

MBL Corona Line C51 (£7500)

Packing a mighty Class D punch, this integrated amp forms the heart of MBL's latest Corona Line electronics – designed to make extreme high-end audio a little less costly
Review: John Bamford Lab: Paul Miller

Regular readers will recognise the distinctive form of this Corona Line component from Germany's high-end MBL marque. As a Hi-Fi News exclusive we featured the Corona Line C31 CD player/DAC [Sept '12], mentioning that we had also secured a sample of the company's matching integrated amplifier, this C51.

To recap briefly: the Corona Line is the recently-introduced 'entry level' range of components from a company famous for unashamedly luxurious audio systems that are a big draw at high-end hi-fi shows. While not everything MBL manufactures is the preserve of the super-rich, most of its products are mightily expensive. The company's flagship system comprising its Reference Line electronics and fabulous 101 X-treme 'Radialstrahler' omnidirectional loudspeakers would set you back a cool £300,000.

MBL's Corona Line components, then, are considerably more 'real world'. But they're still luxuriously appointed and exhibit rigorous attention to detail under their bonnets. In addition to the C31 CD player/DAC and the C51 integrated amplifier here, the range includes the C11 preamplifier, which can be partnered with either the C21 stereo power amp or two C15 monoblocks. There's a matching C61 FM/DAB+/DVB-S tuner too.

Exactly like the CD player/DAC the C51 integrated employs a steel chassis with aluminium 'over-skin', a case-within-a-case construction that has no visible screw fixings. I can't say I'm a big fan of the gold trim on our test sample, but alternative colour/trim combinations are available. To my eyes these Corona Line components, both black and white variants, look more attractive with their trim in Palinux – a silver-coloured precious alloy. Added-cost options include having the insulating feet

and centre 'strip' portion of the bonnet similarly finished in gold or Palinux (£950), and the casework's side cheeks can be finished in piano lacquer – a further £600.

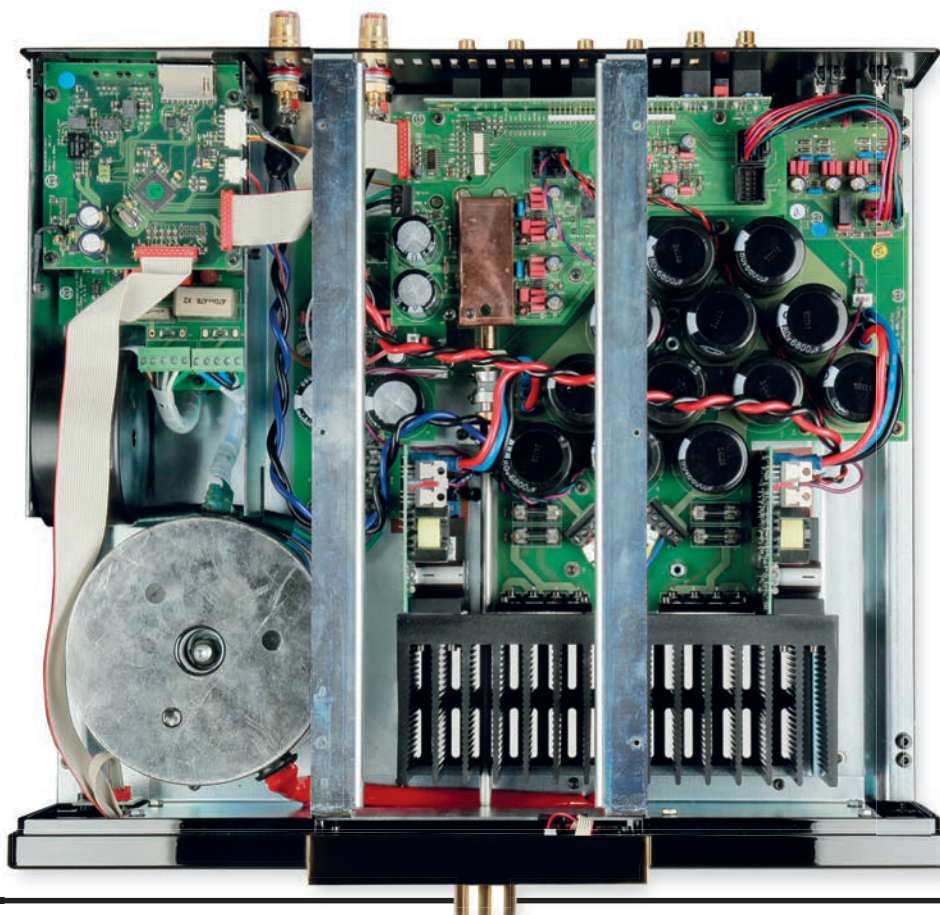
IT'S CLASS D

All of the amplifiers in the Corona Line are new Class D designs from MBL, featuring what the company calls its Linear Analogue Switching Amplifier technology [see the Ed's boxout]. Rated at 180W/8ohm and 300W/4ohm, the C51 is a considerable powerhouse in a moderately compact chassis, the size of its case identical to that of the C31 CD player/DAC. Employing a linear power supply with multiple regulation, the amplifier has a toroidal transformer encapsulated in a MU metal shield to prevent magnetic disturbance

from the mains entering the unit. A further electrostatic shield aims to prevent stray coupling between the mains and the amplifier's audio circuits.

The C51's input stages have been designed using carefully selected discrete components, while its volume control is a motorised potentiometer; the level setting is indicated by a bargraph type meter in the large display panel on the fascia.

There are no legends on the row of control buttons on the front panel as they act as 'soft keys', their context-sensitive functions shown in the display once the amplifier is turned on. Entering a simple setup menu allows you to disable any unused inputs, including the digital inputs of the partnering C31 CD player/DAC. This is a key feature of this Corona



RIGHT: The C51 features a linear power supply with comprehensive, multi-stage regulation. The Class D modulators can be seen either side of the black heatsinking through which volume is also adjusted via a long rod



Line amplifier: when connected to its partnering C31 via MBL's proprietary 'SmartLink' system using an Ethernet cable, it sees the source player's suite of three digital inputs and can switch between them – both via input up/down selector buttons on the amp's front panel or using the unified system remote control handset. The only downside is that you must connect the source player/DAC to the amplifier's single-ended (RCA) input labelled 'CD1' – you can't use the balanced (XLR) connection. SmartLink also facilitates one-touch power on/off of connected MBL Corona Line components and ensures that the dimmable displays are all at the same brightness setting.

The remote controller for MBL's Corona Line components is a compact handset in aluminium, with buttons to control all major functions including display dimming/off. All the buttons are the same size, with the volume up/down keys buried in the middle of the cluster. But one only has to live with it for an hour or so to become familiar with the layout.

As for connectivity options, at the rear is one balanced (XLR) input and four single-ended (RCA) inputs, plus a further RCA 'Processor' input that hooks directly

into the C51's power amp stage. There's a single-ended (RCA) volume-controlled line output should you wish to use the C51 as a preamplifier, and a further fixed-level 'record' output (RCA). There's also a pair of blanking plates above the XLR input sockets that allows either a second balanced (XLR) input to be fitted (£387 extra) or MBL's Corona Edition moving-coil phono stage (with single-end RCA inputs), priced £1089.

FORENSIC SCRUTINY

I've been living with C31/C51 combination for several weeks now, variously mixing and matching the two components in my system to judge their respective characters. As reported previously, I found the C31 CD player/DAC extremely smooth and relaxed-sounding, its bold, 'rich' bass and creamy midband combined with an airy and silky top end that invited prolonged listening.

To describe the character of this C51 amplifier in broad terms I'd say it majors on explicit information retrieval, sounding vivid and squeaky-clean. In many ways it

ABOVE: The MBL logo on the component's top plate is encircled by an illuminated ring – a corona – that can be pressed to dim display in four stages (or switch it off entirely)

reminded me of the sound of Primare's I32 integrated that we reviewed last year [HFN Jun '11]: crisp and startlingly clear, with a subjectively 'black' background that allows forensic inspection of details buried in recordings. Also there was no evidence of 'grain' at high frequencies that many audiophiles complain about when listening to some Class D amplifier designs.

Listening to familiar audiophile recordings that can take one's breath

away, such as Patricia Barber's 'Bye Bye Blackbird' from her Nightclub album [Blue Note/Premonition Records 90763] the C51 could be described a little 'dry' and stark,

'The super-clean C51 made light work of the dense instrumentation'

Barber's piano seeming a tad 'clanky' and hard-edged when the sound was compared alongside my resident Mark Levinson No.383 amplifier. The MBL rendered the recording with heightened presence, Barber's voice thrown forward in the sound image to create an uncommonly vibrant and clear picture of the performers, but lacking 'body' in the critical midband.

While it never failed to sound vivid, open and highly detailed, it didn't take kindly to difficult recordings. Take something 'hot' and brash with spitty treble such as George Michael's 'Spinning The Wheel' from Older [Egean/Virgin CDV2802] and the C51 highlighted the recording's sibilant and splashy high frequencies. The bass energy and precision was fabulous – deep, tuneful and tightly controlled – but the amplifier's warts 'n' all presentation made for an uncomfortable listen. Where my Levinson rarely fails to sound civilised and musical, the MBL C51 tended to tear recordings

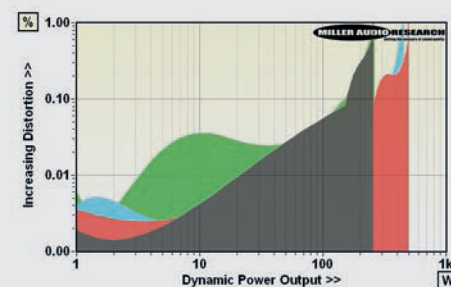
LASA CLASS

MBL's chief designer, Jürgen Reis, is very keen indeed that his LASA (Linear Analogue Switching Amplifier) is not confused with an archetypal Class D model. If you assume that Class D necessarily entails a switchmode PSU, then the C51 differs by employing a substantial linear power supply. But so do other Class D amplifiers that we've featured in HFN. In common with other Class D types, the C51 enjoys a very high efficiency (I measured 84% at its rated 2x180W output) but it has none of the more troublesome drawbacks. Top of the list is the typical variation in frequency response that occurs in sympathy with the attached speaker load. The response of many Class D amplifiers will peak into loads >8ohm but droop into loads below 4ohm. The response of the C51, like Class D amps based on Bruno Putzeys' Hypex modules, is entirely unaffected by load. But perhaps most impressive of all, this is the first 'Class D' we've encountered (not including the Devialet D-Premier) whose distortion remains broadly unchanged across the full audio spectrum. Whatever its name, it's a Class act. PM

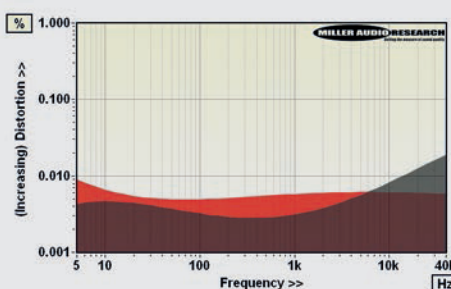
MBL CORONA LINE C51 (£7500)

If only all analogue 'switching amplifiers' offered the sophisticated performance of MBL's C51. It has power a-plenty, exceeding its rated 2x180W specification with 2x193W and 2x357W into 8/4ohm loads and benefiting from sufficient headroom to support peaks of 256W, 495W and 458W into 8, 4 and 2ohm under dynamic conditions [see Graph 1, below]. Maximum current at <1% THD is 16.2A. The amplifier's distortion increases linearly with power output from 0.002% at 1W to 0.005% at 10W and 0.05% at 100W/8ohm under both continuous or dynamic conditions. As Graph 1 illustrates, this has more in common with a good tube amp than a typical solid-state design, Class D or otherwise.

Quite unlike a tube amp, however, MBL has engineered the C51 to offer a consistent level of distortion with frequency – 0.004 to 0.008% from 20Hz-20kHz at 10W/8ohm [see Graph 2, below]. Distortion, along with output impedance, tends to increase more sharply at a lower frequency with Class D amps but here the upwards trend is deferred to 30kHz+, the low 0.017ohm midrange output impedance finally reaching 0.5ohm/100kHz. The response is very extended at 3Hz-48kHz (-3dB) into 8ohm with the merest change to 3Hz-38kHz (-3dB) into loads as low as 1ohm. Tolerance of different speaker loads is assured. Noise, too, is very well managed for a switching amplifier, the C51 offering an 87.4dB A-wtd S/N ratio (re. 0dBW) and an overall gain of +36.2dB (balanced input). Finally, the channel separation of 105dB (midrange) to 89dB (20kHz) is also exceptional. Readers may view a comprehensive QC Suite test report for MBL's C51 amplifier by navigating to www.hifinews.co.uk and clicking on the red 'download' button. www.
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ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



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

HI-FI NEWS SPECIFICATIONS

Power output	(<1% THD, 8/4ohm)	193W / 357W
Dynamic power	(<1% THD, 8/4/2/1ohm)	256W / 495W / 458W / 263W
Output impedance	(20Hz-20kHz)	0.016-0.051ohm
Frequency response	(20Hz-100kHz)	-0.03dB to -8.1dB
Input sensitivity	(for 0dBW/180W)	45mV / 605mV (balanced)
A-wtd S/N ratio	(re. 0dBW/180W)	87.4dB / 110.0dB
Distortion	(20Hz 20kHz 10W/8ohm)	0.0038-0.0080%
Power consumption	(Idle/Rated o/p)	37W/430W (1W standby)
Dimensions	(WHD)	450x145x445mm



ABOVE: As with the Corona Line C31 CD player/DAC, on the rear panel of the C51 there's an integrated SD card reader slot for uploading any future software updates. Blanking plates allow the fitting of an additional XLR input or optional phono stage

apart. Unless you feed it a diet of audiophile fare, playing recordings that make the most of the amplifier's virtues and avoiding those where the amplifier reveals too many flaws, prolonged listening sessions can soon become fatiguing.

Partner the C51 with its C31 stable mate, however, and everything gels. The tight precision of the amplifier acts as a foil to the warm, slightly soft and sensuous character of MBL's Corona Line CD player/DAC, the combination clearly being a marriage made in heaven. If I thought the amp slightly 'cold' and clinical-sounding it appeared nothing of the sort when fed by the C31. The combination sounded sophisticated, tremendously detailed yet subtle with it – and capable of dramatic dynamic swings while remaining thoroughly composed.

PAINTING FROM LIFE

Playing Vernon Handley's 1990 CD of Bantock's *A Celtic Symphony* with the RPO [Hyperion CDA66450] the sound of the strings was judged to be 'just right', this natural-sounding recording (engineered by Tony Faulkner) containing a tremendous dynamic range that the amplifier handled with consummate ease. Played back at levels that one might experience in the concert hall, there was little sign of the midrange congestion or treble hardening that I often experience when listening through less capable electronics – the Corona Line combo successfully maintained the scale and dynamic impact of the orchestra in full song.

Another highlight of my listening tests that showcased precisely how the amplifier can 'put you there' came when playing recordings of the Frankfurt-based Ensemble Modern, under the American conductor Jonathan Stockhammer

(who acknowledges he is influenced by Rush!), performing some impossibly difficult compositions by Frank Zappa composed originally on the Synclavier.

This was from the CD *Ensemble Modern Plays Frank Zappa* [RCA Red Seal 82876-59842-2] and it revealed explicitly the amplifier's ability to paint lifelike images of real instruments performing in the Hermann Josef Abs Saal conference centre. The portrayal of the colourful tones and textures of horns and woodwinds were extremely vivid, while the explosive dynamics of the Ensemble's percussion instruments – captured beautifully in this recording – were often quite startling.

The super-clean and 'fast' sounding C51 made light work of the dense instrumentation and delivered terrific energy during 'Night School' and 'Put A Motor In Yourself', the bass dynamics nothing short of thrilling. I found myself leaping for the remote controller on several occasions for fear of pushing my speakers too hard, such was the seemingly effortless power delivery of the amplifier. ⚡

HI-FI NEWS VERDICT



When used in combination with its natural partner – the luscious-sounding C31 CD player/DAC from MBL's Corona Line range – it sounded all of a piece, with sensational imaging and thrilling dynamics. Audition the C31/C51 combo at your peril, as it's highly addictive.

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