

# ***VORSIS* Application Note**

**AN2008-02**

## **Updating The Vorsis Audio Processor Factory Preset Packages**

January 2008 – Jeff Keith

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## **Background**

During final product certification the Vorsis Factory presets are loaded into the audio processor hardware and then fully tested to ensure correct operation. After this step has been finalized we “Factory Lock” the presets so that they cannot be inadvertently deleted or overwritten in the field.

In designing the preset behavior mechanism we failed to consider the future impact of locking the Factory Presets and the fact that it prevents owners from updating or replacing the original Factory Presets with later ones. Until the preset locations occupied by older Factory Presets are vacated, new presets cannot be loaded into those locations.

There are eighty preset storage locations in the AP1000 and FM5 products. While it is possible that some of the new presets could be loaded into the preset storage locations above and below the existing factory presets, we believe this is a poor solution as there simply would not be room for all of them.

## **Vorsis Presets – The Factory Lock Mechanism**

What “locks” a Factory Preset is a special software flag stored within the Windows-based GUI that modifies the GUI’s rights to allow or disallow users from inadvertently overwriting or deleting presets that have been stored as “Factory Locked”.

During first initialization of the remote GUI software a special configuration file is written to its installation folder. This file is consulted each time the GUI is started to retrieve the ‘last known running state’ of the GUI, including things such as the names of the processors that have been configured by its Devices menu, the preset packages that the GUI is configured for and the preset privileges. After GUI installation the preset privileges are set to “User” mode and when the GUI is in that mode the unlocking of Factory Presets is prohibited.

By releasing the mechanism by which Factory Presets are locked and a way to modify it, we have made it possible for customers to fully customize the contents of their particular Vorsis hardware. If desired, the hardware could be reconfigured to contain *only* those presets that (for instance) an audio consultant or corporate engineer deemed appropriate for the company or the station’s market.

Further, it may be obvious now from the ongoing discussion that by appropriately assigning rights to the hardware security itself *and* also limiting the available presets in the hardware some *very* restrictive as well as completely customizable preset manipulation has been made possible and at the customer level.

## **About FactoryLock.exe**

We've written a small (11kB) software tool that can be downloaded from the [www.vorsis.com](http://www.vorsis.com) website. This tool allows a user to alter the state of the GUI's Preset Privileges flag to allow manipulation of the Factory Lock status. The tool is included in all downloadable preset archives in order to allow customization of Vorsis hardware as appropriate for individual field applications.

Functionally, the tool parses the GUI's configuration file, modifies it to change the preset manipulation privileges of the GUI, and then rewrites it back to disk in the original location. Two command line switches are available that modify the behavior of the tool so that it can enable or disable the GUI's permission to have Factory level Preset manipulation.

## **Installing the FactoryLock.exe Tool**

The first step is to download the FactoryLock.zip file from the Vorsis website [www.vorsis.com](http://www.vorsis.com). The utility may be found in all of the download pages for Vorsis products as it is included in the zip archive for all currently posted Vorsis Preset Packages.

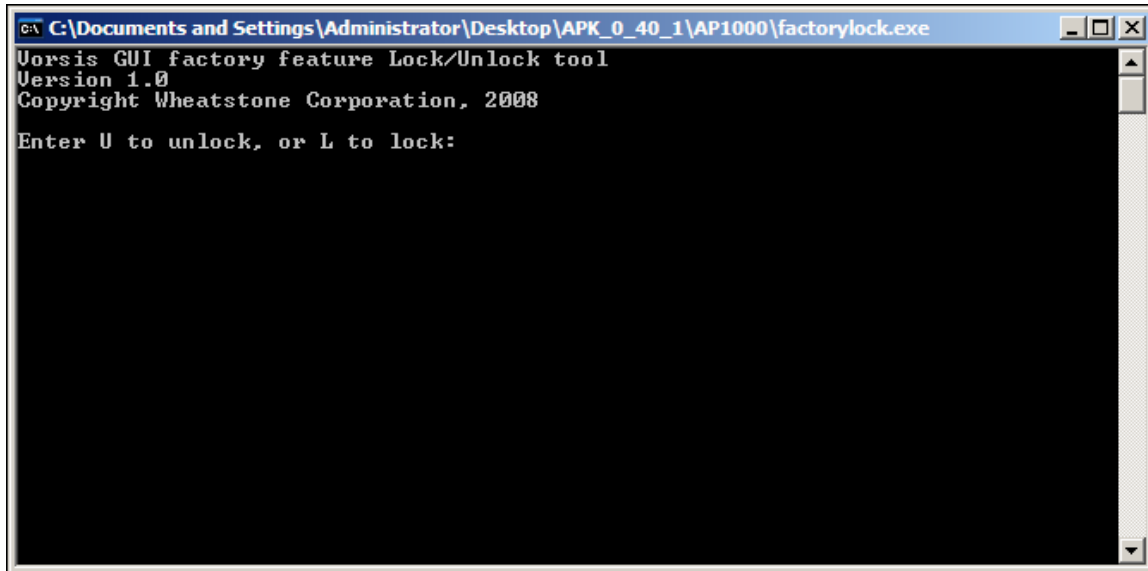
Unzip the FactoryLock.zip archive and place its contents into the location where the Vorsis GUI program was installed. This will typically be in C:\Program Files\Vorsis\AP1000 unless the user has installed it in a different location.

NOTE: This tool must be executed from within the installation folder where the GUI software resides. This is because it utilizes the current file path to locate the particular GUI's configuration file. Please see the note about that at end of this document!

## Using the FactoryLock.exe Tool

Navigate to the folder where the Vorsis GUI is installed and open its folder. Do not start the GUI yet! This procedure will *not* work correctly if the GUI is running!

Locate FactoryLock.exe and double click it and its command window will open as follows:

A screenshot of a Windows command prompt window titled "C:\Documents and Settings\Administrator\Desktop\APK\_0\_40\_1\AP1000\factorylock.exe". The window has a black background with white text. The text inside the window reads: "Vorsis GUI factory feature Lock/Unlock tool", "Version 1.0", "Copyright Wheatstone Corporation, 2008", and "Enter U to unlock, or L to lock:". The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

```
C:\Documents and Settings\Administrator\Desktop\APK_0_40_1\AP1000\factorylock.exe
Vorsis GUI factory feature Lock/Unlock tool
Version 1.0
Copyright Wheatstone Corporation, 2008
Enter U to unlock, or L to lock:
```

**FactoryLock.exe Command Line Tool**

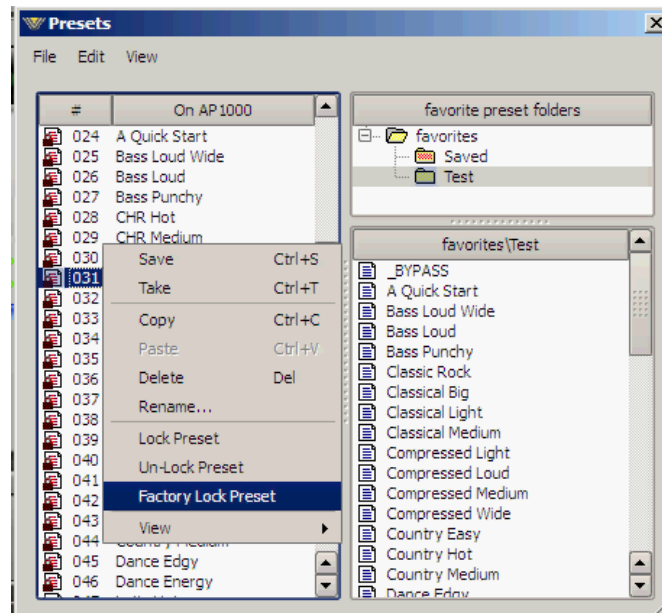
When the command window opens it will be prompting you for the input character associated with the action that you wish to take.

- If you input a "U" you are granting Factory level unlock privileges to the GUI;
- If you input an "L" you are granting Factory level lock privileges to the GUI.

After the desired command has been entered the program will prompt you to press any key to exit the utility. When you do so, the command window will close.

## Using the New Privileges to Unlock Presets

Assuming that the “U” Unlock option was just utilized, the next time the GUI is run and the presets menu is accessed it will have a new option available when a preset is right clicked – Factory Lock Preset:



When the Factory Lock option is available the GUI will also have rights to unlock Factory presets. Note that:

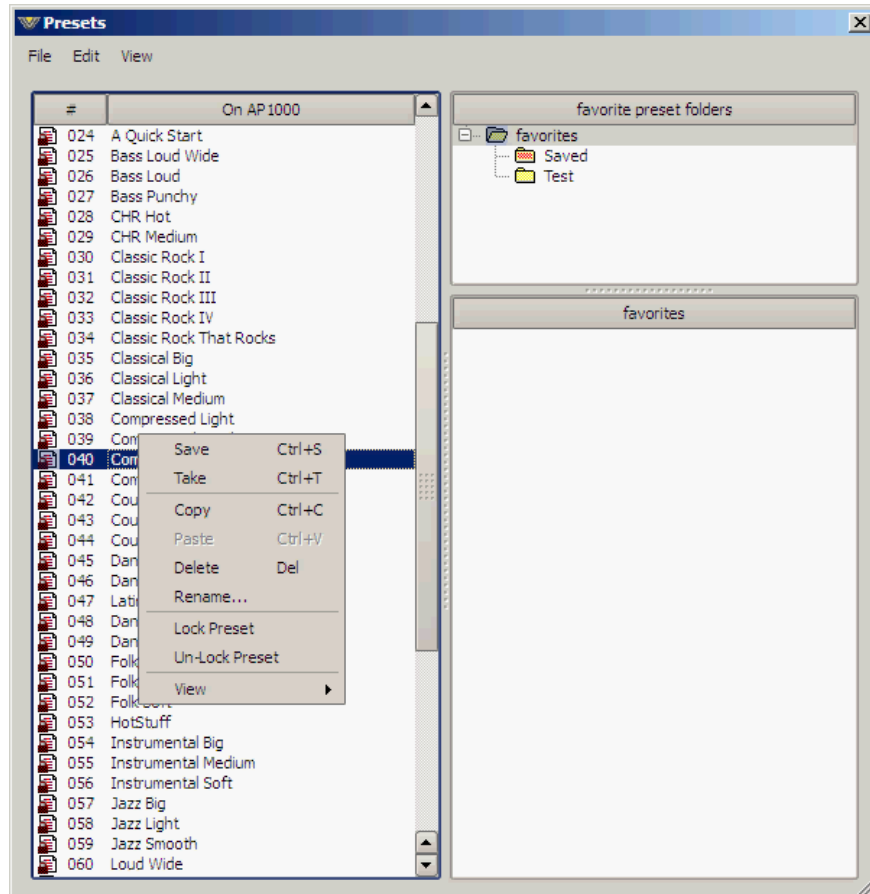
- Presets must be unlocked before they can be deleted!
- You must unlock presets in order to delete them.
- Locked presets cannot be written over by the Save Preset dialog.

## Using the New Privileges to Lock Presets

At times it may be desirable to lock presets to thwart inadvertent deletion. Using the Factory Lock option can accomplish this.

Presets that have been Factory Locked may be distributed to other Vorsi's users with an increased level of security over the User level locking that is the GUI's default level.

If, in the previous example, the “L” Lock option had been used instead, the GUI would *not* have rights to unlock Factory presets and the preset options would be missing the Factory Lock option:



\*\* C:\Program Files\Vorsis\AP1000 or other Vorsis model

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