



SubTwo

Powered Subwoofer System

OWNER'S MANUAL

Now Hear This
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Benicia, CA 94510

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Thank you for your purchase of the NHT SubTwo Powered Subwoofer System. Please take a few moments to read through this Owner's Manual prior to installing your new subwoofer. The information provided can help you to obtain maximum performance from your audio system. For your convenience, a glossary on page 13 explains some technical terms. If you have questions or require assistance at any time during the installation or operation of your new powered subwoofer system, please call your local NHT dealer or our Toll-Free Customer Service Hotline at:

1-800-NHT 9993

Please retain the SubTwo packaging to protect the system in the event that you move or transport it.

SubTwo Specifications

- **System type:** Acoustic suspension subwoofer with built-in amplifier and outboard controller
- **Driver complement:** Two 10" long-throw polypropylene woofers
- **Power output:** 500 watts mono into 8 ohms, under license from Sunfire® Corporation
- **Frequency response:** 21Hz - 200Hz +/-3dB
- **Distortion:** Less than 0.3% at full power
- **Crossover:** Low-pass continuously variable between 40-180Hz, 18dB/octave
High-pass continuously variable between 40-120Hz, 12dB/octave
Fixed high-pass at 100Hz (8 ohms), 6dB/octave (speaker-level)
- **Controller input connectors:** Gold plated RCA jacks for line level input
Gold plated barrier strip for speaker level input
- **Controller output connectors:** Gold plated RCA jacks for line level high-pass output
Gold plated barrier strip for speaker level high-pass output
8-pin mini-D.I.N. connector for subwoofer output
- **Subwoofer input connectors:** 8-pin mini-D.I.N. connector from controller
- **Phase Control:** Continuously variable between 0 and 360 degrees
- **Standby Mode:** (defeatable) Automatic when no signal is present for 45 minutes
- **Weight:** Subwoofer - xx lbs.
Controller - xx lbs.
- **Dimensions:** Subwoofer - 27"H x 13"W x 16"D
Controller - 2"H x 16"W x 8"D
- **Finish:** Subwoofer - high gloss black or white laminate
Controller - matte black anodized front panel, black painted chassis

● Design

NHT products are designed to deliver refined, musical sound from attractive and affordable packages. Our efforts are guided by the study of human hearing and are optimized for real-world use. Every NHT product undergoes rigorous testing and quality control at the factory to ensure you years of listening pleasure.

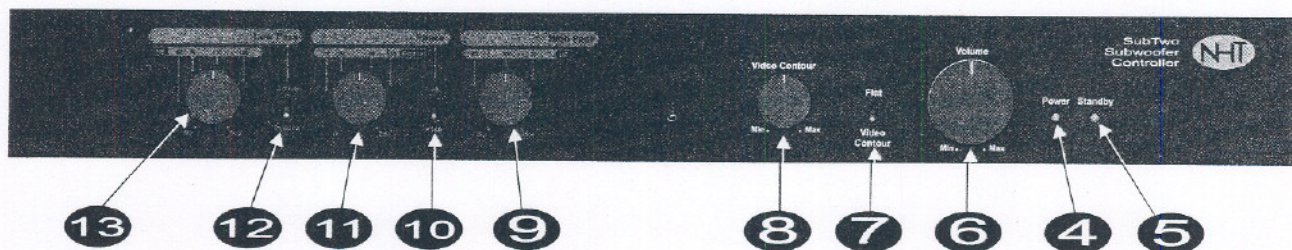
The NHT SubTwo Powered Subwoofer System is designed to provide clean and powerful low frequency reinforcement for high-performance audio and home theater systems. It employs two high performance 10" subwoofers, similar to those employed in our Model 2.9 loudspeaker. They are mounted side by side in a solidly built, sealed rectangular enclosure that allows the flexibility of either vertical or horizontal placement. The system is powered by a built-in 500-watt amplifier using patented Sunfire® technology that allows it to deliver extraordinarily dynamic high current output.

The SubTwo features an outboard Controller that allows convenient front-panel adjustment of volume, filtering and phase controls. It also provides line-level and speaker-level inputs and outputs for connection with all types of receivers or separate audio components. To accommodate the differing listening preferences common for music and home theater, the Controller offers an Flat / Video Contour switch that maintains flat response for music listening and adds extra midbass output for video playback. The SubTwo subwoofer and Controller are connected via the supplied 20' proprietary 8-pin D.I.N. cable.

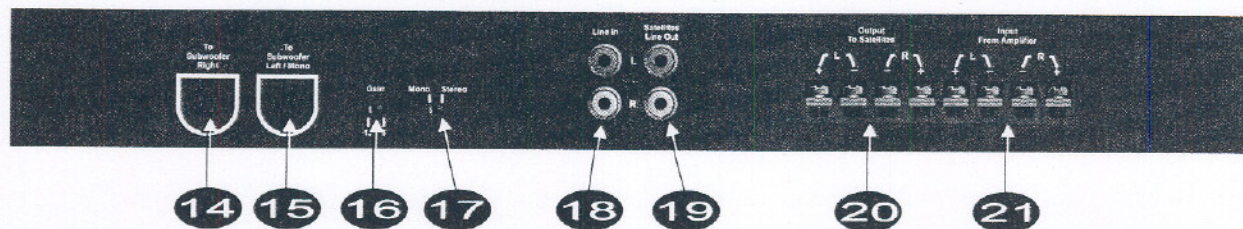
Subwoofer
Back



Controller
Front



Controller
Back



- (1) **Power Switch** - Activates power for subwoofer and Controller.
- (2) **AC Power Input** - Power cord receptacle.
- (3) **Subwoofer Input** - Input for 8-pin D.I.N. connector from Controller.
- (4) **Power Indicator** - The green light is lit when the system is on.
- (5) **Standby Indicator** - The amber light is lit when the subwoofer is in standby mode.
- (6) **Volume Control** - Adjusts the loudness of the subwoofer.
- (7) **Flat / Video Contour Switch** - Selects response mode of subwoofer.
- (8) **Video Contour Knob** - Continuously variable bass boost in Video Contour mode.
- (9) **High Pass Filter** - Continuously variable high pass crossover for satellite line out.
- (10) **Subwoofer Phase Switch** - 2-position selectable phase starting point.
- (11) **Subwoofer Phase Knob** - Continuously variable phase control.
- (12) **Low Pass Filter Bypass Switch** - Activates or bypasses low pass filter.
- (13) **Low Pass Filter** - Continuously variable low pass crossover control.
- (14) **Subwoofer Output Right** - 8-pin mini-D.I.N. connection for stereo subwoofer.
- (15) **Subwoofer Output Left / Mono** - 8-pin mini-D.I.N. connection to subwoofer.
- (16) **Subwoofer Gain Selector** - Allows optional attenuation of SubTwo gain.
- (17) **Mono / Stereo Switch** - Selects between single and dual subwoofer output.
- (18) **Line In** - Line-level RCA input connectors.
- (19) **Satellite Line Out** - Line-level RCA output jacks to receiver / main amplifier.
- (20) **Output to Satellites** - Barrier strip for speaker-level connection to main speakers.
- (21) **High Level Input** - Barrier strip for speaker-level input from receiver / amplifier.

● Placement

Experimentation is the key to finding the best location for the SubTwo in your listening environment. When possible, place the subwoofer in the same horizontal plane and along the same wall as the main speakers. Low frequencies produce long wavelengths and thus interact with room boundaries significantly. Placing the subwoofer nearer to a room boundary (walls, corners) will tend to increase its bass output, but may result in “boomy” or “muddy” sound. Conversely, placing the subwoofer farther away from room boundaries will tend to decrease its bass output, but may result in improved articulation and clarity.

The subwoofer’s rectangular enclosure shape allows you the flexibility of placing it either vertically or horizontally, depending on the most appropriate configuration in your room. If placing the enclosure on carpet, attach the three included stick-on metal cones to the bottom surface of the enclosure (whichever it is) in an equilateral triangle formation. If placing the enclosure on hard or scratchable surfaces such as wood floors, you may use the four included rubber stick-on feet instead.



Note: To prevent the SubTwo subwoofer amplifier from overheating, always be sure to provide adequate space for proper ventilation. Do not place the subwoofer directly against the wall or any other surface.

Position the subwoofer so that it does not radiate sound directly into a wall or floor, and ensure that it faces into the room, unobstructed by large furnishings. If you are running a second SubTwo enclosure in stereo, the greatest improvement in low frequency response is achieved by placing the second subwoofer assymmetrically on the opposite side of the room from the first. For example, one sub in the front left corner, the second sub 1/3 of the way along the opposite side wall. Avoid placing two subwoofers symmetrically (such as in two corners), as it will tend to exaggerate standing waves. As the SubTwo is not shielded, do not place it in close proximity to a television, or picture discoloration will occur.

The SubTwo Controller is most conveniently placed in the rack with the other equipment, although it may also be placed on top of the subwoofer.

● General Connections



Caution: Prior to connecting the SubTwo to your audio system, it is important that all AC power connections to associated components (receivers, amplifiers, preamplifiers, processors, etc.) are either unplugged or turned off. Do not plug in or connect the SubTwo subwoofer to AC power until all connections have been made.

The SubTwo subwoofer and Controller are connected via a single 20-foot-long 8-pin mini-D.I.N. cable. Only the subwoofer is plugged directly into an AC outlet in the wall. The SubTwo Controller receives power via the mini-D.I.N. cable. If the distance between the subwoofer and Controller in your room is greater than 20 feet, NHT offers an extension cable (Model X20), which couples with the original cable to give you 40 feet altogether. When using a standard monaural SubTwo configuration, plug the 8-pin mini-D.I.N. cable into the jack marked “To Subwoofer Left / Mono” on the back of the Controller.

The SubTwo system also offers the ability to drive stereo subwoofers. The SubTwo subwoofer and Controller are packaged separately, giving you the ability to add an additional subwoofer enclosure to an existing SubTwo system. In the stereo configuration, each subwoofer is connected by its own 8-pin mini-D.I.N. cable to one of the subwoofer output jacks in the back of the Controller.

● Four Connection Methods

A subwoofer’s performance in the context of your audio / video system is highly dependent upon its interaction with your main (largest) speakers. Since a subwoofer is designed only to provide low frequency response, it is important to connect it in a manner that ensures seamless integration with your speakers. There are

four possible connection methods outlined in this manual. The best method for you depends on the size of your front L & R speakers and the connection options available on your receiver or preamplifier (see next section). To help you determine the best way to connect the subwoofer to your system, consider the following suggestions:

1. If you have large (full-range) main speakers...

1st Choice: Method #1 (line-level connection with high pass filter loop)
2nd Choice: Method #2 (line-level connection with no high pass filter loop)
3rd Choice: Method #4 (speaker-level connection with no high pass filter loop)

If your main speakers have generous bass response and you are adding a subwoofer, the resulting sound could be “muddy.” You have the option of sending the main speakers a high-pass filtered signal (Method #1). With the low bass information removed from the signal before it reaches the speakers, all low frequencies are reproduced exclusively by the subwoofer. With this configuration it is usually easier to achieve smooth low frequency response, as the subwoofer reproduces a different frequency range than the speakers. Use the 50Hz high pass setting.

If you want to run the main speakers full-range, or if you have a receiver with no “Pre-Out” and “Main-In” (see next section), you can use the subwoofer only to provide low bass reinforcement (Connection Methods #2 and #4). The downside is that sending the speakers a full-range signal can make it difficult to integrate them with the subwoofer, as their combined low frequency output can cause irregularities (peaks and dips) in the room’s low frequency response. In this case, the subwoofer’s low pass setting should be quite low and used only to fill in the lowest octave.

Method #3 is not recommended with large main speakers.

2. If you have small (bookshelf) main speakers...

1st Choice: Method #1 (line-level connection with high-pass filter loop)
2nd Choice: Method #3 (speaker-level connection with fixed high-pass filter)

If your main speakers are smaller bookshelf-type models with limited bass response, it is advisable to send them a high-pass filtered signal (Method #1 or #3). All low bass information is removed from the signal before it reaches the speakers, and all low frequencies are reproduced exclusively by the subwoofer. Because the L & R speakers receive a signal containing only information that falls within their specified frequency response range, they exhibit reduced distortion, greater dynamic range and power handling. Use the 75Hz or 110Hz high pass setting.

Alternately, you can run small main speakers full range and use the subwoofer to reproduce all the low bass frequencies below their response capabilities (Methods #2 and 4). While simple, this configuration does not remove the burden of low frequencies from the L & R speakers and may limit their output at higher volumes.

● What connection options are available in my system?

- 1) If you have a separate preamplifier and main amplifier, all four of the connection methods are available to you. Method #1 is recommended.
- 2) If you have an integrated amplifier or receiver (hereafter called “receiver”) with “Pre-Out” and “Main-In” connections, all four of the connection methods are available to you. Method #1 is recommended.
- 3) If you have a receiver with “Pre-Out”, “Line Out” or “Subwoofer (LFE) Out” connections but no

"Main-In" connections, you may use Methods #2, #3 or #4.

4) If you have a receiver with no "Pre-Out", "Line Out" or "Subwoofer (LFE) Out" connections, you may use Methods #3 or #4.

Detailed descriptions and diagrams of all four connection methods are found on pages 8-11.

● Explanation of Features

The **VOLUME CONTROL** allows you to adjust the volume of the subwoofer relative to the rest of the system. Many listeners make the mistake of setting subwoofers too loud, which can cause excess bloat and loss of detail and musicality. A properly calibrated subwoofer blends in with the speakers and does not call attention to itself. Observe the following guidelines for volume setting:

Turn down the volume control on the SubTwo Controller to its lowest position (counter-clockwise). Turn on your audio system, including the SubTwo. Play some music you are familiar with and set your receiver/preamplifier volume to a comfortable listening level. Slowly increase the volume on the SubTwo Controller, listening for proper frequency balance. When the subwoofer output is balanced with the rest of the system, you will hear improved bass extension, but you should be unaware that it is coming from the subwoofer!

From this point on, the volume control on your receiver/preamplifier will control the overall volume of your system, including the subwoofer.

The front panel **FLAT / VIDEO CONTOUR SWITCH and KNOB** allow you to optimize the SubTwo's performance for music listening or movie viewing. When listening to music, many listeners prefer a flat bass response that does not emphasize any individual frequencies. Flat bass response more realistically reproduces the sound of live instruments. However, when watching movies in a home theater system, many listeners prefer a punchier, "boomier" sound that emphasizes sounds like explosions and gunfire. Subwoofers with more output in the mid-bass regions tend to deliver this punch, at the expense of flat response.

The Flat / Video Contour switch allows you the best of both worlds. In the "Flat" mode, the SubTwo's response is flat for accurate musical reproduction. In the "Video Contour" mode, the SubTwo has boosted output between 40Hz and the low pass frequency, and rolls off response below 35Hz to provide greater power handling at elevated listening levels.

The Flat / Video Contour switch determines the operating mode of the SubTwo, while the Video Contour Knob provides continuously variable adjustment of the bass boost in Video Contour mode.

If your main speakers are large with generous bass response and you are connecting them full-range, you will most likely be using the SubTwo only for very low bass reinforcement (usually below about 40Hz). In this case, the "Video Contour" mode will not yield an increase in bass output at these frequencies, but will actually decrease its output, so the "Flat" mode may work better.

The continuously variable **LOW PASS FILTER** determines the range of frequencies that the subwoofer will reproduce. For example, a low pass setting of 100Hz means that the subwoofer reproduces only frequencies below 100Hz. The Low Pass Filter is variable between 40Hz (low bass) to 180Hz (upper bass), to accommodate a variety of speaker configurations. The Low Pass Bypass Switch allows you to bypass the circuit entirely when connecting the SubTwo to a receiver / preamplifier that features a "subwoofer (LFE) out" already containing low-pass filtering.

If you are using Connection Method #1, your main speakers are reproducing only the frequency range selected by the High Pass Filter (see next section). As a starting point, set the Low Pass Filter at about the same frequency you have set the High Pass Filter. For example, if the High Pass Filter sends only signals above

tion for further adjustment guidelines.

If you are using Connection Method #2 or #4, your main speakers are reproducing the entire frequency range (including bass) and it is advantageous for the subwoofer to reproduce only those frequencies below the rated response of the main speakers. For example, if your main speakers have a rated low frequency response of 60Hz, begin with the Low-Pass Filter set at 60Hz. See the "Fine Tuning" section for further adjustment guidelines.

If you are using Connection Method #3, your main speakers are reproducing only frequencies above 100Hz, due to the fixed 100Hz high pass filter at the speaker-level output barrier strip. As a starting point, set the Low Pass Filter at 100Hz. See the "Fine Tuning" section for further adjustment guidelines.

The continuously variable **HIGH PASS FILTER** determines the range of frequencies that the main speakers ("satellites") will reproduce. For example, a high pass setting of 80Hz means that the main speakers receive a signal containing only frequencies above 80Hz. The High Pass Filter is variable between 40Hz (low bass) to 120Hz (upper bass), to accommodate a variety of speaker types. The benefit of high pass filtering is improved dynamic range and lower distortion in the main speakers, as they are spared the task of low frequency reproduction.

The High Pass Filter should initially be set to a frequency above the rated low frequency limit of the main speakers. For example, if your speakers have a rated low frequency response of 40Hz, use the 50Hz high-pass setting. If your speakers have a rated low frequency response of 90Hz, use the 110Hz high-pass setting.

To select the appropriate high pass setting for your main speakers, check the owner's manual for their rated low frequency response. If you are unable to obtain this information, here are some common high-pass settings:

Small speaker	Medium speaker	Large speaker
110Hz	75Hz	50Hz

The continuously variable **SUBWOOFER PHASE** switch and knob set the phase of the subwoofer anywhere between the 0° position (normal phase) and the 360° position. The ability to adjust subwoofer phase is a great advantage for achieving smooth bass response in your system. The combined low frequency sound waves from the subwoofer and the main speakers can sometimes cause peaks and dips in the frequency response at the listening position. In these cases, adjusting the subwoofer phase may improve the blending and overall performance of the system.

The optimal phase setting will differ according to room conditions and placement, and the main speakers used. Experiment with phase settings by listening to a familiar CD from the listening seat, alternating phase settings on the same track. Do not attempt to evaluate the best sound while standing above the subwoofer or amplifier, as the sound at the listening position will be significantly different.

Begin by setting the phase knob at 0°, alternating the switch position between 0° and 180°. From the listening position, choose the switch position that yields the most output and leave the switch there. Then use the knob to further dial in the setting that provides the most output at the seating position.

The **SUBWOOFER GAIN** switch allows you to attenuate the line-level input sensitivity of the SubTwo by 10dB. This is useful if your receiver or preamplifier has very high line-level output voltage that limits your range of volume adjustability on the SubTwo Controller. Engaging the -10dB attenuation will give you a wider range of volume adjustment for the SubTwo.

The SubTwo has a **STANDBY MODE** feature that is automatic and requires no user adjustment. When no signal is present for 45 minutes, the SubTwo goes into Standby Mode, and it will use a minimum of power to remain "asleep." When the system is used again, it immediately turns on as soon as a signal is received. There is no need to turn the SubTwo on and off every time it is used.

SubTwo Connection Method #1

Connect the SubTwo Controller between a receiver's "Pre-Out" and "Main-In",
with high-pass filter loop

Use if:

- You wish to send your L & R speakers a high-pass filtered signal
- You have a receiver with "Pre-Out" and "Main-In" jacks
- You have a separate preamplifier and main amplifier

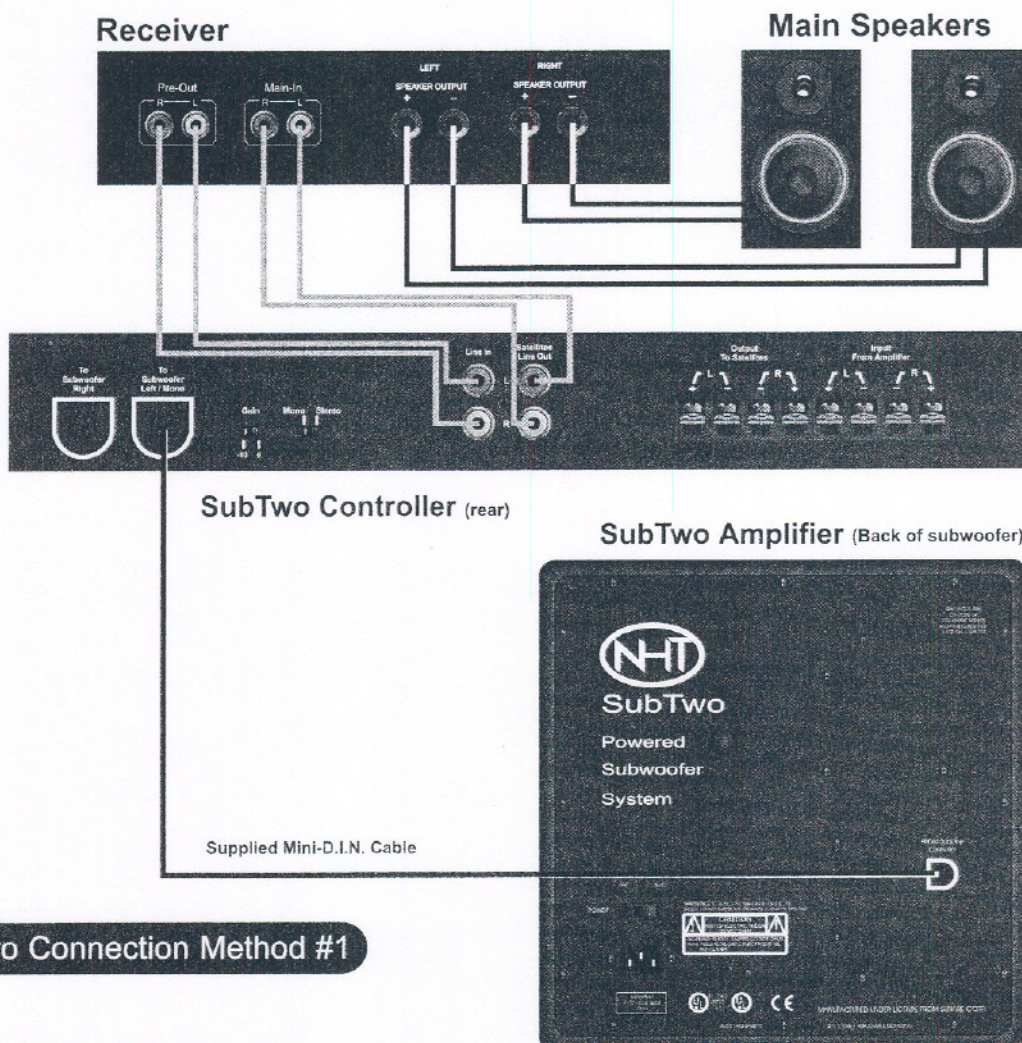
This method allows your main speakers to receive a high-pass filtered signal (not full range), and the subwoofer to be utilized for low-to mid-bass reproduction. The full-range line-level signal coming from the receiver's "Pre-Out" passes through the SubTwo Controller's selectable high-pass filter, which removes the low frequencies from the signal before sending it back to the receiver's "Main-In." This configuration effectively increases the receiver and speakers' dynamic range and power output by sparing them the difficult task of reproducing low frequency information.

1) Your L & R speakers are connected directly from your amplifier / receiver.

2a) If you have a receiver with "Pre-Out" and "Main-In" jacks, patch in the SubTwo Controller between these. With an RCA interconnect cable, connect the receiver's "Pre-Out" to the SubTwo Controller's **LINE IN**. Connect a second RCA interconnect cable from the SubTwo Controller's **SATELLITE LINE OUT** back to the receiver's "Main-In."

2b) If you have a separate preamplifier and main amplifier, connect the preamplifier output to the SubTwo Controller's **LINE IN**. Connect a second interconnect cable from the SubTwo Controller's **SATELLITE LINE OUT** to the main amplifier's line-level inputs. With this configuration, your preamplifier is not connected directly to your amplifier; instead the signal passes through the SubTwo Controller before it reaches the amplifier.

3) Connect the SubTwo Controller's **SUBWOOFER OUTPUT** to the SubTwo input terminal with the supplied mini-D.I.N. cable.



SubTwo Connection Method #1

SubTwo Connection Method #2

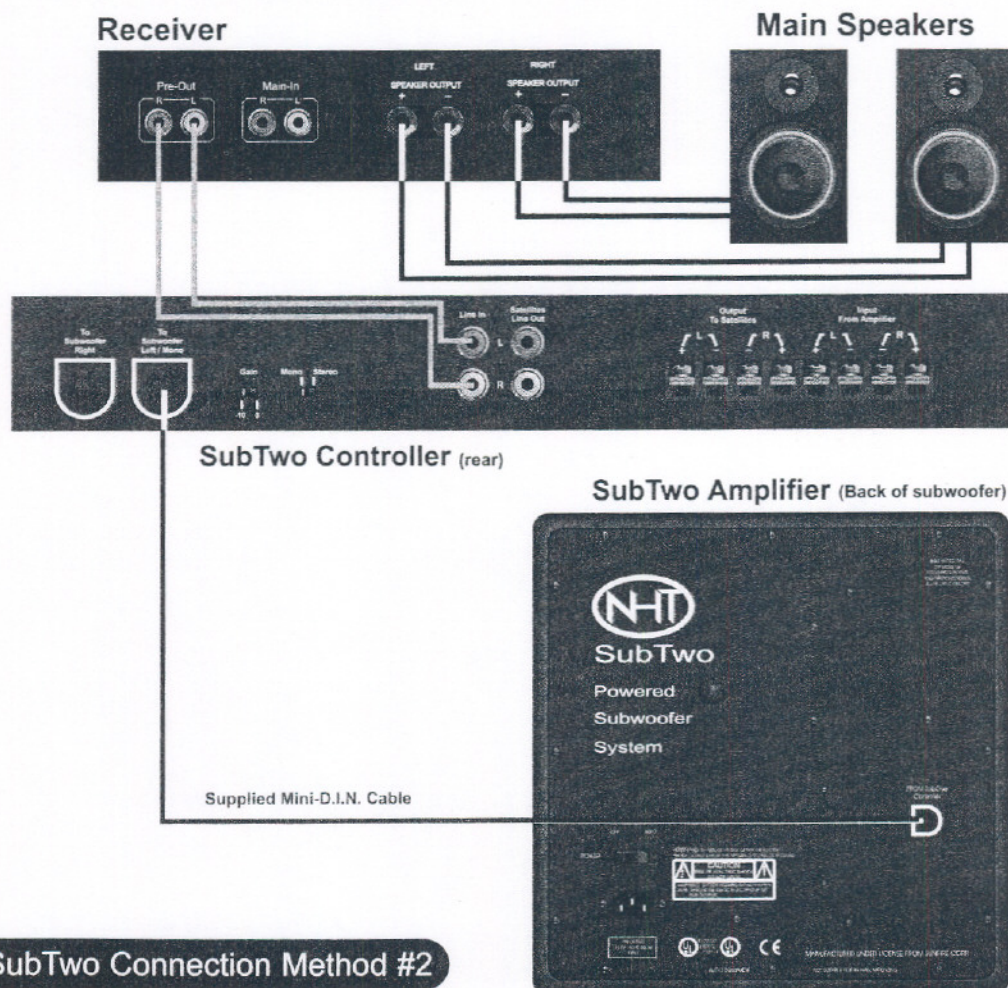
Connect the SubTwo Controller from a receiver / preamplifier's "Subwoofer (LFE) Out," "Pre-Out" or "Line Out" with no high-pass filtering

Use if:

- You wish to run your L & R speakers full-range
- You have a receiver with "Subwoofer (LFE) Out" jacks
- You have a receiver with "Pre-Out" jacks but no "Main-In" jacks

This method of connection allows your main speakers to receive the full-range audio signal (no high-pass filtering), and the subwoofer to be utilized for low bass extension only.

- 1) Your L & R speakers are connected directly from your amplifier / receiver.
- 2) If you have a receiver with "Pre-Out" (or "Line Out") jacks but no "Main-In," you may connect the SubTwo Controller from the "Pre-Out" without having to route the signal back into the receiver. Using an RCA interconnect cable, connect the "Pre-Out" to the SubTwo Controller's **LINE IN**.
- 2a) If you have a separate preamplifier and amplifier, and the preamplifier has two pairs of "Line Out" jacks, connect one pair directly to your main amplifier, and the second pair to the SubTwo Controller's **LINE IN**. If your preamplifier has only one pair of "Line Out" jacks, you may utilize two "Y"-splitters to send the line-level signal into both the main amplifier and the SubTwo Controller.
- 3) Many integrated amplifiers and receivers feature a "Subwoofer Out" or "LFE Out" jack. If your receiver's "Subwoofer Out" consists of a single RCA jack, you may plug it into either the left or right **LINE IN** jack on the SubTwo Controller. Alternately, you may utilize a "Y"-splitter to split the line-level signal into both jacks.
- 3a) Check your receiver's owner's manual to see if the "Subwoofer Out" signal is full-range or low-pass filtered. On many Dolby Digital 5.1-channel receivers, the low-pass is built-in at a certain frequency (80Hz, for example), which means the signal coming out this jack has already passed through an internal filter in the receiver. If possible, bypass the low-pass filter in the receiver. Otherwise, be sure to set the SubTwo low-pass filter at its highest point (200Hz) to avoid having two low-pass filters affect the signal.
- 4) Connect the SubTwo Controller **SUBWOOFER OUTPUT** to the SubTwo input terminal with the supplied 8-pin D.I.N. cable.



SubTwo Connection Method #3

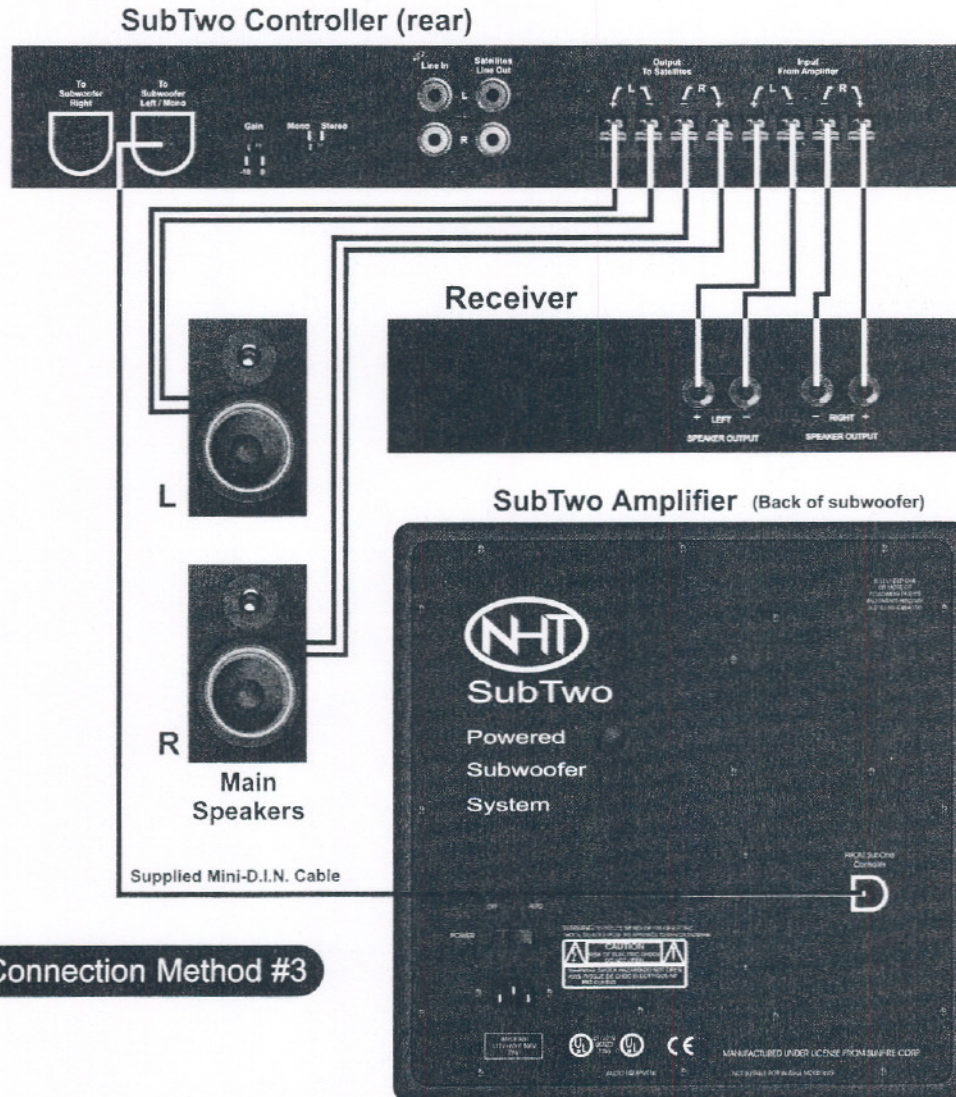
Connect the SubTwo Controller at speaker level from the receiver's speaker outputs, with fixed high-pass filter

Use if:

You wish to send your L & R speakers a high-pass filtered signal
Your receiver has no "Pre-Out", "Line Out" or "Subwoofer Out" jacks

This method of connection is recommended if you have a receiver with no line level preamplifier output of any sort and you want your L & R speakers to receive a high-pass filtered signal. The SubTwo Controller may be connected to the system at speaker level between the receiver and the speakers. The SubTwo Controller's speaker-level output has a fixed 100Hz high-pass filter that removes frequencies below 100Hz before sending the signal on to the speakers. The speaker-level high-pass filter is not adjustable. This method is not recommended if the L & R speakers are large, full range models.

- 1) Connect a pair of speaker cables from your receiver's front L & R speaker output terminals to the SubTwo Controller's **INPUT FROM AMPLIFIER** barrier strip.
- 2) Connect a second pair of speaker cables from the SubTwo Controller's **OUTPUT TO SATELLITES** barrier strip to the front L & R speakers.
- 3) Connect the SubTwo Controller's **SUBWOOFER OUTPUT** to the SubTwo input terminal with the supplied 8-pin D.I.N. cable.



SubTwo Connection Method #4

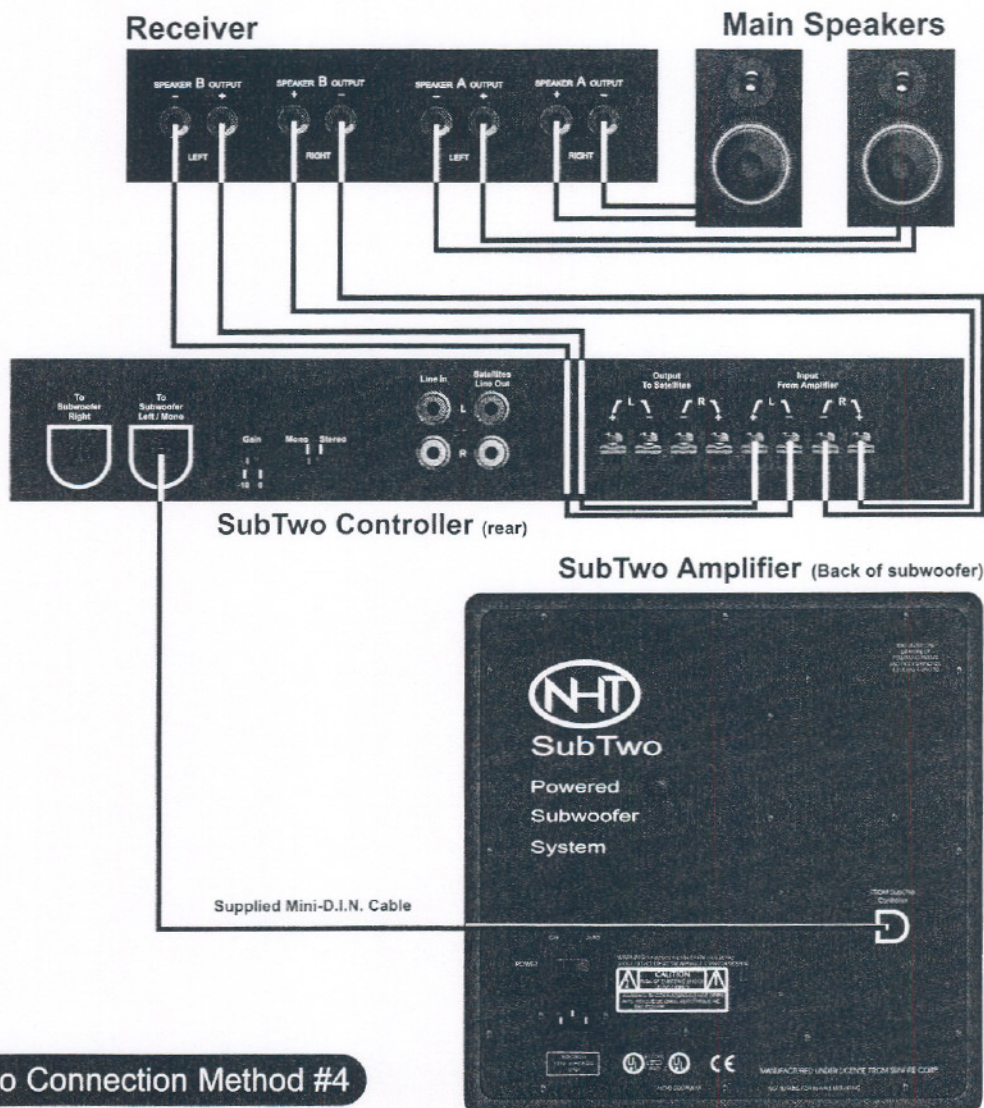
Connect the SubTwo Controller at speaker level from the receiver's speaker outputs, with no high-pass filter

Use if:

- You wish to send your L & R speakers a full range signal
- Your receiver has no "Pre-Out", "Line Out" or "Subwoofer Out" jacks
- Your receiver has two sets of speaker output terminals: "Speaker A" and "Speaker B"

This method of connection is recommended when you have a receiver with no line level preamplifier output of any sort and you want to run your speakers full range (no high-pass filtering). If your receiver features two sets of speaker output terminals ("Speaker A" and "Speaker B"), you may use "Speaker B" to connect the SubTwo Controller.

- 1) Connect a pair of speaker cables from your receiver's "Speaker A" outputs directly to your main speakers.
- 2) Connect a second pair of speaker cables from your receiver's "Speaker B" outputs to the SubTwo Controller's **INPUT FROM AMPLIFIER** barrier strip.
- 3) If your receiver is not equipped with "Speaker A" and "Speaker B" output terminals, you may connect both the L & R speakers and the SubTwo Controller in parallel from the same terminal. Connect one pair of speaker cables from the receiver's speaker output terminal to the L & R speakers. Connect a second pair of speaker cables from the receiver's same output terminal to the SubTwo Controller's **INPUT FROM AMPLIFIER** barrier strip. The SubTwo Controller's barrier strip input does not present a significant load to the receiver and will not compromise its output to the L & R speakers.
- 4) Connect the SubTwo Controller's **SUBWOOFER OUTPUT** to the SubTwo input terminal with the supplied 8-pin D.I.N. cable.

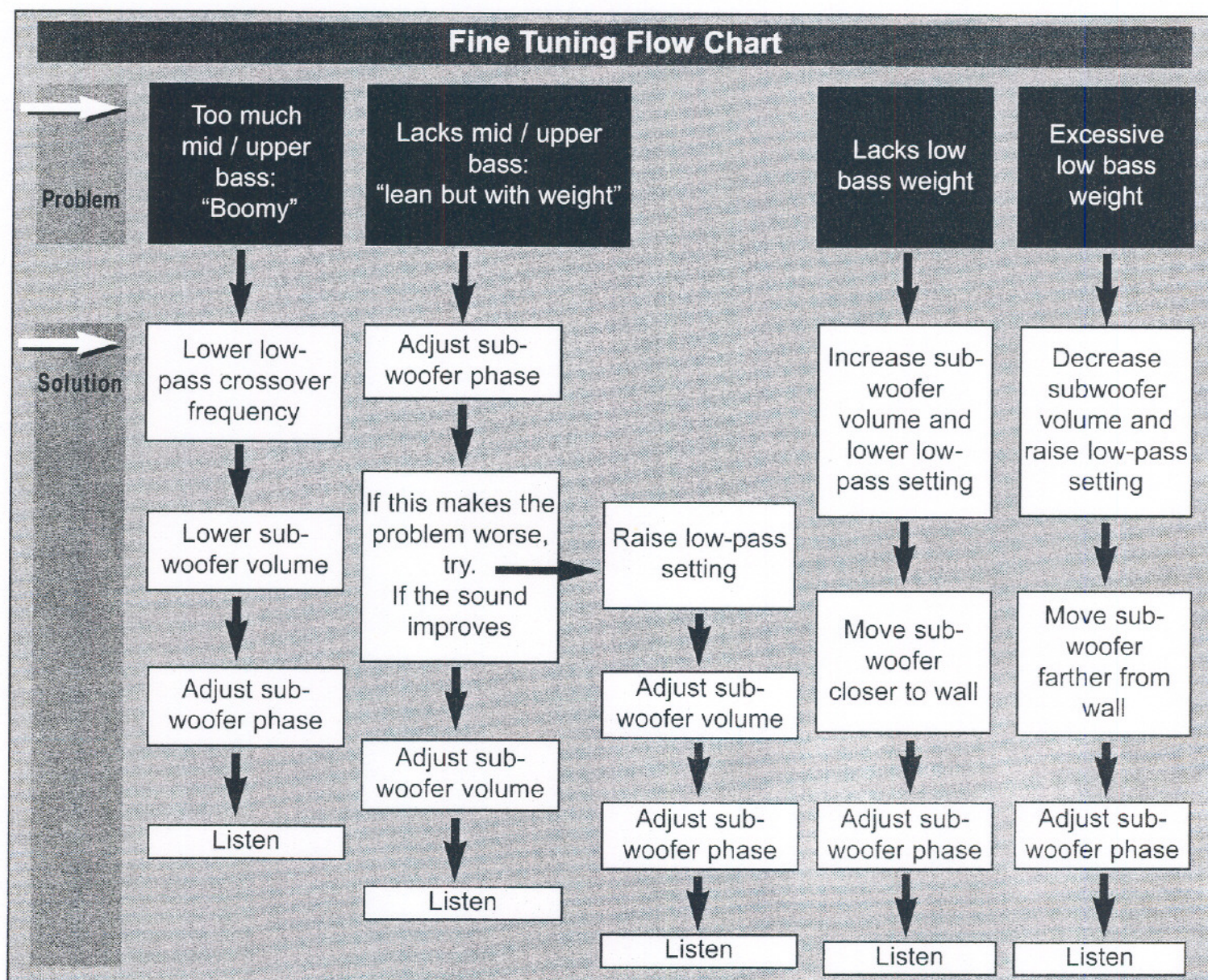


● Fine Tuning the Subwoofer

The frequency chart below lists some terms commonly used to describe different bands of the frequency spectrum. The key to good subwoofer / speaker integration is repeated listening, followed by small re-adjustments of the subwoofer controls. The most important bass tuning functions you will control are the **LOW PASS FILTER**, followed by the **VOLUME CONTROL** settings and then **PHASE SELECTOR**.

Frequency Chart						
Low Bass	Mid Bass	Upper Bass	Lower Mid	Mid	Upper Mid	High
Below 50Hz	50Hz-100Hz	100Hz-180Hz	180Hz-300Hz	300Hz-700Hz	700Hz-3K	3K and above

Listen to your system and make adjustments to achieve a seamless blend between your main speakers and the SubTwo. Four common problems are outlined below. Follow the flow chart to correct these. See the glossary for any terms you are unfamiliar with.



● Operation

When the SubTwo is turned on, there will be an audible “pop.” Do not be alarmed! This is inherent to the amplifier design and will not damage the subwoofer or your audio system. We do recommend, however, that the SubTwo’s power is left “on” at all times, allowing its built-in Standby Mode feature to disable the subwoofer when not in use.

The SubTwo was designed to handle a wide range of listening levels, but every component has limits. It is important to use common sense and listen for signs of possible distress from the subwoofer. Noticeable distortion or harsh breakup is an indication that the subwoofer is running beyond its capacity, and the volume should be decreased. If you feel heat emanating from the front of the woofer, reduce the level immediately. Speaker damage most often occurs from sustained high volume levels, not from transient sounds or brief musical peaks. Excessive boosting of bass, treble, or equalizer controls can worsen the problem and is not recommended.

● Maintenance

Your SubTwo has been designed for years of trouble-free operation and requires minimal maintenance under normal use. The SubTwo cabinet may be cleaned using a damp cloth or a mild, non-abrasive glass cleaner. To clean the grille, first remove it from the subwoofer, then brush lightly with a soft brush or use a vacuum on its lowest setting. The SubTwo Controller may be cleaned by wiping with a lint-free cloth. Do not expose the SubTwo or the Controller to direct sunlight, high temperatures or moisture. In the event that service is required, do not open the SubTwo amplifier or Controller. Refer the unit to a qualified service technician.

● Changing the Fuse



Always replace the fuse with one of the exact same specifications. For systems operating in the 115 volt setting, use only 5 x 20 mm, T3A, 250-volt slow-blow fuses. For systems operating in the 230 volt setting, use only 5 x 20 mm, T1.6A, 250-volt slow-blow fuses.

The SubTwo amplifier has a user-serviceable fuse. To replace or change the fuse, **begin by turning the power to the OFF position and unplugging the power cord from the wall.** Next, remove the fuse holder cover from the power cord socket with a flat blade screwdriver. Remove the fuse from the holder and replace it with the appropriate type. For 110 to 120 VAC, use a 5mm x 20mm T3A 250V slow-blow fuse. For 220 to 240 VAC, use a 5mm x 20mm T1.6A 250V slow-blow fuse. Reinstall the fuse holder. Reconnect the power cord.

● Troubleshooting

If the SubTwo fails to operate when the Power Switch is turned on, check the power cord and all the input and output connections thoroughly. If the status LED on the SubTwo Controller is red, the unit is in “protect” mode. This could be caused by incorrect wiring, short circuits, or excessive volume. Turn off the Power Switch on the subwoofer for two or more seconds to reset. Double check all speaker cables to be sure that no small strands are extruding. If the LED indicator fails to illuminate, it is possible that mis-wiring or an electrical power surge has caused the protection fuse to blow. It must be replaced with one of correct type and value. Contact your local Authorized NHT Dealer or NHT immediately for assistance.

● Glossary of Terms

Active: Uses electrical power.

Amplifier: An electronic device that increases the current of a signal, providing power to the loudspeakers (i.e. power amplifier, integrated amplifier, receiver).

Barrier Strip: A row of speaker connectors with screw-activated locking mechanisms.

Bass: The range of audio frequencies below 160Hz, characterized by low pitch.

Crossover: An electronic circuit that divides an audio signal into different frequency ranges.

Distortion: Any deviation from the original signal, caused by any type of equipment.

Driver: The moving part of a loudspeaker which radiates energy.

Dynamics: Variations in loudness of sound.

Efficiency: See "sensitivity."

Frequency: A rate of vibration which corresponds to musical pitch in the audio band, expressed in Hertz (Hz).

Full Range: A signal encompassing the entire frequency spectrum, not filtered above or below a certain frequency.

Hertz (Hz): A unit of frequency equal to one cycle per second, used to measure the frequency of a signal or sound.

High-Pass Filter: A filter that passes only frequencies above a certain lower limit; electronically removes low frequencies from a full range signal.

Impedance: A measure of the total opposition to current flow in an alternating current circuit, described in ohms.

In Phase: The polarity of an audio signal when connected as follows: (+) to (+) and (-) to (-).

Integrated Amplifier: Has preamplifier and amplifier built into one chassis.

Interconnect Cable: A length of shielded wire with plugs at both ends for feeding signals from one electronic device to another.

L.F.E.: "Low Frequency Effects"; an RCA output for connection to a subwoofer.

Line-Level Connection: Low level RCA/phono type connection.

Load: A term used to describe the impedance which a speaker presents to an amplifier.

Low-Pass Filter: A filter that passes only frequencies below a certain upper limit; electronically removes high frequencies from a full range signal.

Main Speakers: Front L & R channel speakers, sometimes referred to as satellites.

Main-In: A line-level RCA input on the back of a receiver, integrated amplifier or power amplifier.

Midrange: The frequency span of the middle of the audio range, roughly 160Hz - 1300Hz. Also used to describe the driver which reproduces these frequencies.

Ohm: A unit of electrical resistance; that which opposes an electric current in a conductor. In audio, a measure of the load presented by a device to an electrical source.

Out-of-Phase: The polarity of an audio signal when connected as follows: (+) to (-) and (-) to (+).

Passive: Uses no electrical power.

Phase: An expression of the relative polarities of two identical signals.

Power Handling: The ability of a loudspeaker to operate without distortion when given varying amounts of wattage.

Preamplifier: An electronic device that selects sources and passes line-level signal to amplifier.

Pre-Out: A line-level RCA output on the back of a receiver, integrated amplifier or preamplifier.

Receiver: Has preamplifier, amplifier and tuner built into one chassis.

Satellite: Front L & R speakers when used with a subwoofer. Referred to as "main speakers".

Sensitivity (same as efficiency): A measure of how much of the input electrical energy is converted into sound energy, measured in decibels.

Signal: The series of continually changing electrical voltages that correspond to variations in the loudness of the original sound.

Speaker-Level Connection: The connection between a loudspeaker and an amplifier.

Sub Out: An RCA output for connection to a subwoofer.

Subwoofer: A driver designed to operate over the low bass portion of the audio range. Also refers to a system consisting of a woofer and its enclosure which are physically separate from the upper range loudspeakers.

Surround Speakers: Speakers located in the side or rear for surround channel effects.

Treble: The upper part of the frequency spectrum, consisting of frequencies above about 1300Hz.

Tweeter: A small driver designed to reproduce high frequencies.

Watt: A measure of electrical power, combining the voltage with the electrical current required to drive the loudspeaker.

Warranty

(Valid Only in the U.S.A.)

Warranty Period: For the period of 5 years for parts and 5 years for labor for loudspeaker products and 1 year for parts and 1 year for labor for electronic components from date of original purchase (the warranty period) from an authorized NHT dealer, NHT warrants that if our product fails to function properly under normal use due to a manufacturing defect when installed and operated according to the owner's manual instructions enclosed with the unit, it will be repaired or replaced with a unit of comparable value at the option of NHT without charge to you for parts or actual repair work. Parts supplied under this warranty may be new or rebuilt at the option of NHT.

What's Not Covered: This warranty does not cover any product which is used in any trade or business, or in an industrial or commercial application.

This warranty does not cover the cabinet or any appearance item, or any damage caused to the product resulting from: alterations, modifications not authorized in writing by NHT, accident, misuse or abuse, damage due to lightning or power surges, or being subjected to power in excess of the speaker's published power rating.

This warranty does not cover the cost of parts which would otherwise be provided without charge under this warranty, obtained from any source other than an authorized NHT service location. This warranty does not cover defects or damage caused by the use of unauthorized parts or labor or from improper maintenance.

Altered, defaced or removed serial numbers void this warranty.

Your Rights: The liability of NHT will be limited to the purchase price of the product, and NHT will not be liable for incidental or consequential damages. NHT limits its obligations under any implied warranties under state laws to a period not exceeding the warranty period. Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages. The above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

To Obtain Service: NHT has appointed a number of authorized service companies throughout the USA should your product ever require service. To receive warranty service, you will need to present your sales receipt showing place and date of original owner's transaction.

To find the name and address of the nearest authorized NHT service location, call or write:
AB Tech Services, 17A Airport Dr., Hopedale, MA 01747. 1-800-225-9847.

**Keep this warranty with your sales receipt.
Record date and place of purchase for future reference.**