

Renkus-Heinz RH123 Loudspeaker System

By: Mark Johnson

Founded in 1979 and approaching 35 years in the live sound industry, Renkus-Heinz carries an impressive pro audio pedigree. Company chairman Harro Heinz was awarded a patent in 1975 for a “comprehensive feedback elimination system employing notch filter” while employed at Rauland-Borg Corporation. Harro’s son, and current senior vice-president of R&D, Ralph Heinz, worked with loudspeaker design and engineering gurus Don B. Keele, Jr. and Gene Patronis to help strengthen his own electroacoustics and loudspeaker horn design skills. In 1994, the younger Heinz received a patent for a “speaker array with improved phase characteristics.” In 1996, Heinz received a patent for a multiple-driver, single-horn loudspeaker where both mid and high frequencies are reproduced utilizing one horn. The patent is realized in many of Renkus-Heinz’s products as its “CoEntrant” transducer.

Relatively new to Renkus-Heinz’s extensive product mix is the RH Series. Built to order at the company’s Foothill Ranch, California headquarters, rumor has it that the series was intended to be a “Ralph Heinz” signature product. While this is not the case, the speakers do reflect his philosophy of designing and manufacturing high-quality and high-utility point source systems for portable live sound applications. Building the speakers to a specific order allows for a level of customization for the customer, including enclosure colors and the choice of conventionally amplified (RHX) or self-powered (RH) versions.

The RH Series consists of five different models, ranging from the RH/RHX62, which features a two-way



design with two 6.5" low-frequency drivers and a 1" high-frequency driver, to the three-way RH/RHX153, utilizing a 15" woofer, a 6.5" mid-frequency driver, and a 3" voice coil/1.5" exit high-frequency unit comprising the previously mentioned patented CoEntrant design.

Easy as 1, 2, 3...

I’m especially fond of this particular market segment of “portable PA” utility loudspeakers—systems that are functional in a variety of applications—with the ability to work as main PA or as delay or fill systems and even pull duty as stage monitors. These speakers are the Swiss Army knives of audio.

Once I heard that Renkus-Heinz was developing this series, I was anxious to give a system a spin. For this review, I received a pair of RH123 (the self-powered version), so named due

to the 12" low-frequency driver and the three-way design. The mid/high section is comprised of the coaxial CDT-3 CoEntrant driver that incorporates the 6.5" mid-frequency neodymium motor and a 3" high-frequency diaphragm mounted on a Complex Conic waveguide. A 90°-by-60° high-frequency coverage is standard, though optionally the system could be ordered with a 90°-by-90° coverage high-frequency section. The RH123 utilizes a Renkus-Heinz PD3 Class D digital tri-amplifier module that provides one 700W RMS channel for the lows and two 350W RMS channels for the mids and highs. Power to the amplifier is via Neutrik Powercon, with a looping output for daisy-chaining additional speakers. The conventionally amplified version features an integral crossover for the mids and highs, so just two channels of amplification are required to drive the speaker.

Basic information is available on Renkus-Heinz’s website and via a data sheet. However, for me, if some is good, more is better, and I always appreciate it if there is an abundance of details available on the gear.

For the most part, getting the system up and running is as easy as, well one, two, three. Basically, just plug in the power, plug in the signal, and you’re good to go.

Power to the speakers

LEDs on the amp module indicate ready, signal, temperature, and limit. The amplifier also features four presets: Full-range (optimized for smooth, free-field, wide-bandwidth frequency response) and 100Hz HP (high-pass) are pretty much self-explanatory, while there was no information on the two



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additional presets. However, that question was answered after an email to the factory. MON1 DYN is an EQ preset that optimizes the speaker as a floor vocal monitor when using dynamic mics—hence the “Dyn,” and MON2 CON optimizes with an EQ preset for use with condenser vocal mics. In both cases, the two MON settings are optimized for maximum gain before feedback when the respective microphone types are being utilized for vocals. There is also an input gain control with a +6dB range, from infinity to +6, which is nice for keeping the speakers turned off while setting up to avoid any unwanted pops or thumps from turn-on transients or equipment being interfaced into the system. The gain control has detents, which help to duplicate and more accurately match settings with other speakers in the system. The 123 provides minimal controls and the right amount of functionality: just the gain control and a one-button switch that toggles

between the DSP presets. I like keeping the controls that are on an easily accessible surface to a functional minimum. Often, there are many adjustable features incorporated into a system in the name of flexibility, but then many of those things can be inadvertently adjusted, which can lead to some consternation when one speaker sounds different from the other due to accidental button pushing. The module is positioned on the back panel, justified toward the bottom of the speaker (when the speaker is oriented upright). This helps when the speaker is mounted on a pole; you can still access the controls to make connections or adjustments while the speaker is at operating height.

While the genre of utility point source loudspeaker systems came into its own with molded plastic enclosures, a few manufacturers have developed systems that use wood instead. The RH series all feature multi-ply hardwood enclosures. While I

can appreciate the benefits of a molded enclosure, I have to admit that I’m partial to wood. Unless otherwise ordered, the series comes in black.

Like many of the utility loudspeakers available today, the 123 features dual-angle floor mounting for use as a monitor: 30° for when the performer is in close proximity to the speakers and 45° for positioning farther away. The clearance for the power cable is compromised a bit when situated on the 30° angle. On practically every flat surface on the speaker is a K&M threaded plate for pole mounts, or optional yokes and U-brackets, which provide the ability to mount the speakers in a variety of orientations.

The Complex Conic mid/high waveguide is almost as large as the low driver, so the speaker stands at more than 2’ tall at 28.5”. The cabinet is 14.25” wide and 13.5” deep (measured to the apex of the multi-angle, which is actually an extension of the top and bottom panels that provides



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protection for the power and input connectors when using the RH123 as a stage monitor). The RH123 weighs 68lb, which is not too heavy for one person to pick up.

The top and bottom panels (or side panels in stage monitor configuration) feature a recessed area where there are threaded mounting plates. A slight overhang over the recessed area provides a kind of built-in handle, though you can just get a little more than your fingertips in. And they are the only places where you can really grab the speakers. The length of the speaker, combined with the limited grab area, makes it a tad uncomfortable to lift the speaker. It's a trade-off for the flexibility of having multiple ways to mount the speaker. The mounting hardware occupies the places on the enclosure where handles would normally be.

Turn it up

I listened to a variety of program material, ranging from various types of



LEDs on the amp module indicate ready, signal, temperature, and limit.



Power to the amplifier is via Neutrik Powercon, with a looping output for daisy-chaining additional speakers.

recorded music and recorded speech with the system setup as a main PA to my voice with the speakers set up for use as floor monitors. The coverage pattern of the system is well-defined; once you get outside of the specified coverage area, it drops off pretty

sharply, which is a desirable feature for monitors as well as PA. Rotatable horns allow you to adjust the coverage to fit the situation. In the stage monitor orientation, you might want to keep the horizontal coverage narrow to cover a specific singer or musician or

A large graphic for Mountain Productions Hoist School. The central element is a circular logo with a black border containing the text "MOUNTAIN PRODUCTIONS" at the top and "HOIST SCHOOL" at the bottom. Inside the circle is a stylized "CM" logo in orange and white, with "EST. 1985" below it. Two orange banners on either side of the circle read "29TH" and "ANNUAL". The background is a dark teal color with various white and light blue text elements related to rigging and training, such as "CM CHAIN HOISTS", "RIGGING WORKSHOPS", "MEET THE PROFESSIONALS", "HANDS ON TRAINING", "LODES", "LOADING", "LIFTING", "SUSPENSION", "EXCELLENCE", "5 DAY TRAINING", "CERTIFICATION", and "CONTROL".

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RH123 features dual-angle floor mounting for use as a monitor, 30° for when the performer is in close proximity to the speakers and 45° for positioning farther away.

wide to cover an ensemble.


I liked the ability of this speaker to reproduce vocals; indeed, the overall sonic quality is really quite nice. I was also able to get them pretty loud without any undue distortion. The published spec indicated the peak SPL of the 123 is 136dB (full range), and the frequency range is 50Hz – 20kHz. I didn't do any maximum SPL tests, but I do know that I was able to get the system quite a bit louder than I would care to listen to on

a continual basis. While the heat sinks were warm to the touch during operation, I didn't see the temp light—or the limit LED for that matter. There is no subwoofer option specific to the RH series, though there are quite a few subs from which to choose in Renkus-Heinz's lineup, so it's a relatively easy matter to find a sub whose performance complements the 123.

The list price for the self-powered version is \$5,084, while the conven-

tionally amplified version is \$3,418. The YM123 yoke mount goes for \$342, while the list price for the UBRTKT/RH123 U-bracket is \$392. The RH-PMA pole-mount adapter is priced at \$50.

I was able to use the RH123 in a few different applications: as extensions for a larger system, as a stand-alone PA, and as a stage monitor. While there are a couple of small issues from a logistical standpoint, the performance of the speaker itself is extremely good, and the 123 does lend itself well to a broad variety of live performance situations. It might not be all things to all people, but it comes pretty close.

For situations that warrant getting a maximum of flexibility out of a loudspeaker system (houses of worship, nightclubs, hotel and convention AV, and even performing arts centers), these loudspeakers are definitely worthy of consideration. 



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