



Audio Note

**DAC 4.1x  
Signature**

DIGITAL TO ANALOGUE  
CONVERTER

**OWNER'S INFORMATION**



**Congratulations** on your purchase of the Audio Note™ DAC4.1x Signature.

The DAC4.1x Signature was specifically designed and engineered for the best **sonic performance** rather than technical specifications. Although the DAC4.1x Signature is a digital component (there is no avoiding this unfortunately!), it will bring a new level of musicality to your CD's and is fatigue free during extended listening periods. In order to obtain the best possible performance and longevity from your DAC, please read over this manual carefully.

**Technology:** The DAC4.1x Signature uses the revolutionary and currently exclusive Audio Note™ digital technology dubbed the 1xoversampling™ direct from disc™ circuit topology. The ultimate version of this technology is found in the extremely expensive DAC5 Signature, and we have taken great care to ensure that as much of the inherent advantages of the topology have been retained in the sound of the DAC4.1x Signature. The technology dispenses with all the correction measures inherent in all other d-a converters and presents the digital signal directly to the converter after reformatting. This allows you to hear what is actually recorded on each disc, rather than, as has been the case up to now, some technically and cosmetically altered version. As a result the reproduction is more reminiscent of a master tape in quality.

Not surprisingly for an Audio Note™ product, the DAC uses vacuum tube technology implemented using traditional Audio Note™ techniques with simple signal paths incorporating no correction or feedback operating the valves at their most linear operating points for best sound and longevity.

Unlike its smaller brother the DAC1.1x, the DAC4.1x Signature uses the patented analogue transformer coupled filter interface (US patent no. 5420585, UK patent no. 2270595, Australian patent no. 670611), which substantially improves the conversion from digital to analogue replay.

In the DAC4.1x Signature these interface transformers are copper wired with a fully interlaced super mumetal (250 core) and the filters are all made with Audio Note™ silver wire. There is an abundance of Black Gates (some C-types) capacitors, Tantalum resistors, Audio Note copper and silver foil paper in oil caps throughout the DAC. Even the chassis is made from thick gauge solid copper to reduce noise levels. And the better NOS E182CC/7119 valves.

## **UNPACKING & INSTALLATION.**

Please take care when unpacking the DAC. We recommend that you store the packing materials in case the unit requires shipping at a later date.

Next, select a suitable location for the unit, ensuring that adequate ventilation is provided (the vacuum tubes do generate some amount of heat). In the interest of safe, reliable operation, situate the DAC away from dampness or direct sunshine.

Worthwhile sonic improvements may be obtained by locating the unit on a suitably designed audio component support system.

## **AFTER CARE**

No special maintenance is required for the DAC4.1x Signature. Cleaning is best made with a soft cloth or brush similar to those sold by photographic stores for lens cleaning applications.

Use a cloth dampened with mildly warm water and a weak soap solution for removing grease or oily substances. Strong or alcohol based solvents may cause damage to the DAC's finish.

### **Replacing the vacuum tubes.**

The valves used in the DAC4.1x Signature is a common double triode type , which should provide a useful life span of about 5 years if the DAC is operated 24 hours per day, which is the recommended operation and the one that sounds the best. There are many equivalents to the E182CC/7119, if you want to experiment with different types, see my comments on this in a section later in this manual.

Although replacement tubes for the DAC4.1x Signature are 'fairly widely' available, better performance will be obtained with tubes selected and matched specifically for the DAC by Audio Note™. Should the vacuum tubes require replacement, please contact your Audio Note™ dealer for technical support.

## **CONNECTIONS - Digital**

A coaxial connection enables connection of the DAC to a CD transport or other digital sources.

### **Before making a connection, ensure that the DAC & Transport are turned off.**

Select a suitable coaxial cable for digital use, we recommend Audio Note™ interconnects AN-S, AN-V, AN-VX or ANVZ silver interconnects, in a 75cm\* run with either Audio Note™ AN-P RCA plugs. Coaxial cables for digital use are most commonly terminated with RCA connectors and so the DAC uses silver plated Audio Note™ RCA type input sockets.

Plug one end of the coaxial cable into the RCA socket on the DAC (marked Digital Input) and connect the other end of the coaxial cable to your CD transport (marked Digital Output).

Your dealer can advise on suitable type and quality of cable and give you a recommendation as to which Audio Note™ cable is the best choice. (Always recommended is Audio Note™ silver cable).

<p>*Some special notes about digital cables - Try to use a digital cable of less than 1.5 metre in length. Ideal length is in our opinion 0.75metre.</p>
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## **CONNECTIONS – Analogue**

The De-emphasis process is now carried out automatically within the DAC itself. We recommend that connections should only be made to the sockets on the rear panel marked DIRECT for BEST RESULTS.

The other pair of sockets marked DE-EMP., and the adjacent push-button switch, need not be used. De-emphasis means that the CD has been encoded with a treble increase which the De-emp. circuit in the converter will correct.

The BEST connection for most CD's should be done via the the DIRECT OUTPUT.

**CONNECTION MAINS** :- The DAC has an IEC mains inlet socket, use the supplied mains cable to connect the unit to the local mains supply, the fuse is situated in the inlet socket as well.

### **OPERATING THE DAC4.1x Signature.**

Once all the connections are complete, turn on the CD transport. Next turn on the DAC by using the rocker switch located on the back panel next to mains inlet socket. Now turn on the amplifier. Red led on front panel confirms unit is on.

If all is in order, the system is now ready to play music, and at last the sound of your compact discs will be tolerable!

The DAC4.1x Signature will improve over time and start to sound really well balanced. This is because of the "bedding in" time taken by new electrical components inside the unit. Also, the DAC's sound quality improves as the unit reaches its normal, stable operating temperature.

Only a rear panel on/off switch is provided as the unit is designed for continuous operation. The DAC need not be switched off each time after use. It is interesting to note that continuous operation not only results in optimum sonic performance (since the unit is maintaining a constant operating temperature) but also causes less electrical stress and so extends component and valve life.

### **EXPERIMENTING WITH DIFFERENT VALVES.**

As mentioned before the 7308/E88CC have a number of equivalents and were made by a large number of manufacturers, they are now only made in Russia and Yugoslavia.

Equivalents include,

7308, E88CC, 6922, E188CC, CV2493 (E88CC), CV5358 (ECC88), CV 4110 (very low noise E188CC version), CV4108, CV4109, CV4111 (all E188CC variants).

These were made by Sylvania, Amperex, PhilipsECG, Mullard, CEI, Philips (Holland), Siemens, Telefunken and many others.

The best I have found is the Telefunken E88CC 01 gold pin, expensive, but worth every penny.

Re the NOS E182CC/7119 valve for the DAC 4.1x Signature speak to Audio Note regarding any alternatives.

### **WARRANTY AND SERVICING**

Audio Note™ warrants this product free from defects in materials and workmanship for one year from original date of purchase from an appointed Audio Note™ dealer. The vacuum tubes are warranted for three months.

In the event that your Audio Note™ product requires servicing, please contact your Audio Note™ dealer. If the component needs to be shipped, please use the original packaging materials and include a copy of the sales purchase with a note, explaining, in as much detail as possible, the problems that you are experiencing with the unit.

**Any modification not authorised by Audio Note will invalidate this warranty.**

If you require technical support, new vacuum tubes or have any questions, please direct them to your local Audio Note™ dealer or alternatively to:-

Audio Note (UK) Limited,  
Unit C, Peacock Industrial Estate,  
Lyon Close,  
125-127 Davigdor Road,  
HOVE,  
East Sussex, BN3 1SG.  
United Kingdom.  
Tel: +44 (0)1273 220511  
Fax: +44 (0)1273 731498  
Email: [info@audionote.co.uk](mailto:info@audionote.co.uk)

## **SPECIFICATIONS**

<b>Weight</b>	16 kilograms
<b>Dimensions</b>	145(h) x 300 (w) x 415 (d) (mm)
<b>Fuse ratings</b>	1.25A anti-surge (110/120v supply) 500mA anti-surge (220/240V supply)
<b>Output impedance</b>	Less than 2K ohm
<b>Reference output</b>	3.0V RMS
<b>Channel balance</b>	Less than 0.25db
<b>Tube compliment</b>	2 x 7308/E88CC, 1 x 6X4R.
<b>Digital system</b>	18 Bit 44.1/48/96KHz compatible multi Bit converter chip, the 1xoversampling system will truncate the information at 20, 22 and 24Bits, which is very much milder form of information loss than that introduced by traditional over sampling and digital filtering etc.

<b>Power consumption</b>	20 Watts
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**Note:** Due to Audio Note's ongoing research and development programme, specifications are subject to change without notice. July '01

**THIS PRODUCT COMPLIES WITH CE STANDARDS.**