DMeter App v1.0.30 — User Guide

The DMeter app allows monitoring of device channels on a Dante®-enabled network.

DMeter was created by ZENSO.

Download, Installation and Activation

Download

The DMeter application can be downloaded from https://zenso.app/dmeter/#app-dmeter-get. Click on either **Download for Mac** or **Download for Windows** to download your installer.

Install

Run the installer and follow the prompts to install DMeter on your computer.

You will also require version 4.5.1.1 or greater of Dante® Controller to be installed on your computer. This can be downloaded from https://my.audinate.com/support/downloads/dante-controller.

Select the Dante® Network interface

The first time you run DMeter, you will be promtped to select the network interface that is connected to the Dante® Network. In the pop up window, a selection box will appear containing all the available Ethernet network interfaces. Select the interface that is connected to your Dante® Network and press Apply.

Activate

Once DMeter and Dante® Controller are installed you can run DMeter, which will automatically prompt you to activate it via the Dante® Activator. You can activate the 2-channel version for free, or purchase the 32-channel version from within Dante® Activator. You can try the free version and then upgrade later.

If you don’t have Dante® Controller installed, or if Dante® Controller’s version is less than

4.5.1.1 then DMeter will automatically prompt you to download and install the correct version.

If for some reason you are not prompted to activate DMeter, or you would like to purchase the 32 channel upgrade, you can do so by opening the Settings Panel (by clicking on  in the top bar, or press CMD + , on Mac or Ctrl + F12 on Windows. The button will highlight blue if the panel is showing, with the panel appearing on the right side of the window on Mac and the left side of the window on Windows) and then clicking on the Launch Activator button.

NOTE: if the correct version of Dante® Controller is not installed, the button will be labelled **Download Dante® Controller**, and you will need to download and install Dante® Controller in order able to launch the activator.

Uninstall

Mac

Drag the DMeter app from your Applications folder into your Bin to uninstall from your computer.

DMeter will have created the following folders which should be manually deleted if you do not want to keep your licence and preset data.

/Library/Applicaiton Support/Zenso/DMeter
~/Library/Application Support/Zenso/DMeter (delete this folder for each user account that has used DMeter)

Windows

Find DMeter in the Add/Remove Programs window in Settings. Click on it and select Uninstall. Follow the prompts to uninstall DMeter from your computer.

DMeter will have created the following folders which should be manually deleted if you do not want to keep your licence and preset data.

C:\ProgramData\Zenso\DMeter
C:\Users{user}\AppData\Local\Zenso\DMeter (delete this folder for each user account that has used DMeter)

Status Indicator

The status indicator  is located at the far-right side of the top bar on Mac and the far-left side of the top bar on Windows. It shows the status of the Dante® network connection.

The indicator will appear —

-  Grey while initialising or re-connecting,
-  Blue when a connection is currently established and metering is available,
-  Red if there is an error with the connection or with the application.

To view more information about the connection status, click the indicator button  to toggle an info popup containing connection details and any current errors. See Errors at the end of this guide for more information on the various errors that may occur.

The status for each Dante® process is displayed in the pop up window. The states for each connection status are: Stopped, Unused, Pending or Running. A service may be unused depending on the Dante® Settings. the MDNS service will be unused if the Shared MDNS Setting is true, while the PTP service will be unused if the Time Source is not set to PTP.

The pop up window will remain visible over the top of all other windows while open to allow easy reference to any errors when diagnosing any issues.

Sources

Sources provides an organised list, by device, of all the channels on the network which can be connected to meters.

To show or hide the Sources List, click  in the top bar, or press  on the Mac or  on Windows. The button will highlight blue if the panel is showing, with the panel appearing on the left side of the window.

Devices in the list are sorted alphabetically, with accent-coloured active devices displaying at the top, and greyed out inactive devices displaying at the bottom.

To show the channels contained within a device, click the device (or the chevron to its left) to display the list of channels underneath, sorted alphabetically.

If a channel is connected to a meter, an → arrow will appear on its right side to indicate it is being displayed. A device with one or more of its channels being connected to a meter will also display an → arrow.

To view more information about a device or a channel, or to locate which meter it is connected

to, click, and hold the device or channel to see an info popup, along with a highlight of any connected meters.

To change the accent colour of an active device or channel, right click or Ctrl + click to open the context menu and click the preferred colour. Changing the colour of a device will also set the colour of all channels contained within it. The accent colour of the channel will also be reflected in the main meters panel.

To delete an inactive device, right click or Ctrl + click to open the context menu and click  Delete. If a deleted inactive device becomes active again, it will reappear as a new device in the active portion of the list.

Connections

Setting up connections can only be performed when the Sources panel is showing. The meters will be separated by  plus icons to indicate they are editable.

To connect a channel to a meter, click and drag the channel from the sources list and drop it onto a  plus in the main meters panel to add the meter for that channel to that meter location.

NOTE: If you do not have any remaining channels in the meter area (either 2 or 32 channels depending on your activated channels) you will not be able to drop channels onto the  .

To replace a channel in an existing meter, click and drag the channel from the sources list and drop it onto that existing meter.

To connect all the channels of a device to meters, click and drag the device from the sources list and drop it onto a  plus in the main meter panel to add a meter for every channel in that device to the meter layout. This will add up to a maximum of 32 channels (including any meters already connected).

To replace a set of channels with the channels in a device, click and drag the device from the sources list and drop it onto an existing meter, which will replace that existing meter and as many meters to the right as required by the channels in the device.

Meter Area

The Meter Area provides a horizontal array of meters which display peak and RMS meters for

the source channel connected to each meter.

Meters are always displayed in the main window, although depending on which other panels are shown and how wide the app window is, some meters may need to be horizontally scrolled to be viewed.

Each meter visually displays the current peak gain (behind and darker) and RMS (in front and brighter) values live from the source, along with a temporary peak hold (darker) and permanent peak hold (brighter). These values are also listed in text at the bottom of each meter, beneath the source name.

To view more information about a meter, including the device and channel name, click and hold the meter to see an info popup. This popup also lists the permanent peak and RMS hold values in text as well as the Dante® Channel Status information.

The meters will change colour depending on the connection status. Inactive connections will be grey, connections in progress will be a dimmed channel colour, and active connections will be the normal channel colour. Channels with a connection error will be red. To see the error condition, left click and hold to view the channel pop up which will show the Dante® channel status.

The colour of the meter and the peak hold bars will be red if the signal is above -6dB.

To clear the permanent peak hold values of a meter, right click or Ctrl + click to open the context menu and click C Clear Peak.

To clear the permanent peak hold values of all meters, right click or Ctrl + click to open the context menu and click C Clear All Peaks.

To delete a meter, ensure the Sources panel is shown to enable editing, and then right click or Ctrl + click to open the context menu and click Delete. This removes the meter from display, it does not remove the source channel or device.

To delete all meters, ensure the Sources panel is shown to enable editing, and then right click or Ctrl + click to open the context menu and click Delete All, then click Delete on the final confirmation dialogue. This removes all current meters from display, it does not remove the source channels or devices.

Scales and Dividers

The Meter Area always displays a full scale at the left-most and right-most sides to allow quick, precise visual analysis of meter values.

To add or remove additional scales or dividers to visually group your meters, first ensure the Sources panel is open to enable editing.

To add a scale or divider between selected meters, click, right click or Ctrl + click on a + plus to open the context menu and click:

- **Dual Scale** to add a full Dual Scale with text labels
- **Narrow Scale** to add a Narrow Scale without text label
- **Divider** to add a subtle, thin line

To delete a scale or divider, right click or Ctrl + click on it to open the context menu and click Delete.

Presets

Presets provide a way to organise and quickly switch between multiple metering display configurations, which may be useful in more complex setups or across multiple networks or venues.

To show or hide the Presets List, click in the top bar, or press CMD + P on Mac or Ctrl + P on Windows. The button will highlight blue if the panel is showing, with the panel appearing on the left side of the window.

By default, the single included preset is named “Meters” and will be selected (highlighted in white) and displayed in the title bar of the app.

To add a new preset, click New Preset at the bottom of the list. This will create a blank preset with the name “Preset” followed by a unique number.

To switch presets, click the preferred preset, or press CMD + 1 through 0 on the Mac or Ctrl + 1 through 0 on Windows to jump straight to that preset. Be aware that it may take several seconds for the metering to reconnect and resume.

To rename a preset, right click or Ctrl + click to open the context menu and click Rename, then type the preferred name and press ↵, noting that preset names must be unique and will not allow a duplicate. Press Esc while editing to cancel and revert to the previous name.

To delete a preset, right click or Ctrl + click to open the context menu and click Delete.

Settings

Settings provides a list of configuration options to allow connection to a Dante®-enabled network. It also allows the user to check and change the Activation state of DMeter, as well as find a link for further support.

To show or hide the Settings Panel, click  in the top bar, or press CMD + , on Mac or Ctrl + F12 on Windows. The button will highlight blue if the panel is showing, with the panel appearing on the right side of the window on Mac and the left side of the window on Windows.

Activation

The first section shows the current Activation Status of DMeter. It will show one of the following:

- Not Activated
- 2 Rx Channels Activated
- 32 Rx Channels Activated

If at least version 4.5.1.1 of Dante® Controller software is installed, then the button below the status will be **Launch Activator**, otherwise the button will be **Download Dante® Controller**.

Clicking on **Launch Activator** will launch the Dante® Activator application which will allow you to register for the free 2 channel version, or upgrade to the paid 32 channel version. It will also allow you to recover your licence if the licence file was deleted from your computer.

Clicking on **Download Dante® Controller** will open https://my.audinate.com/support/downloads/dante-controller allowing you to download and install the latest version of Dante® Controller which is required to activate DMeter.

Settings

Network Interface

To change the Network Interface, click the Network Interface drop down and then click the preferred interface. This will default to the first interface found on initial launch. If “None” is displayed and the drop down is grey, check that you have a wired Ethernet adapter in your computer and that it’s enabled and connected to your Dante® network.

Sample Rate

The Sample Rate is currently fixed to 48k for DAL applications.

Time Source

To change the Time Source, click the Time Source drop down and then click the preferred option PTP or Received Audio.

Base Port

DMeter and the Dante® processes will use 82 ports from the Base Port for communication with the Dante® network. The default Base Port is 44100, so ports 44100 through 44182 will be used.

To change the Base Port, click into the Base Port text box and type the required base port number. The default Base Port should work for most systems.

You should only need to change the base port setting if another application is already using ports in this range. For further information on Dante® ports, please refer to: https://www.audinate.com/learning/faqs/which-network-ports-does-dante-use.

MDNS Port Sharing (Windows Only)

The MDNS Port can either be unique to DMeter or it can use the Dante® Controller MDNS Port. Click the checkbox to enable or disable use of the Dante® Controller MDNS Port.

Always On Top

Check and apply this option if you would like the DMeter windows to always remain on top of other applications.

DAL Log Level

By default, the DAL Log Level checkbox should be unchecked. Only check and apply this option if instructed to do so by Zenso or Audinate technical support.

Firewall Check

By default DMeter checks the firewall settings on both Mac and Windows in the background to warn the user if any of the applications ports are blocked, preventing operation. If DMeter is displaying a firewall error but is working correctly, you can uncheck the Enable checkbox to stop the background firewall check. This may be required if the computer uses third party firewall software or have other non-standard firewall configurations that DMeter can’t detect.

Apply and Revert

The Apply and Revert buttons will be disabled whenever the parameters visible in the settings page match the currently applied settings. When you change any settings parameters, the Apply button will enable and turn blue indicating you need to press it to apply those changed settings.

Preeing Apply will take several seconds for the Dante® instance to restart, the device list and metering will then reconnect and normal operation will resume.

To discard and revert any settings changed, press Revert, or you can simply close the Settings panel which will also discard any changes.

Diagnosics Logs

The Diagnostics Logs **Save File To Desktop** button will collect all DAL and DMeter logs and append them into a single text file and save them to the user's desktop. Only do this if instructed to do so by Zenso or Audinate technical support, at which time this file can then be emailed to assist with system diagnostics.

Errors

There are various errors which will be displayed in the Status popup windows. Most are self-explanatory, but all errors are listed here, along with suggested actions to resolve.

Application

Network Card Not Found Check your computer for an installed and active wired Ethernet connection. Restart DMeter once the network card has been installed and is active.

File Permissions Error - Reinstall Application This is a low-level error indicating something went wrong with the installation of DMeter. The installer will create a data folder to store the common files required for licencing and logging. The location is /Library/Application Support/Zenso/DMeter on Mac and C:\ProgramData\Zenso\DMeter for Windows. Reinstalling the application should fix this issue, if not, you can also manually check and adjust the permissions of this folder.

DebugLogException This indicates something has gone wrong with the Debug Log system in DMeter. Please report any issues to Zenso technical support (support@zenso.group).

Other Application errors will be displayed in this category. Generally anything appearing here

should be reported to Zenso technical Support (support@zenso.group)/

Dante® Exception

This category of exceptions means something has failed in the Dante® Application Layer and should be reported to Zenso technical support (support@zenso.group).

Firewall

There are a variety of ways the firewall could be misconfigured. The various errors should point the user to the problem, and they should go into their firewall exceptions settings and ensure that DMeter, apec, conmon_server, msndresponder (Windows only) and ptp are all allowed under the firewall rules.

- Firewall Rule Not Present
- Firewall Rule Not Present For Active Profile (Domain)
- Firewall Rule Not Present For Active Profile (Private)
- Firewall Rule Not Present For Active Profile (Public)
- Firewall Rule Not Present For This Instance
- Firewall Rule Blocked
- Firewall Rule Disabled
- Firewall Port Rule Not Present
- Firewall Port Rule Blocked
- Firewall Port Rule Disabled

On both Windows and Mac when DMeter runs and attempts to access the Dante® Network, if the firewall is enabled and the required ports are not opened, the firewall will prompt you to give the application and its sub processes permission to communicate with the network. On Windows if the required ports are already allowed then you will not be prompted to allow the application or process.

On Windows, the DMeter firewall checker looks for required open ports in the firewall rules and if it finds the correct ports allowed, it will not warn that the application or process itself does not have an application rule. If however some ports are not allowed, or are blocked, then it will display both the corresponding Firewall Port Rule error as well as the Firewall Application error. The user can either add the required ports to the rules, or simply allow the application or process through the firewall. The only exception to this rule is the DMeter application itself which will always require an application rule.

If Time Source is set to Received Audio, then the Dante® Clock Synchronization (ptp) ports and application rules will not be checked, as DMeter does not require those ports to operate.

On Windows, if MDNS Port Sharing is checked, then the Dante® Discovery (mdnsresponder) ports and application rules will not be checked, as DMeter does not require those ports to operate (it uses the Dante® Controller mdnsresponder ports).

The following ports are used by the application and processes.

- DMeter: BasePort + 50 to BasePort + 65
- Dante® Audio Routing (apec): BasePort, BasePort + 10
- Dante® Control and Monitoring (conmon_server): 8702, 8708, BasePort + 15, BasePort + 30, BasePort + 40 to BasePort + 49
- Dante® Discovery (mdnsresponder): 5353
- Dante® Clock Synchronization (ptp): 319, 320

DMeters BasePort default is 44100, but this can be changed in the settings tab if any of the ports are already in use by any other applications that need to run at the same time.

The following ports will be used with our default base port of 44100:

- DMeter: 44150-44165
- Dante® Audio Routing (apec): 44100, 44110
- Dante® Control and Monitoring (conmon_server): 8702, 8708, 44115, 44130, 44140-44149
- Dante® Discovery (mdnsresponder): 5353
- Dante® Clock Synchronization (ptp): 319, 320

Dante® Activation

There can be a few issues preventing activation, primarily the issue will require installation or re-installation of the v4.5.1.1+ of Dante® Controller which installs the Dante® Activator. The following error states are possible.

- Not Activated
- No Activated Channels
- Dante® Controller is not installed, please install v4.5.1.1+
- Dante® Controller update required, please install v4.5.1.1+
- Dante® Activator not present - please re-install Dante® Controller v4.5.1.1+