

## The Cutting Edge

# Valve Amplification Company Statement 450i iQ Integrated Amplifier

## Sublime Execution

Greg Weaver

**W**hile the principle of “form following function” was originally associated with late 19th and early 20th century architecture and industrial design, Kevin Hayes’ and the Valve Amplification Company’s accomplishment with the Statement 450i iQ integrated amplifier under scrutiny here may be the most perfect example of that principle ever seen in the audio arts.

Towering to four feet in height, at just under ten-and-a-half inches wide and some eighteen-and-a-quarter inches in depth (*sans* the plinth it stands on), to my sensibilities it is as remarkable to look at as it is, as you will soon learn, to listen to. It is simply one of the most beautiful pieces of audio gear I have ever had the pleasure of laying eyes on.

The power transformers—the heaviest individual components and the devices most likely to deleteriously affect the signal—are in the amp’s base. The 450 iQ is dual mono throughout, so each channel of each section has an independent supply. While transformer-winding is fast becoming a lost art, the six main power supplies used here are bespoke VAC transformers, custom-wound in the U.S. All are stick-wound, EI core designs, affording superior rejection of the noise carried on the power line as well as high tolerance of DC line offset. And each one is also encapsulated in a special gel to damp magnetostrictive vibration.

Rectification is accomplished using a proprietary VAC technique, one that applies silicon rectifier elements in a manner that attempts to achieve superior current capability and low impedance regulation, while maintaining the smooth, low-noise behavior typically associated with vacuum tube rectification. This technique, aided by substantial energy storage ability, yields high inherent regulation. Both resistive and inductive filter elements are used in concert with high-speed capacitor assemblies for the high voltage supplies, while active voltage stabilization is included in the four preamplifier heater supplies. Finally, they are all sheltered behind a layer of EMI/RFI shielding.

Immediately above the supply section is the fully balanced amplifier stage. Fed from the dedicated dual-mono power supplies below it, it employs the same circuit topology and componentry as the \$63,000 Statement 450S iQ stereo amplifier. The input and driver stages are Class A1, using direct-coupled low- $\mu$  triodes, Russian made Tung-Sol 6SN7GTBs. Its output stage uses eight Genalex Gold Lion KT88s in a rich Class AB1 ultra-linear (or “partial triode”) configuration, with a high voltage and high



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## Specs & Pricing

**Power output:** 225Wpc

**Outputs:** Power amplifier, 2, 4, and 8 ohm taps; linestage, XLR balanced line outs

**Inputs:** Three single-ended phono (mm or mc, three gain modes, variable loading), five line (three single-ended and two switchable between XLR balanced or RCA single-ended), and one XLR balanced or RCA single-ended Cinema (power amplifier direct)

**Tube complement:** 4x KT88, 4x 6SN7GTB, 2x 6DJ8/6922/7308, and 4x 12AX7

**Remote control:** Volume and mute, included

**Dimensions:** 18.4" x 48" x 24"

**Shipping weight:** 400 lbs. in custom shipping case

**Price:** \$150,000

## VALVE AMPLIFICATION COMPANY

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## Associated Components

**Loudspeakers:** Von Schweikert Audio Ultra 9, Von Schweikert Audio VR-55 Aktive

**Linestage preamps:** Audionet PRE G2, Dynamic Sounds Associates Pre I, Constellation Inspiration, ModWright LS 100

**Phonostage preamps:** DSA Phono II, ModWright PH-150 Reference

**Power amplifiers:** Audionet MAX monoblocks, Dynamic Sounds Associates Amp 1 monoblocks, Channel Islands Audio D-500 Mk II monoblocks

**Analog sources:** Kronos Sparta turntable/S-SCPS Power Supply, Helena tone arm

**Phono cartridges:** Etsuro Urushi Gold, Air Tight PC-1, Transfiguration Temper V, Clearaudio Virtuoso Mk II, Denon DL-103vdh

**Digital sources:** Mola Mola Tambaqui, Hegel HD-30, Hegel, HD-12, McCormack UDP-1 Deluxe

**Cables and interconnects:** Stealth Audio Dream V14, Audience frontRow speaker cables, Stealth Audio akra V12, akra, Helios, Audience frontRow interconnects, Audience frontRow USB cable

**Power cords:** Audience frontRow and Au24-SE power-Chords

**Power conditioners:** Audience aR12-TSSOX, Quantum Symphony Pro, FuruTech e-TP80

**Support systems:** Grand Prix Audio Monaco Modular Isolation System equipment stand (with Apex Footers and Formula Shelves), Grand Prix Audio Monaco Amp stands, Critical Mass Systems CenterStage2 footers, Magico QPods, Grand Prix Audio Apex Footers, Aurios 1.2 MIB

**Room treatments:** Shakti Hallographs, Auralex 6' x 4' Wall Diffusers, CornerTunes

**Accessories:** Audio Desk Systeme Vinyl Cleaner Pro Ultrasonic LP Cleaner, Audio Dharma Cable Cooker, Furutech RD-2 demagnetizer, LAST record care products, Disc Dr. Miracle Record Cleaner/Quick Wash. Onzow ZeroDust, AudioQuest DM-100 demagnetizer, KAB Channel Balancer, KAB Speed Strobe, HiFi-Tuning Supreme3 fuses, Digital Systems and Solutions UltraBit Platinum-Plus, Digital Systems and Solutions TruVoice Dampers, Audience Auric Illuminator

current operating point established by the VAC iQ's Continuous Automatic Bias System. The output stage transformers are also custom wound in the U.S., using a very elaborate, heavily sectioned, bifilar design.

Next up is the linestage, essentially a clone of VAC's \$80,000 Statement Line Stage. Fully balanced, it utilizes medium- $\mu$ , Russian-made EH 6922s triodes in Class A1 operation, with transformer coupled input and output. [Class A1 is a more stringent application of conventional Class A operation.—RH] Hayes is quick to mention that this is essentially a small Class A1 balanced power amplifier with step-down transformer output—a circuit that also makes for an exceptional headphone amplifier. The transformer coupling and the lack of negative feedback effectively stops unwanted interactions between the power amplifier and the feedback loops in source components. The volume control is a massive, two-kilogram brass-cased and -shielded, four-section potentiometer that is expressly motorized for this application. While expensive (raw parts cost is over \$1000 just for this assembly), motorization was the only way to realize remote con-

trol operation and afford the very best-sounding volume control.

Similarly, the phonostage sits at the zenith of the whole assembly, again using the same topology and virtually the same parts as the \$80,000 Statement Phono Stage, omitting only one stage that is unnecessary in the integrated format where the interface to the next stage is already explicitly controlled. The circuit uses high- $\mu$  triodes, in this case, Chinese 12AX7As, in Class A1 operation and RIAA equalization is achieved passively, with no negative

feedback. With dedicated step-up stages for low- and medium-output mc cartridges, and fully adjustable loading, the entire chassis is hand wired. While Hayes plays the rest of the details close to the vest, he did confide that he employs many “undisclosed” exotic components, like “naked” z-foil resistors.

This circuit description, though it accurately describes what I consider to be a truly inspired design, sheds no light on the beauty or functionality of this integrated amplifier. Mine was finished in a gorgeous three-tone paint

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scheme—black, silver, and red-bordering-on-burgundy. As noted in the description, the entire 400-pound tower is rectangular, save for a 2-inch-wide, 45-degree-beveled front left corner, all resting on a one-inch-tall, twenty-four-inch-deep, eighteen-and-a-half-inch-wide, bevel-edged black plinth, fitted with four one-inch-tall footers.

The left side is composed of a single panel, painted a dark gray, marked off into thirds by two horizontal grooves, with the centermost section bearing a large engraved VAC logo. While the grooves break up the visual monotony of one single panel, their main purpose is to help reduce and stagger the panels' resonance modes.

The front is split into two sections, with roughly the bottom twenty-odd inch section containing the transformers/power supplies. It is finished in silver, with an elegant blue, back-lit VAC logo centered near its top that can be dimmed or turned off.

The upper section, divided by a silver control panel, some three-and-a-quarter inches wide to the left, and a pane of plate glass covering the five-and-a-quarter inches to the right, that protect yet readily display the valve complement. Starting at the top of that silver control panel on the left, we find the IR receiver port for the remote. Next up, the massive volume control knob, followed by the Normal/Cinema bypass switch, and finally, near the bottom of the panel (but close to the middle of the unit's

overall height), we find VAC's Patented iQ Continuous Auto Bias System indicator panel for monitoring tube status and health.

Moving to the right side, the lower section, just as on the left, is covered with a dark gray panel. Above it, the chassis holding the tube complement is painted that gorgeous deep red. Starting from the bottom, we find the eight Gold Lion KT88s in two rows of four. Above them, in two horizontal groupings of two, spaced above the KT88s, are the four 6SN7GTBs. Above them, in a group of two rows of two, centered toward the rear of the panel, are the four 12AX7As, with the final pair of 6DJ8s side by side in a row parallel with the top row of

12AX7As, toward the front. This entire section of tubes is protected by six spring-loaded bars running vertically from top to bottom. With an ornate grate on the top panel above the tube complement, there is more than ample chimney-action air-cooling provided.

The leftmost two inches of the top surface pane, all in that gorgeous deep red save for the ventilation grill, follows the line marked by that 45-degree left front corner bevel. Next, to its right and matching the width of the front silver control panel, we find seven round silver knobs for switching. From front to back, the controls include a 3-position Power switch (All On, Pre On, Off), Mute (On, Off), Source Selection (Pho-



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no, L1, L2, L3, L4, L5), Logo (Hi, Lo, Off), MC Loading (1000 $\Omega$ , 500 $\Omega$ , 250 $\Omega$ , 150 $\Omega$ , 100 $\Omega$ , 50 $\Omega$ ), Gain (mc, 68dB; mc, 62dB; mm, 44dB), and Phono Input (1, 2, or 3). Next to that panel, to its right, we find a fourteen-inch long by 4¼-inch wide chromed, ornate grille, for convection cooling of the tube complement directly below, centered front to back, and a 3-inch by one-half-inch oval, recessed silver placard bearing the name, "Statement 450i iQ," engraved in script and centered at the front of the panel.

The back, as you may have expected, offers a myriad of input and output options. The top left section, where the tubes are mounted, is perforated for enhanced air flow.

To the right we find, from top to bottom, three single-ended phono inputs. Next, five line inputs, three single-ended and two offering a toggle between either RCA or XLR jacks. Next, balanced preamp outputs, followed by the Cinema line-level input, balanced or single-ended. Next, switchable preamp outputs, single-ended or balanced, followed by the Cinema line-level output. Below that, three grounds for the three phono inputs. To the lower left are four sets of five-way binding posts for the speaker output, arranged vertically from top to bottom, 4–8 $\Omega$ , 2–4 $\Omega$ , 1–2 $\Omega$ , Common, with the IEC power cable socket just below. Finally, a small stylish black and silver three-button

remote offers Mute, Volume up, and volume down.

### Satori

The review sample was delivered to my home in Northern Indiana on a cold, clear Friday evening in January by Keith Sequeria and Gordon Waters, principals of The Audio Company, a premier VAC dealer from Marietta, GA. They maneuvered this behemoth in its custom travel case down into my music room to allow it to warm up overnight. Given my experiences with the VAC Statement series of products, including the debut of this very integrated at RMAF 2018, I'll admit to salivating like Pavlov's dogs as the amp made its way down the staircase and into my six-hundred square foot listening room. Saturday morning brought the Maestro himself, Kevin Hayes, and in short order the team had this gorgeous machine uncrated, tubed, in place, plugged in, and lit up.

Before I get into the substance of this review, I want to touch on the ramifications of reviewing an integrated amplifier, especially one at this lofty price point of \$150,000. With such a device, the consolidation of phono, line, and amplification stages makes it virtually impossible to accredit or differentiate the individual contributions of each of the three separate portions of the device under examination.

Having heard each of the VAC Statement separates, I do have

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some sense of what each individual component brings to the overall sonic synergy of the three. But in a situation like this, where the essence of the three have inventively, brilliantly, and synergistically been combined into one, we have to accept the aggregate of the individual contributions; we cannot in any practical manner identify singular contributions because they are inseparable from one another; they are, in fact, one.

Which such a distinguished pedigree and an asking price that would afford a tidy home in areas of the Midwest, I'm sure it will come as no surprise that the Statement VAC 450i iQ is one *stunning* performer. Yes, it effortlessly and magnificently ticks off every checkbox on any tube lover's list, but it goes so much further. Just how much further has turned out to be one of the most astonishing and enjoyable surprises in all my decades in and around this industry.

The Statement 450i iQ portrays tone color, or instrumental timbre, with incontrovertible accuracy, endowing it with a level of expressiveness that I have only otherwise recently heard from much more expensive separate Statement products from VAC. There is density, robustness, texture, and sustainability to tone that is singularly exceptional in my experience. This is a compelling, almost overwhelming attribute, acknowledged directly as an overall significant contribution to the whole musical gestalt by every seasoned listener who had the good fortune to visit my music room during its all-too-short sojourn.

Further, this superbly rendered tonality is augmented by a seemingly unrestricted capability to reproduce the densest voicing of complex harmonic structure and texture I've heard from any amplifier, regardless of design or price. Its timbral fidelity is simply spectacular, and its tonal balance a study in seductive accuracy. Its ability to divulge the truest of instrumental voices, from double bass to piano to human voice to cymbals, is simply astonishing. The authenticity of the sound of rosined gut being drawn across stretched strings has never been so believably recreated in my room by any amplifier, and this synesthesia almost allows you to "see" particles of rosin as they are flung from the gut of a bow in particularly frenetic passages being played in flying staccato or spiccato form. It is an exceptional attribute, and one

I've not experienced this fully prior to the arrival of VAC's exotic integrated.

By way of comparison, we could describe most of today's leading tubed amplification as reconstructing a recording's tone, texture, and space in a manner reminiscent of a master pastel painting on canvas from one of the 19<sup>th</sup> century masters like Edgar Degas or Édouard Manet. The resultant construct is full of color and light, seductively engaging, warm and inviting, but still clearly distinguishable as a somewhat editorialized, enriched, and augmented version of the truth, especially when compared directly to the live sonic event. I find the VAC Statement 450i iQ's musical gestalt comes much closer to the near suspension of disbelief and vividness recreated by a projected 70mm Panavision film, with its complex and intricate interrelationship between light (loud) and shadow (quiet),

richness and density of color (tone), unerring genuineness of texture, and genuinely holographic dimensionality. It exposes instrumental voices, accurately and in seemingly perfect balance, across its entire extended operational bandwidth, in as faultless a manner as I've experienced.

Resolution, and the resultant sonic master it serves, transparency (see my perspective in my Von Schweikert Audio Ultra 9 review in Issue 298), are among the most elusive of sonic attributes—ones that should be (but aren't always) central to the quest of any designer offering high-end audio gear today. While it may seem as if I'm stating the obvious, transparency is the absence of distortion, and is what permits us to hear *through* our equipment, across time and space, back to the original performance, with as much truthfulness, exactness, and immediacy as possible.





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Transparency is therefore inversely governed by distortion, masking, and coloration. Ideally, none of our components would affect any degree of change, either by subtractive (loss, removal, or degradation of information by dissipation, transmission, or other filtration) or additive (combining with or contributing to the signal) interaction with the signal being played back. If only it were as easily done as said.

As playback is brought up to increasingly transparent, uncolored, and undistorted standards, without interpretation, editorialization, coloration, or distortion, recordings become progressively more unveiled, unmasking and revealing every detail and nuance, portraying the musical event as neutrally and genuinely as possible.

In my experience, broadband transparency is a domain where solid-state has long demonstrated a clear upper hand. There are a good number of tubed entrants that are strikingly transparent though the upper midbass and midrange, but they almost universally suffer considerable losses of that midband clarity at both the lower and upper frequency extremes. I have heard a handful of tubed amplifiers knocking on solid-state's door in this regard. One of the first, (interestingly enough, given the subject of this review) was the original VAC Phi Beta 110i integrated amplifier, which I first heard at the 2005 CES. It exhibited remarkable clarity and definition in the upper registers but was most expressly well-defined down deep into the sub-bass region. More recently several designs from Audio Research have approached solid-state's supremacy in this area, starting with the Reference 610T monos in the early 2010's, and most recently the Reference M160 monos this past year. Remarkable as those amps were at narrowing the gap, they *still* fell short of the best available from solid-state.

The Statement 450i iQ (and the entire VAC Statement series), does not stop at knocking on solid state's transparency supremacy door, it kicks it open and stomps on through, demanding a

seat at the table as an equal. Its ability to render stark transparency to sources and recordings, to reveal the most delicate nuance in detail or scale, is somewhat disarming and is unrivaled by other valve-based amplifiers in my experience. This exceptional ability to so lucidly resolve subtle event shadings, to expose and clarify gradation, to reveal otherwise hidden or masked staging cues and hall differences, is exceptional, closely matched only by an elite few solid-state entrants also in this luxury class.

The purity and lucidity of the Statement 450i iQ boarders on revelatory, never sounding even slightly nebulous from the lower midbass down or edgy from the upper midrange on up. I was taken by how routinely and easily this masterful integrated was able to match the revelatory performance of some of the best solid-state gear I have heard.

What also may come as a surprise to you (it most assuredly did to me) is its astonishingly unconstrained transient fidelity. As much subtlety as it exposes in the microdynamic realm, I was equally astonished with its macro capabilities, revealing the best I've ever heard from valves in both weight and impact. Its superb speed contributes significantly to its degree of overall resolution, especially in the microdynamic realm. In this regard, the Statement 450i iQ is on par with the best of today's solid-state entrants, amplifiers from marquees like CH Precision, Constellation, darTZeel, and Soulution.

Chris Layton's snare drum snap near the beginning of the title cut from Stevie Ray Vaughn's *Couldn't Stand The*

*Weather* is more sharply rendered in its impact, crisp and finely defined in both its physical space, visceral attack, and subsequent decay. The corporeal assault presented throughout "L'Daddy" from James Newton Howard's *James Newton Howard & Friends* is simply breathtaking. I have been using both recordings since they were first released, and I can count on one hand the number of times I have heard them recreated with such blinding transient authority and concussive, realistic impact.

Finally, we come to its astounding low frequency performance. Its vise-like grip and resultant control of pitch definition are unsurpassed in my experience with other tube amps, consistently portraying unyielding yet utterly articulated weight and attack of torturous drum or bass tracks. The opening, just some dozen or so seconds into Pink Floyd's "Learning to Fly" from the original 1995 4-LP release of *Pulse*, has caused all but the most robust of solid-state amplifiers to show their weaknesses, and has driven some to outright give up the ghost. Not the Statement 450i iQ! This passage was created as cleanly, as deeply, and with as much weight, pressure, and power as I have ever heard it rendered by any electronics, silicon- or glass-based.

Its aplomb in the lowest two registers was also starkly apparent with cuts as varied as Janis Ian's "Tattoo," from *Breaking Silence*, London Grammar's "Hey Now" from *If You Wait*, or the brutally arduous bass work from "Seeya," on the deadmau5 release *W4ile* (1<2). Before the Statement 450i iQ's arrival, I

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had never heard any tubed amplifier capable of delivering bass with this degree of control, including transient authority, extension, and slam.

With its near iron-fisted control down into the sub-bass realm, its blisteringly fast recreation of the leading edges of transients with no hint of homogeneity or slurring, and its effortlessness reconstruction of even the most demanding dynamic contrasts, the Statement 450i iQ sets a new bar for bass performance by a valve amplifier, truly impinging on the realm of solid-state performance. While timbral truthfulness may be this amplifier's biggest asset, its low-frequency prowess is easily a close second.

## Buji

Rest assured, there is no mistaking the pristine, precise sound of the VAC Statement 450i iQ with the sound of your father's tube amps. Here is no hint of the conventional "tube" sound—no fat, thick, stodgy bottom end, no inflated images, no overly ripe tone or texture, no loss of upper register detail, no rolled-off treble. In fact, when it comes to attributes like resolution, focus, timbral accuracy, dynamic expression, and extension, the Statement 450i iQ integrated executes on a level comparable with the very best solid-state performance. Yet it offers *all* the magical qualities of valve sound, those densely colored soundscapes, dripping with texture, and populated with accurately sized, shaped, and located images, and a visceral, three-dimensional stage.

Its ability to render fine detail is matched only by its resplendent tone and texture. Its exceptional clarity, superb resolution, unflappable transient fidelity, unswervingly authentic tone, and virtually perfect pitch definition yield a perceived extension, shimmer, and transient response that I've only heard closely matched by some mega solid-state amplifiers, the number of which is small enough to count on one hand. Its extraordinary coherence, sense of presence, overall realism, and scaling were as truthful as I've ever experienced from any amplifier. In short, its combination of timbral accuracy, transparency, transient fidelity, and bass authority have endowed the VAC Statement 450i iQ with the most genuinely musical voice I have yet heard.

The three individual VAC Statement components represented by this remarkable integrated sell for a combined total of \$223,000 if purchased individually. You will still need two pair of world-class interconnects in order to even attempt to match the sonic achievements that can be realized by using the much shorter, dedicated, optimized, direct mechanical connections and optimized ground plane that the single chassis construct affords the Statement 450i iQ. The Audio Company shows the VAC Statement gear exclusively with MasterBuilt Ultra cables. A one-meter pair of balanced Ultra cables sells for \$36,000, so...we are now easily at over a quarter of a million dollars investment for a separates system! The Statement 450i iQ sells for three-fifths that price. Ok Greg, we can all do this simple arithmetic...what's your point?

While no one could possibly make an argument that at this asking price the Statement 450i iQ is close to affordable, it would be just as foolish to ignore the overt bargain that it represents to anyone who can shop in this tier of gear. Honestly, I'm laboring to find the funds to acquire VAC Statement gear for my main rig—it is that exceptional. **tas**