The Saddle Tramp DSP is an interface and DSP combined into a single solution.

Harley Davidson's radios use pre-programmed crossover and equalization settings that are locked into the OE radio. These settings restrict the audio quality when adding aftermarket equipment. The ST-DSP fixes that issue. The interface will reprogram your OE radio to output a flat frequency response curve. During the re-flash process the DSP will load a Pre-tuned equalization curve tuned by Harman Kardon.

Interface and DSP set up for Harley Davidson **Street Glide and Road Glide 2014-2022** Infinity and Saddle Tramp six speaker kit

DSP is compatible with these H-D radios.
Not compatible with the Rockford Fosgate OE system

4-button

11-button

GTS Touchscreen

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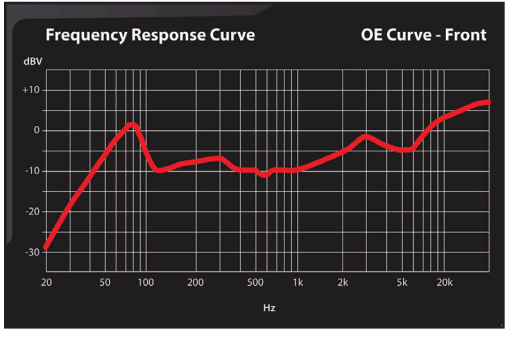
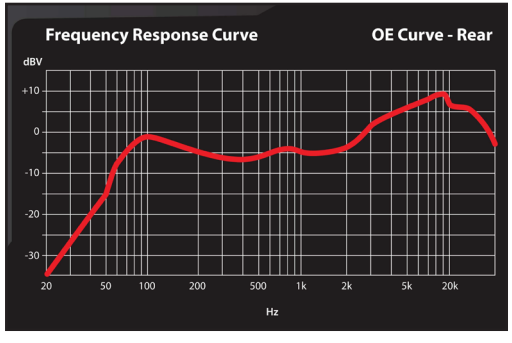
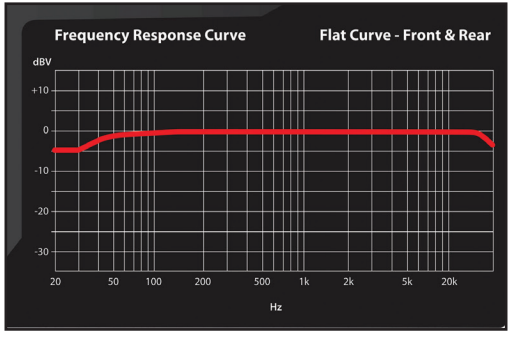
Re-flashing the OE Radio

Below are the frequency response curves of a stock Harley Davidson non-amplified radio.





Frequency response curve after the Saddle Tramp DSP reflashes the OE radio.



INTERFACE AND DSP SETUP

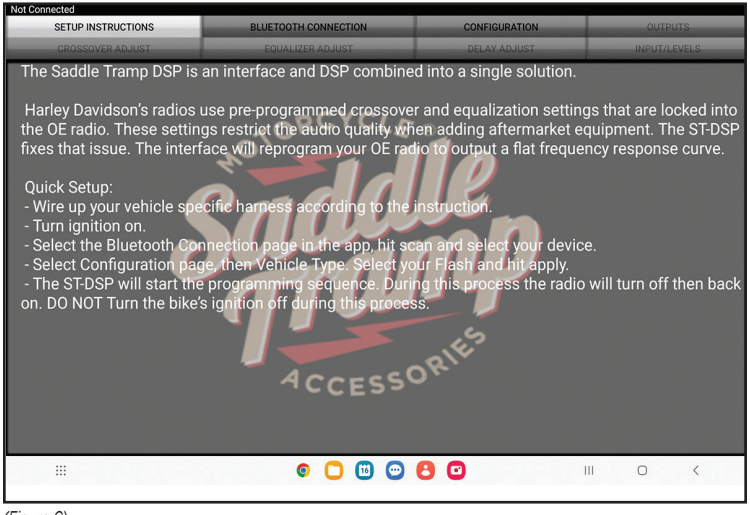
Quick Setup:

1. Now that the motorcycle-specific harnesses are connected to the bike and Infinity product.
2. Download the Saddle Tramp DSP App (Figure A) on your Android device.
3. Use the QR Code provided to quickly locate and download the app. (Figure B)
4. Turn on the ignition of your bike. Make Sure Volume on radio is reduced to one notch, volume of one.
5. Open the ST-DSP App on your Android device. (Figure C)

Continued on next page

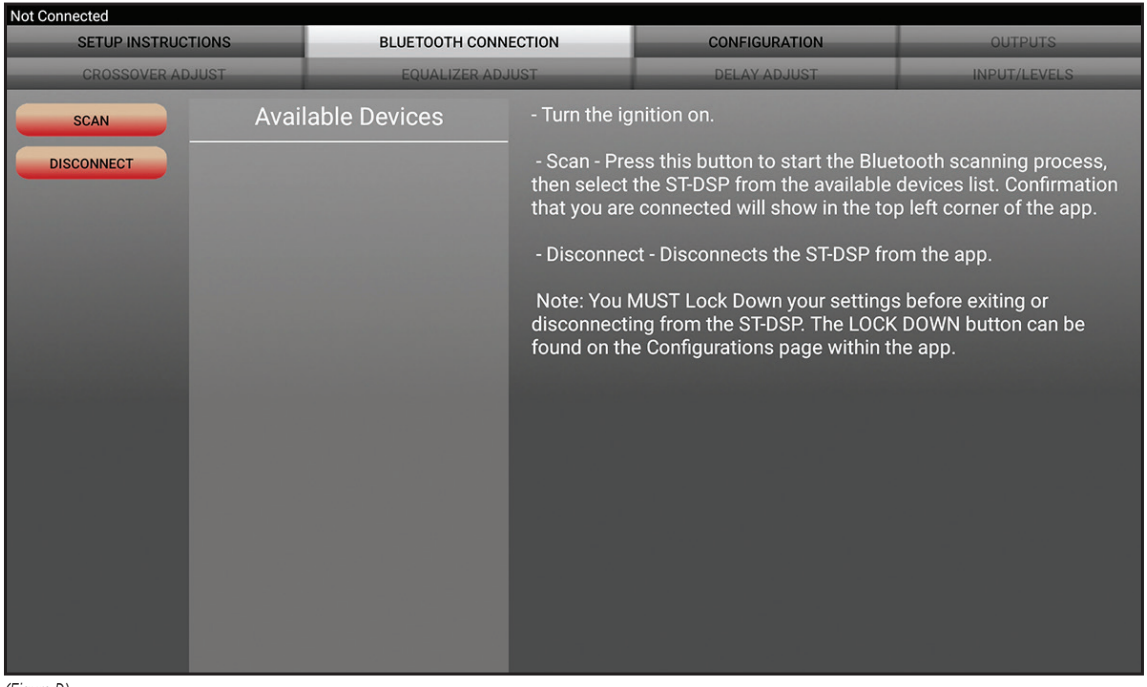
(Figure A)

(Figure B)



(Figure C)

Quick Setup: (cont.)

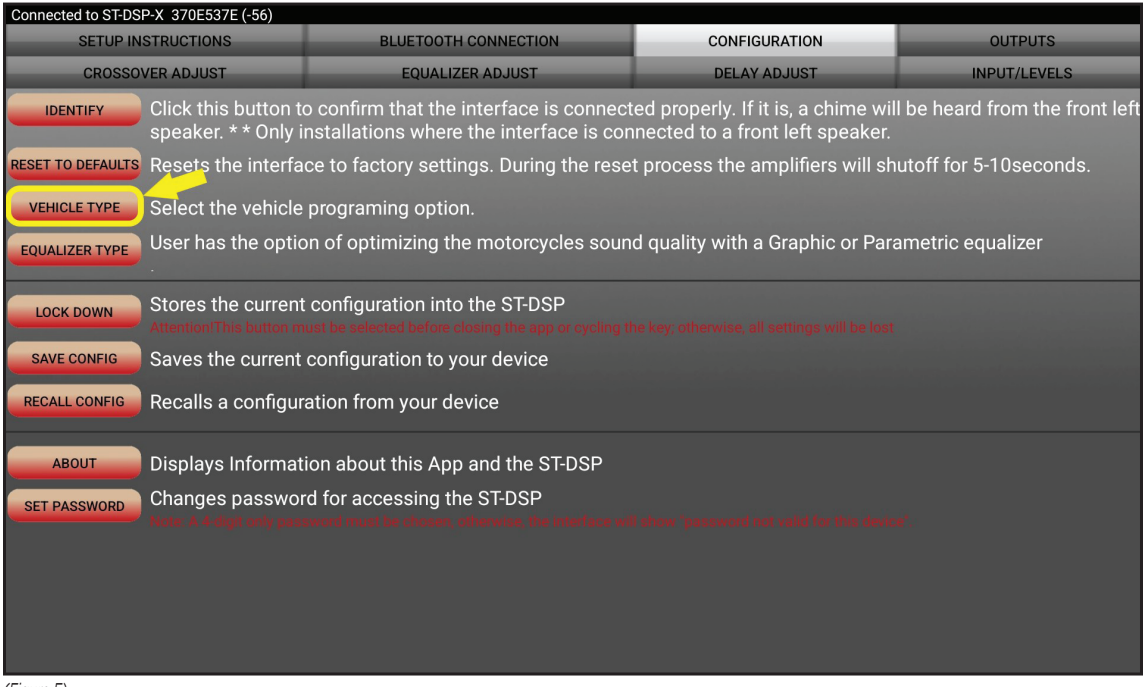


(Figure D)

6. Go to the Bluetooth Connection page within the app, tap on "Scan," and select your device from the list. (Figure D)

Continued on next page

Quick Setup: (cont.)



(Figure E)

7. Navigate to the Configuration page. (Figure E)

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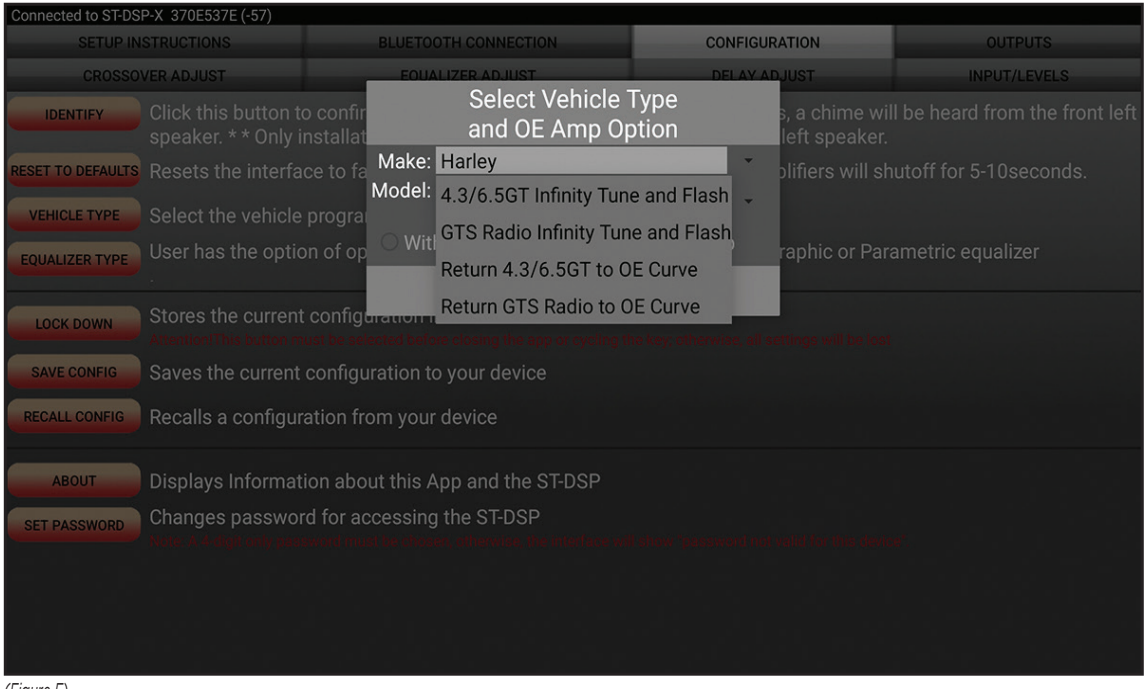
Quick Setup: (cont.)



(Figure F)

8. Select the appropriate Vehicle Type and choose your desired Flash option (Figure F)

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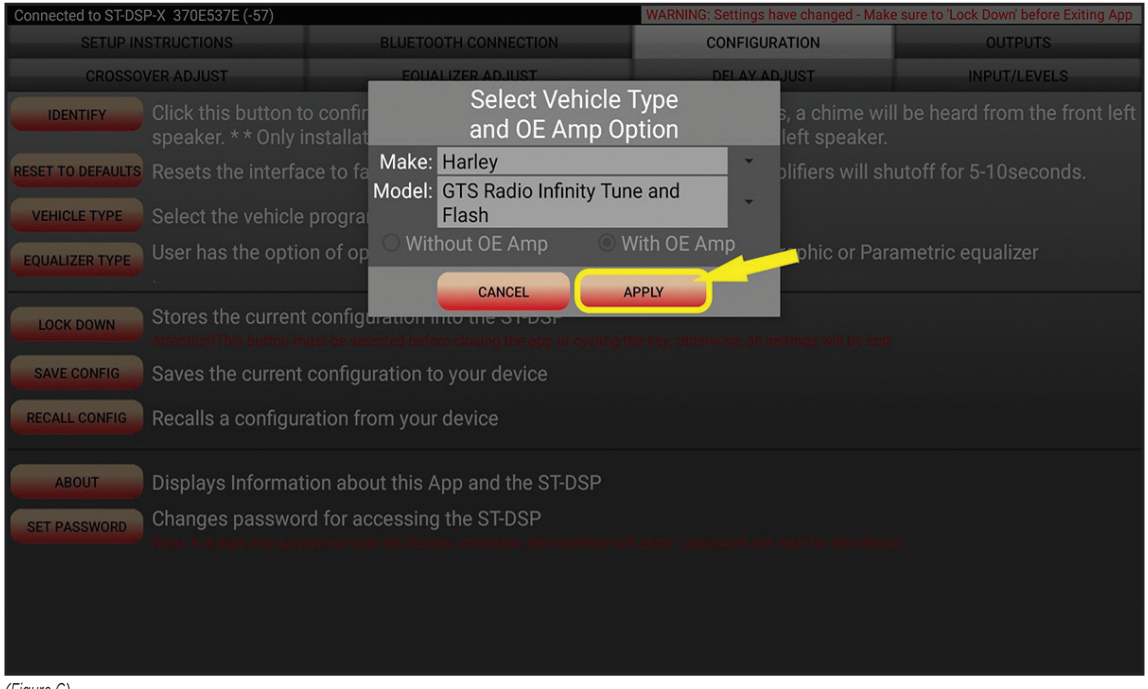
Quick Setup: (cont.)



(Figure G)

9. Apply the settings. The ST-DSP will initiate the programming sequence. During this process, your radio will turn off and then turn back on. It is crucial not to turn off the bike's ignition at this stage. The process can take up to 1 minute. (Figure G)

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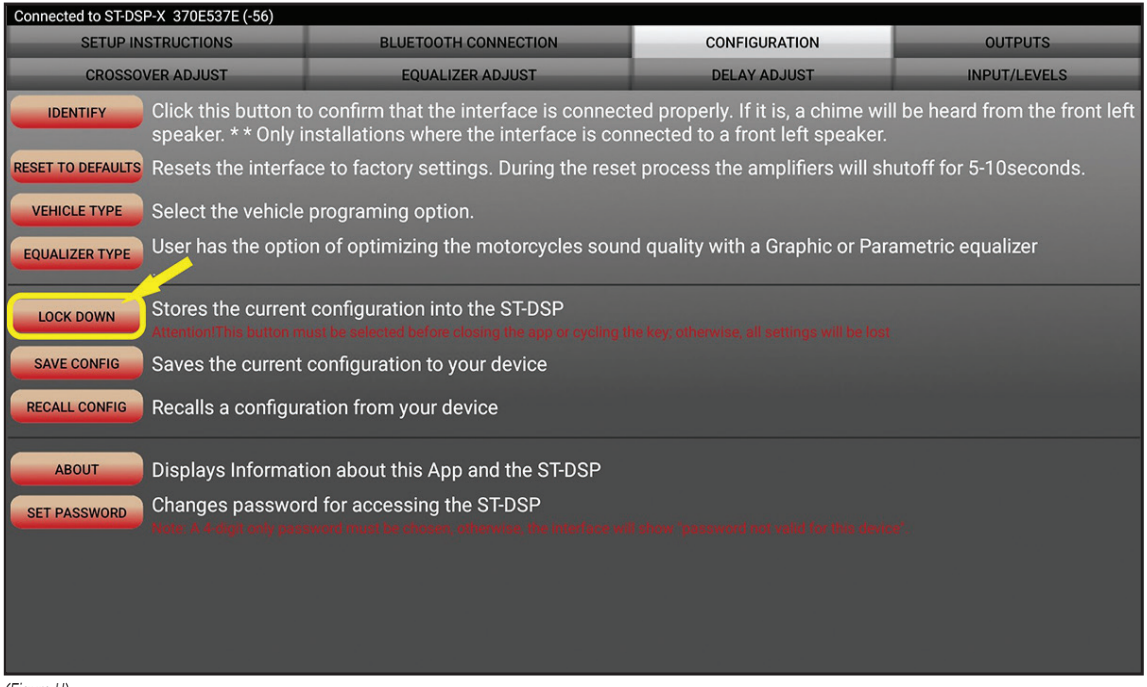
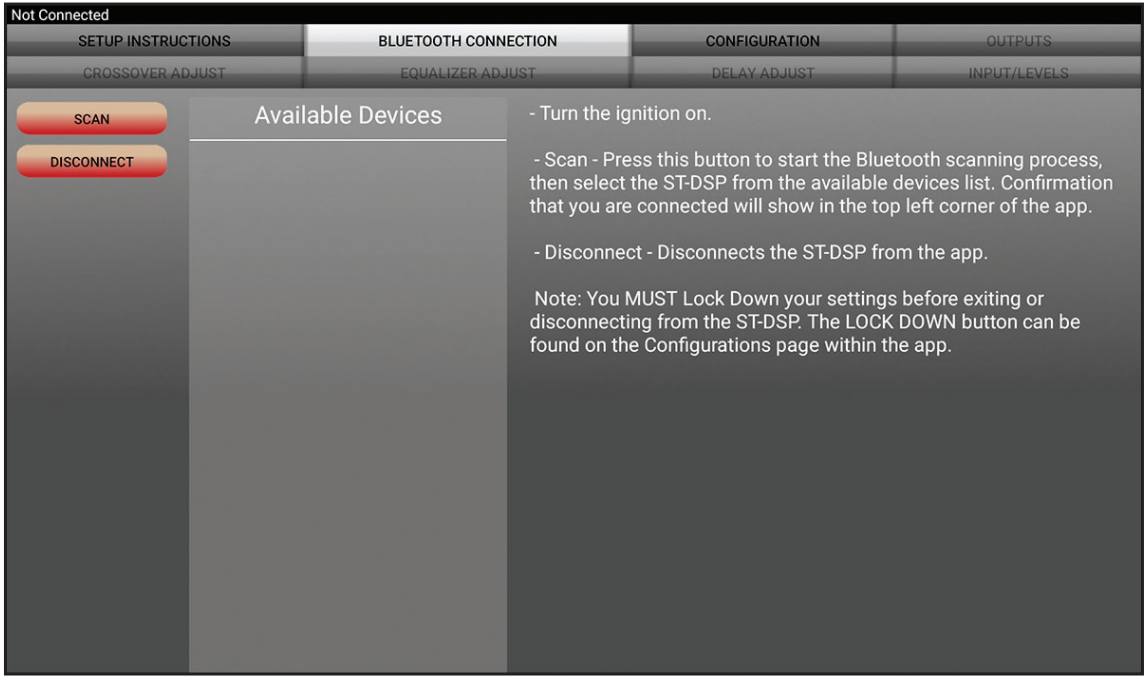
Quick Setup: (cont.)



(Figure H)

10. Once the programming is complete, go to the CONFIGURATION page and LOCK DOWN your settings. Ensure that the bike's ignition remains on during this step. (Figure H)
11. After the LOCK DOWN process finishes, you're all set. Reassemble your bike, and enjoy the updated features.
12. If you wish to fine-tune your audio, refer to the advanced setup section of the manual.

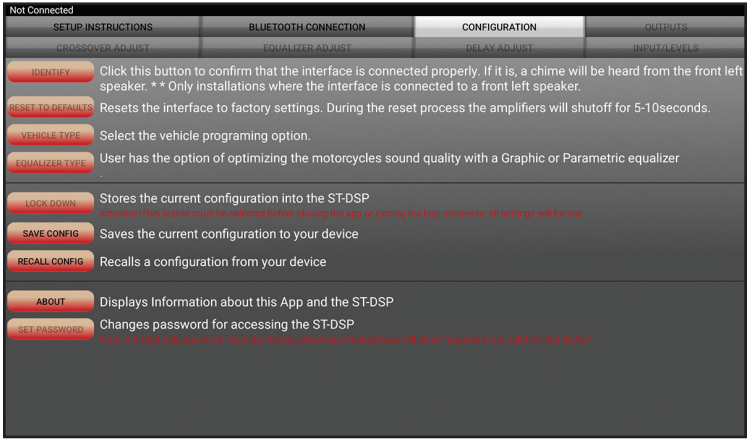
Bluetooth Connection screen



- Turn the ignition on.
- Scan - Press this button to start the Bluetooth scanning process, then select the ST-DSP from the available devices list. Confirmation that you are connected **will show in the top left** corner of the app.
- Disconnect - Disconnects the ST-DSP from the app.

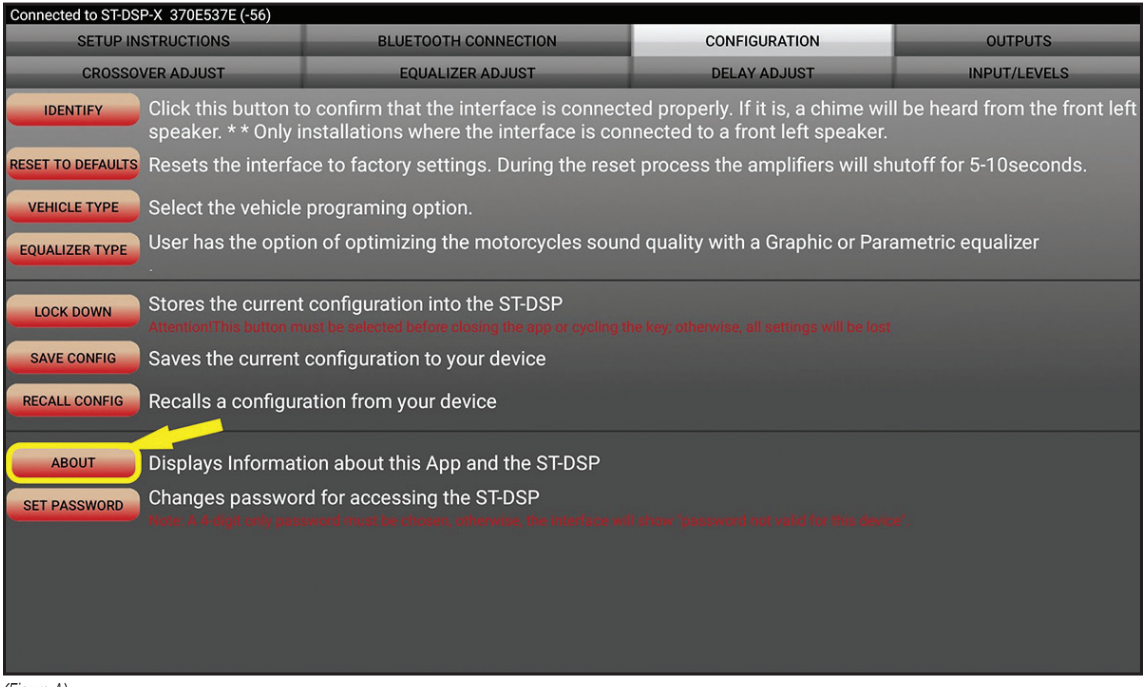
Note: You MUST Lock Down your settings **before exiting or disconnecting from the ST-DSP. The LOCK DOWN button can be found on the Configurations page within the app.**

Configuration screen



- IDENTIFY: Click this button to verify proper connection of the interface. If connected correctly, a chime will be heard from the front left speaker. * * This applies only to installations where the interface is connected to a front left speaker.
- RESET TO DEFAULTS: Restores the interface to its factory settings. During the reset process, the amplifiers will shut off for 5-10 seconds.
- VEHICLE TYPE: Select the vehicle programming option.
- EQUALIZER (EQ) TYPE: Choose between a Graphic or Parametric equalizer to optimize the motorcycle's sound quality.
- LOCK DOWN: Click this button to save the selected settings.
- Attention! This button must be selected before closing the app or turning off the key; otherwise, all settings will be lost.
- SAVE CONFIGURATION: Saves the current configuration to the mobile device.
- RECALL CONFIGURATION: Retrieves a configuration from the mobile device.
- ABOUT: Displays information about the app, vehicle, interface, and mobile device.
- SET PASSWORD: Assign a 4-digit password to lock the interface. If no password is desired, use "0000" to clear any currently set password. Locking down the interface is not necessary when setting a password.
- **Note:** Only a 4-digit password is valid for this device. If a different password is chosen, the interface will display "password not valid for this device." If the password is forgotten, the DSP can be reset by updating the interface with the Axxess Updater Windows software.

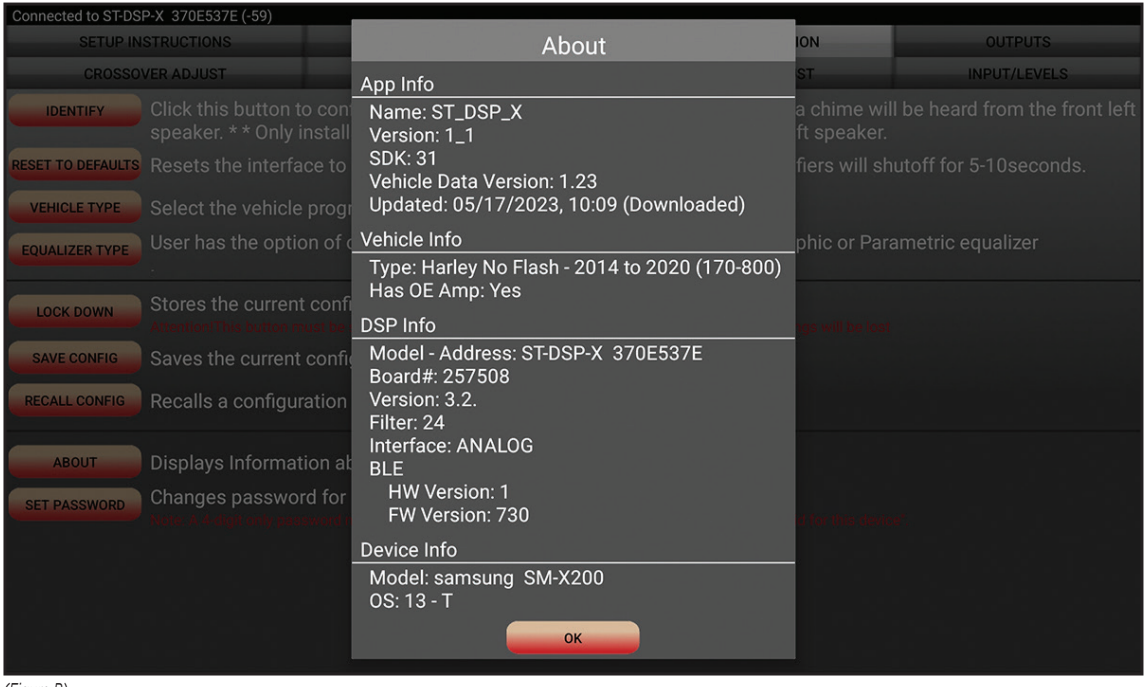
ABOUT:



(Figure A)

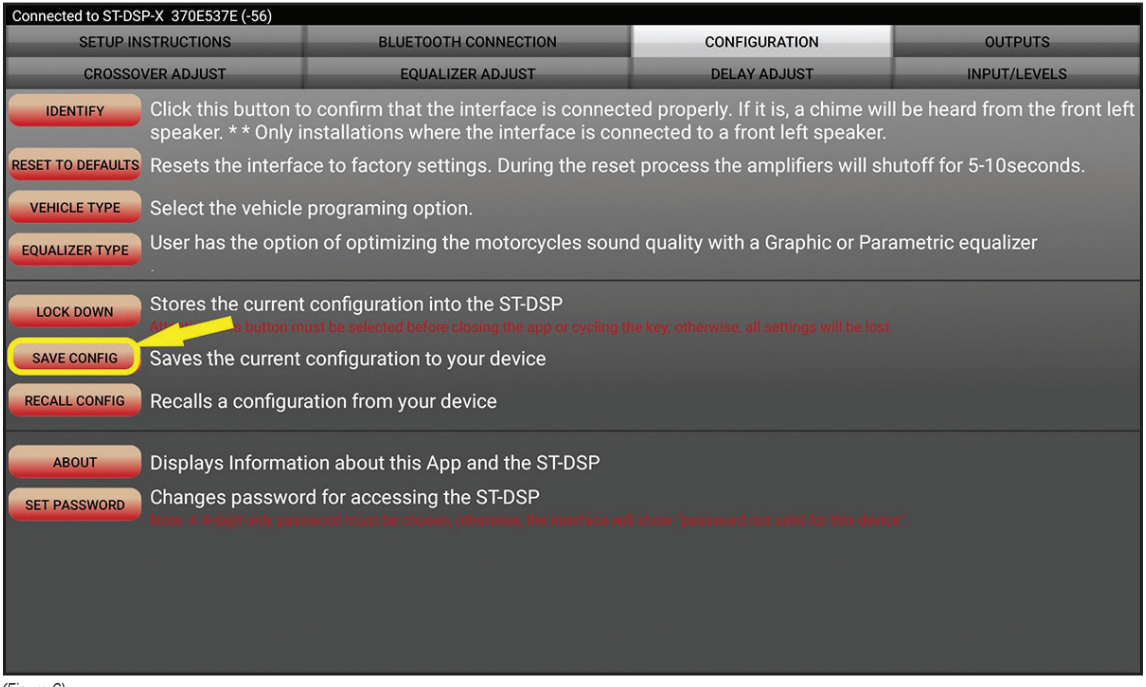
- ABOUT: Displays information about the app, vehicle, interface, and mobile device. (Figures A, B on next page)

ABOUT: (cont.)



(Figure B)

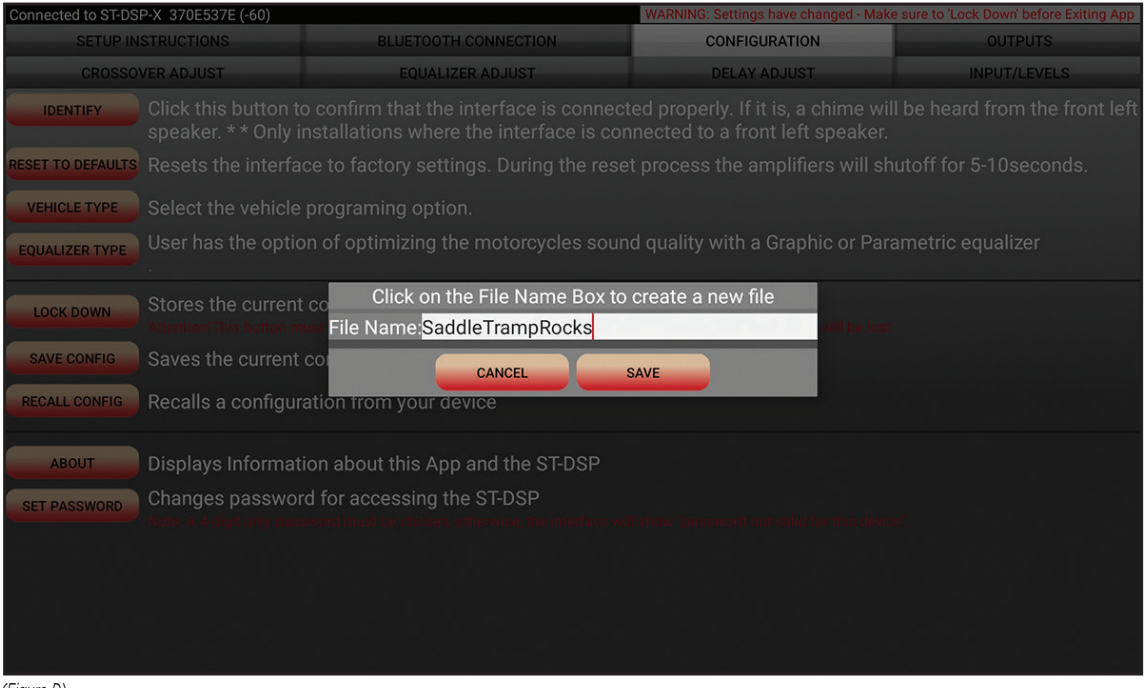
SAVE CONFIGURATION:



(Figure C)

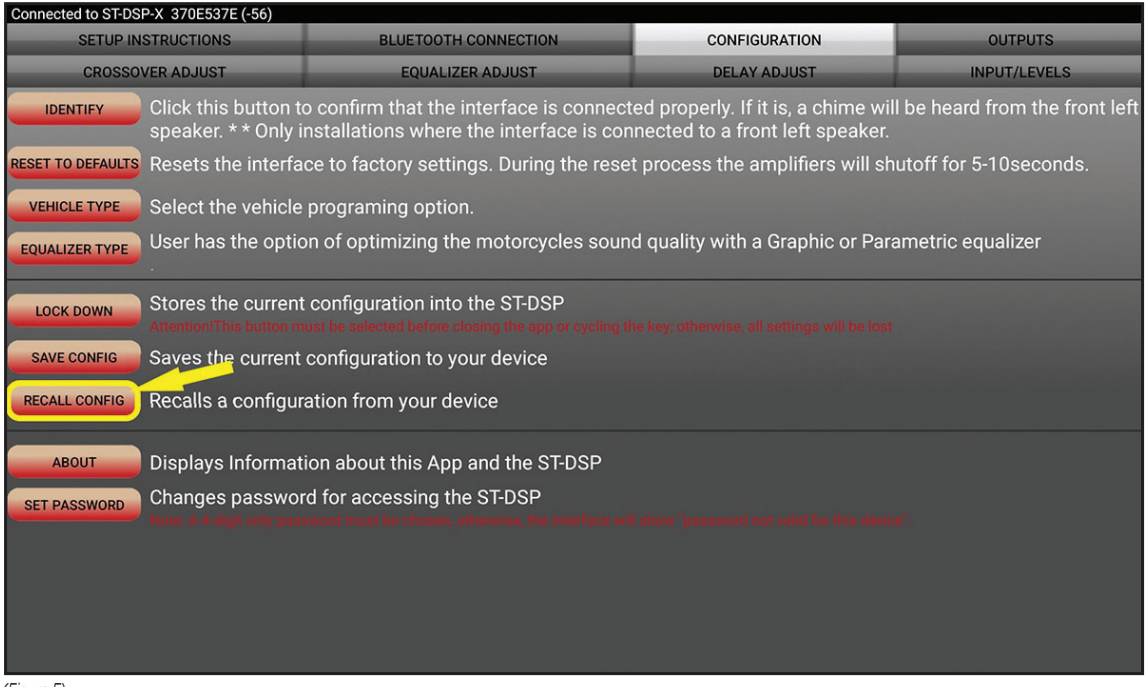
- SAVE CONFIGURATION: Saves the current configuration to the mobile device. (Figures C, D on next page)

SAVE CONFIGURATION: (cont.)



(Figure D)

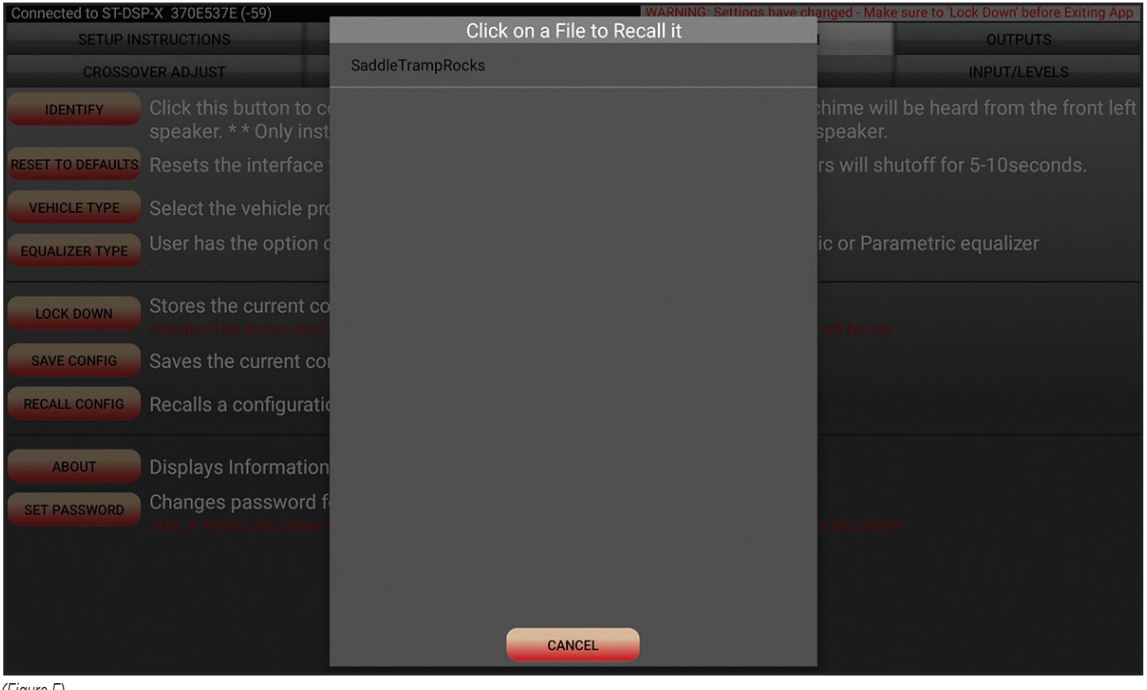
RECALL CONFIGURATION:



(Figure E)

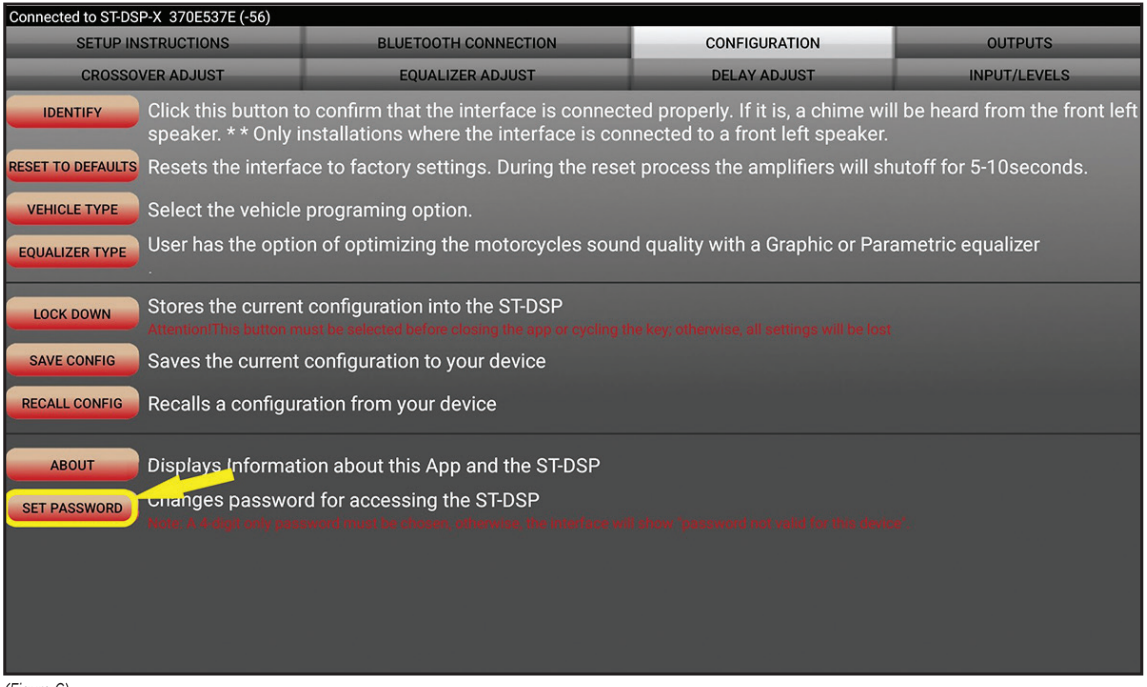
- RECALL CONFIGURATION: Retrieves a configuration from the mobile device. (Figures E, F on the next page)

RECALL CONFIGURATION: (cont.)



(Figure F)

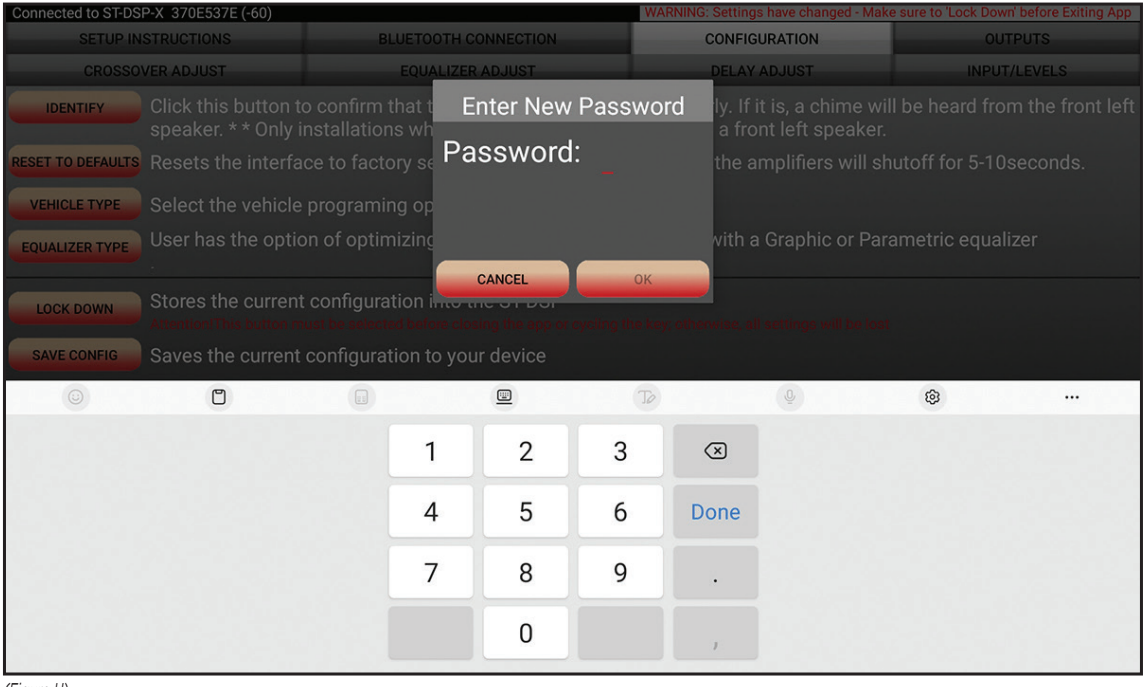
SET PASSWORD:



(Figure G)

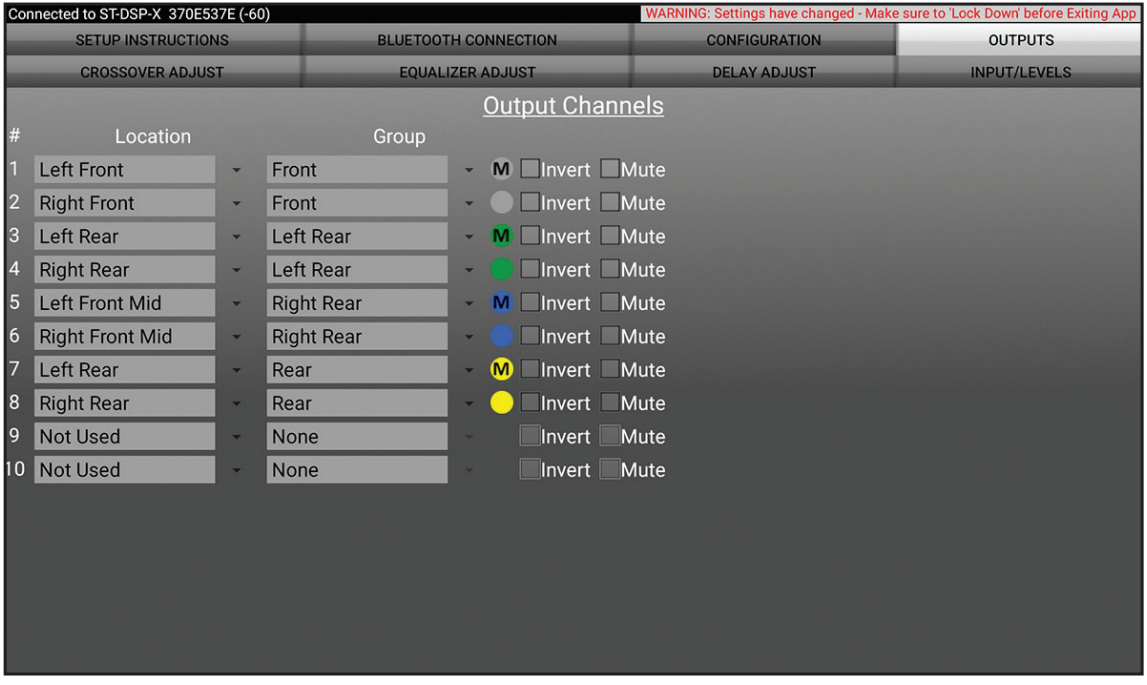
- SET PASSWORD: Assign a 4-digit password to lock the interface. If no password is **desired, use "0000" to clear any currently set password. Locking down the interface is not necessary when setting a password.**
- **Note:** Only a 4-digit password is valid for this device. If a different password is chosen, the interface will display "password not valid for this device." If the password is forgotten, the DSP can be reset by updating the interface with the Axxess Updater Windows software. (Figures G, H on the next page)

SET PASSWORD: (cont.)



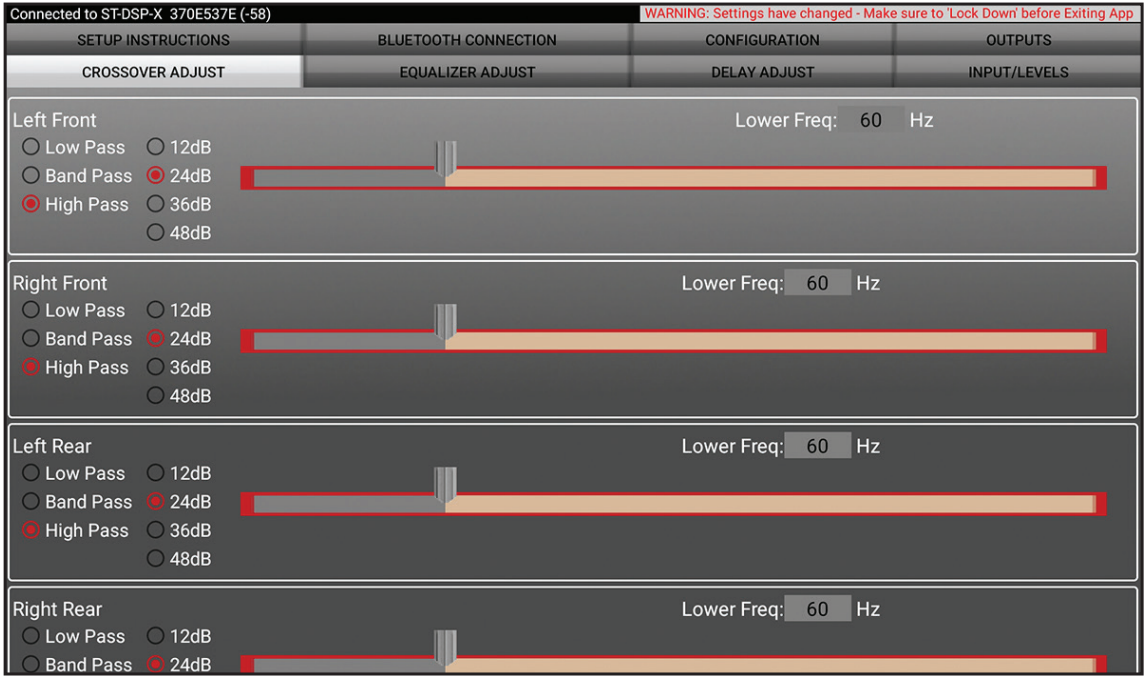
(Figure H)

Output screen



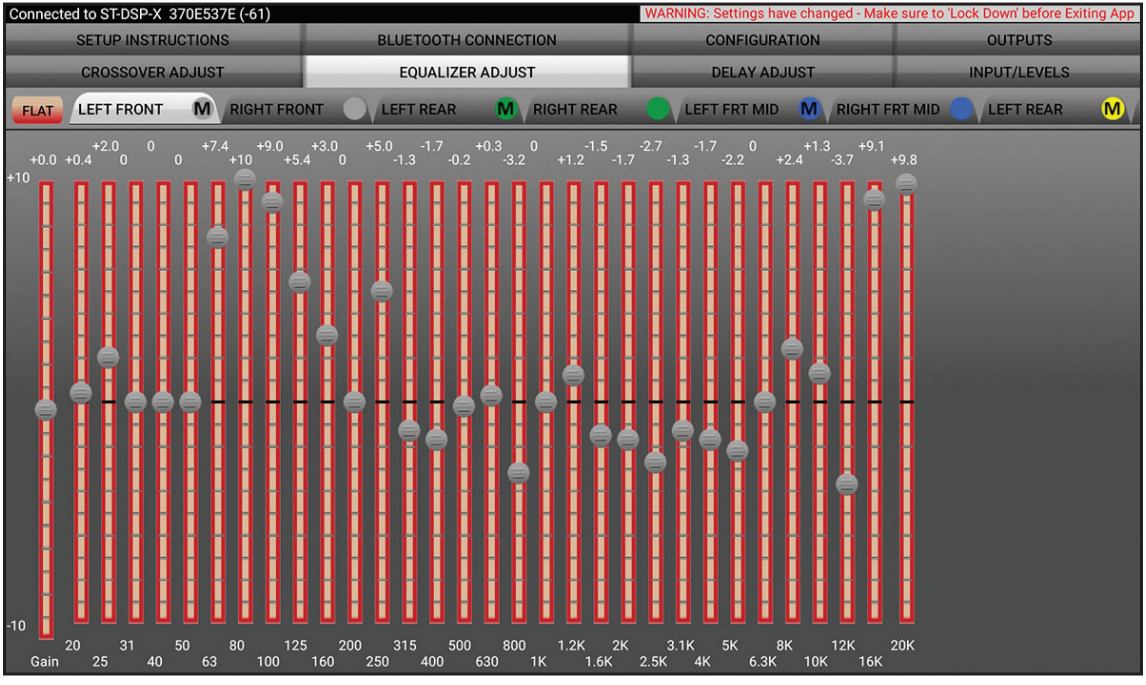
- The screen is used for speaker configuration and provides the option to group speakers together, simplifying the process of equalizing multiple speakers simultaneously.
- The numbers (#) from 1 to 10 on the left side of the screen correspond to the RCA outputs on the DSP Harness.
- Location: Displays the selected location for each respective RCA output number.
- Group: Enables the grouping of speakers for simultaneous equalization. For example, when Front Left and Right LOCATIONS are GROUPED under “Front,” both the left and right channels are equalized together.
- Invert: Inverts the output polarity of each channel.
- Mute: Silences the output of the channel for testing purposes or when adjusting the EQ.

Crossover Adjustments screen



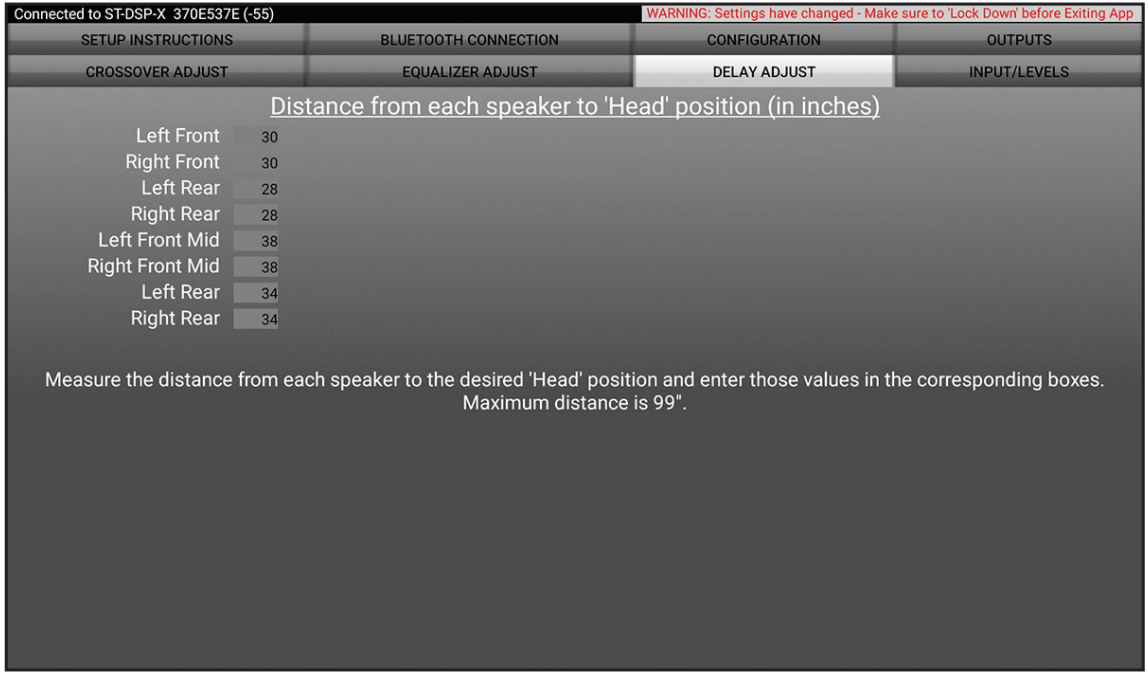
- After completing the programming, the crossovers are preset for your system. If you wish to fine-tune the crossover points, you can make adjustments from this screen.
- Choosing High Pass and Low Pass will allow you to adjust one crossover frequency. Band Pass should only be selected if you are installing front speakers with a dedicated amplifier for the woofers/mids, a separate amplifier for the tweeters, and a subwoofer.
- Select your desired crossover slope: 24 dB, 36 dB, or 48 dB. A higher slope indicates a steeper cutoff.

Equalizer Adjustments screen



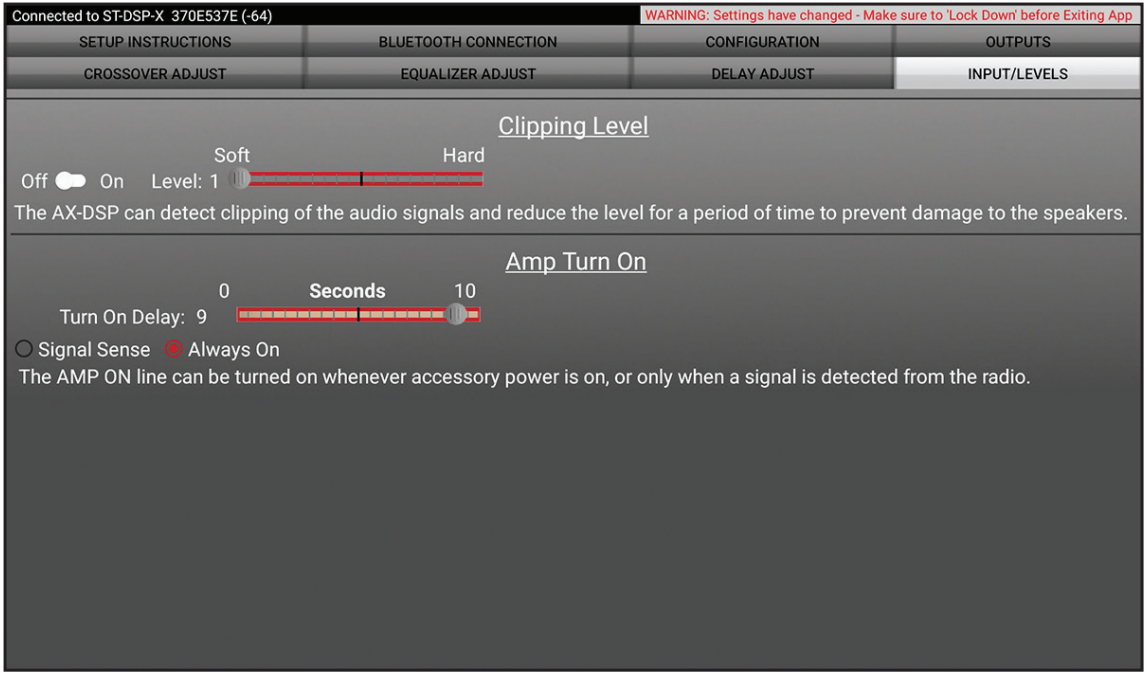
- After completing the DSP programming, the Harman Kardon equalizer settings will be preloaded for all speakers. If further adjustments are needed, it is recommended to use an RTA (Real-Time Analyzer) for precise adjustments.
- Each channel of the DSP features a 31-band graphic EQ with an adjustable level control.
- To reset all EQ adjustments, simply select the FLAT button located in the top left corner.

Time Delay Adjustments screen



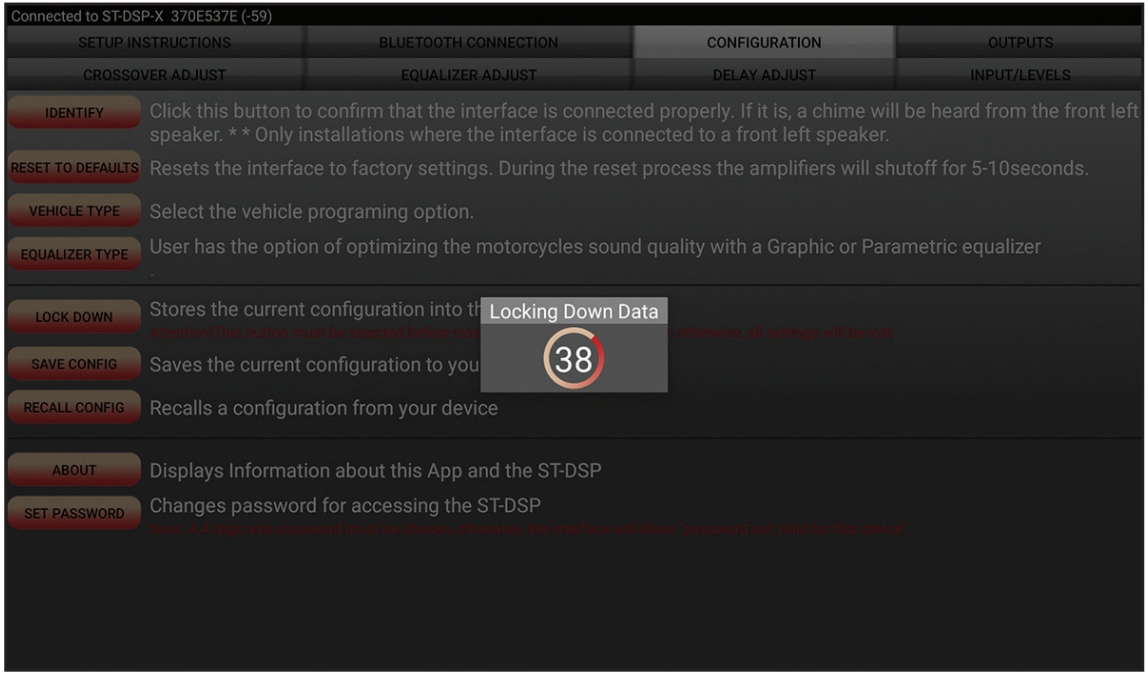
- This feature allows you to apply a delay to each channel. The settings are preset after programming and further adjustment is not needed unless preferred by the listener. If you wish to add a delay, start by measuring the distance (in inches) from each speaker to the listening position. Then, input these values for the corresponding speakers. To delay a specific speaker further, add the desired additional distance (in inches).
- **NOTE:** For riders who primarily have a passenger in the rear seat, Harman recommends modifying the time delay by adding 10 inches to the front speakers and subtracting 10 inches from the rear speakers.

Input/Levels screen



- Clipping Level: Use this feature to protect sensitive speakers, such as tweeters, from being pushed beyond their capabilities. If the input signal of the ST-DSP clips, the audio will be automatically reduced by 20 dB. Lowering the volume will restore the audio to a normal level. The sensitivity of this feature can be adjusted according to the user's listening preference.
- Turn-on Delay: By default, a 9-second delay is preprogrammed. This delay can be shortened, but if any popping sound is heard when turning the system on or off, increase the delay until the popping is no longer audible.

Configuration Lockdown screen



Last and the most important...

You MUST lock down your configuration!!!