

NAGRA 'CLASSIC'

by Anreas Park

SYSTEM



There I was, flying my vintage fighter jet across the Swiss Alps when suddenly the engine on the left wing started pulsing ominously. I quickly reached forward to the instrument panel to shut it down, twisting the rotary bar to its... no! wait... it's all a dream. I'm actually at home, switching a Nagra Classic Preamp to its 'Standby' position...

You will be able to understand my daydream when you see Nagra's 'Classic' high-end high fidelity products 'in the flesh' (so to speak). Their appearance is like stepping back in time to the 1950s... or even the 1940s, because the chassis of these Nagra components are all constructed from thick flat sheets of aluminium that are bolted together, and they all have knobs, switches and controls in styles that seem to hark back to a bygone era.

NAGRA CDP CD PLAYER

The Nagra CDP is certainly like no other CD player you'll ever have seen before, because the front panel display is built into the CD drawer, the front of which does not close flush with the front panel, as with most drawer-style CD mechanisms, but sits proud of it. And when it opens, you'll see that the drawer is not some piece of extruded plastic plucked from the shelf of an OEM manufacturer, or even a piece of stamped metal. It's a solid slab of aluminium alloy, through which protrudes the CD drive and laser assembly (a Philips CD-Pro2M). This thing is solid with a capital 'S' — and very obviously assembled by hand. Once you drop a CD over the drive, you then have to hold it in place by attaching a magnetic clamp. If you don't, the Nagra CDP will refuse to play... but will give you a warning as to why it's not co-operating in the front panel display by showing the words 'No Clamper'.

You can close the drawer by simply pushing it in... though we recommend you don't do this. Far better to close it using the tiny Open/Close toggle switch that pokes through a slot cut in the front panel. Another toggle switch on the front panel just to the right of the disc drawer alters the brightness of the display (through six levels). Again, this is a spring-loaded, momentary-contact switch that protrudes through a slot cut into the front panel. The third toggle switch you can see on the front panel is to fast-forward and rewind through individual tracks, plus it also doubles as a track skip (forward/reverse) control.

The rotary control at the right of the front panel controls the Nagra CDP's other transport functions. It's a bar of aluminium that sits in a 6mm-deep recess in the front panel. In its horizontal (Off) position, it obscures a horizontal

red bar underneath it that becomes visible when you rotate the bar clockwise, first to 'Stop', then to 'Pause' and finally to 'Play' (at which point the bar is vertical). The reason for the red bar is to show that the Nagra is 'On'. It's a technique that was used in the early day of electronics, pre-dating the adoption of pilot lights to indicate control status. The person operating equipment using this system only had to glance at, say, an instrument panel, to see at a glance which controls were 'On' and which were 'Off' by whether or not a red painted bar was visible.

Of course you don't have to use the Nagra's front panel controls at all if you'd rather not. The CDP (along with all other variants of Nagra's player, about which more later) comes standard with a Nagra RCU-II infra-red remote. This is a multi-function device that will also control other compatible Nagra components. In addition to allowing you to control the basic transport functions of the CDP it enables you to access more advanced playback functions, including programmed play, repeat track, repeat disc, A-B repeat, shuffle play and track scan. It's a very large remote (51mm wide, 25mm deep and 222mm long) and a very heavy one too (it weighs 310g). We particularly liked that you can stand it up on its end, which makes it easy to store, easy to pick up, and overall means you're less likely to accidentally misplace it.

If you were thinking that the front panel of the Nagra CDP looks a bit bare, it's because there are three different versions of this player available, and on the 'CDC' version this space is occupied by volume and balance controls and an output level meter... or, as Nagra prefers to call it, a 'double modulometer'. The 'CDT' version looks identical to the model reviewed here, but is only a transport and must be used in conjunction with an external digital-to-analogue converter (of which Nagra makes two, the Classic DAC and the HD-DAC).

The rear panel of the Nagra CDP has both balanced (via gold-plated XLR) and unbalanced (via gold-plated RCA) audio outputs as well as

SPECIFICATIONS

NAGRA CDP CD PLAYER

- COMPATIBILITY:**
CD audio, CD-R, CD-RW
- D/A CONVERTER:**
Burr-Brown 24-bit
- OVERSAMPLING:**
8x (352.8kHz)
- BANDWIDTH:**
20Hz to 20kHz -1dB
- S/N RATIO:**
>108 dB (A-weighted)
- THD+N:** <0.003%
- CHANNEL SEPARATION:**
90dB
- JITTER:** <200pS
- OUTPUT LEVEL:**
1/3.5VRMS (selectable)
- EXTERNAL SUPPLY:** 12V
- POWER CONSUMPTION:**
6-12 watts
- DIMENSIONS (WDH):**
27.7 x 254 x 76mm
- WEIGHT:** 4kg
- WARRANTY:** Two years
- PRICE:** \$22,195

▽ IF YOU WERE THINKING THAT THE FRONT PANEL OF THE NAGRA CDP LOOKS A BIT BARE, IT'S BECAUSE THERE ARE THREE DIFFERENT VERSIONS OF THIS PLAYER AVAILABLE, AND ON THE 'CDC' VERSION THIS SPACE IS OCCUPIED BY VOLUME AND BALANCE CONTROLS.





△ THE TOGGLE SWITCH TO THE LEFT OF THE MODULOMETER (WHICH IN THIS CASE SHOWS THE OUTPUT LEVEL IN dB REFERENCED TO 1V) ALLOWS YOU TO ADJUST ITS BRIGHTNESS THROUGH SIX LEVELS.

SPECIFICATIONS

NAGRA CLASSIC PREAMP

FREQUENCY RESPONSE:

10Hz–50kHz –0.5dB

DYNAMIC RANGE:

>125dB (Gain at +12dB)

INPUT LEVEL TO REACH

0DB (METER):

280mV (Gain at +12dB)

CROSSTALK: >85dB

THD: <0.01%

INPUT IMPEDANCE: 50kΩ

OUTPUT IMPEDANCE: 6Ω

VACUUM TUBES: 2×12AX7/

ECC83 & 1×12AT7/ECC81

POWER CONSUMPTION:

12V/1.04A

STANDBY CONSUMPTION:

<1mW

DIMENSIONS:

379 × 277 × 76mm

WEIGHT: 4.9kg

WARRANTY: Two years

PRICE: \$25,195

three digital outputs: SPDIF (via RCA), optical (via Toslink), and AES (via XLR). But what's most notable is what isn't there: a 240V input. It doesn't have a 240V input because Nagra does not want any high-voltage circuits anywhere near its digital circuitry or low-voltage analogue circuits. So what is provided on the rear panel is a proprietary three-pin socket that must be connected to a suitable Nagra power supply, for which you have a range of choices. For this review, the choice was made for us, with local distributor Kedcorp supplying a Nagra MPS power supply, which retails for \$9295, but you can also power it with a Nagra ACPS II, a smaller single-rail stand-alone power supply that retails for \$1695.

NAGRA CLASSIC PREAMP

At the centre of our review system was Nagra's 'Classic Preamp', which enables you to add additional source components and switch between them... and between them and the CDP. In the case of the CDP, it also provides the all-essential control over volume level, since the output level of the CDP is fixed, and the Classic Power amplifier does not have a volume control at all. The Preamp also provides a headphone socket, which is a feature not fitted to the CDP (presumably because Nagra would then have had to provide not only a headphone amplifier, but also a volume control for that headphone amp).

The toggle switch to the left of the modulometer (which in this case shows the

output level in dB referenced to 1V) allows you to adjust the brightness of the modulometer display (through six levels) and turn it off. The toggle switch to the left of the volume control offers a choice of gain (0dB or +12dB). The one to the right selects whether the output is via the XLR (balanced) outputs or the RCA (unbalanced) outputs on the rear panel, or via the 6.35mm headphone socket on the front panel.

There is a small problem with this arrangement, because if your headphones are inefficient so that you turn the volume up when listening to them, you'll have to be very careful to make sure you turn the volume down before resetting the switch to either the XLR or RCA position, otherwise you'll blast your speakers with high-volume sound. The same also works in reverse, if your speakers are inefficient, and you switch to headphones without first turning the volume down, you could end up hurting your ears...

The front panel display of the Preamp is used solely to show the selected input. Turning the electronic rotary control to the right of the display cycles from XLR through RCA-1, RCA-2, RCA-3 and RCA-4, with relays clicking with each selection. Interestingly, despite the switching being controlled completely electronically, the switching does not 'wrap': once you have reached RCA-4, if you want to get back to XLR, you have to counter-rotate the control through the three other RCA inputs to get there.

As you have probably noted from the front panel, there's an infra-red receiver window at the far right, so you can use the previously-mentioned RCU-II remote to control the Preamp.

NAGRA CLASSIC POWER AMPLIFIER

Nagra's Classic power amplifier can be user-configured either as a stereo amplifier, in which configuration it's rated by Nagra as having a power output of 100 watts per channel, or as a monobloc, in which case it's rated at 200 watts. The Australian distributor Kedcorp prefers to use the Nagra's Classic power amplifiers in their bridged (monobloc) mode, and hence two Nagra Classic power amplifiers were supplied for this review.

On the Nagra Classic power amplifier, the single bar control switch has positions for 'Off', 'Auto', 'Mute' and 'On'. The 'Auto' setting enables the Classic to switch itself in and out of Standby mode, switching 'On' when it detects an audio signal at its input and 'Off' when no signal has been detected for a period of time.

At the left of the front panel is Nagra's distinctive 'double modulometer' which in this case shows the power output of the Nagra. It's a 'double' modulometer because there are two needles in the meter. The black-tipped needle shows the output of the left channel and the red-tipped needle shows the output of the right channel. There are calibrations for stereo operation into 8Ω loads and for mono operation into 8Ω loads. To the right of the modulometer is a momentary-action toggle switch that can be used to dim the display (through six levels) or turn it off completely. Although the modulometer can be a guide as to how much power is going to your speakers, the needles' response time is not fast enough to show if the amplifier goes into clipping (which it will do if you accidentally overdrive it), so Nagra has helpfully included a chameleon LED that flashes when the amplifier goes into clipping to alert you to turn the volume down. It flashes yellow when only momentary clipping is detected (which may be inaudible to the year) and red when continuous clipping is

SPECIFICATIONS

NAGRA CLASSIC AMPLIFIER

POWER OUTPUT:

100 watts into 8Ω

INPUT SENSITIVITY:

1V/2VRMS (switchable)

BANDWIDTH:

10Hz to 80kHz -3dB

THD+N: <0.05%

CROSSTALK: >70 dB

S/N RATIO: 110dB (A-weighted)

INPUT IMPEDANCE: >100kΩ

AUTOMATIC START:

Input level >10mV

PROTECTION: Overtemp

(>60°C)/dc (>±2.5VDC)

POWER CONSUMPTION:

400W max

STANDBY CONSUMPTION:

<1W

DIMENSIONS (WDH):

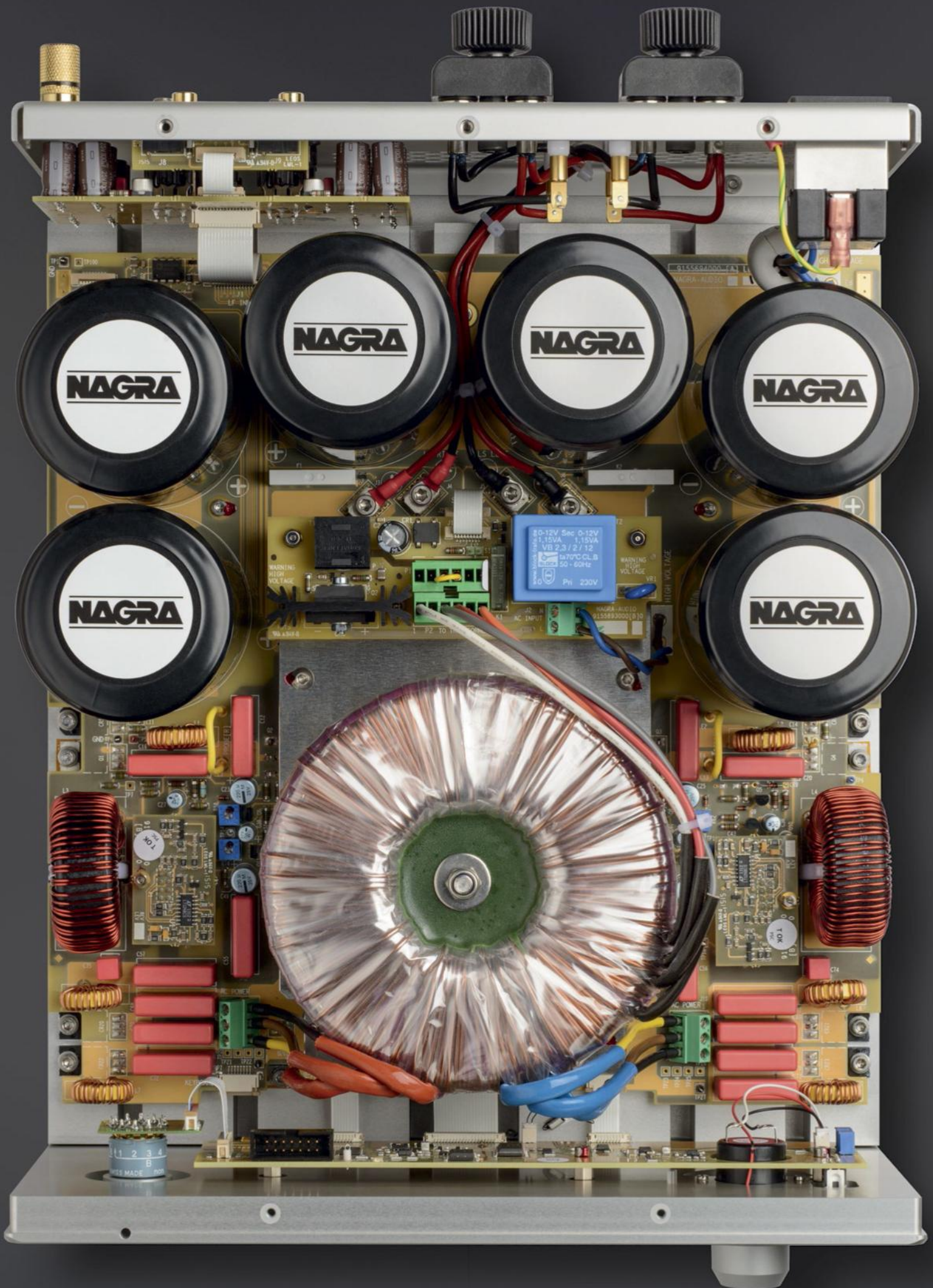
277 × 395 × 174mm

WEIGHT: 18kg

WARRANTY: Two years

PRICE: \$22,495 (each)





◀ “GENERALLY, ASSEMBLY OF AN EQUIVALENT OUTPUT STAGE REQUIRES SEVERAL PAIRS OF TRANSISTORS, WHICH IS DIFFICULT TO ACHIEVE PRECISELY,” SAYS NAGRA. “THE SIMPLICITY OF THE CLASSIC AMP’S DESIGN IS THE KEY TO ITS MUSICALITY.”

detected (which is certainly audible), upon which the amplifier shuts itself down.

The rear panel has both balanced (via gold-plated XLR) and unbalanced (via gold-plated RCA) inputs, with a toggle switch to select between them. The sensitivity of each input can be adjusted between 1V (for rated output) and 2V (for rated output) using a toggle switch. The amplifier can also be set (using a three-way toggle switch) for ‘Bi-amp,’ ‘Normal,’ or ‘Bridged’ mode operation. Nagra has very sensibly recessed all three toggle switches so there is no possibility of accidentally moving one. Remote in/out terminals and an earth terminal are also fitted.

Only a single set of speaker outputs is fitted, using Cardas’s unusual high-current connectors where a single screwed fitting tightens the posts of both positive and negative speaker terminals simultaneously. Whilst admiring the facility of this clamping system, it best suits those whose speaker cables are terminated with either spade or ring connectors. However, if you are not using the amplifier in bridged mode (in which case you don’t install the ‘bridge links’ supplied into the appropriate places on the rear panel) you can use the bridge link ‘holes’ to insert speaker leads terminated in banana plugs.

So far as the internal circuitry of the Nagra Classic is concerned, both the power supply and the output stage are linear, with the output stage using a single pair of MOSFET output devices in each channel that Nagra says: “operate in pure Class-A over a very large power band and beyond in Class-AB.” This is a very basic amplifier implementation, but one that Nagra says it has



used for a reason. “Generally, assembly of an equivalent output stage requires several pairs of transistors, which is difficult to achieve precisely,” says Nagra. “The simplicity of the Classic Amp’s design is the key to its musicality.”

We did find it rather odd that the rear of the Nagra Classic power amplifier does not include one or two 12V d.c. power outputs that could be used to supply power to a Nagra’s CDP and Nagra Preamp.

In common with Nagra’s other high-end components, the Classic is built from thick sheets of aluminium that are bolted together. The external dimensions of the case are 277x395x174mm (HWD) .which includes the additional

depth required to accommodate the modulometer (which protrudes from the front panel) and the depth required to accommodate the very large speaker terminals.

NAGRA MPS POWER SUPPLY

As noted earlier in this review in the sections on the Nagra CDS CD player and Classic Preamp, Nagra prefers not to mix high and low voltages in a single chassis, so both the Nagra CDS and the Nagra Preamp can be powered by external power supplies (compulsorily in the case of the CDS and optionally in the case of the Preamp). Although you could buy a separate Nagra ACS IIs to power each external unit, Nagra’s MPS (Multiple Power Supply) can supply 12V d.c. power to up to four components (or only three if one of them is the HD DAC, which requires two separate power supplies) as well as the BPS compact phono preamplifier.

Although it was specifically intended for the BPS and VPS phono stages, an optional Li-Ion battery can be installed on one output, enabling total isolation from the 240V mains for up to 100 hours if you’re using it to power the BPS phono stage, and for up to 11 hours if you’re using it to power the CDP.

Each of the Nagra MPS’s four outputs is capable of delivering 12V d.c. at up to one amp via Lemo connectors (BPS output is via a d.c. connector). Four 1.25m connecting cables are supplied with each MPS. Shorter (0.75m) cables are available ex-stock and custom lengths are available by special order.

As you can see from our photographs, the knobs and controls on the front panel are the same type as on other Nagra components. The position of the small rotary switch to the right of the modulometer dictates what voltage the modulometer is measuring: the voltage of the mains power, the available battery voltage (if a battery is connected), or the voltages at the individual outputs (1–4). The small LEDs at the right of the display all glow yellow/orange all the time the unit is on, irrespective of whether or not a component is connected to the respective output.

IN USE AND LISTENING SESSIONS

The very first thing you will notice about the Nagra CDP is that the disc drawer mechanism is noisy. Very noisy. This was a surprise in part because Nagra says the motor is: “a state-of-the-art planetary reduction motor: a component developed by a NASA-approved supplier, whose products equipped the Mars Rover robot sent to the red planet.”

Then we realised that a motor designed for use in space doesn’t have to be quiet, because you couldn’t hear it... there’s no atmosphere, so no medium for the transmission of sound waves. The

So far as the internal circuitry of the Nagra Classic is concerned, both the power supply and the output stage are linear, with a MOSFET Class A/B output stage



only requirements for a motor used in a space program would be that it's accurate and reliable. The motor is no doubt accurate (to within two microns, according to Nagra) and we have no doubt it is absolutely and completely reliable... but it's 'way noisy!

As noted at the start of this review, a magnetic clamp must be attached manually every time you load a CD. Nagra says that this clamp improves the centring and positioning of the CD on the transport, which is certainly true. However its primary function is to stop the CD from launching itself into the air when the transport spins it up to playing speed (which varies between 200 rpm at the beginning of disc and 500 rpm towards the end). The only issue about drives that use a clamping system is that

you have to remember to remove both disc and clamp whenever you transport the player from one location to another. If you don't, it's possible for the clamp to become dislodged and fall inside the player, which in the case of the Nagra CDP would require you to remove the six screws securing the top plate and extract it manually before you attempt to apply power.

We did appreciate the fact that Nagra has helpfully included some (red!) illumination in the drawer when it's open, which makes it easy to load and unload CDs in a darkened room, an excellent idea! We'd even stab a guess that this feature might have been requested by Nagra's own dealers and distributors, who often do their demonstrations in showrooms and at hi-fi shows, where rooms can sometimes be very dark indeed!



SPECIFICATIONS

NAGRA MPS

COMPATIBILITY: Nagra BPS, VPS, PL-L, Melody, Jazz, CDC, CDP, CDT, HD-DAC

OUTPUTS: No 1 with Lemo connector 12VDC, 1A, as well as DC connector for the BPS.

The optional Li-ion battery will feed this output. No 2 to 4 with Lemo connectors 12VDC, 1A.

OPTIONAL LI-ION BATTERY OPERATION TIME: CD range 11 hours, VPS, PL-L, Jazz 7-8 hours; Melody 50 hours, BPS 100 hours

HOME AUTOMATION INPUT AND OUTPUTS: 3.5mm jack connectors, output switched by relay (max 1A).

DIMENSIONS (HWD):

90 × 277 × 270mm

WEIGHT: 8kg

WARRANTY: Two years

PRICE: \$9295

CONTACT: Kedcorp

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