TEST REPORTS

Spica TC-60 Loudspeaker System

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

The Spica TC-60 is a simple but distinctively styled two-way loudspeaker system that replaces the company's long-lived and highly regarded TC-50. Although similarly styled, the TC-60 is said by the manufacturer to deliver more extended bass and much superior consistency of response versus drive level (a characteristic Spica calls dynamic linearity). Its front panel pitches backward to a depth of only 2⅛ inches at the top. That slope, together with the crossover design, is said to correct for delays between drivers and through the crossover so as to achieve a seamless, time-coherent output.

DIMENSIONS
11½ INCHES WIDE, 21¼ INCHES HIGH, 10½ INCHES DEEP

WEIGHT
22 POUNDS

FINISH
BLACK LACQUER, OAK, OR DARK CHERRY VENEER

PRICE
$795 TO $895 A PAIR, DEPENDING ON FINISH

MANUFACTURER
SPICA LOUDSPEAKERS, DIVISION OF PARASOUND PRODUCTS, INC., DEPT. SR, 950 BATTERY ST., SAN FRANCISCO, CA 94111

The TC-60 has a 6½-inch polypropylene-cone woofer operating in a vented enclosure. The port opening is on the back panel. The tweeter, a 1-inch soft-dome radiator, is above the woofer. Both drivers are offset about an inch to one side of the front panel's midline. The TC-60 is sold in mirror-image pairs, and, while Spica prefers the offset toward the midpoint between the two speakers, the manual suggests that the user experiment with the opposite arrangement as well (this presumably can affect the system's imaging characteristics).

The front panel is covered over most of its surface with a thick (⅝-inch) absorbent fiber pad that minimizes diffraction at the driver rims and the edges of the cabinet. The cutout over the tweeter area is specially shaped, apparently to control the tweeter's directional pattern.

Although the TC-60 speakers can be placed on a shelf, Spica recommends that they be installed on rigid stands, well away from the walls, and offers the Gravity stand, which was specifically designed for these speakers. Constructed of black wrinkle-finish steel, the stand is surprisingly heavy (28 pounds), with a flat base (there's a choice of adjustable round feet or spikes) and a smaller flat plate on which the speaker is placed.

The TC-60 specifications include a response (at the –3-dB points) of 48 Hz to 20 kHz, a nominal 6-ohm impedance (minimum 5.6 ohms at 10 kHz), and a sensitivity of 87 dB sound-pressure level (SPL) at 1 meter with a 1-watt input. The speakers are rated to handle 60 watts of continuous program, 120 watt peaks.

The speaker's rear panel has two pairs of recessed, gold-plated multiway binding posts, normally paralleled by gold-plated straps. These provide individual access to the tweeter and woofer sections of the crossover. By removing the straps and running two cables to each speaker, the system can be bi-wired or biamplified.

We placed the TC-60's, on Gravity stands, about 8 feet apart and 2 to 3 feet from any walls. The composite frequency response (using close mik

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ing for the lower frequencies and a warble-tone room-response measurement for the middle and upper range) was very smooth and flat. From 700 Hz to 20 kHz, the response varied less than ±2 dB. At lower frequencies, there was a slight increase to +5 dB at 150 to 200 Hz and a gentle decline below 100 Hz to –2 dB at 50 Hz and –3 dB at 45 Hz.

Quasi-anechoic MLS response measurements confirmed the smoothness of the TC-60's response. At 2 meters, on the tweeter axis, the response by this method varied only ±3 dB from 300 Hz to 20 kHz. Although our room curves failed to identify the crossover frequency, a sharp 3-dB dip appeared at 4 kHz in MLS curves taken at 1- and 3-meter distances. Possibly this

The TC-60's crossover and sloping front panel are designed to achieve a time-coherent output.

was related to the crossover (which is specified as occurring at 2.5 kHz), but it had no obvious effect on the system's sound quality.

The tweeter's horizontal dispersion was good. At 45 degrees off the tweeter axis, the response did not diverge significantly from the axial measurement until approximately 8 kHz, falling off above that frequency to about –6 dB at 15 kHz and –12 dB at 20 kHz relative to the on-axis readings.

The system impedance varied between 6 and 14 ohms from 20 Hz to 20 kHz, except for a peak of 32 ohms at 70 Hz, presenting a very easy load for any amplifier. The system sensitivity was 86 dB, slightly below its rated 87 dB. The woofer distortion at an input of 4.5 volts, equivalent to a 90-dB output level, was less than 1 percent (typically 0.4 to 0.5 percent) from 110 Hz to beyond 2 kHz. It rose at lower frequencies to 2 percent at 80 Hz, 4.6 percent at 50 Hz, and 5 percent at 35 Hz.

In pulse power tests, the TC-60 woofer cone bottomed noisily, but without damage, with a 125-watt single-cycle tone-burst input at 100 Hz. At higher frequencies, our amplifier reached its limits (500 to 1,000 watts) at 1 and 10 kHz with no damage or signs of audible distress from the speaker.

The Spica TC-60 turned out to be a lot more speaker than its dimensions and unassuming appearance would suggest. Unlike some other perfectly satisfactory speakers that we listen to, test, and then pack up with few regrets, the TC-60 managed to sound good with a wide variety of program material. Its imaging was excellent, and the sound was smooth and balanced, without any irritating characteristics. Within the frequency range it covers, one could hardly ask for more from a speaker.

But in this case one *does* get more. Most speakers are accompanied by a skimpy sheet or booklet that really tells the reader very little about how to install and use it to best advantage. After all, there are no complicated control adjustments or connections, so what is there to say?

Spica, however, provides a ten-page owner's manual that should be a model for other loudspeaker manufacturers. In a light, readable style it tells you what to do—and what not to do—to get the best sound from the speakers. Subjects covered include mounting, connecting wires, positioning (with specific suggestions on how to go about placing the speakers for best results), the fine points of damping room reflections, what to look for in an amplifier, and so forth.

I have no doubt that following their recommended procedure will pay dividends in ultimate sound satisfaction. And that is in spite of my skepticism concerning such things as "breaking in" the speakers for about 20 hours before doing serious listening. For a variety of reasons, I do not observe extended break-in procedures, nor can I always place speakers exactly as the manufacturer recommends. Nevertheless, despite a less than perfect setup, I found the Spica TC-60's performance noteworthy. It is one of the most listenable speakers to come my way in some time. □