



# C 399 HYBRIDDIGITAL™ DAC AMPLIFIER

[PRELIMINARY]

HybridDigital



Qualcomm® aptX™ HD



MDC Modular Design Construction



## NAD C 399 HybridDigital DAC Amplifier

The C 399 Hybrid Digital DAC Amplifier is the clearest expression yet of NAD's commitment to sonic excellence and lasting value. Employing NAD's HybridDigital nCore amplification, which until now has been available only on Masters Series amplifiers, the C 399 is the new flagship integrated amplifier in NAD's Classic Series. The C 399's digital section is built around a 32-bit/384kHz ESS Sabre DAC, the same chip used in NAD's acclaimed M10 and M33 Masters Series amplifiers.

The C 399 is also the first amplifier to incorporate the latest generation of NAD's Modular Design Construction (MDC) technology. MDC2 lets users add optional modules that provide functions such as BluOS Hi-Res multi-room music streaming and Dirac Live room correction.

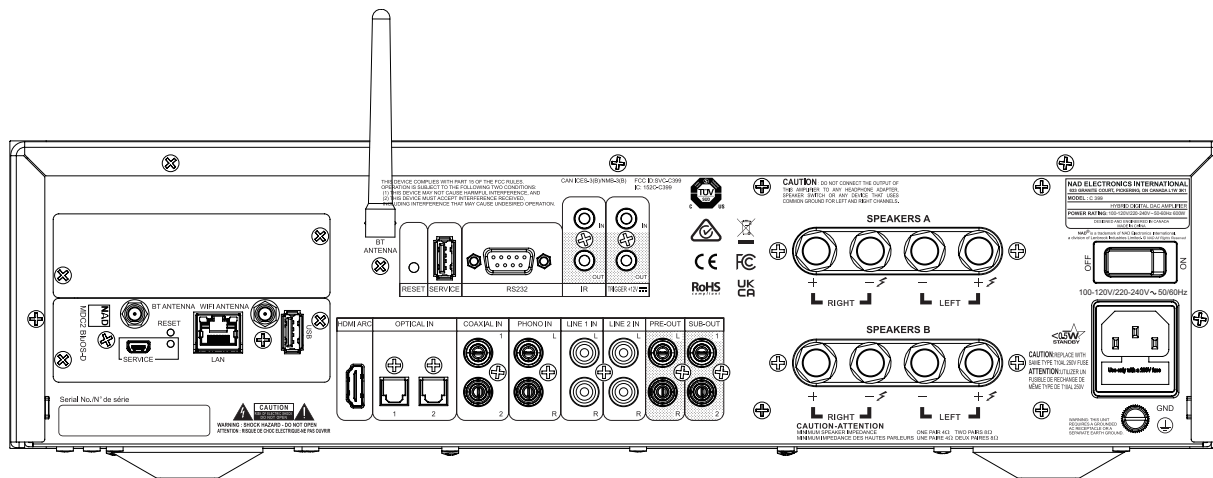
## PURE POWER

Trickled down from NAD's Masters Series, the C 399's HybridDigital nCore amplifier is highly efficient and remarkably powerful. It can deliver 180 Watts per channel continuous power, and 250 Watts per channel instantaneous power, allowing the C 399 to reproduce musical transients effortlessly. The HybridDigital nCore design is renowned for its wide bandwidth, flat frequency response, clean clipping behaviour with instant recovery, high current capability, and stability into demanding low-impedance speaker loads. Noise and distortion are vanishingly low under all operating conditions. The minute levels of harmonic distortion are dominated by sonically benign second and third harmonics. These refinements enable the C 399 to produce neutral, distortion-free sound even at very high listening levels, with thrilling dynamics, exquisite detail, and superb portrayal of space.

Also trickled down from the Masters Series is the ESS Sabre 9028 high-resolution DAC, a design noted for its wide dynamic range, ultra-low noise and distortion, and near-zero levels of clock jitter. This premium DAC enables the C 399 to reproduce all your digital sources with amazing musicality, precise soundstaging, and stunning clarity.

## FEATURES & DETAILS

- HybridDigital nCore Amplifier
- Continuous Power: 180 Watts per channel into 8/4 ohms
- Instantaneous Power: 250 Watts per channel
- Vanishingly low harmonic and intermodulation distortion
- Dual MDC2 Ports for expanded functionality
- Optional MDC2 BluOS-D module adds BluOS Hi-Res multi-room music streaming and Dirac Live room correction
- Jitter-free 32-bit/384kHz ESS Sabre DAC
- Ultra-low-noise MM phono stage with infrasonic filtering circuitry
- Two optical, two coaxial digital input
- HDMI eARC input
- Two pairs of line-level analogue inputs with low-noise buffer amplifier
- Speaker A/Speaker B output
- Two-way Qualcomm aptX HD Bluetooth
- Dual subwoofer output
- Dedicated headphone amplifier
- CI-Friendly - IR remote, 12V Trigger in/out, IR in/out, RS-232 Serial port
- Seamless integrations with smart home control systems such as Control4, Crestron, RTI, URC, Push, Lutron, iPort, and Elan



## FUTURE PERFECT

In 2006, NAD introduced Modular Design Construction, an innovative architecture for adding new functions to existing components. Many NAD products have rear-panel slots for MDC modules that perform HDMI switching, BluOS multi-room music streaming, Dolby Atmos surround processing, and other functions.

The C 399 is the first product to feature NAD's new MDC2 architecture. By enabling two-way communications between the module and component, MDC2 opens the future for new upgrades. In a nutshell, MDC2 helps protect your investment from premature obsolescence whilst adding desirable features.

Equipped with Wi-Fi and Ethernet, the optional MDC2 BluOS-D module lets listeners play music from their favourite streaming services through the C 399, using the acclaimed BluOS Controller app for Android, iOS, MacOS, and Windows. Like all BluOS-enabled products, the MDC2 BluOS-D module supports the new standard for Hi Res streaming, Master Quality Authenticated (MQA), and has integrated support for dozens of streaming services; including Tidal, Deezer, Qobuz, Amazon Music HD and Spotify. Two-way communications also enable the MDC2 BluOS-D to stream music from local sources connected to the C 399 to BluOS-capable components in other rooms.

The Dirac Live\* function lets you measure your room's acoustics using a supplied microphone and intuitive app, and then upload correction curves to the MDC2 BluOS-D module. By compensating for acoustic anomalies in your listening environment, Dirac Live dramatically improves bass clarity, imaging, and timbral accuracy. Thanks to its two-way architecture, the MDC2 BluOS-D performs Dirac Live room correction for all sources connected to your C 399.

## WELL CONNECTED

The C 399 has two optical and two coaxial digital inputs, plus an HDMI eARC port for playing audio from a connected TV, while controlling amplifier output with the TV's remote control. Analogue fans are well served with two pairs of RCA line-level inputs, plus a MM phono stage with ultra-precise RIAA equalization, extremely low noise, and high overload margins. The phono preamp also features an innovative circuit that suppresses the infrasonic noise present on all LPs, without compromising bass response. The line inputs have low-noise buffer amplifiers to prevent sonic degradation.

In addition to two sets of speaker outputs, the C 399 has preamp output jacks and dual subwoofer outputs. Two-way aptX HD Bluetooth allows 24-bit streaming from mobile devices, and high-quality output to Bluetooth headphones. Also built-in is a dedicated headphone amplifier with low output impedance and high output voltage capability, enabling the C 399 to drive demanding high-impedance studio monitor headphones.

## A TIMELESS CLASSIC

Ever since the launch of the legendary 3020 integrated amplifier in 1978, the NAD brand has been synonymous with value and performance. The C 399 takes that reputation to a whole new level.

As with every NAD amplifier, the C 399 gets the basics right: a precise volume control with accurate channel balance, low-noise circuits, and correct input and output impedances. With its HybridDigital nCore output stage and high-resolution ESS Sabre DAC, the C 399 can reproduce all your digital and analogue sources with a level of excitement and refinement that is unprecedented for a Classic-Series integrated amplifier.

Thanks to NAD's innovative MDC2 platform, the C 399 will keep pace with future developments. The C 399 can serve as the hub of a world-class music system today, and for years to come. With NAD's C 399 HybridDigital DAC Amplifier, the legend continues.

# SPECIFICATIONS C 399

All specs are measured according to IHF 202 CEA 490-AR-2008 standard. THD is measured using AP AUX 0025 passive filter and AES 17 active filter.

## PREAMPLIFIER

### LINE INPUT, PRE-OUT (ANALOG BYPASS ON)

THD (20Hz - 20kHz)	<0.002% at 2V out
Signal-to-Noise Ratio	>106dB (IHF; A-weighted, ref. 500mV out, unity gain)
Channel separation	>100dB (1 kHz) >90 dB (10 kHz)
Input Impedance (R and C)	56 kohms + 100 pF
Maximum input signal	>4.6Vrms (ref. 0.1% THD)
Output impedance	Source Z + 320 Ohm
Input sensitivity	65mV (ref. 500mV out, Volume maximum)
Frequency response	±0.3dB (20Hz - 20kHz)
Maximum voltage output -IHF load	>5V (ref. 0.1% THD)

### PHONO INPUT, PRE-OUT (ANALOG BYPASS ON)

THD (20Hz - 20kHz)	<0.01% at 2V out
Signal-to-Noise Ratio	>84dB (200 Ohm source; A-weighted, ref. 500mV out)
Input sensitivity	1.08mV (ref. 500mV out, Volume maximum)
Frequency response	±0.3dB (20Hz - 20kHz)
Maximum input signal at 1kHz	>80mVrms (ref. 0.1% THD)

### LINE INPUT, HEADPHONE OUT (ANALOG BYPASS ON)

THD (20Hz - 20kHz)	<0.005% at 1V out
Signal-to-Noise Ratio	>107dB (32 Ohms loads; A-WTD, ref. 2V out, unity gain)
Frequency response	±0.3dB (20Hz - 20kHz)
Channel separation	>62dB at 1kHz
Output impedance	2.2 Ohms

### LINE IN, SPEAKER OUT (ANALOG BYPASS ON)

Continuous output power into 8 ohms and 4 ohms	180W (ref. 20 Hz-20 kHz at rated THD, both channels driven)
THD (20 Hz – 20 kHz)	<0.02% (250 mW to 180 W, 8 ohms and 4 ohms)
Signal-to-Noise Ratio	>95 dB (A-weighted, 500 mV input, ref. 1 W out in 8 ohms)
Clipping power	>210W (at 1 kHz 0.1 % THD)
IHF dynamic power	8 ohms: 217 W 4 ohms: 400 W 2 ohms: 506.4 W
Peak output current	>26 A (in 1 ohm, 1 ms)
Damping factor	>150 (ref. 8 ohms, 20Hz to 6.5kHz)
Frequency response	±0.3 dB (20 Hz - 20 kHz)
Channel separation	>90dB (1 kHz) >75dB (10 kHz)
Input sensitivity (for 180 W in 8 ohms)	Line In: 201 mV Digital In: 10.25% FS

## GENERAL SPECIFICATIONS

Supports bit rate/sample rate	up to 24 bit/192 kHz
Frequency band	2.402G- 2.480G
Maximum transmit power (dBm)	7 dBm ± 2 dBm

## DIMENSIONS AND WEIGHT

Gross dimensions (W x H x D) **	435 x 120 x 390mm (17 1/8 x 4 3/4 x 15 3/8)"
Net Weight	11.2kg (24.7lb)
Shipping weight	13.6kg (30lb)

\* The optional MDC2 BluOS-D module will include a license for Dirac Live with the option for advanced users to upgrade to a Dirac Live Full Frequency version.

\*\* Supported cloud services and free internet radio are subject to change without notice.

\*\*\* Gross dimension includes feet, volume knob and extended rear panel terminals including installed antennas.

Specifications are subject to change without notice. For updated documentation and features, please check out [www.NADelectronics.com](http://www.NADelectronics.com) for the latest information about C 399.



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