Introduction
Thank you for purchasing the V90-DAC digital to analog converter. We sincerely hope that it will bring you many years of outstanding listening pleasure.

Installation Precautions
Your new V90-DAC is designed to provide trouble-free performance, but as with all electronic devices, it is necessary to observe a few precautions:

- Do not use the V90-DAC near water. The unit must not be exposed to dripping or splashing and no objects filled with liquids, such as vases, must be placed on the unit.
- Keep the V90-DAC away from heat such as radiators. No naked flame sources, such as lighted candles, should be placed on the unit.

Power Supply Note:
- Only use approved musical fidelity DC power supply. The use of other adaptors or supplies could seriously damage the V90-DAC.

This Hi-fi product has been tested to ensure that its operation is not adversely affected by normal background levels of Radio Frequency Interference (R.F.I.), and that it does not itself generate excessive amounts of interference. However, if a problem persists, please contact your musical fidelity agent.

Never open the case of the V90-DAC yourself, as this will invalidate the guarantee.

The V90-DAC will operate in accordance with its specifications within the following environmental range:
- Temperature 5 to 45 degrees Celsius
- Humidity 10 to 90% non-condensing

There are no user adjustments inside. Please refer all service work to an authorised Musical Fidelity agent.

Connections
All connections must be made before the mains adaptor is plugged in, and before any amplifier connected is switched on. Always switch off the equipment attached to the V90-DAC before connecting/disconnecting power, changing leads or inputs.

Digital coaxial inputs
Using good quality digital RCA (SPDIF) leads (not supplied), connect the digital coaxial output from a digital audio source (e.g. CD player) to the V90-DAC COAXIAL socket.

Digital optical inputs
Using good quality optical (TOSLINK) leads (not supplied), connect the digital optical output from a digital audio source (e.g. CD player) to the V90-DAC OPTICAL 1 socket (or 2 if COAXIAL input is not already used).

Note the COAXIAL and OPTICAL 1 inputs are a shared input. The unit will only respond to the first of these inputs to present a valid digital stream if both are used.

USB input
A quality USB A-B cable is required to connect the unit to a computer. Plug the B (square) end into the socket in the back of the V90-DAC and the A (rectangle) end into a free USB socket on your computer. Set the input select switch to "USB".

Once the unit is plugged in and powered, the computer should detect the new hardware and install a generic driver automatically (No setup or driver disk required). The V90-DAC is then ready to play V90-DAC, CD or any other form of music file recognised by the computer.

Power
Plug the DC connector lead from the power supply unit into the V90-DAC's power inlet socket, and plug the adaptor itself into a convenient wall mains outlet. The blue LED will light to confirm the unit is ready for use, and the green LED should also be lit indicating presence of digital signal.

Use
Turn the volume on amplifier to normal listening levels, set the input select switch to desired input, sit back and enjoy the music.

Power Supply Note:
- Only use approved musical fidelity DC power supply. The use of other adaptors or supplies could seriously damage the V90-DAC.

Additional USB Information
- On the host computer, a new mixer will be available, which is the default mixer whenever the DAC is plugged in. Use this mixer to select the source or adjust levels if required (CD, MP3, WAV files played on any software should now play through the DAC). This device has been designed to work with Windows 98, ME, 2000, XP, Vista, 7 and 8. Linux and Apple OS.
- The computer drivers for the USB input of the V90-DAC should install automatically. To check correct installation follow these steps:
  - PC users: check the computer has picked up the device and is currently using it by clicking: (most Windows versions)
    - Start
    - Settings
    - Control Panel
    - Sounds and Multimedia
    - Audio: Check "V90-DAC 24/96" appears under PREFERRED AUDIO DEVICE tab.
    - Mac users: Check the computer has picked up the device and is currently using it by clicking: (MAC OS X)
      - System preferences
      - Hardware
      - Check that "V90-DAC 24/96" is selected under the OUTPUT tab. If the computer’s warning soundcliques are to be played through the DAC, make sure it is selected under the SOUND EFFECTS tab too.

This device is a high speed serial data processor, and by its nature, requires a very high volume of USB bandwidth. It will benefit greatly from being the only device connected to a USB port. Sharing the port with other devices may cause unwanted artifacts and loss of signal. This especially includes the use of the DAC on a USB hub/splitter alongside other USB components.
Specifications:

**Specifications:** DAC 32 Bit upsampled to 192kHz on all inputs
**Output impedance** 47Ω
**Maximum output** 2.2V
**Total harmonic distortion** 0.0004% 20Hz-20kHz
**Frequency response** +0, -0.1dB 20Hz-20kHz
**Crosstalk** -104dB 20Hz-20kHz
**Signal / noise ratio** -117dB “A”
**Total Jitter** 12ps
**Power requirement** 12V DC 500mA

**USB input** Asynchronous data stream at up to 24-bit/96kHz

**Connections**
- Digital inputs: 1 RCA (coaxial), 2 TOSLINK (optical), 1 USB (type B)
- Line level outputs: 1 pair RCA sockets
- Power input: 1.3mm DC power socket

**Dimensions**
- Length: 102mm 4”
- Width: 170mm 6½”
- Height: 47mm 1½”

**Weight**
- Unit alone: 600g 1½ lbs
- Unit packed in carton: 1.1Kg 2½ lbs

**Accessories**
- DC power supply: 12V 500mA 1 off (supplied)
- Leaflet: V90-DAC instructions 1 off

Musical Fidelity reserves the right to make improvements which may result in specification or feature changes without notice. E&OE.

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**Item disposal information for Europe**

- **Disposal**
  - The crossed out wheeled bin label that appears on the back panel of the product indicates that the product must not be disposed of as normal household waste. To prevent possible harm to the environment please separate the product from other waste to ensure that it can be recycled in an environmentally safe manner. For details please contact your local government office or your dealer for available collection facilities.

- **Description**
  - The crossed out wheeled bin label that appears on the back panel of the product indicates that the product must not be disposed of as normal household waste. To prevent possible harm to the environment please separate the product from other waste to ensure that it can be recycled in an environmentally safe manner. For details please contact your local government office or your dealer for available collection facilities.

- **DISPOSAL**
  - The crossed out wheeled bin label that appears on the back panel of the product indicates that the product must not be disposed of as normal household waste. To prevent possible harm to the environment please separate the product from other waste to ensure that it can be recycled in an environmentally safe manner. For details please contact your local government office or your dealer for available collection facilities.

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