

DCM 'Time Window'

DCM Corporation, 725 S. Division, Ann Arbor, MI 48104. 'Time Window' floor-standing loudspeaker, \$660 the pair. Tested #906 and #932, on loan from manufacturer.

Here's the one that will recoup you for about 20 years' subscription to **The Audio Critic**: a speaker system that has no equal even at twice the price (at least none known to us). In this Part I of our survey, we place only the following speakers ahead of the DCM Time Window: the Beveridge Model 2SW, the Rogers LS3/5A (but only from, say, 120 Hz on up at moderate levels—or else with expensive subwoofers), and the Koss Model One/A (but only every other day because in many ways we prefer the Time Window). That's all. The Dahlquist DQ-10, for example, which was our reference speaker before we started the survey, ranks below the Time Window in our current hierarchy.

There's some consistency to the above: every speaker that, to our ears, equals or surpasses the Time Window has outstanding response in the time domain. The Beveridge reproduces pulses most accurately; the Rogers is next; the Time Window and the Koss are close behind the Rogers and about equally good, but with quite different deviations from perfection. How about that? You'd swear that we measured impulse response first and then picked our favorites, but you have our word of honor that our preferences were firmly established prior to any laboratory tests, strictly on the basis of listening. We have a feeling that, in the not too distant future, speaker designers will be investigating impulse response as routinely as frequency response.

The DCM people are among the most fervent advocates of pulse testing; the very name of their speaker, Time Window, shows where their head is at. Their literature makes the most convincing case we've seen for the overwhelming importance of the time domain; if

you discount its quite mild and inoffensive commercialism, you can learn more from it than from just about any other popular explanation of speaker design. It shows comparative pulse tests on fifteen speakers, including the Time Window, and even if they manage to make their own product look a little better than *our* test results indicate, the brochure is an eye-opener.

The physical configuration of the Time Window is quite unconventional. Imagine a waist-high cylinder standing on the floor, except that only the back of it is cylindrical; the part facing you, the listener, is a triangular prism, edge foremost. On the two angled faces of the prism are the drivers, symmetrically placed: two 6-inch Philips woofers and two Philips dome tweeters below them (that's right, below the woofers, not above them). Near the floor are two ducted ports, also symmetrically placed. The cabinet is surprisingly light; you can carry it from one end of the room to the other without requiring abdominal surgery afterwards, yet it's quite rigid. Weird but effective design.

The proof of design is of course in the listening, and what a nice-sounding speaker it is. The first thing that strikes you is truly convincing spaciousness and depth; when a singing chorus walks in from offstage in an opera recording, you can almost tick off the yardage as they approach. Only the Beveridge is in the same league in this respect; the Time Window beats the Koss and all the others. Transparency and delineation of inner detail are of a high order, but not quite up there with the Beveridge or even the Rogers; the Koss, too, sounds more open and delicately etched in the upper octaves but not throughout its range. Left/right imaging isn't quite as spectacular as with, say, the Pryamid 'Metronome', but we find it musically satisfactory. In fact, the entire speaker sounds unfailingly musical at all times and remains listenable regardless of your length of exposure to it.

That doesn't mean, however, a complete absence of colorations or other audible anom-

alies. Far from it. The bass is a little funny for one thing; more about that in a moment. The top end could be a little more extended and silky-smooth; that last touch of HF quality seems to be unattainable with the Philips dome, even though it's better than most and handles power very well. There's some raggedness in frequency response throughout the audio range, which may be the reason why the speaker is particularly sensitive to room placement; you've got to make sure that the room reflections zig where the speaker zags. It isn't anything serious (minor frequency-response problems seldom are), except in the bass and the lower midrange, where things get a bit thick and muddled from time to time. Carefully tuning the distance of the speakers from the back wall as well as the side walls will clear up the problem; raising the speakers a foot or so off the floor also helps. When everything is trimmed in, the lows are quite clean and tight, but don't expect stupendous pressure bass on organ pedals, bass drum or bull fiddle. If we were pressed to designate a nominal corner frequency for the Time Window's rather bumpy *composite* bass roll-off, we'd place it at 50 Hz. Maybe even a little higher. After all, it's not a large box.

We say "composite" because the bass response of a vented box is the sum of the outputs produced by the woofer and the vent. Ideally, these should be complementary, arithmetically adding up to flat response. In the case of the DCM Time Window they aren't. Each woofer exhibits the classic vented-box response you'd expect, but the vents by themselves have *perfectly flat* output down to about 18 Hz instead of filling in for the woofers with a humped response where the woofers drop out. Somebody obviously thought that this was a very good thing, but of course it doesn't add up to flat bass response out of the total system. The DCM design philosophy, as we understand it, is that in order to generate flat response within four walls, a speaker should never be designed for flat response anechoically (i.e., with nearfield measurement). We disagree with this philosophy quite vigorously and feel that it may have a great deal to do with the temperamental behavior of the Time Window as regards room placement. We don't want to make too much of the whole thing, on the other hand, since the speaker is still a lot better with this flaw than others are without it.

The reason why it's better—why it *sounds* better—is that (a) it reproduces pulses very accurately, with only minor glitches, and (b) it exhibits little or no ringing on tone bursts. In other words, it doesn't smear the signal. (One of those minor glitches worth noting is a little negative blip out of the tweeter just before the leading edge of a positive-going 0.1 msec impulse. We mention it only because it's very neatly fudged in the DCM literature; visible but cleverly buried. You can also tell from their pictures that the various electrostatics don't have this problem, thus confirming each of our own findings. Naughty, naughty.)

To sum up, the DCM Time Window is one of our happiest discoveries since we've started testing audio equipment, and we recommend it wholeheartedly to any music lover who isn't planning to spend thousands of dollars on his speaker/amplifier setup. It makes sense, however, to get a very good amplifier to drive the Time Window; not necessarily a very high-powered one, since the speaker is quite efficient, but a really clean one because superior time-domain resolution will show up the difference.

Our congratulations to Steve Eberbach, the young engineering partner of DCM, for what may very well turn out to be a classic.

Recommendations

Please remember that the 15 speakers reviewed here, plus the dozen or so other units we've commented on in the past, represent only a small fraction of the universe open to serious audio enthusiasts. We can't swallow that whole universe in one issue—or even in four or six. If you're looking for infallible and all-encompassing guidance, you've come to the wrong place. On the other hand, we know the stuff we've tested pretty well and can offer the following circumscribed recommendations with some degree of confidence.

Best speaker system tested so far, regardless of price: Beveridge Model 2SW (with reservation about headroom—see review).

Close to the best at a much lower price: Rogers LS3/5A (but bass not quite adequate without expensive subwoofer—see review).

Best full-range system per dollar: DCM Time Window (supersedes Dahlquist DQ-10).

Note new address:

DCM Corporation, 670 Airport Blvd., Ann Arbor, Michigan 48104

DCM 'Time Window' (Improved)

DCM Corporation, 2275 South State Road, Ann Arbor, MI 48104 (note new address). 'Time Window' floor-standing loudspeaker, \$660 the pair. Five-year warranty. Tested #1853 and #1864, on loan from manufacturer.

A number of worthwhile improvements have been made in this already remarkable speaker, so that a reevaluation is in order.

The main visible change is the switch to Mylar domes in the tweeters (with mixed results, as we shall see), but the overall sonic character of the speaker is sufficiently different to indicate that other engineering details have been retouched as well. You can assume that all units with a serial number above 1600 incorporate these refinements.

The improved version of the Time Window sounds even more open and transparent than the original, with smoother and better-defined highs, and hardly any whomping or thickness in the upper bass and lower midrange. It's simply a more natural sound, immediately apparent in an A-B comparison.

The amplitude response of the speaker is now extremely smooth between 200 Hz and 14 kHz, within ± 3 dB we'd say. At 14 kHz there's a rather nasty tweeter peak that definitely wasn't there before; its amplitude varies with the measurements angle (9 dB on the axis of the dome, 6 to 8 dB in the composite response curves), but it's always present and cannot be "homogenized" out by moving the microphone. The tweeter response drops precipitously after the 14 kHz peak; at 20 kHz it's good-bye and gone (down to -14 dB). Interestingly enough, this anomaly has relatively little effect on the speaker's audible performance, probably because the Q of the peak is quite high (i.e., the spurious energy is con-

tained within a rather narrow band of frequencies). Tone bursts confirm the reality of the peak, exciting severe ringing at 14 kHz, even though the rest of the audio range is quite as free from ringing as before.

On the low end, the tuning of the vented enclosure is still highly suspect, although it appears to have been changed slightly. The vent still doesn't fill in correctly the null in the driver response (in this case at 32 Hz), and the composite bass response is still quite lumpy—we'd call it ± 5 dB from 40 Hz on up. On the other hand, the woofers are well-behaved under transient excitation; they shut up when the signal stops. In this respect we see (and hear) some improvement.

The main reason for the improved sound of the new Time Window, however, is almost certainly the further refinement of impulse response in the critical midrange and lower treble region. Pulses between 1 msec and 0.15 msec duration are now reproduced with even greater accuracy than before; the speaker has become virtually flawless in this range. Pulse form retention deteriorates rapidly with durations of 0.15 msec and shorter, possibly because of the tweeter problems observed. There's a trade-off here: better pulses from 1 to 0.15 msec, worse from 0.15 to 0.1 msec and shorter. And it seems to be a trade-off that favors the sound.

Overall, we find the improved Time Window to be the nearest thing to a high-fidelity speaker in a single package of moderate size and affordable price. The Tangent RS2, reviewed below, is even more transparent and uncolored from about 200 Hz on up and costs less, but its bass is unacceptable without the addition of a subwoofer. The Time Window, on the other hand, can be enjoyed as is, straight from the carton.

Now if they'd only fiddle some more with the enclosure tuning and that tweeter peak . . .

Recommendations

The only change here, as a result of this last batch of tests, is our preference of the Tangent RS2 over the Rogers LS3/5A. Our other two recommendations remain the same.

Best speaker system tested so far, regardless of price: Beveridge 'System 2SW' (with reservations about subwoofer and headroom—see review).

Best speaker system at a much lower price: Tangent RS2 (with strong reservation about bass—see review).

Best full-range system per dollar (without major trade-offs): DCM Time Window.

DCM Time Window

*DCM Corporation, 2275 South State Road, Ann Arbor, MI 48104.
Time Window floor-standing loudspeaker, \$660 the pair.*

Since we last wrote about the Time Window, minor modifications have again taken place. We rechecked the latest units. The capacitors in the crossover network are now Mylar; the bass has been flattened out slightly and extended *very* slightly (the -3 dB corner is now at 48 Hz); the tweeter peak has been reduced but it's still there (this time at 13 kHz, still ringing); the tweeter response now goes out flat to 15 kHz and is down "only" 10 dB at 20 kHz. The excellent pulse response has been retained but the tweeter is still out of phase. The net result of these small improvements is to confirm our ranking of the Time Window as the relatively best choice among all the highly imperfect speakers in this price range. Yes, it has a slightly hollow quality in the upper bass and lower midrange; it doesn't even give a tremendous sense of immediacy; but its openness, balance, excellent dispersion and remarkable headroom (for this type of speaker) give it the breath of life when it plays music.

Note new address:
DCM Corporation
670 Airport Blvd.
Ann Arbor, Michigan 48104

Recommendations

As our reference system gets better and better, we're becoming less and less tolerant of the shortcomings of even the best small speakers (Rogers, Tangent, Fried, Symdex, etc.). We're therefore dropping that category from our Recommendations, even though the speakers sound just as good as they ever did. Read the reviews and suit yourself.

Best speaker system: Reference A of *The Audio Critic* (see article on reference systems).

Best speaker system from a single manufacturer: Beveridge System 2SW-1.

Best speaker system per dollar: DCM Time Window.

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Best tweeter: Pyramid Model T-1.

Best subwoofer: Janis Model W-1 with Interphase 1.

Best subwoofer per dollar: The Bass Mint Model 10/24.