

Display 2.2 and Vu-Net 2.0

Essential Reading for MLA Series Users



This document explains the things you must know before using Display2.2 and Vunet 2.0

Display2.0 and Vunet2.0 must be used together for all the functions of Display 2.2 to work. Vunet 2.0 will detect the version of the d2p files created by D2.2, in order to configure MLA series arrays correctly.

It is possible to use older d2p files with Vunet 2.0 and also to use new ones with Vunet 1.2.5 but in both cases MLA arrays won't be configured to the full capability offered by D2.2



Display2.2 new features

FIR Filter in the LF Channel of MLA and MLAC

The LF channels of MLA and MLAC cabinets are now also part of the optimisation process. Prior to this, the LF was optimised as one block. MLA Mini has always had LF as part of the FIR optimisation and we used what we learned in this process to add LF FIR to its bigger brothers, without increasing latency.

To use this feature your MLA and MLAC must be running firmware of 2.4.57 (for MLA) and 2.12.44 (for MLAC) or higher. D2.2's d2p file will not work with older firmware. These firmware builds were released in 2015 and are stable so we highly recommend upgrading your system to use them, if this hasn't been done already. Separate instructions on how to do this are available within the Vu-Net manual, pages 156-164. Download here <http://bit.ly/2easu5K>

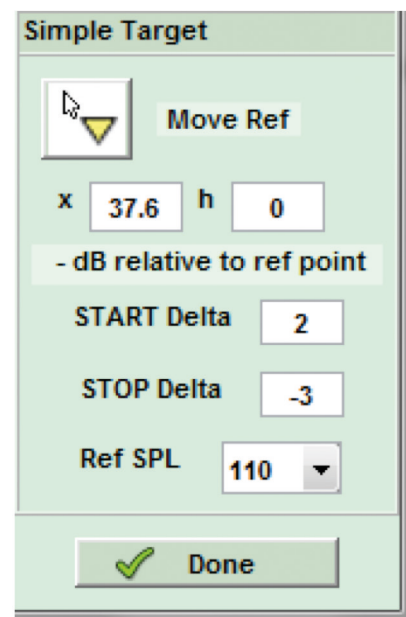
Calibrated gain

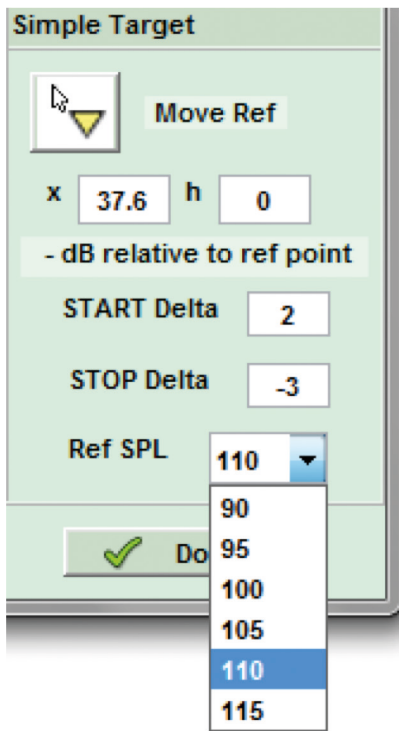
The gain structure through D2.2 is now calibrated so that OdBu at the input to the array will give a set SPL figure at the reference position. For MLA this defaults to 110dB

For MLA Compact this defaults to 105dB

For MLA Mini this defaults to 100dB

Compared to previous builds of Display, MLA will now be 5dB louder, MLA Mini 10dB quieter and MLAC the same, for the same input signal level.





It is possible to change this value using the drop-down menu.

Choosing SPL levels that are very low means that a high input signal level will be necessary to drive the arrays to high SPL's. In some instances this could cause the input to the cabinets to clip, as MLA series can accept a maximum of +18dBu peak input level. Choosing levels that are higher than the default will increase the noise floor. The default levels are set to provide a compromise between noise floor vs input level required to drive the system to high SPL's.

Version information in the d2p file

This allows Vunet 2.0 to detect which build of Display produced the d2p file. D2.2's new, more accurate, acoustic data yields significantly better performance than what has been achieved before. This required a reappraisal of the default EQ curves Vunet loads during the Preset Loader process. The changes are small but worthwhile.

Additionally now that the gain through the MLA series arrays is calibrated, this also means the sub array gain needs to be adjusted to match. This is done during the Preset Loader process as well.

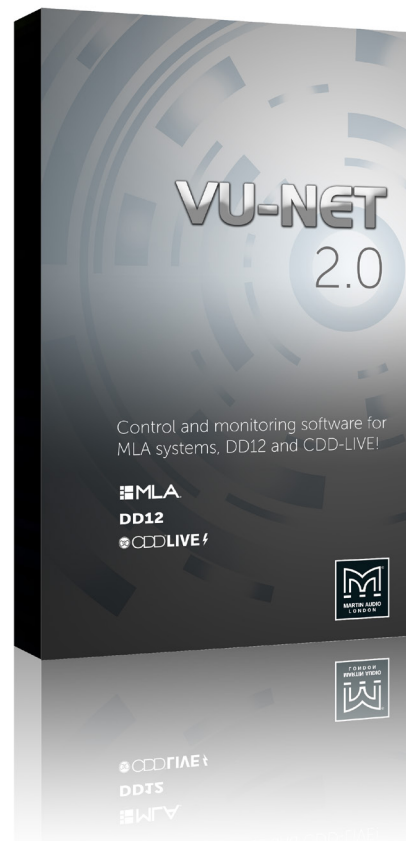
Vunet looks at the reference SPL set in the d2p file and adjusts sub output gain by the following amounts

110dB or more = sub output gain +10dB

105dB = sub output gain of +5dB

100dB or less = sub output gain of 0dB

Prior to Vunet 2.0, it was often necessary to go in to the sub output gain and set it manually for each sub in the array. Now Vunet does it for you.





Display File compatibility

Mat files from Display 2.1.10 onwards will open in Display 2.2. The golden rule is to always reoptimise the EQ. When doing so you will be asked if you want to update the target SPL to D2.2's default value. We strongly recommend this, as previous builds do not result in a fully calibrated optimisation result.

Opening mat files created with D2.1.10 or most of the builds done prior to D2.2, will default to the LFFIR filters not being used. To enable this it is best to import the shell from the old mar file and then add the array manually before optimising again.

It is also possible to import shells from 2.1.8.9 onwards.

Vunet 2.0's new file format

At some point in an application's life, it becomes necessary to overhaul its file structure after many features and products have been added to it.

As such old vun files are no longer compatible with Vunet 2.0's .vup format. Existing systems that have been reoptimised in D2.2 will also need a new .vup file to be built in Vunet.

This will ensure that all the new features of both software applications are implemented correctly.

The .vup file format has been designed to be highly extendable and so it will cope with new features and new products for many years to come.

MLA Mini/MSX firmware

Vunet 2.0 has updated and more intuitive ganging options. MLA Mini/MSX firmware has been updated to support this and it is essential that this firmware is updated to version 2.23.46 for compatibility with Vunet.

MLX, DSX, DD12 and PSX

MLX needs to be running 2.2.53 or higher

DSX 2.6.16 or higher

DD12 2.6.8 or higher

PSX 2.6.9 or higher

All these builds were released in 2015 and are stable