

## INTEGRATED AMPLIFIER

Integrated amplifier. Rated at 120W/8ohm  
Made by: Luxman Corp., Japan  
Supplied by: IAG (International Audio Group), UK  
Telephone: 01480 447700  
Web: www.iaguk.com; www.luxman.com  
Price: £10,999

# AUDIO FILE

# Luxman L-509Z

Taking its cues from the industrial design and Darlington topology of the L-509X, the latest L-509Z variant demonstrates how subtle revisions can exert a big sonic impact  
Review: **Ken Kessler Lab: Paul Miller**

At first glance, since they look like twins, you might wonder what Luxman has done to the L-509X integrated amplifier [HFN Jan '18] to justify the Z suffix. The pesky price increase from £8500 to £10,999 reflects six years of inflation and recent world turbulence, but don't be fooled by nearly identical looks. The devil is in the details.

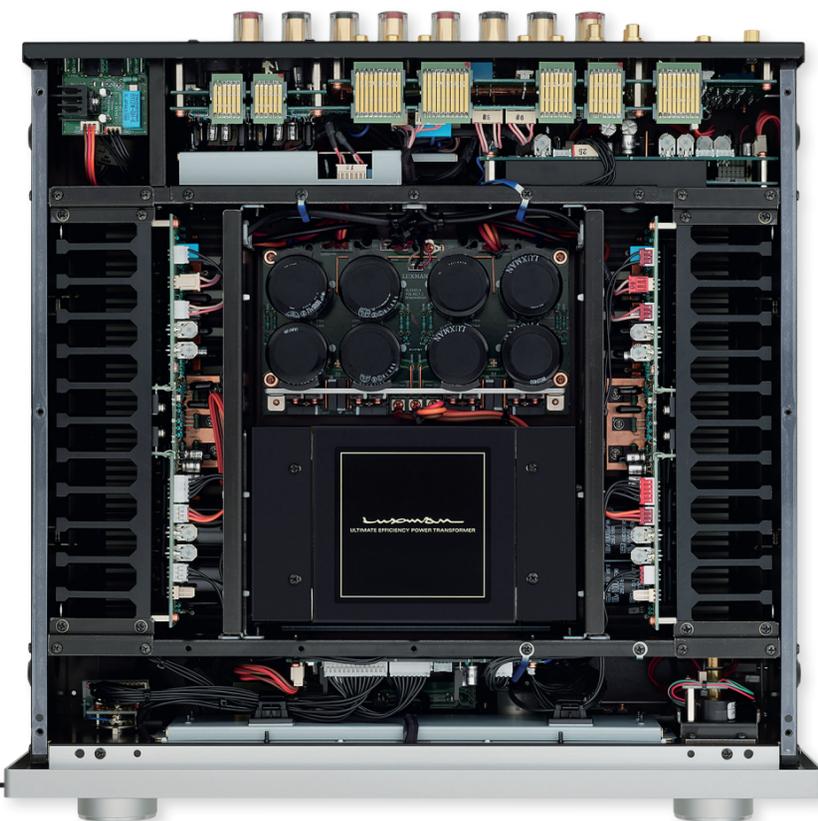
PM explains the internal changes which impact favourably on the performance [see boxout, p53] but aside from the revised approach to feedback and other circuit tweaks, Luxman has also initiated a number of upgrades to the features. The eagle-eyed will notice that the tone controls now include 'midrange' where the predecessor only provided bass and treble. Similarly, between the VU meters is now a two-digit display to provide a digital read-out of the level while, below the meters, is a row of lights to indicate the various functions.

### BLASTER WHITE?

These include 'Separate' (to indicate that the L-509Z's preamp and power amp stages have been parted), Standby and Straight Line, as well as three others – Mono, Subsonic and Loudness – which are activated by the remote control [see p55]. This aluminium affair handles about every other function plus basic transport commands for a Luxman disc player.

Other additions to earn the 'Z' include mute and the facility for two pairs of headphones instead of just one (a 3.5mm socket for 'Phones-1' and 6.35mm for 'Phones-2'). Found on the rear panel are higher-grade 20mm 'cinch' RCA sockets for Line 2, like the hefty gold-plated affairs fitted only on Line 1 on the L-509X, while the remaining RCAs are 18mm. Additionally, there are now in/out trigger sockets for simultaneous switch-on of other components in the system.

**RIGHT:** Large 600VA EI transformer feeds mono power supplies and L/R audio stages, the preamp featuring an 88-step LECUA-EX volume control feeding a three-stage parallel-output power amp mounted on huge, finned heatsinks



What remains is similar to the L-509X, an equally big beast weighing 29.3kg vs the L-509Z's 29.4kg. The finish is called 'Blaster White', but the less eccentric might just call it 'silver'. The front panel is configured for self-explanatory operation, with the massive, main rotary controls flanking the prominent meters. The left knob chooses between four single-ended line inputs, two balanced XLR inputs, or phono, while the right deals with levels.

Below are the on/off button, the aforementioned 'Separate' button, and a rotary to choose MM and high- or low-output MC cartridges. The next rotary selects either or both of two pairs of speakers, followed by the Bass,

Middle, Treble and Balance controls. Lastly are the Line Straight bypass control, Mute and the headphone outputs.

### SPACE-SAVER

The gut reaction of many audiophiles spending this much money would be to opt

for separates rather than an integrated amplifier. While I agree that it makes sense in purist terms, there is undeniable charm in a unit like the L-509Z, where a host of inputs eliminates any sense of restriction or compromise and the one-

box design saves space and AC outlets. Be aware, though, that despite current trends the L-509Z does not have a built-in DAC or network streaming. As PM often notes,

*'It could have been voiced by the tube boffins back in Japan'*



**LEFT:** Similar to the L-509X, the Z's front panel is ruled by large illuminated meters, now with a numeric readout inbetween. Input rotary lies to the left, volume to the right, and optional features are in a row, below

digital sources typically sound better when they are outside of, and away from, the amplification. As excellent DACs are now so inexpensive, it's not an issue. More to the point, a number of CD players also have inputs for sharing their internal DACs – my 35-year-old Marantz CD12/DA12 did so a lifetime ago – so this is no hardship.

Two other aspects of the L-509Z also appeal to my desire for a simpler life. The first is the LECUA-EX volume control as found on Luxman's £16,000 C-10X preamp. This has remarkable fine-tuning capabilities, whether using the remote or manually twisting the dial. You really do get to set exactly the level you want, which is crucial when listening at soft volumes.

### ANALOGUE RULES

On to the listening, which revealed the other element which will please those tired of nests of cables – the L-509Z's MM/MC phono section. As I started the listening session with vinyl, this deserves

emphatic praise because it's the exception to the rule stated above, about preferring outboard components to built-in stages.

Any phono section with only three settings might seem limiting. In the L-509Z, they are the standard 47kohm for moving-magnets, with 40ohm and 100ohm for moving-coils. (The L-509X, by the way, only had a 100ohm setting for MC, so that's another L-509Z bonus.) Yet considering how the vast majority of MCs work perfectly well at 100ohm [see p57], and that both of the MC settings yielded more than enough output for the various cartridges I used, I can't imagine any dissatisfaction with the Luxman's MC gain.

It was hard-bop jazz via a tight quartet which first made me appreciate the L-509Z's freedom from solid-state edge or harshness, in particular both Herbie Hancock's piano and Joe Henderson's sax on the latter's *Power To The People* [Milestone/Craft CR00655]. As I started the listening session with vinyl, this deserves

for, a rapidity to the transient attacks which spoke of the amplifier's speed and precision. Given that most of my listening was through easy-to-drive speakers, heft, mass and SPLs were never a concern while life-like levels were always easily achieved. Of course, reverting to LS3/5As meant keeping an eye on the decibels, but even they benefitted from this amplifier's competence and composure.

### IN THE RIGHT PLACE

What surprised me the most were the last bars of the last track on Henderson's LP, the 'Foresight And Afterthought' suite. It was a bass fade-out, so smooth and consistent and delicate that I was reminded, too, of why vinyl still trumps digital. But then I had one of those *volte-face* moments thanks to Dr John's *In The Right Place* SACD [Analogue Productions CAPA006SA].

Where was the digital edginess, the lack of air? So mellow, open and spacious was the sound that I had to try two

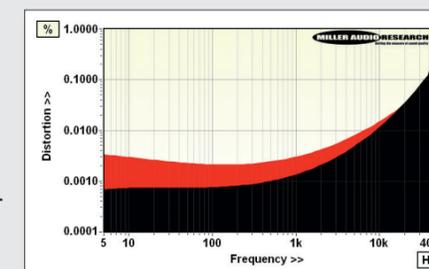
### LUXMAN'S 'LIFES' STYLE

Luxman's website ([www.luxman.com/product/detail.php?id=45](http://www.luxman.com/product/detail.php?id=45)) tells us that the compensation regime used in its last few generations of amplifiers – ODNF (Only Distortion Negative Feedback) – had become complex, arguably too complex, in its execution, the implication being that a simpler and more elegant feedback topology might reap some sonic benefit. Enter LIFES (Luxman Integrated Feedback Engine System) which, it says, 'defines an amplification feedback engine blueprint for our next generation of components'. We know that this approach is nested within the preamp and power amp sections of the L-509Z rather than applied globally but this, in itself, is not unusual.

Fortunately while our independent measurements [see Lab Report, p55] reveal very little significant change in either the gain, S/N or power output of the L-509Z versus the older L-509X (aside from a slightly more conservative approach to short-circuit protection), we can see exactly how Luxman's 'tweaked' feedback network has altered the balance of distortion and, quite possibly, one aspect of the amplifier's tonal 'colour' [inset Graph shows L-509X, red; L-509Z, black].

As a matter of general principle, negative (regenerative) feedback is applied to reduce the open-loop gain of an amplifier, suppressing noise and distortion proportionally.

**RIGHT:** Distortion vs. frequency 10W/8ohm for previous and new generation of '509 amplifier (L-509X, red; and L-509Z, black)



For example, 70dB of feedback applied to an amplifier with 100dB of open-loop gain yields a useable, closed-loop gain of 30dB with a reduction in noise and THD of over 3100x (or 70dB, where an open-loop distortion of 5% would be reduced to 0.0016%). In practice the open-loop response of an amplifier falls with frequency and so the ratio of open-loop gain versus closed-loop gain – the amount of feedback applied – must fall with frequency. Thus, distortion typically increases at higher frequencies. Luxman's engineers have clearly revisited this juggling act between the L-509X and L-509Z, and have 'tuned' the newcomer differently. PM



**ABOVE:** As seen on the L-509X but trading a tape monitor output for 12V trigger automation. MM/MC phono is retained alongside six line-ins (four on RCAs, two on XLRs), two pre-outs/a power amp in, governed via a 'separate' button on the fascia

different players born 20 years apart and two DACs of wildly different vintages – 1995 and 2024 – to make sure it was not the front-end nor the SACD format in general that were responsible for the silkiness. Nope: the L-509Z is a seductive powerhouse that could have been voiced by the boffins back in Japan who tune the company's valve products. Dr John's piano had all the richness and ringing worthy of a New Orleans maestro, while his heavily textured vocals were nasal and gritty in equal measure.

### MONO MAESTRO

Surprise followed surprise, a series of revelations even with familiar material. The Paul Butterfield Band's eponymous 1965 debut [Music On Vinyl MOVLP823] is the opposite of Joe Henderson's album, all raw, fiery blues, and Luxman's L-509Z endowed the set – recorded with some haste to capture the live feel – with the most open soundstage one could desire, equal to how a small jazz ensemble fills a room.

Better still were the positions of the two main instruments – Butterfield's blues harp and Mike Bloomfield's guitar, as if positioned on their own plane, developing a true 3D sound with depth and

substance. That said, I could not have predicted this amp's mono reproduction. I have heard Ben E. King's 'Stand By Me' countless times, but on the new

**LEFT:** Luxman's RA-17A system remote covers off input, meter options, volume, mute, subsonic/ loudness filters and tone defeat



mono 'Atlantic 75' pressing of *Don't Play That Song!* [Atco RCV1 142] the soundstage was so rounded and full that I thought they had mislabelled the sleeve. Maybe Phil Spector was onto something. The L-509Z made the gap between mono and stereo somehow meaningless.

### SIT BACK AND RELAX

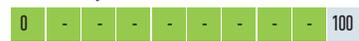
If I were to meet the following criteria – aspiring to own no-nonsense but also no-compromise amplification and in possession of £11k – this integrated amp would be on my shortlist. There are separates with more slam, more forcefulness. The space-poor could argue for an onboard DAC. I even understand those who crave ultra-exclusive esoterica from companies with two employees and a penchant for quirkiness and zero visibility.

Conversely, I appreciate how some music lovers need stability, and will succumb to the appeal of the more established houses like the 99-year-old Luxman. But neither stance matters once you switch on this absolute honey of an amp. How so? Because the peace of mind the absurdly melodious L-509Z imparts allows you to do something no self-immolating amp can do. It lets you relax... to just enjoy the music. ☺

### HI-FI NEWS VERDICT

Purists will hate me for citing the 'wrong' reasons for loving Luxman's L-509Z, but it's valid – this amplifier oozes competence in every way. Built like a Leica camera, everything works without fuss. It's feature-laden, accepts as many sources as a sane person needs, and it's 'analogue' in the truest sense: just line and phono inputs, with digital an add-on. Oops, I nearly forgot... the sound is utterly sublime.

Sound Quality: 88%

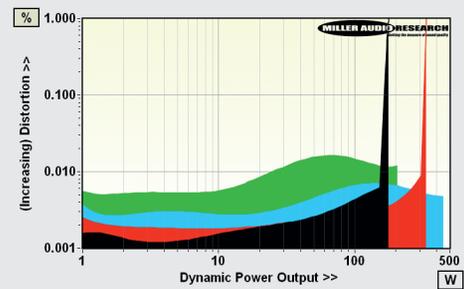


## LAB REPORT

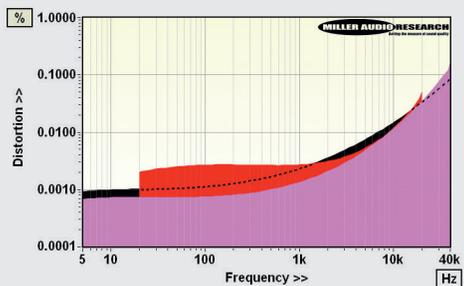
### LUXMAN L-509Z

While our tests of Luxman's L-509X [HFN Jan '18] suggested a marked evolution over its predecessor, the L-590AXII [HFN Apr '16], the differences between the former and its successor – the L-509Z reviewed here – are best posted under the heading of a 'mild fettle'. The +43.5dB overall gain is unchanged as is the 85.6dB A-wtd S/N ratio (re. 0dBW) and power into 8/4ohm loads. For example, the L-509X delivered 2x155W/8ohm and 2x255W/4ohm with a dynamic output of 183W, 342W and 507W into 8, 4 and 2ohm, respectively, and limited by protection to ~300W/1ohm (16.7A). This compares with 2x152W/8ohm and 2x255W/4ohm from the newer L-509Z which has sufficient headroom for 178W and 335W into 8 and 4ohm loads under dynamic conditions but with tighter protection to 449W and 207W (14.4A) into the lowest 2 and 1ohm loads [see Graph 1, below].

What of distortion and Luxman's new 'LIFES' compensation regime [see boxout, p53]? Here's where we see the refinement – the L-509Z's distortion remains far steadier versus power output at ~0.002%/1kHz from 1W to the rated 120W while, versus frequency, THD is reduced from 0.0025%/20Hz to 0.00075%/20Hz ('X' vs. 'Z') and from 0.0035%/1kHz to 0.0016%/1kHz ('X' vs. 'Z') before closing to 0.035%/20kHz (both 'X' and 'Z'), all at 10W/8ohm [see Graph 2, below]. Any redistribution of feedback looks not to extend to the final output stage because its source impedance is identical at 0.021-0.052ohm (20Hz-20kHz) just as the response shows only the mildest uptick at ultrasonic freqs. (-3.2dB vs. -4.6dB/100kHz, 'Z' vs. 'X'). Stereo separation can provide an indication of changes to layout (capacitive coupling) but, again, this is unchanged at 82dB/1kHz and 60dB/20kHz. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 14.4A



**ABOVE:** Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 100W, red)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	152W / 255W
Dynamic power (<1% THD, 8/4/2/1ohm)	178W / 335W / 449W / 207W
Output imp. (20Hz-20kHz/100kHz)	0.021-0.052ohm / 0.45ohm
Frequency resp. (20Hz-20kHz/100kHz)	-0.03dB to -0.2dB / -3.1dB
Input sensitivity (for 0dBW/120W)	19mV / 210mV (balanced in)
A-wtd S/N ratio (re. 0dBW/120W)	85.6dB / 106.3dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.00075-0.035%
Power consumption (Idle/Rated o/p)	100W / 429W (1W standby)
Dimensions (WHD) / Weight	440x193x463mm / 29.4kg