

STAGE FRONT

HOME THEATER SOLUTIONS™

INSTALLATION GUIDE



Pro870FX ■ Pro770FX

PROFESSIONAL QUALITY, CABINET,
SURROUND EFFECTS LOUDSPEAKERS



ENGINEERED BY



CONGRATULATIONS!

Thank you for choosing a superior **StageFront Home Theater Solutions™ Cabinet FX** loudspeaker from Niles. With proper installation and operation, you should enjoy years of trouble-free use.

Niles manufactures the industry's most complete line of custom installation components and accessories for audio/video systems. To see the complete Niles product assortment, visit us on the Internet at: **www.nilesaudio.com**

TABLE OF CONTENTS

Introduction	1
Features and Benefits	2
Installation Considerations	3
Loudspeaker Placement	4
Finishing the Installation	6
Operation	9
Specifications	10
Limited Warranty	12
Warranty Registration Card	13

INTRODUCTION

The StageFront Home Theater Solutions loudspeakers are expressly designed for superior sonic quality in home theater applications. Each model employs advanced technology components that extract the subtle nuances in recorded music or the thunderous action sound in a movie. Models that end in "FX" are intended primarily for special effect placement. Models ending in "LCR" are designed for front channel left/center/right placement or wherever a monopole design is required. StageFront models are the perfect choice wherever quality of sound is the most important consideration.



Pro770FX

Stock Number
FG01337



Pro870FX

Stock Number
FG01137

FEATURES AND BENEFITS

INTERLACED CARBON-FIBER WOOFER WITH BUTYL RUBBER SURROUND

Provides dynamic theater quality sound at sustained high-power output levels

DUAL SIDE-FIRING CARBON-FIBER MIDRANGES WITH DUAL TETERON™ DOME TWEETERS

Provide diffuse sound fields for optimum surround effects

FORWARD-FIRING FLUID-COOLED TETERON™ DOME TWEETER

Deliver ultra-wide dispersion and silky-smooth response

FORWARD-FIRING FLUID-COOLED TETERON™ DOME MIDRANGE*

**Pro770FX only*

Allows for precise imaging regardless of placement

FORWARD-FIRING FLUID-COOLED CARBON-FIBER CONE MIDRANGE*

**Pro870FX only*

Provides precise imaging regardless of placement

12V CONTROLLED DIPOLE/BIPOLE RELAY

Accommodates automated DVD-Audio or Dolby® surround sound effects

FRONT-MOUNTED DIPOLE/BIPOLE SWITCH AND EFFECTS LEVEL CONTROL

Enables fine-tuning after installation

CROSS-BRACED CABINET

Delivers the ultimate in rigidity and sound clarity

POLISHED BLACK CABINET WITH SCULPTED CHARCOAL ALUMINUM GRILLE

Presents an elegant yet unobtrusive appearance

DOLBY DIGITAL® READY

The StageFront Home Theater Solutions loudspeakers are expressly designed for superior sonic quality in home theater applications. All models exceed the specifications set forth by Dolby Laboratories for the accurate reproduction of Dolby Digital-Encoded Sources

INSTALLATION CONSIDERATIONS

RECOMMENDED AMPLIFIER POWER

For satisfactory performance, we recommend using a surround amplifier with a power rating of 20-150 watts for the Pro770FX. We recommend an amplifier power rating of 20-200 watts for the Pro870FX. Most loudspeakers are not damaged by large amplifiers, but rather by small amplifiers. If your system is playing loud music, a small amplifier will run out of power very quickly and can create damaging “clipping” distortions. A more powerful amplifier will play at the same volume without distorting. See **OPERATION** on page 9 for more information about amplifier clipping distortion.

LOUDSPEAKER WIRE

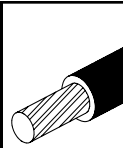
Use 2-conductor loudspeaker wire when connecting loudspeakers to your receiver or amplifier. For most applications, we recommend using 16-gauge wire. For wiring runs longer than 80 feet, we recommend 14-gauge wire. Every StageFront Pro loudspeaker features gold-plated, five-way binding posts that will accommodate up to 12-gauge wire directly. Larger sizes can be accommodated via pin connectors.

NOTE: THESE FIVE-WAY BINDING POSTS CAN BE CONNECTED IN SEVERAL DIFFERENT WAYS (E.G., BANANA PLUGS, SPADE TERMINALS, AND DIRECT WIRING).

When running wire inside walls or ceilings, use special jacketed cable (CL-2 or CL-3) to protect the wire and to meet local electrical and fire codes. In some areas, conduit is also required. For a trouble-free installation, low-voltage wire such as loudspeaker wire must be run in accordance with the National Electrical Code and any applicable provisions of the local building code. If you are unsure of the correct installation techniques, wire jacket, or type of conduit to use, consult a professional audio/video installer, building contractor, or the local building and inspection department.

TECH TIP

Wire size is expressed by its AWG (American Wire Gauge) number – the lower the number, the larger the wire. For example, 12 AWG is physically larger than 14 AWG.



LOUDSPEAKER PLACEMENT

NOTE: STAGEFRONT FX LOUDSPEAKERS ARE DESIGNED FOR USE IN EFFECT CHANNEL APPLICATIONS. FOR FRONT LEFT, CENTER OR RIGHT-CHANNEL NEEDS, WE RECOMMEND USING STAGEFRONT LCR LOUDSPEAKERS.

PLACING THE STAGEFRONT FX AS THE SIDE LEFT AND RIGHT LOUDSPEAKERS

In home theater, the goal is to reproduce the experience of a great movie theater in your home. The biggest difference between the two venues is the use of a rear- or surround-loudspeaker array in a commercial theater. Here, it is not uncommon to see 20 or 30 loudspeakers placed around theater walls. This huge array of loudspeakers assures the audience will feel completely surrounded by the ambient soundtrack of the movie.

Filmmakers carefully use the “surround” soundtrack to envelope viewers in the sound environment on screen. They will place background music, rain sounds, traffic noise, etc. on the “surround” soundtrack to create desired effects. However, in a home with a single pair of front loudspeakers, this surround effect will be lost, and jungle sounds may actually sound like they are emanating “from the middle of your head,” just like headphones!

Each StageFront FX loudspeaker is equipped with a BIPOLE/DIPOLE front switch as well as a 12-volt trigger jack on the rear of the enclosure. This jack will switch the StageFront FX loudspeaker from the front switch setting to its opposite position (such as from a setting of Dipole to Bipole) for as long as voltage is applied to this connection. Tip is positive. Use a source that will supply 12 volts DC 200 mA minimum for this trigger. These controls optimize the surround effects for either side or rear placement as well as various surround modes. (see **SETTING THE BIPOLE/DIPOLE MODE** on page 8). Here are some recommended loudspeaker placement tips:

- *Place the surround loudspeakers on a rear wall directly behind the listening position. If possible, try placing the loudspeakers nearer to the corners, as shown in **Figure 1 and 2**. Set each BIPOLE/DIPOLE switch to DIPOLE for reflected sound. Moreover, the adjoining walls will act as powerful reflectors to create even more reflections.*
- *If you place the surround loudspeakers farther away from the listener, the surround sound will dissipate, requiring even more power from the surround-sound channels. If your sound system uses a small (less than 50 watts per channel) surround amplifier for the rear loudspeakers, be sure to place the loudspeakers within 5 to 8 feet of the listening location.*
- *If you are using a larger (more than 50 watts per channel) surround amplifier, you can mount the loudspeakers 10 to 15 feet away from the listening location and still achieve reasonably high volume levels. In large or unusually shaped rooms, this might be the only way to achieve a good effect.*

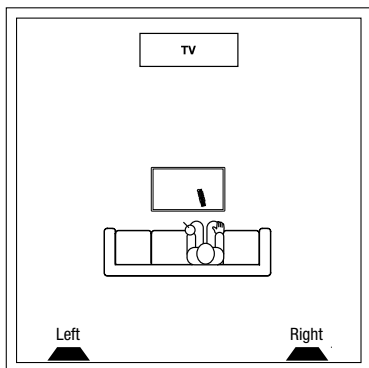


Figure 1. ProFX loudspeakers are placed near back corner walls of a home theater room.

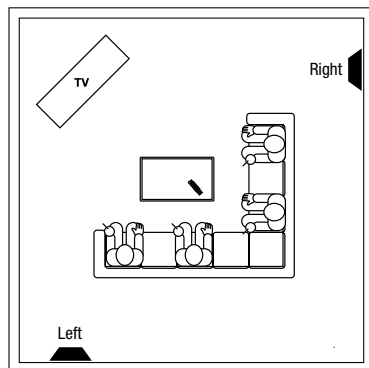


Figure 2. ProFX loudspeakers are placed near back corner walls of a home theater room with an L-shaped sofa.

- *If your home theater system is capable of reproducing Dolby Surround EX® sound, consider using a second pair of StageFront FX loudspeakers (on the side walls) for an additional rear surround effect, as shown in **Figure 3**. Ideally, the side loudspeakers should be placed in-line with the listening position with the BIPOLE/DIPOLE controls set to DIPOLE. For a more focused surround effect, set the BIPOLE/DIPOLE controls to BIPOLE.*
- *If you like listening to music in surround modes (which emulate concert hall acoustics), consider using more than two surround loudspeakers to provide an extraordinary effect. With StageFront FX loudspeakers, it is easy to add another pair without affecting the decor of the room.*

NOTE: FOR THIS APPLICATION, YOU WILL NEED TO USE A MORE POWERFUL AMPLIFIER THAN THE ONE BUILT INTO A TYPICAL SURROUND-SOUND RECEIVER OR AMPLIFIER. NILES MAKES A NUMBER OF SYSTEMS INTEGRATION AMPLIFIERS WITH PROPRIETARY FEATURES THAT MAKE THEM UNIQUELY SUITED TO ENHANCE YOUR EXISTING SURROUND-SOUND SYSTEM. CONSULT YOUR LOCAL NILES DEALER FOR MORE INFORMATION.

THE BOUNDARY EFFECT

Placing a loudspeaker in a corner can powerfully affect the way a listener perceives bass response. Known as the boundary effect, placing loudspeakers close to a wall/ceiling boundary or near a corner wall boundary will emphasize certain bass frequencies, while canceling others. This effect can make the loudspeaker sound excessively boomy and inaccurate to some listeners, while to others it just seems like more bass sound.

As a good rule-of-thumb, if you like listening to your current pair of loudspeakers with the bass turned up, you'll enjoy corner placement. However, if you listen with the tone controls at neutral, try keeping the loudspeakers at least 2 or 3 feet from the boundaries of the room.

FINISHING THE INSTALLATION

CONNECTING & INSTALLING THE LOUDSPEAKER

1. Please be sure to install the correct loudspeaker in the correct room position. Look on the rear label for “Right” or “Left” designation. Install in the appropriate position as viewed from the listening position facing the video display.

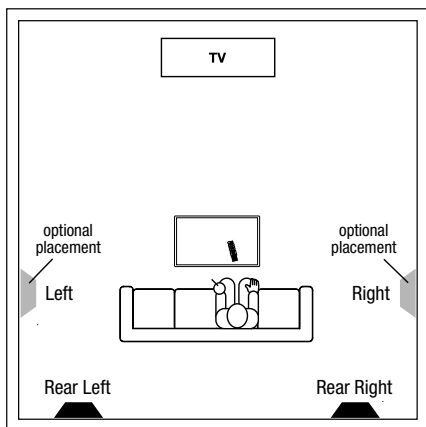


Figure 3. Two pairs of ProFX loudspeakers reproduce Dolby Surround EX® sound in a home theater room.

2. At each loudspeaker, route the wire to the input connectors, then separate the loudspeaker wire so that at least 2 inches of each conductor are free. Strip away 1/4 inch of insulation from each loudspeaker wire. Using correct polarity, connect the appropriate conductor to each five-way binding post. If you wish to use the 12 volt triggered Dipole/Bipole automated feature, please insert 1/8" (3.5mm) plug above speaker inputs. Refer back to page 4 for details.

NOTE: OBSERVE CORRECT POLARITY: POSITIVE (+) GOES TO THE RED POST AND NEGATIVE (–) GOES TO THE BLACK POST. IF YOU ARE UNSURE OF WIRE POLARITY, SEE THE SECTION, **CHECKING LOUDSPEAKER PHASE** ON PAGE 7.

3. Using the supplied template and a level, mark the position for your two screws (see **Figure 4**). Check width available for the model you are using and install two screws into wall. Ensure that the screws and the mounting material can support the loudspeaker you are installing. The mounting material can be a stud or anchors of a type that are sufficient for this requirement.

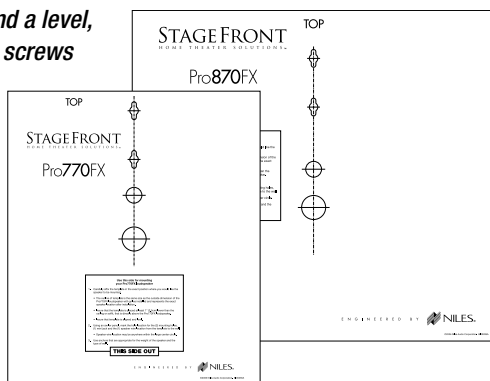


Figure 4. Use the supplied loudspeaker template for on-wall installation.

- 4. Connect the other end of the loudspeaker wires to the home theater receiver (or amplifier) in the same way.**
- 5. Turn on the home theater receiver and calibrate all loudspeakers in the system according to the receiver manufacturer's instructions.**

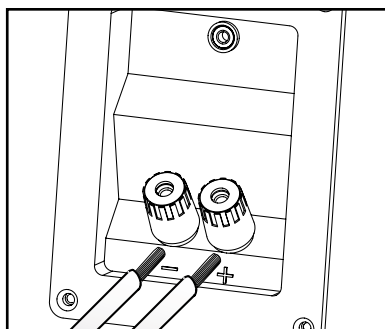


Figure 5. Connecting loudspeaker wires to the ProFX terminals.

CHECKING LOUDSPEAKER PHASE

Speaker wire has two conductors. On both your loudspeaker and amplifier, one conductor is attached to the negative (-) terminals, while the other is attached to the positive (+) terminals. Usually, the wire is marked for your convenience, but the marking can be done in the following different ways:

- ***Stripe on one wire***
- ***Ribbed area you can feel on one conductor***
- ***Different colors of metal wire on each conductor***
- ***Fabric strand or string wound into one of the conductors***

Of course, there are some wires that appear completely identical. So be careful, or you might make a connection mistake. If you do, one loudspeaker will be playing “out-of-phase” with the other loudspeaker. A pair of out-of-phase loudspeakers works against each other, and the sound of the two playing together will be lacking in bass and sound “phasey.” If you suspect the sound is not right, and you cannot see any markings on the wire, try this simple test:

- 1. Stand halfway between the loudspeakers.**
- 2. Play some music with the amplifier or radio set to Mono.**
- 3. Listen to the richness of the bass and the loudness of the sound.**
- 4. Turn off the amplifier and reverse the connections on one amplifier channel only.**
- 5. Repeat the listening test with the same volume control setting. When the sound has a richer bass and is slightly louder, the loudspeakers are working together or “in-phase.”**

(CONTINUED ON NEXT PAGE)

FINISHING THE INSTALLATION (CONTINUED)

ACOUSTIC FINE TUNING

Each StageFront Pro FX loudspeaker features a Diffuse Sound Level control located on the front, as shown in **Figure 6**. Adjust this control as follows:

- *The Diffuse Sound Level control adjusts the level between the side-firing (diffuse) and front-firing drivers. Increase the level with this control for more ambiance. A decrease with this control will yield a more direct sound.*

SETTING THE BIPOLE/DIPOLE MODE

Each StageFront Pro FX loudspeaker features BIPOLE/DIPOLE switch located on the front, as shown in **Figure 7**. Set the BIPOLE/DIPOLE switch on each StageFront FX loudspeaker according to the loudspeaker's side or rear placement, as shown on pages 5 and 6. Here are some tips on usage:

- *Use the DIPOLE setting on rear loudspeakers when listening to movies and classical music. The sound will be less focused as it is reflected along the room's boundaries. This is the best choice, since most films are mixed using non-localized surround effects, and classical music is usually recorded in a favorable acoustic environment.*
- *Use the BIPOLE setting on rear loudspeakers when listening to discrete multi-channel recordings that equally emphasize front and surround sounds.*
- *For multiple sets of StageFront FX loudspeakers, use the DIPOLE setting on the side loudspeakers (aimed at the listening position) for a more diffuse surround effect. For the rear loudspeakers, use the BIPOLE setting to focus the sound.*
- *With the 1/8" (3.5 mm) trigger input for Bipole/Dipole mode switching, an IR macro can be used to control the loudspeaker mode. You can program this as part of your source selection. This is an easy way to have Dipole envelopment for Movie sources and Bipole performance for Music sources. (refer to page 4 for details)*

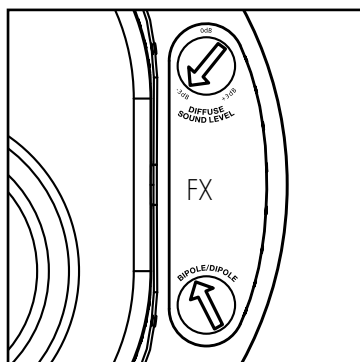


Figure 6. The Pro770FX includes Diffusion Level and Bipole/Dipole controls.

INSTALLING THE GRILLES

If desired, at each loudspeaker, carefully fit each grille to its position on the cabinet. Starting with one corner, gently press the grille frame around the loudspeaker's edge, pushing it in at each of the four recessed holes. When properly installed, the bottom and top of each grille will be nearly flush in appearance with the cabinet.

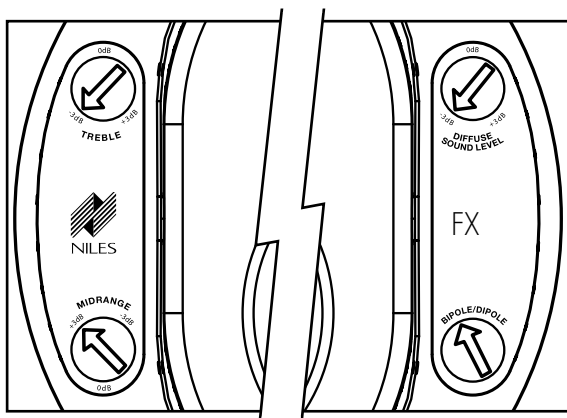


Figure 7. The Pro870FX includes Treble, Midrange, Bipole/Dipole and Diffuse Sound Level controls.

OPERATION

LISTENING AT HIGHER VOLUMES

Achieving a reasonable volume of sound in a large room requires more amplifier power than it does in a small room. It is possible to turn the volume up so high that the amplifier runs out of power. This creates “clipping” distortion, which will make treble sound very harsh and unmusical. When you hear harsh-sounding treble from any good loudspeaker, turn the volume down immediately! Those harsh sounds are masking much more powerful ultra-high-frequency sound spikes, which will quickly damage any fine loudspeaker. You are much less likely to damage a loudspeaker driven by a large amplifier because it will be very loud before any clipping distortion is produced.

CLEANING

Clean the Niles StageFront loudspeaker with a dampened soft cloth or paper towel.

SPECIFICATIONS

Pro770FX

Recommended Amplifier Power

20-150 watts per channel

Nominal Impedance

6 ohm nominal; 3.2 ohm minimum

Frequency Response

80Hz to 20kHz, +/- 3 dB

Sensitivity

88 dB with 2.83 V pink noise input measured at 1 meter on axis

Dimensions

13-7/8" W x 16" H x 5-3/4" D*

*Measurements include all grilles and rear mounting bracket

13-1/2" W x 16" H x 6" D**

**Measurements are without any grilles and include rear mounting bracket

Wiring Requirements

We recommend using 16-gauge loudspeaker wire for runs up to 80 feet and 14-gauge speaker wire for runs up to 200 feet. The connectors will accommodate 12 to 22 gauge wire.

Pro870FX

Recommended Amplifier Power

20-200 watts per channel

Nominal Impedance

6 ohm nominal; 3.2 ohm minimum

Frequency Response

70Hz to 20kHz, +/- 3 dB

Sensitivity

90 dB with 2.83 V pink noise input measured at 1 meter on axis

Dimensions

19-3/4" W x 18" H x 7-3/4" D*

*Measurements include all grilles and rear mounting bracket

17-1/2" W x 18" H x 7-1/2" D**

**Measurements are without any grilles and include rear mounting bracket

Wiring Requirements

We recommend using 16-gauge loudspeaker wire for runs up to 80 feet and 14-gauge speaker wire for runs up to 200 feet. The connectors will accommodate 12 to 22 gauge wire.

NOTES

LIMITED WARRANTY

NILES AUDIO CORPORATION ("NILES") WARRANTS ITS PASSIVE LOUDSPEAKER PRODUCTS (THOSE NOT REQUIRING AC OR BATTERY POWER) TO THE ORIGINAL PURCHASER TO BE FREE OF MANUFACTURING DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF FIVE YEARS FROM DATE OF PURCHASE.

THIS WARRANTY IS SUBJECT TO THE FOLLOWING ADDITIONAL CONDITIONS AND LIMITATIONS. THE WARRANTY IS VOID AND INAPPLICABLE IF NILES DEEMS THAT THE PRODUCT HAS BEEN USED OR HANDLED OTHER THAN IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BY THE MANUFACTURER, INCLUDING BUT NOT LIMITED TO DAMAGE CAUSED BY ACCIDENT, MISHANDLING, IMPROPER INSTALLATION, ABUSE, NEGLIGENCE, OR NORMAL WEAR AND TEAR, OR ANY DEFECT CAUSED BY REPAIR TO THE PRODUCT BY ANYONE OTHER THAN NILES OR AN AUTHORIZED NILES DEALER.

TO OBTAIN WARRANTY SERVICE, TAKE THE UNIT TO THE NEAREST AUTHORIZED NILES DEALER, WHO WILL TEST THE PRODUCT AND IF NECESSARY, FORWARD IT TO NILES FOR SERVICE. IF THERE ARE NO AUTHORIZED NILES DEALERS IN YOUR AREA, YOU MUST WRITE TO NILES AND INCLUDE YOUR NAME, MODEL AND SERIAL NUMBER OF YOUR UNIT, ALONG WITH A BRIEF DESCRIPTION OF THE PROBLEM. A FACTORY RETURN AUTHORIZATION NUMBER WILL BE SENT TO YOU. DO NOT RETURN ANY UNIT WITHOUT FIRST RECEIVING WRITTEN AUTHORIZATION AND SHIPPING INSTRUCTIONS FROM NILES.

IF THE ABOVE CONDITIONS ARE MET, THE PURCHASER'S SOLE REMEDY SHALL BE TO RETURN THE PRODUCT TO NILES, IN WHICH CASE NILES WILL REPAIR OR REPLACE, AT ITS SOLE OPTION, THE DEFECTIVE PRODUCT WITHOUT CHARGE FOR PARTS OR LABOR. NILES WILL RETURN A UNIT REPAIRED OR REPLACED UNDER WARRANTY BY SHIPPING SAME BY ITS USUAL SHIPPING METHOD FROM THE FACTORY (ONLY) AT ITS EXPENSE WITHIN THE UNITED STATES OF AMERICA. THERE ARE NO OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION, EITHER EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER/PURCHASER. NILES SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES EXCEPT TO THE EXTENT PROVIDED (OR PROHIBITED) BY APPLICABLE LAW.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

FOR THE NAME OF YOUR NEAREST AUTHORIZED NILES DEALER CONTACT:
NILES AUDIO CORPORATION, P.O. BOX 160818, MIAMI, FLORIDA 33116-0818.

Please fill in your product information and retain for your records.

Model _____ Serial No. _____ Purchase Date _____

WARRANTY REGISTRATION CARD

Model Purchased _____

Serial Number _____

Date Purchased (month/day/year) _____

Dealer Name and Location _____

☐ Dr. ☐ Miss ☐ Mr. ☐ Mrs. ☐ Ms.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone () _____ email _____

Please take a moment to fill out our warranty registration card. The information helps us to get to know you better and develop the products you want

Age:

- ☐ Under 25
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55 & over

Income:

- ☐ Under \$44,999
- ☐ \$45,000-\$59,999
- ☐ \$60,000-\$74,999
- ☐ \$75,000-\$99,999
- ☐ \$99,999-\$150,000
- ☐ \$150,000-\$99,999
- ☐ \$99,999-\$200,000
- ☐ Over \$200,000

Occupation:

- ☐ Arts/Entertainment
- ☐ Business Owner
- ☐ Engineer
- ☐ Finance/Accounting
- ☐ General Office
- ☐ Management
- ☐ Professional
- ☐ Sales/Marketing
- ☐ Student
- ☐ Tradesperson

Musical tastes:

(Please check all that apply)

- ☐ Alternative
- ☐ Classical
- ☐ Country
- ☐ Jazz
- ☐ New Age
- ☐ Popular
- ☐ R&B
- ☐ Rock
- ☐ Other _____

How did you hear about Niles?

- ☐ Architect/Developer
- ☐ Custom Installer
- ☐ Direct Mail
- ☐ Friend/Family
- ☐ In-Store Display
- ☐ Interior Designer
- ☐ Magazine Ad
- ☐ Mail-Order Catalog
- ☐ Newspaper Ad
- ☐ Product Brochure
- ☐ Product Review
- ☐ Retail Salesperson
- ☐ Internets
- ☐ Other _____

What magazines do you read?

1. _____
2. _____
3. _____

Who will install the product?

- ☐ Custom Installer
- ☐ Electrician
- ☐ Friend
- ☐ Myself

Which factor(s) influenced the purchase of your Niles product? (Please check all that apply)

- ☐ Ease of Use
- ☐ Price/Value
- ☐ Product Features
- ☐ Quality/Durability
- ☐ Reputation
- ☐ Style/Appearance
- ☐ Warranty

Do you . . . ?

☐ Own a House. If yes, how many square feet? _____

- ☐ Own a Town House/Condominium/Co-op
- ☐ Rent an Apartment
- ☐ Rent a House

Are you interested in receiving literature on other Niles products?
☐ Yes ☐ No

Are there products/capabilities that you would like to see introduced?

E N G I N E E R E D B Y



NILES®

NILES AUDIO CORPORATION

12331 SW 130 Street, Miami, FL 33186 1-800-BUY-HIFI – www.nilesaudio.com

©2006 Niles Audio Corporation. All Rights Reserved. Niles and the Niles logo are registered trademarks of Niles Audio Corporation. Stagefront Home Theater Solutions is a trademark of Niles Audio Corporation.

All other trademarks are the property of their respective owners. DS00542A

