge Kit Model HK-IC8R &16R

- Models IC24-16-RN, IC24-RN, IC32-24-RN & IC-32-RN
        Twelve – Fasteners suitable for mounting a heavy load to the desired wall
        One – Renkus-heinz, Inc. Hinge Kit Model HK-IC24R &3 2R

Tools Required

- Drill and bits suitable for use on the desired wall type
- Socket Driver
- 1/2" Socket
- Philips #2 screwdriver or socket driver

Wall Mounting Procedure

NOTE: Each HK series hinge consists of two parts, a male mounting plate and a female mounting plate. The female hinge plates should be attached to the loudspeakers. The male mounting plates attach to the wall. The proper number of mounting plates are included for the size of loudspeaker ordered.

Each male mounting plate is provided with 6 mounting holes. At least four fasteners in each male mounting plate, suitable for the wall's construction, are needed to fully satisfy mounting needs and safely secure Iconyx loudspeakers to the wall.

> - Determine the desired height of the loudspeaker and mark the location of the male mounting plates

> - Mark points on the wall where mounting screws will be positioned.

> - Using an appropriate drill bit, drill holes at the marked points

> - Secure the mounting plate to the wall with fastener suitable for the wall's construction

> - Repeat until all male mounting plates are installed.

NOTE: The male mounting plate with an attached slotted locking strap can go in the top or bottom location. The components of the mounting plate must be rearranged to fit when used in the top location.

> - The female mounting plates come pre-attached to the loudspeaker.

> - Lift the loudspeaker onto the hinge pins.

> - Secure the loudspeaker by attaching the metal locking strap to its top or bottom using the machine screw provided.
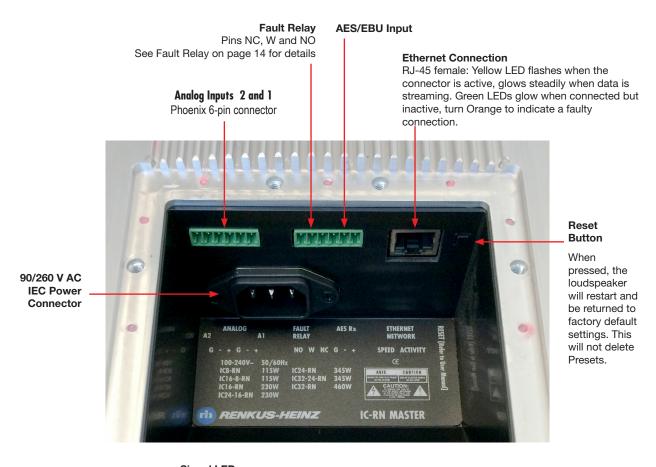
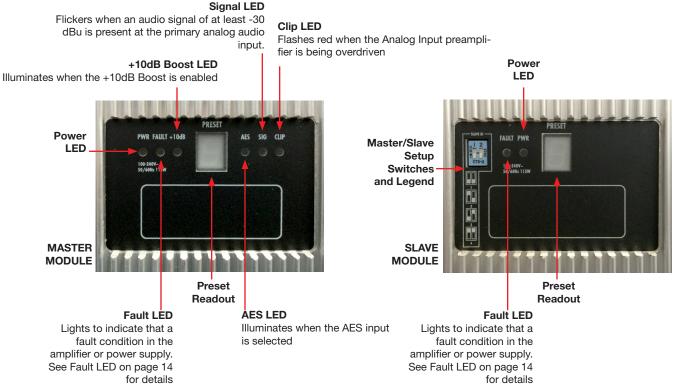> - Installation is complete.

Suspension Mounting (Flying)
The end caps of the column array are attached to the main frame with four M6 machine screws. Removing these screws and replacing them with eye bolts provides up to four attachment points for flying. We recommend using all four. If only 2 are used the column will not hang straight. It will either tilt up or down.

Tripod Stand Mounting
If you plan to use your Iconyx Gen5 IC8-RN, IC16-8-RN or IC16-RN mounted on a heavy-duty tripod stand using our ICTRIPODKITR, be aware that you must mount the top mounting bracket to the array before attaching the tripod socket to the bracket. Otherwise you will not have access to all the bracket mounting screws.

HARDWARE CONNECTIONS & INDICATORS

Fault Relay
Pins NC, W and NO
See Fault Relay on page 14 for details

AES/EBU Input

Ethernet Connection
RJ-45 female: Yellow LED flashes when the connector is active, glows steadily when data is streaming. Green LEDs glow when connected but inactive, turn Orange to indicate a faulty connection.

Analog Inputs 2 and 1
Phoenix 6-pin connector

Reset Button

When pressed, the loudspeaker will restart and be returned to factory default settings. This will not delete Presets.

90/260 V AC IEC Power Connector

Signal LED
Flickers when an audio signal of at least -30 dBu is present at the primary analog audio input.

Clip LED
Flashes red when the Analog Input preamplifier is being overdriven

+10dB Boost LED
Illuminates when the +10dB Boost is enabled

Power LED

Power LED

Master/Slave Setup Switches and Legend

MASTER MODULE

SLAVE MODULE

Preset Readout

Preset Readout

Fault LED
Lights to indicate that a fault condition in the amplifier or power supply. See Fault LED on page 14 for details

AES LED
Illuminates when the AES input is selected

Fault LED
Lights to indicate that a fault condition in the amplifier or power supply. See Fault LED on page 14 for details

FERRITE CLAMP INSTALLATION

The included ferrite clamps are required to be installed, as shown below, to reduce radio frequency interference.

1. Form a loop in each analog audio cable and the power cable (Pic 1).
2. Using a small clamp for audio cables and a large clamp for the power cable, insert two runs of the loop into the clamp. The clamp on the audio cable should be approximately 3 inches (80mm) from the connector (Pic 2).
3. Press the clamp to close it and engage the plastic locks (Pic 2).
4. With all the ferrite clamps installed and the cables connected, the original rear panel service cover must be installed with all the originally included screws.

Pic 1   **Pic 2**   **Pic 2**
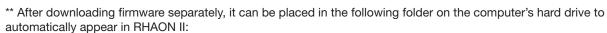

Pic 1

Pic 2

FIRMWARE UPDATE

Updating Microcontroller and DSP Firmware

The latest firmware was installed in your loudspeaker before it was shipped to you. However, new firmware is released from time to time for a variety of reasons. If you are having problems with your system, we may ask you to update the firmware as part of the troubleshooting procedure. We recommend that you not update the firmware without specific reason or without direction to do so from Renkus-Heinz Technical Support.
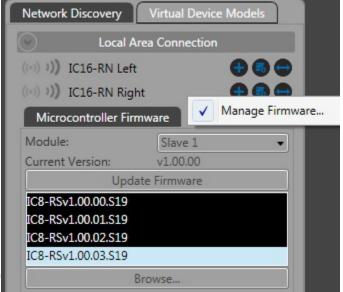
If you do need to update your firmware, RHAON II makes it easy to do by following the steps below.

IMPORTANT: The loudspeaker's settings must be saved to a Preset prior to updating the firmware. Updating the firmware will return the loudspeaker to factory defaults. Subsequently loading the saved Preset will return the loud-speaker's tuning settings.

1. Download the necessary firmware or latest RHAON II version from the Renkus-Heinz website, as directed by Technical Support.
2. Connect the loudspeaker(s) to be updated to your computer's Ethernet port – directly or via a switch. The computer's NIC should be set to obtain an IP address automatically.
3. Install RHAON II if it is not already installed and launch it.
4. Any connected loudspeakers should be visible in Network Discovery on the left side of RHAON II.
5. Right click one of them and select Manage Firmware.
6. Previous releases of the firmware appropriate to the device will automatically appear in black. If a new version of RHAON II was downloaded, it will contain the latest firmware. If firmware was downloaded separately, use the Browse button to point RHAON II to the firmware's downloaded location. **
7. Slaves should be updated before Masters. The highest numbered Slave will be automatically selected when opening Manage Firmware. Click on the desired firmware and it will turn blue.
8. Click on Update Firmware to start the update. It will finish automatically and restart. Multiple arrays can be updated simultaneously. Use the pulldown to select Slave 1, 2 or 3. Repeat for all Slave columns.
9. Use the pulldown to select Master and repeat the steps above to select the firmware version desired.
10. Repeat for all Master columns. The same version of firmware must be on all units.
11. Exit RHAON II, cycle the power on all updated columns, relaunch RHAON II.
12. When the loudspeakers become available again in Network Discovery, add them to Devices then to the Active Zone. Click on Details under Status to confirm the newly installed firmware version.

** After downloading firmware separately, it can be placed in the following folder on the computer's hard drive to automatically appear in RHAON II:
C:\Renkus-Heinz\RHAON2\AVDECC_MicroC_Firmware

SERVICING AND TROUBLESHOOTING

Your Iconyx Gen5 steerable column array contains no user-serviceable parts. All service should be referred to qualified service personnel.

Great care was taken in its design, however, to allow it to be serviced in the field without being removed from its mounting position. The transducers can be replaced from the front of the column by removing the grille to expose the transducers and their mounting screws.

The digital amplifier/DSP and associated power supply that are the heart of each module is one single assembly that can easily be taken out and replaced from the rear.

General
Your Iconyx Gen5 array was factory tested before it left our factory and barring shipping damage should be in perfect operating condition.

Nevertheless, it is always a good idea to run a quick check on each module / array before taking it out to the job site and installing it.
If you should run into a problem at the site, it's then more likely that the problem is in the network or the system wiring and not in the loudspeakers.

Preset 0 is set to "Flat" and locked which sends an equal signal to all transducers for use in amplifier and transducer testing.

The Analog 1 input is set as the factory default so it's a simple matter to connect a line level analog signal to an array and check out its performance.

Hum & Noise
The most common sources of system hum are the program source or an improper or poor ground on an audio signal line. Check the program source to make sure the hum isn't originating there. Carefully check all the audio connections to make sure they are properly made.

Most noise problems are the result of improper grounding or of noise being induced into the audio signal line from adjacent noise sources, such as fluorescent lights, and close proximity of the audio signal lines to lines radiating noise. Carefully review all the audio connections and turn off all the lights and any other suspected noise sources.

FAULT RELAY / FAULT LED

NO / NC relay contacts on the Master Module of a Generation 5 Array can be used to report a failure to an external monitoring system, triggering a failure indication on a hard-wired monitoring device.

An isolated relay uses external wiring to report any of the following three fault conditions:
•   Amplifier temperature is above 185F (85C) or below 10F (-12.2C)
•   Voltage is incorrect, indicating a DC power supply failure
•   Amplifier processing error

Normally Open & Normally Closed contacts handle up to .5 Amp @ 28 Volts AC or DC. The detection circuit functions with or without the array being connected to a RHAON II network.

In addition to the relay action, there are Fault LED indicators on the rear panel of Generation 5 Master and Slave Modules. This LED will illuminate when that Module is in a fault condition.

Network Connectivity
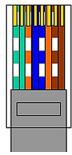Some common symptoms of network connectivity problems include:
• Red Network Error indicator in a Device's Zone view
• Cannot use a Device (add to Devices or Zones) that appears in Network Discovery
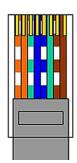• Errors when writing beams

Solutions to the above problems may include the following cable work:
• Check for split pairs. A split pair cable will drop packets even if the cable is only 2 meters long. The wiring example diagrams shown below represent an incorrect split pair and correct wiring.
• Re-make the RJ45 connector. A marginal or corroded crimp will cause dropped packets.
• Check the cable length. The Ethernet standard for unshielded twisted pair copper cables is a maximum 100 meters (330 feet).
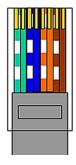
<div align="center">

CORRECT WIRING   **INCORRECT WIRING (Split Pair)**
Pins 1 & 2 = 1 pair   Pins 1 & 2 = 1 pair
Pins 3 & 6 = 1 pair   Pins 3 & 4 = 1 pair
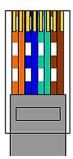Pins 4 & 5 = 1 pair   Pins 5 & 6 = 1 pair
Pins 7 & 8 = 1 pair   Pins 7 & 8 = 1 pair

</div>

Suspected Transducer Failure
Defective transducers are hard to locate in steerable column arrays because the transducers are so close together. If one is bad, it's hard to tell which one it is. The digital steering reduces the drive to some of the transducers making it difficult to determine if a certain transducer has failed or is just being driven at a much lower level than other transducers. No movement of the cone of a transducer is not positive proof that the transducer is bad. It could be that beam steering is limiting the drive to the transducer or restricting its use to a narrow frequency band.

In Iconyx arrays, Preset 00 is set to send an equal signal to all transducers. To check for a defective transducer, select Preset 00, remove the grille from the module(s) and use your fingertips to feel for cone vibrations while music is being played through the system.

Note that it is also possible, and likely more convenient, to perform the open coil test available in RHAON II. The test must be enabled in RHAON II Preferences then will appear in the Active Zone view for each array.

Always recall Preset 00 before performing this test. The test will cause the loudspeaker to emit a loud tone for several seconds.

Refer to the RHAON II User Manual for more information.

RENKUS-HEINZ