

ART DUDLEY

# Spendor Classic SP100R<sup>2</sup>

## LOUDSPEAKER

In late 1996, as *Listener* magazine entered its third year of existence, the Spendor SP100 became my reference loudspeaker, and would remain so for a considerable time. My decision to try the SP100 was influenced by John Atkinson's review of its antecedent, the nearly identical Spendor S100, in the December 1991 issue of *Stereophile* (<http://tinyurl.com/8ed55zm>). But my purchase decision came down to two things: The SP100 did virtually everything one could ask a modern loudspeaker to do, requiring in the process far less amplifier power than usual. Just as important at the time, it sold for only \$3300/pair—which explains how I could afford them on the spotty salary of a teacher turned fledgling publisher.

I might add a third factor: The unapologetically big, boxy Spendor SP100 fit my idea of what a loudspeaker ought to look like far better than any of the towers, triangles, pyramids, panels, or pee-wees on the market. Then as now.

This flagship of Spendor Audio's Classic line has undergone its second revision, and is now in R<sup>2</sup> (Revision 2) form; thus, when offered the chance to give it a spin, my hearty *Hell, yes*.

### Description

Spendor remains among the few high-end speaker manufacturers that design and make their own drive-units; indeed, as company owner and design director Philip Swift mentioned in a recent conversation, some of the tooling used to make the drivers in my Classic SP100R<sup>2</sup> review samples was used in the early 1970s, to make their classic BC3 monitor. That distinction, according to Swift, is more than just marketing fluff: "One of the things that sets Spendor apart is that we understand how our drivers work."

Two of the SP100R<sup>2</sup>'s three drivers are made in Spendor's factory, in Hailsham, East Sussex. First is an 11.8" Bextrene-



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## SPECIFICATIONS

**Description** Three-way, stand-mounted, reflex-ported loudspeaker. Drive-units: 0.8" fabric-dome tweeter, 7" polymer-cone midrange, 11.8" Bextrene-cone woofer. Crossover frequencies: 500Hz, 5kHz. Frequency response: 45Hz–20kHz, ±3dB (anechoic). Sensitivity:

89dB/W/m. Impedance: 8 ohms nominal, 5.5 ohms minimum.

**Dimensions** 27.3" (700mm) H by 14.4" (370mm) W by 16.8" (430mm) D. Weight: 79 lbs (36kg).

**Finishes** Cherry; Black Ash or Dark Walnut available by special order.

**Serial numbers of units reviewed** 220B06507, 220B06508.

**Price** \$11,495/pair, stands additional. Approximate number of dealers: 25.

**Manufacturer** Spendor Audio Systems, Ltd., G5 Ropemaker Park, South Road, Hailsham, East Sussex

BN27 3GY, England, UK. Tel: 44 (0)1323-843474.

[www.spendoraudio.com](http://www.spendoraudio.com).

US distributor: Bluebird Music, 40 Sonwill Drive, Buffalo, New York 14225. Tel: (416) 638-8207.

Fax: (416) 638-8115. [www.bluebirdmusic.com](http://www.bluebirdmusic.com).





The Sendor's 11.8" woofer and 7" midrange unit are made by Sendor.

cone woofer that incorporates a cast-alloy frame, a ferrite magnet, a fabric dustcap, and a half-roll surround made from what Swift describes as "a synthetic simulation of a natural latex rubber" and says has the best qualities of a modern polymer. According to Swift, the damping of this driver is accomplished differently from that of its immediate predecessor, with a newly chosen compound on the rear side of the cone and a very thin coat of a cellulose-based material on the front.

The SP100R<sup>2</sup>'s 7" midrange driver, also designed and made by Sendor, has undergone even more development, with a new polymer cone, 5" in diameter, that's said to be much stiffer than before. The driver's surround has also been made stiffer, while its ferrite magnet remains unchanged. As with my old SP100, the rear of the midrange driver is contained within a sealed subenclosure made of MDF. With crossover frequencies of 55Hz and 5kHz—the latter is exceptionally high—Sendor's 7" driver is responsible for the vast majority of the SP100R<sup>2</sup>'s output. (One can't help noting that a major portion of the speaker's output is acoustically supported by a generously sized baffle.)

The 0.8" tweeter, recently introduced to the line, is made to Sendor's specifications by the Norwegian firm SEAS. Its small textile dome is augmented with a larger-than-usual half-roll surround, which endows the tweeter with the power-handling capability and radiation characteristics of a larger unit, according to Swift.

In addition to the drive-units noted above, Sendor also makes some of the components used in their crossover networks—most notably their hand-wound chokes and autotransformers. As Philip Swift observes, "We use an interesting technique: Our inductor has tapping points, so we get an extra two or three dimensions of control over the phase coherence of the crossover. It also means we don't put attenuating resistors in series with any of our drivers, since we can use a better-sounding autotransformer instead."

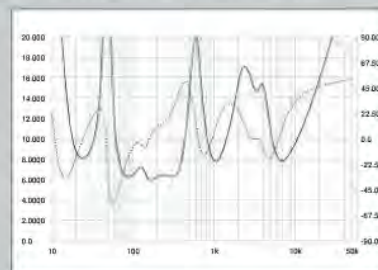
As with all Sendor Classics, drivers and crossover networks are mated to an enclosure whose design has little in common with the products of most other contemporary speaker makers. It's an intentionally thin-walled and thus mildly resonant cabinet: not because the people at Sendor don't know "better," and not because they're too cheap to make and sell a more massive product, but because 40-plus years of experience has told them that this is the way to make the sorts of musically agreeable speakers demanded by an enduring portion of their consumer base. Swift elaborates: "If

## MEASUREMENTS

**T**he Sendor Classic SP100R<sup>2</sup> loudspeaker was measured with DRA Labs' MLSSA system, using a calibrated DPA 4006 microphone to measure the speaker's frequency response in the farfield, and an Earthworks QTC-40 mike for the nearfield responses. The Sendor's voltage sensitivity is specified as 89dB/W/m, a little higher than my estimate of 88.2dB(B)/2.83V/m. The impedance is specified as 8 ohms with a minimum of 5.5 ohms; the solid trace in fig.1 indicates that the impedance remains above 8 ohms for almost all of the audioband, with a minimum magnitude of 5.95 ohms at 171Hz. Though the electrical phase angle (dotted trace) sometimes reaches extreme values, this is always when the impedance is high, ameliorating the increased demand for current. With its slightly-higher-than-

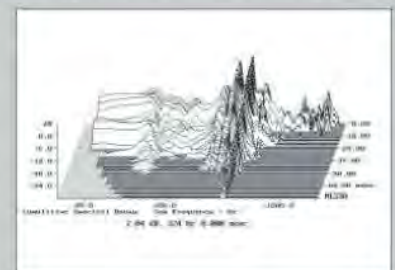
average sensitivity and benign impedance, the Sendor should work well with low-powered tube amps.

The traces in fig.1 are free from the small discontinuities in the midrange that would indicate the presence of panel resonances. Nevertheless, the



**Fig.1** Sendor Classic SP100R<sup>2</sup>, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

response of the SP100R<sup>2</sup>'s cabinet to the knuckle-rap test was very lively, and testing with an accelerometer found a number of high-level resonances. Fig.2, for example, taken at the center of the rear panel, shows strong modes at 324 and 258Hz, and a weaker one at 211Hz.



**Fig.2** Sendor Classic SP100R<sup>2</sup>, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of top panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).



you have too much mass, you store energy—which, if released slowly, can spoil musical timing.” The MDF cabinets do, however, make judicious use of internal bracing and thin, bituminous damping pads, the latter sharing space with what appears to be very-good-quality acoustical foam. But, in a first for this model, foam is no longer used to damp the two front-mounted reflex ports. “That was done for the good reason of preventing high-frequency noise from coming out of the port,” Swift says. “But now we have a flared port which accomplishes the same thing—and looks much better.”

There’s just one more change evident in the SP100R<sup>2</sup>: Whereas earlier versions had three pairs of input terminals—and were thus triwirable—the SP100R<sup>2</sup> has only two pairs, allowing the user to drive the woofer separately from the tweeter and midrange driver. “There was a time when everyone loved to play with biwiring and biamping,” Philip Swift says, “but because we’ve continued to work so hard to balance the speaker overall, we prefer to see the product performing at its best in the field.”

A final note: The Sendor SP100R<sup>2</sup> is supplied with a nice-looking black-fabric grille, attached to the baffle by molded fasteners of the usual sort (although the hardwood “frame” around the baffle’s periphery makes the tight-fitting grille unusually difficult to detach). Notwithstanding the textural lightness of the fabric, the grille very slightly dulled the sound, so I did all of my listening without.

#### Installation and setup

The Spondors arrived at a time when my listening room and every storage nook in my house were already blessed with many more full-size loudspeakers than usual. Consequently, I was able to compare the SP100R<sup>2</sup>’s performance directly with that of such things as the Klipsch Heresy III, the Line Magnetic 755i, the DeVore Orangutan O/96, and the Surreal Sound Fifth Row, along with my own Audio Note AN-E SPe HE and Quad ESL references and a borrowed pair of Wilson Audio’s enduringly fine Sophia Series 2s. As I had with most of



The S100R<sup>2</sup> has two pairs of binding posts compared to its predecessor’s three pairs.

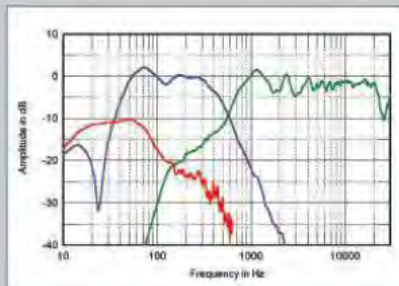
the above, I used the Spondors in my 12’ by 19’ listening room. Of the three amplifiers I’m fortunate to own, the Shindo 25W Corton-Charlemagne monoblocks sounded best with the Spondors, while Shindo’s somewhat less powerful<sup>1</sup> Haut-Brion sounded fine but a little less strapping than usual; the SP100R<sup>2</sup> wasn’t quite sensitive enough for the 4Wpc Fi 421A.

For review purposes, Sendor distributor Bluebird Music arranged the loan of a pair of Skylan 4P18 loudspeaker stands (\$510 Canadian<sup>2</sup>), which raise the height of the SP100R<sup>2</sup> cabinet by about 18” when used with threaded spikes or blunt-bottomed feet (both are included). The Skylans, whose painted MDF platforms are fastened to extruded PVC posts by means of long, threaded rods, must be assembled by the user—a bit of a hassle, especially since the threads on those rods were rather sharp in places—but that wasn’t hard to do, and I came away

1 The Haut-Brion is rated at 20Wpc, but its output transformer has only a single, 16-ohm secondary, and passes notably less power across a lower-impedance load.  
2 Skylan Manufacturing, 4604 Maryvale Road NE, Calgary, Alberta T2A 2V2, Canada. Tel: (403) 273-1735. Web: [www.skylanstands.com](http://www.skylanstands.com).

#### measurements, continued

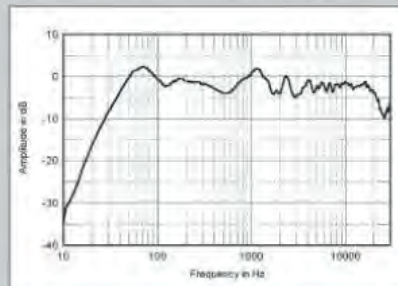
All three resonances could be detected on all the speaker’s panels, and I must admit to some surprise that Art Dudley noted no specific coloration that could be laid at the feet of this behavior. I wondered, however, if these modes contributed to the speaker’s warm



**Fig.3** Sendor Classic SP100R<sup>2</sup>, acoustic crossover on HF axis at 50°, corrected for microphone response, with nearfield responses of midrange unit (green trace), woofer (blue), and port (red) respectively plotted below 500Hz, 350Hz, and 600Hz.

tonal balance, especially as AD did note some overhang with low-bass notes.

The saddle centered at 24Hz in the impedance-magnitude trace suggests that this is the tuning frequency of the two ports on the front panel. There is the expected notch in the woofer’s nearfield



**Fig.4** Sendor Classic SP100R<sup>2</sup>, anechoic response on HF axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of midrange, woofer, and port nearfield responses plotted below 300Hz.

output at that frequency (fig.3, blue trace), which is where the back pressure from the port resonance holds the woofer cone stationary. However, the ports’ output (red trace), scaled in the ratio of the square root of the radiating areas to that of the woofer, is a little lower in level and extends over a wider bandwidth than I anticipated. The rise in the woofer’s response in the midbass is primarily an artifact of the nearfield measurement technique; the woofer alignment appears to be somewhat overdamped, which is why AD found the speaker to sound a little lean until he could optimize the placement in his room.

The woofer’s upper-frequency rolloff is well controlled, and the crossover to the midrange unit appears to be set between 500 and 600Hz, with symmetrical third-order slopes. The midrange unit’s and tweeter’s outputs (green trace) are basi-



impressed with the stands' appearance and functionality. Incidentally, the Skylans seem easy to fill with sand—or rice, or kitty litter—but I passed on that for the time being.

The SP100R<sup>2</sup> required more care in placement than I'd expected, although it wasn't as daunting as a dipole, nor were the results of my setup work at all ambiguous (as they were with, say, the rewarding but challenging Gradient Helsinki; see *Stereophile*, August 2010): There was no doubting when I'd gotten it *right*, and right, in this case, was achieved when the center of each baffle was 32" from the nearest sidewall and 68" from the wall behind the speakers. Those positions gave both the smoothest bass-response curve and the deepest low-bass response, with useful content down to 31.5Hz but little or nothing below that. Nearfield listening à la the Quad ESLs suited the Spendors, though they were also enjoyable when listened to off axis.

Toe-in was tricky: I began with the big Spendors aimed directly at my listening seat, which worked well for popular and folk music. But when I moved on to solo-piano music, that setup produced a small and overprecise piano image with no real sense of scale. Minimizing the toe-in by 15 or 20°, such that the Spendors' inner cabinet walls were slightly visible from a centrally located listening seat, eliminated the fussiness and increased the scale by a surprising degree, while maintaining good bass and midbass balance, as well as preserving sufficient stereo-image specificity with studio recordings.

### Listening

No need to listen. No need to even measure. Just read the reviews: Classic British speakers all sound *warm*—meaning they all have a soft, rolled-off treble range, and a mild to moderate rise in response through their upper-bass/lower-midrange regions.

Right?

Yes and no. The Spendor Classic SP100R<sup>2</sup> did indeed sound warm—I would also say human and organic—but it was not a pervasive quality, in the sense of a filter that imposed a character on everything that came through. Rather, it seemed

that the SP100R<sup>2</sup> was a device so naturally clear that it had the quality of *allowing* the warmth of individual sounds to come through, unscathed and unscrapped. (This isn't a fresh observation, but an opinion I've long harbored about most of the old-style Spendors and similar products I've heard over the years—including those SP100s I used to own.)

In fact, before I optimized their positions in my listening room, the SP100R<sup>2</sup>s actually sounded a bit lean. Happily, once the cabinets were in their proper locations, the Spendors filled out and allowed pianos, double basses, cellos, timpani, and singing voices to sound more tonally substantial, if never overly rich.

Throughout the days ahead, and in comparison with my differently balanced Audio Note AN-Es, I enjoyed the extra measure of clarity brought by the Spendors to the sounds of large string instruments in particular, as in the first movement of Mahler's Symphony 2 with Hermann Scherchen and the Vienna State Opera Orchestra (LP, ABC Westminster Gold WGS-8262-2). Deep-bass clarity was also fine; the Spendors clearly described the subtle differences between the orchestral bass-drum sounds in the Adrian Boult/New Philharmonia and Benjamin Britten/London Symphony recordings of Elgar's *The Dream of Gerontius* (LPs, EMI SLS 987 and London OSA-1293, respectively)

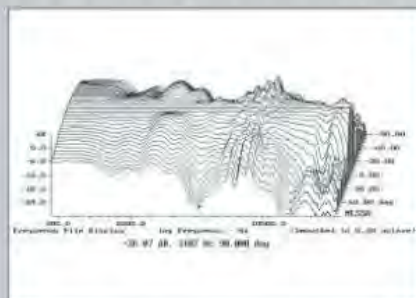
—although the very deepest plucked-string notes showed a trace of overhang in the Britten recording.

The Spendors' reproduction of a record that's become for me a sort of a go-to disc for evaluating loudspeakers—the Sonny Rollins/Coleman Hawkins collaboration *Sonny Meets Hawk* (LP, RCA/Classic LSP-2712)—was superb. The sound was more spacious and airy than through either my reference Audio Note loudspeakers or the recently reviewed DeVore

**The SP100R<sup>2</sup> required more care in placement than I'd expected, although it wasn't as daunting as a dipole.**

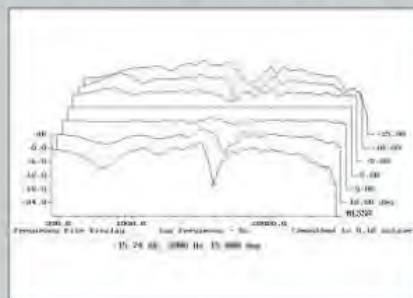
### measurements, continued

cally flat from 700Hz to 21kHz, though with three small peaks visible at the bottom of that range. These peaks are also visible in the overall response on the tweeter axis, averaged across a 30° horizontal window (fig.4). While small peaks



**Fig.5** Spendor Classic SP100R<sup>2</sup>, lateral response family at 50", normalized to response on HF axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.

and dips in a speaker's response tend not to be noticed as such when of equal amplitude and width, I could hear the lowest-frequency peak with the MLSSA pseudo-random noise signal as a touch of squawkiness. With the small peak in



**Fig.6** Spendor Classic SP100R<sup>2</sup>, vertical response family at 50", normalized to response on HF axis, from back to front: differences in response 15-5° above axis, reference response, differences in response 5-15° below axis.

the bass due to the nearfield measurement technique, the low frequencies will actually be flat down to 40Hz or so, but without full reinforcement from the ports in the octave below that frequency. This is sensible design, given that there will be boundary reinforcement of the low frequencies in rooms of small to medium size.

The Spendor's treble is actually commendably flat, and not shelved down as I was expecting from AD's description of the speaker's balance as "warm." Again, I wonder if the warmth stems more from the cabinet's behavior than from the anechoic response, but the SP100R<sup>2</sup>'s lateral dispersion (fig.5) reveals a lack of energy off axis that coincides with the presence-region notch in the tweeter-axis response. I imagine this is a result of the limited





The 0.8" silk-dome tweeter is sourced from SEAS in Norway.

O/96s, with a clearer sense of the deep performing space. The Audio Notes, perhaps by dint of their more generous bass or the very different manner in which they load the room, sounded earthier and more impactful, although the Spendors were nonetheless satisfying.

Spatially, the wide-bodied Spendor was extremely accomplished without exaggerating depth or detail: It allowed dry sound to sound dry, as in Miles Davis's *Lift to the Scaffold* (LP, Fontana/Speakers Corner 0660213). Not only did the Spendors present the horn, sax, and—especially—the upright bass as extremely clear, physical, and present, it did so in a manner that was appropriately stark. (Among the other speakers in-house, only my Quad ESLs shared that strength.) At the other end of the recording-style spectrum, the Spendors reproduced the great Georg Solti/Vienna Philharmonic recording of Wagner's *Das Rheingold* (LP, London OSA 1309) with its strong spatial content intact, as in the electrifying Scene Two entrance of the Giants with Walter Kreppel as an intense Fasolt. There, the horns seemed to be playing from farther away in my room than I'd heard before,

even through my Quads, yet they still had believable senses of body and bite. The Spendors were never more colorfully involving than they were at that moment.

The Spendors' dispersion was surprisingly consistent, surely enough to reward the sort of casual listening I sometimes enjoy. The inevitable distinctions between their sound as heard from a central listening seat and from an off-axis or even standing position were small, and pertained more to the way the speakers conveyed force, presence, and touch than to the sorts of tonal effects usually associated with dispersion quirks (dullness, midrange suckouts, etc.). On the other hand, the Spendors' facility with mono recordings was good but not great. A fine mono recording from East Germany of the Khachaturian Violin Concerto performed by soloist Gustav Schmahl, conductor Gerhard Pflüger, and the Gewandhausorchester Leipzig (LP, Eterna 8 20 385) had quite good color, substance, and presence through the Spendors, though not quite as good as my corner-mounted Audio Notes. (This recording, too, displayed the overly resonant plucked bass strings referred to earlier.)

Pacing? Impact? Involvement? The Spendors sounded awesome with the surprisingly well-recorded "I Will Dare," from the Replacements' *Let It Be* (LP, Twin Tone TTR-8441; just as shockingly, the 12" 45rpm single version, also on Twin Tone, isn't as good). More important, the very emotional "Unsatisfied," from the same album—arguably their best song ever—was screamingly, tearily good through these speakers. A stronger recommendation does not exist.

Incidentally, from my listening seat, the Spendors sounded only slightly less sensitive than my reference Audio Note AN-Es, presumably because the former were installed much closer to my seat than the intentionally corner-mounted Audio Notes. The Spendors did, however, sound notably less sensitive than the similarly located DeVore Orangutan O/96s. Make of that what you will.

### Conclusions

The Spendor Classic SP100R<sup>2</sup> was certainly a more neutral

### measurements, continued

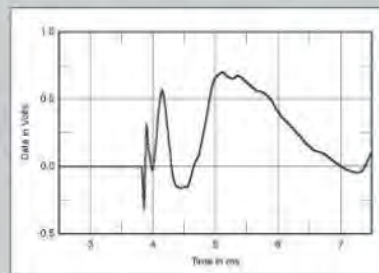
dispersion of the 5" midrange drive-unit in the region below its crossover to the tweeter—a high 5kHz, according to the specification. The vertical-dispersion plot (fig.6) indicates that the SP100R<sup>2</sup> is relatively fussy about listening axis, though the balance doesn't change significantly over a 45° window centered on the tweeter axis. The stands used should be tall enough to place the listener's ears between the top of the woofer and the midrange unit's dustcap.

Turning to the time domain, the Spendor's step response on the tweeter axis (fig.7) reveals that its tweeter is connected in inverted acoustic polarity, its midrange and woofer in positive polarity. The decay of each drive-unit's step blends smoothly with the start of that of the next lower in frequency, suggesting optimal crossover design.

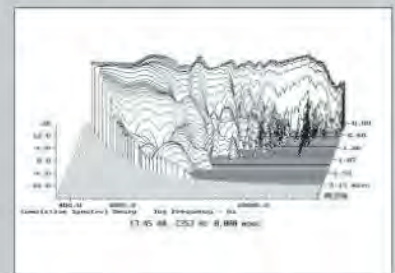
The SP100R<sup>2</sup>'s cumulative spectral-decay plot (fig.8) is clean in the region handled by the tweeter, but a ridge of delayed energy is evident at 2.3kHz.

I must admit to some puzzlement over the Spendor SP100R<sup>2</sup>'s measured performance, especially as, other than having tighter, better-controlled low

frequencies, it doesn't appear to perform as well as Spendor's S100 from 20 years ago (see [www.stereophile.com/content/spendor-s100-loudspeaker-measurements](http://www.stereophile.com/content/spendor-s100-loudspeaker-measurements)). Certainly, these measurements don't indicate why AD liked the speaker as much as he did. An enigma.—John Atkinson



**Fig.7** Spendor Classic SP100R<sup>2</sup>, step response on HF axis at 50° (5ms time window, 30kHz bandwidth).



**Fig.8** Spendor Classic SP100R<sup>2</sup>, cumulative spectral-decay plot on HF axis at 50° (0.15ms risetime).



loudspeaker than my reference, with dividends in a great many other areas: midrange detail, vocal articulation, and convincing reproduction of the “room sound” available from certain well-made recordings. If the Spondors left anything to be desired in their timbral balance, it was simply the extra care in setup they demand in order to avoid making pianos and the like sound lean and light. The Spondors were never, ever bright—but at the same time, I wouldn’t have wanted a single molecule more of treble content: They were just right.

The Spondors lived up to their BBC heritage as monitors. They were open, articulate, correct, and, without sounding the least bit cold, cerebral. They communicated the wondrous sense of structure and flow with which Glenn Gould could play a line of notes, yet they also told me when he was humming too loud. They let fun music sound fun and warm instruments sound warm, even as they rewarded a listening approach that emphasizes thoughtful repose over booty-shaking. (My reference Audio Notes, for their part, offer an earthier experience: They wear stripes with plaids, drink too much, and laugh too loud; they aren’t always timbrally correct, but they are emotionally explicit.)

With work, one can find loudspeakers—virtually always more expensive than the Classic SP100R<sup>2</sup>—that perform better at one or two tasks: more impact, more tautness, more presence, whatever. But in my experience, it’s *extremely* difficult to find one that does better at *all* the many things the Classic SP100R<sup>2</sup> does so well. And while I wish it could still be had for the 1996 price of \$3300/pair, the current price seems quite reasonable for all the SP100R<sup>2</sup> has to offer.

## ASSOCIATED EQUIPMENT

**Analog Sources** Garrard 301, Thorens TD 124 turntables; EMT 997, Ortofon TA-210 tonearms; Ortofon SPU, EMT TSD 15 70th Anniversary & OFD 25 & OFD 65 pickup heads; Denon DL-103 cartridge.

**Digital Sources** AudioQuest DragonFly USB D/A converter; Apple iMac G5 computer with iTunes v.10.6, Decibel v.1.0.2 playback software.

**Preamplification** Auditorium 23 Standard (SPU version), Silvercore One-to-Ten, Hommage T2 step-up transformers; Shindo Masseto preamplifier.

**Power Amplifiers** Shindo Corton-Charlemagne monoblocks & Haut-Brion, Fi 421A.

**Loudspeakers** Audio Note AN-E/SPe HE, Line Magnetic 755I, Quad ESL, DeVore Orangutan O/96, Klipsch Heresy III, Surreal Sound Fifth Row, Wilson Audio Specialties Sophia Series 2.

**Cables** USB: AudioQuest Yosemite. Interconnect: Audio Note AN-Vx, Shindo Silver. Speaker: Auditorium 23.

**Accessories** Box Furniture Company D3S rack (source & amplification components); Skylan 4P18 speaker stands; Keith Monks record-cleaning machine; Peter W. Belt Cream Electret.—**Art Dudley**

Sixteen years later, Spendor’s flagship Classic model is just as recommendable, if not more so—and is all the more deserving of its status as a *reference*. ■