

AUDYSSEY

Audyssey MultEQ Pro User Guide

for the Integra DTR-8.8, DTC-9.8, DTX-8.8, DTR-9.9,
DTX-9.9,DTR-8.9,DTX-8.9,DHC-9.9



Integra DTR 9.9 shown

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Introduction

Audyssey MultEQ® XT removes distortion caused by the interaction of sound from loudspeakers within the room. This results in the playback of sound as it was intended, without distortion and coloration, not just in one seat, but over a large listening area.

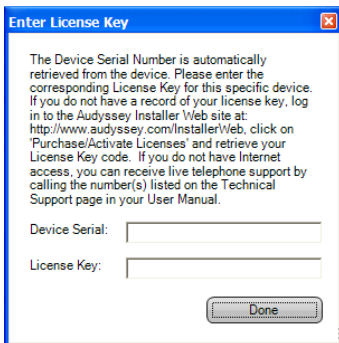
Audyssey Installer-Ready products greatly benefit from professional calibration using the MultEQ® Pro PC application and the Audyssey Installer Kit. Installers bring the Installer Kit and a laptop to an installation site, run the MultEQ Pro application, create correction filters, and transfer MultEQ XT filters from the laptop to the Audyssey Installer-Ready device. The intuitive steps for completing this installation are described in detail in this User Guide.

The latest MultEQ Pro User Guides for the Audyssey Sound Equalizer™ and Audyssey Installer-Ready products are available to registered Audyssey Installers through the Audyssey Installer Website. After signing in, click on Downloads in the left pane to view available documentation and software from the Audyssey Website.

MultEQ Pro Setup Guide



The MultEQ Pro Setup Guide is included in the Installer Kit package. This guide provides easy instructions for the installation and activation of the MultEQ Pro application. Be sure to review this guide prior to installing MultEQ Pro on a laptop or PC.



License Keys

The MultEQ Pro application is used to calibrate all Audyssey Installer-Ready products.

Installation requires a valid License Key to perform a calibration using the MultEQ Pro application. At the Product Selection screen of the MultEQ Pro application, the Enter License Key window will appear. The serial number should appear automatically while connected through the RS232 port.

License Keys may be purchased by registered Audyssey installers through the Audyssey Installer Website.

Important Safety Precautions

Please review the product's owner's manual in detail to ensure safe operation before calibrating with MultEQ Pro.

- **Do not** cascade other devices between the microphone preamp and the Audyssey Installer-Ready device. Permanent damage may occur to each piece of equipment.
- **Do not** connect the calibrated microphone to the *Integra back panel "AUX 1" audio input* until instructed.

Doing so before you complete the *Product Selection* screen as part of the MultEQ Pro application (see Product Selection, page 16) will cause microphone feedback at levels that could damage the speakers

The Audyssey Installer Kit



The Audyssey Installer Kit contains the required equipment for calibrating the Audyssey Sound Equalizer and Audyssey Installer-Ready products.

Audyssey Installer Kit Contents:

- **MultEQ Pro Application Setup CD and Setup Guide**
- **Calibrated Preamp**
- **Calibrated Microphone**
- **Microphone Stand**
- **Mini-XLR to RCA Adapter**
- **Two Mini-XLR Cables (25 ft. and 50 ft.)**
- **USB to RS232 Serial Cable**
- **10 ft. USB Cable**

Calibrated Microphone and Microphone Stand

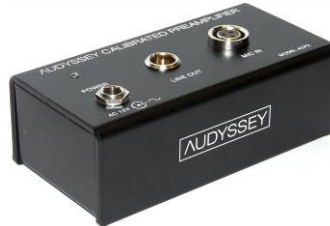
Each Audyssey microphone is calibrated by Audyssey and comes with a custom calibration curve that matches the microphone to a high-precision, 1/4" reference microphone. The calibration curve for your microphone is stored on your MultEQ Pro application CD. The absolute sensitivity, including the exact gain of each individual Calibrated Preamp, is included in the correction curve, ensuring that the trims reported by MultEQ Pro will result in reference SPL playback level.



Calibrated Preamp

This microphone preamplifier provides phantom power to the microphone and applies fixed gain amplification to the microphone signal. It has no external controls, making installation easy and free of troubleshooting. The microphone preamp's Mic In mini-XLR jack is where the measurement microphone is connected. Use the enclosed mini-XLR microphone cables for both the Mic In and Line Out connections to this preamp.

Warning: Only use the supplied Audyssey Calibrated Preamp. **Do not** use any other microphone preamplifier.



MultEQ Pro Application CD and Setup Guide

The MultEQ Pro Application and User Guide may be found on the enclosed CD. A printed Setup Guide is included in the Installer Kit. The application is installed on your laptop.



10 ft. USB Cable

The laptop running the MultEQ Pro application connects to an Audyssey Sound Equalizer via the 10 ft. USB cable.



RCA to Mini-XLR Adapter

Use this adapter to connect the Line out of the mic preamp mini-XLR cable to the proper Input on the Audyssey Installer-Ready device.



Microphone Mini-XLR Cables

The Installer Kit contains three 25 ft. mini-XLR cables. The cables are used to connect the microphone preamp (from the Line Out interface) to the Audyssey Installer-Ready device. The cables can be linked together to provide up to 75 feet of length for large rooms or multi-room installations.



Previous Installer Kits

Items from previous versions of the Audyssey Installer Kit (such as the Audyssey MM01 Professional Calibration Microphone) can still be used for calibration with MultEQ Pro v2.5 or later as long as the microphone calibration file is copied into the new Audyssey directory.



USB to RS232 Serial Cable

This cable connects Audyssey Installer-Ready products to the laptop running the MultEQ Pro application.



Setup Before Customer Installation

MultEQ Pro Main Setup

Insert the MultEQ Pro CD included in your Audyssey Installer Kit into your PC's CD-ROM drive.

There are four possible options to choose from in the MultEQ Pro Main Setup window (depending on the status of necessary installations). You will click on the text itself to begin the operation desired.

- **Install Microsoft .NET**
- **Install MultEQ Pro**
- **Uninstall MultEQ Pro**
- **View Setup Guide**
- **Add Microphone File to MultEQ Pro**

The options to Install MultEQ Pro will not appear unless Microsoft .NET 2.0 is already installed.

Installing Microsoft .NET Framework 2.0

Microsoft .NET 2.0 Framework must be installed before installing, uninstalling, or running the MultEQ Pro software. The Microsoft .NET Framework is a software component that can be added to the Microsoft Windows operating system.

The .NET 2.0 installation can be found on the MultEQ Pro CD. After inserting the CD into your laptop, the 'autorun' function should launch the MultEQ Pro Main Setup Window (see next page). If it does not automatically run, you can double-click the disc (typically the D: drive) in the My Computer folder.

In the window above (Install Microsoft .NET), the option to install the MultEQ Pro application is not available because Microsoft .NET (v2.0) is not installed. Therefore, left-click on the **Install Microsoft .NET** option to begin the installation. Note that during the installation process, highlighted items are shown with green font. You must accept the End-User License Agreement (or "EULA") to install the .NET software.

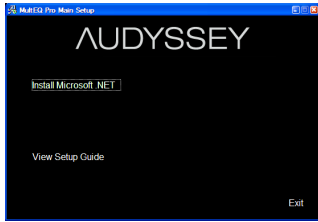
It is highly recommended that the Windows Update is run after installation of .NET Framework 2.0 in order to receive the latest service packs and security updates from Microsoft. This is typically found by clicking the Start button and looking in All Programs.

The option to install MultEQ Pro will only become available once .NET 2.0 Framework has been installed.

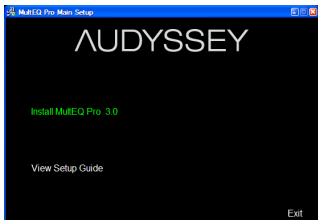
Installing MultEQ Pro

Click *Install MultEQ Pro* to begin the installation wizard. The software installation program will guide you through the MultEQ Pro application setup. You must accept the Audyssey End-User License Agreement (or EULA) to continue the installation the MultEQ Pro application. Select the location you would like to install the application to or install to the default location.

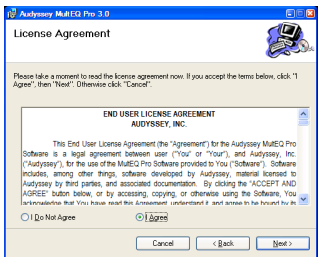
Once the MultEQ Pro installation is complete, the software application will appear in the "Audyssey Labs" folder in the Start menu (unless other location was specifically specified by you). Repeat the above MultEQ Pro install for each laptop your company will use for installations.



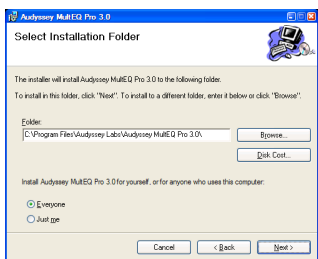
Install Microsoft .NET



Install MultEQ Pro



Accept the EULA



Select Installation Folder

Uninstalling MultEQ Pro

A dialog with a progress bar will appear as the MultEQ Pro application is uninstalled. The dialog will disappear once the uninstallation is complete.

Viewing the Setup Guide

An electronic version of the MultEQ Pro Setup Guide is available to view at any time during the setup.

Add Microphone File to MultEQ Pro

If your company has purchased more than one installer kit, it is highly recommended you save the microphone calibration file from each of your MultEQ Pro CDs on each company laptop used for installation. This allows measurement microphones to be shared and used with any of your laptops.

The “Copied One File” window will be displayed after each microphone calibration file is successfully copied to your laptop.

It is important to have the correct microphone calibration file with the corresponding microphone and preamp marked with the matching 5-digit serial number. Each microphone and preamplifier set is measured by Audyssey and the unique mic calibration file is stored on the installation CD of the installer kit.

Registered Installers may conveniently retrieve lost calibration files through the Audyssey Installer Website.

USB to RS232 Driver Installation

These Integra products require the laptop running the MultEQ Pro application connect to using the USB to RS232 connector provided in the Audyssey Installer Kit.

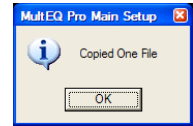
In MultEQ Pro 3.0, and later, the driver to allow you to use the RS232 connector is located on the MultEQ Pro Installation disc. Microsoft XP or Vista will prompt you if needed to locate the driver. See *Found New Hardware* image.

Select the option: Locate and install driver software (recommended).

A new window will launch asking you to insert the disc that came with your USB Serial Controller. Insert the MultEQ Pro CD. It is advised to not search online for the driver as it is included on the MultEQ Pro CD and the result may differ greatly.

If a Windows Security warning appears stating that it cannot verify the publisher, select to, “Install this driver software anyway”.

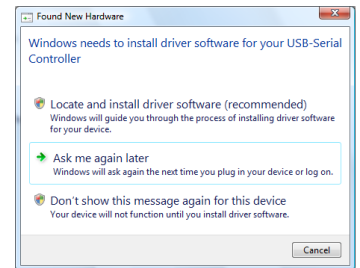
Once the installation is complete, you will be able to use MultEQ Pro with the RS232 connection. It is only necessary to perform this procedure once on a PC.



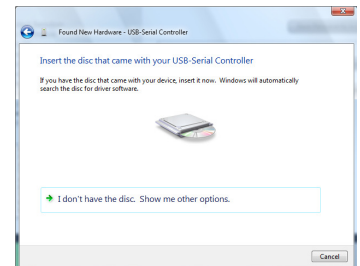
Copied one file successfully



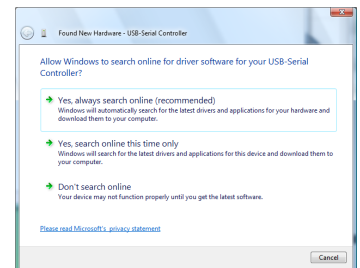
After installing .NET & MultEQ Pro



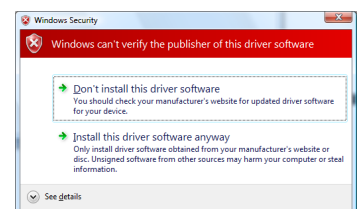
Locate and install driver software



Insert the MultEQ Pro setup disc



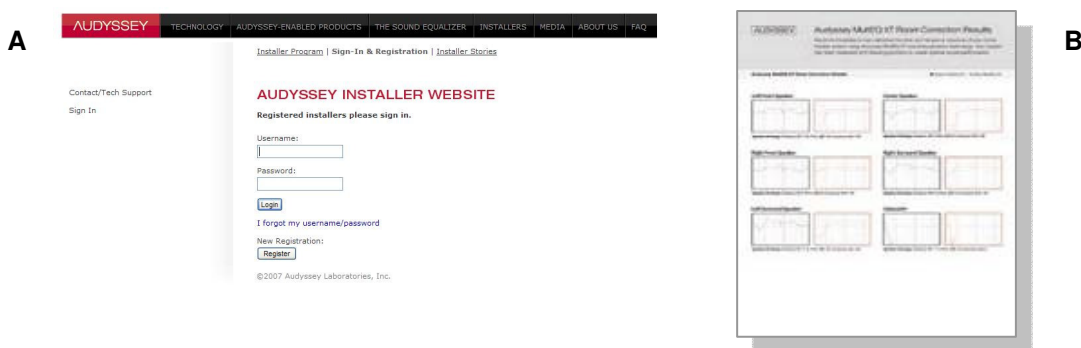
Search online for driver?



*Windows Security
Install this driver anyway*

Register on the Audyssey Installer Website

Before installing Audyssey products at a customer's home, be sure to visit the Audyssey Installer Website (A) at www.audyssey.com/InstallerWeb to register your personal account.



You must register on the Audyssey Installer Website in order to:

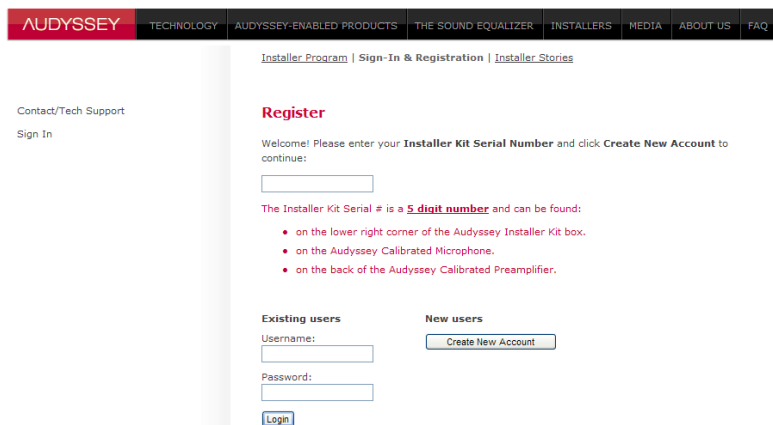
- Purchase and activate product licenses
- Upload installation results and store customer certificates (B) (page 32).
- Download updates for the MultEQ Pro software
- Download user guides, manuals, and marketing materials

Enter your Username (typically your email address) and Password to enter the site.

If you have not yet registered on the site, and therefore do not have a Username & Password, click the *Register* button and follow the instructions. Upon completion of the registration process, you'll be taken back to the Sign In page.

To register, you must already be an Audyssey installer with an Audyssey Installer Kit. Each Installer Kit has an assigned 5-digit serial number, located in three places:

1. the lower right corner of the outer box the Installer Kit is shipped
2. front of the Audyssey Calibrated Microphone
3. back of the Audyssey Calibrated Preampifier

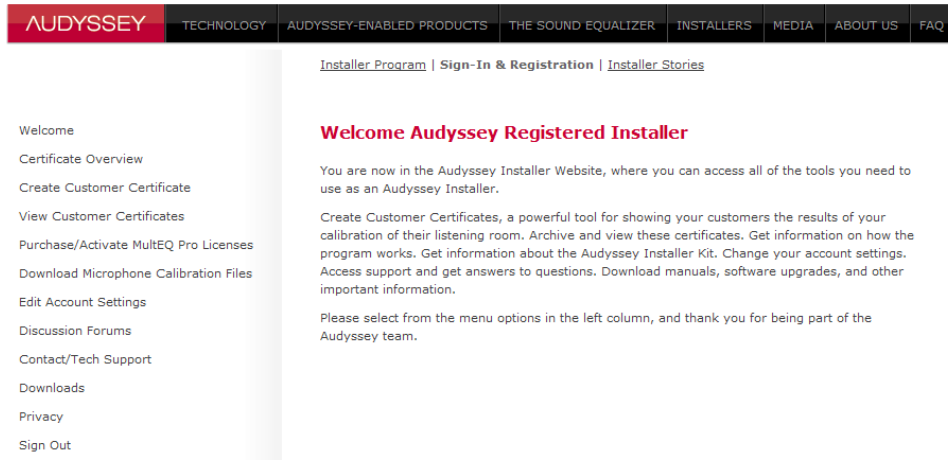


After entering the serial number of the Installer Kit, click the *Create New Account* button.

Enter the required information and click the *Submit* button. The Sign-In page will follow.

Audyssey Registered Installer

After signing in, the Welcome screen gives a brief overview of the Installer Website. Use the links in the left-hand column to navigate the site's functions.



Certificate Overview

This page explains the details of the Customer Certificate.

Create Customer Certificate

Upload MultEQ Pro calibrations results to generate a Customer Certificate. At completion of the intuitive process, certificates can be printed.

View Customer Certificates

View archived MultEQ Pro calibration results by clicking the *View Customer Certificate* link next to the name assigned to each job (see *Job Information*, page 18).

Purchase/Activate MultEQ Pro Licenses

Purchase and manage your MultEQ Pro Licenses and License Keys.

Download Microphone Calibration Files

Retrieve lost Audyssey Microphone Calibration files using the 5-digit serial number labeled on the mic.

Edit Account Settings

Change account settings such as Username, Password, Company Name, Address, etc.

Contact /Tech Support

Contact Audyssey with questions or comments.

Downloads

Download Audyssey support materials.

Privacy

Audyssey does not sell, license, or rent personal information gathered from this Installer Website.

Sign Out

Sign out of the Audyssey Installer Website.

Purchasing and Activating MultEQ Pro Licenses

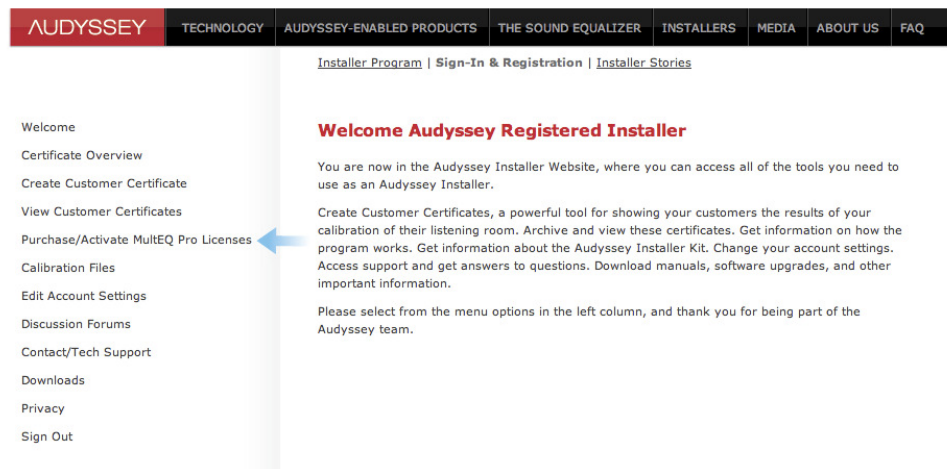
To perform a MultEQ Pro calibration for any Audyssey Installer-Ready product, you must purchase a license and generate a license key for each unit you plan to install. Sound Equalizer installations do not require a license key.

Audyssey Sound Equalizer installations do not require a license key.

Step 1 allows you to purchase a MultEQ Pro license. Step 2 assigns this license to the specific serial or MAC number of the product you are calibrating, and creates the license key for you to use at your customer installation.

Log on to the Audyssey Installer website at <http://audyssey.com/InstallerWeb>. Once logged in, click *Purchase/Activate Licenses* on the left menu bar.

You may purchase licenses, view previously purchased licenses, and generate license keys for installations all from this screen.



Step 1: Purchase New MultEQ Pro Licenses

1. The table below shows your previously purchased license keys and displays (1) what model the key is for; (2) how many purchased keys you have remaining that need to be activated.
2. Click *Purchase New MultEQ Pro Licenses* to make a purchase.

Step 1: [Purchase new MultEQ Pro Licenses](#)

Purchased MultEQ Pro Licenses

License Type	Purchased	Activated	Remaining
Denon 3808CI	2	0	2
Denon 4308CI	1	1	0
Denon 5805CI	5	4	1
NAD T175	1	0	1
NAD T775	3	3	0

[Change License Types](#)

3. Choose the license type and quantity you wish to purchase. To purchase multiple license types, click *Add Row* to add another line item to your order. Once you have all the license types and quantities selected, click *Recalculate Totals* to verify your total. Then click *Continue*.

Purchase/Activate MultEQ Pro Licenses

To purchase license keys using a credit card, please use the form below. To add additional rows click the "Add Row" button. To continue to the next step, click the "Continue" button.

License Type	Quantity	Price	Total	
Denon 3808CI ▾	1	\$ XXX.00	\$ XXX.00	Delete
NAD T775 ▾	1	\$ XXX.00	\$ XXX.00	Delete
Total Charge			\$ XXX.00	

Add Row

Recalculate Totals

Continue >

4. Enter your full name, credit card information and billing information. Click *Continue*.
5. Review your purchase and billing information, then click *Complete Order*. It may take a few moments for your order to be processed. Don't close the window, or click the browser's "Back" button.
6. Once your order is complete, an invoice will be sent to your registered email address. You will have the choice of printing out your receipt, and activating your purchased licenses.

Purchase/Activate MultEQ Pro Licenses

Order Complete

Your order is complete. Thank you for your purchase. A copy of your invoice has been sent to your e-mail address. Please use the print button below to print a copy of this invoice for your records.

Print

Activate your purchased license

Invoice ID: 1039

Item	Quantity	Price	Total
Denon 3808CI	1	\$ XXX.00	\$ XXX.00
NAD T775	1	\$ XXX.00	\$ XXX.00
Total Charge			\$ XXX.00

Sales Tax: \$0.00

Grand Total: \$ XXX.00

Billing Address

Gary LaRoc
247 Main Street
Anyown, CA 90071
U.S.A.
000-000-0000
installer@audyssey.com

Credit Card Information

VISA XXXXXXXXXXXXX
Exp: 01/2010

Change License Types

You can convert any license type to any other Installer-Ready product from the same manufacturer. You must do this before activating a purchased key (see Step 2).

1. Underneath the “Purchased Licenses” table, click on *Change License Types*.

Purchased MultEQ Pro Licenses

License Type	Purchased	Activated	Remaining
Denon 3808CI	2	0	2
Denon 5805CI	6	4	2
NAD T175	1	0	1
NAD T775	3	2	1

Change License Types

2. Use the drop down menu to choose to which model number you would like your license transferred.

Change License Types

Please use the form below to change purchased licenses from one device to another. Note that licenses may only be changed to a type from the same manufacturer. If you need to purchase additional licenses, please [click here](#).

License Type	Count	New License Type	Change Count
Denon 3808CI	2	Denon 5805CI ▼	<input type="text"/>
Denon 5805CI	2	Denon 4308CI ▼	1
NAD T175	1	NAD T785 ▼	<input type="text"/>
NAD T775	1	NAD T785 ▼	<input type="text"/>

Submit

Step 2: Create a Key

Activating a purchased license will generate a license key. These keys are tied to each unique Installer-Ready product, and must be input every time a MultEQ Pro calibration is performed on that product. License keys have unlimited use and do not require you to repurchase if you recalibrate. However, these keys do expire in 30 days and can be regenerated free of charge.

Key Expiration & Regeneration

Keys expire after a period of 30 days. The license however, never expires. If a key expires, you can generate a new key at the Audyssey Installer website.

Step 2: Create a Key

Find the model you are ready to install below. Enter the product's Serial Number or MAC Address and click *Generate Key*. This Key is tied specifically to the serial number (or MAC Address) of this unique product. This key will be needed every time you perform a MultEQ Pro calibration for this unique unit.

[Print Table](#) | [Save Table](#)

Model	Serial # / Mac #	License Key	Customer (optional)
Denon 3808CI	DN3808-0005CDBBBBBB	BD299DEB8E0E74085DC2046C2A064EA5	Joe Customer [Edit]
Denon 3808CI	<input type="text" value="Enter MAC Addr:"/>		
Denon 3808CI	<input type="text" value="Enter MAC Addr:"/>		
Denon 3808CI	<input type="text" value="Enter MAC Addr:"/>		
Denon 4308CI	<input type="text" value="Enter MAC Addr:"/>		
Denon 5805CI	0005CD012345	C8077FFC78710B664E338CD777005E60	[Edit]

1. Depending on the manufacturer, you must enter the serial number or MAC address for the unit. If you do not enter the correct number, an incorrect license key will be generated. Serial numbers and MAC addresses are case sensitive, and be careful not to enter extra spaces.

Setup at Customer Installation Site

Connecting the Installer Kit Components

- A** Connect a mini-XLR cable to the microphone.
- B** Place the microphone stand upright and extend the boom arm. Attach the microphone holder to the end of the boom arm. Insert the microphone in a vertical position in the holder so that it is pointed to the ceiling.

Mini-XLR cables

The Installer Kit contains two mini-XLR cables. One mini-XLR cable is used to connect the microphone preamplifier's LINE IN and the other is used to connect the microphone preamp's LINE OUT to the Audyssey Installer-Ready device.

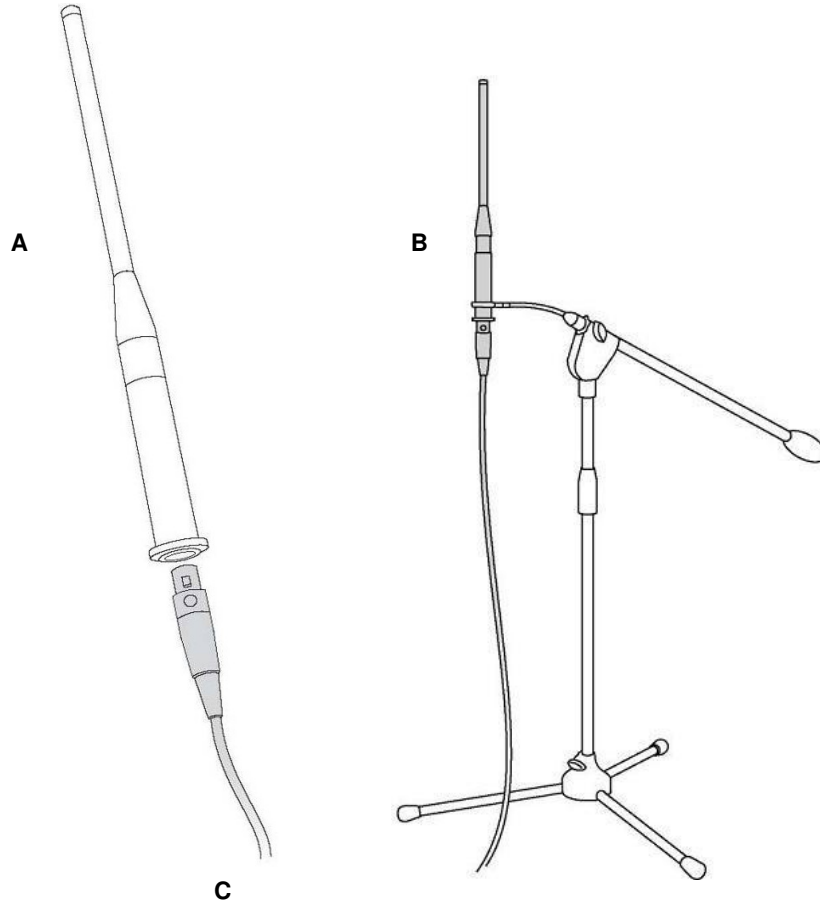
Additional mini-XLR cables may be purchased separately and connected together for a longer-length connection.

The length of cable needed depends on the size of the customer's room.

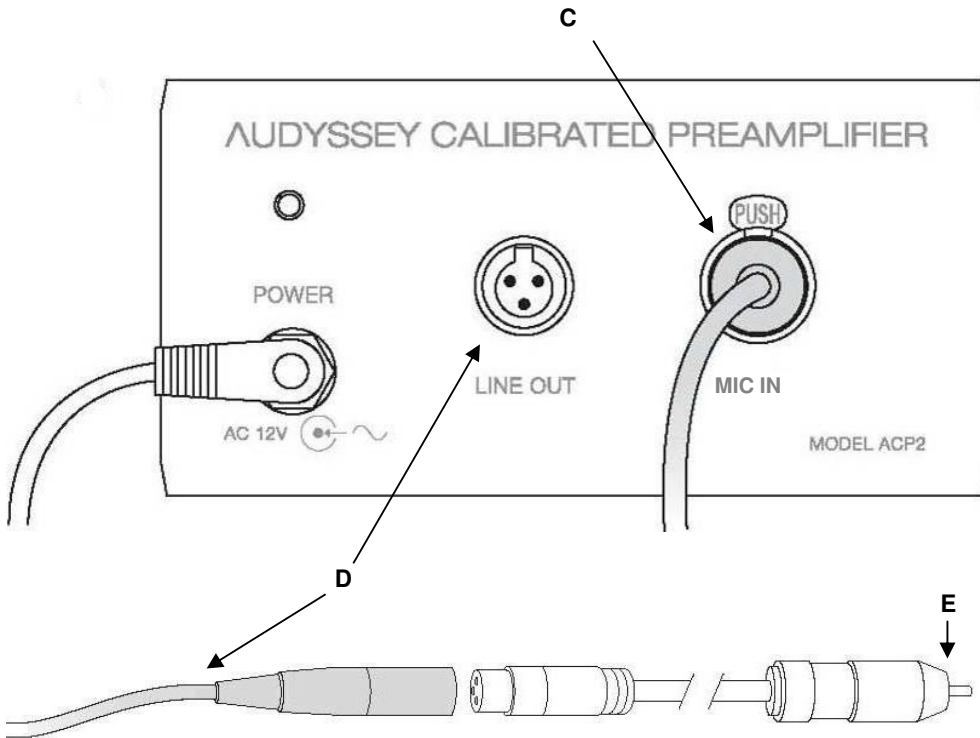
Microphone Position

Place the microphone in a vertical position with the capsule pointing directly at the ceiling for all room measurements. Make sure there are no nearby obstructions or large reflecting surfaces.

Make sure that the first microphone position is located at the main listening seat. This is where the delays and trims will be calculated.



- C Connect the mini-XLR cable from the microphone to the *MIC IN* input of the microphone preamp.
- D Connect another mini-XLR cable to the *LINE OUT* output of the mic preamp. Connect the mini-XLR-to-RCA adapter to this mini-XLR cable.
- E Prepare to connect the mini-XLR-to-RCA adaptor to the Integra back panel “AUX 1” audio input (but leave disconnected for now).
- F Connect the laptop to the Installer-Ready device via the RS232 connector.



Warning: Do not connect the Mini-XLR to RCA Adapter (E) to the Integra back panel “AUX 1” audio input yet. Doing so before completing the *Product Selection* screen of the MultEQ Pro application (page 16) will cause microphone feedback at levels that could damage the speakers.

USB to RS232 Connection
Any of the laptop’s USB ports may be used for this connection.

Provide enough slack for the cable so that it will not suddenly disconnect during MultEQ Pro calibration. Accidental USB disconnection will likely require the calibration be restarted.

It is *not* advised to substitute a different USB to RS232 cable than the one included in the Installer Kit. However, an active extension or hub may be used to extend USB length.

The Mini-XLR-to-RCA Adapter (E) connects the LINE OUT output of the mic preamplifier to the Audyssey Installer-Ready device. This connection should be made at the *Measurement* screen of the MultEQ Pro application (see *Measurement*, page 22)

Defeating the lowpass filter in the subwoofer ensures that the MultEQ Pro software has the best possible chance of producing the smoothest response through the crossover region because the only filter to be applied is the one in the bass management system of the pre-pro.

The crossover frequency in surround controllers often defaults to 80 Hz. MultEQ Pro examines solutions across a range of frequencies to optimize the match between subwoofer and satellites both in magnitude and in phase. This often results in a different recommendation, but results in a smoother amplitude and phase crossover blend.

After the MultEQ Pro Calibration, look at the end credits of a DVD. If it carries a “Dolby Stereo In selected theaters” or similar logo, then THX Cinema On is virtually always the correct condition.

MultEQ Pro is intended to produce a response that is to a particular target response curve. THE Re-equalization for correcting the balance of most movie program material is still required, even with Audyssey Sound Equalization in use.

Other Configurations

The MultEQ Pro application is responsible for measuring the room response and computing the complex equalization filters for the room.

Before the MultEQ Pro Calibration

If the subwoofer has a built-in lowpass filter it should be bypassed, or set to the THX setting. Sometimes there is an input called “LFE” that has the lowpass filter already bypassed. This must be done before MultEQ Pro measurements are made. If the subwoofer lowpass filter cannot be defeated, set it to its maximum frequency. Any subwoofer gain controls should be set to their nominal settings, such as at the THX position, or at 12 o'clock on a conventional level control. Phase controls, if they exist, should be set to 0°.

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, disable this mode. This will ensure that the subwoofer is always on and ready to output the MultEQ test signal. Failure to disable this mode could chop off the start of the test signal and this would result in inaccurate subwoofer measurements.

During the MultEQ Pro Calibration

The MultEQ Pro application not only performs equalization, but also measures various parameters which are automatically set within the Audyssey Installer-Ready device so that the playback system is calibrated. The items measured are the distance from each loudspeaker to the primary microphone location (or position 1); the recommended optimum crossover frequency for each channel to the subwoofer; and the level trim for each loudspeaker channel.

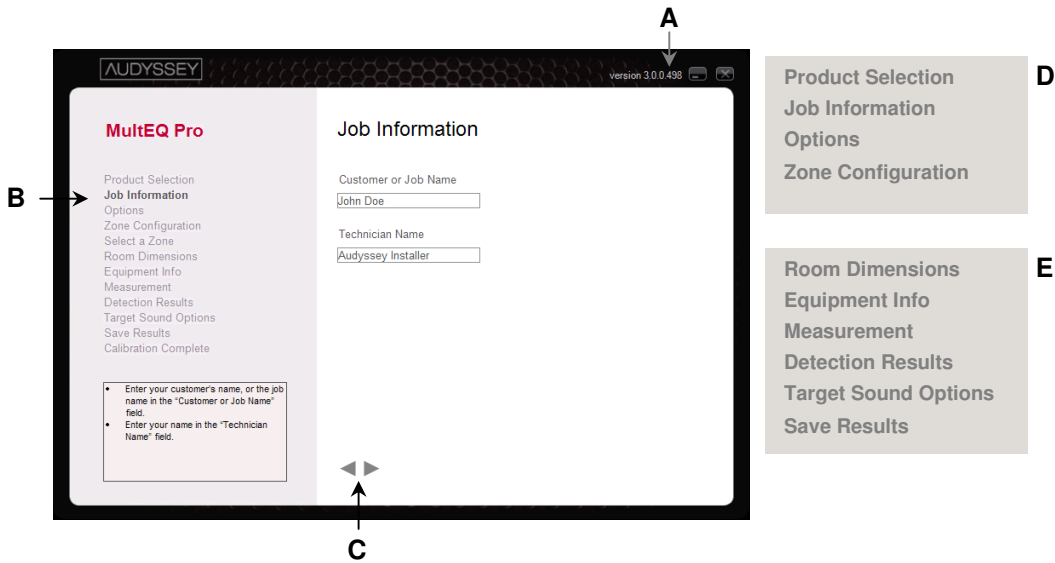
After the MultEQ Pro Calibration

Instruct the customer to select the THX mode for THX movies and turn it off for all other sources, such as music and television.

The MultEQ Pro Application

Overview and Screen Sequence

The MultEQ Pro application consists of a series of screens which leads installers through the calibration process. Each screen of the application is listed in the left column of the application (B) to help track progress.



The MultEQ Pro version number is listed at the top right of the screen (A)

The current screen is highlighted in bold within the list (B).

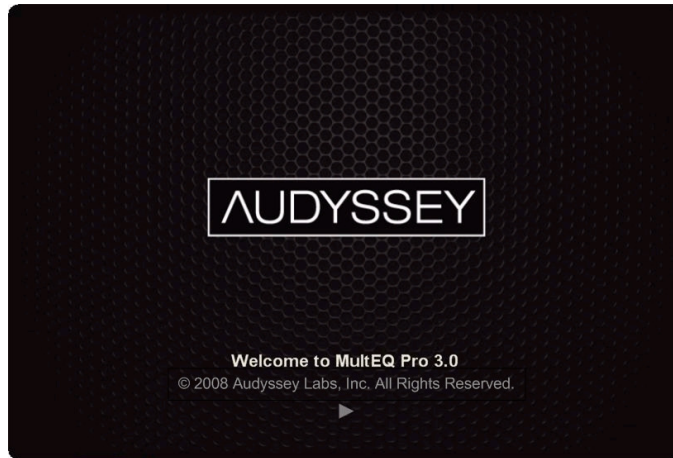
Move forward and backwards through the application's screens by clicking the back (◀) and forward (▶) buttons on each screen (C).

While the mouse cursor is over the forward and back buttons (C), black ◀ / ▶ buttons indicate available back and forward functionality, while light grey ◀ and ▶ buttons indicate that forward or back are currently unavailable.

Product Selection, Job Information, Options, and Zone Configuration (D) are encountered only once during a session. The remaining screens (E) are encountered once for each zone that requires calibration.

Welcome

Introduction to the MultEQ Pro application.

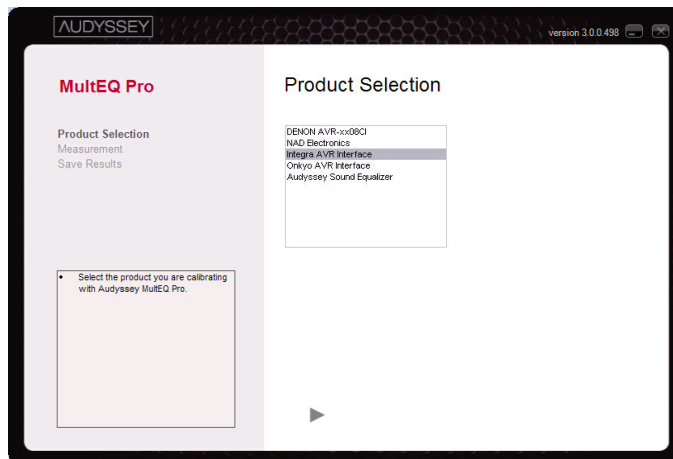


Product Selection

MultEQ Pro supports products from various manufacturers. The MultEQ Pro application screens that follow are common to most Audyssey Installer-Ready products. Some functions may vary so it is important to review the product's specific User Guide.

Product Selection

Choose the Integra device you are calibrating from the list of Audyssey Installer-Ready products and press the ► button.

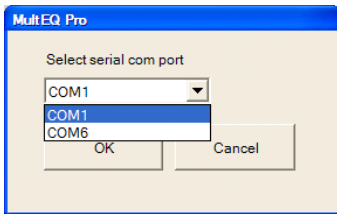


Select the Com Port

Check the laptop's Device Manager in System Properties to see which COM port is connected. If there are no COM ports listed, please make sure the correct drivers are installed for the RS232 connector (see RS232 instructions on page 5).

Select the COM port of the laptop or PC connected to the Audyssey Installer-Ready device. A drop down window shows the available COM ports.

Selecting an incorrect COM port will result in an error message. If that happens try a different COM port. If all available COM ports produce an error, check the physical connections and try again.



Enter the Device Serial and License Key

The "Enter License Key" window appears. A valid license key must be entered before MultEQ Pro can continue. See *Purchasing Installer Licenses*, page 8 for more details on purchasing and generating License Keys.



The serial number should appear automatically if connected properly to the Audyssey Installer-Ready device. The serial number may also be entered manually.

Job Information

This information is used to manage customer calibration results on the Audyssey Installer Website (page Error! Bookmark not defined.). Calibration results and customer certificates are listed on the Audyssey Installer Website by the customer or job name entered at the Job Information screen.

Options

The importance of microphone calibration is often overlooked. Even the highest quality micro-phones often contain small variations that cause measurement artifacts. As part of preparing the Installer Kit, Audyssey measures each microphone individually and stores a unique calibration file on each MultEQ Pro application CD. This file ensures that the MultEQ Pro room correction filters take into account the frequency response variations of each individual microphone used for calibration.

In the case that multiple Installer Kits are available (more than one micro-phone), it is important to choose the correct serial number for the microphone in use during installation.

If the serial number listed in the menu does not match the serial number on the microphone you are using, contact Audyssey technical support (p. 37).

If you have more than one Installer Kit, it is highly recommended that you install the mic calibration curve file from each Kit's MultEQ Pro Installation CD on each of your laptops. This way everyone at your company can share Installer Kits.

Job Information

Enter the customer or job name in the *Customer* or *Job Name* fields. Enter your name in the *Technician's Name* field

AUDYSSEY version 3.0.0.498

MultEQ Pro

Product Selection
Job Information
Options
Zone Configuration
Select a Zone
Room Dimensions
Equipment Info
Measurement
Detection Results
Target Sound Options
Save Results
Calibration Complete

Job Information

Customer or Job Name
John Doe

Technician Name
Audyssey Installer

- Enter your customer's name, or the job name in the "Customer or Job Name" field.
- Enter your name in the "Technician Name" field.

Options

Choose which microphone you are using from the menu under the *Microphone* heading. Select the microphone that has the serial number matching the serial number on the microphone you are using.

AUDYSSEY version 3.0.0.498

MultEQ Pro

Product Selection
Job Information
Options
Zone Configuration
Select a Zone
Room Dimensions
Equipment Info
Measurement
Detection Results
Target Sound Options
Save Results
Calibration Complete

Job Information

Customer or Job Name
John Doe

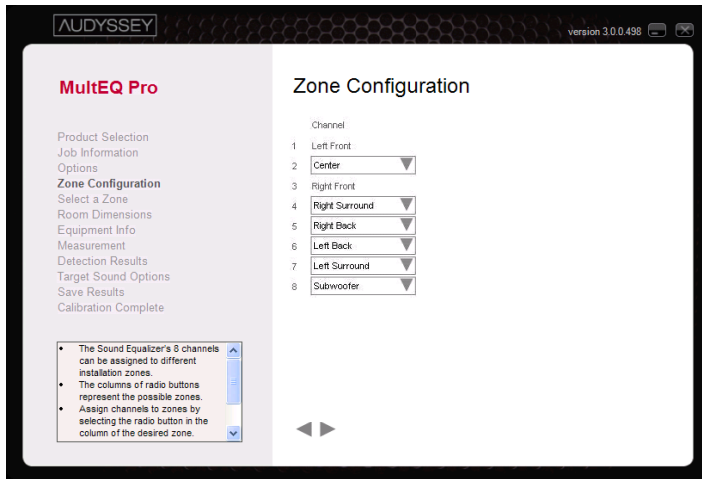
Technician Name
Audyssey Installer

- Enter your customer's name, or the job name in the "Customer or Job Name" field.
- Enter your name in the "Technician Name" field.



Zone Configuration

The Integra device performs equalization for channels assigned to the main zone. If any channel is unused, select *None* from the drop-down menu.

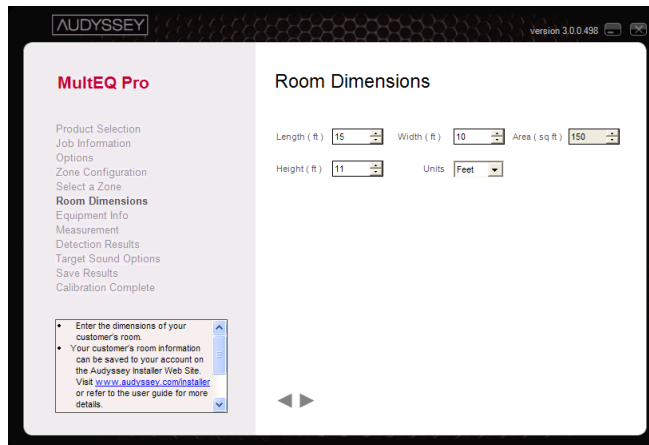


Room Dimensions

It should be explained to customers that if the layout of the room changes, a recalibration will be necessary to create MultEQ XT filters that match the room's new configuration. This is because the room's configuration influences the performance of loudspeakers and therefore, the frequency response throughout the room. Surfaces such as walls, ceiling, floor, and furniture distort sound playback throughout the room.

Room Dimensions

Input the dimensions of the customer's room by clicking the up/down arrows next to each data field. Select from English or Metric units (Feet or Meters).



The screenshot shows the Audyssey MultEQ Pro software interface. The main window is titled "Room Dimensions" and contains the following fields:

- Length (ft): 15
- Width (ft): 10
- Area (sq ft): 150
- Height (ft): 11
- Units: Feet

The sidebar on the left lists the following options:

- Product Selection
- Job Information
- Options
- Zone Configuration
- Select a Zone
- Room Dimensions
- Equipment Info
- Measurement
- Detection Results
- Target Sound Options
- Save Results
- Calibration Complete

The bottom panel contains the following text:

- Enter the dimensions of your customer's room.
- Your customer's room information can be saved to your account on the Audyssey Installer Web Site. Visit www.audyssey.com/installer or refer to the user guide for more details.

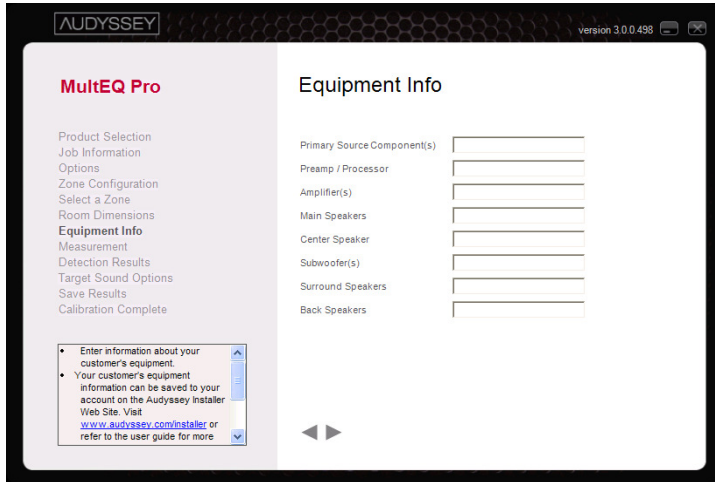
Note

If desired, manually calculate and write down the volume of the room (*Area x Height*) to help select an Audyssey target curve later. See *Target Sound Options*, page 26).

The information entered at this screen may be stored on the Audyssey Installer Website account and will not affect filters created or saved to the Audyssey Installer-Ready device.

Equipment Info

Enter information about the customer's audio equipment.



The screenshot shows the Audyssey MultEQ Pro software interface. The title bar at the top reads "AUDYSSEY" and "version 3.0.0.498". The main window is titled "Equipment Info". On the left side, there is a navigation menu with the following items: "MultEQ Pro", "Product Selection", "Job Information", "Options", "Zone Configuration", "Select a Zone", "Room Dimensions", "Equipment Info" (which is highlighted), "Measurement", "Detection Results", "Target Sound Options", "Save Results", and "Calibration Complete". Below the menu, there is a small text box with the following content: "Enter information about your customer's equipment." followed by "Your customer's equipment information can be saved to your account on the Audyssey Installer Web Site. Visit www.audyssey.com/installer or refer to the user guide for more". The main area of the "Equipment Info" screen contains several input fields: "Primary Source Component(s)", "Preamp / Processor", "Amplifier(s)", "Main Speakers", "Center Speaker", "Subwoofer(s)", "Surround Speakers", and "Back Speakers". Each field is represented by a horizontal line with a small arrow on the right side, indicating it is a text input field. At the bottom of the main area, there are two double-headed arrows.

The information entered at this screen is stored on the Audyssey Installer Website account (see page 7) and will not affect filters created or saved to the Audyssey Installer-Ready device.

Equipment Info

High-quality loudspeakers are spectrally matched at the factory, meaning they have very close to the same frequency response.

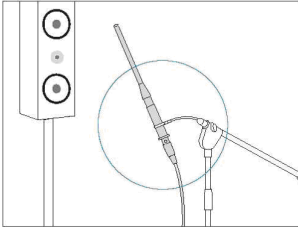
However, each manufacturer has different tolerances and standards when spectrally matching their speakers. Besides room equalization, one of the main improvements of MultEQ Pro is equalizing the frequency response of speakers so that they are spectrally matched. This is why it is important to recalibrate your customer's system even if they replace one of their speakers with one of the same model.

Why is it important to have spectrally matched speakers? The ability for us to create sound images in our brain and perceive sound coming from places in the room where the speakers aren't located, depends on the spectral information coming to our ears in a symmetrical way.

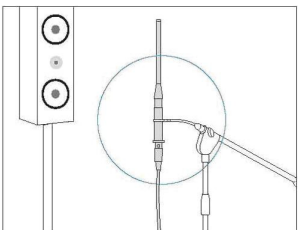
By equalizing speakers that aren't exactly spectrally matched, you are improving imaging and soundstage.

Before Measurements:
The microphone should be positioned as far out from the stand as possible to minimize the effect of stand reflections. The microphone was calibrated at grazing incidence and should point to the ceiling.

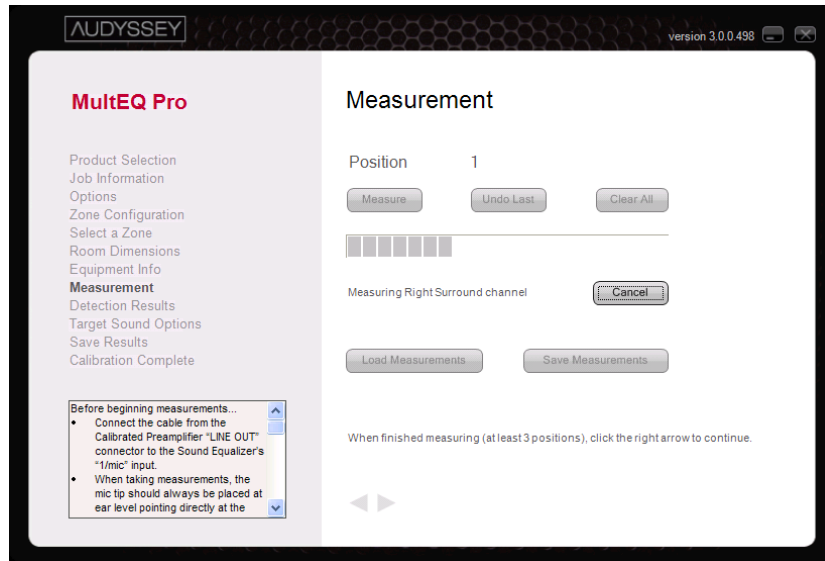
Incorrect



Correct



Measurement



Before Measurements

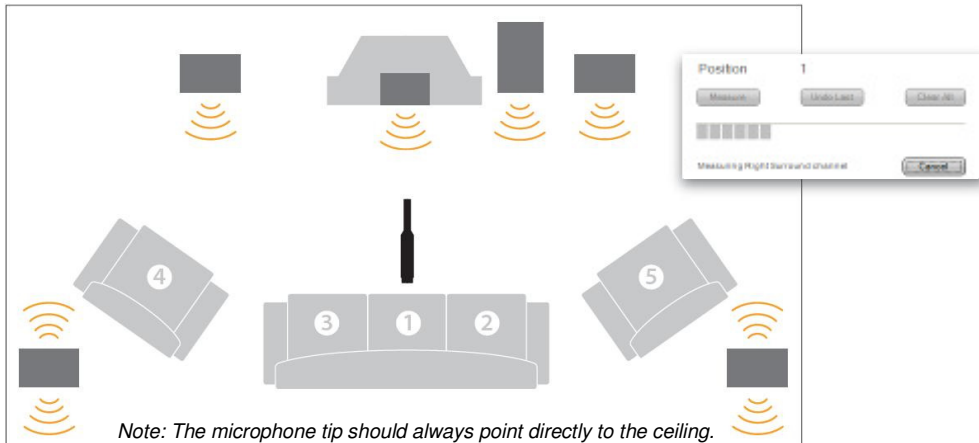
Review the following guidelines:

- 1 Some subwoofers have a standby mode. Be sure to turn this function off before measuring (see *Before the MultEQ Pro Calibration*, page 14)
- 2 The microphone should be placed in a vertical position (grazing incidence) for all measurements.
- 3 Connect the mini-XLR cable from the microphone preamp LINE OUT to the Integra back panel "AUX 1" audio input using the mini-XLR-to-RCA Adapter
- 4 Quiet the room as much as possible. Background noise can disrupt the room measurements. Close windows, silence cell phones, televisions, radios, air conditioners, fluorescent lights, home appliances, light dimmers, or other devices.
- 5 Refrain from talking during measurements. Do not sit or stand directly between any of the speakers and the microphone during the room measurements. Each speaker emits a series of test signals during the measurements. Obstacles between speakers and the microphone, and background noise can disrupt the microphone's ability to record the room response to the test signals.

Position 1 Measurement

For the Position 1 Measurement, place the microphone at the primary (or most center) listening location. The microphone should be positioned at ear height of a sitting listener. It is important to have the microphone in the primary listening position for the first measurement so that delays are calculated correctly (see *Detection Results*, page 25)

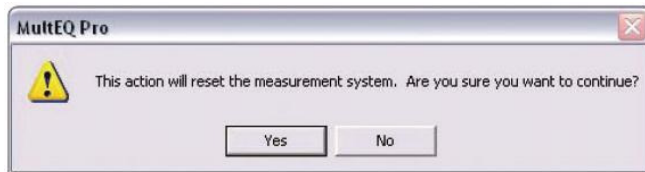
Press the *Measure* button. The Audyssey test signal will play a series of ten chirps through each channel. The text under the status bar indicates which channel is currently being measured.



After the test signal is finished playing, the application will transfer each channel's measurement from the Audyssey Installer-Ready device to the computer for further processing. This takes several seconds.

Click *Undo Last* to erase the previous measurement.

Click *Clear All* to erase all of the previous position's measurements and start over at Position 1. The following window will appear if you click the *Clear All* button.



The room measurement process plays a series of full-bandwidth test signals through each channel to measure the room's response. Audyssey has designed the test signals so that several thousand measurement samples are collected.

During room measurement, some channels may repeat the series of test signals at a louder volume. This is to overcome background noise problems and achieve the required signal-to-noise ratio for creating precise room correction filters. The level trim calculation is not influenced by the increase in test signal level.

The Position 1 measurement is different from the other position measurements that follow. Every position measurement measures the room's frequency and time response at that particular position. But Position 1 also calculates the exact acoustical distances (within half an inch) for setting delays, and determines levels (within half a dB) for each loudspeaker. The distance and level from the Position 1 Measurement are displayed later on the Detection Results screen.

Audyssey calculates the optimum bass crossover frequency for each speaker. These are often different from the spec provided by the manufacturer. MultEQ Pro calculates the optimal frequency based on all of your position measurements and displays it on the Detection Results screen. The most accurate method of determining the correct crossover frequency is through room measurement. This is because room acoustics significantly affect the low frequency characteristics of loudspeakers.

The Audyssey cross-over finding method is based on the measurement of each satellite and subwoofer in the system at multiple seats in the room. The frequency that best optimizes the blend between the satellite and subwoofer is selected based on complex addition (amplitude and phase). The crossover calculation takes into account the capabilities of the speaker to make sure it isn't over-driven. This frequency can be different for each channel if, for example, the satellite speakers are because each speaker is driving the room from a different location.

If the loudspeakers are set up as dipoles for playback, then they **MUST** be calibrated in dipole mode. Calibrating a loudspeaker as a direct radiator, then setting it to dipole mode will give incorrect results.

Most home systems use a single loudspeaker per surround channel. If more are desired to increase the coverage in a large room (as used in cinemas), it is best to use a fairly large number because simply having two per channel leads to audible comb filtering.

A 'AAA' or 'AA' battery can test the polarity of a speaker. Simply connect the negative end of the battery to the negative speaker lead (with the amplifier disconnected), and tap the positive speaker lead to the positive end of the battery. If the woofer moves out of/away from the speaker cabinet, then the polarity of the speaker cable is correct. If the woofer pulls into the speaker cabinet, the speaker cable polarity is reversed. You should only be touching the woofer, never the tweeters.

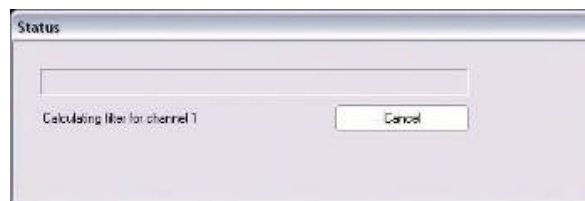
If you ignore polarity errors and continue with the application, then you must rerun the application and recalibrate the system if you change the speaker polarity after the MultEQ Calibration is finished.

Additional Position Measurements

Move the microphone to another listening position and press the Measure button. Repeat the process for several positions in the main listening area of the room. It is required to measure a minimum of three positions before continuing. Audyssey strongly recommends measuring **at least 8 positions** for average-sized rooms. Stagger the height of the microphone by a few inches from measurement position to the next to account for the varying heights of listeners.

The larger the room, the more positions should be measured up to a maximum of 32 positions. Be sure to measure only in locations within the main listening area, but try to avoid extreme off-axis positions. Measuring in a distant corner of the room will not be beneficial and will detract from the overall benefit within the main listening area.

Click the ► button to complete the measurement process. The window below appears after clicking the ► button.



Note: You can always return to the Measurement screen and measure additional positions by clicking the ◀ arrow (the application will remember the last measured position).

Save and Load Measurements

After the first successful measurement is obtained, the Save Measurements button becomes available. You may save your current progress by pressing the Save Measurements button. The "Save As" Window is launched

The default directory, "My Documents\Audyssey\Measurements" is used to save and load measurement files with the file extension, ".amd".

When saving measurements, it can be helpful to enter a name for the file that will help you find the file for future use.

Load Measurements at any time while at the Measurement screen. Simply press Load Measurements and open the file that you wish to load.

Important Note!

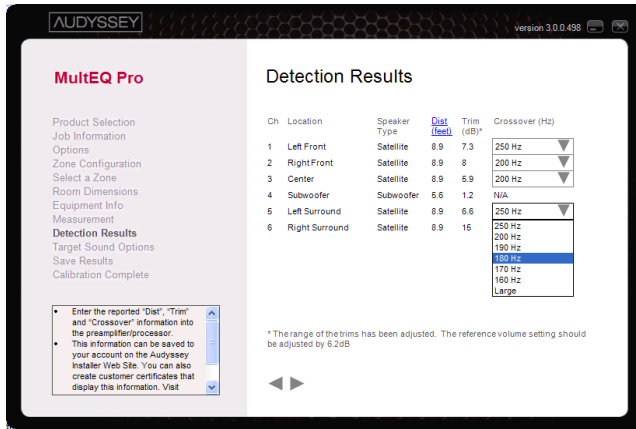
Use measurement files from the same device as you are loading to. Also it is important make a note of the Zone Configuration settings used when the saved measurement file was created.

Be sure to enter the same Zone Configuration settings as used in creating the measurement file you are about to load. Otherwise, the final results will be inaccurate.

MultEQ Pro will provide a warning message if these settings do not match.

Detection Results

This screen displays the speaker Distance and Trim results derived from the Position 1 measurement, and the recommended Crossover derived from all measurements. MultEQ Pro lists suggested speaker crossovers in decreasing order of performance.



Note: You must manually enter the information on this screen into the preamplifier/processor's settings.

Speaker Type indicates whether the detected loudspeaker is a satellite or subwoofer.

Distance may be displayed in either English (feet) or Metric (meters) units by clicking the “Dist” heading (in blue). The settings shown will time-align all satellite speakers and subwoofer to the same point (Position 1).

Trim is displayed in dB. This number is not a dB SPL number; it is a relative Trim. The Trim information is automatically applied in the Audyssey Installer-Ready device. The numbers shown will ensure that playback with the volume knob at “0” will be at reference level.

Crossover is displayed in Hz. The crossover values for each of the speakers are applied automatically into the speaker settings.

The crossover recommendations are derived from the room measurements and are optimized for the in-room response of the speakers. They are listed from top to bottom of the drop-down menu. The top-listed number is the best recommended crossover setting. Other values below it are also possibilities, but have lower recommendation scores.

Note:

Crossovers are associated to channel pairs (not necessarily individual speakers) of the Integra receiver.

The Audyssey filter calculation is optimized based on your selected crossover frequency setting in the “Crossover” drop-down menus.

The “Large” setting should only be used if there is no subwoofer detected or if the low frequency capability of a speaker extends below 40 Hz.

Detection Results

In some cases there may be excessive low frequency noise in the room (not necessarily audible to the human ear, but picked up by the microphone). This may be due to rumble from the street or HVAC equipment that generates structure-borne noise in the building. This may cause the subwoofer (and possibly other loudspeakers) to be detected at an incorrect distance. If this happens, and the low frequency noise cannot be reduced, the only option is to use a tape measure to measure the distances.

Occasionally the subwoofer distance will found to be greater than the actual measured distance. This is due to the delay that the subwoofer low-pass filtering circuitry introduces. Although the physical distance may be shorter, the MultEQ Pro-measured distance is in fact correct.

The distances measured by MultEQ Pro may be greater than the actual distance due to delay added by the connected devices. If the distances are off by only a few feet, you may still use the distance measured by MultEQ Pro.

Crossover

You may select your own crossover values for channel pair. However, Audyssey recommends using the displayed crossovers on this screen. This is because the most accurate method of determining the correct crossover frequency is by room measurement. Room acoustics affect how far down the speaker can actually play in the room.

Target Sound Options

Once the room measurements are completed, MultEQ Pro calculates an equalization filter for each loudspeaker channel including the subwoofer. The role of these filters is to achieve a particular frequency response within the entire listening area for each loudspeaker. This target frequency response is determined based on several acoustical and program material considerations and is called a *target* or *calibration* curve.

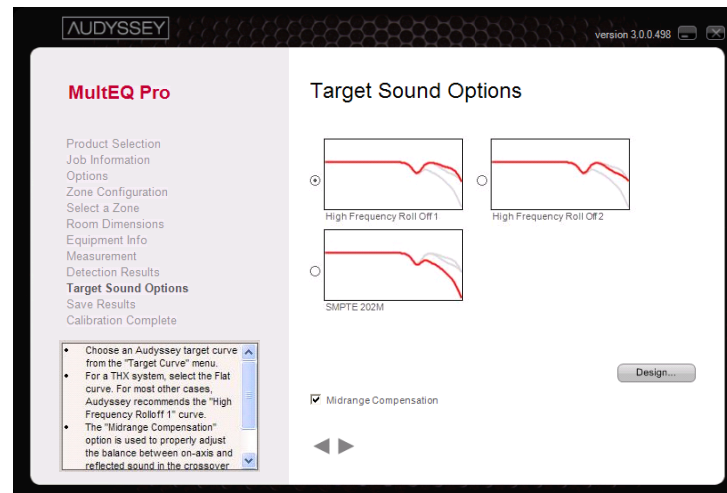
Contrary to popular belief, a target curve that is flat from 20 Hz to 20 kHz is not always the one that will produce the correct sound. There are several reasons for this including the fact that loudspeakers are much more directional at high frequencies than they are at low frequencies. This means that the balance of direct and room sound is very different at the high and low ends of the frequency spectrum.

To cover a wide range of room types, MultEQ Pro currently provides a selection of target curves.

In addition to the user selected curve, MultEQ uses a *Flat* curve to create equalization filters that correct the response to flat from the low frequency cutoff point that MultEQ Pro has determined to the upper frequency limit of the tweeters. This setting must be used in a THX system in order to allow THX re-equalization to operate as it was intended. It is also recommended for very small or highly treated rooms in which the listener is seated close to the loudspeakers.

Target Sound Options

Choose which Audyssey target curve you want to use by selecting from the *Target Sound Options* menu.



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 small to medium size rooms (room volume less than 2500 cu. ft.)

High Frequency Roll-off 2 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.)

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 postproduction. It can also be used in extremely large playback spaces (room volume greater than 5000 cu. ft.)

Based on the selection, MultEQ Pro calculates two sets of MultEQ XT filters.

- A set of MultEQ XT Filters from the installer selected target curve (above)
- A set of filters using a Flat curve

It is recommended that you engage the *Midrange Compensation* option for your first listening test (this is selected by default). Midrange compensation is sometimes necessary to correct for the directivity differences that often occur in that frequency range due to the crossover circuitry or horn-loaded speakers. You can later return to this screen and disengage this option if you prefer.

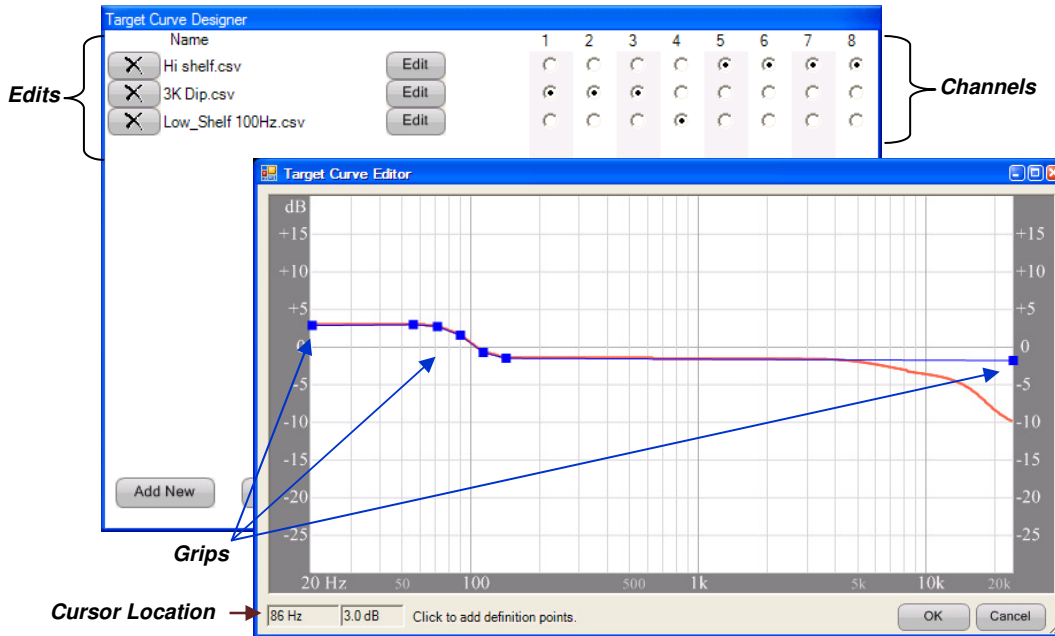
Click the ► button to calculate the correction filters and proceed to the next screen.

Disconnect the Microphone

Before continuing to the next screen, a window instructs installers to be sure to disconnect the Microphone Preamplifier mini-XLR cable from the Audyssey Installer-Ready device or feedback may occur.

Warning: You *must* remove the Calibrated Preamplifier's mini-XLR-to-RCA connection from the *Integra back panel "AUX 1" audio input* before continuing. Leaving the microphone connected will cause feedback at levels that could damage the speakers.

Target Curve Designer & Target Curve Editor

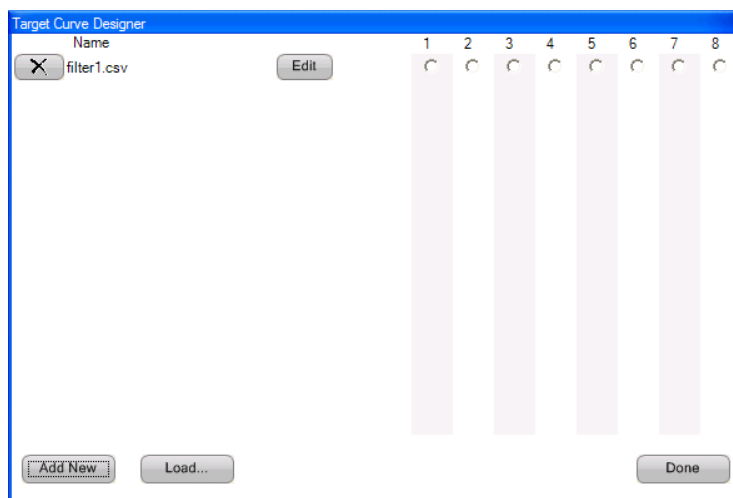


The Target Curve Designer is launched by pressing the *Design* button of the *Target Sound Options* screen (page 26). Be sure to click the radio button of the target curve selection you want to edit, as that is the target curve you will see when editing.

Edits applied to one or more channels affect all target sound options shown on the Target Sound Options screen.

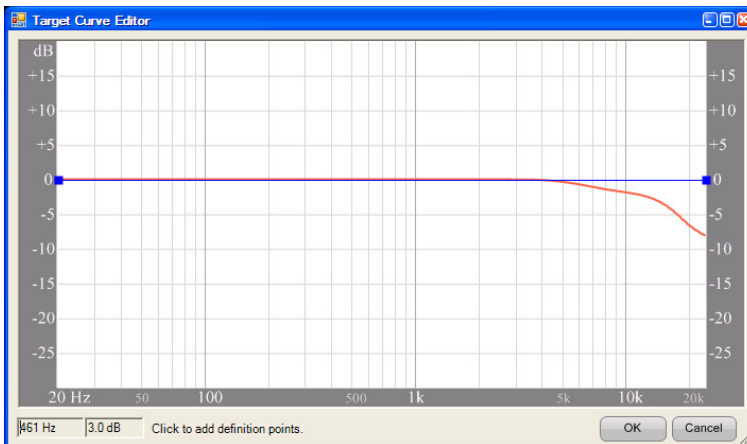
The Target Curve Designer

After selecting *Design*, a window labeled Target Curve Designer appears. Press the *Add New* button at the lower left corner of the window. The first edit will appear as "filter1.csv". Click the *Edit* button (to the right of, "filter1.csv" below) to begin editing



The Target Curve Designer Window

Using the Target Curve Editor



A new window is launched called the Target Curve Editor that shows the selected target curve from the Target Sound Options screen. In this image, the High Frequency Roll Off 1 target curve is shown without Midrange Compensation selected (see Target Sound Options, page 26).

The blue line represents your current edits. The red line shows how the target curve is affected by the current edits.

Placing and Adjusting Grips

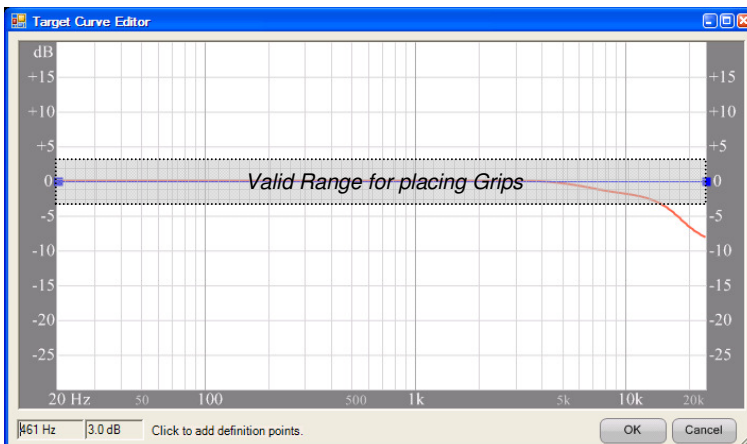
Grips allow installers to adjust target curves as they see fit. They appear as blue squares on the blue line, or green when highlighted.

There are two methods for adding grips. The first is using your mouse. The second is by manually typing in where you want to place a grip using the text entry boxes at the bottom left corner of the Target Curve Editor window.

To add a grip by manually typing it in, left click in either of the two cells (frequency or gain) and type the values to enter a grip in. Press enter when you have entered both values. The grip then appears in the graph above

Two grips are already present at each side of the graph by default. These two grips can never be moved horizontally, or deleted. However, they can be raised and lowered.

Additional grips can be placed along the blue line by simply left clicking on, above, or below the blue line. Grips can be placed within the graph from +3 dB to -3 dB from 0. This area is highlighted below. If you place the grip outside of this range, it will be created at the nearest allowed range at the frequency in line with where your cursor is located.



Once a grip has been placed, it can be moved by left clicking and holding the mouse button while dragging with your cursor. The grip may be moved in any direction. This edit immediately affects the blue and red lines. Grips cannot be moved outside of the valid range shown on page 37, and cannot be placed too close to another grip.

Spend some time working on placing grips and moving them to get a sense of how to best build your edit. Create several grips and move them in relation to each other, avoiding sharp peaks.



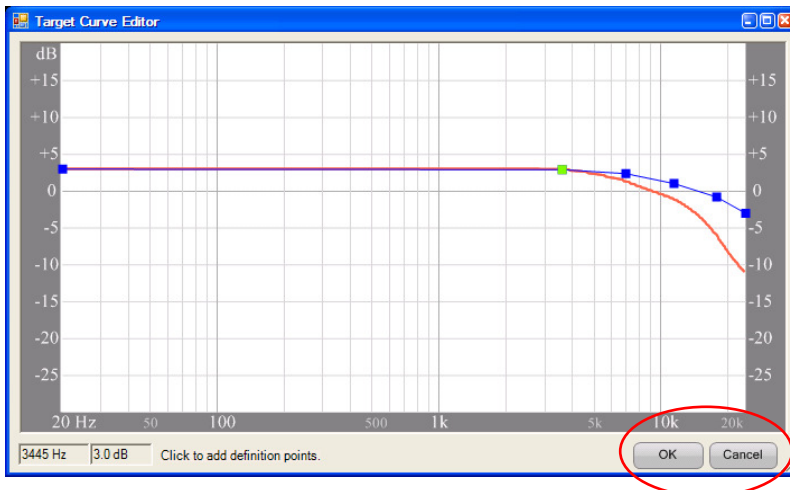
Working with Grips

A grip is selected by simply left-clicking on the grip. It will turn green to show it is the selected (highlighted) grip. With the left mouse button held, you can drag the highlighted grip in any direction. While holding the CTRL key, you can highlight multiple grips and move them as one group.

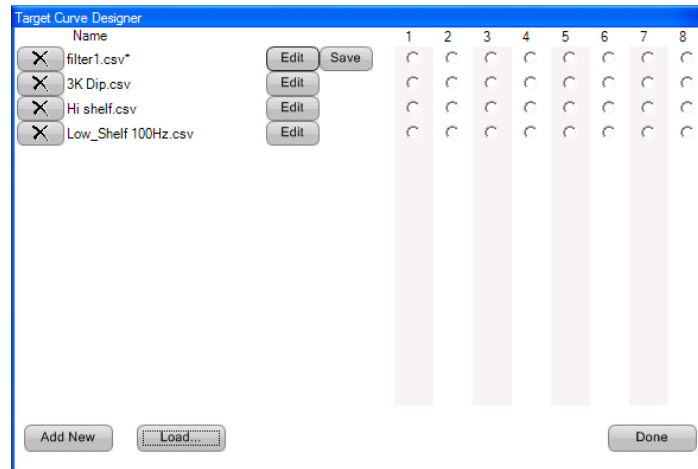
To delete a grip, right click on the highlighted grip or group and select the option to **Delete Points**.

To adjust a grip through text entry, right click on the grip and select **Enter Point Values**. The frequency cell at the left bottom of the screen becomes highlighted and is ready for you to manually type in the exact desired frequency you wish the grip to be located at. Press the tab key to highlight the next cell on the right (or left-click in that cell). Enter the gain you wish to use (+3.0 dB to -3.0 dB) and press Enter. The grip will move to the new location you entered.

To complete your edit, click the OK key at the bottom right corner of the window. Or to delete your edits, press the Cancel button adjacent. The Target Curve Editor window will close.

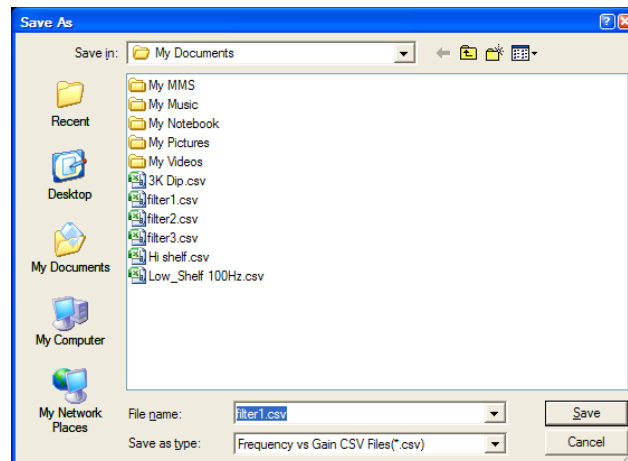


Saving Your Work



If you have accepted the edits by previously pressing the OK button, you may now assign them to one or more channels using the radio buttons to the right of the edit you created (radio buttons 1-8). Each channel here corresponds to the channels you selected at the Zone Configuration screen. Be sure to be aware which edits you assign to which channels.

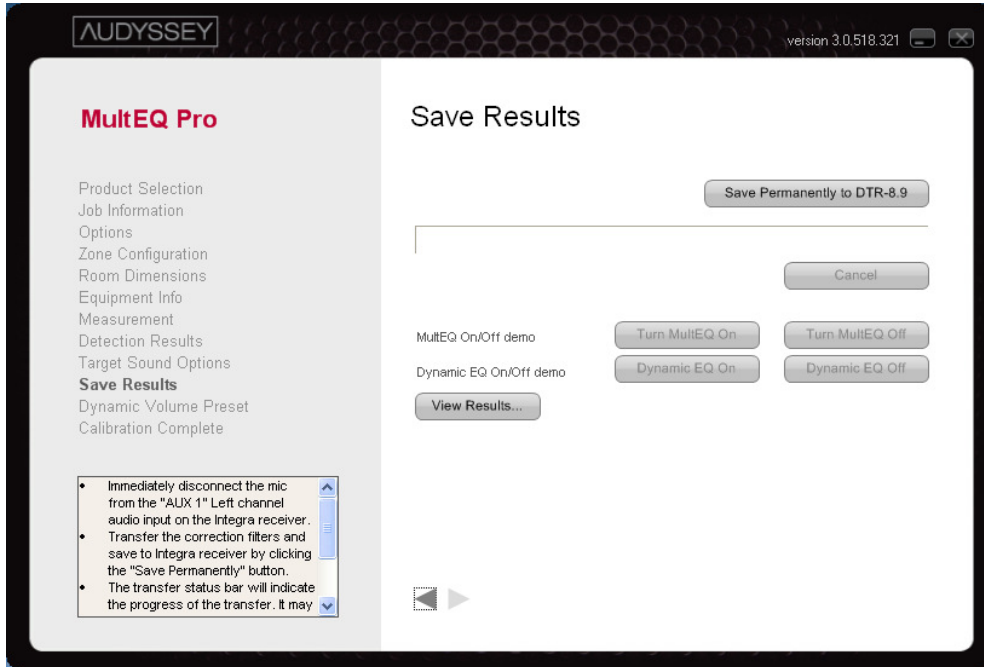
The Save button becomes available after accepting edits. Click the Save button (alongside the latest accepted Edit) to save this edit as a .csv file.



The Save As window launches. The save location defaults to the “My Documents\Audyssey\Measurements” folder of your computer. However, you may save these files wherever you wish. It is advisable to change the name of the file so that you will remember the purpose of your edit.

You may load any saved csv file while viewing the Target Curve Designer window and pressing the “Load...” button. This same folder will be launched.

Save Results



Permanently Save the MultEQ XT Filters

Click the Save Permanently to DTC 8.9 button (or Integra product model as displayed on button) to complete the calibration process. This action will take several minutes. The status bar will indicate the saving progress.

After permanently saving the MultEQ XT filters, pressing the ► button will display a message indicating the customer's device is now MultEQ Pro calibrated.

MultEQ On/Off Demo

After the MultEQ XT filters are permanently saved to the Integra device, the *Turn MultEQ On* and *Turn MultEQ Off* buttons will become available. You can use these buttons to demo the MultEQ XT filters.

It is highly recommended that you follow the Audyssey instructions for demonstrating MultEQ XT to customers (see page 34).

Dynamic EQ On/Off Demo

After the MultEQ XT filters are permanently saved to the Integra device, the *Turn Dynamic EQ On* and *Turn Dynamic EQ Off* buttons will become available. You can use these buttons to demo the Dynamic EQ functionality.

Changing the MultEQ XT Filters

There are two options for making adjustments to the MultEQ XT filters:

- 1 Add more measurement positions or redo your measurements. Click the ◀ button until you return to the Measurement screen.
- 2 Calculate the MultEQ XT filters with a different target curve. Click the ◀ button until you return to the Target Sound Options screen and select a new target curve.

Save Results

MultEQ XT uses a ground-breaking clustering, or “fuzzy logic”, method to combine room measurements so that the room’s acoustical problems are more precisely measured than with previous room correction methods (which simply measure at one position or merely average multiple room measurements). The clustering approach allows the MultEQ XT filters to perform the most appropriate correction for all listening positions. MultEQ XT looks at the room responses at each measurement position and clusters them into groups based on the similarity of their patterns and the severity of their acoustic problems. This clustering is not exclusive, but “fuzzy” so that each response can belong to more than one cluster with a certain probability. From the responses in each cluster, we create a representative response and from the group of representative responses we create a “master” response that has the property of representing each “constituent” response in the best possible way.

If the customer is present, click the “View Results” window to show them the Customer Certificate. You can print out the certificate while pointing out the peaks and dips in the “Before MultEQ XT” graphs, which represent the frequency response distortion before the MultEQ XT filters were applied. Emphasize the smooth, consistent response in the “After MultEQ XT” graphs.

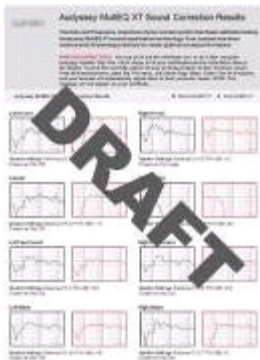
MultEQ XT On/Off Demo

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

Audyssey recommends using the demo material detailed on page 34 for MultEQ XT demonstration to customers.

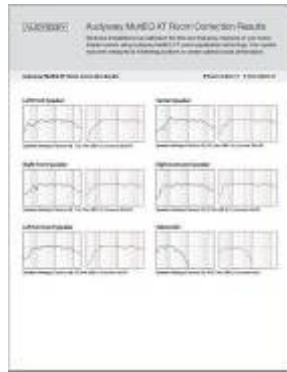
The Customer Certificate

Until the filters are permanently committed, only a draft version of the Customer Certificate is available to view. This is clearly shown by the text “DRAFT” over the certificate.



Printing the Customer Certificate

To correctly print customer certificates, set printing margins to their minimum values. From this browser menu, open the File menu and select Page Setup. Enter 0 for all 4 margins. The browser will automatically adjust margins to their minimum values. You may print out this certificate later using the Audyssey Installer Website which stores all of your certificates.



View Results – The Customer Certificate

Click the *View Results* button to view a graphical display of the frequency response correction for each channel. The default HTML browser will automatically open a window displaying a Customer Certificate titled, “Audyssey MultEQ XT Room Correction Results”.

After permanently saving your results, you can print out this certificate immediately or print later from the Audyssey Installer Website.

Upload the MultEQ Pro Results

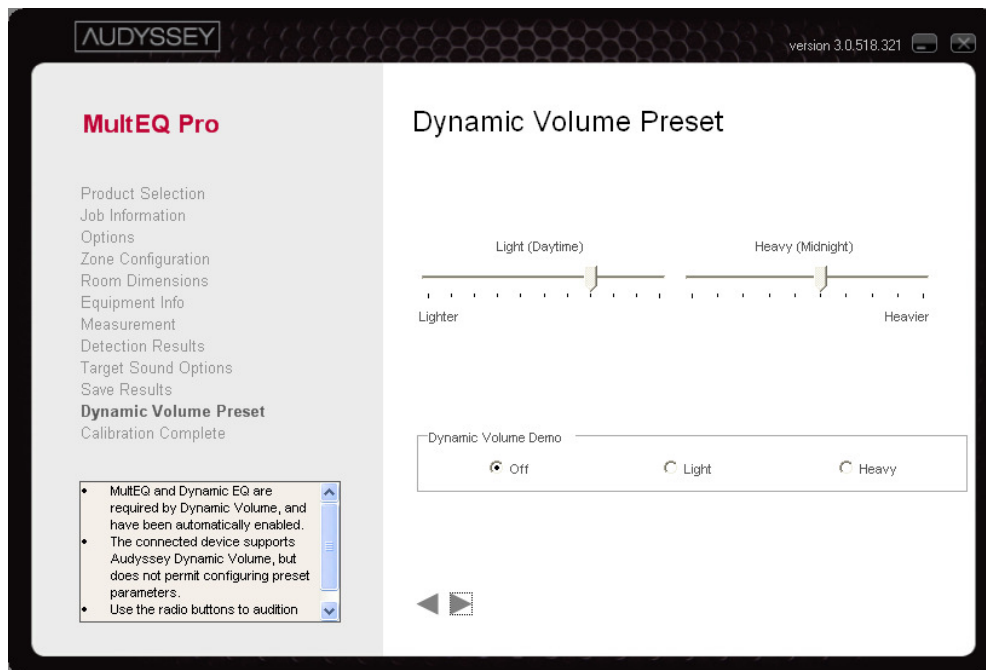
After the installation is complete, upload the MultEQ Pro calibration results to the Audyssey Installer Website. This allows for:

- 1 Storing and printing customer certificates
- 2 Storing the installation speaker delays, levels, subwoofer crossovers, and equipment information
- 3 Getting listed as a registered Audyssey Installer on the Audyssey Website

To register, please visit www.audyssey.com/InstallerWeb

See page 7 for detailed instructions on using the Audyssey Installer Website

Dynamic Volume Preset Configuration



**Audyssey Dynamic Volume is available in Integra x.9 devices and is not available in Integra x.8 products. This screen will only appear when calibrating Integra x.9 devices.*

Audyssey Dynamic Volume

Audyssey Dynamic Volume solves the problem of large variations in volume level between television programs, commercials, and between the soft and loud passages of movies.

There are two presets available for Dynamic Volume and the MultEQ Pro software. However, these two presets cannot be adjusted on this screen. The controls are fixed in place.

Configuring Dynamic Volume Presets (Not Available)

MultEQ and Dynamic EQ are required for Dynamic Volume, and have been automatically enabled when arriving at this screen.

The sliders here are grayed out cannot be altered. These presets have been pre-defined by Integra and Audyssey.

About Dynamic Volume

Dynamic Volume looks at the preferred volume setting by the user and then monitors how the volume of program material is being perceived by listeners in real time to decide whether an adjustment is needed. Whenever necessary, Dynamic Volume makes the necessary rapid or gradual adjustments to maintain the desired playback volume level while optimizing the dynamic range. Audyssey Dynamic EQ is integrated into Dynamic Volume so that as the playback volume is adjusted automatically, the perceived bass response, tonal balance, surround impression, and dialog clarity remain the same whether watching movies, flipping between television channels, or changing from stereo to surround sound content.

Settings explained

Light (Daytime)

This setting provides the least adjustments to the loudest and softest of sounds

Heavy (Midnight)

This setting affects volume the most, causing all sounds to be of equal loudness.

Appendix

Audyssey Recommended Demos

Open Range

Scene 7: “A Storm is Brewin”

This scene illustrates the improved timbre matching of speakers and the overall improvement in envelopment. Wait approximately one minute into this scene, until right after the first thunderclap when the rainfall intensifies. Leave MultEQ on for about 5-10 seconds. Then, turn MultEQ off and on a few times, alternating every 5-10 seconds.

Almost Famous

Scene 7: “Fever Dog”

Wait until the band begins to perform, then switch MultEQ on and off every 10 seconds. In many rooms, you will notice improvements in the clarity of the lead singer’s voice and the imaging of the background instruments.

The Patriot

Scene 2: “We Are At War”

This demo illustrates the improvement MultEQ makes to dialogue intelligibility, a common problem especially with older listeners. Wait until the general starts his speech, beginning at: “You all know why I’m here.” After a very brief pause, he’ll then say, “I’m not an orator, and I would not try to convince you of the worthiness of our cause.” Turn MultEQ off once he begins speaking after the word “orator”.

The Eagles – Hell Freezes Over

Scene 5: “Hotel California”

Wait until one minute into the performance, then turn MultEQ on and off as the music is playing. Point out the change in balance when MultEQ is disengaged—bass disappears, the soundstage collapses, and the high frequencies aren’t as crisp.

Standing in the Shadows of Motown

Scene 2: “Gerald Levert: Reach Out (I’ll Be There)”

Scene 4: “Joan Osborne: (Love Is Like A) Heat Wave”

Let the music play for 20 or 30 seconds to let the customer get used to the equalized sound before turning MultEQ off.

Error Messages

The error windows in this section may appear while using MultEQ Pro. Please contact Audyssey Technical Support if you request additional troubleshooting assistance (page 37).

Device Not Detected

This error message appears when MultEQ Pro does not detect a connection between the device and your laptop. Make sure the USB cable is securely connected and try again.



Input Signal Too Low

This error occurs when MultEQ Pro does not detect a strong enough input signal to record a measurement. Check that the microphone is connected to the selected input. The preamp gain of the most recent installer kits are fixed and never require adjustment.



USB Connection Failure

An error occurs when MultEQ Pro does not detect a connection to the device. Check the USB connection and try again.

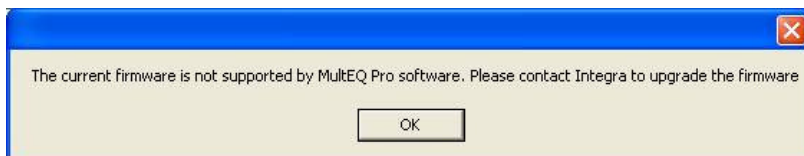


Disconnect Microphone

An error message displays if you try to exit the MultEQ Pro application before disconnecting the microphone. Please make sure it is disconnected as not doing so will cause feedback at levels that could damage the speakers.

Firmware Not Supported for MultEQ Pro 3.0

This message will appear if the Onkyo device requires a firmware update. You will need to contact your Onkyo representative to update your Onkyo device.



Warranties

Audyssey Installer Kit

Audyssey Laboratories warrants that all the accessories in each Audyssey Installer Kit are free from defects in workmanship and materials and will perform in accordance with their published specifications for a period of one year from the date of purchase. Any necessary adjustments or repairs will be provided at no cost to the purchaser. The warranty covers parts, labor, shipping cost from the service center to the purchaser, and if necessary, packing materials. The warranty is not transferable. The purchaser's responsibilities are to use the accessories in the Installer Kit in accordance with its written instructions and to activate the warranty by registering on the Audyssey Installer Website.

Technical Support

Integra Division of
ONKYO U.S.A. CORPORATION
18 Park Way, Upper Saddle River, New Jersey 07458

Integra provides free technical support to Audyssey installers. Technical support by phone is available from 9:00 A.M. to 5:00 P.M. (Eastern Standard Time).

Integra Customer Support

Toll Free: 800-225-1946

Tel: 201-785-2600

Fax: 201-785-2650

Audyssey Laboratories, Inc

Audyssey provides free technical support to Audyssey installers. Technical support by phone is available from 9:00 A.M. to 5:00 P.M. (Pacific Standard Time).

Audyssey Installer Technical Support

Tel: (213) 625-4300 x101

Fax: (213) 625-4383

E-mail: techsupport@audyssey.com

