CrystalConnect by Crystal Cable Art Series Da Vinci Speaker Cable, Interconnect, and Power Cords

Step-Change

Jonathan Valin

No matter who makes them, cables, interconnects (analog and digital), and power cords aren't a whole lot of fun to use or review. Unlike sexy electromechanical objects such as Kostas Metaxas' Tourbillon tape deck or Tetsuaki Aoyagi's DS Audio Grand Master optical cartridge or Alfred Vassilkov's Estelon X Diamond Mk II loudspeakers, they cast no instantaneous spells and work no enduring charms. Yeah, you have to lay hands on them to install them, but once set up they just lie there on the floor like sleeping cats, waiting to trip you up and send you sprawling. They have no moving parts; they don't decode or transduce signals; they don't even light up at the press of a button—they have no buttons to press. And yet, as all of you can attest, they are necessary—and they are necessary everywhere. There isn't a component in your system that can function without them.

Boring but indispensable (and ubiquitous), cables are also controversial. Ever since FMI and Monster launched the gourmet wire industry, certain folks have been telling us that pricey connectors don't do anything better (or more) than Plain Jane zip cords. All they do is react differently—either more favorably or less favorably—to the electrical loads your equipment presents to them (while simultaneously sucking dollars out of your wallets). The technical advantages manufacturers claim for them, or so the argument goes, are based on "voodoo" science and the willful self-deception of consumers with too much money to spend. All cables really are are conduits with more or less interactive electrical debris inside them. Even some cable manufacturers are on record (in this very magazine) saying that wires can only detract from the signals they're fed. And yet…which one of you hasn't enjoyed the substantial sonic improvements that certain wires have made in your system? Whether these differences are the results of a congenial electrical match to your specific set of components or of a universal improvement in the transmission of the audio signal, they are undeniably "there" to be heard, despite the scorn heaped upon those of us who hear them by dyed-in-the-wool A/Bers.

In the case of CrystalConnect by Crystal Cable's (formerly just plain ol' Crystal Cable's) top-line Art Series Da Vinci products—which, to spill the beans right out of the can, are in most ways the best wires I've used or heard—designer Edwin Rijnveld claims a universal improvement in performance. Indeed, he calls the Da Vincis (and his other Art Series wires) a "step-change," in that they transmit a much purer, more faithful signal. The Da Vincis sound superior, says he, because they *are* superior—in design, materials, construction, and capability. They are across-the-board better than what came before them—even what came before them in Edwin's previous Crystal and Siltech lines—lower in noise, higher in conductivity, better grounded, and (consequently) finer in resolution. Moreover, the improvements they make aren't mere advertising copy; they are verifiable measurable

quantities. Ground noise in the Art Series Da Vincis, for instance, is reduced by 6–9dB (roughly two to three times less), according to Mr. R., and impedance is better than twice as low as that of my reference Crystal Cable Ultimate Dreams (no mean performers themselves).

Most of you already know who Edwin and his gifted wife Gabi Rijnveld are. The former is a world-class electrical engineer with a talent for metallurgy; the latter is a world-class concert pianist with a taste for beauty and a gift for design. Together, they bring a unique mix of science and art to hi-fi.

One of the most respected hands in the cable business, Edwin and his original company Siltech were among the first to champion the use of silver (by far, the most conductive metal on earth) in cables and interconnects. On the technical side, the story of his products is also the story of the progressive metallurgical improvements he has made in the silver and silver-gold alloy used in his wires.

Today, Crystal employs "Infinite Crystal Silver" and "G9" (ninth-generation) silver/gold alloys in the shields and core layers of its new Art Series offerings. What are "Infinite Crystal Silver" and G9, and why do they make better materials for cables, interconnects, and power cords? I'll let Edwin explain: "Looked at under a microscope, metal is a lattice or matrix imperfectly constructed from multiple large crystals, all locked together. Between those crystals are boundaries and voids—barriers often caused by impurities in the metal [e.g., iron oxides and other materials] that delay, distort, and outright short-circuit the signals passing through them. Using sophisticated annealing processes, adjusting both the temperature and rate at which conductors are drawn and how long they take to cool, Siltech and Crystal are able to produce larger and more consistent crystal structures, reducing the barriers and discontinuities in the signal path."

Once most of the impurities and gaps in the silver have been eliminated, the voids that remain are filled with Edwin's G9 silver-gold alloy, which rust corrupteth not. The consequent conductivity of Edwin's Infinite Crystal Silver infused with silver-gold is so high that it permits him to lower the number and size of the signal-bearing conductors in his Art Series cables and interconnects, and that, in turn, measurably lowers distortion, inductance, impedance, and capacitance (as well as conferring advantages in appearance and useability).

In addition to developing higher-conductivity metals, Edwin has made substantial changes to the topology of Crystal's Art Series products. Along with the Infinite Crystal Silver signal-bearing wires (positive and negative), Crystal's Art Series includes multiple independent sets of Infinite Crystal Silver ground wires bundled in "asymmetric" groups—each shielded by a layer of G9 silver-gold screens and a second layer of Infinite Crystal Silver screens. The new grounding technology provides greater immunity to EMI and (as already noted) much lower ground impedance, current distortion, induction, and capacitance, further improving impulse response and resolution.

Everything about the Art Series Da Vincis is intended to prevent signals from being blocked, altered, or delayed by material, mechanical, or electrical interactions; everything about their design and construction is intended to improve fidelity to the source. How well does this material and topological science work, and how much do the better test results that result from their application—the two-to-three times lower noise, the twice as low impedance, the much more faithfully tracked impulse speed and shape—contribute to higher fidelity? The answer is "a lot."

As I said in my Golden Ear Awards in Issue 319 (and as Robert Harley reiterated in his From The Editor, "Noise, The Final Frontier," in Issue 323), thanks to improved technology the way noise floors have been steadily lowered in high-end-audio products is perhaps the chief difference between today's finest offerings and classics from the past. Cabling is no exception.

What noise does to recorded music is an interesting subject. Certain kinds of noises—hum, for instance—result from the antenna-like qualities of longish runs of wire, regardless of type. Better shielding and grounding will reduce a cable's susceptibility to EMI, but (unless you live in a Faraday cage) they will not eliminate it. Anyone with a phono source that uses a conventional magnetic transducer (moving-coil, moving-magnet, or moving-iron) can attest to this. A certain amount of background hum, increasingly audible with increases in volume, is simply part of the package.

It's not until you hear an analog source that doesn't have hum—one of DS Audio's optical cartridges, for example—that you realize how profoundly EMI and the distortions it induces have been affecting what you're listening to. Cables are not just picking up hum; they're also conducting that noise into active circuits, where it intermodulates with the recorded signal (and with whatever other noises

Specs & Pricing

Prices: CrystalConnect by Crystal Cable Art Series Da Vinci interconnect: $23,900/1m pr. (RCA or XLR); speaker cable: $48,000/2m pr.; power cords: $15,000/1m pr.

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the circuits themselves are adding to the mix). Sonically, the effect of that intermodulation distortion amounts to a reduction of what I've called neutrality (the faithful, unaccented, accurately timed reproduction of the dynamic/harmonic envelope) and completeness (the recovery and reproduction of all recorded information, including information about the instruments, the performance style, the venue, and the recording process itself). Since neutrality and completeness are the keys to the gestalt shift that lets the ear/mind hear/"see" what is recorded as a simulacrum of the real thing, anything that detracts from them moves you a step away from the illusion of being in the presence of actual musicians performing in an actual space (be it a hall, club, or studio).

A more neutral and complete reproduction of music (and the increase in realism that comes with it) is the first—and most prominent—thing you will notice with Crystal's Da Vinci cables, interconnects, and power cord. And the difference isn't subtle. Indeed, save in overall coherence, going from top-notch conventional wire to Da Vinci is like going from a superb two-way loudspeaker to a world-class multiway—there is just a lot more "there" there.

The substantial lowering of noise and consequent increase in musical information are most obvious in the mid-to-lower octaves (though, as you will see, they are audible on top, too). Just put on any recording with a well-mic'd rhythm section—say Count Basie's orchestra in *Sinatra at the Sands* [Reprise/MoFi/Puget Sound Studios]—and settle down for an ear-opener. Everything from Al Grey, Henderson Chambers, Grover Mitchell, and Bill Hughes' trombones to Marshall Royal, Bobby Platter, and Charlie Fowlkes' baritone and alto saxes (so droll on the Gershwins' "I've Got A Crush On You") to Eric Dixon and Eddie "Lockjaw" Davis' tenor saxes to Al Aarons, Sonny Cohn, Wallace Davenport, Phil Guilbeau, and Harry "Sweets" Edison's trumpets to Basie's (sometimes Quincy Jones') piano, Norman Keenan's double bass, and Sonny Payne's drum kit gains lifelike density of color, body, definition, and presence.

This is a big band that, when playing ensemble in the 365-seat Copa Room at the Sands Hotel and Casino, moves a whole lot of air. It should have concentrated, "wall-of-sound" color, power, focus, and impact on tuttis (such as the thrilling instrumentals in the entr'acte, "Street of Dreams," or "I've Got You Under My Skin"—where Sinatra, quite appropriately, forewarns the audience to "run for cover"), and it does have these things on LP (particularly on MoFi's marvelous reissue, no longer available, alas). But, as I noted in previous reviews, what it typically doesn't have (or have to the extent that you would hear from a big band in life) is a full sense of the many individual parts contributing to the hurricane-force whole. With the superaddition of hum and intermodulation distortion from other cables, the Basie band tuttis hit you like a gloved fist; with the reduction of hum and IM afforded by the Da Vincis, they hit you with bare knuckles—you can feel/see/count each balled-up finger, without any diminution of massive, stinging impact.

Sinatra was very picky about the mics he used. He is on record saying that a mic is a singer's instruments: "Instead of playing a saxophone, he's playing a microphone." At the Sands concert, he used a hand-holdable Shure Model 546 Unidyne III moving-coil mic, which he manipulated expertly ("like a geisha girl using her fan"), so that the audience would never hear a "popping p" or an intake of breath through nose or mouth. (For the exact opposite approach to the mic, listen to Louis Armstrong on *Louis and Ella* [Verve/Analogue Productions/Puget Sound Studios], where Pops' plosives, stops, and fricatives—his "p's," "t's," and "s's"—go off like a string of fireworks.)

Beyond reducing noise, the Da Vinci also seems to be delivering signals in better "time alignment."

The 546 was a dynamic microphone intended for theater-stage use because it was sturdy and hand-holdable, and because its uni-directional cardioid pickup pattern eliminated feedback in reverberant locations (such as the Copa Room) via the stage monitors. Through it, Sinatra's baritone should sound smooth, full, rich, and distinct—spot-lit amid the big band surrounding him, without any diminishment of the sense that he is singing in the same acoustic that the group is playing in. With my reference Crystal Ultimate Dreams, Sinatra's voice is smooth and distinct, all right, but it is also a bit thinner in body, leaner in tone, and very slightly grainier in texture than it is with the Da Vincis, which make Sinatra sound almost exactly the way I heard him sound (one of the highlights of my life) in Music Hall in Cincinnati, with another big band (conducted by his son) backing him up.

Beyond reducing noise, the Da Vinci also seems to be delivering signals in better "time alignment." From top to bottom, sounds are conveyed to your ears with consistently lifelike duration, rather than with the unnatural emphases

and delays that generate accents on the transient, steady-state, and decay phases of the dynamic/harmonic envelope. The result is a realistic smoothness, solidity, dimensionality, richness of color, pace, and interconnectedness (with venue and accompaniment) that make other cables—even very good ones—sound just a bit, thin, flat, coarse, vaporous, and isolate.

The Da Vincis don't just do these lifelike tricks in the midband and the bass. I don't think I've ever heard cymbals, which tend to sound (even with the best cabling and ancillaries) disembodied and purely transient-like, more fully connected to the solid and robust instrument producing their colors than they do through the Da Vincis, which restore three-dimensional body and bright or mellow tone to their softly brushed or tapped or crashlike attacks and their undamped or damped decays. Whether it's Sonny Payne on the Sinatra recording or Shadow Wilson and Art Blakey on *Thelonious Monk with John Coltrane* [Jazzland/Puget Sound Studios] or, well, you name it, I've not heard more neutral and complete and, ergo, more realistic reproduction of cymbals (and drumkit) through any other cables. (This holds true for all instruments that play or have substantial overtones in the upper registers.)

The third thing that the Da Vincis offer to a greater extent than other wires I've used and recommended is transparency to sources. This may seem odd given all my talk about richer tone color and three-dimensional body, but the Da Vincis only reproduce these qualities in full on recordings that have them in full. While they never make less-than-stellar LPs, files, or tapes unlistenable (or less listenable), Gabi and Edwin's cables will leave you in no doubt about the sonic quality of the sources being fed through them. The difference, for instance, between the 1955 Christmas Eve recording of *The Weavers at Carnegie Hall* [Vanguard/Puget Sound Studios] and the 1963 recording of *The Weavers Reunion at Carnegie Hall* [Vanguard/Analogue Productions/Puget Sound Studios] isn't just a matter of the former being monophonic and the latter stereo. Nor is it strictly speaking a matter of personnel, although the stereo recording does have a bigger ensemble on certain numbers. The difference between the two is in the recording and mastering, with the earlier one being far less ambient (Vanguard was just learning the ropes of live recording in Carnegie), drier and leaner on vocals and instrumentals, and less dynamic overall (Ronnie Gilbert's stentorian contralto sounds oddly subdued, as do the sounds of the audience and the hall). This doesn't make the mono recording undesirable (the musicianship and program are superb—arguably superior to *Reunion*), but it does make its sound less lively, immediate, spacious, and realistic, and greatly reduces the sense of the venue and the occasion. The Da Vincis will tell you these things without you're having to look them up on *Wikipedia*.

There is a price that you pay for the Da Vinci's extraordinary virtues of lower noise, better time alignment, and higher transparency to sources, and it is precisely the same price you pay when going from a two-way to a multiway. The size, speed, and lighter tonal balance of a mini tends to make things sound airier, more minutely resolved, and more free-floating—less weighted down by the mass of multiple large drivers and less constrained by the confines of a big box. You hear a bit of the same effect with superior cabling, including Da Vinci. Because it does not accent starting transients, because it integrates them into the dynamic/harmonic envelope with the proper duration, transient information (and the detail associated with it) does not stand out as nakedly as it does with a leaner, less neutral cable (where transients are virtually all you get). I'm not saying transients and transient-related detail are short changed. On the contrary, they are substantially more powerfully, completely, and correctly resolved. What I am saying is that they aren't accentuated (as in a mini or a smaller 'stat or planar). With the Da Vinci, you get the whole note rather than just the leading edge.

Whether it is a genuine step-change or "just" a substantial audible improvement in the fidelity of the wiring we all must live with... Da Vinci sets a new reference standard.

I could go on (and on) with musical examples of Da Vinci's excellence, but the bottom line would remain the same. Edwin and Gabi's new cables, interconnects, and power cords are simply better than other wires I've heard—closer to the sound of the real thing, when the source permits. They are also ergonomic delights that do not burden you, your components' connectors, or your wall or conditioner sockets with unnecessary weight or added grounding/voicing wires and connections. No heavier than Crystal's Dreams—and just as flexible—they are easy to use and install, and trouble-free once plugged in. They're only downside—and it is a big one—is cost. These cables are expensive.

While an argument can be made for their high price (they *are* made of silver and gold, after all), Da Vincis will still and only be for the lucky few. If you're one of them, I urge you to give Edwin and Gabi's new wires a listen in your system. If you aren't… well, don't hold Da Vincis' price (or this review) against them (or me). There are other options for the rest of us—one extraordinary example of which, from Ted Denney and Synergistic Research, I will be reviewing soon.

There is this, as well: Da Vinci is the top of the Crystal line. Edwin and Gabi offer other cabling in their Art Series that incorporates the same technical and material advances found in the Da Vincis, albeit on a progressively scaled-down level, at more affordable prices. That said, if you will only settle for the best—and in this case a best that can be verified by measurement as well as by ear—then welcome to Crystal Cable's Art Series Da Vinci. Whether it is a genuine step-change or "just" a substantial audible improvement in the fidelity of the wiring we all must live with, I'll leave to you. For me, it is a new reference standard. **tas**