**RoomPerfect**

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## Creating Custom Voicing Curves

### Introduction
The MEN220 Room Correction System has six preset equalization (voicing) curves built-in. When the MEN220 is connected to a PC (via its serial data port), those six preset curves may be replaced with up to six custom curves. These custom curves can be saved on the PC and even transfered to multiple MEN220s.

This PC Guide covers the connection made to the MEN220 along with basic operation using the PC interface. For additional information about PC Connections and Settings, please refer to the documentation supplied with your computer.

### Hardware Requirements:
The hardware requirements include a functioning MEN220 Room Correction System, a 9 Pin RS232 Serial Data Cable with straight thru connections and a PC Computer running Windows XP or later. If the computer lacks a RS232 Serial Data Port, a Serial to USB Adpater may be used.

### Hardware Connections:
With power Off to the MEN220 make the following connections:
1. A 9 Pin RS232 Serial Data Cable from the MEN220 RS232 Connector to an active unassigned serial port connector on the Computer. Refer to figure 1.
   *Note: A RS232 Serial Data Port to USB Adapter may also be used to connect the MEN220 to the computer. Refer to figure 2.*

### Installing the Software
Perform the following steps to install the MEN220 PC Custom Equalizer Curves Program:
*Note: There are two different versions of the Program for creating the curves. One version is for running*

Computer

RS232 Serial Cable

MEN220 Rear Panel (Partial View)

Figure 1

Computer

USB Cable

USB to Serial Adapter

RS232 Serial Cable

MEN220 Rear Panel (Partial View)
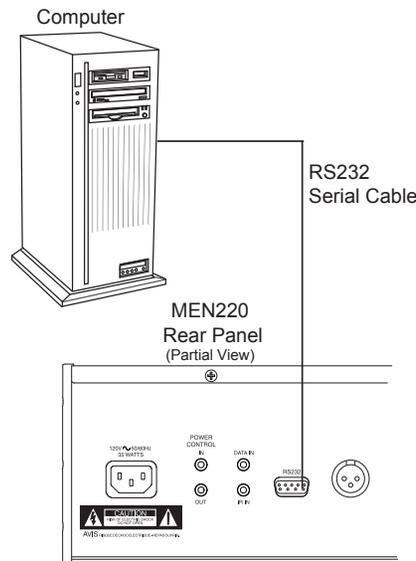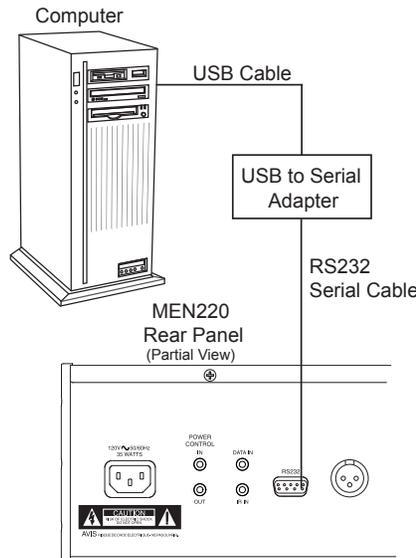
Figure 2

*with a 32-Bit Operating System, such as Windows XP, Vista and Windows 7. The second version is for running with a 64-Bit Operating System such as Vista (64 Bit) and Windows 7 (64 Bit). Make sure to download and install the appropriate version from the McIntosh Web Site.*

1. Copy the downloaded file "MEN220VoicingTool.zip" to a desired folder on the computer.
2. Unzip the file "MEN220VoicingTool.zip".
3. A sub folder named "MEN220VoicingTool" will be created.
4. Run the "Setup.exe" file located in the "MEN220VoicingTool" folder to install the program.
5. A new program selection named "MEN220VoicingTool" will now appear in the list when the "Start" / "All Programs" is selected.

### Communication with the MEN220
Before starting, it is important to have experience in operating the MEN220 Room Correction System including using the Voicing Mode. Refer to the MEN220 Owner's Manual - pages 28 and 29 and the MEN220 Graphs located on the separate folded sheet "**Mc3B**" for additional information.
1. Switch power On to the MEN220 and the Computer.
2. Launch the "MEN220VoicingTool" Program.
3. Select the menu item "Setup" then "CommPort". Select the Comm Port number the MEN220 is connected to.
   *Note: When a RS232 Serial Data Port to USB Adaptor is used, some additional steps may needed to assign the USB Connection to an available Comm Port; refer to Windows Help Information.*
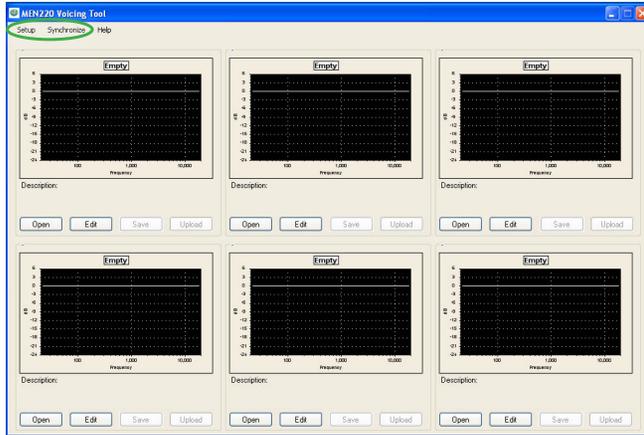
Figure 3

4. Select the "Synchronize" then "Download all from MEN220". Refer to figure 3 and the larger image on the first page of this guide.

**Editing an Equalization Curve**

Each one of the six default equalization curves may be edited and uploaded back to the MEN220. Any new equalization curve may also be saved on the computer for later recall and/or uploaded to another MEN220. In the following steps the default "Music 2" equalization curve will be changed to become the "trial 1" curve:

1. Click on the EDIT Push-button and a new Window will open. Refer to figure 4.

2. Click on the SAVE Push-button to save a copy of the current default MUSIC 2 equalization curve. The name of the just saved file (MUSIC 2. XML) will now appear within the gray border of the MU-SIC2 Edit Window.

3. Click on the EDIT Push-button and a new Window for editing Music 2 the current equalization curve.

4. Click on the SAVE Push-button to save a new file with the name of "trial 1". The name of the just saved file (trial 1) will now appear within the gray
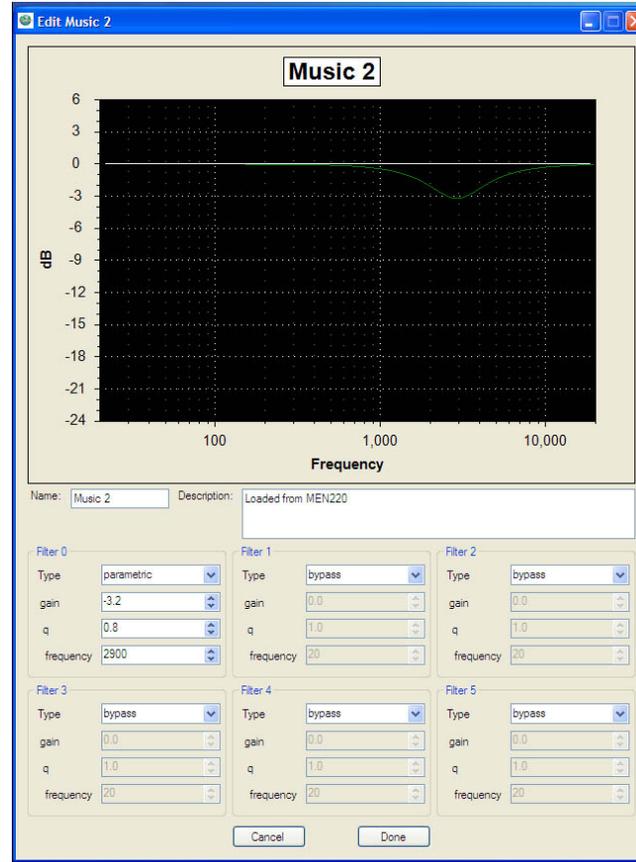


Figure 4

border of the top center edit window.

> *Note: When naming a new file, please keep in mind the file name will become the Voicing Name as indicated on the MEN220 Front Panel Information Display. The Information Display is designed to display Voicing Names of eight characters or less.*

There are up to six adjustment settings for each of the MEN220 Voicing Settings (1-6). The basic filter types of adjustment include the following:

   A. Low_Shelf
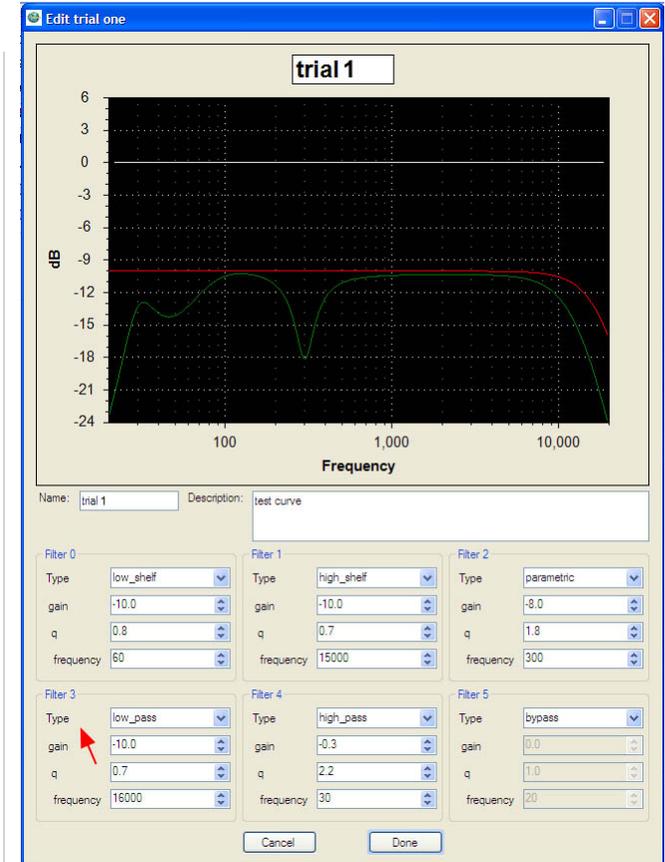


Figure 5

   B. High_Shelf
   C. Parametric
   D. Low_Pass
   E: High_Pass

There are variable adjustments for each filter type, including "gain", "q" and "frequency". In the following example all five filter types will be used for the purpose of graphic illustration. It is not intended to be used for actual listening, as it would not reproduce desirable sonic results. Refer to figure 5.

3

When the Windows cursor is placed over a given filter (in figure 6 it is filter #3) a second curve in red will appear indicating just the filter #3 setting and the green curve is a sum of all active filters. To save a equalization curve first press the DONE Push-button. Refer to figure 6. Then press the SAVE Push-button. Refer to figure 7.
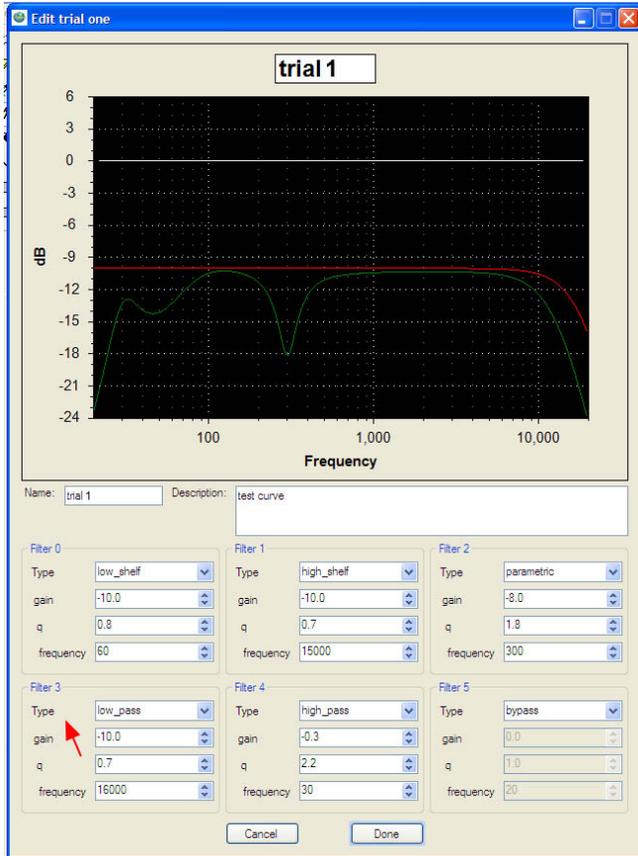


Figure 6
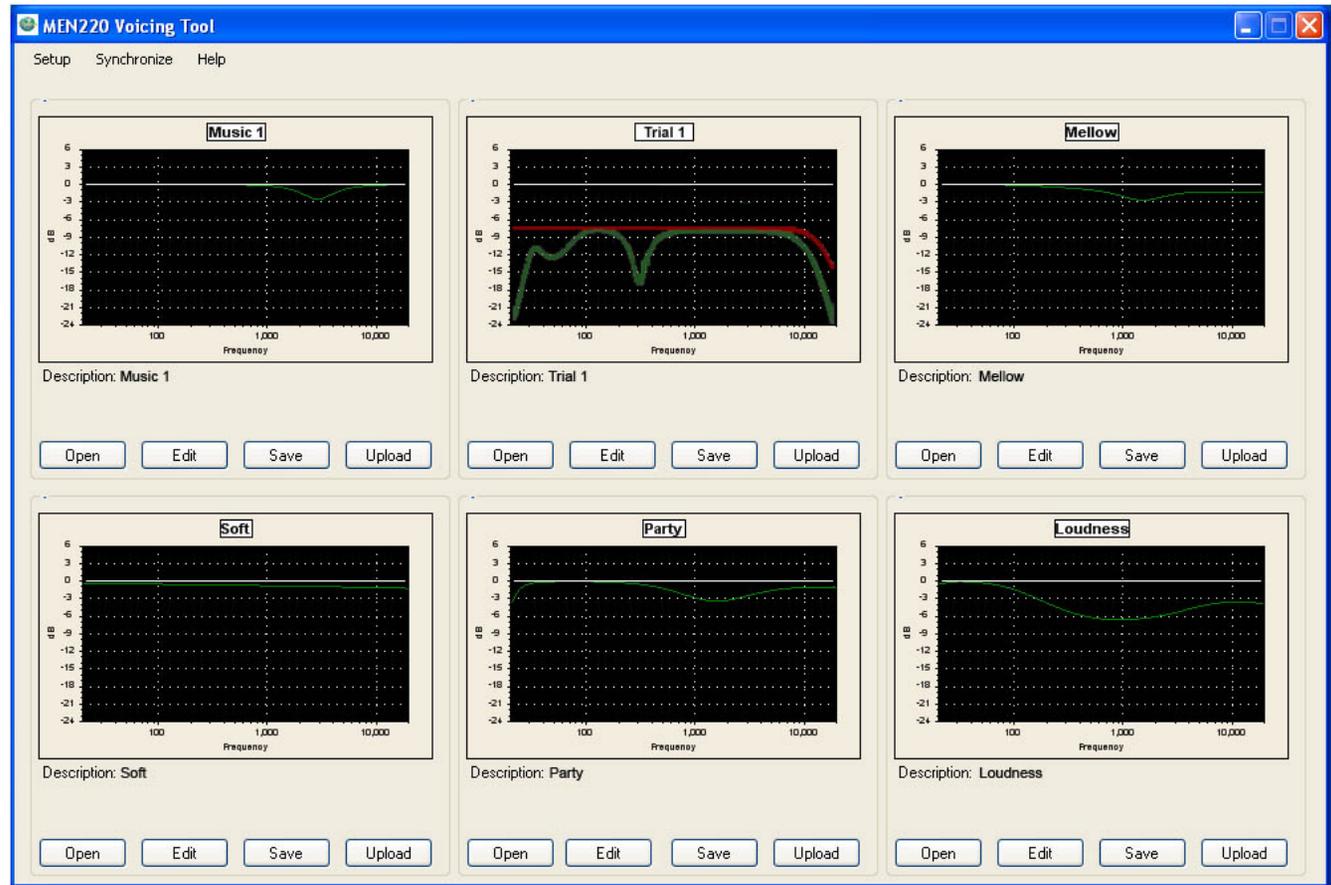


Figure 7

**Uploading New Curves into the MEN220**
Having completed any modifications to the default equalization curve(s) and/or created new equalization curve(s) it is now time to upload the curve(s) back into the MEN220 for use.

1. From the MEN220 Voicing Curve Menu select the "Synchronize" then "Upload all to the MEN220".
2. Using the MEN220 Front Panel Controls verify the new Voicing Curves are functioning.
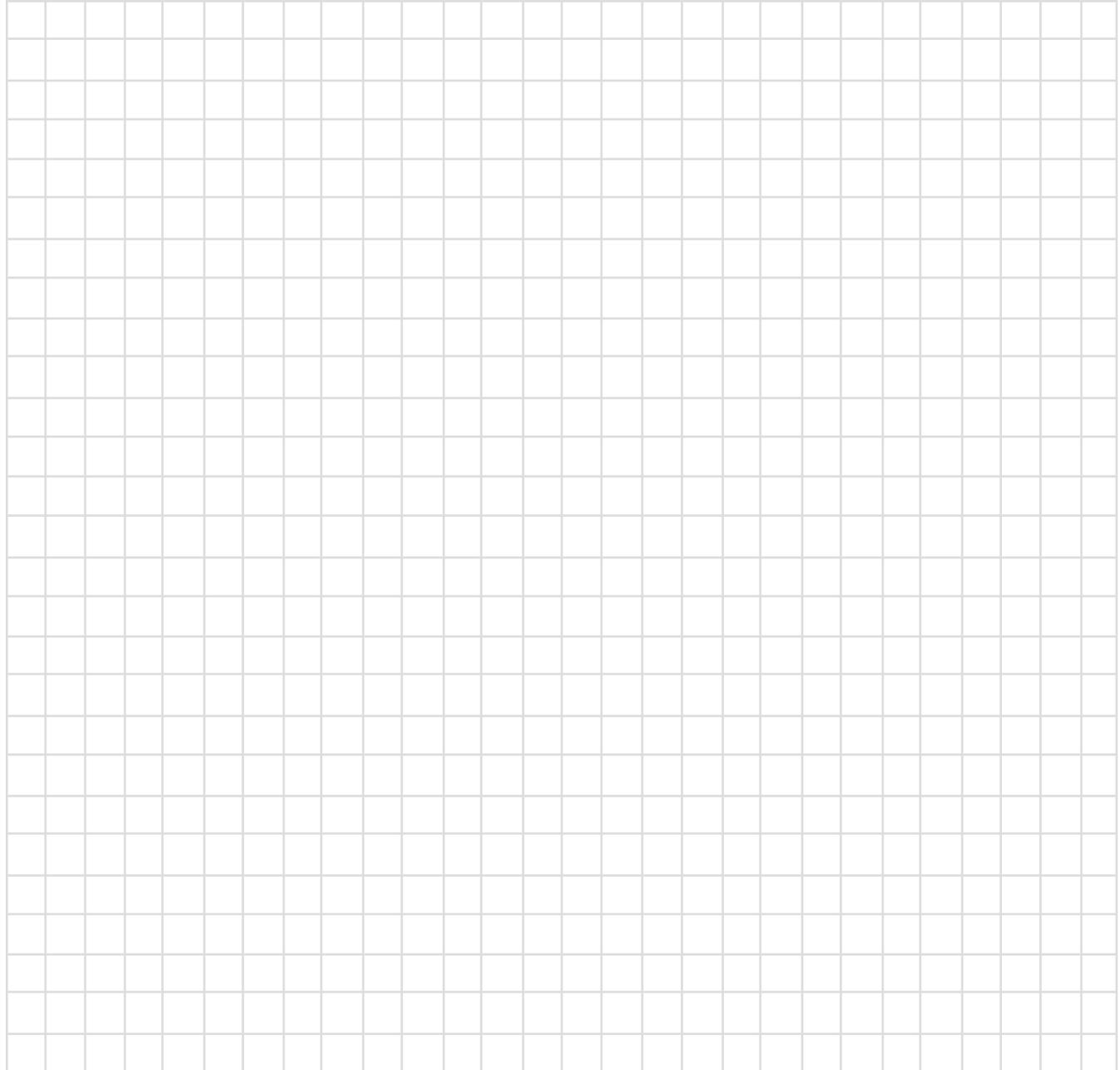
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