



## Review

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### WORLD PREMIERE

[ Norma Audio Electronics is an Italian company founded in 1987. Initially specializing in amplifiers, with its first product being the NS 123 integrated amplifier, it was bought by Opal Electronics in 1991. It took nearly seven years of research and development to come up with an entirely new series of devices, many of which are still on sale today. We are testing the Revo CDP-2 CD player, which uses, for the first time, a proprietary D/A conversion chip called A-DAC. This is the WORLD PREMIERE of this player. ]

WE ARE AT A MOMENT OF REEVALUATION in the audio world, related to the CD format. It's not about a "triumphant comeback," or "domination," or anything like that - the dominant mode of music signal transmission **is and will remain streaming.**

The CDP-2 was connected to the Ayon Audio Spheris III preamplifier using Crystal Cable Absolute Dream unbalanced cables. One of the features of the Norma Audio equipment is a balanced signal path, and arguably in a fully balanced system it would be worth trying this option as well. The HIGH FIDELITY system however, plays better connected with RCA cables, so I opted for this connection. The device was powered using Harmonix X-DC350M2R Improved-Version cable.

#### » RECORDINGS USED FOR THE TEST \ A selection

- ∨ PAT METHENY, *What's It All About*, Nonesuch/Warner Music [Japan] WPCR-14176, CD (2009).
- ∨ THE MODERN JAZZ QUARTET, *Reunion at Budokan 1981*,
- ∨ STAN GETZ & JOÃO GILBERTO, *Getz/Gilberto*, Verve/Lasting Impression Music LIM K2HD 036, K2HD Mastering, „24 Gold Direct-from-Master Edition UDM”, Master CD-R (1964/2009).
- ∨ LUIS GASCA, *For Those Who Chant*, Blue Thumb Records/Big Pink BIG PINK 811 | Vivid Sound Corporation VSCD-6122, CD (1972/2023).
- ∨ PETER GABRIEL, *I/O*, Virgin/Virgin Music Label and Artist Services Japan UICB-1023/4, 2 x SHM-CD (2023).





It's about something else, the TREND. And the trend, as any market analyst will tell you, **is much more important than where we are**. And the one in audio is clear - after streaming quickly captured the market, there has been a so-called "backlash", i.e. a return of some consumers to other ways of listening to music, including Compact Discs. As I wrote in the introduction to this special issue of HIGH FIDELITY dedicated to the CD format, there are many companies offering CD and SACD players, and their list is growing.

Norma's view on the matter is clear:

“ For many years NORMA has been studying ways to offer the highest possible quality products, including digital sources. It is a common experience, in fact, that the sound of digital sources is often (though not always) of low quality and inferior to the best analogue sources. The opinion was formed that the fault is attributable to the CD standard (16-bit 44.100 kHz). But this is not completely true. If on the one hand, the high definition sources (SACD, DVD-AUDIO, PC FILE) are potentially superior to the CD, on the other hand, the real reason for the bad sound derives substantially from how the CD Players are made. (and not in the format itself – ed.).

→ [MANAAUDIO.co.uk](http://MANAAUDIO.co.uk), accessed: 8.04.2004.

Not surprisingly, Norma's lineup includes sources of this type all the time. Mr. ENRICO ROSSI, the company's founder and chief designer, sitting in front of my audio system said that **only once in his life had he heard better sound** from a file player than from a CD player, and that it was a rip from a CD, not a file played from a drive or, much less, streamed. All other comparisons ended, he added, with a clear advantage for the compact disc. The fruit of thinking about the format and how sound is reproduced by CD players is the company's latest machine, the CDP-2 model.

## REVO CDP-2

NORMA'S NEW CD PLAYER is a particularly important product for the company. Its mechanics are standard, so to speak, it's a TEAC transport, but the DAC section is a **fully proprietary circuit**, from the D/A circuit itself, to the I/U conversion, to the output circuitry.

The owner of Norma, who flew to Krakow to tell me about the CDP-2 and to listen to how the device performs in my reference system, and to ask me a few things in the process, **talked about the four years spent on the project** and its implementation into production. At a time when the triumphal march of streaming seemed unstoppable, investing so much money in the CD format was a risky move. Admittedly, it was undertaken earlier by other companies, such as Cyrus, but - in retrospect - it seems to have hit the spot.

**APPEARANCE** • Externally, the unit is not much different from the Revo IPA-80 amplifier we tested last month; more → [HERE](#). The chassis is made of thick aluminum sheets, and the front is milled from a piece of the same material. Its top and bottom walls are **not rectangular or square**, but converge toward the rear.

LISTENING TO NORMA'S NEW CD PLAYER, a few things can be said right away. And that is that **we are dealing with a very "analog"** sounding device. And that it's a low, dense sound. And, that the sound is shown a little further than I'm used to when listening to slightly "boosted" devices. "Boosted" in the sense that with an emphasized low-mid and bass breakthrough. Such a choice is justified, in my opinion, because it results in a big, palpable sound and can thus mask problems with the upper range or with the depth of the stage.



The CDP-2 player, however, does not approximate the layers of the stage, and I would even say it subtly distances them, at least in comparison with the reference player on the one hand, but also with the files played by the Lumin T3. Listening to PAT METHENY's baritone guitar from his fantastic solo album *What's It All About*, released in 2009, **I got the fullness and depth** I was used to when playing it from the Ayon. Norma showed tonal richness, clearly indicated what came from the "wood" and what came from the "fingers" in the sound, and created a wide and deep soundstage.

The stereo effect was downright spectacular, because the events on stage were precisely localized, nor were they contoured, but rather were shown in a smooth, "seamless" manner **over a wide and quite deep soundstage**. It's worth keeping this in mind as we listen to this device, because compared to energetic, edgy players, whether CD or files, it may seem to us that the CDP-2 sounds too polite. That's not the case, it's a very well-balanced choice. In addition, one that will allow you to play brilliantly not only solo, warmly recorded instruments, but also such discs in which the higher treble is extremely precise and powerful. Like on THE MODERN JAZZ QUARTET's *Reunion at Budokan 1981* disc.

Recorded over two days, October 19th and 20th 1981 at Tokyo's Budokan Concert Hall, it exemplifies what a superb recording system the Mitsubishi X-800 (32 tracks) and X-80 (stereo) digital tape recorders were, operating at sampling rates of 44.1 and 47.25 kHz, respectively, with digital word length of 16 bits. Already the announcement, preceding the performance, was rendered by the player **with magnificent spaciousness**. The Budokan is a large hall but additional reverb has been added, making the voice have tremendous energy in the reverberation as well. This is not a dry extension of the sound, but a low, saturated, energized "something" that appears after the voice and saturates the sound.

And there is **a lot of space to „extend“ the sound with**. Originally designed by Mamoru Yamada, the arena was built for the 1964 Olympics, for judokas, and was given a modernist, modern expression - concrete and so on. The 42-meter-tall, octagonal structure seats as many as 14,201 people (2,762 in the arena, 3,199 on the first floor, 7,760 on the second floor and 480 standing places). We should add that while modern, it was also a reference to tradition - its body was modeled on the architecture of the eighth-century Yumedono Pavilion (Pavilion of Dreams) in the Hōryū-ji Buddhist temple complex in Nara Prefecture.

Norma showed the enormity of the building perfectly, **but without blurring the sound**. There was both the precise projection of the instruments in a large space and of the concert venue. Also excellent was the clarity of sound that could be achieved with the

Where there were heat sinks in the amplifier here we have smooth, black anodized aluminum strips.

The front panel is also different, understandably. The most visible element is the **large, easy-to-read display** - hallelujah! Its color doesn't excite me as much, because it's blue. I asked Mr. Rossi about it. As he said, he can install the display in red or green upon request; unfortunately, there is no way for the user to change the color in an already purchased product. And yet, if it were technically possible, changing the color by pressing a button would be something really cool; after all, we are familiar with multicolor LEDs.

The display reads the time of the song, and of the whole disc, number of tracks, as well as a message about the "repeat" function. One of the dots between the digit segments indicates **the label's use of preemphasis** for a given disc. This solution, unfortunately, was used only in the early days of the format, and only Japanese publishers retained it longer. In my opinion, this is a mistake - preemphasis improved the subjective resolution of the signal by 1-1.5 dB; it was thanks to it that Denon's early digital (reel-to-reel) tape recorders, although nominally 13-bit, sounded so insanely good (more in the article *Digital in the Vinyl World. Trojan horse or necessity?*, read → [HERE](#), PL).

| Preemfaza



PRE-EMPHASIS WAS a noise reduction technique used on early CDs. This system amplified the highs on a CD, and the CD player lowered them back to normal levels. This curve **at 20 kHz had a drop of -10 dB**. This technique resembled the operation of RIAA equalization on LPs, and to some extent the Dolby system, although without its negative effects.

Almost all modern DACs feature preemphasis detection and correction circuitry, although this was not always the case. Some DACs did not recognize the corresponding "flag" encoded on the CD, and some CDs did not have such a "flag" even though preemphasis was applied to them. This is why many early CD players sounded **bright and noisy** with some discs. However, this was a problem of incompatibility, not of the CD format.

In my opinion, the fact that pre-emphasis is no longer used on modern CDs is a mistake. Together with the proper use of dithering, one could thus achieve **over 20-bit resolution**, from a nominally 16-bit signal. •

ABOVE THE DISPLAY there is a CD transport drawer, and on the side there are some control buttons. It looks very nice indeed. On the back, on the other hand, you can see the analog XLR and RCA outputs, as well as the IEC power socket. On the side, however, there is a grille enclosing a slot intended for an **optional digital input module**. Once it is installed, the CDP-2 can operate as a D/A converter. In addition to the classic AES/EBU, optical and RCA inputs, there is also an asynchronous USB input.

**TECHNOLOGY** • As we said, the electronic circuits of the tested player are entirely Norma's own development, including the DAC module. The **D/A circuit is called A-DAC**, and the 'A' refers, as the designer says, to "analog." The idea is to make digital sound resemble analog as much as possible - not LP, but just analog.

Mitsubishi tape recorders, but also the sonority of the treble. The combination of all these elements, that is, vibraphone, recording track and CD, should have been problematic - but not for the Italian player. The cymbals were downright sweet with it, and the vibraphone was saturated. The double bass didn't have a strong bottom end, but that's how it was shown by the producers of the recording. Instead, it was perfectly clear and rhythmic.

This is another feature that distinguishes this device - coherence. By it I mean both the co-participation of all sounds on equal footing, without emphasizing this or that detail, but also without hiding them. For when we hear an intimate vocal like João Gilberto's from the STAN GETZ & JOÃO GILBERTO *Getz/Gilberto* album, the Norma does not diminish it, but **shows it in a warm, palpable way**. But, remember, placed a little further than the reference player. This is not a device to "spice things up" by itself. Its most important range is the midrange, this is probably the time to say that, but it is not handicapped by it. As I said, the cymbals and vibraphone from the MJQ album were strong, dynamic, even sonorous, but the percussion from the *Getz/Gilberto* disc, although heavily hidden behind the other instruments by the album's producers, also had a distinct character, they were not melted into the background.

So I keep writing, and writing invoking the categories of sound evaluation we all know, but the most important thing is probably something that came to me when I heard Astrud Gilberto's voice in the opening track **1** *Girl from Ipanema*. The track with her voice seems "glued" to the whole, both if we think about the timbre and the placement in the extreme of the left channel. The guitar of her husband, João Gilberto, playing in the same spot on the stage, although warmer, was more tightly integrated into the band. But with the Norma, the voice of the singer, soon to be the number one star in the U.S. of samba and related styles, made more sense, **as if the device smoothed out** those realization "roughnesses" I mentioned.

Intrigued by this combination of warmth and legibility, I reached for LUIS GASCA's excellent album, *For Those Who Chant*, originally released in 1972, and remastered and released by the Vivid Sound Corporation label in Japan a year ago. Gasca, as I've written in the past, trumpeter of the Count Basie Orchestra, among others, invited Carlos Santana's entire band at the time, along with the guitarist himself, to play on it. It's **calm, even meditative, yet full of energy playing**.

The sound of this disc is quite compressed, that's how it was recorded back then. The Italian player did not add a shadow of compression from itself, on the contrary, it brought out all the energy, all the purity of the percussion instruments, here the most important ones. But it did it in an outstandingly moderate way, so to speak. The DAC of this device, because I guess it's the A-DAC it's all about, **is simply excellent**. Dynamic but warm; warm, but clear; dense, but transparent. It goes low on the bass, but it's not overwhelming; it has a strong treble, but it still "reads" as warm.

It is as "analog" in its character as the tube DAC in the Ayon, or maybe even more so. That is, it pushes the presentation more strongly in the direction of what we know from LPs. That is, **towards fullness, smoothness, and depth**. As a result, I listened to disc after disc in full comfort, but also in a space energized by the sound. The device does not emphasize the weaknesses of the recordings, but plays "empathetically", that is, "understanding" them. That's why even such a strong and bright realization as the one on PETER GABRIEL's *I/O* album's "Dark-Side" sounded super cool, because it was very low, dense, with excellent kick drum, but also with an open top end that didn't hurt the ears or bring any fatigue.

## Summary

THE SONIC CHARACTER of Norma's CD Player is consistent with **what I consider to be good, proper sound**. This is another device, after Ayon, Esoteric, Cyrus or S.M.S.L players, to name a few, going in a direction that has long been too "dark", too "dense", not "open" enough for CD music listeners. Modern understanding of digital and analog technology translates into a

Mr. Rossi did not want to say exactly what is there inside the „box” that encloses the whole thing. He only explained that it was "a combination of digital and analog circuitry" and that it was a multi-bit circuit, not a sigma-delta circuit. So perhaps it's an R-2R resistor ladder controlled by a DSP chip, or simply a DSP chip with an algorithm written for it. The module in question was fully encased in resin and shielded. According to the designer, the idea was **to stabilize the temperature of all components inside**. And thermal drift is, according to him, the cause of the artificial and harsh sound of digital players.

The converter decodes a 16/44.1 PCM signal from a CD, but these are not its maximum values, as it can decode a PCM signal up to 24 bits, 768 kHz, from the digital inputs. The signal from the CD transport and from the digital input module **is sent in IIS format**. As Mr. Rossi said, it's an extremely element-sensitive transmission system in the circuit and took a long time to perfect; more about Inter-IC Sound, or I<sup>2</sup>S → [HERE](#), PL`.

The DAC has a current output, so it needs an I/U converter. This, too, is the company's own circuit, made discreetly and encapsulated in a shield. The company selects transistors so that **both channels are perfectly matched**. Behind this module you can see a small Burr-Brown integrated circuit. As it turns out, it converts the negative branch of the XLR output; after all, the priority output for Norma is the RCA output (that is, just like for me). However, if someone wants to take full advantage of the XLR outputs and prefers to send the signal in balanced form, they can order a CD with the appropriate additional discrete I/U modules - space has been reserved on the board for them.

The digital filter before the converter is also Norma's own idea. It is based on Burr-Brown's DF1706 filter, which means it is an eight times oversampling circuit. Besides, the DAC used in the DCP-2 itself was intended to be a **better version of the PCM1704 DAC** from the same company, which Mr. Rossi said was "one of the best circuits of its kind" in audio history. The output circuit is not subject to feedback, and it still has a frequency response of up to 2 MHz. This is to help the signal be as phase-coherent as possible.

The unit is powered by an elaborate power supply with a toroidal transformer wound, as we read, "specifically with audio circuits in mind". Separate secondary windings are used for the digital and analog sections, and in the circuit we find as many as **24 voltage stabilizers**; mains ripple filtering is provided by nice Elna capacitors.

The set comes with a **remote control** designated RC-31CD, similar to the RC-41 that comes with the company's IPA-80 amplifier. Made of aluminum, it features well-functioning buttons with a clear point of operation. The remote supports both Norma amplifiers and digital players, but this model is primarily geared toward CDs. The spacing of the buttons and the priority assigned to the amplifier's buttons makes it not very convenient to use.

## SOUND

**HOW WE LISTENED** • Norma Revo CDP-2 player **was tested in a HIGH FIDELITY** reference system. It stood on the top carbon shelf of a Finite Elemente Pagode Edition Mk II rack on its feet. Its sound was compared to the AYON AUDIO CD-35 HF EDITION SACD player and the Lumin T3 file player.

much more resolving sound that no longer needs to be artificially "tweaked" to be open and detailed.



CDP-2 plays with flair and panache, as both the MJQ album and the Gabriel disc showed. The reverberations on the latter were unusually long, and the size of the Budokan hall was enormous. The sound of this player is **on the one hand warm and dark**, and on the other hand it is also open and dynamic, and above all - communicative. It's a perfect combination of what we consider the best in digital technology with what analog technology had offered before, and what seemed "non-translatable" to digital. Excellent, absolutely excellent sound for extremely reasonable money.

Fully deserved **RED FINGERPRINT** . •

## Technical specifications (according to the manufacturer)

Outputs: RCA, XLR  
 Output voltage (@ 0 dB):  
 • RCA → 3 V RMS (+10 dBV)  
 • XLR → 6 V RMS (+16 dBV)  
 Output impedance: 200 Ω  
 Frequency range: 0 Hz- 22 kHz, +/- 0,3 dB (limited by CD Standard)  
 Analog output filter: 0 Hz-180 kHz, +/- 3 dB  
 Analog stage frequency response: 0 Hz-2 MHz +/- 3 dB  
 Oversampling: DF 1706, 8 x digital filter  
 Oversampling filter: user-selectable Sharp & Slow roll-off  
 D/A Converter: 24-bit Norma A-DAC Multibit  
 I/V conversion: Proprietary topology with discrete components  
 Output stage: Proprietary topology with discrete components, high linearity & low noise  
 Dimensions (H x W x D): 75 x 430 x 350 mm  
 Weight: 10 kg



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