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electronics

REVIEW: I22 INTEGRATED AMPLIFIER AND CD22 CD PLAYER
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Sound Democracy

High end only for aristocrats, hi-fi for the masses? The breaking of exclusivity comes, of all places, from Scandinavia: Primare proves with its 20 series components that real high end performance can in every way be affordable.

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Time and again Primare has proved its innovative skill in applying state-of-the-art technologies. The new power amplifier I22 and the matching CD player CD22 continue the success.

Wow Effect

With affordable prices of 1650 Francs each, the expectations are not too high. Admittedly, when opening the packaging you are pleasantly “disappointed”: nothing’s cheap. Usually only the most expensive high end appliances are packaged this comprehensively. The positive impression is boosted when you take the devices out of their boxes. You can feel the workmanship, and the high quality finish and classy design are pleasing to the eye. There’s no difference in presentation when compared to the more expensive Primare devices. Our compliments! The purist front layout of the devices is very appealing and shows a minimalist focus on basics: highly complex technology is simplified in its application and supports purpose of music playback. Operation via a few buttons works amazingly well. More specialised functions are operated with the remote control, which fits the hand nicely and is clearly laid out. In the light of the price, a metal controller would have been asking really too much. After opening the devices, further exploration beyond the classy exterior, leaves the same positive impression: the spotlessly clean engineering reveals high development effort.

Earthquake-Proof

The interior of the CD player gleams with exemplary, service-friendly design. The elaborate power supply with R core transformer and separate boards for controls and D/A conversion including low-resistance output stage in SMD technology catch the eye. In terms of electronics Primare doesn’t compromise. But it’s not an end in itself: the development target was to implement a continuously clean signal path from A to Z. The signal sampled from the CD first goes into a 5-second buffer, which not only reduces the sensitivity for mechanical impacts but also digital clock errors induced by the drive. Interestingly, with a button on the remote control, the user can determine if the digital signal is to be extrapolated to 48, 96 or 192 kHz, before it is fed into the tried and tested PCM1792 DA converter. This “oversampling” allows the use of digital filters, which produce very low phase shifts and better pulse playback.



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Drawing on Plentiful Resources

It is just the same at the power amplifier: here the engineering effort invested in the switching power supply is striking. It eschews a large transformer, but overflows with screen and filter elements. The actual final stage is, with Class D functionality, rather tiny: thanks to efficiency the heat sink is small. In-house technology with the name “Ultra Fast Power Device” (UFPD) is deployed. The UFPD modules are said to exhibit a more continuous power output over the entire audio range – even with uneven speaker impedance – compared to conventional Class D amplifiers. Furthermore, they actively control during load variations the necessary feedback and in this way enable a linear frequency response far beyond the audible range. Simultaneously this improves the pulse response in the high-frequency range. Many conventional Class D amplifiers cannot adequately reproduce high frequencies due to the existence of filter coils upstream from the amplifier output. Primare claims that the I22 is able “to drive any speaker with full control and precision”. If the power output with 2 x 80 Watts at 8 ohms sounds comparatively conservative, it is the specified 2 x 160 Watts at 4 ohms that points to high current stability. The excellent efficiency of the Class D circuit (idle consumption approx. 20 Watts, in standby 0.3 Watts) takes care of the utility bill. The I22 has all the control precision of a digital pre-amplifier. The volume is finely controlled electronically in 1-decibel steps, and even the balance can be modified. Inputs can be individually named and adjusted in their relative volume on the alphanumeric display. This compensates a bit for the I22 only providing four high-level inputs. Outputs include record-out and a single low-resistance pre out. To the latter a further final amp stage can be connected for instance for bi-amp connection. As an option Primare offers for the I22 an integral converter module. Besides an optical and coax output it also provides a digital USB-B input to stream music files from a PC (Mac, Windows), clock-synchronized to reduce jitter. Of course we were curious as to how the converter board would compare with the external CD player...

**Powerful and Graceful**

The Scandinavian duo was allowed to prove itself with a variety of small and large speakers. And it did this with flying colours. The listener can hear the high sound quality of these two components immediately. This is initially evident from the impressive authority of every musical event. Even with the faintest volumes you have the feeling that playback is vibrant and expressive. This pulsating pace never seems heavy-handed or clumsy. On the contrary: with intimate chamber music the Primare duo gracefully and sensitively plays to the gallery, creating an atmospheric intimacy from

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which it is difficult to escape. There's also a full-bodied character for which a powerful but tight low frequency range is responsible. An accurate treble contributes to the full-bodied, rounded audio bouquet. This was not necessarily to be expected from a Class D amplifier, since this species rather makes a splash with a vividly fresh, but partly superficial pace. In no way the I22 is short on stamina. Besides its ability to differentiate at low volume, it's exemplary with impressive overall dynamics. When required, it produces power-demanding pulses out of nowhere. And not only in bass, where Class D amplifiers have merit, but across the entire frequency range. The fact that the sound character does not harden even at very high volume levels, is a compliment to the circuit design of Primare's engineers. The I22 has command of all musical styles, from pop to heavy metal to country and folk; acoustic and electric Jazz to classical music in all its variety., as if it were custom-developed for that genre. The comparison of the CD22 with the I22 DAC was quickly obvious: the former was audibly more magnificent than the digital connection. Does this mean that the optional digital board sounds "bad"? Not at all. DVD and Blu-ray players clearly benefit from the high-quality converter, as our tests showed. It proved its quality especially during USB playback, accepting high-definition files with up to 24 bit and 96 kHz. Besides, the CD22 achieves a sound level, which compares with significantly more expensive high end players. It manages easily to merge very good detail resolution and spatial transparency with a round and harmonic overall character.



Conclusion

Through this system you can enjoy Class D amplification without compromise. The I22 sets a new benchmark in natural music playback. The system also proves that high-quality stand-alone CD players still have their value. The sound quality, which the CD22 can extract from silver discs, will not so easily be obtained by network, HDD and company. For their amazingly affordable starter price, the value offered by this Scandinavian team is huge. Only a few years ago one would have had to pay at least 1000 Francs more for such components. Money, which the music lover cheerfully can invest in better speakers.

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CD Player Characteristics

Manufacturer	Primare
Model	CD22
Price at test	1650 Francs
Info	www.precide.ch

Playback

CD-R/CD-RW	•/•
WMA/MP3	•/•

Features

Dimensions (W x H x D)	43 x 37.5 x 10.6 cm
Remote control	•

Outputs

Line out	RCA
Digital out	optical/coax
Special features	WMA/MP3 file playback via USB, Black or Titanium finish

Test Results

Sound	★★★★★
Operation	★★★★☆
Workmanship	★★★★★
Rating	excellent



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Power Amplifier Characteristics

Manufacturer Primare
 Model I22
 Price at test 1650 Francs
 Info www.precide.ch

Features

Dimensions (W x H x D) 43 x 42 x 10.6 cm
 Output power (8/4 ohms) 2 x 80/2 x 160 Watts
 Remote control -

Inputs

High level RCA 4
 Tape monitor -
 Phono MM/MC -/-

Outputs

Pre out ••
 Rec out •
 Phones -
 Special features Optional with integrated DA converter with USB, optical and coax digital input for 2200 Francs available; Black or Titanium finish

Test Results

Sound ★★★★★
 Operation ★★★★★
 Workmanship ★★★★★
 Rating excellent

