

DSP MASTER Quick Start Guide

V2.30 Build 25 | 2017-06-05

1. CELTO DSP NET PLATFORM

CELTO DSP NET (Network platform) is a full featured solution that allows controlling devices (amplifiers and DSPs) from a computer running Microsoft Windows operating system. CELTO DSP NET runs on standard IT equipment (server, routers and switches) compatible with TCP/IP (Ethernet) protocol.

To understand and use CELTO DSP NET, please carefully read this quick start manual. It provides important information that will save you time when setting up your system.

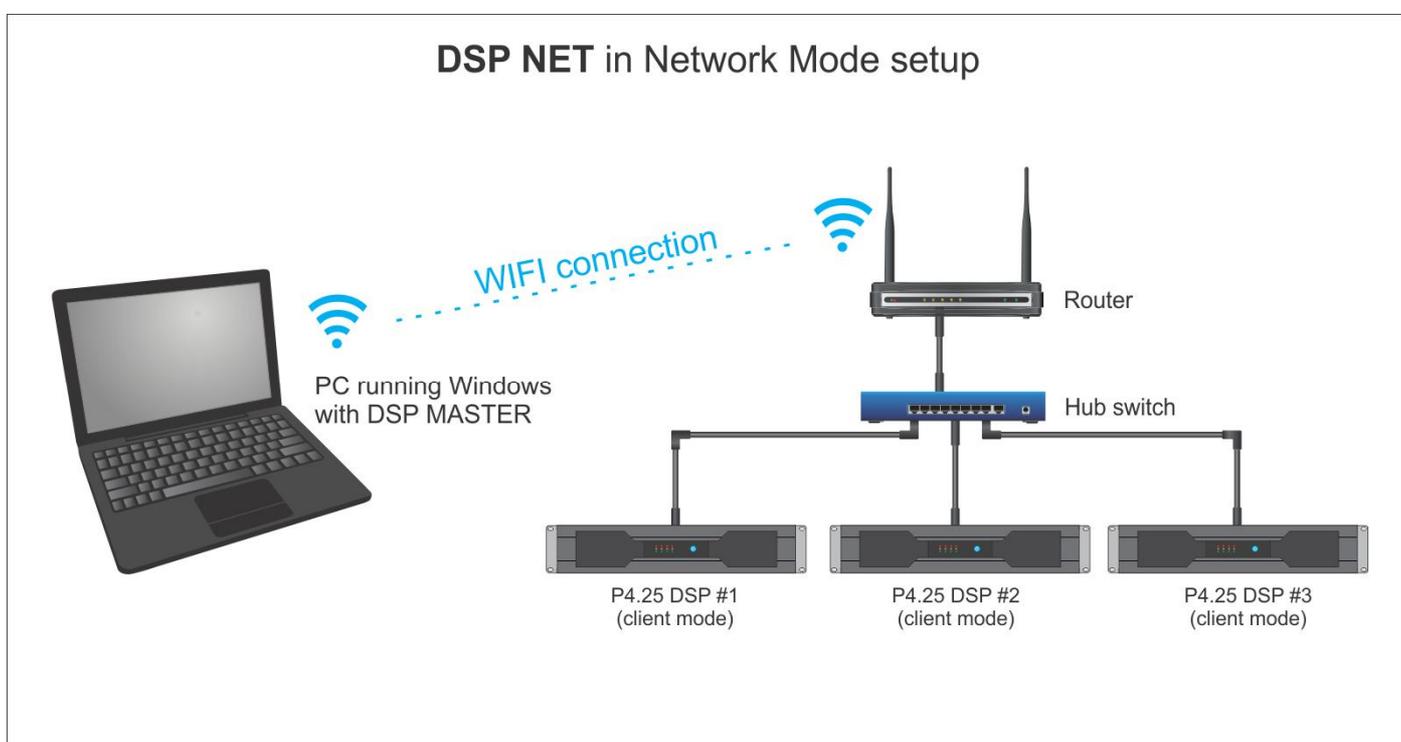
CELTO networkable devices can work in client and server mode. The mode will depend on the network configuration.

On startup (POWER ON), CELTO devices are set with 192.168.0.99 fix IP address and start a DHCP server. At the same time, the device sends a beacon signal every second that indicates its MAC and IP address. This beacon signal is sent to the network to be identified by DSP Master Control software.

Then there are two connection scenarios possible: Network or Local mode;

Network Mode

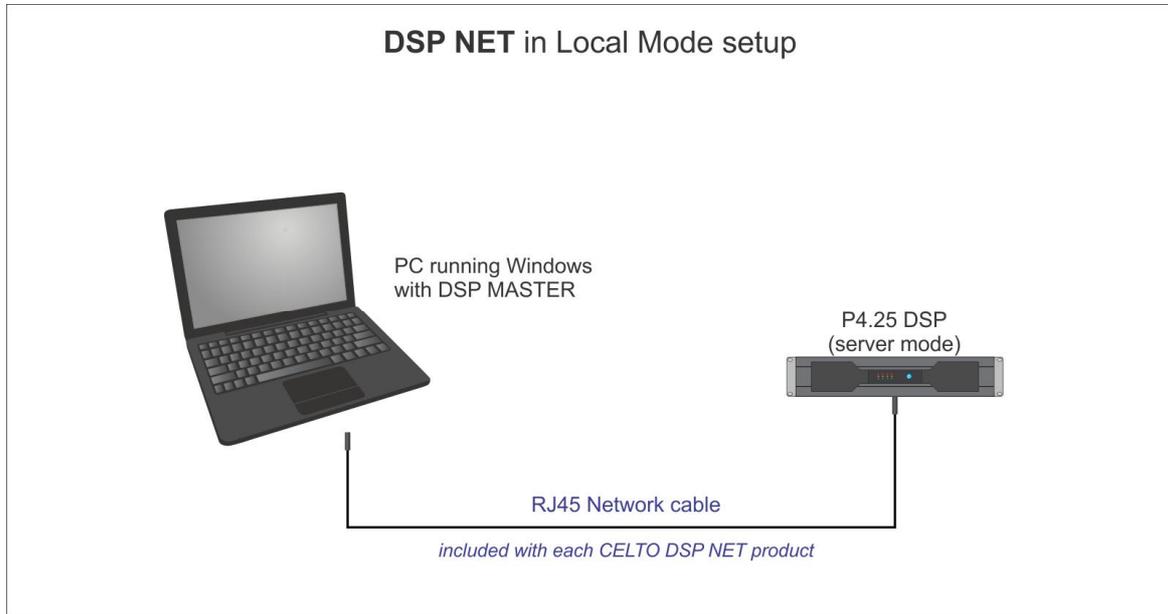
The CELTO device(s) is(are) connected to a network that provides a DHCP server: The DHCP server affects a new IP to the CELTO device and the beacon signal is updated with this new IP. This is the preferred method of communication. Once the device is connected to the network, start DSP Master.



Local Mode

The CELTO device is directly connected to a computer using the provided Ethernet crossed network cable. CELTO device becomes the server and he affects IP 192.168.0.2 to the computer (the client).

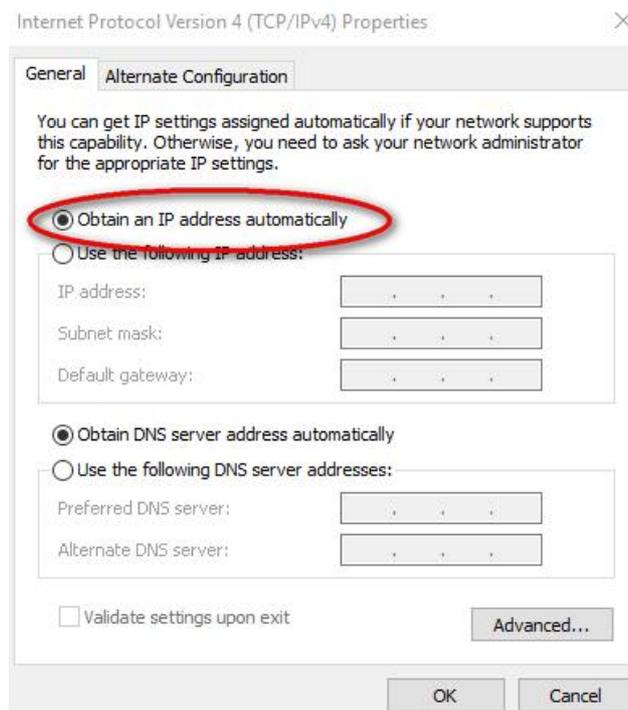
Important: In Local Mode, before connecting to a CELTO device, you must disconnect the computer from any network. Once you are connected to CELTO device, start DSP Master.



Remark: CELTO Networkable amplifiers have independent power supply for the DSP that is always ON, even if the front power switch is OFF. It means that when you connect the amplifier to a power outlet, the DSP is immediately running and available to control.

With this feature you can start the power stage from the DSP Master software remotely, it also allows you to edit all DSP parameters and check your network before starting the power stage.

Tip: In Windows Network TCP/IP properties, make sure that the computer obtains an IP address automatically. The setup window must look like that:



2. DSP MASTER FEATURES



2.1 Fine grained memory management

DSP MASTER is very flexible at managing memories and presets. The following features are available:

Cloning: This high-level function allows to fully copy an amplifier to another. It includes all memories. Both Inputs and Outputs are cloned. After the operation, the 2 amplifiers are virtually identical.

Save / Load Memory: Each CELTO networkable device comes with 64 memories, all fully editable by the user. Memory includes all input and all output parameters.

Save / Load Preset: a preset is a set of parameters optimized for the performance of a speaker. Thus a preset corresponds to the parameters of a single output channel.

2.2 Libraries

A library is a set of presets. They are 2 kinds of libraries:

Factory: provided by CELTO and regularly updated, based on user feedback and ongoing research development. Each build of DSP MASTER comes with the last library version and new libraries can be downloaded at: celtopro.com/dspmaster

User: Built by the user

Remark: more than one library can be installed in the dedicated folder and DSP Master can handle multi libraries.

2.3 Scenes

A scene is a snapshot of a network setup. It includes device IDs (MAC address), device names and their position on the desktop.

2.4 Hardware features

DSP MASTER v2 is intended to control P.425DSP amplifier that offers the following features:

- Internal DSP calculations done at 48kHz sampling rate with 64bit floating point precision
- Firmware upgradable on the field by DSP Update utility
- 64 memories (all editable by user)
- 8 filters per input (PEQ, Low-Shelv, High-Shelv, Low-Pass, High-Pass, Notch, AllPass, BandPass)
- Pink/White/Sinewave signal generator per input
- 85 meters / 247 msec delay for speaker positioning on each input
- 2 crossovers (High-Pass and Low-Pass) per output (6-12-24-48 dB/oct with Bessel, Butterworth and LR slopes)
- 8 filters per output (PEQ, Low-Shelv, High-Shelv, Low-Pass, High-Pass, Notch, AllPass, BandPass)
- TrueRMS Limiter per output
- 10 meters / 30 msec delay for driver alignment on each output
- 3 Dynamic EQ per output
- FIR Linear Phase correction per output (factory mode only, hidden to user)

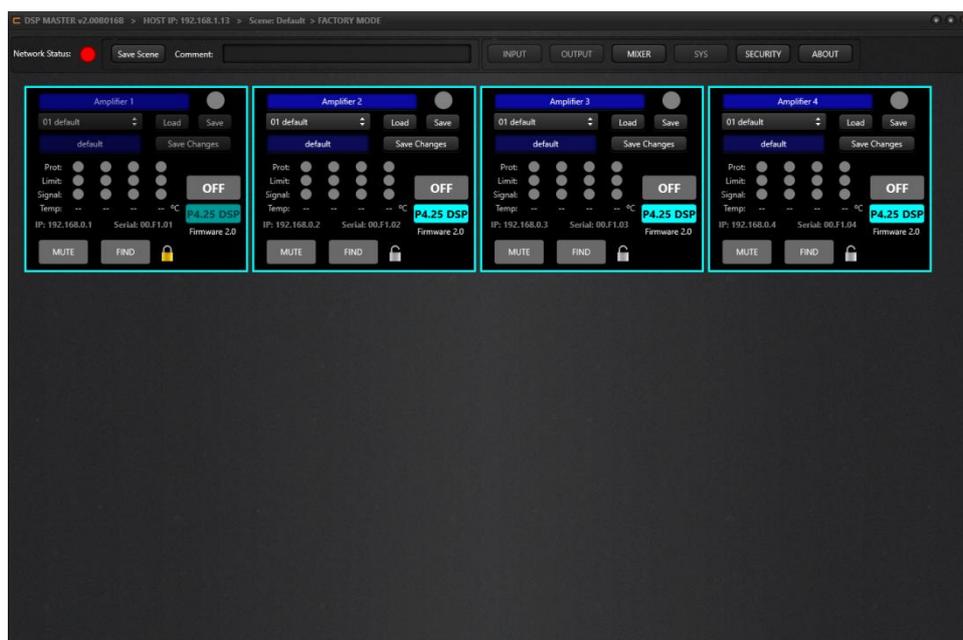
Remark: FIR Phase correction is neither available nor editable by the end-user. They are only used in factory presets provided by CELTO.

3. DSP MASTER USER INTERFACE

DSP MASTER has been designed for fast operation with an ergonomic user interface, thus most of the fields and buttons are self explanatory. When launching the software for the first time, we recommend selecting the Offline Demo mode to become familiar with the features:



The Offline Demo mode displays the default scene that is typical of a small setup with 4 P4.25 DSP amplifiers:



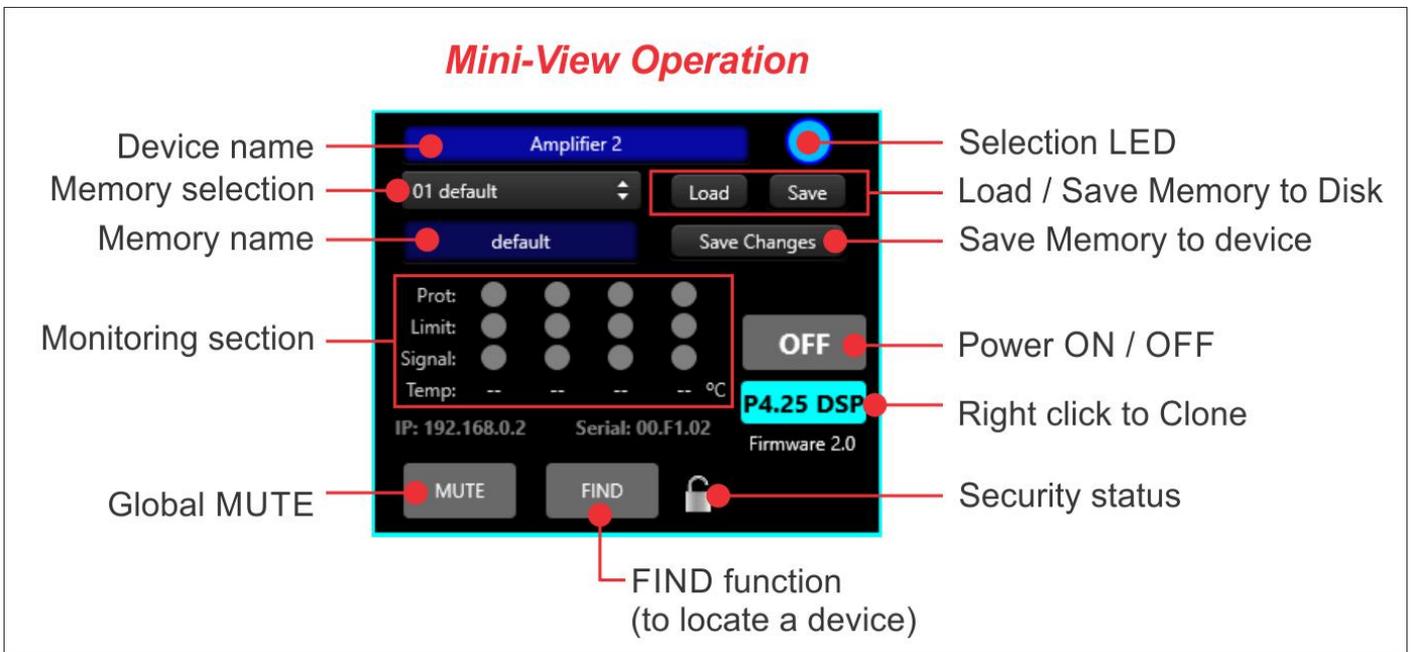
The software is divided in 2 sections: the Top bar and the Desktop.

From left to right, the Top bar has the following functions:



- [Network Status] information box shows a Red LED for offline mode and Green LED for online mode;
- [Load Scene] button opens a Window to select a scene file on hard drive (not displayed in Demo mode);
- [Save Scene] button opens a Window to save the scene to a file on hard drive;
- [Comment] field to write a comment that will be saved/loaded within a scene file;
- [INPUT] button opens the Input control panel of the active amplifier;
- [OUTPUT] button opens the Output control panel of the active amplifier;
- [MIXER] button opens the Level monitoring and routing panel of the active amplifier;
- [SYS] button opens the information and preset management panel of the active amplifier;
- [Security] button opens the security window to setup a password for the scene;
- [About] button opens the software credits windows.

Connected amplifiers are displayed on the desktop area in mini-view form.



The active amplifier has a blinking blue LED on the top right corner of the mini-view (The front panel of the active amplifier has his POWER button blinking at same speed than the software). To select an amplifier, left click on the Selection LED. To edit the parameters of the active device, click on the Top bar control buttons (Input, Output, Mixer, Sys). Each mini-view can be moved on the desktop simply by click & hold operation.

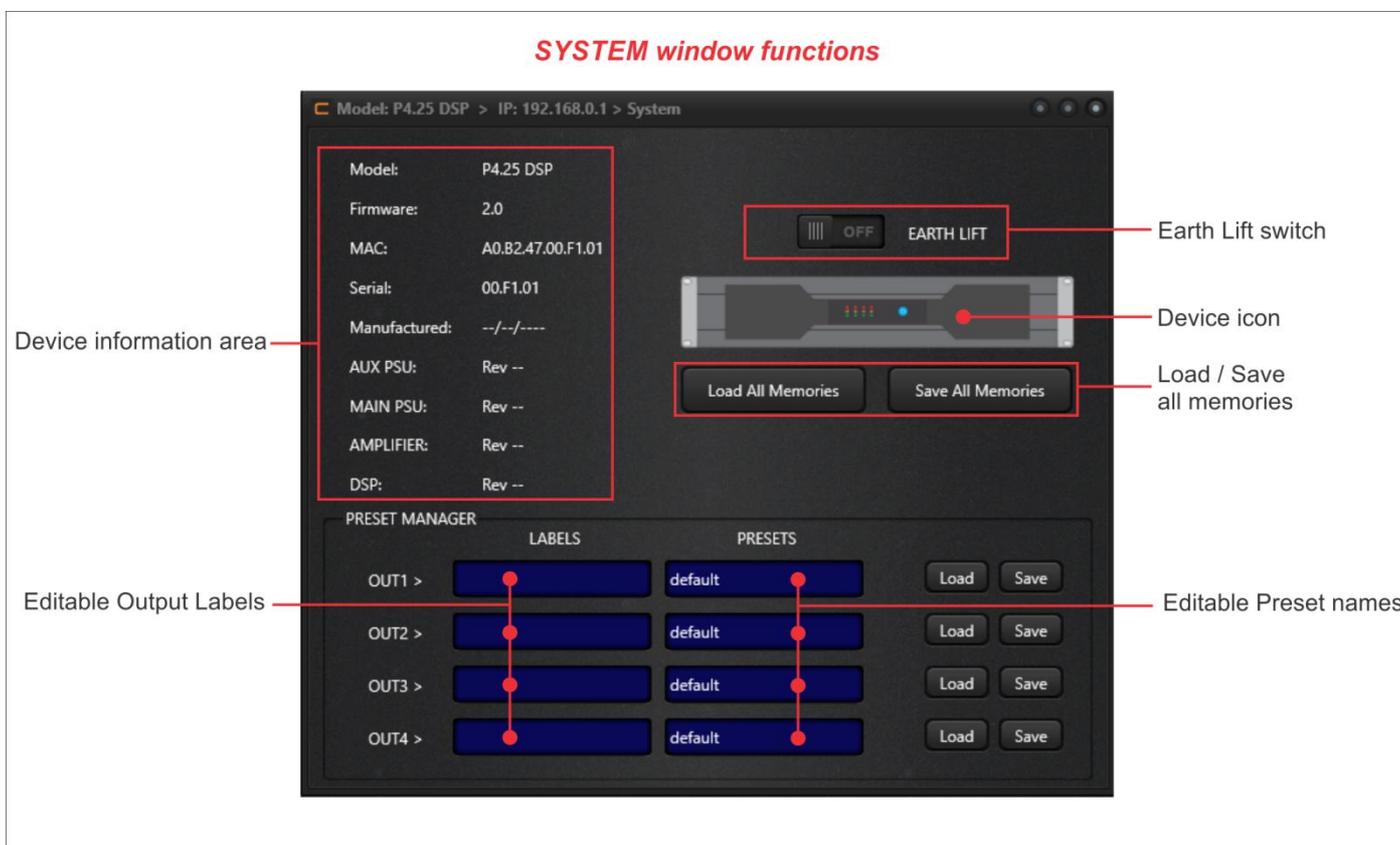
Important software behaviors:

- When you need to enter a text or a numerical value in a field, press [ENTER] key to validate the operation.
- MUTE state is not saved to memory, nor preset. It's a temporary state never saved into EEPROM. If you need a muted channel at startup, use the routing matrix (ie no Input affected to the desired muted channel)

The **MIXER** Window offers the ability to monitor the levels (including limiters compression), to route any input to any output, and to MUTE / UNMUTE the outputs.



In the **SYS** Window, you find all information about the device and the Preset Manager.



Remark: like MUTE, EARTH LIFT state is not saved into memory. When the amplifier starts, it's always OFF.

4. TECHNICAL SUPPORT

Please send your feedback and bug report to dspmaster@celtopro.com