THE NEW
BROOKLYN ADC

MYTEK
Owner's Manual
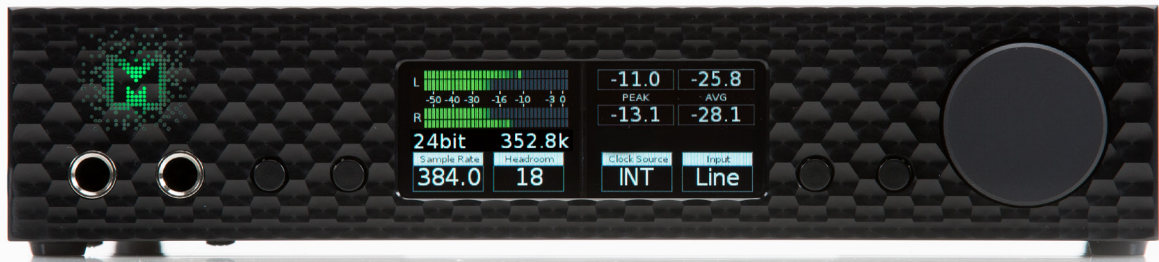
Owner's Manual Ver. 1.0 / November 2016

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The Brooklyn ADC 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/downlaod section on Mytek website. Frimware 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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Contents

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1. Introduction

Thank you for choosing the Brooklyn ADC 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. The Brooklyn ADC will play:

- PCM up to 32 bit / 384 kHz.
- DSD64, DSD128, DSD256
- MQA master quality files of online streaming services.
- Vinyl records utilizing its precision M/C, M/M phono preamplifier.
- Any other digital device equipped with Toslink, SPDIF, AES or DSD SDIF out.
- Any other analog source plugged into analog input.

The Brooklyn ADC 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 Brooklyn ADC provides very low latencies as well as extreme stability.
Fast Windows drivers including ASIO & WASAPI are provided. Mac OSX and Linux computers as well as the Linux audio streaming devices do not require a driver.

Enjoy your new Brooklyn ADC!

All the best,
The Mytek Digital Team

2. Package Content

- The Brooklyn ADC (black or silver)
- USB 2.0 Cable
- Power cord
- Owner's manual

3. Features

- Conversion: up to 384k, 32bit PCM, native DSD recording up to DSD256, DXD,

- 130dB Dynamic Range
- Analog Inputs: Combo XLR / TRS balanced, TRS at the front panel
- Transformers on the inputs
- Headroom: 13 - 20
- Four digital inputs are fitted (1x AES/EBU, 2x S/P DIF and 1x TOSLINK/ADAT) which allow a wide range of digital sources to be connected.
- **Digital outputs:**
- AES/EBU (PCM up to 192k, up to DSD64 DOP)
- S/PDIF (PCM up to 192k)
- Toslink (PCM up to 192k)
- SDIF3 DSD outputs up to DSD256
- Mytek proprietary USB 2.0 Class 2, up to 32bit/384k, DSD256, also accepts digital AES, SPDIF and Toslink inputs.
- Built-in ransformer: relay controlled
- High definition metering with simultaneous RMS and peak indication

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4. Quick Start
4.1 Front Panel
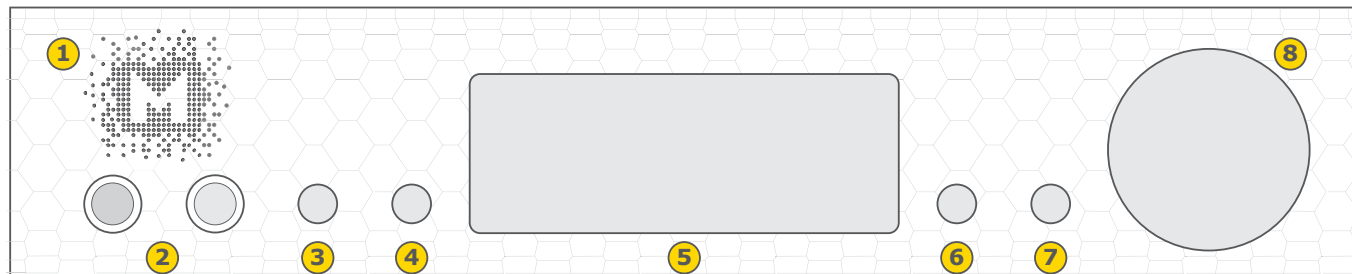
1. Mytek backlit logo. The color and brightness are user adjustable. Color follows the color of the Mytek Control Panel software and may indicate specific functionality when implemented in the future firmware.
2. Front Input Section: left channel
3. Front Input Section: right channel
4. Functional button enables the user to quickly choose an option, change and configure the device's settings.
5. Functional button enables the user to quickly choose an option, change and configure the device's settings.
6. OLED display
7. Functional button enables the user to quickly choose an option, change and configure the device's settings.
8. Functional button enables the user to quickly choose an option, change and configure the device's settings.
9. Rotary Encoder Knob. This encoder is both a knob and a button. It's primary function is to change values of each menu. It also functions as MENU navigation.

Press and hold the main knob to turn the Brooklyn ADC on or off.

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4.2 Rear Panel
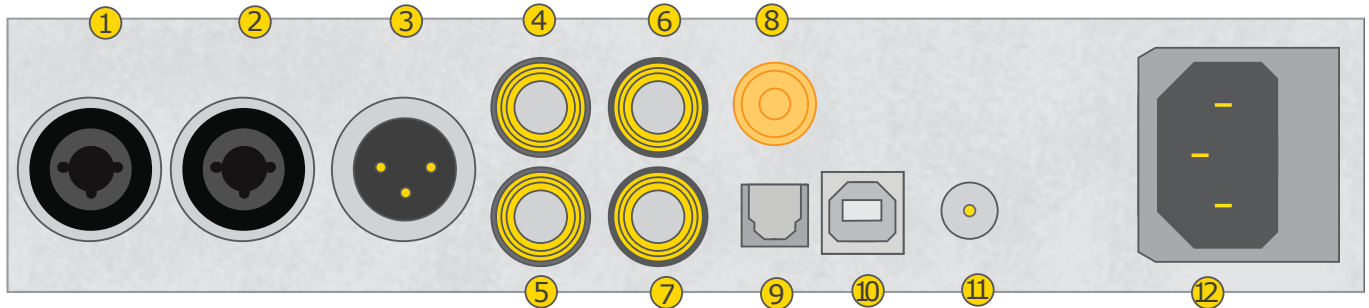
1. Balanced XLR / TRS Analog Input - right channel
2. Balanced XLR / TRS Analog Input - left channel
3. AES/EBU Digital Output - professional balanced XLR output which sends digital signal up to 192kHz/24bit. It can also be used to transmit digital audio from computer (USB2).
4. Wordclock BNC Input Can be used for professional clock distribution and for syncing multiple units and as DSD reference clock. Can also be used for connecting the Brooklyn ADC to an external clock. However, we recommend running Mytek on Internal Clock, using the built in Mytek FemtoClock which is by far superior (<1ps jitter) to any clock source connected from outside.
5. Wordclock BNC Output. Used for professional clock distribution. 192KHz and DSD reference clock. Mytek Femtoclock Generator (tm)" 0.82ps internal jitter, Wordclock Input and Output (allows stacking multiple units for multichannel operation, includes multichannel DSD)
6. SDIF2/3 DSD BNC output, left channel for use with professional DSD recording equipment (such as Tascam Master Recorders).
7. SDIF2/3 DSD BNC output, right channel for use with professional DSD recording equipment (such as Tascam Master Recorders).
8. S/PDIF Digital Output (RCA) - sends digital signal up to 192kHz/24bit, DSD up to DSD64. This output can also be used to send digital audio signal from a computer (USB2). To obtain the best results, use a high quality 75 ohm digital RCA cable.
9. S/PDIF Optical Digital Output (Toslink) - sends digital signal up to 192kHz/24bit. This output can also be used to send digital audio signal from a computer (USB2). 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.
10. Mytek proprietary USB 2.0 Class 2, up to 32bit/384k, DSD256, also accepts digital AES, SPDIF and Toslink inputs.
11. Optional external DC / Battery Power input; 12VDC. Connecting a large external battery or large power supply may have positive impact on sound quality.
12. The build in automatic power supply operates in the range of 100V to 240V AC

All analog inputs (XLR/TRS) and digital outputs (AES, S/PDIF, Toslink, SDIF) can be used in a DAW simultaneously.

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Quick Start – Immediate recording / playback

Connect XLR or TRS cables to analog inputs then connect desired digital output (USB, AES, SPDIF, Toslink). Connect WordClock cables if you use this protocol for clocking. Note that clocking via AES, SPDIF, Toslink is also possible. Next turn the DAC on and set clock mode to internal [INT] or external [WCK] mode. Set desired samplerate in the „Sample Rate" menu. Depending on your source level select proper headroom value.

5. Windows installation and configuration

For proper operation the USB2 driver (Windows only) and Mytek Control application must be installed. Both of these have separate installers available at:

https://mytekdigital.com/hifi/support/

5.1 Windows – USB 2.0 driver installation

To simplify installation it is recommended to first install the drivers before the unit is connected to the computer.

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1. Locate the MytekUSB2Drv.v3.xx.x.zip file and extract the contents of the archive by right clicking on the zip archive icon and selecting „Extract Here".
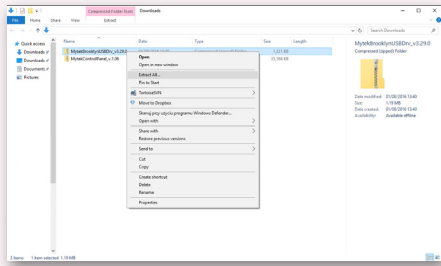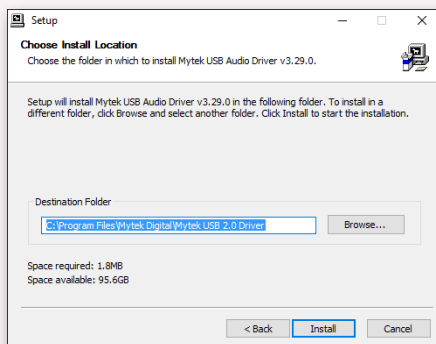

2. Installation works automatically by a double-click on MytekUSB2Drv.v3.xx.x.exe file.

3. Once the Setup.exe opens click „Next".
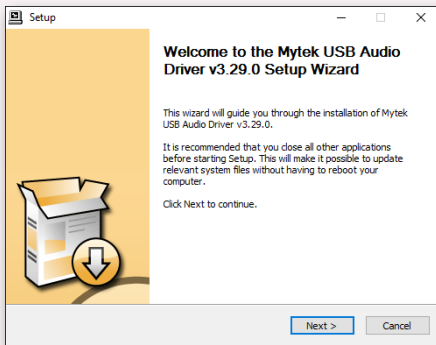
4. Choose the location of installation.Default location is „C:\Program Files\Mytek Digital\Mytek USB 2.0 Driver".We recommend leaving this as it is. If you wish to customize the install choose the location by selecting browse. Click „Install".
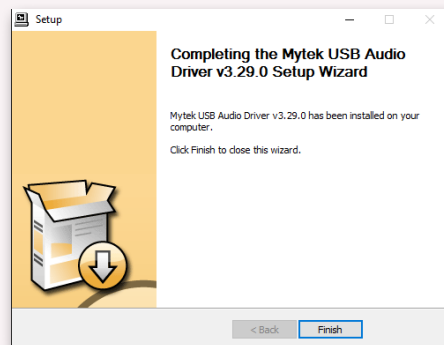

5. Setup.exe will now install the Mytek Driver.This process may take a few minutes.

6. Upon completion of „Setup.exe" press the „Next" button.
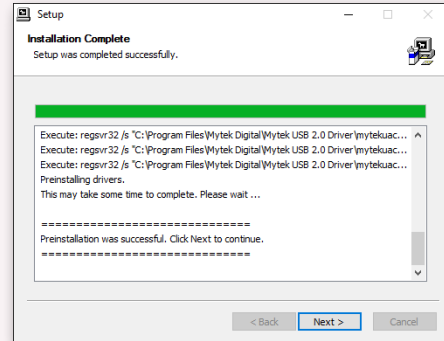
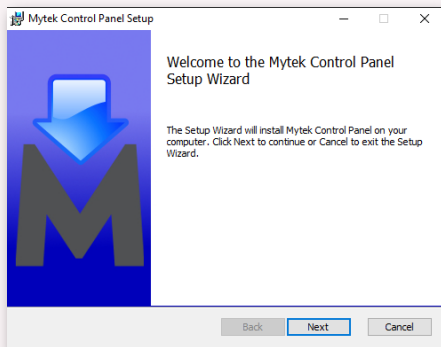7. To complete installation of the driver simply click the „Finish" button.

8. Connect the Brooklyn ADC to USB2 port in your computer.

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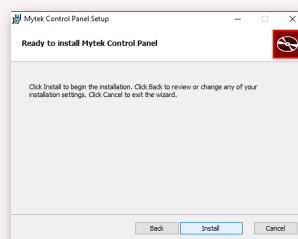# 5.2 Windows – Mytek Control Panel installation process

1. Locate the MytekControl.zip file and extract the content by right clicking on the zip archive icon and selecting "Extract Here".
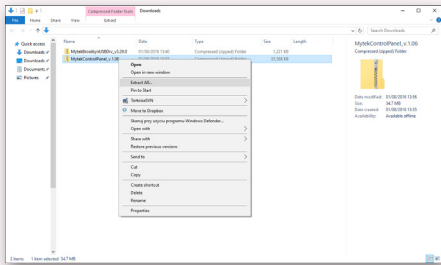
2. To install The Mytek Control double click the extracted Windows Installer Package file. When MytekControl Setup Wizard appears click „Next" then accept license and click „Next" again.

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.
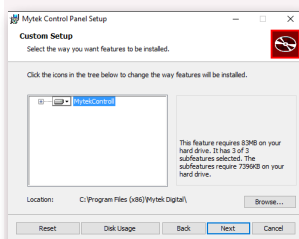
4. To complete the installation of the driver simply click the „Finish" button.
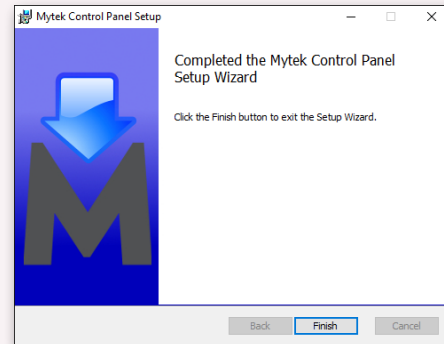
5. Confirm the installation by launching the Mytek Control Panel application. Installation was successful if the MytekControl application shows the Brooklyn ADC with serial number and permits access to all options.

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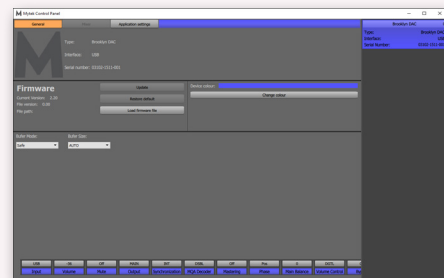
5.3 Windows – setting the Brooklyn DAC as default system playback device.

1. To set the Brooklyn ADC 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 Brooklyn ADC" and choose „Set as Default Device".
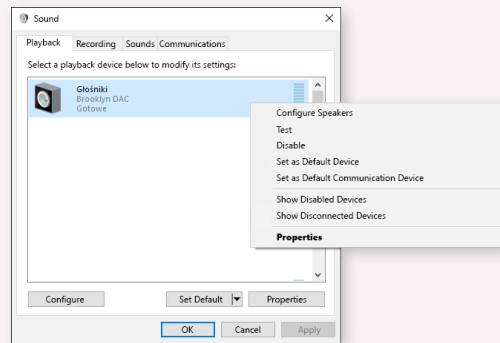
Note! – pro audio (DAW) applications (Nuendo/Cubase, Sequoia/ Samplitude, Reaper, Studio One etc.) use ASIO drivers and need to be configured a different way. Please check our „Software Setup Guide" shown on our web site:

mytekdigital.com

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6. Brooklyn ADC OSX installation

6.1 OSX – USB 2.0 - no driver required
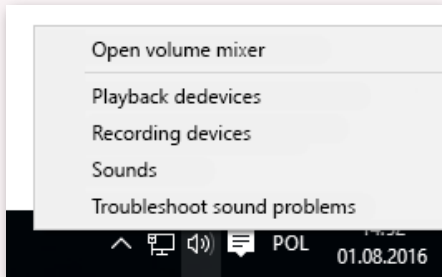
The Brooklyn ADC custom designed USB2 controller supports **driverless** operation on MAC. It means that no extra drivers are required. Driverless operation basically means **„plug and play"**. The Brooklyn ADC will automatically show up in your computer's list of supported audio devices as „Brooklyn ADC". 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 download the latest version of the Mytek Control Panel application.
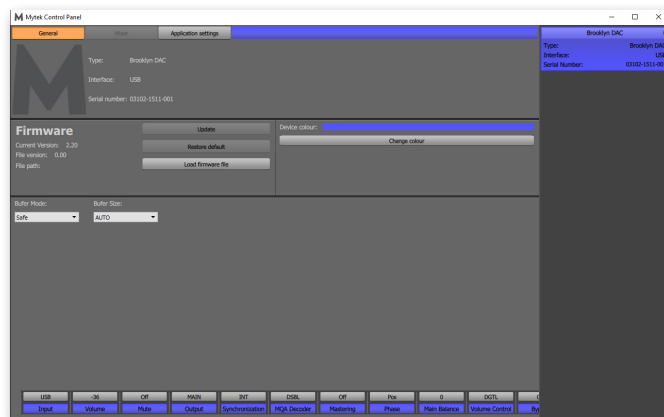
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7. Firmware update [Windows and OS X]

The current revision of the Brooklyn
ADC 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 https://mytekdigital.com/hifi/support/

- It is recommended to turn off any powered digital speakers connected to the Brooklyn ADC before proceeding with the firmware update.

Follow the steps below to update the firmware:

1. Download the latest firmware (*.mfb) file from our support page mentioned above.
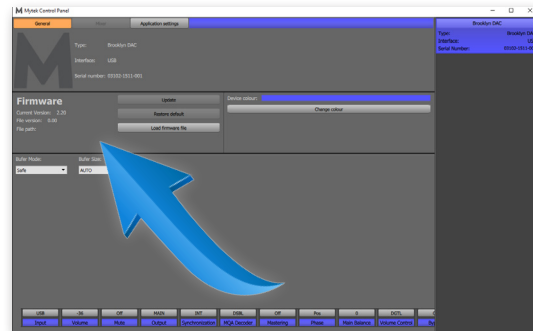2. Click „Load firmware file" button and browse to the new firmware file then click „Open".
3. Press the „Update" button to confirm uploading the firmware file to device's memory.
4. Confirm your choice by clicking „Yes" when warning dialog appears. A progress bar will indicate when the flash process is finished.
5. When the update is finished the ADC will reset and start itself in sleep mode. To switch it on press the knob once. Once the ADC 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. Press and hold the first (from the left) button and connect the power cord again.
3. The ADC runs in Bootloader mode. The logo becomes white and blinks constantly.

4. The update process should then be tried again.

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8. Menu
8.1 Menu Navigation

The four buttons, one encoder and the high-resolution display enable the user to quickly change and configure the device's settings. There are always four parameters fields shown at the bottom of the display. There are also 4 pushbuttons, each corresponding to one parameter field.
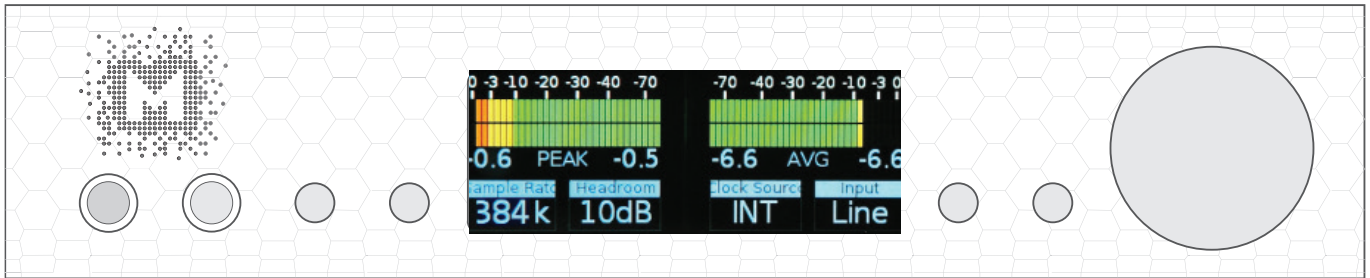
To change a parameter in one of the 4 fields shown on the display, press the corresponding button. This will highlight the field in blue. To change the value rotate the knob until you see the option / value you need. Pressing the button again unhighlights the field. Pressing the volume knob toggles the screen between current „detailed" and „basic" which shows the sample rate/type of file and volume only. When no field is highlighted, turning the knob, turns the menu page to next one showing next set of control fields.
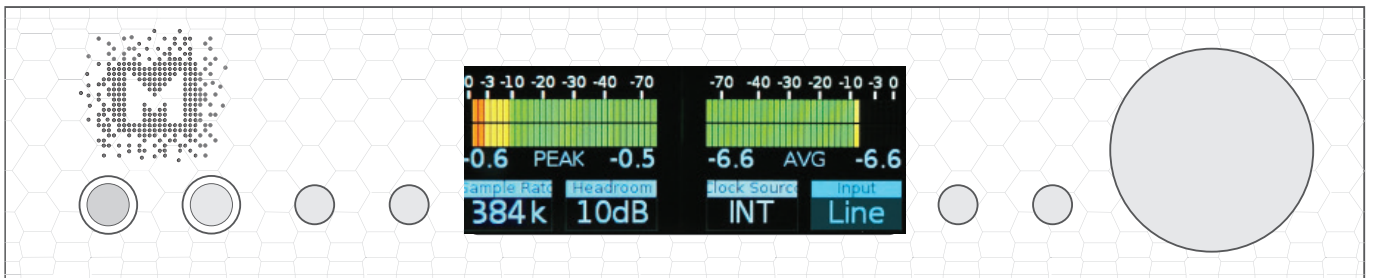
Turn the knob round to navigate between all available parameters.

Press and hold the knob to switch the Brooklyn ADC off / on.

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8.2 Menu Operation

8.2.1 Sample Rate- sets the sample rate (44,1-384kHz) of the AD conversion.

8.2.2 Clock Source

There is only one master device in digital world. The others have to operate as a slave. That is why external digital devices such as digital speaker systems, preamps, synthesizers, recorders etc. have to be also configured properly. Otherwise clicks, drops, distortions might appear in the final signal. Following sync options are available:

- **INT** (Internal) / USB / outcoming signal is synced to the converter's ultra-low jitter internal crystal oscillator. This choice assures the best ADC performance and is superior to any (even Atomic) clock supplied from outside because of its close proximity to ADC clocking chipset. The ADC operates as a master device. WordClock OUT transmits master clock signal

- **WCK** (Word Clock) / available for USB, AES, SPDIF, Toslink, SDIF / the ADC can operate as a master or slave device.

Word Clock Physical connections examples:

A. The **Brooklyn ADC is a master** and the external device is a slave: Brooklyn ADC WCK OUT -> external device WCK IN

B. The **Brooklyn ADC is a slave** and the external device is a master: Brooklyn ADC WCK IN -> external device WCK OUT

8.2.3 Headroom - determines available headroom.

8.2.4 Input Mode

- **Solid** - no transformer is engaged in AD signal path
- **T3:1, T2:1, T1:1** - transformer saturation level

8.2.5 Mode (Device Mode)

- **ADC** (standalone mode) Use this mode if the ADC is not connected to a computer.
- **PC** (audio interface mode) All I/O are available simultaneously.

8.2.6 Disp Auto Off (Display Auto Off) - sets the interval when the display is turned off. It is still possible to listen to music while the display is off. To return to the main screen press any button on the frontpanel (including Vol knob).

8.2.7 Display Bright (Display Brightness) - this allows to adjust the brightness of the display.

8.2.8 Diode Bright (Diode Brightness) - sets the brightness of the logo (0 – 16 steps).

8.2.9 St-by D Bright (Standby Diode Brightness) - sets the brightnes of the logo in Standby mode.

8.2.10 Colour (Logo Colour) - Sets the colour of the logo, 16 colours are available.

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8.2.11 Power On - (when the powerd cord it attached to the ADC)

- **WORK** - the ADC activates itself in standard working mode
- **STBY** – the ADC activates itself in standby mode
- **AUTO** – the ADC remembers last mode

8.2.12 Device (Device Info)

- **INFO**- shows firmware version and unique serial number of the unit.
- **RESTORE** – restores to default factory settings.

Note! All above settings can also be changed by using the Mytek Control Panel application.

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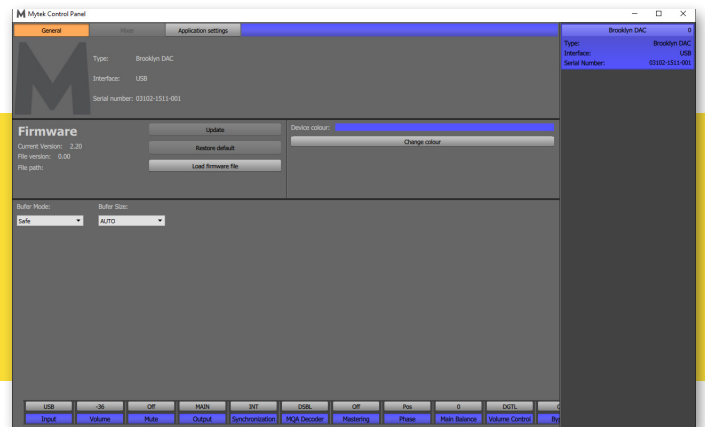
9. MQA - Master Quality Authenticated

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.

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10. Technical Specification

ANALOG

- Analog Inputs Connectors: 2 XLR / TRS balanced. TRS inputs accessible from both back and front panels.
- Resolution AD: PCM 32bit / DSD up to 256 (11.2 Mhz)
- PCM Sample Rate: 44,1 / 48 / 88,2 / 96 / 176,4 / 192 / 384 Khz
- Transparent line level (electronic) or passive nickel transformer with saturation control, mic or phono input (optional plug in cards).

DIGITAL

- Computer Audio I/O: 2.0 Hi-Speed, data stream up to 480Mbits/384kHz, Type B, driverless.
- AES/EBU Output: XLR, 24Bits / 192 kHz
- TOSLINK Optical Output: up to 192kHz single wire
- S/PDIF Coaxial Output: up to 192kHz single wire,
- SDIF DSD Output: DSD x64, x128, x256
- ADAT Output: up to 192kHz single wire
- WordClock I/O: BNC, 75 Ohm
- Clock: <1ps jitter Mytek Femtoclock (tm) generator.

GENERAL

- Firmware: upgradable via USB Control panel, updates available online, periodic feature upgrades
- MQA Kernel(tm) Built in (MQA compliant filters and dithering)
- Power Supply: Worldwide 30W power supply 100-240V 50/60 Hz.
- Optional 12VDC power input (2.5mm, inner +)
- External power supply input: 12VDC, 4 - 6A / (inner pin +)
- External power supply connector dimensions: 5,5 mm / 2,5 mm (inner pin)
- Dimensions [W x H x D]: 8.5" x 8.5" x 1U / 218 x 44 x 206 mm / 1U half rack
- Weight: 4 lbs (2kg)

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11. Warranty

Each individual Brooklyn ADC undergoes comprehensive quality control and a complete test before shipping. This Brooklyn ADC 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. Removal of serial number sticker voids 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.

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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.

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