

Equipment Report

Rogers EHF-100 Mk2

Sweet Tube Sounds without the Maintenance Hassle

Vade Forrester

It's easy to see why integrated amplifiers have made a comeback. Except for very high-end or very high-power amplifiers, there's not much reason to split the amp and preamp functions. Many integrated amplifiers now are *really* integrated; they include DACs, and many include phono sections as well, both moving-magnet and moving-coil. So all you need to do is plug in your source equipment.

Designed and manufactured in Warwick, New York, the Rogers EHF-100 Mk2 is a two-channel tube integrated amplifier rated at 65 Class A watts per channel. The EHF-100 Mk2 is a classic integrated: There's no DAC or phono section. The \$8000 hand-wired EHF-100 Mk2 has premium parts throughout. For example, Teflon-insulated wire is used, as are Furutech output jacks, and electronic parts are said to be the same as those used by NASA in the shuttle and space station equipment. I was tickled to see that the EHF-100 Mk2 uses self-biasing circuitry for its four KT88 output tubes. About its self-biasing circuit, Rogers' website says that the "customer does not need to adjust tube bias. As the tubes

age, they adjust for bias changes automatically. The customer can change tubes at any time or replace a single tube rather than the full set of four and the amp will automatically re-bias for the change." That's a very useful feature. Biasing tubes is, on a good day, a pain in the posterior.

EF86 pentode tubes are used in the input circuit, described as ultra-low noise and high gain (40dB). Phase splitter tubes are common 12AX7s. The KT88s are Gold Lion-branded, the 12AX7s, Sovteks, and the EF86s, JJs. All these tubes are in current production and not crazy expensive. A rare but welcome feature of the EHF-100 Mk2 is that it comes already burned in for 100 hours. Even rarer but more welcome is its lifetime warranty. Rarer still is the fact that the warranty is transferrable if you sell the amplifier. Tubes are guaranteed for 90 days—pretty much industry standard. Evidently Rogers believes it has a rather special product. Its amplifiers are manufactured using a "statistical process controlled" procedure that is said to offer higher reliability than products made for the airline or hospital industries. No wonder Rogers can offer a lifetime warranty.



The EHF-100 Mk2's only deviation from a classic integrated amplifier design is its remote control—for volume only. Isn't that all you really need? Maybe so, although I find a mute button pretty handy when the phone rings. Unlike many tube amplifiers, there's only one set of speaker terminals, optimized for 4-ohm speakers. I was concerned that my 16-ohm speakers might not be optimal for use with the EHF-100 Mk2, but Rogers assured me they would work fine, and they did. The input impedance for all inputs was 100k ohms, which should not be a problem with any conceivable source. As you would expect from a tube amplifier, the 50-pound chassis is large at 17" by 10" by 14", and of course, you'll need plenty of

room around the chassis for ventilation. Even the four feet are special—constructed of Delrin, conical in shape, but with flattened points so they won't scratch your equipment rack. The feet are designed to damp vibrations at a center frequency of 1kHz.

Styling for the EHF-100 Mk2 is rather retro, or, if you don't care for it, plain; the entire chassis is powder-coated in a black finish. I found it appealing, but if you're looking for audio jewelry à la Rowland or D'Agostino, the EHF-100 Mk2 may not be your cup of tea. Located on the front panel (hooray!) are separate switches labeled "power" and "operate." The power switch turns on the tubes for warm-up, and 30 seconds later, you flick on the operate switch, which

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applies high voltage so the tubes will conduct. Front-panel controls are minimal—a volume control and a source selector. There's no balance control, no mono switch, no phase-inversion switch, no (gasp) tone controls. These would add cost to the amplifier, might degrade the sound, and I suspect most people wouldn't use them anyhow. There are four inputs, all on RCA jacks; one is on the front panel, a thoughtful feature which allows you to plug in a smartphone or tablet without having to access the rear panel. But you must use a cable—no Bluetooth circuit here. (Bluetooth would have required not only a receiver, but also a DAC.) There is no line-level output, so you can't easily add a subwoofer—except one that connects to the speaker terminals. A single small meter, centered on the front panel, measures the combined power output of both channels. On the top of the chassis nearest the front panel are the low-level tubes, then the output tubes, then, at the rear of the top of the chassis, a perforated cover over the power and output transformers. All of the transformers appear to be quite sizable for the amplifier's rated output. The weight of the amplifier was definitely concentrated towards the rear.

On the rear panel, from left to right, you find the left and right speaker terminals, which are carbon-fiber Furutech units, then the three sets of gold-plated RCA input jacks, a fuse holder, and an IEC jack for the power cable. The speaker terminals are spaced far enough apart to allow the use of cables with large spade lugs, in addition to banana plugs or bare wire. Unlike many manufacturers, Rogers offers a special optional power cable for its amplifiers, called the Rogers High Fidelity Quiet Cable, which was included

with the review unit. I'm always pleased to see manufacturers recognizing the contribution of power cables to the overall sound. The Quiet Cable sells for \$1900 for a 10' length. Like the EHF-100 Mk2 amplifier, the Quiet Cable is also broken in when it arrives, so you'll be able to enjoy it right away. Also included was Rogers High Fidelity Upgraded Remote Control, a \$300 option. Another option, not included with the review unit, is a tube cover, made of transparent Lexan. While essential in environments like homes with small children, tube covers are usually ugly (my view), so making one out of a transparent material seems particularly clever.

Setup and Use

I was a bit worried when the Fedex driver dropped the amplifier on his way to my front porch, but Rogers' sturdy packing prevented any damage. To assure plenty of ventilation, I placed the EHF-100 Mk2 on the top shelf of my shorter equipment rack, displacing the laptop-computer server, which normally resides there. I connected the Clarity Cables Organic speaker cables I usually use. For the input, I first used an unidentified 3.5mm-to-RCA cable that was included with a portable USB DAC I had reviewed. I employed that cable because I was using Meridian's Explorer² DAC to play the few MQA-encoded files I have collected. Later, I used Clarity Cables Organic unbalanced cables from my PS Audio DirectStream DAC. I also plugged my FM tuner into another rear input using Crystal Cable's Piccolo interconnect cables. Since Rogers sent me one of its Quiet Cable power cords, I used that for the power input straight into the wall. The Quiet Cable was rather stiff, but didn't

have any problem flexing to go into the wall or the rear of the amplifier. It has impressive carbon-fiber Furutech AC and IEC plugs, which helps explain its cost.

I normally use a separate powered subwoofer, but since the EHF-100 Mk2 had no line-level output, and my subwoofer has no speaker-level inputs, I had to forego the sub. I disconnect the subwoofer anyway when evaluating an amplifier's bass performance.

I loved the printed user manual, which was clearly written in a large font—much appreciated by us aging audiophiles. Two spare fuses were included. The manual included a section on the theory of operation for the amplifier, which describes the circuit used, and a section for care and maintenance. In addition to the manual, there was a very thorough list of measurements for the specific amplifier being reviewed. Very cool.

The hefty Rogers optional remote control operated very smoothly. The action of the remote volume control was gradual, so I had fairly fine control over the playback level. I like that. Some remotes have two volume settings: too loud and too soft.

Tubes were shipped in the manufacturers' boxes. The manual cautions you to avoid mixing up the similarly-sized EF86s and 12AX7s. Fortunately, the tube sockets were plainly labeled on the top of the chassis. The manual advises you to use the supplied cloth to wipe the oil from your fingers off the tubes before turning the amplifier on—a good idea. [*Or better yet, wear cotton gloves when handling tubes.*—RH]

After inserting the tubes and attaching the cables, I turned on the power switch, let the tubes

warm up for 30 seconds, then turned on the operate switch. Both switches lighted up when turned on, and the music started as soon as the operate switch was thrown. The manual states that the operate switch can be used as a pause or standby switch for a short period. There was a slight hum after the power switch was turned on, which went away when the operate switch was turned on.

Class A amplifiers run rather hot, and tube amplifiers run fairly hot, so a Class A tube amplifier can run very hot. The EHF-100 Mk2 certainly does, although I have used several amplifiers that ran even hotter.

Both the amplifier and power cord were already broken in, but I played them for several days after installing them, getting used to the sound while I cycled through a variety of music—some old, some new, some high-resolution downloads, lots of Red Book rips. This is the fun part of being a reviewer.

The front meter was calibrated in watts, but driving my sensitive horn speakers, the needle sometimes seemed to be stuck or broken (it wasn't). Even when I cranked the volume up uncomfortably high, it showed a maximum output of 3–4 watts.

Sound

When the EHF-100 Mk2 arrived, I had been playing Amy Duncan's album *Undercurrents* (44.1kHz/24-bit FLAC, MQA-encoded), downloaded from 7digital.com. To decode the MQA recording, I used Meridian's little \$299 Explorer² DAC/headphone amplifier (reviewed by Robert Harley in Issue 263) plugged into the sweet-sounding Aurender N100H network mu-

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sic player, which I was auditioning. For convenience, I merely unplugged the output cable of the DAC from my preamplifier and plugged it into the EHF-100 Mk2. Although I had only downloaded the album the previous day, I was surprised at the sheer beauty of its sound. Even though the master file was only 44.1/24 FLAC, Duncan's voice had a delicacy, a purity, that I don't remember hearing before in other recordings. The recording had a pristine, low-distortion quality that reminded me a little of DXD recordings, but without the analytical sound quality that sometimes goes with them. Since I had only heard the record a couple of times, I really couldn't say whether the EHF-100 Mk2's playback was anything special, but the overall sonic experience was very memorable. (I'm eager to audition more MQA files.)

The Explorer² DAC won't play DXD or DSD files, which form a valued part of my music collection, so I switched back to my PS Audio DirectStream DAC to continue the review. I also switched to my SOTM sMS-1000SQ Music Server with its sMS-1000 Power Supply.

My overall impression: The EHF-100 Mk2 sounded very lively, very spontaneous—probably a result of fast microdynamic capabilities and good forward momentum. It also sounded very neutral; no part of the frequency spectrum was emphasized. Sometimes the term "neutral" can be used to mean "threadbare," but not for the EHF-100 Mk2. It was harmonically rich and full.

The album *Frottole*, by the Ring Around Quartet and Consort [352/24 AIFF, 2xHD Naxos/HDtracks], features "short, improvisatory polyphonic songs with instrumental accompaniment that flourished in the Renaissance courts

of Italy for some forty years between c. 1480 and 1520." The disc was recorded with the Digital eXtreme Definition (DXD) system, a very high sampling rate (352.8kHz) PCM recording. With the EHF-100 Mk2, I heard the squeaky-clean recorded sound typical of DXD recordings, and also a very palpable soundstage with lots of air around the performers. Microdynamics were fast and realistic.

Turning to a favorite album, *La Folia 1490-1701* by Jordi Savall and his band (ripped to an AIFF file from CD Alia Vox AFA 9805), the EHF-100 Mk2 played the track "Folia Rodrigo Martinez" with terrific forward momentum, and lots of instrumental detail, so that the hyperactive percussion parts clattered forth in their full glory. With other equipment they have sometimes receded into a background haze, but not here. Since the EHF-100 Mk2 had no line output, precluding the use of my subwoofer, I didn't hear the deep bass present on this track, but even so, the bass, which provides a solid floor, seemed a tad light. A bit of detail and slam was missing. That made the overall presentation just a bit midrange-centric.

On Shelby Lynne's album *Just a Little Lovin'* [DSD64/DSF, Acoustic Sounds], the title track exhibited a similar lack of deep bass without the accustomed subwoofer, but Lynne's vocals were reproduced with excellent detail and nuance. Percussion detail was quite pronounced, but there was not a smidgen of etch or peakiness.

To see how the EHF-100 Mk2 handled a full orchestra, I queued up Gershwin's *Rhapsody in Blue* from the album *Piano Concerto in F, Rhapsody in Blue, Cuban Overture*, with Jon Nakamatsu on piano and Jeff Tyzik conducting the Roches-

SPECS & PRICING

Tube complement: 2x EF86, 2x 12AX7, 4x KT88

Power: 65 watts RMS per channel/0.1dB from 20Hz to 20kHz with less than 0.1% THD

Gain: 40dB

Inputs: Four unbalanced

Output: 4 ohms

Dimensions: 17" x 10" x 14"

Weight: 50 lbs.

Price: \$8000 (Rogers High Fidelity Quiet Cable, \$1900 for a 10' length; Rogers High Fidelity Upgraded Remote Control, \$300)

ROGERS HIGH FIDELITY

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Associated Equipment

Speakers: Affirm Audio Lumination speakers, JL Audio Fathom f110 subwoofer

Headphones: Audeze LCD-X, NAD VISO HP50, AKG K701, AKG K712

Amplifiers: Berning ZH-230 stereo amplifier, Linear Tube Audio microZOTL 2.0 headphone amp, JDS Labs O2 headphone amplifier, LH Labs Geek Out V2 headphone amp/DAC, Meridian Explorer² headphone amp/DAC

Preamplifier: Audio Research SP20 preamp

Analog sources: Linn LP-12 turntable on a custom isolation base, Graham 2.2 'arm,

van den Hul Platinum Frog mc cartridge, Audio Technica AT120EB mm cartridge; Sony XDR-F1HD tuner (Radio X modified)
Digital sources: Sony SCD-XA5400ES SACD player; Hewlett Packard Envy laptop computer running 64-bit Windows 7 Home Premium and Roon server software; SOTM sMS-1000SQ server and sPS-1000 power supply; PS Audio DirectStream DAC; QNAP TS-251 Network Attached Storage drive
Interconnects: Crystal Cable Piccolo unbalanced interconnects, Clarity Cables Organic interconnects, Audience Au24 e balanced interconnects, Purist Audio Design Venustas unbalanced interconnects, Wireworld Cable Gold Eclipse 7 balanced interconnects, CablePro Freedom unbalanced interconnects

Speaker cables: Clarity Cables Organic loudspeaker cables

Power cords: Purist Audio Design Venustas, Blue Marble Audio Blue Lightning, Clarity Cables Vortex, Audience powerChord e, Au24 SE LP powerChord

Digital cables: Wireworld Platinum Starlight 7 USB cable, AudioQuest Coffee and Diamond USB cables, Paul Pang TZ YUN Red II USB Cable, Audience Au24 SE USB cable, Au24 SE SPDIF cable

Power conditioner: Audience ar6-T