SONTEC MES-432D9D

METRIC HALO

MAKE BELIEVE STUDIOS

SONTEC MES-432D9D

User's Guide
Version 3.4.21

For Mac & Windows

TABLE OF CONTENTS

BASICS....3
OVERALL LAYOUT....5
PRIMARY EQ LAYOUT....6
SONTEC LOGO POPUP PLUGIN OPTIONS MENU....8
OPTIONS PANEL....9
TRANSFER FUNCTION....11
METERS....12
PLUG-IN HEADERS....12
PLUG-IN SETTINGS....14
UNDO/REDO....15
A/B & BLEND....15
SYSTEM REQUIREMENTS....17
LICENSING REQUIREMENTS....17

BASICS

The Sontec MES 432-D9D is a 1:1 faithful recreation of the legendary mastering equalizer. Originally released in 1972 for the past 50 years Burgess Macneal has been manufacturing the Sontec and updating the design as time has passed. Make Believe and Metric Halo are proud to have spent the past year developing this wonderful equalizer with Burgess and his team.

Nearly 50 years after Sontec introduced the world's first parametric equalizer, we are proud to bring to life the Sontec MES-432D9D. A faithful recreation of Sontec's flagship mastering equalizer found in some of the worlds most demanding studios.

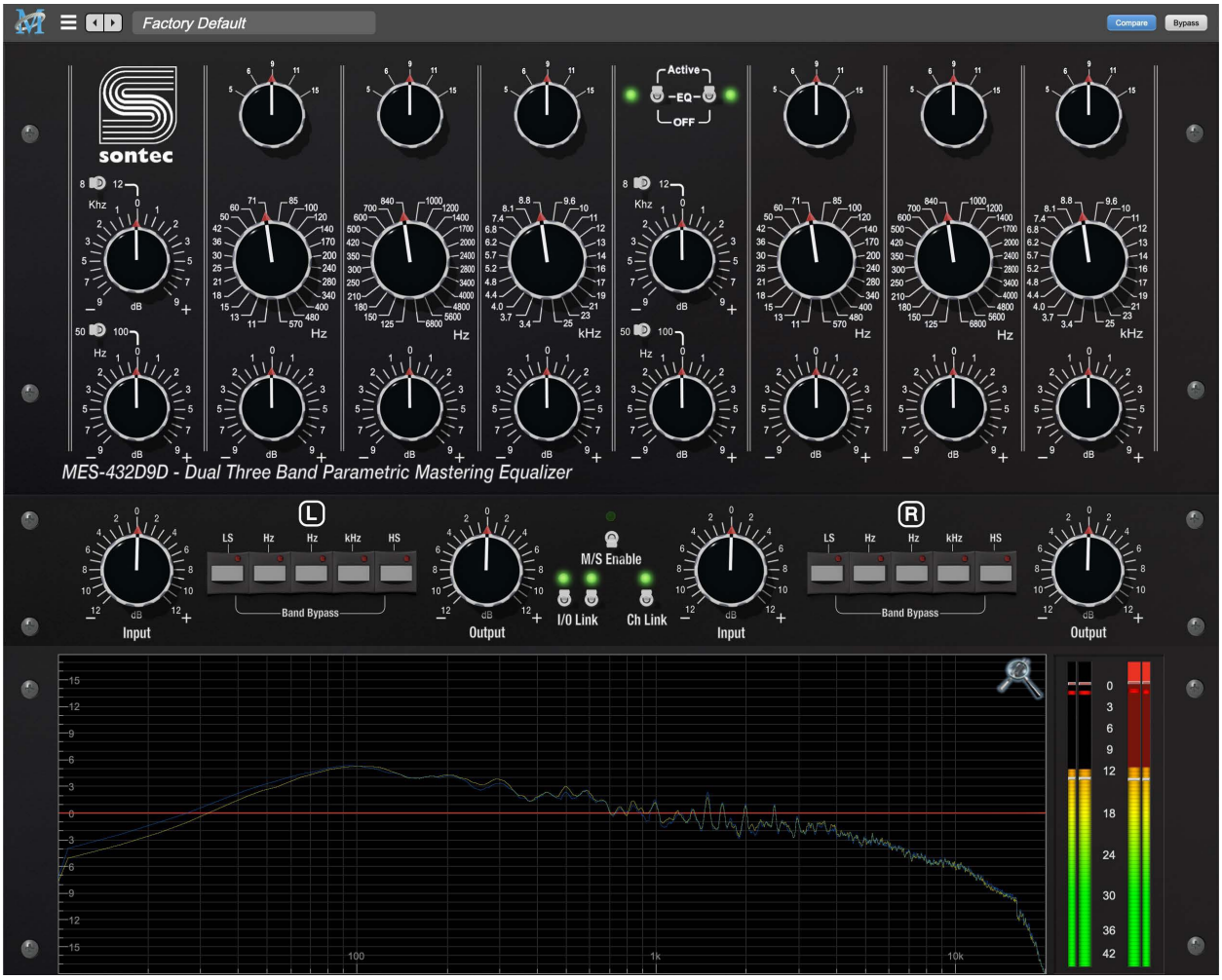
Originally designed by Burgess Macneal and George Massenburg the MES has grown to near mythical status. If you are unfamiliar with the MES-432, this article adds a little flavor:

https://www.audiotechnology.com/reviews/iti-audio-mes-432c9

This processor represents new tech (MH State Space Model Extraction) we developed to faithfully capture the curves and character of the Burgess Macneal "blessed" MES-432D9 we used as the prototype for the modeling process.

While the MES-432 is an extremely pristine parametric equalizer, the analog characteristic of the EQ is complex and not directly representable with a standard digital EQ implementation. The MES-432D9D captures the complex analog shape of the filters and the interactions between the controls, even when running at 1x sample rates.

The extracted State Space Model reproduces the EQ correctly, even for the HF bells when running at 1x sample rates (for example, it generates the correct in-band shape, even when the center frequency is at or above nyquist), without oversampling.



- The Sontec MES-432D9D operates at all normal supported sample rates (44.1k - 192k).
- "If you do not know how to operate this equalizer it was probably a bad purchase. Thank you for your money and have a great day!!"- Burgess Macneal
- If you are interested in further discussing Sontec hardware products such as the 250EX or MES series of equalizers please feel free send email to:

rick@makebelievestudio.com

OVERALL LAYOUT

The complete layout of the fully expanded Sontec MES-432D9D labelled below:

The following sections of the manual explain the controls and layout in more detail.

PRIMARY EQ LAYOUT

Shelf

The top knob represents the high shelf. It is switchable between 8K and 12K corner frequency.

The bottom knob represents the low shelf. It is switchable between 50Hz - 100Hz corner frequency.

Q

This knob adjusts the width of the parametric bell.

Frequency

This knob allows you to select the frequency of the particular band you're working with.

Gain

Turns up or down selected band ±9 dB.

ACTIVE/OFF

These controls bypasses the EQ's equalization functions (per channel) but still passes audio through the State Space Model of the Sontec; e.g. the output stage is still active in the model (so these bypasses function differently from the overall plugin bypass). You can click on the "**Active**" and "**Off**" labels to set both channels enable simultaneously, even when the channels are not linked.

SONTEC LOGO POPUP PLUGIN OPTIONS MENU

The Sontec Logo in the top-left corner of the UI functions as a popup menu button, which you can use to access the Plug-in options menu. This gives you access to plug-in specific features like linking, analog modeling mode, additional UI features and overall UI scaling.

Just click on the **Sontec Logo** to popup the Options menu:

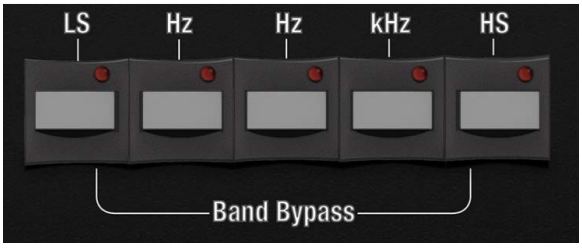
SONTEC LOGO CLICK TO POPUP: PLUGIN OPTIONS MENU

- **UI Scale Items**: These allow you to set the UI to a size that is comfortable for you and your workflow.
- **Link Channels**; When checked, the left and right side parameters of the plugin are linked together for stereo work.
- **Show Options Panel**: When checked the Options Panel will be visible and provides access to advanced controls, including I/O gains, M/S Mode, Band enables, and link controls.
- **Show Transfer Function**: When checked the transfer function panel is displayed. The transfer function panel shows the current EQ transfer function and meters. The transfer function can optionally also display a SpectraFoo analyzer.
- **Analog model:** These items allows the user to select between the different analog emulation models.
  - **No Analog Model** provides the EQ curves of the Sontec with the analog channel modeling deactivated.
  - **Pure Analog Model** which we consider to be the 1:1 model of the Sontec.
  - **Aggressive Analog Model** is a model that incorporates the sound of the analog to digital conversion process.

OPTIONS PANEL

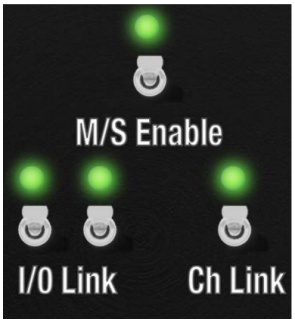
SONTEC MES-432D9D OPTIONS PANEL

You asked and we listened. The second release of Sontec MES-432D9D adds an Options panel, which provides access to some of the most requested features in a friendly and easy to use layout. The new features include input and output gain control. the ability to bypass bands individually, Mid/Side and new Input and output and channel link features that allow you to fine tune the equalizer to your particular workflow.



BAND BYPASS SWITCHES

PARAMETER TEXT INPUT

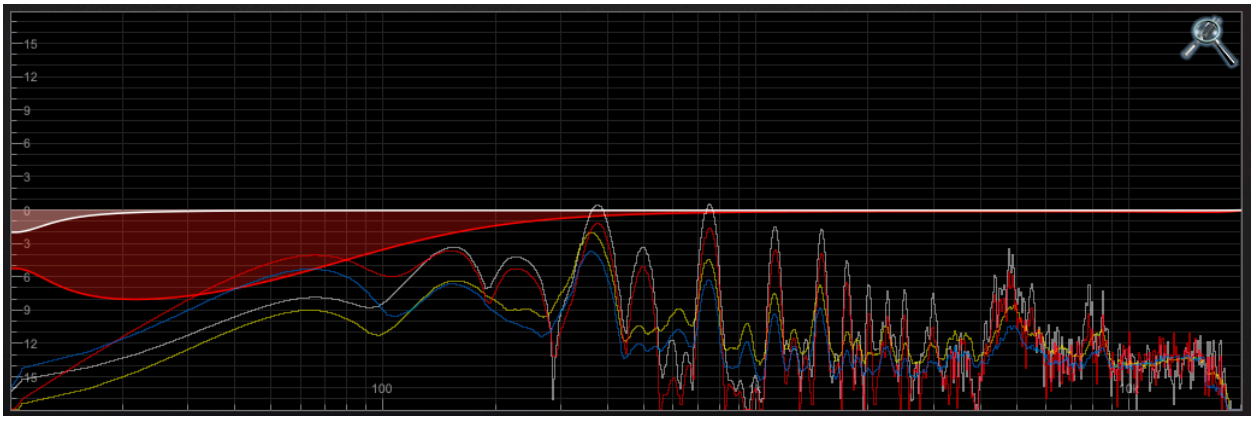


LINK AND M/S MODE CONTROLS

The knob controls in the UI have special gestures available:

- Right Click (or <control>-click) on any knob to type in a value for the parameter. Note for stepped parameters, the value will snap to the closest available step. The text entry field will interpret suffixes so you can type either 1.2k or 1200 for 1.2kHz, for example.
- Mouse scroll wheel over a knob will increase or decrease its value (depending on the direction of the scroll wheel. On Mac you can also hold the <command> key to go into fine-adjust mode for the input and output gains.
- <option> (<alt> on Windows) click on any knob to reset it to the default value.
- <command> click (on Mac) for fine-adjust mode - this only applies to the input and output gains, as all the other controls are stepped.
- <control><option> (<alt> on Windows) click on any knob to reset it to the minimum value.
- Hold the <shift> key to defeat linking between channels for the parameter while you are changing it.
- <shift><option> to reset the parameter while leaving the linked parameter from the other channel alone.
- <control><shift> on input gain to reciprocally change the output gain; this allows you to adjust the drive level into the analog processing without changing the overall output level through the processor.
- Double-click band gain knobs to toggle the associated band enable state. When a band is disabled, the gain knob for the band will become translucent indicating that the band is not processing the audio.

TRANSFER FUNCTION



The Transfer Function panel allows you to see the transfer function of EQ based on the settings you have made. Since the MES-432D9D supports unlinked operation, the transfer function displays the curve for both channels when it is unlinked:

UNLINKED TRANSFER FUNCTION + ANALYSER

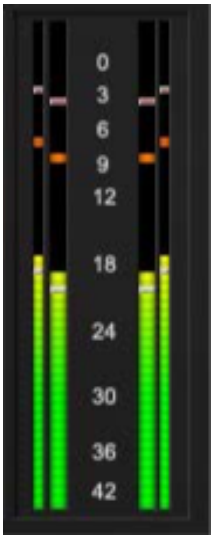
When the channels are fully linked the gain curve is displayed as a filled red.

When the channels are not fully linked, the Left (or Mid) gain curve is displayed as filled red, and the Right (or Side) gain curve is displayed as filled white.

The **SpectraFoo Logo** (the tuning fork+magnifier) in the top-right corner of the transfer function controls the display of the analyzer. You can <control>-click the SpectraFoo Logo to popup the Analyzer Options menu:

- **Dim Analyzer Traces** - on by default, this makes the analyzer traces less prominent in the display. Turn this off to make the traces bright.
- **Show Instantaneous Trace** - shows the spectral content of the signal with no averaging. This lets you see narrow and short lived features. It is useful for being able to see the signal content of impulsive sounds.
- **Show Average Trace** - shows the spectral content of the signal with averaging. This gives you a time averaged view of the signal and lets you see the overall tonal balance of the material while averaging out short-lived transient events.

METERS



INPUT/OUTPUT METERS

The meters are displayed to the right of the transfer function in the transfer function panel. The meters include Peak Hold (held red bar), PPM (floating bar), VU (floating grey bard) and RMS (solid bar). Click to reset peak holds/clip lights.

Inputs are smaller meters to the outside, outputs are larger meters in the middle . This adjacent layout allows you to adjust output gain to level match Output to Input.

PLUG-IN HEADERS

METRIC HALO PLUGIN HEADER

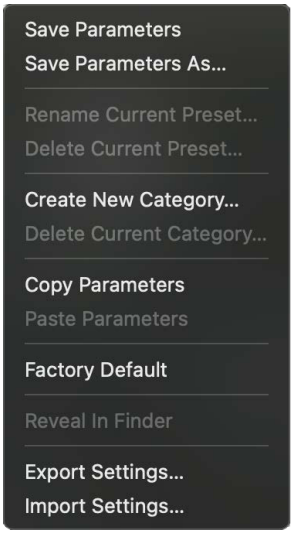
All of the plug-in UI's share the plug-in header at the top of the window.

This header provides generic services for managing the state of any plug-in. We recommend that you spend some time getting familiar with the UI's preset system. It allows you to access all of your presets from any DAW you may be working in.

The plug-in window header includes a hamburger menu, preset step buttons, preset name/ selection, Undo, Redo, "A/B", "Blend", "Compare" and "Bypass".

When you make changes to any plug-in parameters, the plug-in preset selector title will italicize, and the "Compare" button will activate. Toggling "Compare" switches between the saved preset settings (named in italics) and the changes you've made.

The Plug-in Hamburger menu breaks down as follows:



- **Save Parameters** writes the current plug-in parameters to the current preset. If you have a factory preset selected, it will automatically do a Save As… to a user preset
- **Save Parameters As…** opens a dialog box where you can name and choose a category for your current plug-in settings.
- **Rename Current Preset…** lets you rename the current preset.
- **Delete Current Preset…** deletes the current preset.
- **Create New Category…** lets you create a new preset category for the current plug-in type.
- **Delete Current Category…** deletes the current preset category.
- **Copy Parameters…** copies the current parameter set so you can paste them into another instance.
- **Paste Parameters…** pastes the copied parameters. Note that pasting a parameter set over an existing named preset will change the preset name field to: [No Preset].
- **Factory Default…** loads the factory default settings for this plug-in.
- **Reveal In Finder…** opens the folder in which the current preset is saved.
  - On Mac this will be:

    ~/Library/Application Support/Metric Halo/MHPresets/<plugin_name>

  - On Windows this will be:

    \Documents\Metric Halo\MHPresets\<plugin_name>

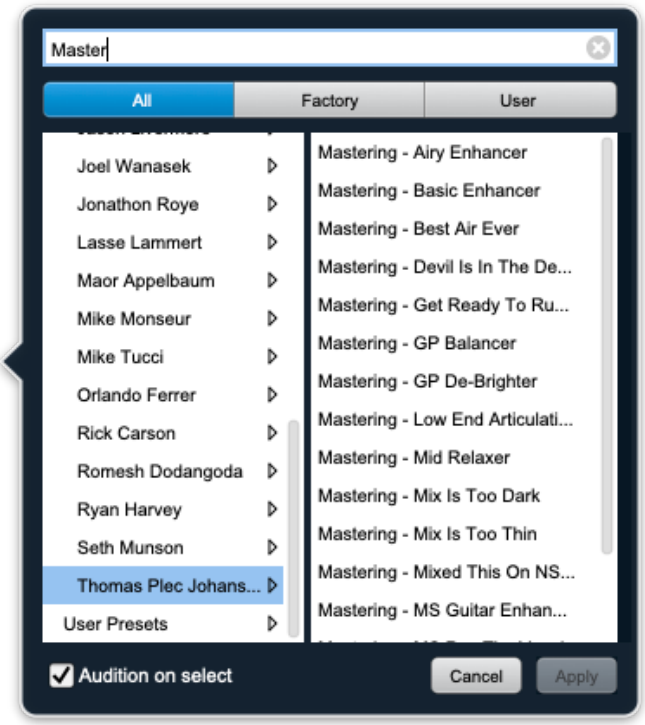
- **Export Settings…** is like "Save Parameters As...", but lets you save the preset to any location on any available storage.
- **Import Settings…** will import any Metric Halo 2d or 3d preset file of the same type as the current plug-in.

PLUG-IN SETTINGS

The presets stored via the MH Preset bar are automatically shared between hosts and plugin types - e.g. presets you save in a VST plugin on Nuendo will be available in the AAX plugin in Pro Tools, an AU in Logic and even in MIOConsole for the hardware plugins if you use Metric Halo hardware.

The presets library is automatically shared amongst all instances of a particular plug-in, including preset categories.

If you click in the current preset name area, you get the Preset Selector menu:



The Preset selector will open to show all the available preset categories, and the presets within those categories. You can type characters into the filter field to show only presets that contain that string. You can also use the button bar at the top and/or the categories in the category list to filter the presets to a subset. All the filters are active at the same time, and the presets displayed are the ones that pass all the filters.

The "**Audition on select**" checkbox (when checked) will immediately apply the settings for the preset when you click on it (without dismissing the selector). If you hit cancel, the original settings (that were in place before you clicked the preset name readout in the header bar) will be restored.

UNDO/REDO

UNDO/REDO BUTTONS

The plugins provide support for undo/redo within the plugin itself (with no dependence on the host).

The Left and right curved arrows represent Undo (Left) and Redo (Right). These arrows are grey when there is nothing to Undo or Redo.

The arrows are white when it is possible to Undo (Left) or Redo (Right). Clicking the left arrow when it is white will undo the last action you made in the plugin. When you undo something that change is placed on the redo stack, and the Redo button will turn white.

Clicking the Redo button (when it is white) will restore the state that the last Undo changed.

If the Redo button is white, and you make a change in the plugin, the redo button will go grey as the redo stack will be cleared.

A/B & BLEND

The A and B buttons control the A and B state registers. For each of the A, B and Blend buttons the visual display tells you the state of the register:

- Light Grey means it is empty
- Dark Grey means it has settings, but is unselected
- Blue means it has settings and is selected

You can perform the following actions:

- Clicking on an empty register sets it to the current settings
- <option> (<alt> on Windows) Clicking on an register sets it to the current settings
- Changing settings when a register is selected will change the settings in the register

The blend button allows you to interpolate between the settings in the A and B registers. It becomes active when both A and B have a setting stored.

METRIC HALO BLEND POPUP

Click on Blend to popup the blend control. Slide all the way to the left to apply the settings in the A register. Slide all the way to the right to apply the settings in the B register. Intermediate settings for blend will give you intermediate settings for any parameter that is different in register A and B. The blend control does not change the state of Bypass.

Note that the Blend is not a parallel processing mode where two instances of the processor are running with A and B settings and the output is a parallel blend of the two settings. Rather Blend applies the interpolated settings to one instance of the processor.

Blend is an automat-able parameter for hosts that support automation.

The A/B and blend settings are stored and recalled as part of the plugin state (but not presets in the preset bar).

While you can use the blend with arbitrary A and B settings we find it works best when you craft the settings in the two registers in such a way as they are related to each other.

Specifically, if an indexed parameter is different between the two settings, the interpolated value will snap to one of the indexes between the two settings, which can be jarring (e.g. Q, MS, Band Enable).

It is best if the parameters that you blend are smooth parameters (e.g. gains, frequencies) and make sure the indexed parameters (enables, modes, band types) are set the same for both registers.

The easiest way to do this is to load the same setting into both registers and then tweak the settings one of the registers.

This works especially well if you make one of the registers be the basic settings with all the gains or thresholds flattened out so that you can smoothly interpolate between a setting and effectively bypassed - we have found that this allows you to zero in a perfect configuration between too much and too little.

SYSTEM REQUIREMENTS

Mac OS X 10.8.5 or newer. Intel Processor or Apple Silicon. AU, VST2, VST3 or AAX (ProPro Tools 11 & newer Native) host. 64-bit.

Windows 10 or newer. Intel Processor. VST3 or AAX (Pro Tools 10, 11 & 12 Native) host. 64-bit.

LICENSING REQUIREMENTS

iLok.com account

iLok dongle is optional — you may install the license on iLok for portability. Only one license required – works on all supported platforms. Each license includes 2 activations.