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mObridge

User Manual

Digital & Analog Pre-Amplifier | DA3

MOST

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⚠ IMPORTANT

Common Install Notes

01 Prior to commencing any installation! Some vehicles may need to be coded for the M1000-M-DA for correct operation. Coding Notes for your individual vehicle can be found in the Quick Installation Guide.

02 Initially, please set the gain controls on your analogue amplifiers to minimum. This will reduce noise significantly and allow your amplifiers to run smother for longer. NB: We recommend that you use the M1000-M-DA gain control as your master set up gain.

Disclaimer

1) Dolby Digital, DTS and other proprietary digital formats are not supported by the DA series of products. These features require licensing from Dolby, DTS and other manufacturers to support these features
2) Vehicle Coding Some vehicles may require coding. Fiberdyne Systems Pty Ltd endeavors to be aware of which vehicles and procedures are required for this by producing vehicle manufacturer installation notes. However we will not be responsible should third party diagnostics tools be required and nor we will be responsible for the costs involved in this coding or any monetary costs incurred either from third party diagnostics specialists/dealers or directly from consumers or installation specialists.
3) Vehicle features Whilst Fiberdyne Systems Pty Ltd endeavors to develop products that seamlessly integrate to the existing vehicle infrastructure we will not be held legally responsible should some OEM vehicle features not operate as intended. Please be aware that Fiberdyne Systems Pty Ltd does not have access to OEM vehicle data bases. When fitting a DA product to the vehicle some features such as Bluetooth echo, volumes on specific sources such as Nav, Voice and Reverse Park distance may differ from the factory amplifier and this is due to end of line vehicle configuration at the manufacturers factory.

mObridge

▷▷Welcome

Congratulations on your purchase of a mObridge DA3 Pre-Amplifier. mObridge prides itself on striving to develop and manufacture products to the highest engineering quality standards and seamlessly integrating these products with factory audio visual systems.
The Graphical User Interface (GUI) for the DA3 allows for complete control and tuning of your DA3 unit, with a 1024 point parametric equalizer for each channel, time alignment, phase adjustment as well as channel summing for 'mono' usage such as with a subwoofer or centre channel.
This manual will explain how to use this GUI to maximize your listening experience.
The GUI is available for both PC & MAC, and can be downloaded from our website.
We hope you enjoy your new enhanced listening experience!

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Graphical User Interface Operation

The Graphical User Interface can be downloaded from our website, and can be used in both online and offline mode. However, in order to 'Map the Channels' you will need to be connected to the DA3 with power connected too.

Offline mode allows you to configure Graphic EQ settings and store them for later fine-tuning in the car if desired. We recommend all tuning be done with a 'Live' System, because this way you can hear all changes being made in real time. Graphic EQ, Crossover settings and Time Alignment changes, can all be heard as you make the changes when 'Live'.

Connecting and Channel Mapping

Once downloaded, we recommend you open the application and connect to your DA unit via a USB cable (not provided). If power is connected to the DA and turned on, you will see the screen shown in FIG 01 on the following page.
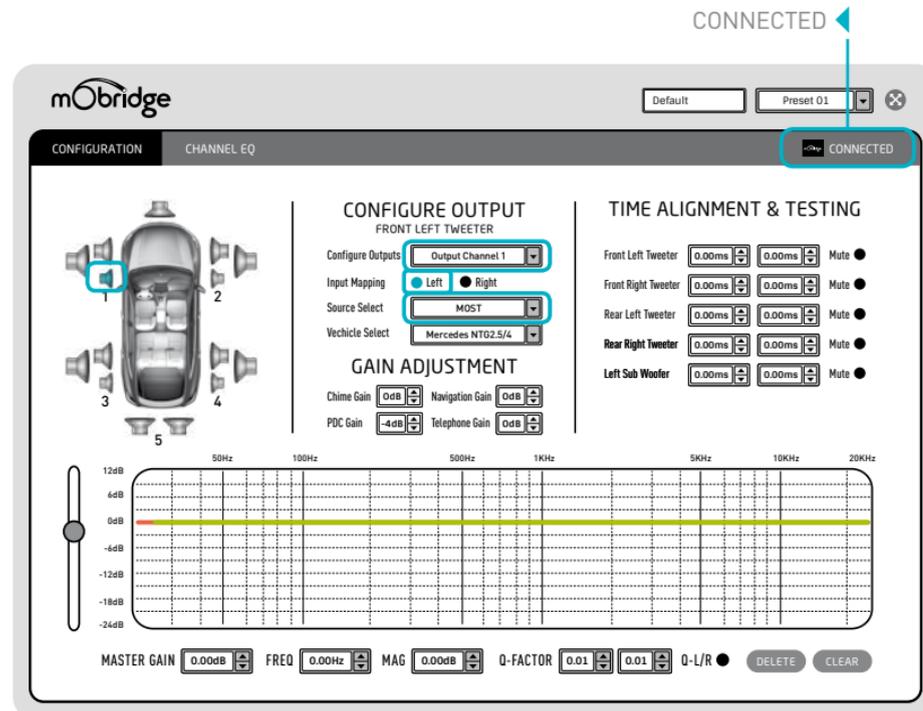
The first thing you will need to do is to select the vehicle the DA is being installed to from the drop down menu in the middle of the screen. Then configure the channels for the correct mapping of your particular system.

First select a speaker from the image of the vehicle then from the drop down menu in the middle of the screen, select the channel output you have connected for that particular speaker. Repeat this for each speaker and its corresponding output channel.

When running a component speaker system with a passive crossover, only select one of the speakers in the cluster. It is not important which speaker is chosen, as this is only the mapping stage. Crossover settings will allow for correct settings for this type of speaker system!

When connecting a Mono Subwoofer or centre channel speaker, simply select the speaker image and click the 'Left' & 'Right' buttons for the input mapping in order for the DA3 to know that this is a 'summed' channel output, providing information from both the left and right hand sides.

Channels mapped as a Subwoofer or as the Center channel will not be affected by fade and balance controls.

CONNECTED

CONFIGURE OUTPUT
FRONT LEFT TWEETER

Configure Outputs	Output Channel 1
Input Mapping	● Left ● Right
Source Select	MOST
Vechicle Select	Mercedes NTG2.5/4

GAIN ADJUSTMENT

Chime Gain	0dB	Navigation Gain	0dB
PDC Gain	-4dB	Telephone Gain	0dB

TIME ALIGNMENT & TESTING

Front Left Tweeter	0.00ms	0.00ms	Mute ●
Front Right Tweeter	0.00ms	0.00ms	Mute ●
Rear Left Tweeter	0.00ms	0.00ms	Mute ●
Rear Right Tweeter	0.00ms	0.00ms	Mute ●
Left Sub Woofer	0.00ms	0.00ms	Mute ●

MASTER GAIN 0.00dB FREQ 0.00Hz MAG 0.00dB Q-FACTOR 0.01 0.01 Q-L/R ● DELETE CLEAR

CONFIGURATION CHANNEL EQ CONNECTED

Default Preset 01

DA3 Connected **FIG 01**

Crossover (Filter) Set up

After channel mapping, you will need to set the crossover for each of the speakers connected. To do this, first click on the 'Channel EQ' TAB at the top left corner of the screen. This will open the Full EQ page for the individual speaker selected.

You will also note a 'XOVER L/R LINK' radio button. This allows you to set up both left and right crossovers simultaneously. It is very unusual to have separate crossover settings for the same type of speaker on opposite sides of the vehicle.

In the middle of the screen you will see the 'Filter type' drop down menu. Select your desired crossover.

▶ Low Pass for Subwoofers

▶ Band Pass for Mid-Bass or Midrange Speaker

▶ High Pass for Tweeters

If you are running a passive crossover on your component speakers, then select High Pass filter and simply lower the crossover point to allow for Mid-Bass or Midrange frequencies.

To adjust the crossover point, there are two methods:

01 Simply type a number into the Lo-P Hz or Hi-P Hz boxes provided

02 Drag the 3db down point (shown as a grey or blue dot on the Graphic Screen) to the desired frequency.

As you make the adjustments, you will hear the difference your changes make if you are connected and powered on!
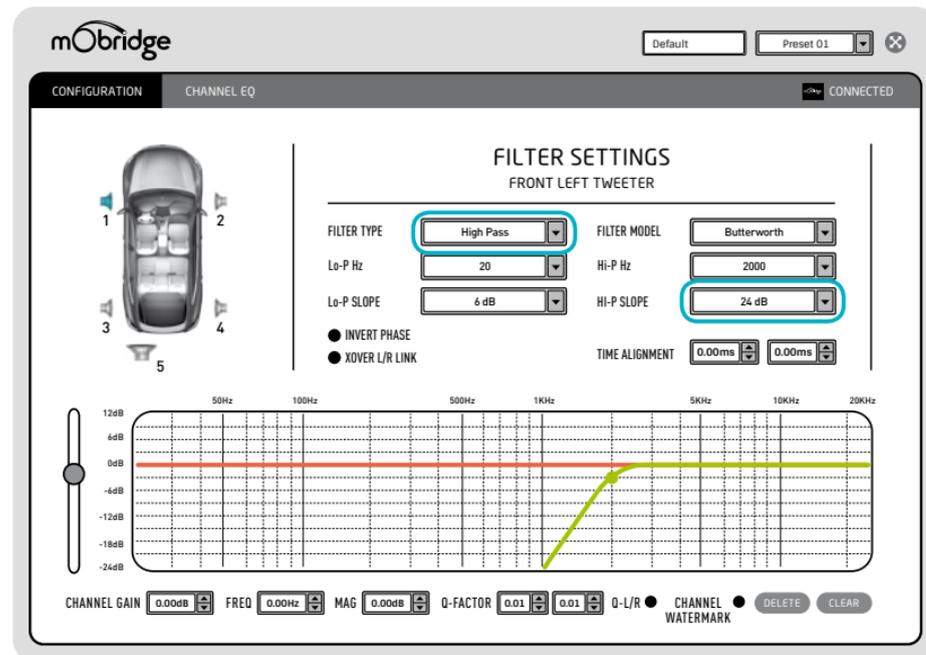
M1000-M-DA3 Crossovers   FIG 02

◀ **FIGURE 02**

You can also adjust the slope of the crossover. The adjustment options for slope are 6dB, 12dB, 18dB and 24dB.

In the FIG 02 we have selected a tweeter and applied a hi-pass filter to it with a 24dB slope.

Individual Channel Equalization

Each speaker can be equalized or tuned to your own taste. NB: If the 'XOVER L/R LINK' radio button is selected, the linked speakers of left and right will be equalized together. We recommend this for initial tuning. You can always uncheck this radio button to fine tune individually later.

Go back to the 'Configuration' TAB at the top left corner. Here you will see a flat yellow line across the Parametric Equalizer towards the bottom of the screen. Take make adjustments, you just select a point with your mouse, click and hold, and then drag it to your desired setting. You can do this up to 1000 points!

As you move the point on the screen, you will hear the sound adjust. For each point in the Eq curve you can adjust the left and right Q-factor or you can link the Q-factor together.

There is also a checkbox for watermarking the related speakers. This allows you to see exactly where the cross-over points are for each speaker in your system, so matching cross-over points becomes a little easier.
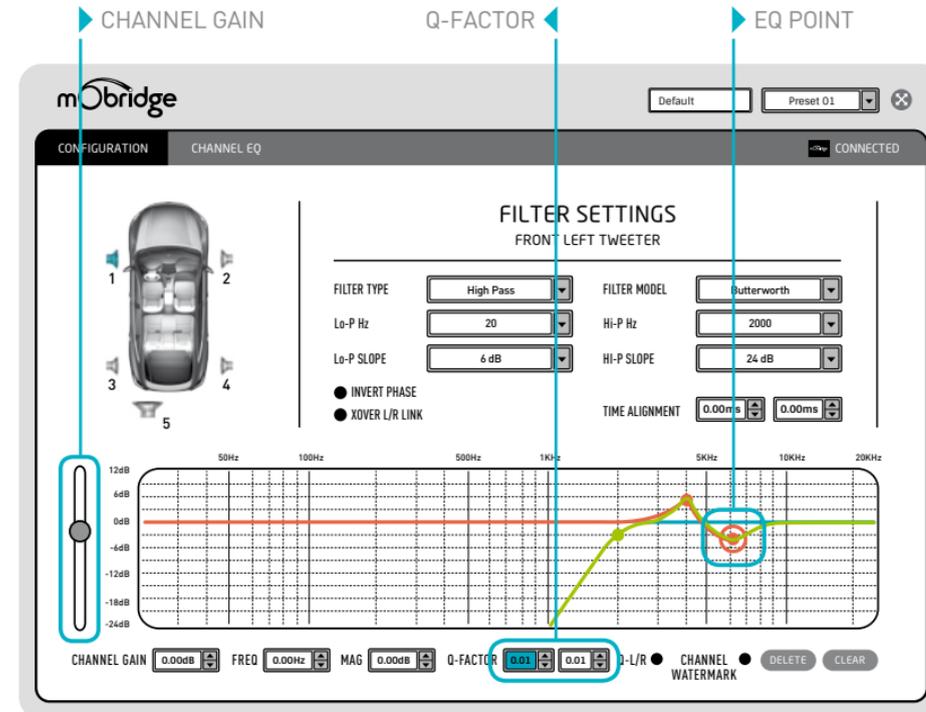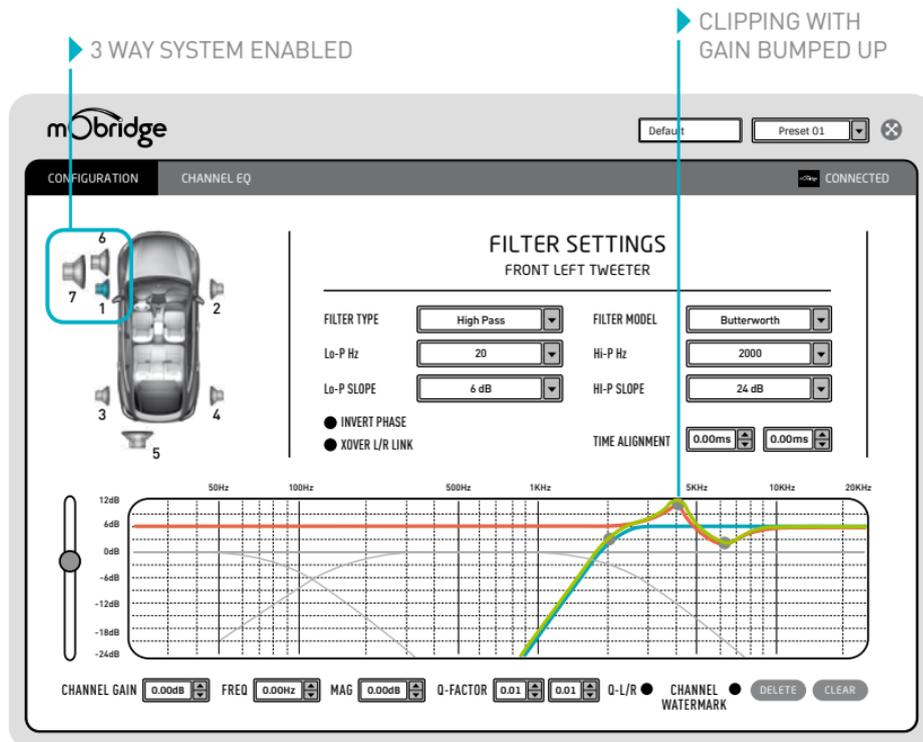
Channel Equalizer   FIG 03

◀ **FIGURE 03**

You can see in FIG 03 that we have placed two points in the Eq curve and that we have adjust one point at 6136Hz down a little and adjusted the left Q factor down to 0.01 and the right Q-factor is at 0.01. There is also a slider bar for channel gain control. This allows each speaker output to be set to the appropriate sound level.

FIGURE 04 ▶

In FIG 04 we can see that we have enabled a 3-way system and checked the box for the watermark. We have also bumped up the gain a little on the tweeter and we can now see on the graph that the Eq point we dropped in at 4 KHz has now started to clip (illustrated by the flat line across the top of the graph). You want to avoid this 'clipping' at all costs! This will cause damage to your speakers.

▶ 3 WAY SYSTEM ENABLED

▶ CLIPPING WITH GAIN BUMPED UP

mobridge

| Default | | Preset 01 | ▾ | ⊗ |

| CONFIGURATION | CHANNEL EQ | | CONNECTED |

6
7 1   2

3   4

5

FILTER SETTINGS
FRONT LEFT TWEETER

FILTER TYPE	High Pass ▾	FILTER MODEL	Butterworth ▾
Lo-P Hz	20	Hi-P Hz	2000
Lo-P SLOPE	6 dB ▾	HI-P SLOPE	24 dB ▾
● INVERT PHASE			
● XOVER L/R LINK		TIME ALIGNMENT	0.00ms 0.00ms

50Hz   100Hz   500Hz   1KHz   5KHz   10KHz   20KHz

12dB
6dB
0dB
-6dB
-12dB
-18dB
-24dB

CHANNEL GAIN 0.00dB ⇅ FREQ 0.00Hz ⇅ MAG 0.00dB ⇅ Q-FACTOR 0.01 ⇅ 0.01 ⇅ Q-L/R ● CHANNEL ● WATERMARK DELETE CLEAR

Channel Equalizer with watermark   **FIG 04**

Individual Speaker Time Alignment

Time Alignment helps to make sure the sound from each speaker arrives at the desired listening position, all at the same time. Normally a measuring tape is required for this task, which you can do with our system BUT for ease and speed of setup, we have devised a very simple 'drag & drop' cross hair time alignment system.

Choose the speaker you want to align, and then drag the green cross hair (FIG 05 pictured in the vehicle image) to the desired listening position.

For example, if you are setting up for the driver's position as optimal performance, then drag all speakers to roughly where the driver's head will be. If you are setting up for a well-centered sound for all to enjoy, then drag your cross hairs to a centered position just at the edge of the dashboard (Individuals like a different sound position so this is only a recommendation).

FIGURE 05 ▶

In FIG 05 you can see that we have dragged the left tweeter crosshairs over and in the time alignment section on the right hand side we can see the actual offset in time (ms – milliseconds) and distance (m – meters). The graphical interface uses both metric and imperial for the distance and will gather the regional zone of the computer you are using and do this automatically.

CROSS HAIR
DRAG'N DROP

MANUAL
ADJUSTMENT
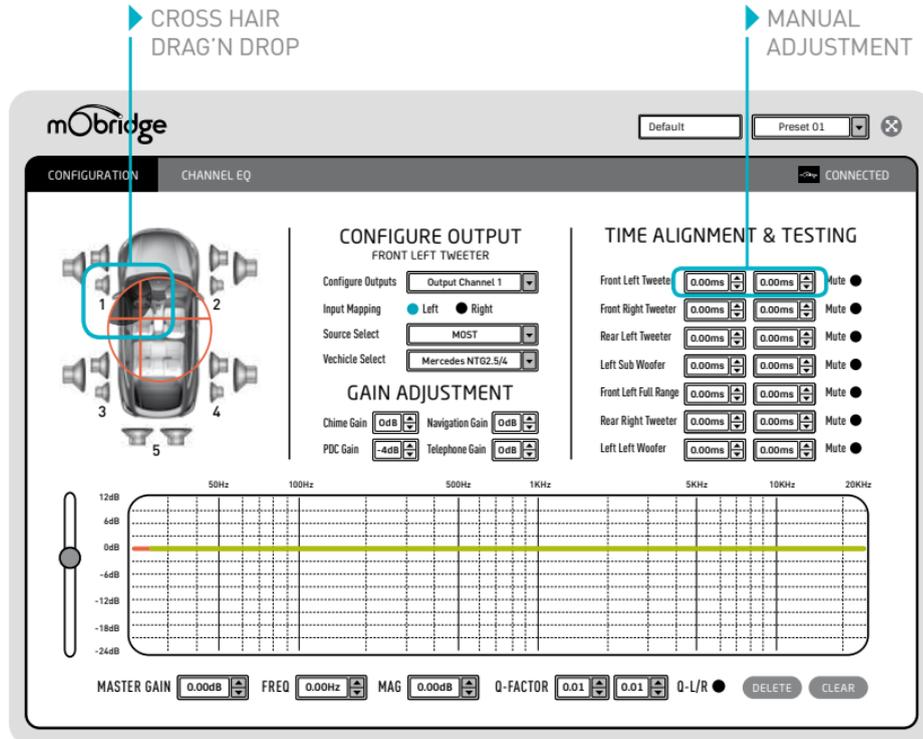
Time Alignment Cross Hairs **FIG 05**

Master Equalization

The DA3 has a master eq. This gets overlaid over all of the channel cross/Eq curves. It is exactly the same operation as the individual channel equalization setup with multiple points, left and right Q –factors and overall master gain control.
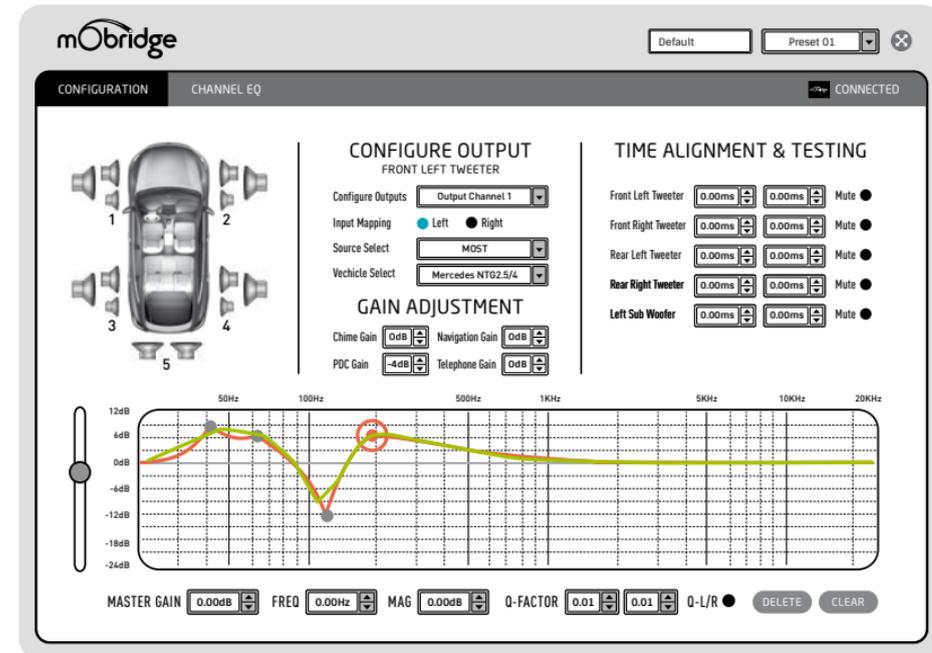
◀ **FIGURE 06**

FIG 06 show a master Equalizer setup with a number of points added to the adjustment. More points can be added simply by clicking on the graph.

Master Equalization **FIG 06**

Saving Setups & Presets

The DA will automatically save setups upon a shutdown of the MOST system. This needs to happen 'gracefully' as the user cannot just pull power from the unit as this will not work.

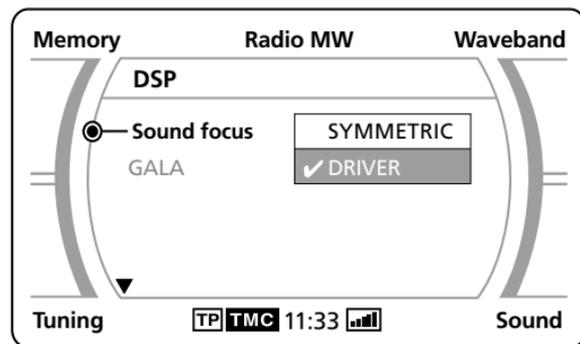The DA3 has four different presets and these can be individually tuned. The presets can be triggered from the vehicles radio, as shown in FIG 07. The channel mapping will remain across all four presets and will also apply default filter setups to the speakers to avoid speaker damage.

You can save a backup of all of your Presets by simply clicking the 'File Button' on the top menu and then 'Save As'. This will save a backup of your setup across all four presets, and this file can be used at a later date to load in saved settings.

Source Gain Adjustment

The DA3 has the ability to adjust individual sources for the following, as shown in FIG 08:

▶ Telephone   ▶ Navigation

▶ Reverse Parking Sensors (PDC)   ▶ Chimes

Memory   Radio MW   Waveband

DSP

◉ **Sound focus**   SYMMETRIC

GALA   ✔ DRIVER

▼

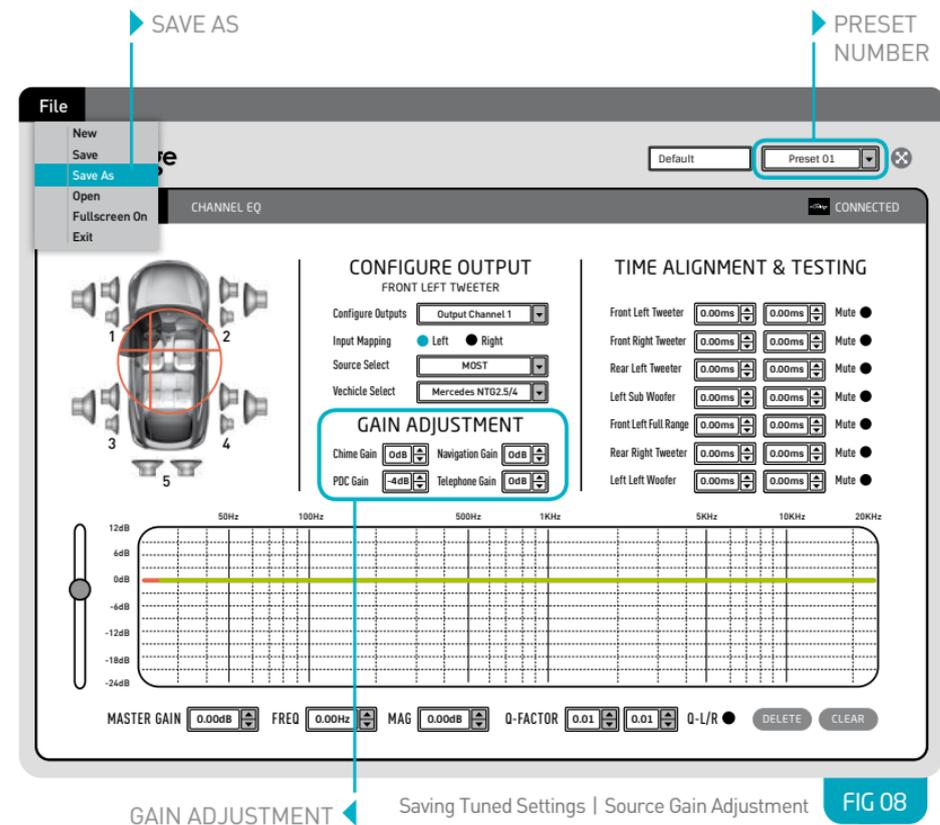**Tuning   TP TMC 11:33   Sound**

Triggering presets from the vehicles radio   FIG 07

Please refer to the individual install notes for each vehicle type at www.mobridge.us/products/da3-dsp-professional

Volume levels do vary from vehicle to vehicle. Should the user require more gain on a particular source the user can adjust the volume up as needed. Alternatively should the user find some sources to loud such as reverse park sensors, then the gain for this particular source can be decreased.

SAVE AS   PRESET NUMBER

File
- New
- Save
- Save As
- Open
- Fullscreen On
- Exit

Default   Preset 01

CHANNEL EQ   CONNECTED

CONFIGURE OUTPUT
FRONT LEFT TWEETER

Configure Outputs   Output Channel 1
Input Mapping   ◉ Left   ● Right
Source Select   MOST
Vehicle Select   Mercedes NTG2.5/4

GAIN ADJUSTMENT
Chime Gain 0dB   Navigation Gain 0dB
PDC Gain -4dB   Telephone Gain 0dB

TIME ALIGNMENT & TESTING

Front Left Tweeter   0.00ms   0.00ms   Mute ●
Front Right Tweeter   0.00ms   0.00ms   Mute ●
Rear Left Tweeter   0.00ms   0.00ms   Mute ●
Left Sub Woofer   0.00ms   0.00ms   Mute ●
Front Left Full Range 0.00ms   0.00ms   Mute ●
Rear Right Tweeter   0.00ms   0.00ms   Mute ●
Left Left Woofer   0.00ms   0.00ms   Mute ●

12dB
6dB
0dB
-6dB
-12dB
-18dB
-24dB

50Hz   100Hz   500Hz   1KHz   5KHz   10KHz   20KHz

MASTER GAIN 0.00dB   FREQ 0.00Hz   MAG 0.00dB   Q-FACTOR 0.01 0.01 Q-L/R ●   DELETE   CLEAR

GAIN ADJUSTMENT ◀   Saving Tuned Settings | Source Gain Adjustment   FIG 08

◀ **FIGURE 08**

In FIG 08 we can see the user has selected to save the file by selecting the 'File' menu at which point the user can save the tuning session as a *.rax file.

You can also see in the FIG 08 that the user was currently tuning preset 1.

Updating via the DSP Graphical Interface

The mObridge DA3 product can be software updated via its USB connection and use of the mObridge DSP software interface that runs on Windows and Mac PC's.
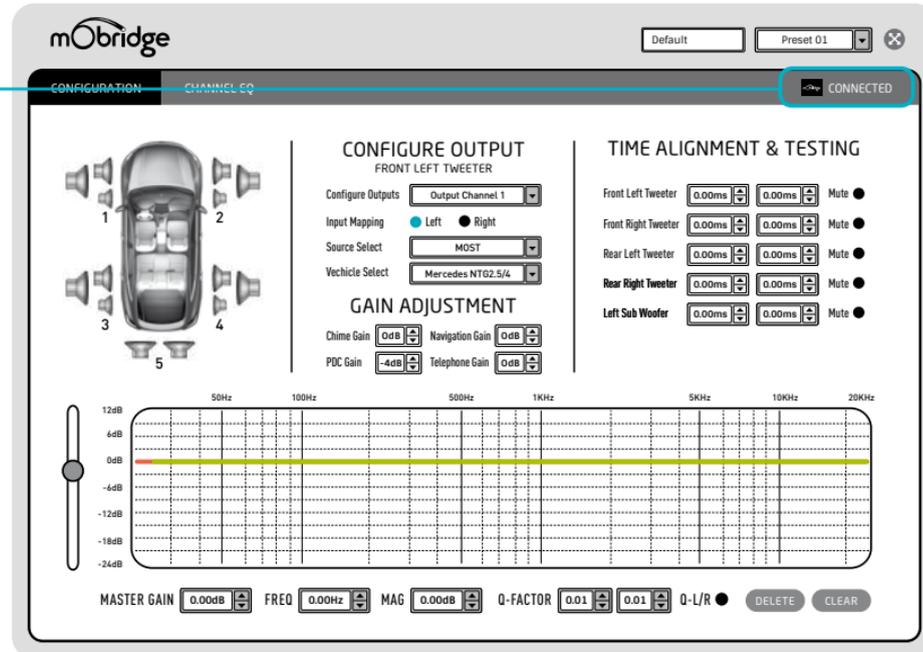
CLICK ON 'CONNECTED'

FIGURE 09 ▶

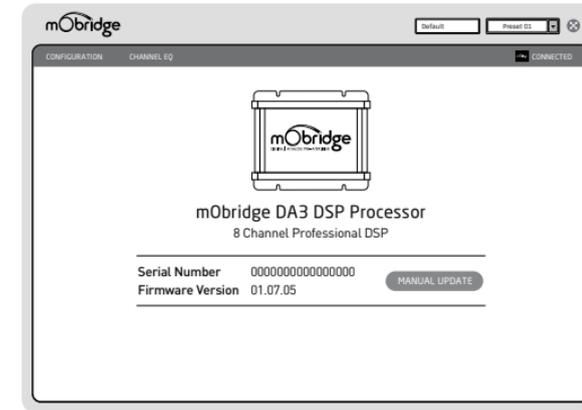Once the GUI has been opened, the latest DA software can be applied. The latest software can be found on the mObridge website.

The mObridge DA unit will need to be connected in the car and powered up for the unit to be updated. Once it is connected to the DSP GUI the user will be presented with the following screen, see FIG 10.
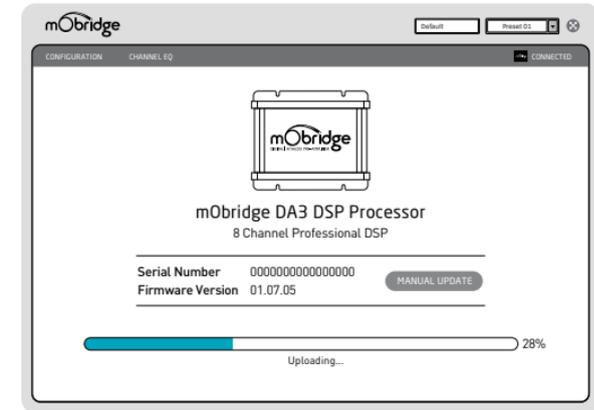

CONFIGURATION   CHANNEL EQ   ⟨·⟩ CONNECTED

Default   Preset 01

CONFIGURE OUTPUT
FRONT LEFT TWEETER

Configure Outputs   Output Channel 1
Input Mapping   ● Left   ● Right
Source Select   MOST
Vechicle Select   Mercedes NTG2.5/4

GAIN ADJUSTMENT
Chime Gain   0dB   Navigation Gain   0dB
PDC Gain   -4dB   Telephone Gain   0dB

TIME ALIGNMENT & TESTING

			Mute
Front Left Tweeter	0.00ms	0.00ms	Mute ●
Front Right Tweeter	0.00ms	0.00ms	Mute ●
Rear Left Tweeter	0.00ms	0.00ms	Mute ●
Rear Right Tweeter	0.00ms	0.00ms	Mute ●
Left Sub Woofer	0.00ms	0.00ms	Mute ●

MASTER GAIN 0.00dB   FREQ 0.00Hz   MAG 0.00dB   Q-FACTOR 0.01   0.01   Q-L/R ●   DELETE   CLEAR

DA is connected to the DSP GUI and we can click on 'Connected'   **FIG 09**

Once the DA is connected via the GUI you simply click on 'Connected' in the top right hand corner. This will bring up the update page a seen below.

CONFIGURATION   CHANNEL EQ   ⟨·⟩ CONNECTED

Default   Preset 01

mObridge DA3 DSP Processor
8 Channel Professional DSP

Serial Number   0000000000000000
Firmware Version   01.07.05   MANUAL UPDATE

Click on 'Manual Update' and select the file   **FIG 10**

Click on the 'Manual Update' button and select the new DA3 firmware file (downloaded from the website and saved to your computer) and the update procedure will begin as seen in FIG 11.

CONFIGURATION   CHANNEL EQ   ⟨·⟩ CONNECTED

Default   Preset 01

mObridge DA3 DSP Processor
8 Channel Professional DSP

Serial Number   0000000000000000
Firmware Version   01.07.05   MANUAL UPDATE

28%
Uploading...

DA3 update in progress   **FIG 11**

Once the update has completed, the DA unit will reboot and start the system again. Sometimes it is a good idea to let the car sleep after the firmware upgrade as some MOST systems do not like ECU's resetting on the MOST bus.

▶ **FIND THE LATEST SOFTWARE HERE**

mobridge.us/products/da3-dsp-professional

mobridge.us/products/most-analog-pre-amp