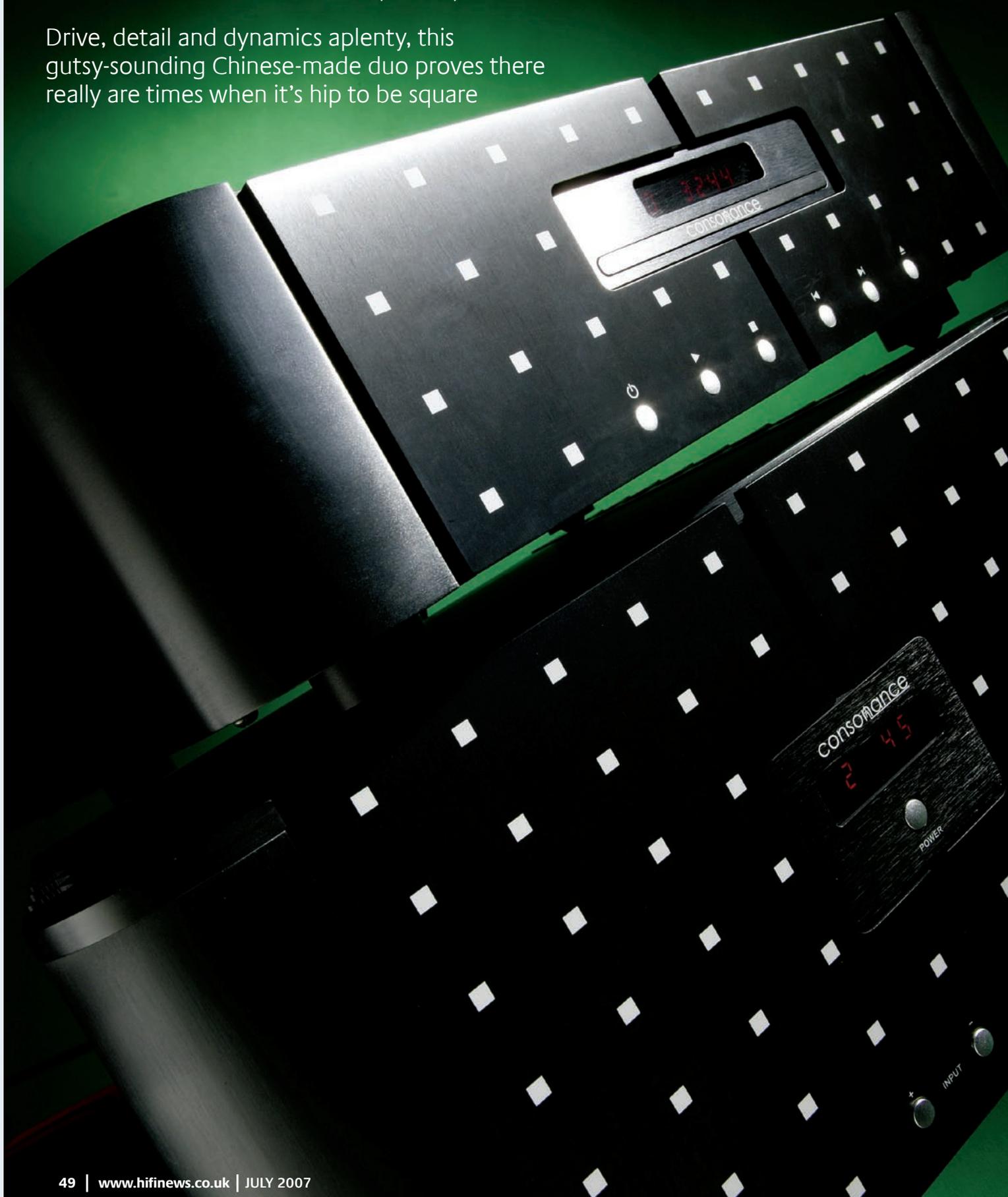


# Chasing the Dragon

**CONSONANCE FORBIDDEN CITY TURANDOT CD PLAYER (£1695)**  
**CALAF INTEGRATED AMPLIFIER (£1995)**

Drive, detail and dynamics aplenty, this gutsy-sounding Chinese-made duo proves there really are times when it's hip to be square



Tested by Ian Harris

The heavily studded doors to the Imperial Palace (or Forbidden City) in Beijing are an iconic cultural image, and it is refreshing that Consonance has chosen such an essentially Chinese title for its new premium range of solid-state electronics. While the appeal of the 'polka square' fascia will depend on the eye of the beholder, the black/silver scheme pictured here is restrained enough to blend in with more conventional-looking components. For those who really want to make a visual statement, an historically accurate red/silver finish is also available

Having previously reviewed two generations of Consonance valve amplifiers, I was curious to learn how well this duo would stack up in terms of construction as well as sonics. Historically, the legend 'Made in China' has not struck an entirely positive note within the European market place. However, the nascent Chinese hi-fi industry is sending out a very clear message that this most ferocious of Tiger economies is a fast learner.

**CHINESE PUZZLE**

Even the most cursory examination suggests that the construction of the Turandot CD player is a match for pretty much anything the high-end can offer. In true Chinese puzzle style, there are no visible fastenings, the unit consisting of interlocking panels of battleship



gauge aluminium. The overall impression is one of solid engineering and high quality detailing. On-unit controls are on the minimalistic side, being limited to power, play, stop, forward, back and open/close, while the supplied alloy system remote adds forward and reverse search and repeat functions. The smallest red LED display is bright and easily read, but the acceptance angle of the remote control signal is fairly narrow.

While lacking the Turandot's fastener-free top plate, the Calaf power amp also provides admirable levels of construction. Heat sinks are beautifully sculpted and, along with Classe-esque curved cheek pieces, lend the unit a solid yet undeniably stylish presence. Once more,

ABOVE: Curved cheek pieces lend the unit a solid yet stylish presence. Controls are sparse with play and track skip on the CD player and 'up and down' buttons for source and volume on the amplifier



**BEHIND THE STUDDED DOOR**

While the Forbidden City components are marketed under the Consonance brand in the UK, the parent company is, in fact, Opera Audio, based in Beijing. While Opera may be one of China's longest established high-end companies, by the time it entered the UK market the name Opera was being used by the established Italian loudspeaker.

Unlike 'European designed' competitors like Vincent, Opera handles all activities, from R&D to construction, from its Beijing headquarters. In fact, original founders Lui Zhao Hui and Ma Wei are still at the helm, while the company's product range has grown hugely since its incorporation in 1994. Early products were all valve amplifiers, but the company now also produces hybrid and solid-state amps, two distinct flavours of CD player (upsampling as well as the filterless 'Linear' range) plus the 'Droplet' turntable. It's a substantial product range, and an impressive testimony to the strength of the Chinese hi-fi industry.

*'Even at moderate levels, transients and dynamic peaks have a visceral quality'*

on-unit controls are relatively sparse with 'up and down' controls for source and volume the only additions to the central power button. Meanwhile, the rear panel is clear and uncluttered with one set of multi-way binding posts sitting alongside four single-ended RCA inputs, plus one set of XLR balanced.

**PREMIER PERFORMER**

First impression of the Turandot CD player was one of truly impressive musical flow. Listening to Julie London's 'Fly Me To The Moon', every nuance of this vocal-phrasing master class was precisely written. Her voice had a wonderful languorous quality, but crystalline instrumental transients and a toe-tapping reproduction of the track's myriad subtle micro-rhythms showed that this was not because the player was overly laidback in its presentation. As befits a player from a company best known for its valve amplification, there was also a real sense of presence to both vocals and instruments.

Nina Simone's 'I Put A Spell On You' confirmed the Turandot as a premier midrange performer, all the anguish and power of the vocal was present and

**AUDIO FILE**

CD player with single-ended and balanced (XLR) outputs. Two-channel integrated amplifier with one balanced and four unbalanced line inputs plus stereo pre outputs. Rated at 200W/8ohm

Price: £1695 (Turandot); £1995 (Calaf)

Made by: Opera Audio

Supplied by: Alium Audio

Telephone: 01273 325901

Web: www.aliumaudio.com



ABOVE: The rears of both units are uncluttered, the CD player sporting single-ended and balanced (XLR) outputs and the amp a single set of binding posts alongside four single-ended RCA inputs and one set of XLR balanced

correct, set against a huge instrumental backdrop. This time, there was the merest hint of warmth in the lower midrange and upper bass, but the staccato sax solo had real bite and, while the interpretation might not have displayed the ultimate in dynamics or detail, there was a real sense of balance to the sound, albeit with midrange very slightly to the fore.

On both these tracks, the orchestral backing demonstrated the Turandot's admirable spatial capabilities. Soundstage width was definitely in the premier league, and if the player lacked the ultimate depth of my reference Musical Fidelity Tri-Vista, there was a fine sense of image graduation with vocal, solo instruments and orchestral backing all occupying clearly discrete layers.

### HIGH TIMES

To check out high frequency performance I spun up Eva Cassidy's 'Time After Time', the combination of the soaring vocal and a slightly bright recording, mean that this CD is a harsh test for players that err towards the hyper-detailed. By contrast, the Turandot's reproduction was beautifully refined. Striking a very accomplished line between clarity and smoothness, if the player lacked the most forensic levels of information retrieval, it compensated in spades with its musical flow and impressive reproduction of transients.

Switching to something a little more upbeat, John Mellencamp's 'Paper and Fire' once again showed the Turandot to be a master of rhythm. This is a temporally complex piece, with a driving beat punctuated by laid-back country-rock flourishes.

On this track, there's a fine line between dulling the drive on the one hand and speeding over the detail on the other, but the Turandot executed a flawless balancing act, the player demonstrating an innate speed that allowed each flourish to mature fully without ever compromising rhythmic excitement. Meanwhile, bass performance showed plenty of weight, with an almost valve-like sense of texture.

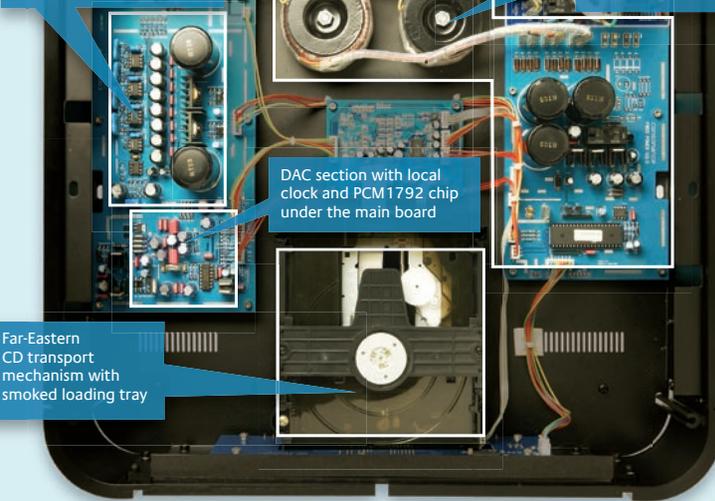
The substitution of my reference kW monoblocks with the Calaf integrated amplifier was an interesting experience. At normal listening levels, on dynamically undemanding material, the kW's are cruising along using, at most, a couple of percent of their total power. ↻

## CONSONANCE TURANDOT CD PLAYER / £1695

Hi-Fi news  
**LAB  
RESULTS**

Differential analogue filter and output stage based around high quality Burr-Brown op-amps. This stage includes independent power supply regulation

Separate mains transformers and multiple supply regulation for the transport servos and digital processing sections



DAC section with local clock and PCM1792 chip under the main board

Far-Eastern CD transport mechanism with smoked loading tray

### HI-FI NEWS LAB REPORT

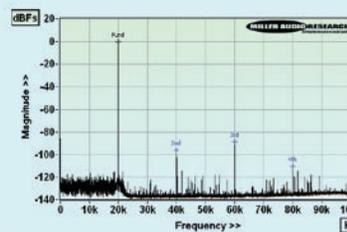
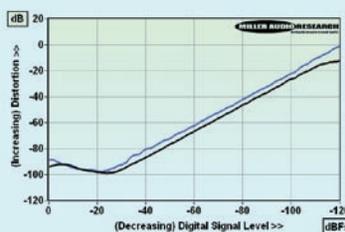
While the transport mechanism might not be as 'heavyweight' as the robust case design, nor its track selection as slick as the best available, the key building blocks of the Turandot remain of very high quality. The multiple linear, rather than switch-mode, power supplies are a step in the right direction as is Consonance's choice of Burr-Brown's PCM1792 DAC together with the partnering OPA627 op-amps in the final analogue stage. All this is reflected in the very consistent distortion trend (0.0035-0.004%) through bass, mid and high frequencies. Just look at how well matched the 1kHz (black) and 20kHz (blue) traces are in the graph below.

The player will deliver a full 4.35V through its balanced XLR outputs and benefits from a wide 110dB A-wtd S/N ratio, all assisting its low-level resolution

that varies by just  $\pm 0.2\text{dB}$  at  $-100\text{dBfs}$  and  $\pm 0.5\text{dB}$  at  $-110\text{dBfs}$  - not bad for a 16bit format with a 96dB dynamic range! Clock selection is not especially tight, as evidenced by the 150ppm error, but as I've mentioned before, this need not lead to high jitter. Indeed, at just 118psec, Consonance has reduced this digital distortion close to the theoretical minimum for a 16-bit J-test.

Ultrasonic noise is also well controlled, so the player will behave consistently, even with amplifiers that are susceptible to hash and noise outside of the audio range. The minor 'grassy' spikes visible either side of the harmonics on the graph below will not exert any subjective impact.

Full QC Suite Reports for both the Turandot and Calaf are available at [www.milleraudioresearch.com/avtech](http://www.milleraudioresearch.com/avtech). PM



ABOVE LEFT: Increasing distortion plotted against decreasing digital (recording) level at 1kHz (black trace) and 20kHz (blue trace)

ABOVE RIGHT: High res 20kHz spectrum showing 2nd, 3rd & 4th harmonics

### HI-FI NEWS SPECIFICATIONS

Maximum output level (balanced XLR connection)	4.35Vrms
A-wtd S/N Ratio	110dB
Distortion 1kHz, 0dBfs/-30dBfs	0.0035%/0.004%
Distortion 20kHz, 0dBfs	0.004%
Digital Jitter	118psec
Resolution @ -100dB	$\pm 0.2\text{dB}$
Stereo separation (20Hz-20kHz)	>101dB



Having said that, they never leave you in any doubt that you are listening to an extra-ordinary amplification device; voices and instruments have an almost uniquely solid in-room presence and, even at moderate levels, transients and dynamic peaks have a truly visceral quality. Plumbing in the Calaf, there was the expected mild contraction of soundstage proportions and a slight reduction in bass reach, but there was a similar sense of control, and there was no suggestion at all that my Martin Logan's bass drivers were losing touch with the panels in the cross-over zone (a big test for any moderately priced amplifier).

In the broadest of terms, it was clear that a less expensive amplifier was in place, but it was hard to conceive that the Calaf's performance was coming from an amp that cost around a tenth of the price of the kW/kWP combination.

Spinning up Curtis Mayfield's 'Pusherman', the multitude of percussive transients were of a truly explosive nature, the track uncovering an interesting duality to the amplifier's nature. While the Turandot's flowing musicality was still to the fore (in fact, so much so that I felt that the Calaf was actually contributing a modicum of warmth to the proceedings), the amplifier's iron grip and lightning transients provided an air of excitement which was totally free from spurious dynamic edge.

It could be that the most committed hard-rock acolytes would find the Calaf a touch soft-centred for their taste. Yet I found the combination of rhythmic speed and substantial weight worked very well with rock material.

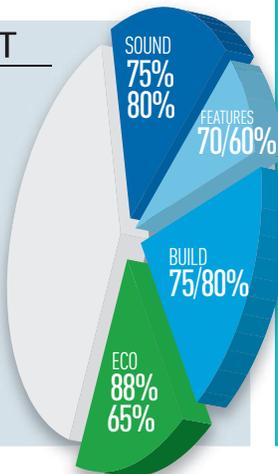
### TIME TO CRANK THE WICK

With a silent prayer that the absence of cars in my neighbour's drive also indicated an absence of neighbours, I proceeded to crank things up to try and find the amp's limits. As with many solid state amplifiers, a little volume did wonders for the Calaf's image solidity, with performers gaining a truly substantial in-room presence. The sound remained focused and coherent up until the point at which my moderate-sized listening room began to contribute strongly (which was well into the 'discomfort' zone).

Thanks partly to its bass performance, which was both weighty and extended, the Calaf sounded more powerful than I'd have expected. Indeed, if the amplifier did have a character, it was one of very slight warmth in the lower frequencies, the most challenging of bass lines revealing a lack of the last iota of speed, but this was mild enough not to detract from the pairing's overall rhythmic excellence. ☺

### HI-FI NEWS VERDICT

The Turandot CD player is a resolutely musical performer. It may lack that nth degree of dynamic impact, but offers a well judged balance between weight, speed and detail. Yet it is the Calaf amp that is the star here. Apart from a slight warmth in the bass, it is highly transparent, and in terms of grip per pound is a premier league performer.



## CONSONANCE CALAF INTEGRATED AMP / £1995

Hi-fi news  
**LAB RESULTS**

Each channel's main power supply includes a bank of eight 10,000µF electrolytic reservoir capacitors

Both left and right channels are built as mono power amplifiers, each with seven pairs of high-current transistors mounted onto a thick copper bus bar. This, in turn, is bolted onto the extruded heatsinking that's visible either side of the amplifier

Massive toroidal transformer with independent secondary windings for each channel

Microprocessor board handling the display and remote control commands

There are independent preamplifier sections for each channel and both of these have their own power supplies

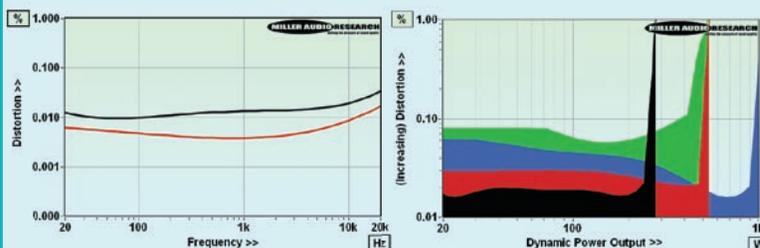
### HI-FI NEWS LAB REPORT

Make no mistake, the Calaf is as beefy as its massive enclosure would suggest, easily besting its 200W specification with a full 2x270W and 2x500W into 8 and 4ohm. Incidentally, during these tests, its power consumption increased from 80W at idle to 850W and 1.5kW at full output into 8/4ohm. Otherwise, the Calaf's +2.7dB boost in power output between 8 and 4ohm is very close to the theoretical +3dB doubling achievable with an 'infinitely stiff' power supply. It also explains why there's very little headroom available beyond this under dynamic or music-like conditions.

For example, at 20msec duration and <1% distortion, it's possible to squeeze 280W and 545W from the Calaf into 8/4ohm. No great advantage over its continuous output, granted, but when you consider that it nearly doubles again

to 1040W into 2ohm, then its tolerance of difficult speakers becomes very obvious indeed. This iron-grip is assisted by a low 0.005-0.02ohm source impedance up to 100Hz, benefitting its bass control and extension (the response extends from 20Hz-100Hz with a drop of just -0.2dB).

Distortion is low right across the board and very consistent from 1W to 250W, but there's a bigger difference between the left and right channels. While the right hovers between 0.0038-0.017%, the left is uniformly higher at 0.01-0.034% - unusual bearing in mind the symmetry of the design. The DC offset is also higher at 40mV on the left, though not worryingly so. Only the 78dB A-wtd S/N ratio is slightly 'below average' for an integrated amp, otherwise the Calaf emerges with an impressively clean bill of health. PM



ABOVE LEFT: Distortion plotted against frequency for both left (black trace) and right (red trace) channels. ABOVE RIGHT: Dynamic power output into 8ohm (black), 4ohm (red), 2ohm (blue) and 1ohm (green, showing limiting)

### HI-FI NEWS SPECIFICATIONS

Power Output, 8/4ohm (<1% THD)	270W/500W
Dynamic Power, 8/4/2/1ohm	280W/545W/1040W/530W
Output Impedance (20Hz-20kHz)	0.005-0.025ohm
Frequency Response (20Hz-100kHz)	+0.0dB to -0.2dB
Input Sensitivity (for 0dBW/full output)	20mV/300mV
A-wtd S/N ratio (for 0dBW/full output)	78.2dB/102.5dB
Distortion (10W/8ohm, 20Hz-20kHz)	0.004-0.017%