

**KL-650-THX
KL-525-THX
KS-525-THX
KW-120-THX**


LOUDSPEAKERS


OWNER'S MANUAL




THX ULTRA2 LOUDSPEAKERS

IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. ONLY USE attachments/accessories specified by the manufacturer.
10. USE only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over. 
11. DO NOT expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.

 The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

 The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

WARNING: To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

WARNING: No naked flame sources – such as candles – should be placed on the product.



WARNING: Do Not Open! Risk of Electrical Shock. Voltages in this equipment are hazardous to life. No user-serviceable parts inside. Refer all servicing to qualified service personnel.

ABOUT YOUR KLIPSCH PURCHASE

Thank you for your purchase of Klipsch THX® Ultra2™ loudspeakers. After reading this manual and connecting your system, you will hear the results of over 60 years of stringent engineering and class-leading research and development. Like all Klipsch products, your loudspeakers feature Klipsch Tractrix® Horn-loaded Technology— the guiding design for the first Klipschorn® developed in 1946 and for every product that has followed. Horn-loading allows your speakers to deliver high sensitivity, low distortion, flat frequency response and wide dispersion, which translates to unequalled power, detail, and dynamics, the hallmark of "The Klipsch Sound." Please be sure to register your product online at www.klipsch.com/register so we are better able to serve you. Again, thank you for choosing Klipsch and we hope that your speakers bring life to your music and movies for many years.

UNPACKING

The easiest way to remove the speaker from its carton is to turn the open end of the box down so that it is resting on a table or the floor, with the flaps spread out and away. Then pull the box straight up and off. Remove any packing material from the speaker and grille, place it back in the carton, and store in case you ever need to ship the loudspeaker. Each speaker comes supplied with rubber stick-on feet that should be applied to prevent any damage to either the speaker or the surface on which it is resting (Figure 1).

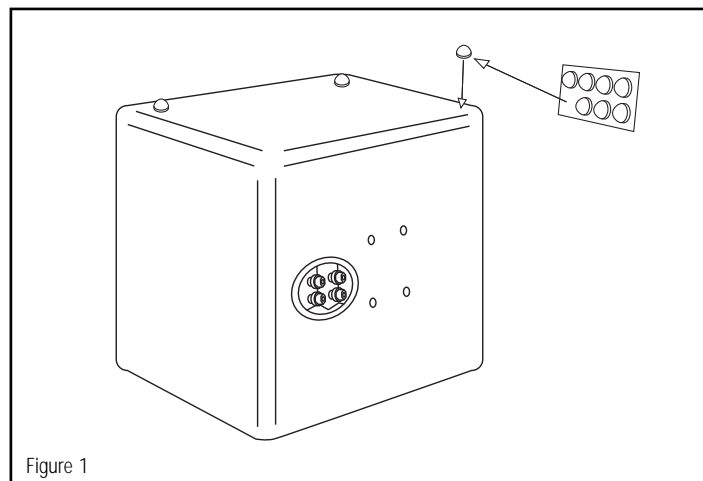


Figure 1

PLACEMENT

Your THX Ultra2 loudspeakers will achieve optimum performance when located in conformance with THX guidelines, on which the following instructions are based. Don't be discouraged if some compromise is necessary, however, or if modest adjustments will make the system look much better in the room. The speakers are engineered to deliver excellent sound over a relatively wide range of placements within the basic framework of a 5.1-, 6.1-, or 7.1-channel surround-sound installation. This is especially the case for WDST™ (Wide Dispersion Surround Technology) surround speakers, which offer many more practical placement options than conventional designs. In the end, all that matters is what sounds good to you and what works in your home theater.

Before we move on to the specifics, here are some placement considerations that apply universally.

General Rules

- Front speakers typically sound best when their tweeters are at approximately ear height for seated listeners. If this isn't possible (as it often is not for center-channel speakers), it is sometimes beneficial to tilt the speaker slightly so that it is aimed into the listening area. Surround-channel speakers usually perform best when placed slightly above seated ear level.
- If you are putting speakers in a cabinet, try to bring their fronts out far enough that they are at least flush with the cabinet's front.
- When practical, arrange each speaker so that its woofer is at somewhat different distances from the floor, the wall behind it, and the wall beside it. It can also help to have the left and right front speakers at different distances from their nearest side walls. This sort of staggering helps smooth the bass range.
- Any speaker's bass output and response is strongly influenced by its distance from room boundaries, such as walls and the floor. Moving a speaker closer to a room boundary will increase its bass output, while moving it away will reduce the bass. So you will get maximum bass from a speaker by placing it in a corner and minimum bass by placing it in the center of the room.

System Configuration

Figure 2 shows a THX-Ultra2 compliant 7.1-channel speaker layout. (Configuration for 5.1 channels is the same minus the surround back loudspeakers behind the listening area.) KL-650-THX or KL-525-THX LCR's are used for front left, center, and right channels. The left and right surrounds are KS-525-THX WDST™ loudspeakers. The surround back speakers are narrowly spaced KL-650-THX or KL-525-THX LCR's. In some installations, it may be preferable to use KS-525-THX's for the surround back channels due to their

smaller size. Their WDST design works very well in this application. Two KW-120-THX subwoofers are necessary to achieve THX Ultra2 maximum output requirements. This specification assumes a very large room, however, and in many installations a single KW-120-THX will be completely adequate. The companion KA-1000-THX subwoofer amplifier can drive either one or two subwoofers. In dual-subwoofer systems, it is usually best to place them right next to each other rather than spaced apart.

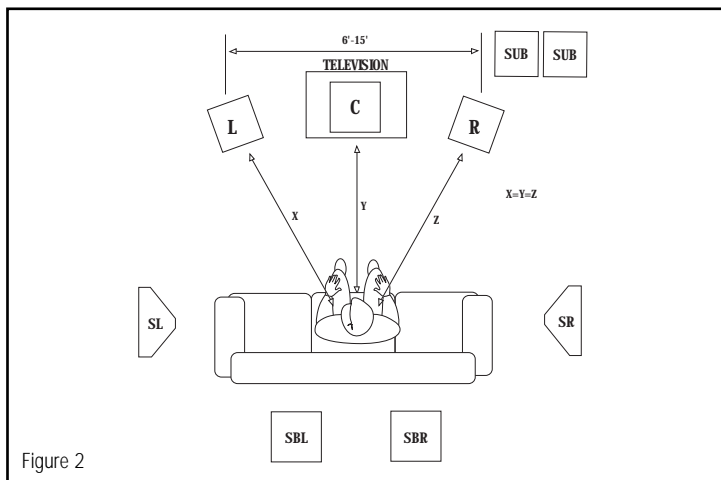


Figure 2

Front LCR Loudspeakers

Normally the array would be either all KL-650-THXs or all KL-525-THXs, but the center speaker can be different from the left and right speakers. (For example, you might combine a pair of KL-650-THXs for the front left and right with a KL-525-THX for the center.) The center-channel speaker should be centered along the width of the TV screen, directly above or below it or, in the case of an acoustically transparent front-projection screen, behind it. The left and right speakers should be placed equal distances out from the edges of the TV screen. Exactly how far out depends on the size of the screen. A reasonable starting point is to place the left and right speakers so that they and your listening position form an equilateral triangle. Since the center speaker helps anchor the sound to the screen, it usually is better to have the left and right speakers spread a little too wide than to have them too close together. The left and right speakers should be aimed inward towards the listening position as shown in figure 2. In some installations, it may be desirable to wall-mount the front LCR speakers rather than to put them on stands or in a cabinet. To accommodate this, the KL-650-THX and KL-525-THX are both configured for use with OmniMount® 60.0 Series wall-and ceiling-mount brackets (Figure 3). Refer to the OmniMount manual for detailed installation instructions.

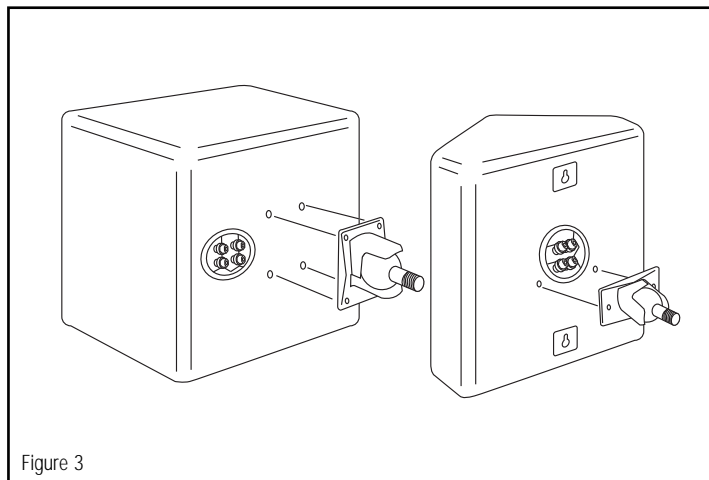


Figure 3

Surround Left and Right Loudspeakers

In a 5.1- or 7.1-channel installation, the left and right surround speakers will be KS-525-THX's placed to the sides of the listening area, typically on or against the walls. They should be elevated slightly above seated ear level – five or six feet above the floor is a good target. If desired, the speakers can be moved back along the wall to as much as 20 degrees behind the listening position, especially in a 5.1-channel system. The KS-525-THX's Wide Dispersion Surround Technology design gives you a great deal more latitude if you need it, delivering good results in configurations that depart significantly from the ideal. The KS-525-THX has a

keyhole mount for use in hanging the speaker on the wall. To use the keyhole, all you need is a screw or nail of the appropriate size protruding slightly from the wall. If possible, the nail or screw should be driven into a wall stud; if not, be sure to use appropriate anchors in the drywall or plaster. Additionally, the KS-525-THX is configured for use with OmniMount® 20.0 Series wall-and ceiling-mount brackets (Figure 3). Refer to the OmniMount manual for detailed installation instructions.

Surround Back Loudspeakers

In addition to the left and right surrounds, THX Ultra2 7.1-channel system specifications call for two forward-radiating surround back loudspeakers behind the listening area, preferably spaced no more than a few feet apart. These would be KL-650-THX or KL-525-THX LCR's, either placed on stands, or ideally mounted on the back wall. Like the left and right surrounds, they should be slightly above seated ear level – about five to six feet off of the floor. In some installations, it may be preferable to use KS-525-THX's for the surround back channels due to their smaller size. Their WDST design works very well in this application. You will probably want to space the KS-525-THX surround back pair somewhat farther apart than you would the LCR's.

Subwoofers

Two KW-120-THX subwoofers and a KA-1000-THX amplifier are required to meet THX Ultra2 maximum output requirements. This specification assumes a very large room, however, and in many installations a single KW-120-THX will be completely adequate. Although the KW-120-THX will perform well in a wide variety of locations, you will get the most out of it by following some simple guidelines:

- Although the subwoofer's orientation is not at all critical, avoid placing the front (driver) side of the cabinet up against a wall.
- The subwoofer's output will increase as it is moved closer to walls, with maximum output when it is placed in a corner. If practical, always place the subwoofer against or near a wall.
- In most rooms, a subwoofer will deliver smoothest bass response when placed in a corner away from room openings, such as doors. So if possible, that's the place to start.
- If you are using more than one subwoofer, you usually will get best performance by placing them together in the same location rather than by spacing them apart.

Naturally, there are exceptions to the general rules, since no two rooms or systems are exactly alike. Once you have the subwoofer connected to your system and adjusted at least roughly (see the KA-1000-THX manual for details), you may want to experiment to see if you can do better.

CONNECTIONS

Note: Proper connection of your speakers to your amplifier or receiver is vital to obtaining good sound quality. Please follow these directions carefully. Sloppy connections can cause amplifier malfunction or damage.

Klipsch THX Ultra2 loudspeakers are internally wired with multiple gauges of high-purity copper wire, carefully selected and wound to ensure optimum signal transfer at all frequencies. You will obtain best performance from your speakers if you connect them to your amplifier or receiver with similar high quality wire available from your dealer. (The KW-120-THX comes with a 20-foot length of THX Ultra-certified speaker cable terminated in professional-grade connectors that mate with the jacks on the subwoofer and the companion KA-1000-THX amplifier.) At minimum, we recommend that you use 16-gauge or heavier stranded copper wire. Use lower-gauge (heavier) wire for long runs to maintain correct frequency response and minimize power loss.

On the back of each KL-650-THX, KL-525-THX and KS-525-THX speaker are two sets of binding posts, one feeding the tweeter and the other the woofers. For conventional wiring, these sets are connected together with gold-plated metal straps, which can be removed for bi-wiring or biamping. We will explain ordinary single-wiring first and then the alternatives. All the information regarding single-wiring also applies to bi-wiring.

BUT FIRST: TYPES OF CONNECTORS

Bare wire. Pull the two conductors apart for about an inch and strip approximately 1/4-inch of insulation from the end of each. (A wire stripper will simplify this, but you can use an ordinary pocket knife to cut around and through the insulation down to the wire.) Twist the strands of wire on each individual conductor tightly together. Loosen the nuts on a pair

THX ULTRA2 LOUDSPEAKERS

of binding posts until the holes through the metal posts are exposed, then insert the bare wire through the holes. Screw the nuts down finger-tight on the wire. Make sure that no strands of wire are touching from one binding post to the other or to any strands from the other conductor. Failure to observe this precaution at either end of the connection can result in amplifier malfunction or damage.

Pins. Many pre-made speaker cables are terminated with metal pins. Loosen the nuts on a pair of binding posts until the holes through the metal posts are exposed, then insert the pins through the holes. Screw the nuts down finger-tight on the pins — do not overtighten. Make sure that there is no metal-to-metal contact between the two pins or binding posts. Failure to observe this precaution at either end of the connection can result in amplifier malfunction or damage.

Spade lugs. Some speaker cables are terminated with U-shaped connectors called spade lugs. Loosen the nuts on a pair of binding posts and slip the spade lugs around the metal posts. Screw the nuts down finger-tight on the lugs and inspect to ensure they have remained firmly in place. Make sure that there is no metal-to-metal contact between the two lugs or binding posts. Failure to observe this precaution at either end of the connection can result in amplifier malfunction or damage.

Other types of specialty connectors are available to facilitate hooking up your speakers. Please consult your authorized Klipsch dealer for suggestions and further details.

SPEAKERS TO AMPLIFIER: KEEPING IT STRAIGHT

One of the most important things about hooking up your speakers is keeping them in the same polarity, or phase. If they are connected out of phase, bass and sound imaging will be degraded.

The easiest way to ensure that your speakers are wired in phase is to always connect the positive and negative output terminals on your amplifier or receiver to the matching input terminals on your speakers: positive (“+”, color-coded red) to positive and negative (“-”, color-coded black) to negative (Figure 4).

Most pre-made speaker cables have color-coded connectors that make it easy to match output and inputs correctly. If yours do not, or if you are making your own out of paired, two-conductor wire, look for identifying marks on the insulation of the two conductors. Normally there will be printing, a stripe or a molded ridge along one of the conductors.

Bi-wiring – In bi-wiring, separate cables are connected from the amplifier or receiver output terminals to the speaker input terminals for the tweeter and woofers (Figure 5). This results in lower electrical resistance between the amplifier and speaker than single-wiring with the same gauge cable. In some cases bi-wiring may be preferable to single-wiring with lower-

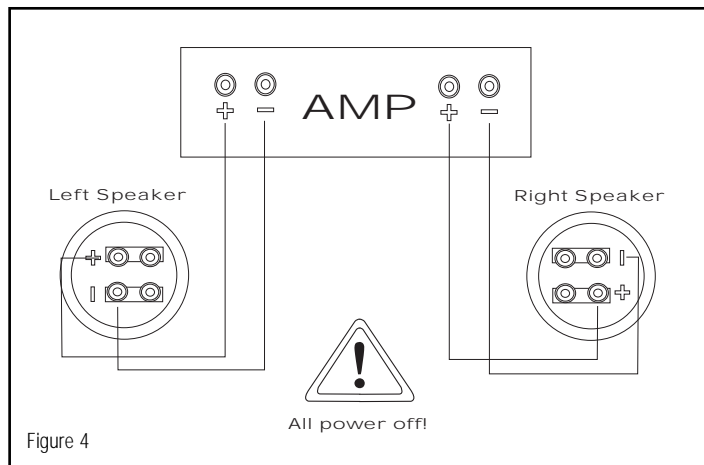


Figure 4

gauge cable, which will be thicker and probably less flexible.

To bi-wire your THX Ultra2 speakers, loosen the nuts on the binding posts and remove the metal straps linking the woofer and tweeter terminals. Observing proper polarity, connect

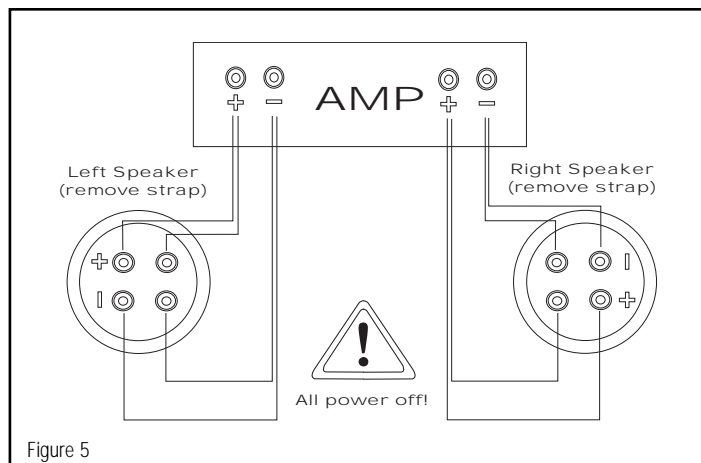


Figure 5

one cable to the tweeter binding posts and another to the woofer binding posts. Run both

cables back to your amplifier or receiver and attach them to the same channel. (Do not, for example, attach one to an A speaker output and the other to a B speaker output on an amplifier or receiver with A/B speaker switching.) Amplifiers may be severely damaged if straps are not removed.

Biamping – In biamping, the tweeter and woofers are driven by separate amplifiers fed from the same preamplifier output. We do not recommend biamping any of our speakers, since in general it will produce no benefit that could not be obtained simply by using a single larger amplifier and may cause severe sound degradation if not done properly. If you

do biampify, use the same model amplifier for the tweeter and woofer sections (to prevent frequency-response errors caused by different amplifier gains) and be sure to remove the straps linking the two sets of input terminals on the speaker. Amplifiers may be severely damaged if straps are not removed.

BASS MANAGEMENT SETTINGS

Surround-sound receivers and processors use what is known as bass management to ensure that low frequencies in the various channels are sent to speakers that can handle them well and away from small speakers that cannot. Klipsch THX Ultra2 loudspeakers are optimized for the THX crossover setting. (Technically, that's an 80Hz crossover with a 12dB/octave high-pass section feeding the amplifiers for the satellite speakers and a 24dB/octave low-pass section feeding the subwoofer amplifier.) All THX-certified receivers and processors incorporate this crossover in their bass-management systems. Non-THX surround-sound components usually have crossovers somewhere from 80 to 100Hz and with slopes of 12 to 24dB/octave. Although the THX crossover is ideal for Klipsch THX Ultra2 speakers, these other crossovers will usually give acceptable results. Regardless, all Klipsch THX Ultra2 LCR and surround loudspeakers should be set to “Small” in your receiver or processor's speaker setup menu.

CARE AND CLEANING

The only thing you should ever need to do to your speakers is dust them occasionally. Never apply any abrasive or solvent-based cleaner or any harsh detergent. You can clean the grilles with the brush attachment of a vacuum cleaner.

WARRANTY – U.S. AND CANADA

Klipsch warrants to the original retail purchaser that this product is to be free from defective materials and workmanship for a period of five (5) years, from the date of purchase, if it is properly used and maintained. If this product proves defective in either material or workmanship, Klipsch, at its option, will (a) repair the product, or (b) replace the product, at no charge for parts or labor. If the product model is no longer available and cannot be repaired effectively or replaced with an identical model, Klipsch at its sole option may replace the unit with a current model of equal or greater value. In some cases, modification to the mounting surface may be required where a new model is substituted. Klipsch assumes no responsibility or liability for



such modification. To obtain a repair or replacement under the terms of this warranty, please return to dealer first, if possible, and they will direct you accordingly for repairs or replacement. You will be required to submit a copy of the original receipt.

Limitations:

- This limited warranty does not cover failure of the product resulting from improper installation, misuse, abuse, accident, neglect, mishandling, or wear from ordinary use or environmental deterioration.
- This limited warranty does not cover cosmetic damage, including paint damage, or consequential damage to other components or premises which may result for any reason from the failure of the product.
- This limited warranty is null and void for products not used in accordance with Klipsch's instructions.
- This limited warranty is null and void for products with altered or missing serial numbers and for products not purchased from an authorized dealer.
- This limited warranty terminates if you sell or otherwise transfer this product to another party.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE, JURISDICTION TO JURISDICTION OR COUNTRY TO COUNTRY. KLIPSCH'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPLACEMENT OR REPAIR AS SETFORTH IN THIS WARRANTY STATEMENT. FOR CANADIAN CUSTOMERS, KLIPSCH DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, FOR THE PRODUCT. FOR U.S. CUSTOMERS, ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN TIME TO THE TERM OF THIS WARRANTY. SOME STATES, JURISDICTIONS OR COUNTRIES DO NOT ALLOW THE EXCLUSION OF CERTAIN IMPLIED WARRANTIES OR CONDITIONS, OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITIONS LASTS, SO THIS LIMITATION MAY NOT APPLY TO YOU. KLIPSCH DOES NOT ACCEPT LIABILITY FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION, ANY LIABILITY FOR THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES OR FOR PRODUCTS NOT BEING AVAILABLE FOR USE. THE MAXIMUM LIABILITY FOR WHICH KLIPSCH MAY BE RESPONSIBLE WILL BE NO MORE THAN THE AMOUNT YOU PAID FOR THE PRODUCT THAT IS THE SUBJECT OF THE CLAIM. SOME STATES, JURISDICTIONS OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

WARRANTY OUTSIDE THE UNITED STATES AND CANADA

The Warranty on this product if it is sold to a consumer outside of the United States and Canada shall comply with applicable law. To obtain any applicable warranty service, please contact the dealer from which you purchased this product, or the distributor that supplied this product.

THX and Ultra2 are trademarks or registered trademarks of THX LTD. All rights reserved

EU COMPLIANCE INFORMATION

Eligible to bear the CE mark, Conforms to European Union EMC Directive 2004/108/EC

WEEE NOTICE

Note: This mark applies only to countries within the European Union (EU) and Norway.



This application is labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

Power.

Detail.

Emotion.

For over 60 years, we've made speakers for people who are as passionate about great sound as we are. That's why every Klipsch speaker is horn-loaded to create a remarkably accurate listening experience for your music and movies. From our smallest satellites to our acclaimed professional theater installations, our speakers deliver sound that's so lifelike, you have to feel it to believe it.