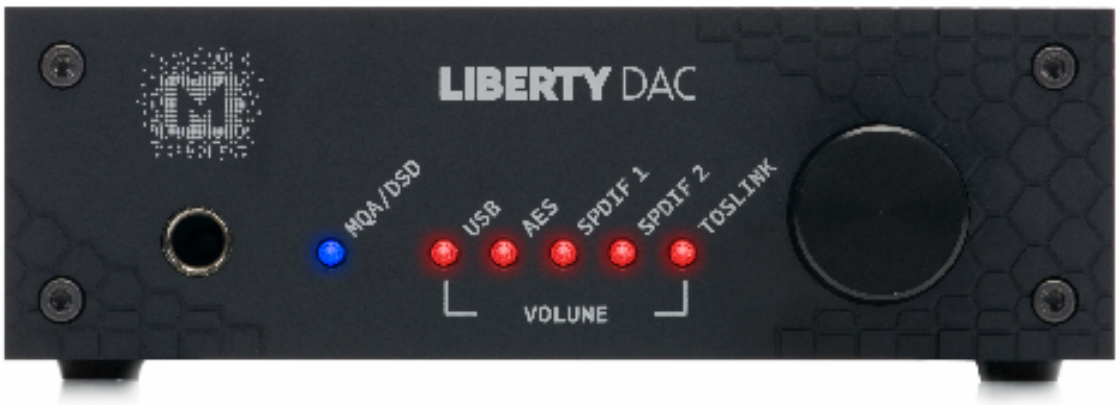
LIBERTY DAC

DAC • HEADPHONE AMPLIFIER

Owner's Manual

MYTEK



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The Liberty DAC firmware can be easily updated via Mytek USB Control Panel. As the firmware is updated, Mytek will be posting new firmware releases in the support / download section on Mytek website. Firmware may alter details of Mytek operation and consequently there will be periodic updates to this manual. For news, driver updates, technical support, tips and further product information please visit our website:

mytekdigital.com

Technical support issues are handled via our online support ticketing system. Please enter details of the ticket in the support/download section on Mytek website.

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Before installing and using your new Mytek Liberty DAC
please be familiar with all the information contained in this manual.

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1. Introduction

Thank you for choosing the Liberty DAC from Mytek Digital and welcome to the Mytek users' community. Over 20 years of experience in building mastering grade converters and other audio equipment has been utilized to create this digital to analog converter. Its sophisticated audio path is designed to deliver bit perfect, high quality, transparent sound to your speakers and headphones. Liberty DAC will play:

- PCM up to 32 bit / 384 kHz.
- DSD64, DSD128, DSD256
- MQA master quality files off online streaming services.
- Any other digital source equipped with USB, Toslink, SPDIF or AES.
- Any other analog source plugged into analog input.

The Liberty DAC has been optimized for highest performance under Windows, Mac OS and Linux. Based on a newly developed Mytek Hi-Speed USB (USB2) Audio Class 2 32bit / 384kHz Integer Interface, the LibertyDAC provides very low latencies as well as extreme stability.

Mytek provides Windows (up to Win10) 32 bit drivers, both WASAPI and ASIO (with native DSD) developed by Thesycon.com. Mac OSX and Linux computers as well as the Linux audio streaming devices do not require a driver.

Enjoy your new Liberty DAC!

All the best,
The Mytek Digital Team

2. Package Content

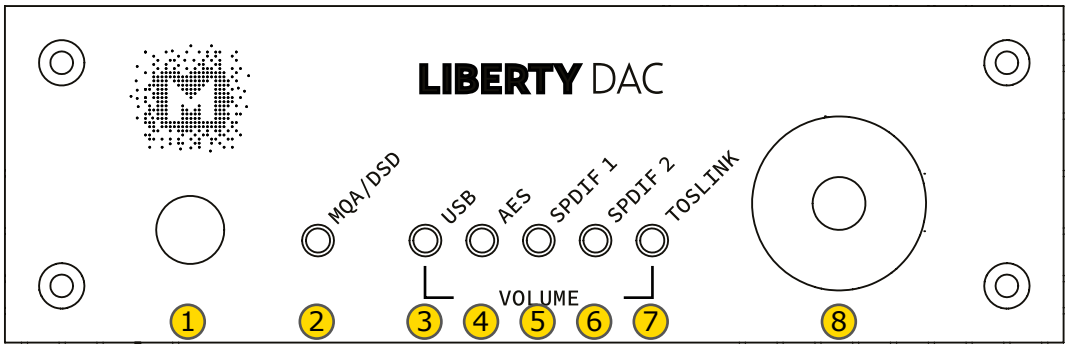
- The Liberty DAC
- USB 2.0 Cable
- Power cord
- Owner’s manual

3. Features

- Conversion: up to 384k, 32bit PCM, native DSD up to DSD256, DXD, 130dB Dynamic Range
- Analog outputs: TRS (balanced), RCA (unbalanced) simultaneous
- Headphone output: TRS
- AES/EBU Input (PCM up to 192k, DSD up to 256 DoP)
- 2x S/PDIF Input (PCM up to 192k, DSD up to 128 DoP)
- Toslink (PCM up to 192k, DSD up to 64 DoP)
- Mytek proprietary USB 2.0 Class 2, up to 32bit/384k, DSD256, also accepts digital AES, SPDIF and Toslink inputs.
- Built in certified hardware, Hi-Res MQA decoder
- Four digital inputs are fitted (1x AES/EBU, 2x S/PDIF and 1x TOSLINK) which allow a wide range of digital sources to be connected.
- Fast and reliable USB driver (ASIO included), driverless on MAC and Linux.

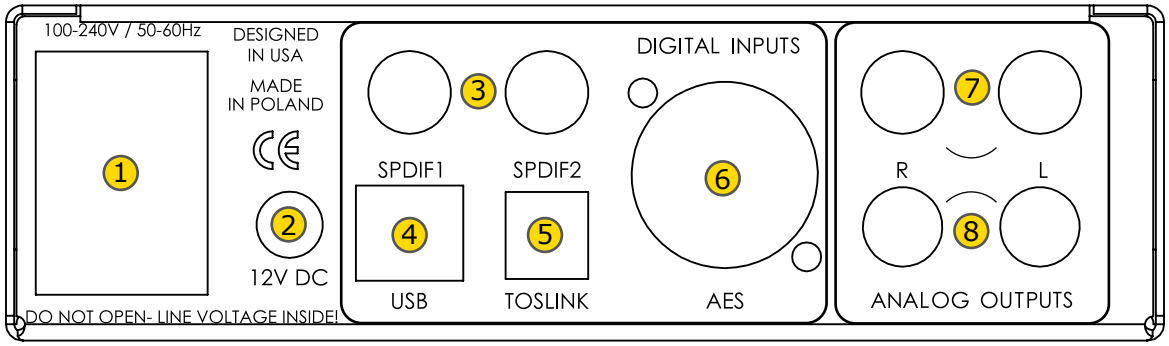
4. Quick Start

4.1 Front Panel



1. Headphones output
2. PCM / DSD / MQA / Standby led
   - orange colour indicates that PCM file is played
   - white colour indicates that DSD file is played
   - green colour indicates that MQA content is detected
   - blue colour indicates that MQA content is detected and it has either been approved in the studio by the artist / producer or has been verified by the copyright owner.
   - the colour of this led in Stanby mode can be selected in the Control Panel application. It can be also completely switched off („St-by D Bright" option in MCP app).
3. USB led indicates USB input is selected
4. AES led indicates AES input is selected
5. SPDIF1 led indicates SPDIF1 input is selected
6. SPDIF2 led indicates SPDIF2 input is selected
7. TOSLINK led indicates TOSLINK input is selected
8. Rotary Knob. This encoder is both a knob and a button. It enables the user to quickly select one from all digital inputs or adjust volume level.
   - when the DAC is in standby mode press and hold the main knob to turn the Liberty DAC on.
   - press the knob once to select one from all digital inputs
   - turn the knob left or right to adjust volume level. To see what input has been seleced press the knob once again.
   - press and hold the volume knob to switch the Liberty DAC off.

4.2 Rear Panel



1. The build in automatic power supply operates in the range of 100V to 240V AC
2. Optional external DC / Battery Power input; 12VDC. Connecting a large external battery or large power supply may have positive impact on sound quality.
3. S/PDIF Coaxial Input 1 and S/PDIF Coaxial Input 2 . These are digital inputs which accept up to 192kHz/24bit. They also accept DSD DOP standard input up to DSD64. These inputs can also be used to transmit digital audio into computer via USB2 connection.To obtain best results, use a high quality 75 ohm digital RCA interconnect cable.
4. Mytek proprietary USB 2.0 Class 2, up to 32bit/384k, DSD256, also accepts digital AES, SPDIF and Toslink inputs.
5. Optical Input (Toslink / ADAT). Digital input which accepts up to 192kHz/24bit. Accepts DSD DOP standard input up to DSD64. This input can also be used to transmit digital audio into computer via USB2 connection. For best results use short high quality TOSLINK cable. Special glass fiber Toslink cable allows for longer cable runs and is less jittery than regular plastic fiber.
6. AES/EBU Input. Professional digital input which accepts up to 192kHz/24bit. Accepts DSD DOP standard input. This input can also be used to transmit digital audio into computer via USB2 connection.
7. RCA Stereo Analog Output
8. Balanced TRS Stereo Analog Output

Quick Start – Immediate Playback AES/EBU, SPDIF and Toslink

Connect the analog outputs to your powered speakers, power amplifier or preamplifier. Alternatively use headphones. Connect the digital source to the DAC. Power up the player, power amplifier and the Liberty DAC. Choose the input you would like to use.

Attention! To prevent damage, do not turn on your speakers on until all connections have been made.

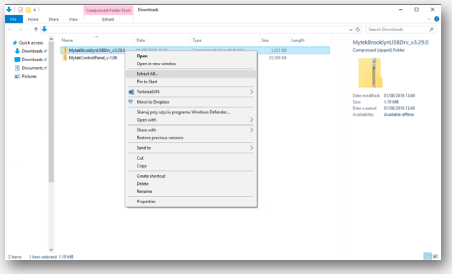
5. Liberty DAC Windows installation and configuration

- Turn off your amplifier then connect the Liberty DAC Analog Outputs to your next device (amplifier) analog inputs. Balanced connections (TRS) are typically for professional audio equipment while unbalanced connections (RCA) are typically for consumer audio equipment.
- Note that for proper operation it is necessary to install the USB2 driver. The Mytek Control Panel application can be installed at later time. Both driver and MCP have separate installers.

5.1 Windows – USB 2.0 driver installation

To simplify installation it is recommended to first install the driver before the unit is connected to the computer. The latest drivers are available at mytekdigital.com

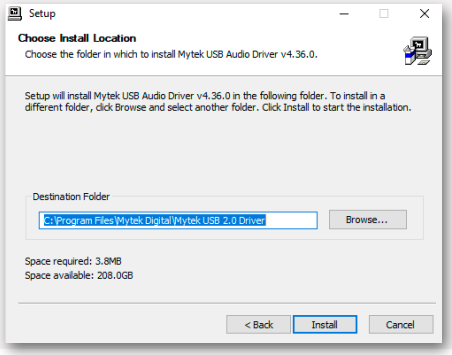
1. Locate the MytekUSB2Drv.v4.xx.x.zip file and extract the contents of the archive by right clicking on the zip archive icon and selecting „Extract Here”.



2. Installation works automatically by a double-click on MytekUSB2Drv.v4.xx.x.exe file.

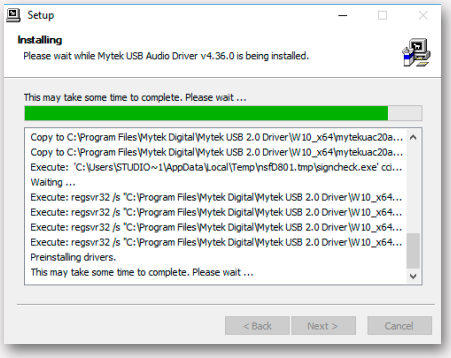
3. Once the Setup.exe opens click „Next”.

4. Choose the location of installation.Default location is „C:\Program Files\Mytek Digital\Mytek USB 2.0 Driver”.We recommend leaving this as it is.If you wish to customize the install choosethe location by selecting browse. Click „Install”.

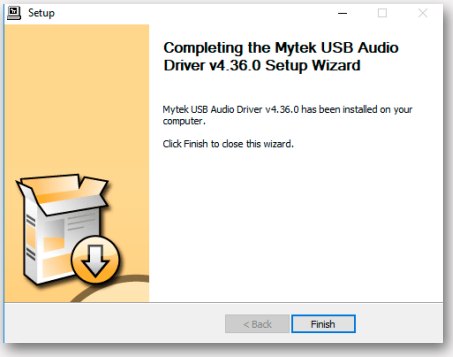


5. Setup.exe will now install the Mytek Driver.This process may take a few minutes.

6. Upon completion of „Setup.exe” press the „Next” button.



7. To complete installation of the driver simply click the „Finish” button. and then click Yes to exit installation. You will connect the DAC in the next step.

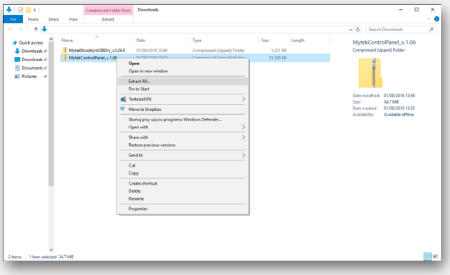


8. Connect the Liberty DAC to USB port in your computer.

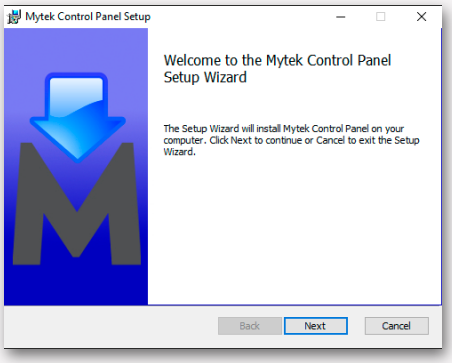
9. Confirm installation by launching the Mytek Control Panel (if already installed). Installation was successful if the Mytek Control Panel shows a device and permits access to all the options.

5.2 Windows – Mytek Control Panel installation process

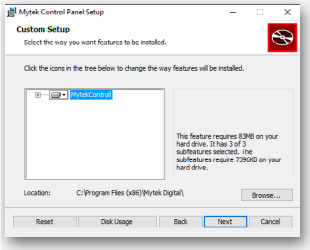
1. Locate the MytekControl.zip file and extract the content by right clicking on the zip archive icon and selecting "Extract Here".

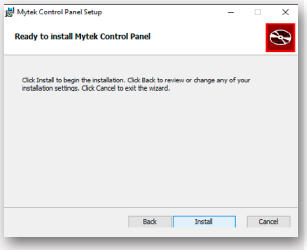


2. To install The Mytek Control double click the extracted Windows Installer Package file. When MytekControl Setup Wizard appears click „Next" then accept license and click „Next" again.

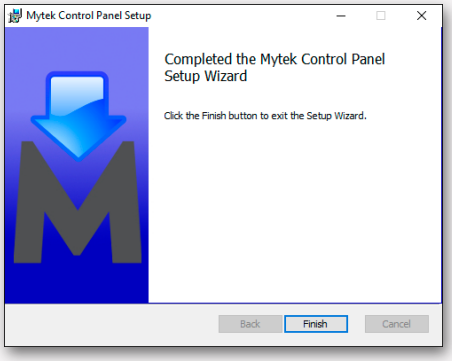


3. All options should be choosen in „Custom Setup" menu. To confirm the installation of each option select „Will be installed on local hard drive" then click „Next" and „Install" to begin the installation.

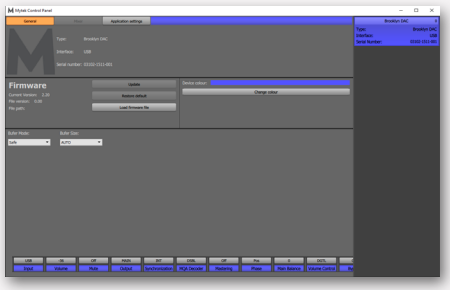




4. To complete installation of the driver simply click the „Finish" button.

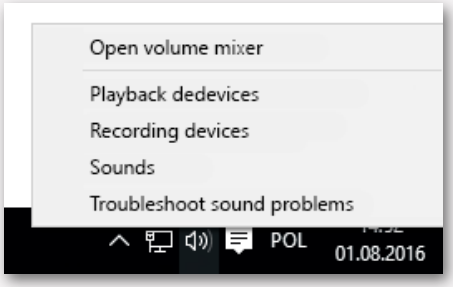


5. Confirm installation by launching the MytekControl application. Installation was successful if the MytekControl application shows the Liberty DAC with serial number and permits access to all options.

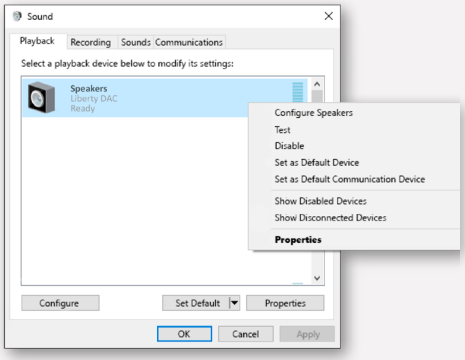


5.3 Windows – setting the Liberty DAC as default system playback device.

1. To set the Liberty DAC as your default Windows playback device find the speaker icon (Sound Settings) in the notification area (lower right corner of your screen) and right-click. Choose "Playback devices" from the context menu.



2. Right-click „Speakers Liberty DAC" and choose „Set as Default Device".



Note! – pro audio (DAW) applications (Cubase, Samplitude, Reaper etc.) or proffesional media players (Jriver etc.) use ASIO drivers and need to be configured different way. Please check our „Software Setup Guide" shown on our web site:

mytekdigital.com

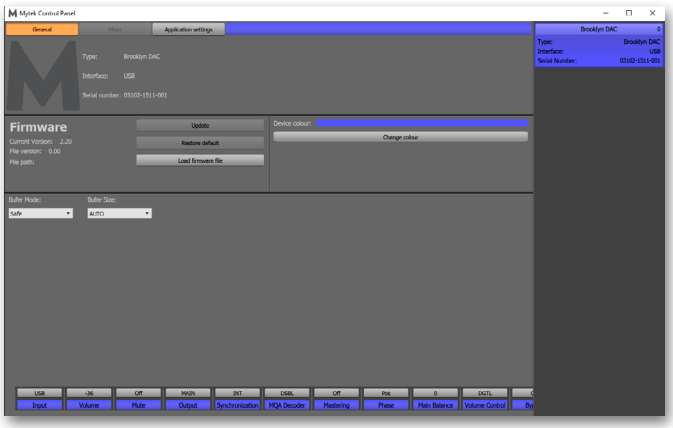
6. Liberty DAC OSX installation

6.1 OSX – USB 2.0 driver installation

The Liberty DAC custom designed USB2 controller supports **driverless** operation on MAC. It means that no extra drivers are required. Driverless operation basically means **„plug and play"**. The Liberty DAC will automatically show up in your computer's list of supported audio devices as „Liberty DAC". Simply choose that as your default audio playback device and the system will work.

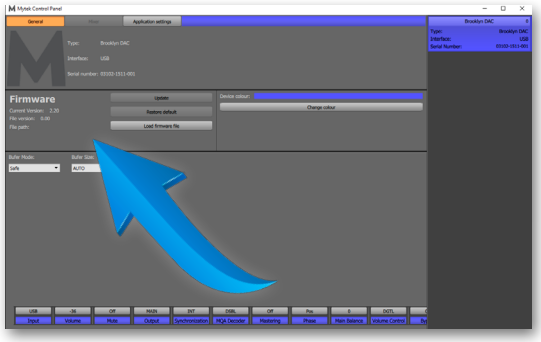
6.2 OSX – Mytek Control Panel installation.

To install the Mytek Control Panel simply drag and drop Mytek application file (located in Mytek_ ControlPanel_v.1.xx.dmg file) to „Applications" system folder. Follow the link to downlad the latest varsiion of the Mytek Control Panel application.



7. Firmware update Windows and OS X

The current revision of the Liberty DAC firmware is shown in the MytekControl „General" tab.



- The firmware can be updated by using USB2 port and Mytek Control Panel application. It requires already installed USB2 driver (PC only) and Mytek Contro Panel application. To download the current firmware as well as drivers please visit mytekdigital.com
- It is recommended to turn off any powered speakers / power amps connected to the Liberty DAC before proceeding with the firmware update.

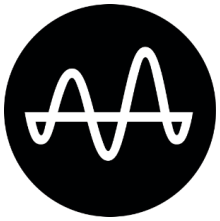
Follow the steps below to update the firmware:

1. Download the latest firmware (*.mfb) file from mytekdigital.com
2. Click „Load firmware file" button and browse to the new firmware file then click „Open".
3. Press the „Update" button to confirm uploading the firmware file to device's memory.
4. Confirm your choice by clicking „Yes" when warning dialog appears. A progress bar will indicate when the flash process is finished.
5. When the update is finished the the DAC will reset and start in sleep mode. To switch it on press the knob once. Once the DAC has been restarted the firmware update is complete. A reboot of the computer is not necessary.

When the update fails:

1. Disconnect power cord.
2. 2. Press and hold the knob and connect the power cord again.
3. The DAC runs in Bootloader mode. The MQA/DSD becomes white and blinks constantly.
4. The update process should then be tried again.

8. MQA - Master Quality Authenticated



Liberty DAC+ includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording. MQA content is detected automatically and colour of MQA / DSD led indicates what type of MQA is detected.

- **Green** – MQA valid, the MQA is detected
- **Blue.** – MQA authored, the MQA is detected and the file is fully authenticated. You can be sure you are hearing exactly what the artist approved in the studio

What is MQA?

MQA is audio recording and compression format created by Meridian Audio. It is also a new sophisticated method of digitally storing recorded music as a file that is small and convenient to download or even stream. There are no sonic sacrifices that are usually associated with compressed files. What this basically means is that high resolution audio streaming could finally be a reality, with songs being able to be delivered exactly how they were recorded in the studio, without requiring huge amounts of bandwidth to deliver.

How does MQA work?

MQA can pack up the information from a lossless 24-bit 192kHz PCM file into the sort of space needed for a 24-bit / 44.1KHz stream. In practice, MQA is delivered to listeners as a typical lossless file, such as FLAC or Apple Lossless at 44kHz or 48kHz at 24 bits.

9. Technical Specification

ANALOG

- Analog Outputs Connectors: 2 TRS balanced outputs, 2 RCA unbalanced outputs, Headphones
- Resolution DA: PCM 32bit / DSD up to 256 (11.2 Mhz)
- PCM Sample Rate: 44,1 / 48 / 88,2 / 96 / 176,4 / 192 / 384 Khz
- Dynamic Range: 130dB
- Output Impedance: 75 Ohm

DIGITAL

- Computer Audio I/O: 2.0 Hi-Speed, data stream up to 480Mbits/384kHz, Type B, driverless.
- AES/EBU Input: XLR, 24Bits / 192 kHz, DSDx64 (DoP)
- TOSLINK Optical Input: up to 192kHz single wire
- S/PDIF Coaxial Input 1 & 2: up to 192kHz single wire, DSDx64 (DoP)

GENERAL

- Firmware: upgradable via USB Control panel, updates available online, periodic feature upgrades
- Power Supply: Internal switching PSU, 100 - 240 V AC
- External power supply: 12V, 4 - 6 A
- Dimensions [W x H x D]: 218 x 44 x 206 mm / 1U half rack
- Weight: 1,0 kg
- Warranty: 2 years

10. Warranty

Each individual Liberty DAC undergoes comprehensive quality control and a complete test before shipping. This Liberty DAC is warranted by Mytek to the original purchaser against defects in workmanship and materials used in manufacture for a period of two years from the date of purchase.

Faults due to customer misuse, unauthorized modifications or accidents are not covered by this warranty. No other warranty is expressed or implied.

If you suspect that your product is faulty, please contact your local retailer. Prior to shipping customer or retailer must obtain an RMA number from Mytek for warranty services. Units sent without RMA number will not be accepted.

Mytek extends affordable repair service for all units manufactured to date that are not covered by this Warranty. Mytek repair centers are located at Mytek Headquarters in Brooklyn / New York, and in Warsaw / Poland (at Mytek EU Distribution Office).

Important Safety Information

- Read, keep and follow these instructions.
- Connect all your devices before powering the unit.
- Do not expose this device to moisture, rain and liquid of any kind.
- Clean only with dry cloth.
- If any form of liquid or a forin object enter the device switch it off and unplug it from the power source. Do not operate device until the foreign object is removed or the liquid has completly dried. If in doubt please contact Mytek Digital.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning

Excessive sound pressure from speakers and headphones can cause hearing loss. In order to use this product safely, avoid prolonged listening at excessive sound pressure levels.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community. Compliance with this directive implies conformity to the following European standards:

- EN55103-1 : Electromagnetic Interference (Emission)
- EN55103-2 : Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environments: E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors), E4 (controlled EMC environment, ex. TV studio).

Information on Disposal for Users of Waste

Electrical & Electronic Equipment(private households).

The Wheelie Bin symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment.

To properly dispose harmful substances and recycle the product, the user is obliged to return it at the point of collection of electrical and electronic equipment waste. For more information please contact your local authorities, waste disposal units or retailer.