Crestron
Professional Surround Sound Tuning Kit
Operations Guide

This document was prepared and written by the Technical Documentation department at:

Crestron Electronics, Inc.
15 Volvo Drive
Rockleigh, NJ 07647
1-888-CRESTRON

Contents

Professional Surround Sound Tuning Kit: Quickstart

Introduction

The following steps are designed to guide you through the basic hookup and use of your Professional Surround Sound Tuning Kit.

Follow this checklist to tune your system.

1. Hardware Hookup

- ❑ All components in the system should be powered *off* while making connections.

NOTE: Crestron's Professional Surround Sound Tuning Kit may be used with an AMS, an AMS-AIP or a PSPHD. For simplicity within this guide, all three models will hereinafter collectively be referred to as "the processor".

- ❑ Remove the plastic cover from the front of the processor.
- ❑ Place the microphone stand upright.
- ❑ Attach the microphone holder to the stand.
- ❑ Insert the microphone in a vertical position in the holder.

NOTE: You must place the microphone in a vertical position with the capsule facing the ceiling for all measurements.

- ❑ Connect the mini female XLR end of the female mini XLR to male XLR cable to the microphone.

NOTE: Use care when attaching the mini XLR cable so as not to strain the connector.

- ❑ For the AMS, connect the male XLR end of the cable to the XLR end of the female XLR to stereo 3.5 mm cable. For the PSPHD, connect the male XLR end of the cable to the XLR end of the female XLR to mini XLR cable.

- For the AMS, connect the stereo 3.5 mm plug to the microphone input on the AMS. For the PSPHD, connect the mini XLR plug to the microphone input on the PSPHD.

NOTE: Use care when attaching the microphone cable so as not to strain the connector.

- Using the included USB cable, connect your PC to the USB port on the front of the processor.

2. Room EQ Setup

NOTE: When Pro Sound Tools™ or PROCISE™ Tools is run for the first time, a setup wizard will take your through the process. Thereafter, the **Configure** button can be used to initiate the process.

- Insert the CD that came with the kit and click **Add/Change Mic Setup File**. Select the file for the microphone that came with your kit.
- When a center speaker or subwoofer is not used, un-check the *Front Center Speaker* and/or S*ubwoofer* checkboxes.
- Any subwoofer low-pass filter should be defeated or set to its maximum frequency. Any subwoofer gain settings should be set to their nominal or 12 o'clock position. Also, any sort of auto standby or sleep mode for the subwoofer should be disabled.
- Click **Room Equalization Setup…** to begin the process. The "Job Information" screen is used to record the name of the customer or job and the name of the technician performing the job.
- Click the forward arrow to proceed to the "Options" screen. The" Options" screen is where you select the microphone file to match the microphone you are using.
- Select your microphone and click the forward arrow to proceed to the "Measurement" screen.

3. Measurement

- Quiet the room as much as possible.
- Turn off phones, TVs, radios, air conditioners, etc. and close any open windows.
- Refrain from talking and do not sit or stand directly between any of the speakers and the microphone.

NOTE: Do not touch the microphone stand or cable during the measurement process.

A. Position 1 Measurement

- Place the microphone at the primary listening location, at the ear height of a listener seated at this location.

NOTE: It is important to have the microphone in the primary listening position for the first measurement.

- Press the **Measure** button. The *Audyssey*™ test signal will play a series of 10 "chirps" through each channel.

B. Additional Position Measurements

- Move the microphone to another listening position and press the **Measure** button again. Repeat the process for all listening positions in the room.
- You will need to measure a minimum of three positions before you can continue. The recommendation is to measure a minimum of eight positions for typical rooms.
- Click the forward arrow to finish the measurement process and continue to the "Detection Results" screen, which displays the results of the measurements.
- Click the forward arrow to proceed to the "Target Sound Options" screen.

4. Target Sound Options

- Choose which of the *Audyssey*™ target curves you want to use by selecting the radio button next to the curve:
  - For small to medium rooms (up to 2500 cu. ft.), choose the **High Frequency Roll Off 1** curve.
  - For medium to large rooms (up to 5000 cu. ft.), choose the **High Frequency Roll Off 2** curve.
  - For rooms larger than 5000 cu. ft., choose the **SMPTE 202M** curve.
- The **Midrange Compensation** option (selected by default) is used to adjust the balance between on-axis and reflected sound in the crossover region. It is recommended that you leave this box checked. You can return to this screen later and change your setting if you prefer.
- Click the forward arrow to calculate your correction curves and proceed to the "Save Results" screen.

5. Save Results

A. Transfer the MultEQ® XT Filters

- Click **Transfer to Crestron** to temporarily store the filters so you can listen to them. This process may take several minutes.

B. MultEQ® Pro On/Off Demo

- You can now use the *MultEQ* **On** and **Off** buttons to demo the *MultEQ® XT* filters.

This step is for PSPHD only. For AMS, proceed to step D.

C. Dynamic EQ & Dynamic Volume On/Off Demos

- When *MultEQ* is **On**, use the *Dynamic EQ* **On** and **Off** buttons to demo the Dynamic EQ function. The *Dynamic Volume* presets can be auditioned as well.

D. Save the MultEQ® XT Filters

- Click the **Save Permanently to Crestron** button to save the correction curves. This process may take several minutes.

NOTE: It is important to use the **Save Permanently to Crestron** function before leaving the program. Otherwise, all measurements will be lost and you will have to start the process over from the beginning.

This step is for PSPHD only. For AMS, proceed to step 7.

6. Audyssey Settings

- After saving the *MultEQ® XT* filters, the "Audyssey Settings" screen is displayed. Use the sliders to adjust the amount of volume swing for each of the preset values (*Day*, *Evening*, *Midnight*). After this is complete, click the right arrow near the bottom of the screen.

7. Calibration Complete

- When the *Calibration Complete* message appears, click **Close** in the lower right corner of the window to exit the application.

8. Optional Adjustments

Sometimes users want to change the level of the center channel (for example, to boost dialog) or subwoofer. This is optional and is not required most of the time but if it is desired, adjustments to these or any other channels can be made by going into Pro Sound Tools or PROCISE Tools and clicking on **Speaker Adjustments**. This allows each speaker's level to be adjusted individually.

NOTE: After completion, you can demonstrate the improved performance of Audyssey™ Room Tuning from the AMS or PSPHD front panel. On the AMS, go to the Audyssey Configuration menu by selecting **Theater**, **More**, **Tools** and **Audyssey**. On the PSPHD, press **SETUP**, then select **Audyssey MultEQ**. This will allow an A/B comparison of the Audyssey and non-Audyssey configurations. On the AMS, the system will automatically default to the Audyssey configuration when this menu is entered or exited. On the PSPHD, the last setting will take priority.

Conclusion

This concludes the Quickstart section of the Professional Surround Sound Tuning Kit Operations Guide. Continue reading for more information on installing and operating the Professional Surround Sound Tuning Kit.

Professional Surround Sound Tuning Kit

Introduction

Creston's Professional Surround Sound Tuning Kit for the Adagio® Media System and the PROCISE™ High Definition Professional Surround Sound Processor allows custom installers use the *Audyssey MultEQ® Pro* PC application to bring *Audyssey MultEQ® XT* sound equalization technology to high quality listening rooms. *Audyssey MultEQ® XT* creates an optimum listening experience for every seat in your theater using an ingenious equalization solution that automatically corrects the time, level and frequency response for each speaker within the space.

Every listening room or home theater room will add colorations to the direct sound coming from the loudspeakers. These colorations occur at both bass and treble frequencies. In the bass, they are caused by the natural resonances (also called *modes*) every room has. In the treble, they come from wall, floor and ceiling reflections of the sound from the loudspeakers. *MultEQ® Pro* measures the sound information throughout the listening area. Based on these measurements, *MultEQ® Pro* calculates an equalization solution that effectively removes sonic colorations caused by the interaction of sound from the speakers with the room, allowing the speakers to attain their best possible performance.

Professional Surround Sound Tuning Kit

Setup

Supplied Hardware

The hardware supplied with the Professional Surround Sound Tuning Kit is listed in the following table.

Supplied Hardware for the Professional Surround Sound Tuning Kit

DESCRIPTION	PART NUMBER	QUANTITY
APM1 Microphone & CD with Calibration File	4504520	1
Cable Assembly, XLR to Stereo 3.5 mm, 5’	2017722	1
Cable Assembly, Female XLR to Male Mini XLR, 6’	2026344	1
Cable Assembly, USB 2.0, Series “A” to “B” Plugs, 6’	2014966	1
Cable Assembly, Female Mini XLR to Male XLR, 6’	2018284	1
OEM Cable, XLR, 18’	2017745	3
OEM Boom Stand, Ultra Light	2017744	1

Installation

NOTE: The CD that comes with the Professional Surround Sound Tuning Kit contains a file specially configured for the individual microphone that also comes with the kit. Crestron suggests you keep the CD and the microphone together and also that you make a backup copy of the CD and store it in a safe place.

The Professional Surround Sound Tuning Kit requires that you have at least one of the following software applications installed on your PC:

- Pro Sound Tools™ (version 1.00.19 or later) for the AMS
- PROCISE™ Tools (version 1.00.19 or later) for the PSPHD
- Crestron Toolbox™ (version 1.06.10 or later)

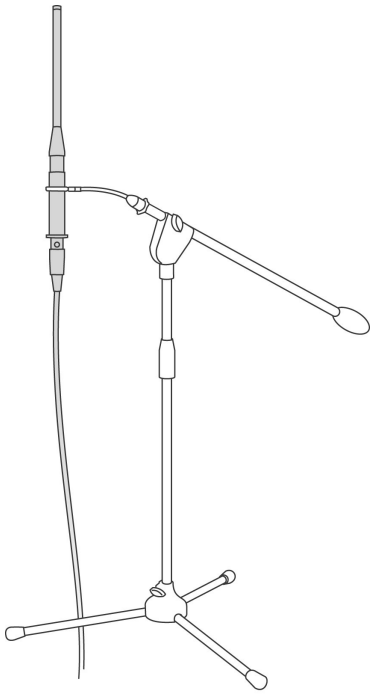
Hardware Hookup

While making connections, all components in the system should be powered *off*.

Place the microphone stand upright. Attach the microphone holder to the stand. Insert the microphone in a vertical position in the holder.

NOTE: You must place the microphone in a vertical position with the capsule facing the ceiling for all measurements. Refer to illustration on the following page.

Microphone Stand and Microphone in Measuring Position



Connect the mini female XLR end of the female mini XLR to male XLR cable to the microphone.

NOTE: Crestron's Professional Surround Sound Tuning Kit may be used with an AMS, an AMS-AIP or a PSPHD. For simplicity within this guide, all three models will hereinafter collectively be referred to as "the processor".

For the AMS, connect the male XLR end of the cable to the XLR end of the female XLR to stereo 3.5 mm cable. For the PSPHD, connect the male XLR end of the cable to the XLR end of the female XLR to mini XLR cable.

For the AMS, connect the stereo 3.5 mm plug to the microphone input on the AMS. For the PSPHD, connect the mini XLR plug to the microphone input on the PSPHD.

For details on the AMS, refer to the latest version of the Adagio Media System Operations Guide (Doc. 6509). For details on the AMS-AIP, refer to the latest version of the Adagio Media System Operations Guide (Doc. 6516). For details on the PSPHD, refer to the latest version of the PROCISE High Definition Surround Sound Processor Operations Guide (Doc. 6837). All are available from the Crestron website (www.crestron.com/manuals).

NOTE: The Professional Surround Sound Tuning Kit provides 3 18' XLR cables. If more cable length is required to reach the processor, you can add these as needed in between the male XLR end of the microphone cable and the XLR end of the XLR to stereo 3.5 mm cable (for the AMS) or the XLR end of the XLR to mini XLR cable (for the PSPHD). You can chain multiple cables for a longer length if required. If additional XLR cables are needed, you may supply your own.

Using the USB cable included with the Professional Surround Sound Tuning Kit, connect your PC to the USB port on the front of the AMS.

NOTE: The USB connection is required for *Audyssey MultEQ® Pro* to function.

Operation

Unless otherwise noted, the steps on the following pages are for both Adagio (AMS or AMS-AIP) and PROCISE (PSPHD).
Steps that are specific to Adagio will have an icon in the left margin, like the one shown to the left.

Adagio ONLY

Steps that are specific to PROCISE will have an icon in the left margin, like the one shown to the left.

PROCISE ONLY

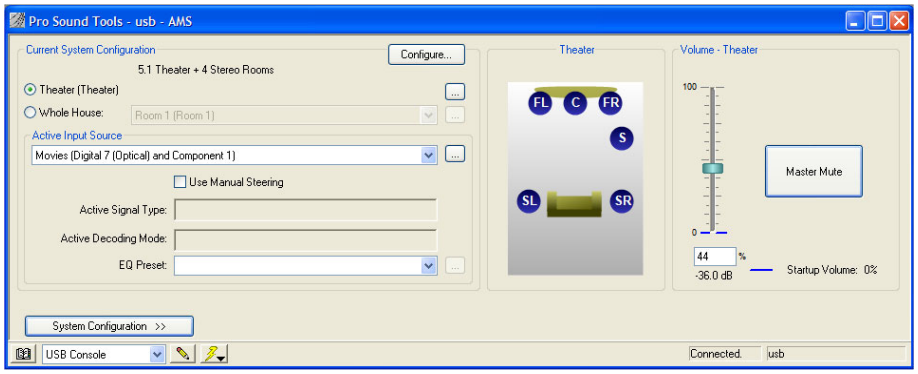
Initial Configuration

For the AMS, the *Audyssey MultEQ® Pro* application can be accessed directly through Pro Sound Tools or through Pro Sound Tools via Crestron Toolbox. For the PSPHD, the *Audyssey MultEQ® Pro* application can be accessed directly through PROCISE Tools or through PROCISE Tools via Crestron Toolbox.

Adagio ONLY

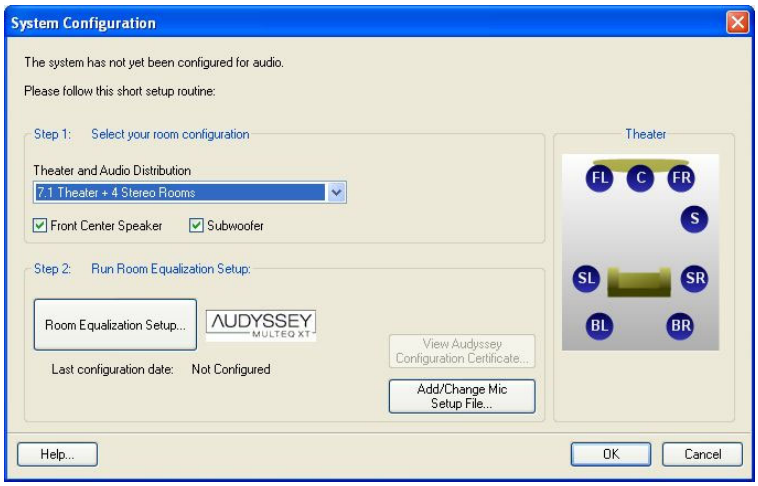
NOTE: When Pro Sound Tools is run for the first time, a setup wizard will run to take you through the necessary steps for your system. Thereafter, the **Configure** button can be used to initiate the process.

"Pro Sound Tools" Window



Click **Configure** at the top of the window to open the "System Configuration" window.

Pro Sound Tools "System Configuration" Window

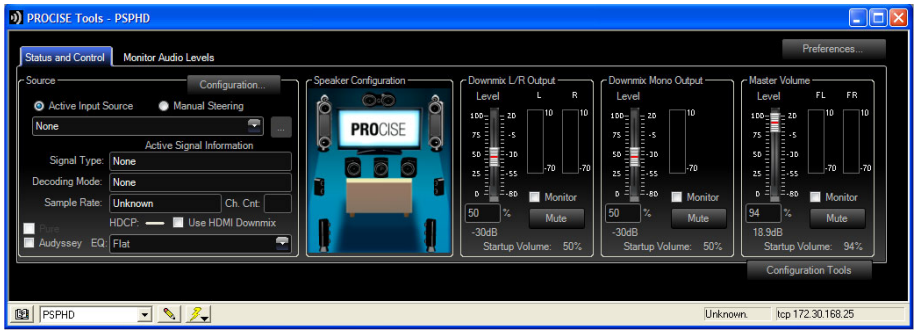


If you have not already installed the special file for the microphone that came with your Professional Surround Sound Tuning Kit, insert the CD that came with your kit and click **Add/Change Mic Setup File**. The application will present a standard "Browse" window where you can navigate to your CD drive and select the special file for the microphone that came with your Professional Surround Sound Tuning Kit. This should be "Audyssey Mic #####.apm" (where ##### represents the microphone serial number).

PROCISE™ ONLY

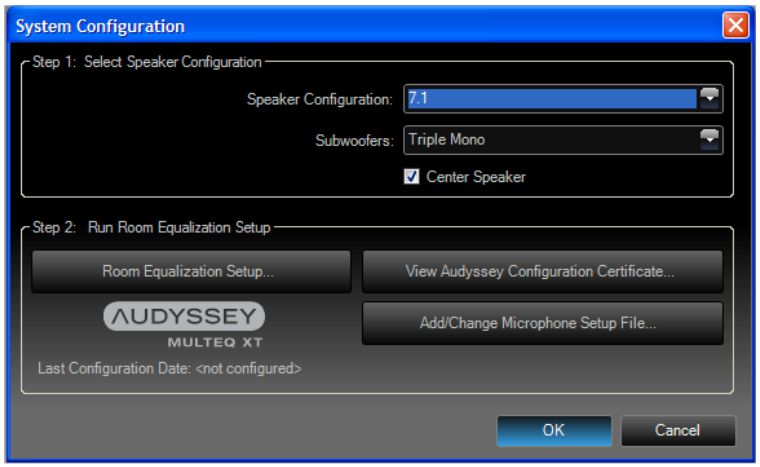
NOTE: When PROCISE Tools is run for the first time, a setup wizard will run to take you through the necessary steps for your system. Thereafter, the **Configure** button can be used to initiate the process.

"PROCISE Tools" Window



Click **Configure** at the top of the window to open the "System Configuration" window.

PROCISE Tools "System Configuration" Window



If you have not already installed the special file for the microphone that came with your Professional Surround Sound Tuning Kit, insert the CD that came with your kit and click **Add/Change Mic Setup File**. The application will present a standard "Browse" window where you can navigate to your CD drive and select the special file for the microphone that came with your Professional Surround Sound Tuning Kit. This should be "Audyssey Mic #####.apm" (where ##### represents the microphone serial number).

Room EQ setup

When the Pro Sound Tools or PROCISE Tools application is launched, it will provide a window for selecting the current system configuration (for example, 5.1, 6.1, 7.1 plus additional rooms, etc.). When a center speaker or subwoofer is not used, un-check the *Front Center Speaker* and/or *Subwoofer* checkboxes as appropriate, in order to enable "phantom" center and "phantom" subwoofer. The phantom setting will route center and/or subwoofer information to the main speakers.

Any subwoofer low-pass filter should be defeated or set to the THX setting (sometimes called "LFE input"). If the subwoofer low-pass filter cannot be defeated, set it to its maximum frequency. Any subwoofer gain settings should be set to their nominal position or at 12 o'clock on a conventional level control. Also, if the subwoofer has any sort of auto standby or sleep mode that turns the power to the subwoofer off after it does not receive any signal for some period of time, please disable this mode. This will ensure that the subwoofer is always on, which is important when taking measurements. The subwoofer may be set back to auto after measuring is complete.

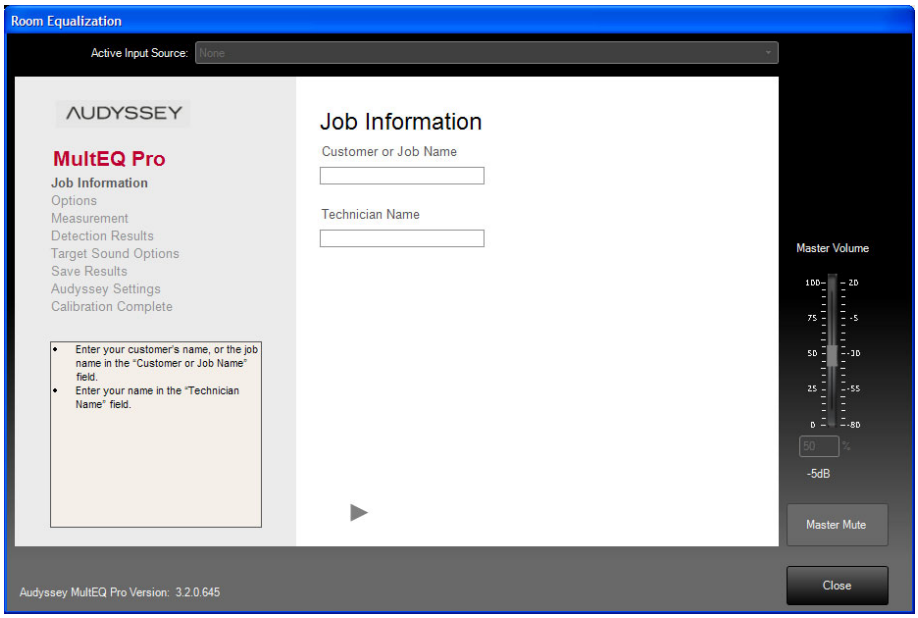
Click **Room Equalization Setup…** to begin the process.

NOTE: If you have not already done so, the application will prompt you to install the special file for the microphone that came with your Professional Surround Sound Tuning Kit.

NOTE: The *Master Volume* control and *Active Input Source* drop down list will function until the process gets to the "Job Information" screen, at which point the use of these is disabled until the filters are transferred (refer to "Save Results" which starts on page 13).

NOTE: The screen illustration that follows shows a black border around the Audyssey section of the window. This is the view in PROCISE Tools. The view in Pro Sound Tools will have a gray border around the Audyssey section of the window. In addition, in the list at the left side of the Audyssey section of the window, *Audyssey Settings* appears only in PROCISE Tools.

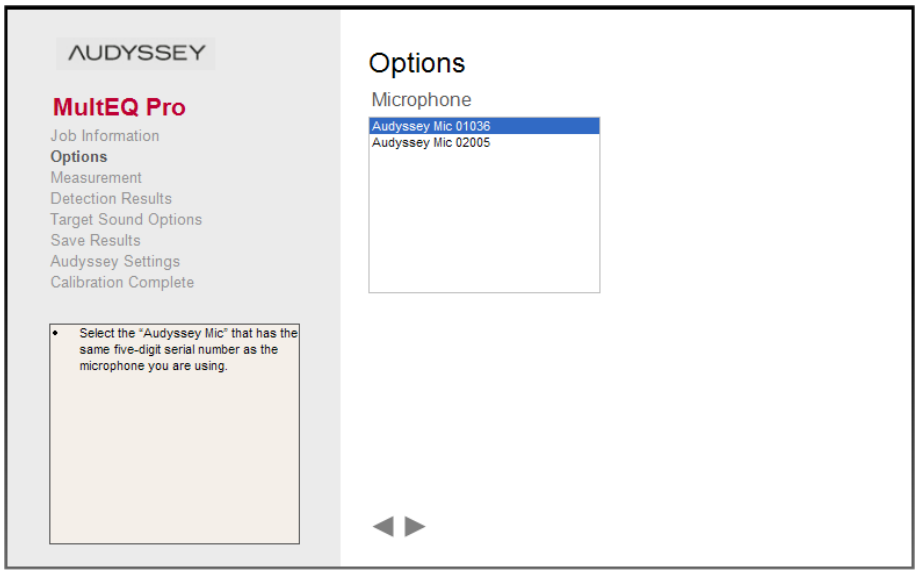
"Job Information" Screen



The "Job Information" screen is used to record the name of the customer or job and the name of the technician performing the job.

Click the forward arrow to proceed to the "Options" screen.

"Options" Screen



The "Options" screen is where you select the microphone file to match the microphone you are using. If you have more than one Professional Surround Sound

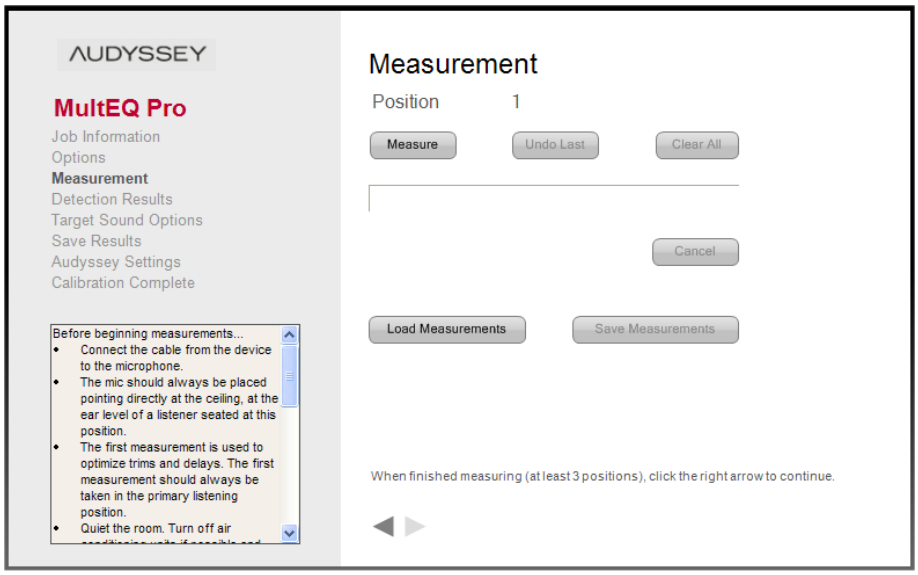
Tuning Kit and therefore more than one microphone, it is important that you choose the correct serial number for the microphone you are using during the installation.

The serial number on the microphone setup file should match the one printed on the microphone.

Click the forward arrow to proceed to the "Measurement" screen.

Measurement

"Measurement" Screen



The microphone should be positioned as far out from the stand as possible to minimize the effect of stand reflections.

NOTE: You must place the microphone in a vertical position with the capsule facing the ceiling for all measurements. Refer to illustration on page 3.

Quiet the room as much as possible. Background noise can disrupt the room measurements. Turn off cell phones, televisions, radios, air conditioners, fluorescent lights and other devices or home appliances. Close any open windows.

Refrain from talking and do not sit or stand directly between any of the speakers and the microphone during the room measurements. Each speaker will emit a series of test signals during the measurements and your body and background noise can disrupt the microphone's ability to properly record the room response to the test signal.

Position 1 Measurement

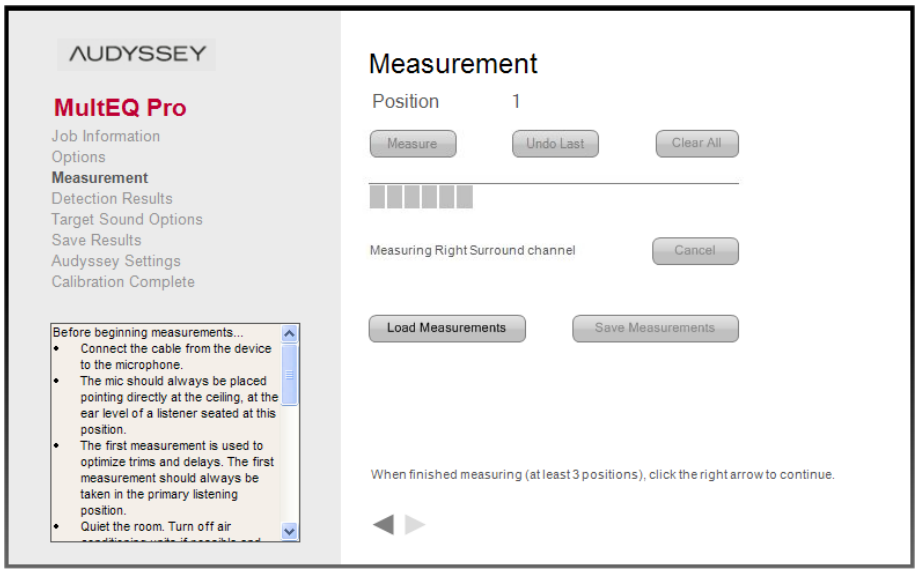
For the Position 1 measurement, place the microphone at the primary or most central listening location. The height should be the ear height of a listener seated at this position.

NOTE: It is important to have the microphone in the primary listening position for the first measurement. Every position measurement will record the room's frequency and time response but Position 1 also detects the absolute polarity of each speaker, calculates the exact distance (within a half inch) for setting delays and determines levels (within half a dB) for each speaker. The speaker type, distance, level, filter

characteristics and crossover frequency from the Position 1 measurement are displayed later on the "Detection Results" screen (refer to "Detection Results" which starts on page 11).

Press the **Measure** button. The *Audyssey* test signal will play a series of 10 "chirps" through each channel. The name of the speaker being measured will be indicated under the status bar while the test signal plays.

"Measurement Screen" (Showing Position 1 Progress)



After the application is finished playing the 10 chirps through each channel, the application will transfer each channel's measurement (this takes several seconds).

Click **Undo Last** if you want to erase your previous measurement.

Click **Clear All** at any time to erase all your position measurements and go back to Position 1.

The **Load Measurements** and **Save Measurements** buttons allow you to start the measurement procedure and return to it at a later time to continue, without losing any measurements already taken. Press **Save Measurements** to save the current measurements. Press **Load Measurements** to retrieve measurements already taken.

NOTE: When loading previously taken measurements, ensure the configuration matches the current one. For example, loading a 5.1 channel measurement file into a 7.1 channel setup will result in two of the channels being undetected. Loading a 7.1 channel measurement into a 5.1 setup will result in the last two channels being ignored.

Additional Position Measurements

Move the microphone to another listening position and press the **Measure** button again. Repeat the process for all listening positions in the room. You will need to measure a minimum of three positions before you can continue. The recommendation is to measure a minimum of eight positions for typical rooms. Stagger the height of the microphone by a few inches from location to location to account for different listener heights.

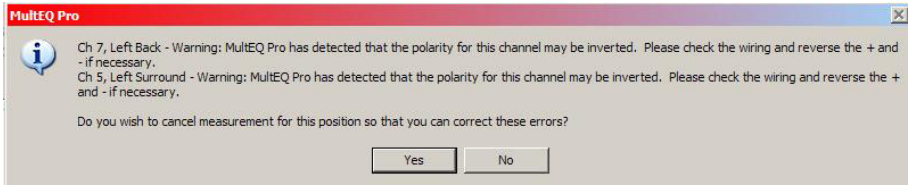
NOTE: A minimum of three measurements is required. You will not be able to continue to the next screen in the application until the third measurement is complete.

The larger the room, the more positions you should measure (the maximum is 32 positions). Make sure you measure only in positions where people will be located while listening to the system (i.e. measuring in a far off corner where nobody would ever listen will not be beneficial and may detract from the overall benefit within the main listening area).

Audyssey MultEQ® Pro measures the absolute polarity of each individual loudspeaker. If any of your speakers are wired out of polarity (i.e. + and – reversed), the application will show you an error window that explains which loudspeaker(s) to check. You may then check the polarity problem before continuing with the application. It is recommended that you check for polarity problems by examining the wire connections at the amplifier, speakers and any splices in the speaker cables.

NOTE: In some situations, such as when the rear speakers are dipolar radiators, the program may show a polarity error even if the speakers are correctly wired. Correct wiring should be verified by checking the connections at the amplifier, speakers and any splices in the speaker cables.

Polarity Error Window



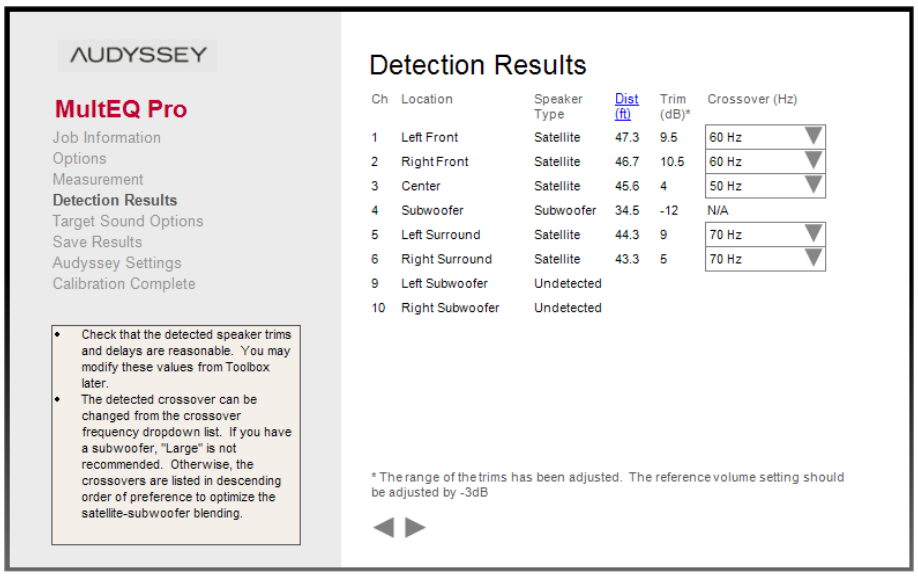
NOTE: After measurements are complete, Crestron recommends saving these (by pressing the **Save Measurements** button) before proceeding to the "Detection Results" screen. The program will show a standard window asking you to select a location to save the new .amd file.

Click the forward arrow to finish the measurement process and continue to the "Detection Results" screen.

NOTE: You can always return to the "Measurement" screen and measure more positions by clicking the back arrow (the application will remember the last measured position).

Detection Results

"Detection Results" Screen



The "Detection Results" screen displays the *Speaker Type*, *Distance*, *Trim, Cutoff/slope* and *Crossover* results derived from your Position 1 measurement (refer to "Position 1 Measurement" which starts on page 8) and the recommended *Crossover* derived from all of your position measurements.

- *Speaker Type* detects if the speaker connected to that channel is a satellite or a subwoofer.
- *Dist (feet)* will automatically set the distance (delay) in the processor.

  NOTE: Clicking on the heading for this column will change the display to *Dist (m)* showing the distance in meters. Clicking the heading again will change the display to show *Delay (ms)* showing the delay in milliseconds. A third click will return the display to *Dist (feet)*.

- *Trim* is displayed in dB. This number is not a dB SPL (absolute loudness) number. It is an absolute trim and must be used as shown. When applied, absolute trim gives reference level at the primary seat for volume set to 0dB. The *Trim* information will be automatically set in the processor.
- *Cutoff/slope* displays the filter characteristics applied to each speaker.
- *Crossover* is displayed in Hz. The *Crossover* information will be automatically set in the processor. You can use the drop-down menus to override the crossover settings that will be sent to the processor.

The *Audyssey* filter calculation is optimized based on your selected crossover frequency setting in the *Crossover* drop-down menus. Crossover choices are listed in descending order of preference to optimize satellite-subwoofer blending.

Only rarely should you ever choose the *Large* setting for the crossover. This setting means the bass for that channel will not be sent to the subwoofer. Only in the following situations, should you consider choosing the *Large* setting:

1. Your system does not have a subwoofer.

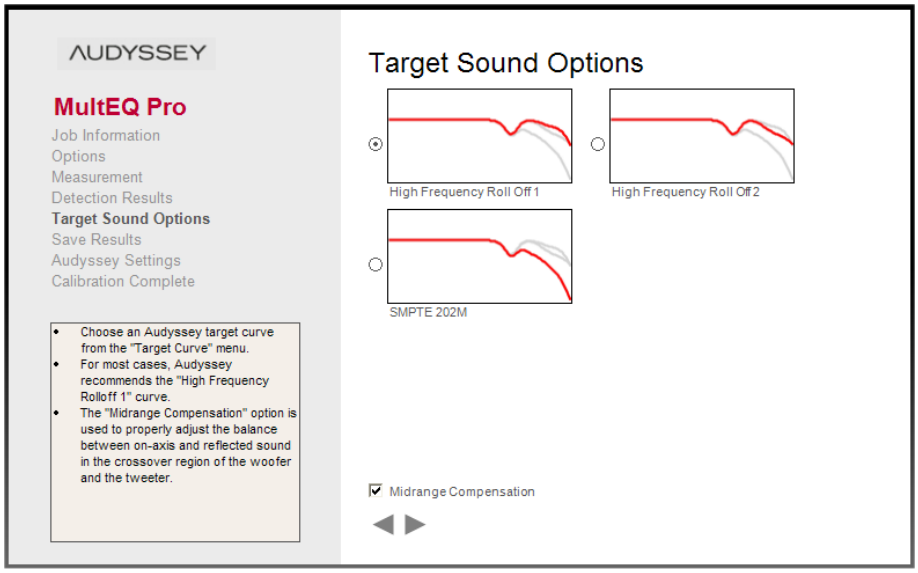
2. Your satellite speakers extend as low or lower in frequency than your subwoofer. Even in this case, however, you may not want to use *Large* because your subwoofer probably has better power handling for the bass.

NOTE: Even if the *Distance* shown for the subwoofer is longer than the physical distance, it is probably correct since subwoofers often have digital amps that delay the signal.

Click the forward arrow to proceed to the "Target Sound Options" screen.

Target Sound Options

"Target Sound Options" Screen



On the "Target Sound Options" screen, choose which of the *Audyssey* target curves you want to use by selecting the radio button next to the curve.

NOTE: To cover a wide range of room types, *MultEQ® Pro* currently provides a selection of three target curves.

1. The *High Frequency Roll Off 1* curve introduces a slight roll off at high frequencies that accounts for the balance between direct and reflected sound for a small to medium size rooms (room volume less than 2500 cu. ft.).

2. The *High Frequency Roll Off2* curve introduces a slightly greater roll off at high frequencies that restores the balance between direct and reflected sound for medium to large size rooms (room volume between 2500 and 5000 cu. ft.).

3. The *SMPTE 202M* curve is an international standard for the high frequency roll off applied in a typical 500-seat movie theater. It is appropriate for professional mixing spaces and dubbing stages that must be calibrated for film sound post-production. It can also be used in extremely large playback spaces (room volume greater than 5000 cu. ft.).

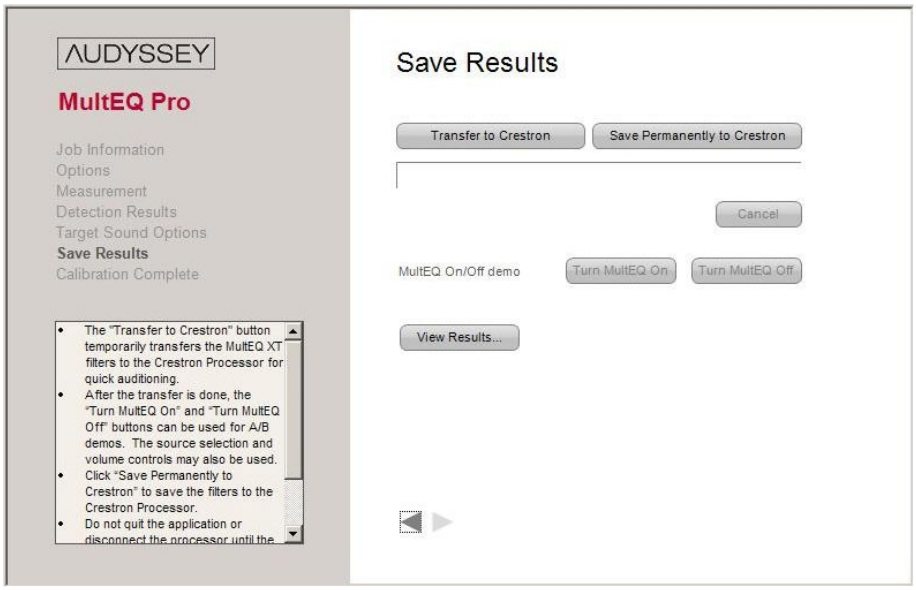
The *Midrange Compensation* option (selected by default) is used to properly adjust the balance between on-axis and reflected sound in the crossover region of the woofer and the tweeter. You can return to this screen later and change your setting for this option if you prefer.

Click the forward arrow to calculate your correction curves and proceed to the "Save Results" screen.

Save Results

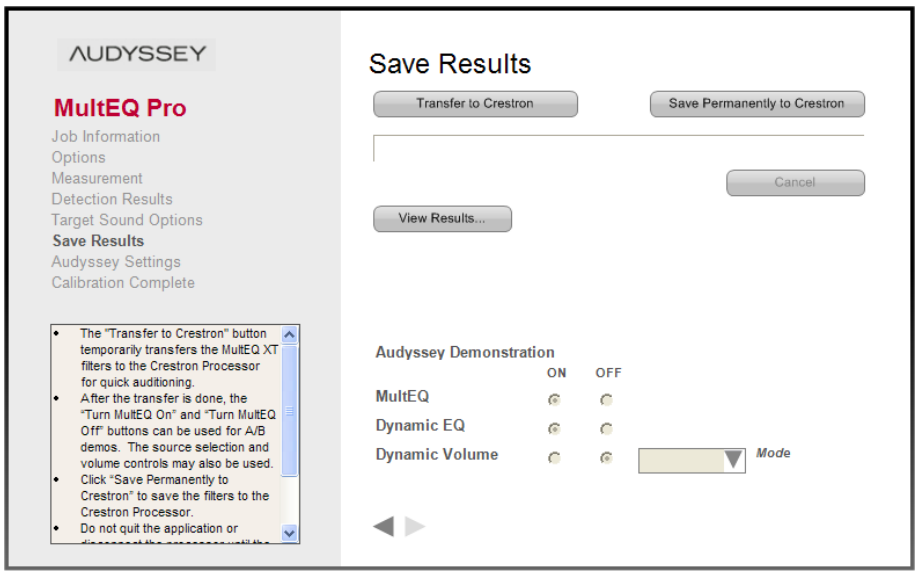
Adagio ONLY

Pro Sound Tools "Save Results" Screen



PROCISE ONLY

PROCISE Tools "Save Results" Screen



Transfer the MultEQ® XT Filters

Transfer the correction filters you have calculated by clicking the **Transfer to Crestron** button. This process temporarily stores the filters so you can listen to them before deciding to permanently save them. Previously saved filters will not be erased until you click the **Save Permanently to Crestron** button.

The **Transfer to Crestron** process may take several minutes. The download status bar will indicate the progress of the transfer.

NOTE: If the *MultEQ® Pro* application is turned off before the transfer is completed, the *MultEQ® XT* filters will be erased. The application will show a warning window asking you to confirm whether you wish to quit without saving.

NOTE: If the USB cable is disconnected between the processor and the PC during this process or before the process is complete, all measurements will be lost. If this happens, you must close the application, reopen it and start from the beginning of the application.

MultEQ® Pro On/Off Demo

After the results are transferred, the *Audyssey Demonstration* buttons for *MultEQ* **On** and **Off** will become unlocked and usable. You can use these buttons to demo *MultEQ®XT* filters before deciding to save them permanently.

Insert program material into your source component. Play a track from the disc. Use the *MultEQ* **On** and **Off** buttons to demo the *MultEQ®XT* filters.

NOTE: If the customer is present during the On/Off demo, have them sit or stand within the room area you measured earlier. If they are not positioned inside this area, it is less likely they will hear the full effect of the *MultEQ® XT* filters.

PROCISE™ ONLY

Dynamic EQ & Dynamic Volume On/Off Demos

When *MultEQ* is **On**, the *Dynamic EQ* **On** and **Off** buttons and the *Dynamic Volume* **On** and **Off** buttons will become unlocked and usable.

At lower playback volumes, human hearing sensitivity in the bass and treble ranges is diminished. Dynamic EQ compensates for this by boosting the bass and treble ranges during periods of low playback volume.

The *Dynamic Volume* presets can be auditioned as well. The *Mode* dropdown allows for selection between the *Day*, *Evening* and *Midnight* presets. (Refer to "Audyssey Settings" on page 17.)

Change the MultEQ® XT Filters

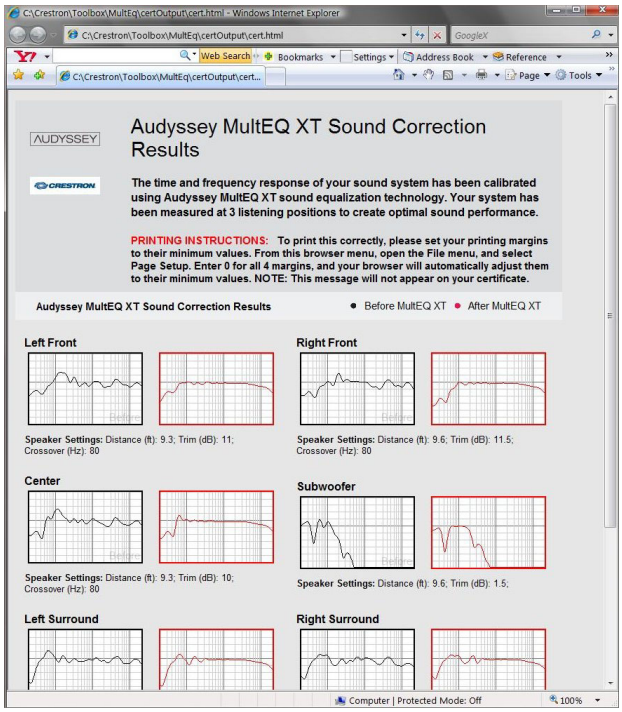
There are two options for changing the *MultEQ® XT* filters:

1. Add more measurement positions or redo your measurements. Click the back arrow until you get back to the "Measurement" screen (refer to "Measurement" which starts on page 8).
2. Calculate the *MultEQ® XT* filters with a different target curve. Click the back arrow to go back to the "Target Sound Options" screen (refer to "Target Sound Options" which starts on page 12).

View MultEQ® Pro On/Off Frequency Response Curves

Click the **View Results** button to view a graphical display of the frequency response correction for each channel. For each channel, the graphs on the left are without the *MultEQ® Pro* correction applied, while the graphs on the right are with the *MultEQ® Pro* correction applied (refer to illustration below).

"Sound Correction Results" Window



NOTE: Before the changes have been permanently saved, the "Sound Correction Results" window will show the word *DRAFT* in large letters. In the illustration above, the window is shown as it will appear after the changes have been permanently saved.

NOTE: Depending on the browser you are using and its security settings, you may see a message when you click **View Results**. For example, with Internet Explorer® you may see a message that says "To help protect your security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options…" (refer to illustration that follows this note). When you enable, you will see the full graphic. This will occur for the "DRAFT" view, not after the results have been saved permanently.

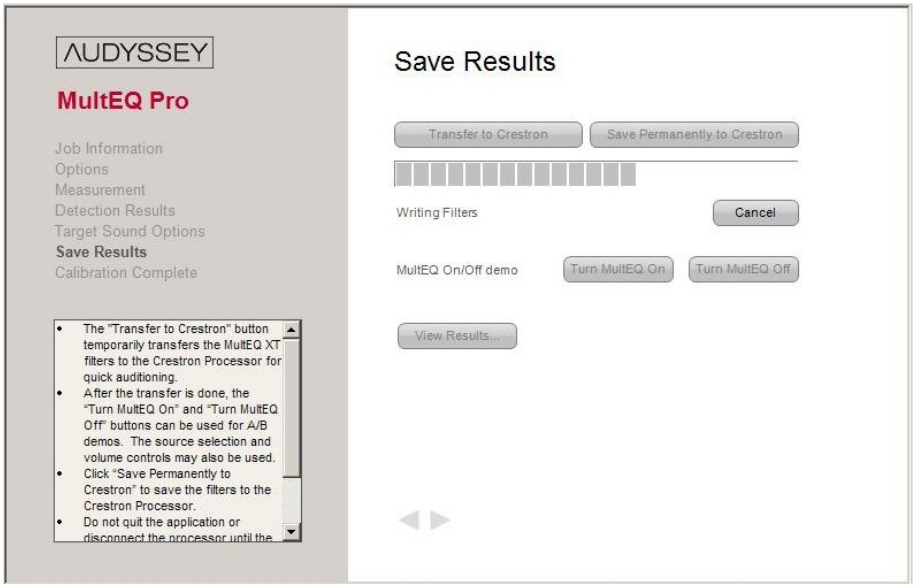
Warning Message in Internet Explorer®

Save the MultEQ® XT Filters

If you are satisfied with the *MultEQ® XT* filters, click the **Save Permanently to Crestron** button. This action may take several minutes. The status bar will indicate the progress of this action (refer to illustrations below).

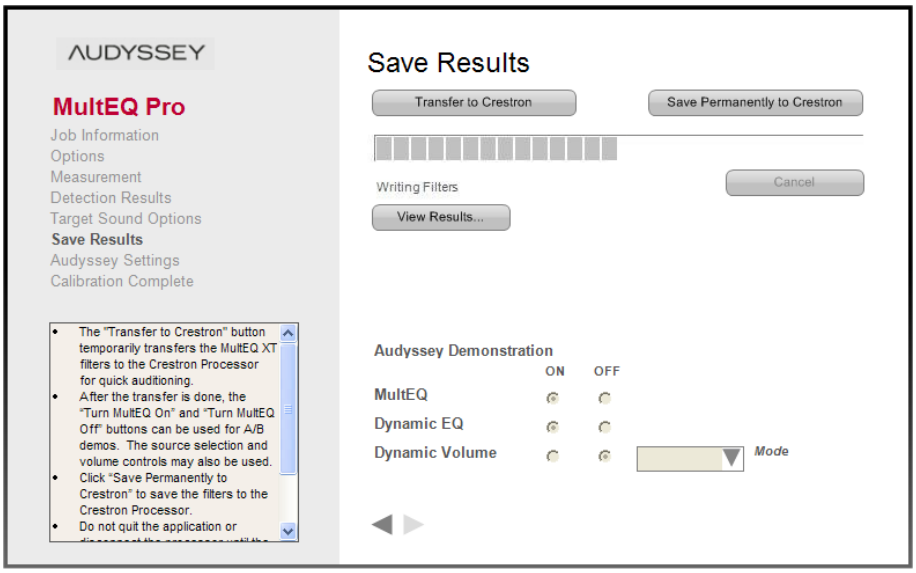
Adagio ONLY

Pro Sound Tools "Save Results" Screen (Shown in Progress)



PROCISE ONLY

PROCISE Tools "Save Results"Screen (Shown in Progress)

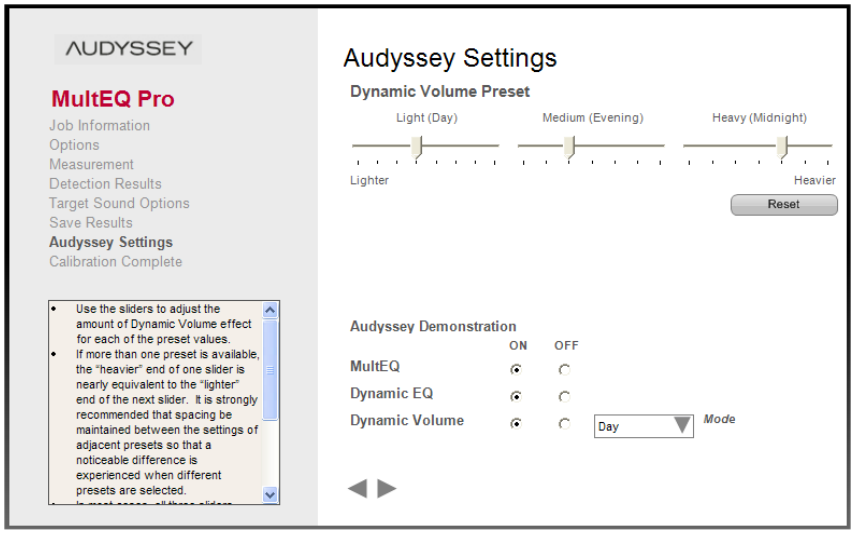


PROCISE™ ONLY

Audyssey Settings

After saving the *MultEQ® XT* filters, the "Audyssey Settings" screen is displayed. This screen allows control of how much volume variation is desired between the soft and loud parts of a program. For example, during late night viewing or listening, you may wish to keep volume swings smaller than during daytime viewing or listening. Use the sliders to adjust the amount of volume swing for each of the preset values (*Day*, *Evening*, *Midnight*).

"Audyssey Settings" Screen

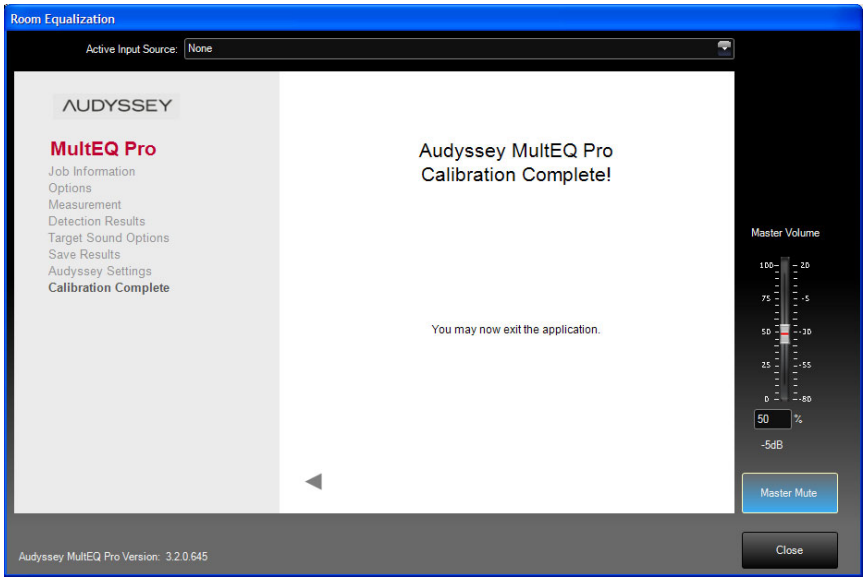


Once presets have been selected, click the right arrow near the bottom of the screen.

Calibration Complete

When the *Audyssey MultEQ Pro Calibration Complete* message appears, click **Close** in the lower right corner of the window to exit the application

"Audyssey MultEQ Pro Calibration Complete" Screen



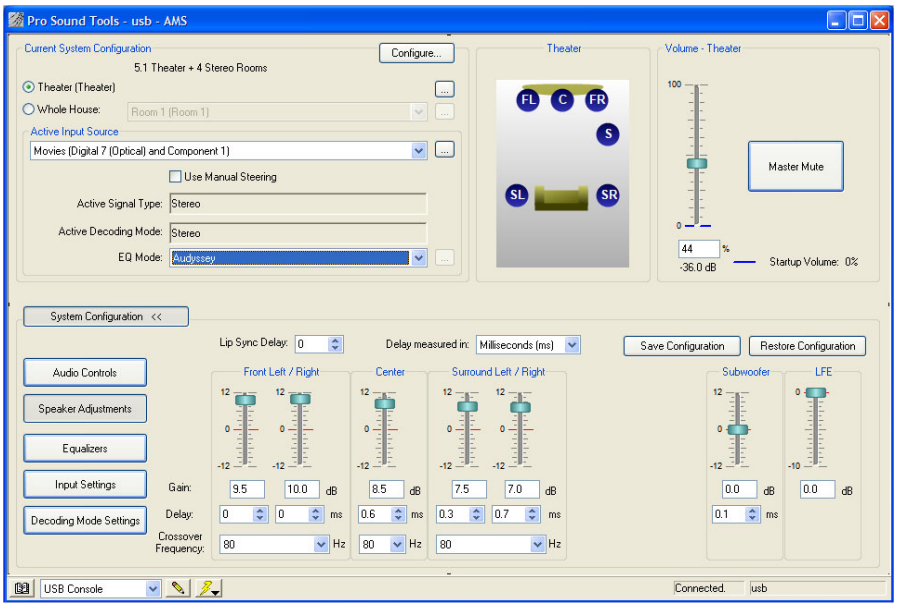
Optional Adjustments

The *Gain*, *Delay* and *Crossover* settings determined by *MultEQ® Pro* can now be viewed in Pro Sound Tools or PROCISE Tools (refer to illustrations on the following page). Pro Sound Tools and PROCISE Tools also allow you to change any of these settings to suit your individual tastes or requirements.

NOTE: Even if the *Distance* shown for the subwoofer (refer to "Detection Results" which starts on page 11) is longer than the physical distance, it is probably correct since subwoofers often have digital amps that delay the signal.

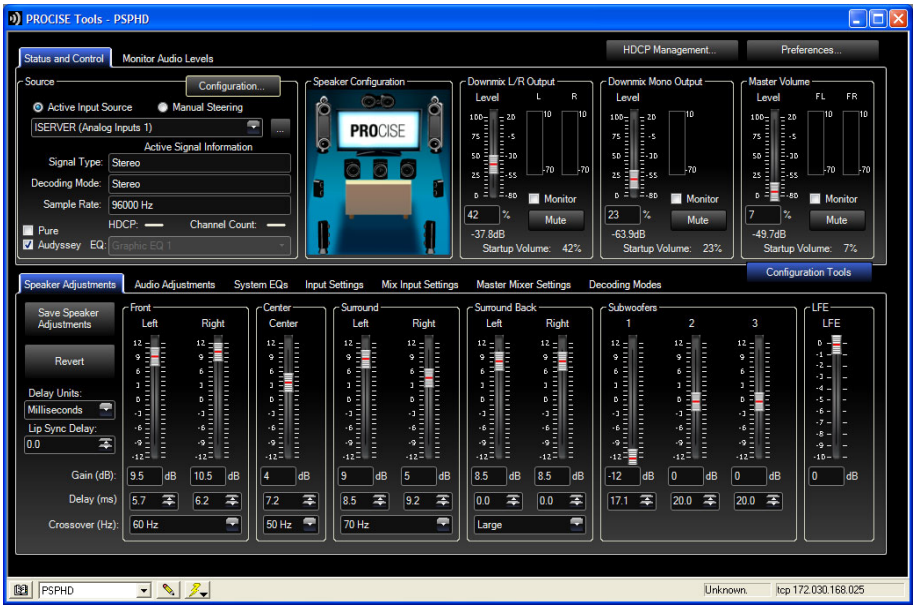
Adagio ONLY

"Pro Sound Tools" Window (Showing Audyssey Settings)



PROCISE ONLY

"PROCISE Tools" Window (Showing Audyssey Settings)



Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

Professional Surround Sound Tuning Kit Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
"Crestron processor was not detected…" message.	USB cable not connected.	Make sure USB cable is securely connected between PC and processor.
"Input signal is too low" message.	Program does not detect a strong enough input signal for measurement.	Check that microphone is properly connected (refer to "Hardware Hookup" which starts on page 2).
	Bad microphone cable.	Change microphone cable.
"Ambient noise" message	Room is too noisy.	Refrain from talking. Turn off cell phones, televisions, radios, air conditioners, fluorescent lights and other devices or home appliances. Close any open windows.
"Communication with the device failed" message.	Program does not detect any signal at all.	Check that microphone and cables are properly connected (refer to "Hardware Hookup" which starts on page 2).
Inverted polarity message.	One or more speakers may be wired in reverse polarity (i.e. **+** and **–** wires reversed).	Check wire connections at the amplifier, speakers and any splices in the speaker cables. Make sure **+** on amplifier goes to **+** on speaker and that **–** on amplifier goes to **–** on speaker.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron website (www.crestron.com/manuals). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
Adagio® AMS Media System
Adagio® AMS-AIP Media System with Advanced Image Processing
PSPHD PROCISE™ High Definition Professional Surround Sound Processor

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron website (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the Professional Surround Sound Tuning Kit, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
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