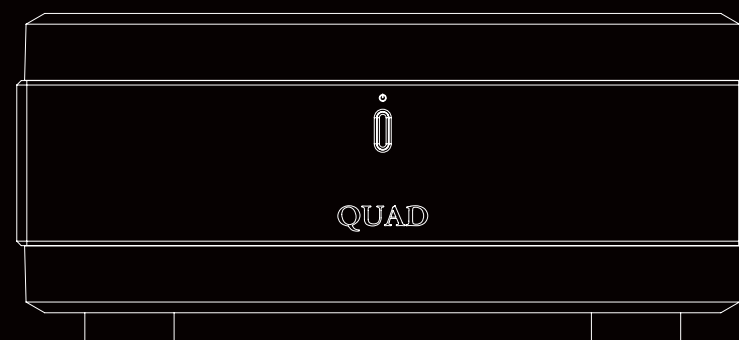


The Quad QSP Amplifier is the latest addition to a long line of the highly reputed QUAD Amplifiers. Although we have made every effort to preserve Quad's classic philosophy when designing the QUAD QSP Amplifier, it incorporates some of the most recent findings in Analogue Engineering.

The QSP Amplifier uses QUAD's patented current dumping technology, developed by QUAD's founder Peter Walker, and is one of the finest audio amplifiers available. One of the few truly innovative amplifier topologies, it is essentially a combination of two amplifiers to give the best of both in each channel. With 140W per channel into an 8 ohm load, and plenty more into lower impedances ensures that there is ample power into a wide range of speakers, including the QUAD ESL range. With power and current to spare, the result is Class A amplifier clarity and sweetness with the grip and control of the best class AB amplifiers.



## SPECIFICATIONS

Model	QSP Stereo Amplifier
Power Output	140W into 8Ω (<0.01% THD at 1kHz)
Total Harmonic Distortion (THD)	<0.004% (100W at 1kHz) <0.025% (100W at 20Hz - 20kHz)
Output Impedance	0.05Ω in parallel with 1.5mH
Frequency Response	-1.0dB at 1Hz and 55kHz, ref. 1kHz
Power Response	-0.25dB at 20Hz and 20kHz, ref. 1kHz
Input Sensitivity	760mV (RCA line input)
Input Impedance	10kΩ (balanced) 15kΩ (unbalanced)
Crosstalk	-90dB at 1kHz (input loaded with 600Ω)
Signal-to-Noise Ratio (ref. 140 Watts)	108dB (20kHz measurement bandwidth)
Stability	Unconditional with any load and input
Power Requirements	230V ~ 50-60Hz 115V ~ 50-60Hz 100V ~ 50-60Hz
Standard Accessories	Power cord, User manual, Warranty Card, Ampbus cable
Dimensions (W × H × D)	328 × 149 × 270 (mm)
Net Weight	12.5kg
Gross Weight	14kg

\*The right is reserved to alter performance, specification and appearance as required.



Hi-Fi News - April 2012



# QSP Stereo Power Amplifier

QUAD

IAG House, Sovereign Court, Ermine Business Park, Huntingdon, Cambs, PE29 6XU, UK  
Tel: +44(0)1480 447700 Fax: +44(0)1480 431767 <http://www.quad-hifi.co.uk>  
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Quad is a member of the International Audio Group. Code: QH12-BR0003

QUAD

*the closest approach to the original sound*

## AMPLIFIER

Stereo power amplifier. Rated at 140W/8ohm  
Made by: International Audio Group, China  
Supplied by: IAG Ltd, Cambs  
Telephone: 01480 447700  
Web: www.quad-hifi.co.uk; www.internationalaudiogroup.com

AUDIO  
FILE

# Quad Elite QSP (£1200)

Quad's unsung 909 has been replaced with a nearly-identical, subtly improved model: is the Elite QSP a worthy successor to a line born of the legendary 405?

Review: **Ken Kessler Lab: Paul Miller**

Modesty forbids me for taking credit, but a colleague with insider knowledge of the second-hand hi-fi market said that the Quad 909 stereo power amp has shot up in demand, if not in price. *Mea culpa*, perhaps, as I did suggest in these pages last June that it was something we should not have taken for granted. It was, even at the final retail figure of £999, a stupendous bargain.

By then, however, it was – like The Eagles once sang – already gone, though some could still be found in the shops, with a few reduced to as little as £799. What a gift! To recap: it was a circa 140W powerhouse descending directly from the current-dumping 405 of 1975. It was beautifully made, compact, dependable, powerful and genuinely great-sounding. In other words, it upheld every one of the traditions of solid-state Quad power amps back to the 303.

When I wrote the 909's obituary, we were told not to despair, for its replacement was waiting in the wings, to follow the initial launch of the Elite range. Now it is here, and – like the next model in the Porsche 911 family or Leica M-Series – it's more of the same, but improved: instantly recognisable, addressing the same product description or niche, and above all showing the upside of evolutionary improvements. (Before the Porsche-philies among you tell me of one or two missteps in the 911's lineage, or the Leica-istas remind me of the fairly/unfairly-maligned M5, I do realise that replacements can often prove to be retrograde steps. This is not one of them.)

QSP stands for 'Quad Stereo Power' – I'd have preferred a more traditional, three-digit-with-a-zero-in-the-middle designation, but, logically, '909' would have to have been followed by a clumsy '10010', so QSP will have to do. Name

**RIGHT:** One large toroidal transformer, with multiple secondary windings, feeds separate L/R power supplies. The current-dumping output stages are concealed by alloy heatsinking

aside, there is no mistaking what the charcoal-and-black QSP replaces.

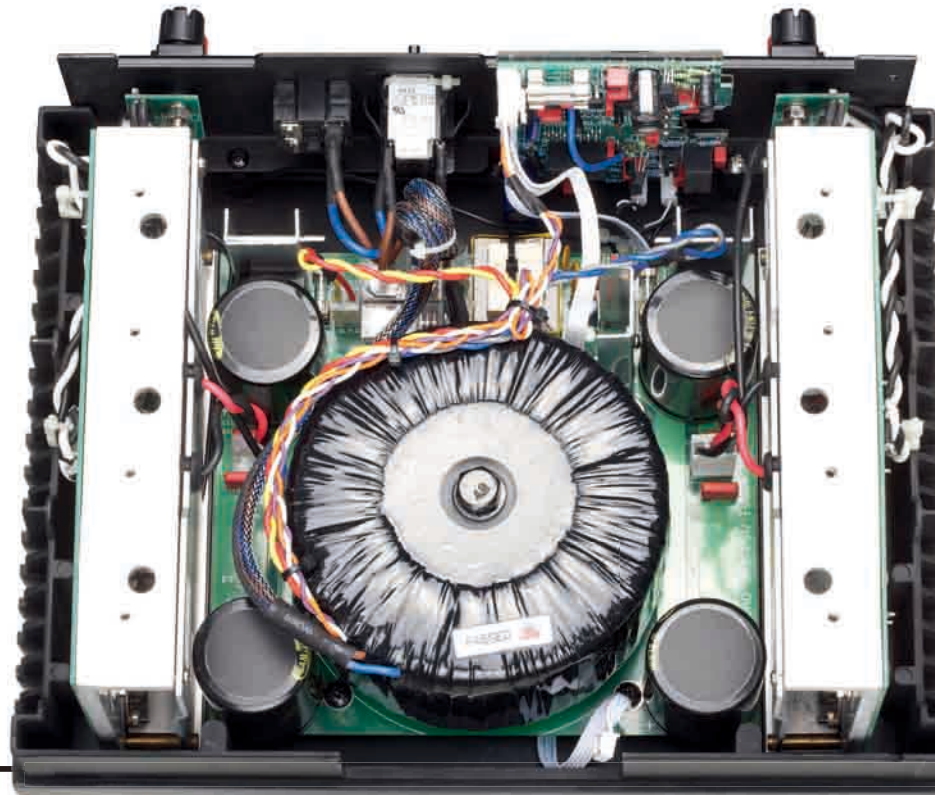
It remains compact, subtly handsome and nicely chunky, its weight a reassuring 12.5kg. Minimalism determines its lack of external distractions – aside from the addition of a much-needed front panel on/off switch (though the main power switch stays on the back), the fascia contains only the Quad logo and an LED that goes from red in standby to white when powered.

### IMPROVED SCREENING

No surprises at the rear, as the back panel's accoutrements are identical to those of the 909: multi-way binding posts, QUADlink in-and-out plus standard phono inputs, IEC mains in, a reset button should the protection circuitry kick in, and a rocker for primary power-on/off. The only change to the back is that it is now flush to the cabinet edges; on the 909, the socketry was in a slight recess, and therefore more awkward to access.

Any changes that might alter performance take place inside, given that the external tidying is wholly aesthetic. According to the manufacturer, the areas on which they focused in the process of improving the sweet little 909 included a study of the internal screening techniques to improve crosstalk and 'the flow of magnetic fields'. Inside, then, are revised PCB layouts, better screening for the signal paths, a custom-made transformer and improved shielding against mains-borne interference. And sure enough, side-by-side comparisons prove the QSP to be a tad quieter than its daddy.

One improvement that will be welcomed by those who do choose to trade in their 909s for QSPs is lower electricity consumption when idle. I was always bothered by the warmth of the 909 when in standby. The Elite QSP in standby is said to consume less than one watt. This 'sleeping' mode is accessed by the front panel button for those who either don't



have Quad preamps, or who do have Quad models including both the new Elite units and earlier QUADlink-equipped models like the CDP II, but who prefer not to use the QUADlink proprietary cable system.

One is advised to use it because QUADlink carries both balanced audio and control signals. That translates into better sound and greater convenience. If you do use QUADlink, on/off for the QSP is solely through the Elite or 99 preamp or CD player/preamp, or their remotes. Cable fanatics will stick to the RCA phono connection so they can dabble, etc.

### AN ADDED FRISSON

Housed in a cast aluminium chassis, the Elite QSP is specified as 140W/ch into 8ohm and is also conceived as a natural match for the company's electrostatics. I simply slotted it into my pre-existing set-up of 99 CDP II, 99 Preamp and 909, driving LS3/5As, as well as listening with the Audio Research REF5 preamp, feeds from assorted

### CURRENT DUMPING

First demonstrated in 1975, Peter Walker's 'Current Dumping' or 'feed forward' output stage topology would go on to define Quad's famous 405 power amp and stir a debate about its efficacy that continues in some quarters to this day. In many respects, and by combining high efficiency with low distortion, the original current dumping amp was decades ahead of today's 'green' offerings. This win-win is achieved by combining a relatively blunt but high power Class B amp with a very low power but equally low distortion Class A line amp that defines the overall linearity of the circuit. Distortion is reduced in conventional fashion by a feedback loop around both the line amp and Class B current dumpers, the compensated output of the former driving the latter. However, performance is improved still further by delivering a portion of this signal directly to the output (hence 'feed forward') via a passive bridge network, theoretically cancelling any residual distortion. Our lab tests show that the QSP's current dumping output offers a low and unchanging distortion from very low to high power outputs – impossible from a conventional zero-bias Class B amp. PM

iPods via Cambridge Audio digital devices, and with other speakers including Wilson Sophia 3s and Tannoy Mini Autographs.

Let's get this out of the way: not only is the QSP able to drive all of the above, it even seems to me a touch 'louder' than the 909 – though that may strike some as preposterous given the nearly identical Lab Report measurements. Using the admittedly coarse and arbitrary preamps' digital read-outs as indicators of dialling in the playback levels, I set them one or two 'units' lower at certain points in the scale. It's not significant enough to suggest something stupid like, 'The QSP blows away the 909', because it obviously doesn't. But there does appear to be a teensy change in the way the gain increases.

Sonically, you really do need to hear the QSP side-by-side with a 909 to gauge any

**ABOVE:** A logical and wholly appropriate evolution from the styling of the 909, the nearly identical QSP also adds a front panel button for placing the unit in standby mode

gains, for they are truly subtle. With Keb' Mo's bottleneck guitarwork on his debut release (I used the MoFi SACD) there was a minuscule shift between the emphasis on metallic resonance and pure liquidity. Testing the openings of 'Come On In My Kitchen' and 'She Just Wants To Dance' to hear how the balance tipped: the 909 was more fluid, the QSP more detailed.

Having heard enough live bottleneck blues to know that there's an even greater difference between makes of guitar or strings than I heard there, I would not describe it as 'game-changing'. For the truly fastidious, it's more a matter of personal preference and system synergy.

Less subtle is the same disc's 'Am I Wrong', with its marvellous foot-stomping lower register beneath the twanging guitar and rich vocals. It's the foundation of the track, the rhythm and mass all provided by a *Jaws*-like ominousness. Both amps shared the same extension and mass, but the QSP had marginally tighter control of the decay. In either case, the sound was rewarding, convincing and downright chilling, but one suspects that playback through huge systems with a brace of 12in woofers per side might benefit from the added command of the QSP.

As most of my listening for pleasure (rather than reviewing) involves LS3/5As in the near-field, and because I thrive on vocals, I was mainly concerned with

## AMPLIFIER



**ABOVE:** Offering precisely the same inputs and layout as the 909, the QSP changes the rear panel only by doing away with its predecessor's recessed centre section

whether or not the QSP preserved the midband of the 909. Nothing beats an LS3/5A 30in away from you, acting like headphones, to ensure that you hear every nuance. Hoary old Tony Bennett mono material from the 1950s, followed by the brand-new *Duets II* (with Amy Winehouse's final performance), revealed how the years have affected the last of the great Italo-American crooners.

Needless to say, his voice is now richer, more textured, his delivery less histrionic. I love both vintages – I'm not sure he can still deliver the operatic stretches of, say, 'Boulevard Of Broken Dreams', but he has no problem stealing the show from all of his much younger collaborators. Like the 909, the QSP had no trouble both contrasting and meshing the interplay between Bennett and Willie Nelson, Sheryl Crow, a hyper-active Aretha Franklin and the rest. Sheer class, the ultra-quiet moments highlighting the QSP's closer approximation of 'silent running' than its forebear.

### A WHISPER MORE AIR

It's clear that Ms Winehouse once had the potential to be a giant of Nina/Dinah/Etta proportion. As she and Bennett were in the same room when they recorded, unlike many of Sinatra's so-called 'duets', it's equally clear that the old pro was impressed by this diamond-in-the-rough and her uncanny impression of Billie Holiday. The 909 captured the interplay beautifully, their voices contrasted by utterly disparate textures. Moving to the QSP, a whisper of more air, more detail could be detected. The net effect

depressed me even further about the singer's premature demise.

Needing some cheering up, I turned to the Youngbloods' *Greatest Hits*, specifically 'The Wine Song'. It features a delightfully watery electric piano stage left, twanging guitar stage right and Jesse Colin Young's stellar vocals inbetween. Lots going on, each in its own space, complex multi-voice backing... it could so easily turn chaotic. The QSP held it together, right to the closing cowbell. Coherent? I have no idea how many tracks were used in its creation, but the sonic event balanced the precise positioning of the various instruments and voices, with wildly varying textures, and nothing jarred.

For me, that's the ideal situation if one wants both coherence and continuity, allied to the recovery of microscopic detail – it allows you to either drift off into musical bliss or to focus with the intensity of, well, an audiophile. ☺

### HI-FI NEWS VERDICT

If there can be a 'perfect replacement' for a departed model, then the move from 909 to QSP is it. One might argue that the 909's colour scheme was more fetching, but that's trivial. I'd buy one of these in a heartbeat if I needed a lot of power, smooth sound, and reliability, and had a budget of under £1500. And I'd spend the £300 I'd saved on a 1988 Sassicaia to celebrate the wisdom of my purchase.

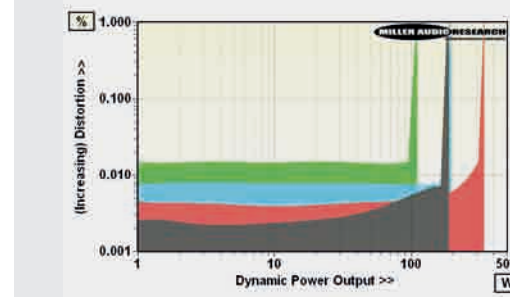
Sound Quality: 83%  
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## LAB REPORT

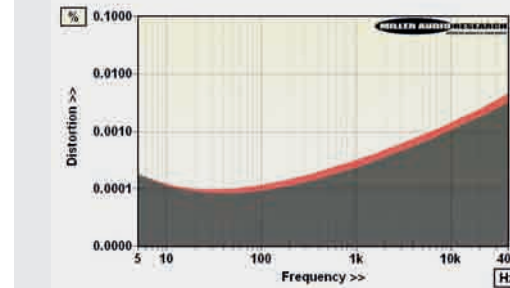
### QUAD ELITE QSP (£1200)

In answer to the question on the lips of every audiophile 'how does the QSP compare to the 909?', I'm bound to say 'very closely indeed'. In performance terms, the two are very similar, with the QSP behaving like a slightly polished 909 albeit offering an identical +33.1dB overall gain. I compared the QC Suite reports for both [the 909 measured in Oct '07] with the following observations – power output 155W/260W versus 155W/255W (8/4ohm, 909 vs. QSP) and dynamic power output 155W/85W versus 195W/110W (2/1ohm) indicating that the QSP is just slightly more load tolerant if no more powerful in practice [see Graph 1, below]. Then there's the 909's characteristically rolled-off frequency response that hit -0.6dB/20kHz and -7.1dB/100kHz. Is the QSP a flatter 'widebandwidth' design? Not a chance as the -0.65dB/20kHz to -8.2dB/100kHz could barely be closer despite it enjoying a slightly lower output impedance of ~0.015ohm vs. ~0.022ohm.

Of course, if the 909 was not 'broken' then the QSP need not seek to be a 'fix', simply a refinement. Once again we see that wonderfully consistent distortion trend, locked to a mere ~0.0025% from 1W to 140W, but lower than the equally consistent ~0.004% achieved by the 909. Versus frequency, the QSP also offers slightly lower distortion, 0.0007-0.019% from 20Hz-20kHz [see Graph 2, below] compared with 0.002-0.075% managed by the 909. Noise, too, is appreciably lower through the QSP which delivers an A-wtd S/N ratio of 89.3dB (or 111dB at 140W) versus the 909's 83dB (re. 0dBW). Readers are invited to view an in-depth QC Suite report for Quad's QSP power amplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



ABOVE: Dynamic power versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads



ABOVE: Distortion versus extended frequency from 5Hz-40kHz re. 10W/8ohm, left (black) and right (red)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	155W / 255W
Dynamic power (<1% THD, 8/4/2/1ohm)	190W / 330W / 195W / 110W
Output impedance (20Hz-20kHz)	0.013-0.048ohm
Frequency response (20Hz-100kHz)	+0.01dB to -8.2dB
Input sensitivity (for 0dBW/140W)	63mV / 760mV (balanced)
A-wtd S/N ratio (re. 0dBW/140W)	89.3dB / 110.8dB
Distortion (20Hz-20kHz, 10W)	0.0007-0.019%
Power consumption (idle/Rated o/p)	36W/485W (1W standby)
Dimensions (VWHD)	328x149x269mm