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Thank you for choosing EMM Labs



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Safety Instructions

Prior to Installing your new EMM Labs product please read the following safety instructions:

- Read and follow all instructions
- Keep these instructions
- Do not use or install product near any sources of water, rain and/or moisture
- Clean using only a dry cloth
- Install only in accordance with the manufacturer's instructions
- Refer all servicing to approved service personnel
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not install product outdoors or in direct sunlight
- Leave at least 10cm or 4 inches around product to ensure proper ventilation
- Do not place product near strong electrical or magnetic radiation/emissions or near a power amplifier

This EMM Labs product must be connected to a mains socket outlet with a protective earthing connection (grounding pin). All EMM Labs products must be connected to a mains socket or outlet, with a protective earthing connection (grounding pin).

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO WATER OR MOISTURE.

CE EEC: This product has been designed and tested to comply with the limits set out in EN55032:2022, EN55035:2018, and EN 62368-1:2014 (electrical safety).

Warranty

EMM Labs warrants the DA2i against defects in material and workmanship under normal use and service for a period of time specified by the product's serial number from the date of first delivery to the owner. The warranty time period is 3 years.

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Warranty is limited to the original owner and is non-transferable. EMM Labs will pay for return shipping charges back to the owner when the product is sent to EMM Labs within the first 90 days after purchase (US and Canada end-users only). Otherwise, owner will be responsible for all shipping charges to and from EMM Labs.

For all warranty claims, a copy of the original invoice must accompany the product. Opening the product or modifying it in any way by the owner, including but not limited to cryogenic treatment, will void any warranty.

Please contact EMM Labs (support@emmlabs.com) for RMA number and shipping instructions before shipping any product to EMM Labs.

EMM Labs products are sold worldwide through authorized dealers with restricted territories. EMM Labs product purchased from any non-authorized dealers or from dealers selling outside their authorized territory will automatically void product warranty.

DA2i STEREO D/A CONVERTER

The DA2i represents our updated flagship 16xDSD/DSD1024 stereo D/A converter—a significant evolutionary leap in our line of award-winning, critically acclaimed high-end converter systems.

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With its newly integrated streaming system, Ed's next-generation 16xDSD/DSD1024 DACs, and our innovative EMM proprietary power system, the DA2i is poised to elevate your audio experience. Additionally, the DA2i's digital input system has undergone meticulous updates, featuring source and power isolation for both USB and network connections. Now, USB Audio and networking support DSD, 2xDSD, DXD, and MQA[®] technology, enabling seamless playback of high-resolution audio files. Prepare to immerse yourself in sound like never before—the DA2i awaits!

The DA2i has:

- Ed Meitner's next generation proprietary discrete Dual Differential 16xDSD/DSD1024 DACs along with its new class A analog outputs
- Latest generation 16xDSD Meitner Digital Audio Translator (MDAT2[™]) DSP
- Updated enhanced MFASTTM signal acquisition and jitter-free performance
- Latest generation MCLK3[™] proprietary master clock
- Updated source and power isolation for both USB and Network interface
- 2xDSD, DXD (352/384kHz), MQA[®] and ROON over USB and Network
- Exclusive aerospace-grade ceramic circuit boards
- Latest generation EMM Labs proprietary power supply system
- RS232 port for future software upgrades

Features & Specifications

2-Channel D/A conversions:

- From PCM (44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz) and DSD to analog
- From 352DXD, 384DXD, DSD, 2xDSD and full MQA[®] decoding to analog via USB Audio and network interface (RJ45)

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• from 44.1kHz to 192kHz and DSD to analog via EMM Optilink

Supported digital input formats:

- AES/EBU
- COAX SPDIF
- TOSLINK SPDIF
- EMM Optilink
- USB Audio
- Network Interface (RJ45)

Analog outputs and impedances:

- Balanced on XLR (300 Ω)
- Unbalanced on RCA (150 Ω)

Output levels (High/Low):

- XLR outputs: 7.0/5.0V (+19.1/16.2dBu)
- RCA outputs: 3.5/2.5V ((+13.1/10.2dBu)

Features & Specifications

System Control:

- Infrared remote
- RS-232 serial port

Power & Accessories:

- Power factor corrected
- Factory set to 100V or 115V or 230V, 50/60Hz operation
- Power consumption: 30W
- Custom Kimber Kable Power Cable

D/A Converter Dimensions (W x D x H, per amplifier):

- 438 x 400 x 161mm
- 17.3 x 15.8 x 6.4 inches

Weight:

- 17kg
- 38lbs



Front Panel & Functions

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- 1. *Display*
- 2. Touch Buttons
- 3. Infrared Remote Sensor
- 4. *Standby/Power-Save Button:* Toggles the operation between on and standby mode. The remote and all front panel functions are inactive in standby mode





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Back Panel & Functions

- 1. *Product model and serial number indicator:* Warranty void if model/serial number indicator is not attached to unit, missing or damaged whereby serial number cannot be seen.
- 2. *Main power switch and power inlet*
- 3. *Voltage Indicator:* Indicates working voltage of the DA2i. Only use with indicated line voltage.

Back Panel & Functions

- 4. *Digital Inputs:*
 - AES/EBU: AES/EBU (XLR) PCM and DSD digital audio input
 - COAX: SPDIF (RCA) format PCM and DSD digital audio input
 - TOS: SPDIF (TOSLINK) format PCM and DSD digital audio input
 - USB Audio: PCM, DXD, DSD & MQA[®] from computer, media player, server

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- EMM Optilink: input for interconnection with an EMM Labs transport
- 5. Network & USB Media Input:
 - Network (RJ45): Network and streaming input supporting
 - USB Media: Thumb and hard drive streaming

All inputs support up to 24bit, 192kHz and DSD. USB Audio, network and USB media additionally support DXD and DSD/DSD64 and 2xDSD/DSD128 streaming.

- 6. *System*:
 - RS232 Remote and Service Port for diagnostics and firmware upgrades
 - Network systems reset
- 7. Analog Outputs:
 - Left and Right Balanced (XLR) Connectors
 - Left and Right Un-Balanced (RCA) Connectors
 - Output Line Level with 0dBfs signal on AES/EBU input (High/Low):
 - XLR outputs: 7.0/5.0V (+19.1/16.2dBu)
 - RCA outputs: 3.5/2.5V ((+13.1/10.2dBu)



Main Screen

The main screen shows input and sample rate information from all the DA2i's inputs. It allows allows the end user to change the following settings:

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- Mute : Mute the DA2i by pressing the touch button directly below the "MUTE" function on the display. When muted the display will show "MUTED" and be highlighted
- **Polarity** : Toggles the analog output polarity by pressing the touch button directly below the "POLARITY" function on the display. When inverted the display will show "POL INV" and be highlighted. This function is performed in the digital domain

Menu : Engage the "MENU" function by pressing the touch button directly below it. A new sub-menu will display the 4 menu functions (details next page):

- DISPLAY Display brightness settings
- SCREEN SAVER Screen saver settings
- FACTORY RESET Resets the DA2i to factory default
- RESET NETWORK Resets the network settings to factory default Press "ENTER" to change a setting, "EXIT" to go back to the main screen
- ► : Use the back "◄" and forward "►" touch buttons on the main screen to toggle or scroll through and select one of the DA2i's inputs

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MENU DETAILS						
BRIGHTNES	S	SCREEN SAVER	FACTORY RESET	RESET NETWORK		
ENTER	EX	ΊT	•	•		
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Menu Functions

Brightness : The "BRIGHTNESS" function allows the end user to set the brightness of the display. Using the "CHANGE" touch button, brightness can be set between "High" and "Low". There is also an option to turn the display off using the "DISP. OFF" option. In display off mode, the center touch button indicator will still be lit showing that the DA2i is still on

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- Screen Saver : The screen saver engages after 2 minutes of inactivity. It dims the screen for 3 seconds, then turns the screen off. Engaging the remote or touch buttons, returns screen brightness to its' previous state. It is disabled when the display off mode is engaged. This function stops the OLED display from burn-in issues when the DA2i is left on for a prolonged periods of time. Press the "CHANGE" touch button to enable or disable the screen saver
- **Factory Reset** : Pressing the "RESET" touch button resets all settings and user saved presets of the DA2i back to factory default. When "RESET" is pressed, an additional prompt will request for reset confirmation, prior to execution. The DA2i's "HIGH" and "LOW" gain setting is also set here
- **Reset Network** : Resets the network connection. Please read and follow the prompt carefully. DO NOT turn off the DA2i (standby button or main power switch) while the network system is resetting the network connection. Doing so may damage the network interface





RESET NETWORK





Inputs & Connections

The main screen shows the current input that is being used and sample rate. The sample rate is shown, when a valid digital audio stream is detected. If there is nothing connected or an invalid audio stream, "NO LOCK" is displayed. Along with the sample rate, the type of MQA[®] stream is also displayed. The DA2i has a host of digital inputs:

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- **EMM** : EMM Optilink input. Proprietary EMM Labs ST glass optical connection to an EMM Labs CD/SACD transport or player eg. TX2, TSDX, XDS1 etc.
- USB : USB Audio connection supports up to 24bit 192kHz PCM, DXD 352 and 384kHz, DSD64 and DSD128 (2xDSD) and MQA[®] using USB 2.0 cables
- NET : Network (RJ45) connection supports up to 24bit 192kHz PCM, DXD 352 and 384kHz, DSD64 and DSD128 (2xDSD) and MQA[®]. Track information, if available will be shown at the top of the display
- **AES** : Balanced digital interface supports up to 24bit 192kHz PCM and DSD via XLR 110 Ω digital cables
- **COAX** : COAX S/PDIF interface which supports up to 24bit 192kHz PCM and DSD via RCA 75Ω digital cables
- **TOS** : TOSLINK optical interface supports up to 24bit 192kHz PCM and DSD via TOSLINK optical interface

Connect the source digital outputs to the appropriate DA2i digital inputs and select the appropriate input using the input toggle/scroll back (\blacktriangleleft) or forward (\triangleright) touch buttons.



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AES "NO LOCK"						
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EMM Optilink Connection



For the TX2/TSDX/XDS1/TSD1 connect the EMM Optilink cable from the to the DA2i.



For the TSD1, along with the EMM Optilink cable connection, the External Clock switch must be set to internal.



USB Audio

1. Use only an appropriate well-shielded certified USB 2.0* cable to connect from any USB digital audio source component's (computer, laptop, media player etc.) output to the DA2is' USB Audio input (not the USB Media port).

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2. The DA2i's USB Audio interface uses the B-type USB connector similar to connectors used on printers. Please see image below:



- 3. Select the USB Audio input using the input selector touch buttons or remote.
- 4. For the latest Windows 10/11 and MAC OSX systems, no drivers are needed.

*Not using proper USB 2 or higher certified cables will cause audio issues between digital source and the DA2i.



DSD, DXD & MQA® Audio

In general for most audio applications you will be able to select the DA2i USB Audio device from within the application.

- 1. The DA2i currently supports DSD (DSD64), 2xDSD (DSD128), DXD and MQA[®] audio file streaming and conversion over USB. DSD streaming uses DoP specification.
- 2. Please make sure that your DA2i has the latest installed firmware and drivers. If unsure please email support@emmlabs.com with your DA2i serial number and our engineers will be able to tell you if you need to update your unit.
- 3. DSD and 2xDSD audio files have the extension DFF and DST. DXD files (PCM 352and 384kHz) and MQA[®] are available in standard file types like WAV or FLAC. You can use any mediaplayer like JRiver, Roon, Audivarna or a standalone media/network player to play these files to the DA2i.
- 4. Every media player will have specific installation and setup procedures for enabling DSD, DXD and MQA[®] file streaming. Please consult its specific software manual to properly enable these features.
- 5. Some software/hardware manufacturers also provide quick start and software setup guides.

DSD, DXD and MQA[®] Audio (Cont'd)

6. When setup correctly sample rate and file types will be displayed on the DA2i.

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- 7. Depending on the digital source, when playback of DSD material is paused or stopped the display may indicate a PCM sample rate rather than DSD. This is normal for DoP functionality. Once playback is restarted the DA2i's display will once again show that it is receiving DSD information.
- 8. The DA2i supports the full unfolding of MQA[®] audio files, via USB Audio and network interface, using its custom implementation of the MQA[®] decoder and renderer.
- 9. Depending on the media player and source material, the display will show the type of MQA[®] file and original sample rate. 'MQA' or 'MQA Studio' indicates that the product is decoding and playing an MQA[®] stream or file, and denotes provenance to ensure that the sound is identical to that of the source material. 'MQA Studio' indicates it is playing an MQA[®] Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner.

MQA[®] (Master Quality Authenticated) is an award-winning British technology that delivers the sound of the original master recording. The master MQA[®] file is fully authenticated and is small enough to stream or download. Visit **mqa.co.uk** for more information.

Connecting to the Network

1. Connect the DA2i via the ethernet/network (RJ45) port to a network router or switch using a suitable ethernet cable. Make sure network is working and enabled.





mConnect Control app Mobile/Tablet for Playback and Control

- 2. Select the "NET" input on the DA2i either using the remote or the front panel input touch buttons.
- 3. You can also install a USB flash drive (FAT32 or NTFS formatted) by attaching it to the DA2i's USB Media input port for direct audio file playback.
- 4. Download and install mConnect Control app for mobile Android or IOS. For tablets and to use the landscape interface install the mConnect Control HD app. The mobile device or tablet must be connected on the same network as the DA2i. Do not install the mConnect Player Lite, mConnect Player (paid app) or mConnect Player HD.



mConnect Control Mobile and tablet/iPad app

mConnect Control App

1. Start the mConnect Control app from your mobile phone or tablet. Mobile or tablet must be connected to the same network as the DA2i.



- 2. Start the mConnect Control app, press the "Play to" button on the bottom right. Select the device with the EMM icon or named "EMM_DA2i".
- 3. Select and press the "Browser" button. You can then then select:
 - "Internet Music" streaming music services eg. Tidal, Qobuz and Spotify
 - "Cloud" play files from online storage services eg. Dropbox or OneDrive
 - "Local Server" play files from local storage (mobile/tablet), USB drive connected to the DA2i, detected DLNA/UPnP enabled network storage

mConnect Control App - File Playback & Control

1. In our example we select tracks from the "Local Server" which show audio files on the mobile/tablet device, USB storage connected to the DA2i or any DLNA/UPnP enabled storage on the network.

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2. Select "My Music", and select how you would like to display the files. Eg. by artist, by album or by genre. Once a file is selected playback will start. Playback controls are available below the track art. At the top, the track jump function, playback status, type of file, bit rate, sample rate, stream rate and length of file information.

3. On the right is a usage guide with regards to the Repeat and Shuffle functions. Press the icons to select appropriate function.

Repeat and shuffle functions







mConnect Control App - Sync, Volume (DV2i only) & Mute Features

- 1. Once playback is initiated using the mConnect app, the DA2i/DV2i will sync and automatically switch to the "NET" (network) input. Prior stored volume settings will be used, or the initial factory default volume setting will be set.
- 2. Please see mConnect interface pictures to the right:
 - Mute control button (outlined in red), mutes and un-mutes the DA2i/DV2i

- Coarse volume control (outlined in green). Please note: Coarse volume control is touch/click based. Accidentally setting the volume to maximum or a high setting may cause damage to your speakers or system. It is strongly recommend to use the fine volume interface, remote or volume knob to more precisely control volume settings
- Enables the fine volume control interface (outlined in yellow). Touch and drag style interface for fine volume control (bottom picture)
- 3. Volume and mute control is bi-directional, any change made using the app will be reflected on the DA2i/DV2i's display. Similarly, changes made using the volume knob or remote will be shown on the app.
- 4. If the input is switched away from the "NET" input while playing a track, playback of that track will be paused. Track playback can then be resumed using mConnect with the last stored "NET" input volume/mute settings.
- 5. Sync, volume and mute functions using the Roon app behave the same way when using the DA2i/DV2i as a Roon Endpoint. For DA2i, Roon should be set for "fixed volume".





mConnect Control App - Making a Playlist

1. Example: select "My Music" from the browser menu then select "All Song". Select the playlist function located in the top right. Select "New Playlist" and name it.



- 2. The display will show the file selection option to the left of the audio files list. Select the tracks and press the "Add To" button to add tracks to the specific playlist.
- 3. You can also add tracks to a specific playlist using "Artist", "Album", by using the folder option and/or using search functions.
- 4. Multiple playlists, pre-selected favorite folders and device specific playlists can be created pressing "Favorites" button and accessing the favorites and playlist functions.

Edit

Network & Streaming

mConnect Control App - Making a Playlist (Cont'd)



- 5. In the "Favourites" page select "MY PLAYLISTS" tab and locate a specific playlist and press the function button to the right of the playlist. Press "PLAY" to start playback.
- 6. From this function list you can also edit playlist name or remove/delete the playlist.
- 7. If you select a playlist you will be able to see its contents. Use add tracks function,
 "+" button located at the top right of the display to add tracks to the specific selected playlist.
- 8. To the left of the add tracks function is the remove/edit playlist function. This allows for the removal of specific tracks in the playlist.

mConnect Control App - Streaming Services (Qobuz, Tidal, Spotify, etc.)

1. Use the mConnect Control/HD apps to access online streaming services. Eg. select Tidal from the "Browser" page, login with your account.



- 2. Once logged in you can browse, search and playback files like normal.
- 3. Other streaming services like Qobuz, Deezer and the online storage services like DropBox and OneDrive are accessed the same way using the mConnect app.
- 4. Spotify uses its own app to stream audio to the DA2i/DV2i. Within Spotify select the "Connect to device" page and select the DA2i/DV2i from the list. See Spotify eg. on the right.





mConnect Control App - Streaming Services (vTuner streaming radio)

1. vTuner is a free radio streaming service included with the DA2i/DV2i streamer. No account nor subscription is required to use stream radio stations.



- 2. Select the vTuner service and search or browse using the different types of streaming radio stations available throughout the world.
- 3. You can then select the radio station to play or save the selection to your favourites list.
- 4. When you select a streaming radio station to play, the player will show you the format, bit-rate, sample frequency and stream size. The radio streaming information will also be displayed below the radio station icon/art.

mConnect Control App - Setup & Information

1. Access the DA2i/DV2i's device setup for detailed network information, change the DA2i/DV2i's network name, set a static IP or to update the DA2i/DV2i's firmware.



- 2. DA2i/DV2i has a pre-assigned default factory set network name, in this case it is "EMM_DA2i". You can change this by selecting the "Device Name Change" option.
- 3. Set a static IP for the DA2i/DV2i by pressing the cog on right of the "LAN IP" setting.
- 4. If a firmware update is available you will be notified at the bottom of the page, and you can just press this option to update.

mConnect Control App - Setup & Information (Cont'd)

5. Selecting the info icon, top right side of player, shows device information including IP address, firmware version and gap-less playback option.



- 6. Using the "Gapless" option button, you can turn gap-less playback on or off. Default is on where there is no gap between tracks.
- 7. You can use this feature to quickly check that the mConnect Control/HD app is connected to the EMM Labs DA2i/DV2i, and if the DA2i/DV2i is properly connected to your network.

Roon Setup

The DA2i/DV2i Integrated D/A Converter is Roon Ready and can be setup as a Roon Endpoint. To start you will need the following:

1. A Roon account. If you don't have an account please subscribe their service from their website:

https://roonlabs.com/

- 2. Roon or Roon Server needs to be installed on a networked computer or a network attached storage (NAS) device. Please check the Roon website for appropriate computer and NAS specifications and configurations.
- 3. Roon remote software can then be used to control playback from any computer or mobile device.
- 4. Sync, volume control and mute functions of the DA2i/DV2i can be controlled using the Roon app. Please refer to page 21 for details.
- 5. Track information will not be displayed on-screen, while connected to Roon.



Infrared Remote Control

Polarity: Toggles the analog output polarity. This function is performed in the
digital domain. When engaged the display will show "POL INV" and
it will be highlighted

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Display : Toggles the front panel display text brightness settings on the DA2i

Input Buttons

- **EMM** : Selects the EMM Optilink input
- USB : Selects the USB Audio input
- **AES** : Selects the AES/EBU input, balanced digital XLR
- **COAX** : Selects SPDIF input, unbalanced COAX/RCA
- **TOS** : Selects SPDIF input, TOSLINK optical
- **NET** : Selects network input, RJ45
- *Input* : Switches through all the digital inputs
- *Mute* : Mutes or un-mutes the DA2i analog outputs
- A/B/C (Presets) : Function unused in the DA2i
- +/- (*Volume*) : Function unused in the DA2i





Infrared Remote Control (Original Transport Remote)





Care & Maintenance

EMM Labs products require just basic routine maintenance and care to ensure optimal performance:

- Before performing any maintenance please ensure to turn the product OFF, and remove its power cable
- To remove dust from the exterior surface you can use a, low pressure blower, or brush it with a dry clean lint free or micro fiber cloth
- To remove finger prints. dirt or grease from the exterior surface you can use a dry clean lint free or micro fiber cloth
- In some cases it may be necessary to dampen the lint free or micro fiber cloth with some distilled water prior to gently cleaning fingerprints or dirt from its surface
- **DO NOT** apply liquid directly to the surface, always apply indirectly using a dampened lint free or micro fiber cloth
- **DO NOT USE** abrasive pads, steel wool, metal polish or other such abrasive means to clean the surface, of any EMM Labs products or its connectors
- **DO NOT USE** any commercial cleaners, benzene, acetone or chemicals to clean the surface, of any EMM Labs products or its connectors



Check out our website for more information about EMM Labs. Register your product, download manuals and support information. Learn about our up-coming products, along with product news, the latest reviews and upcoming product updates. Scan the QR code below or go to: <u>https://www.emmlabs.com</u>



