REL

REL
ACOUSTICS LTD.

Operating Instructions for the

G1 Mk II Sub-Bass System

Caution Marking Explanation

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

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 appliance.

Important Safety Instructions

1 Read all of these instructions.

2 Save these instructions for future use.

3 Heed all warnings.

4 Follow all instructions.

5 Do not use this apparatus near water.

6 Clean only with automotive polish and micro fiber cloth.

7 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 Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult and electrician for replacement of the obsolete outlet.

10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11 Only use attachments/accessories specified by the manufacturer.

12 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.

13 Unplug this apparatus during lightning storms or when unused for long periods of time.

14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rail or moisture, does not operate normally, or has been dropped.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Warning

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

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on apparatus.

The mains plus is used as disconnect device. The mains plug of the apparatus should not be obstructed OR should be easily accessed during intended use. To be completely disconnected from the power input, the mains plug of the apparatus shall me disconnected from the mains.

An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

Design Safety

This apparatus is supplied with a detachable mains cord. For 230V operation a 5A fuse is fitted in the socket, for 120V operation a 10A fuse is fitted. Should the fuse need to be replaced use a similar rated fuse approved to ASTA or BSI 362 standards. Do not use without the fuse cover in place. Replacement fuse covers are available from your distributor.

Attention Explication Marquage

L'éclair avec le symbole de pointe de flèche dans un triangle équilatéral est destiné à alerter l'utilisateur de la présence de non isolée tension dangereuse à l'intérieur de l'enceinte du produit qui peut être d'une ampleur suffisante pour constituer un risque d'électrocution pour les personnes.

Le point d'exclamation dans un triangle équilatéral est destiné à alerter l'utilisateur de la présence d'instructions dans la documentation accompagnant l'appareil exploitation et de maintenance (entretien).

Informations Importantes Relatives a la Securite

1 Lisez attentivement ces instructions.

2 Conservez ces instructions.

3 Respectez tous les avertissements.

4 Suivez toutes les instructions.

5 Ne pas utiliser cet appareil près de l'eau.

6 Nettoyez seulement avec du vernis automobile et tissu microfibre.

7 Installer conformément aux instructions du fabricant.

8 Ne pas installer près de sources de chaleur telles que des radiateurs, registres de chaleur, poêles ou autres appareils (y compris les amplificateurs) qui produisent de la chaleur.

9 Ne pas contourner le dispositif de sécurité de la prise de terre. Une fiche de terre a deux lames et une troisième broche de mise à la terre. La troisième broche est fournie pour votre sécurité. Si la fiche fournie ne rentre pas dans votre prise, consultez un électricien pour le remplacement de la prise obsolète.

10 Protégez le cordon d'alimentation ne soit piétiné ou pincé, en particulier au niveau des fiches, des prises de courant, et le point de sortie de l'appareil.

11 Utilisez uniquement des fixations / accessoires spécifiés par le fabricant.

12 Utilisez seulement avec un chariot, stand, trépied, support ou table spécifié par le fabricant, ou vendu avec l'appareil. Lorsque vous utilisez un chariot, soyez prudent lorsque vous déplacez l'ensemble chariot / appareil pour éviter les blessures en cas de chute.

13 Débranchez cet appareil pendant un orage ou lorsqu'il est inutilisé storsm pour de longues périodes de temps.

14 Confiez toute réparation à un personnel qualifié. Une réparation est nécessaire lorsque l'appareil a été endommagé de quelque façon que ce cordon d'alimentation ou la fiche est endommagé, du liquide a été renversé ou des objets sont tombés dans l'appareil, l'appareil a été exposé à rail ou à l'humidité, ne fonctionne pas normalement, ou a été échappé.

Attention: Tout changement ou modification non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement.

Avertissement

Cet article est lourd. Pour éviter tout risque de blessure, prendre soin lors de la manipulation.

L'appareil ne doit pas être exposé à des éclaboussures et aucun objet rempli de liquide, comme des vases, ne doit être placé sur l'appareil.

Les conduites Plus est utilisé comme dispositif de déconnexion. La fiche de l'appareil ne doit pas être obstruée OU doit être facilement accessible pendant l'utilisation. Pour être complètement déconnecté de l'alimentation électrique, le cordon d'alimentation de l'appareil doit me débranché.

Un appareil avec une borne de terre doit être branché sur une prise de courant en étant relié à la terre.

Sécurité Design

Cet appareil est livré avec un cordon amovible cordon. Pour le fonctionnement d'un fusible de 230V 5A est montée dans la douille, pour le fonctionnement de 120V un fusible de 10A est monté. Si le fusible doit être remplacé utilisation un fusible similaire approuvé pour ASTA ou BSI normes 362. Ne pas utiliser sans le couvercle de fusible en place. Les couvercles de rechange sont disponibles auprès de votre distributeur.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: ***This equipment has been tested and found to comply with the limits for a Class B digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.***

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Dear G1 Mk II Owner

Thank you for your purchase of our G1 Mk II. This is a special product to us, part of the growing REL Reference family of products along with the No. 25 that commemorates our 25th year of producing the finest Sub-Bass Systems extant. Mk II includes a host of running improvements made along the journey of the original G1 and adds new driver and limiter technologies that we have realized just in the last few months leading up to production. Reference designs are intended to define the state of the Sub-Bass art in several key areas including, speed, pitch definition, clarity, dynamic acceleration and depth of bass extension.

The result of this cumulative group of improvements is a design that retains the speed, clarity and deep bass of the original and adds significant improvements in sheer output, scale, richness and the dynamic ability to track large scale pieces with greater tactility and ease. We invite you to carefully dial in your new reference unit or –if your system and room merit this– multi-unit vertical stacks of G1 Mk II's.

Please take your time, these products are the result of decades of experience. Enjoy the journey, set-up and dial-in is critical in state of the art audio systems and the G1 Mk II is a true thoroughbred so taking one's time is critical. Listen for even small movements to obtain the best balance of speed, richness and extension. The high end is a journey and these products that invite careful inspection, set-up and maximization of performance –such as the G1 Mk II confers– often become the bedrock upon which great systems are built.

Enjoy,

John Hunter

REL G1 Mk II Rear Panel Connection Legend

1 .1/LFE RCA Input: Used to connect to the .1/LFE output of a surround-sound processor.

2 .1/LFE RCA Output: Used to connect or “daisy chain” another REL G1 Mk II in tandem.

3 Left & Right Channel Low-Level RCA Input: Used to connect low-level signals to the sub-bass system from the output of a preamplifier, integrated amplifier or receiver. (For home cinema use, use .1/LFE input).

4 Power Pilot Light: Power On/Off indicator.

5 .1/LFE Balanced Input: Balanced (XLR connector) version of .1/LFE Input. For use only with fully balanced cables.

6 .1/LFE Balanced Output: Balanced (XLR connector) version of .1/LFE Output. For use only with fully balanced cables.

7 High-Level Input (Neutrik Speakon): Used to connect to the main front amplifier speaker terminals.

8 High-Level Output (Neutrik Speakon): Used to connect or “daisy chain” another REL G1 Mk II in tandem.

9 Power On/Off Switch: Use to turn unit on or off.

10 IEC Mains Socket: Fused mains (AC) input socket that accepts detachable power cord.

Remote Control

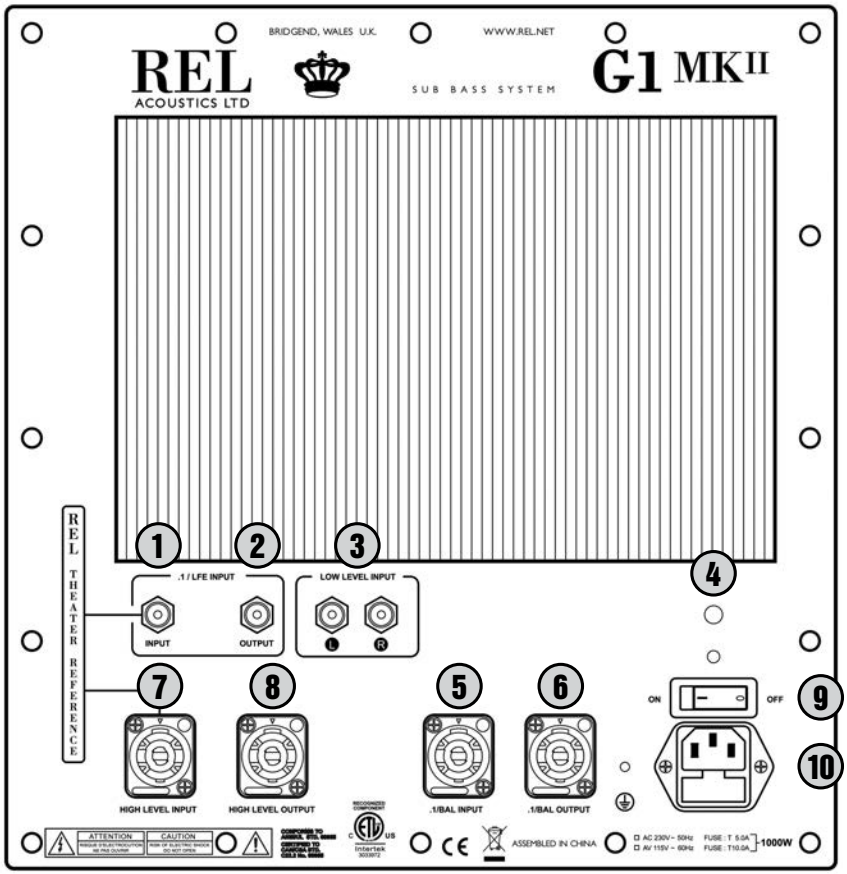
1 Crossover: Used to adjust crossover frequency. Variable between 20-90Hz.

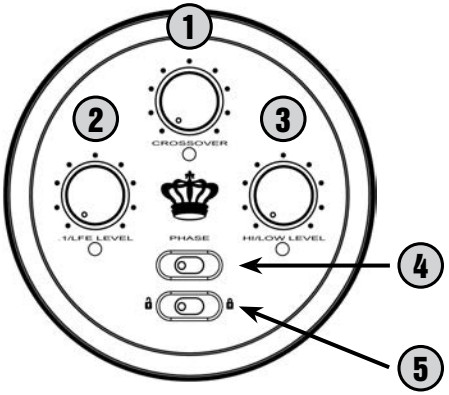
2 .1/LFE Level: Used to adjust output level when using .1/LFE input from a surround-sound processor.

3 Hi/Lo Level: Volume control for HI/LO input. Use to adjust output when using either HI Level or LO Level input. Do not use both simultaneously.

4 Phase: Used to set phase 0-180 degrees.

5 Security: Used to lock remote settings. To extend battery life of the remote, always leave the toggle switch in the locked position when not in use.


BRIDGEND, WALES U.K.
WWW.REL.NET
REL
ACOUSTICS LTD
SUB BASS SYSTEM
G1 MKII
REL THEATER REFERENCE
1
2
3
4
.1 / LFE INPUT
INPUT
OUTPUT
LOW LEVEL INPUT
L
R
5
6
7
8
9
10
ON
OFF
HIGH LEVEL INPUT
HIGH LEVEL OUTPUT
.1/BAL INPUT
.1/BAL OUTPUT
ATTENTION
CAUTION
ASSEMBLED IN CHINA
AC 230V~ 50Hz
AV 115V~ 60Hz
FUSE : T 5.0A
FUSE : T10.0A
1000W


1
2
3
CROSSOVER
.1/LFE LEVEL
PHASE
HI/LOW LEVEL
4
5

Connectivity and Functionality

High-Level Input
Connections should be made to the same binding post on main amplifier as the main speakers. Red to amplifier main right speaker red terminal, yellow to amplifier main left speaker red terminal and black to amplifier main speaker black terminal, right or left but not both. Plug the Neutrik® Speakon® plug into the HIGH-LEVEL Speakon® socket.

.1 Input
This requires a RCA to RCA or XLR to XLR cable and is a dedicated true .1 channel. This circuit therefore eliminates the normal Natural RollOff™ Crossover and passes the .1 low-level signal through with only the required 120Hz fourth-order filter.

Low-Level Input
The RCA inputs allow for conventional connection from a preamplifier and should be used in the rare event that a high-level connection proves incompatible. Plug one end of the RCA to RCA cables into the LOW-LEVEL INPUT jacks of the REL and the other end into the left and right channel output of your preamplifier.

Phase Switch
Used to set phase. Phase Switch on remote control is momentary. Refer to display for 0 or 180 degree status. Phase selection affects high-level, low-level and .1/LFE inputs.

PHASE SELECTION AFFECTS BOTH HIGH AND LOW LEVEL INPUTS
Crossover is always engaged for high and low-level inputs. The .1/LFE signal does not pass through the crossover circuit.

LED Display

An LED display is located on the lower front of G1 Mk II. All functions that are user adjustable via the remote control can be seen here. The display reverts to off a few seconds after adjustment.

Remote Control Battery Installation

G1 Mk II's Remote Control Unit requires two AAA batteries. These are not installed but are supplied. To install or replace batteries in the Remote Control Unit, first remove the bottom aluminum cover by using the supplied 2.5mm Hex key to loosen the two visible screws. With the bottom cover removed, you will see a battery holder, which will accept two AAA batteries. Follow the images on the holder for proper orientation of the batteries. After installing the batteries, test the unit by setting the SECURITY switch to UNLOCK and turning one of the knobs. If the batteries are installed properly, you will see one of the red LEDs on the remote control's front panel illuminate. Replace the bottom cover and tighten the two screws using the supplied Hex key. Battery life can be extended if the SECURITY toggle switch is left in the LOCK position when the Remote Control is not in use.

Remote Control Address Selection

The remote control unit provides an address selection function to allow multiple Sub-Bass Systems to be used in an audio system with a separate remote control for each. Additionally, if the remote control of the G1 Mk II interacts with any other piece of equipment in your system or if other remotes interact with your G1 Mk II, the address can be changed to avoid unwanted interaction. See Using the Remote Control to Address Multiple Sub-Bass Systems in the nest manual Section Connecting Up.

Connecting Up

Always switch off your system before disconnecting any wires.

To increase the versatility of connecting up, the G1 Mk II models have three separate inputs. A high-level input socket, a .1/LFE input consisting of both RCA and XLR connectors, and a low-level input that includes two RCA sockets for stereo input. This is to facilitate use with both two-channel stereo systems and AV surround sound systems.

The high-level, unbalanced, dual-channel (stereo) input is via a Neutrik® Speakon® connector is designed to accept the stereo (two-channel) signals from the speaker terminals of your receiver, integrated amplifier or basic amplifier. This has the advantage of ensuring that your subwoofer receives exactly the same signal as the main speakers, which means that the character of the bass from the main system is carried forward into the Sub-Bass System.

This is a very important point and together with REL's Natural RollOff™ circuitry, ensures far superior system integration of the Sub-Bass System with the main system.

To engage the Neutrik® Speakon® plug, insert fully into socket and rotate clockwise until locked.

To remove the Neutrik® Speakon® plug, grip body of plug, place thumb on chrome lever, move lever backwards, rotate plug anticlockwise quarter turn and withdraw.

There are two RCA sockets for low-level connection to the output of a stereo preamplifier or receiver. Another single RCA socket connect to the .1/LFE output of a home cinema processor.

HIGH-LEVEL and .1/LFE inputs can be used simultaneously. The benefits are two-fold when used with a home cinema processor. The low-level input reproduces the .1/LFE channel and the high-level connection underpins the main front speakers. The main front speakers should be set to the 'large' option on the processor. See "theatre Applications" for more information.

REL Set-Up Made Simple

REL products are not traditional subwoofers, but true Sub-Bass Systems. A REL is designed to augment the performance of "full range" speaker systems in order to provide, in certain cases, linear response below 15Hz. Therefore, for the moment, please set aside everything you've been taught about subwoofers and how they are integrated into a stereo or home cinema system. REL Sub-Bass Systems set-up and positioning differs from conventional subwoofers. A REL will take advantage of physics and room acoustics to provide deep pressurization as no traditional subwoofer can. It is important that you bring to the set-up process a willingness to do things a little differently in order to obtain these superior results. The end result of your labors will be an utterly seamless integration of true deep bass to a sound system, regardless of the main speakers' low bass capability.

Basic set-up should take no more than ten to fifteen minutes to accomplish once connected.

Two Things Before You Begin

1 It is helpful to know that you will almost always connect the REL to the input on the rear panel labeled "HIGH-LEVEL INPUT." This connection is made using the supplied 32' 10" (10 meters) cable, the bare leads of which connect to the speaker output terminals of the power amplifier. The easy and foolproof connection at the REL is done with a Neutrik® Speakon® connector. The purpose of connecting to the speaker output terminals is one of the unique secrets of REL's success. By connecting to the High Level input on the REL from the amplifier, you build forward the sonic signature of your main system, including the tonal balance and timing cues of the entire electronics chain. In this way, the REL is fed the exact signal that is fed to the main speakers.

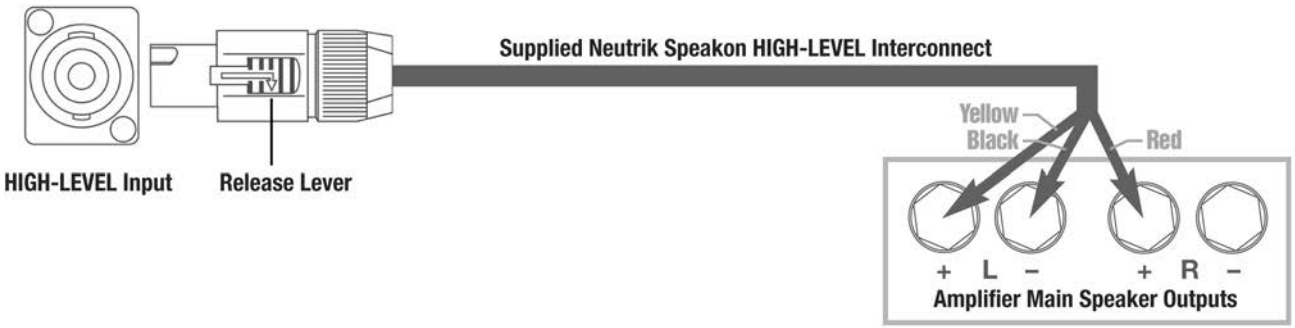
2 When possible, the REL should be placed in one of the corners behind the speakers. Remember, we are dealing with true LOW bass pressurization with RELs. Low bass pressurization below 40Hz is best derived from corner placement, where the most linear and efficient low bass can be produced because the subwoofer is able to take advantage of the tangential (corner-to-corner) axis which is typically the longest axis in a room.

Connecting and Setting Up

High-level connection, using the enclosed cable with the Neutrik® Speakon® connector, is always the first choice. This connection can be made without affecting the performance of the amplifier because the REL's amplifier input impedance is 150,000 ohms, in effect producing NO additional load on the rest of your system.

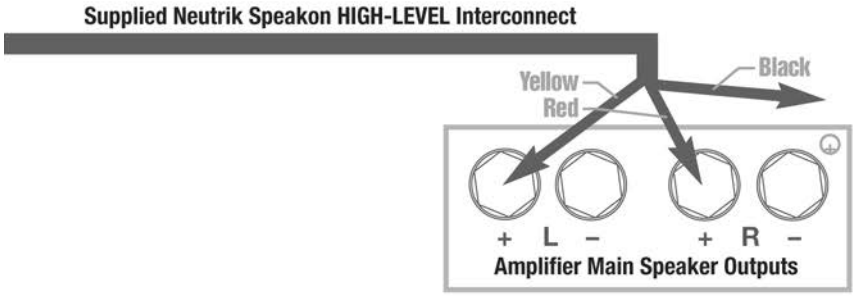
- The standard high-level hook up procedure is: attach the red wire to the amplifier's right positive speaker output terminal; attach the yellow wire to the amplifier's left positive speaker output terminal; attach the black wire to whichever of the amplifier's ground output terminals is convenient; plug the Speakon® connector into the Sub-Bass System's high-level input.

Standard High-Level



- For differential (i.e. fully balanced) amplifiers using one REL, simply use the standard connecting scheme with the exception of NOT connecting the black wire to a negative speaker terminal. Instead, it should first be allowed to “float” or hang down without connection to ANY terminal. Should hum occur using this method, please try connecting to an unused RCA connector on the rear of a preamp or amplifier. Please contact your dealer should there be any questions concerning this or any other hookup procedure.

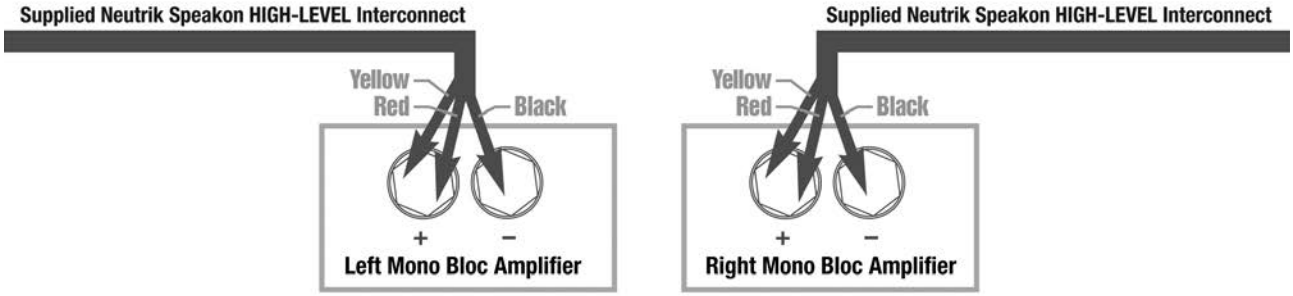
Differential (i.e. Fully Balanced)



NOTE: ***G1 Mk II models are equipped with internal circuitry to allow connection to many Class-D (digital) amplifiers.*** **Warning:** ***Do NOT connect the Black wire to the main Class D power amplifier’s speaker ground terminal. Some Class D amplifiers produce positive voltage at the amplifier’s speaker ground terminal (black) and connecting the REL’s ground will produce an undesirable shorting to ground. If connecting to a Class-D amplifier, follow the above connection procedure for differential amplifiers.***

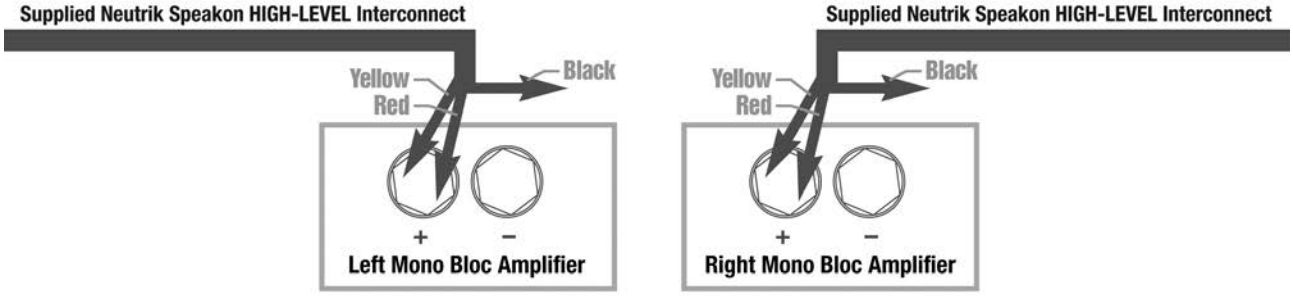
- When connecting RELs to Mono Bloc amplifiers (2) RELs, one for each amplifier, must be used. Connect the black wire of each REL to the negative speaker terminal of the corresponding amplifier channel; twist together the red and yellow wires of each REL separately and connect each pair to the positive speaker terminal of the corresponding amplifier channel. In some instances, this will result in exceptionally high gain (output) from the RELs. If it seems simply too high in gain, please remove either the red or yellow wire from the twisted pair. This will reduce output by half and restore a natural dynamic.

Mono Bloc



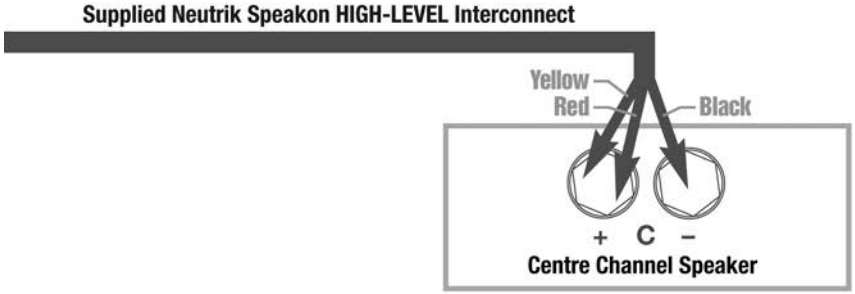
If the amplifier is of balanced differential design, please follow the instructions in the section above labeled Differential Connection.

Mono Bloc Differential



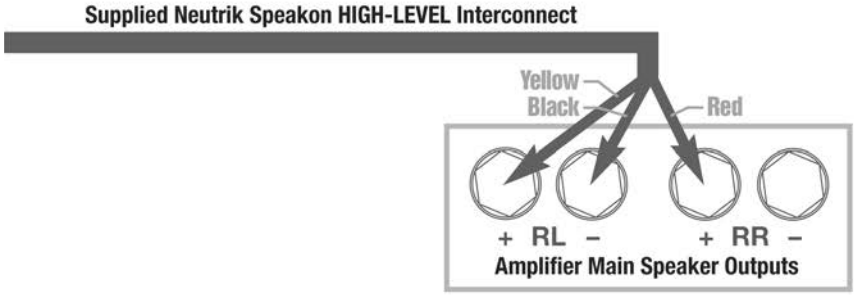
• If connecting a single REL as a dedicated centre channel sub, an insider tip is to consider connecting to the rear of the speaker, rather than routing the REL High-Level enable all the way back to the amplifier. Connect the black wire of the REL to the negative centre channel speaker terminal; twist together the red and yellow wires and connect this paired cable (red/yellow paired together) to the positive centre channel speaker terminal.

Dedicated Centre Channel



• If connecting a REL as a dedicated rear channel sub, connect the black wire of the REL to either the left rear or right rear negative speaker terminal; connect the yellow wire to the left rear positive speaker terminal; connect the red wire to the right rear positive speaker terminal. If the amplifier is of balanced differential design, please follow the instructions in the section above labeled Differential Connection.

Dedicated Rear Channel



Low-level connection (via RCA connectors) is always an option if high-level connection is not possible. When connecting to the low-level inputs in a system in which high-level connection is not possible, such as if using internally-amplified speakers, connect left and right RCA cables between the LOW-LEVEL INPUT jacks of the REL and the left and right channel outputs of your preamplifier.

When connecting to a home cinema system where there is a .1/LFE channel output, connect a single RCA to RCA or XLR to XLR cable between the sub output of the processor/receiver and the .1/LFE input jacks on the REL.

1 **Positioning:** The optimal position for a single REL G1 Mk II is in one of the corners behind the main speakers. This position provides 9 dB of mechanical amplification and allows for the most linear true low bass wave launch, owing to the ability to tune the REL's crossover to the longest distance in the room in order to produce the longest, therefore lowest frequency, bass waves.

   1a Stereo Set-Up of G1 Mk II: *(see page 20 through 23 for Stereo Set-Up procedure).* When this step has been completed, proceed to *Number 2*, immediately below.

2 **The Process:** To begin the set-up process, choose a piece of music that has a repetitive bass line that is very low in frequency. We suggest track 4 from the soundtrack to Sneakers (Columbia CK 53146). This has a repetitive bass drum throughout that gives you plenty of time to move the woofer around, but more importantly, the venue was quite large for this recording, and therefore it has a very deep and large-scale bass signature. This track is perfect for the set-up process and should be played at the highest reasonable level expected for system playback.

   Working with a partner, one in the listening position and one at the REL manipulating the controls, is the most effective and efficient way to set up the REL. If working alone, the initial steps in the set-up can be very effectively carried out from the location of the REL. Trying to ignore all other music in the track, listen for the bass drum and its effect on the listening room.

3 **Phase Orientation:** Once in the corner, we need to adjust for phase. This may be the single most critical step, and because it really is quite simple, it is often over-thought. Keep in mind; the right phase is whichever position is the loudest or fullest. While playing music with true low bass, adjust the crossover to a point where the REL and the speaker are sure to share frequencies at 50Hz on the crossover control, or slightly higher for smaller speakers. At this point turn the HI/LO LEVEL control up so that both the REL and speaker are roughly equal in volume and then switch, using the phase switch, from “0” to “180” phase positions. Again, whichever position is loudest or fullest is the correct position. That is, when the position is working in harmony with your main speakers, reinforcing bass, not canceling it.

4 **Corner Fine Tuning:** (When Setting up for Stereo G1 Mk II it is Possible that Placement is Not Corner Loaded and this Step May be Omitted). The next step is to determine precisely how far from the corner the sub should be placed to achieve the most efficient output, as well as the lowest frequency extension. With the REL fully into the corner, and pointing straight out along the diagonal coming out of the corner, continuing to play the music, slowly pull the REL from the corner on the diagonal, equidistant from both side and rear wall. At a certain point (sometimes a matter of only a few inches, in rare cases a foot or more) the REL will audibly go lower, play louder, and, if it truly locks on to the room and is fully pressurizing it, the air around the REL will seem to be energized, stop right there! This is the correct position from the corner for the REL.

5 **Orientation:** Once the position from the corner has been established, the orientation of the woofer must be determined by rotating the REL from an imagined centre point at the rear of the REL. As the REL is moved from one side to the other listen for the greatest level of output and bass linearity. In effect, the REL should be left in the position where it is playing the loudest and lowest.

6 **Crossover and Level Settings:** To determine the crossover point, take the volume of the REL (using the HI/LO Level control) all the way down, and put the crossover to 30Hz. At this point, bring the REL's volume back up slowly to the point where you have achieved a subtle balance, i.e. the point at which you can just hear the G1 Mk II even with the main speakers playing. First, bring the crossover point up until it is obviously too high; now gently reduce frequency to the appropriate setting. For all intents and purposes, this is the correct crossover point. Once this stage has been reached, subtle changes to volume and crossover may be accomplished to provide the last bit of complete and seamless integration. With that, set-up is complete.

Hint: *There may be a tendency to set the crossover point too high and the volume of the Sub-Bass System too low when first learning how to integrate a REL with the system, the fear being one of overwhelming the main speakers with bass. In making this common error, the resulting set-up will be lacking in bass depth and dynamics. The proper crossover point and volume setting will increase overall dynamics, allow for extended bass frequencies, and improve soundstage properties. Note, volume adjustments may need to be made to offset the effects of crossover changes. In general, when selecting a lower crossover point, more volume may need to be applied.Higher crossover frequencies will generally necessitate less gain.*

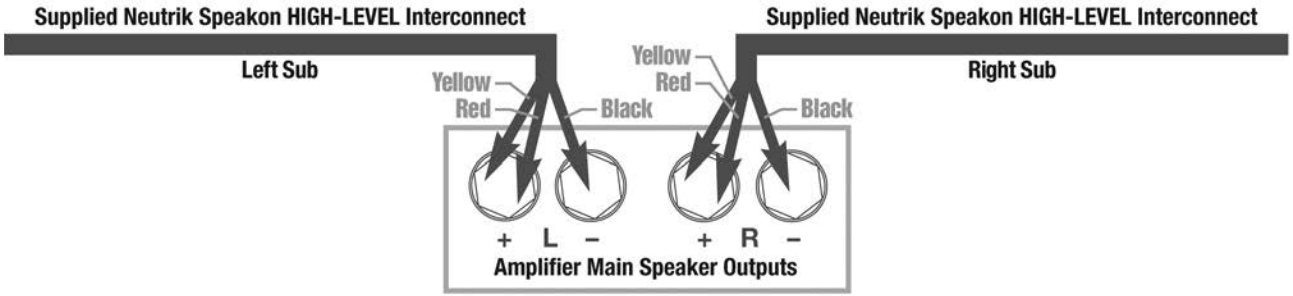
Stereo Set-Up of REL G1 Mk II

Stereo Sub-Bass is advised for the fastest, clearest, deep bass—not for more output. Conventional wisdom has it that stereo subs results in between +3 and +6 db additional output depending upon positioning. In and of itself, this is of only passing interest in most instances since even a single G1 Mk II is capable of profound output. What then, is the point to adding a second stereo Sub-Bass G1 Mk II?

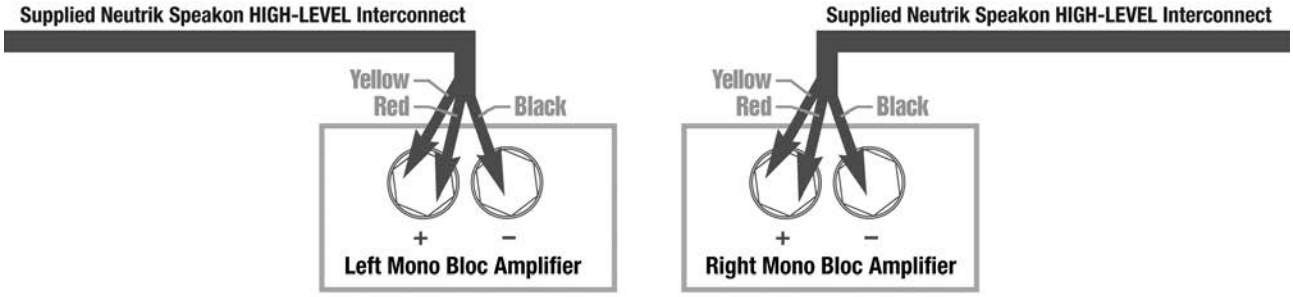
In a word, clarity. Clarity that permits "seeing" back into the farthest reaches of the sound stage. Clarity that illuminates all dimensions of the musicians and the space that they inhabit equally and enhances the natural reality of a great full range system, as only RELs can. Stereo Mk II's and vertical stacks, often referred to as 6-Packs, produce clarity, transparency, speed and low level detail NOT just in the bass but throughout the entire spectrum of music.

Set-Up: When setting up stereo G1 Mk IIs, it is possible to place both units in the front corners of the room, carefully toed-in and placed per normal guidance in this manual. Connect each sub to the speaker terminal outputs based on the following diagrams for standard stereo amp, non-balanced mono blocks or balanced differential mono blocks.

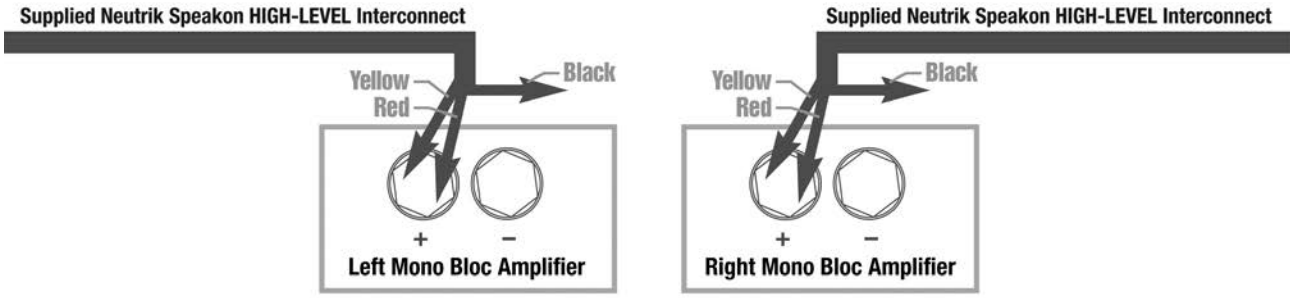
Stereo



Mono Bloc



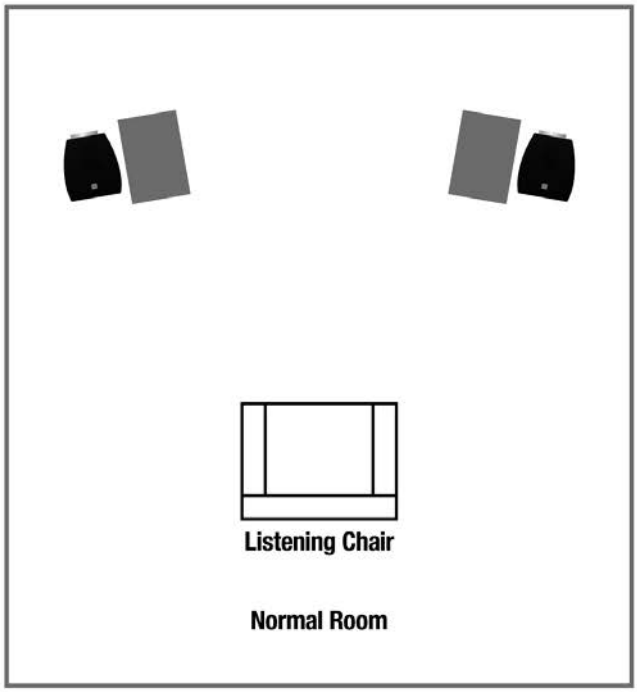
Mono Bloc Differential

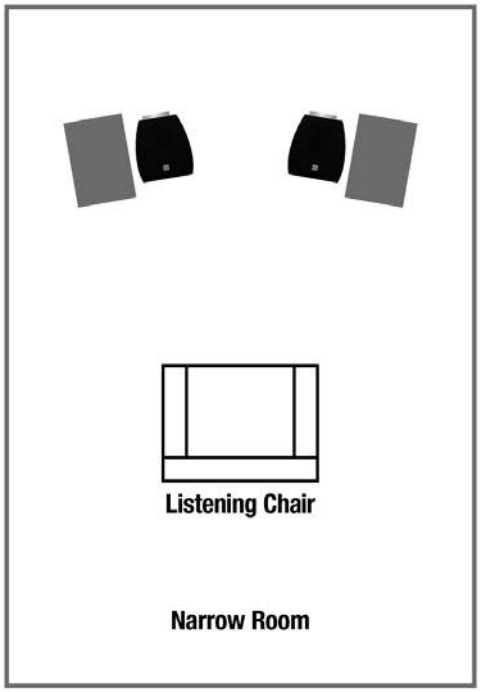


Expert Set-Up: Preferable is to bring the subs further out into the room and place them slightly behind and outboard of the main speakers.

1 Set each side up independently. Disconnect the sub that is not being set-up so your complete focus can be given over to the sub that is being set-up. Carefully follow the guidance provided in standard set-up if you are unfamiliar with standard REL set-up procedure for gain, phase and crossover settings *(see page 14 thruogh 18 for Standard Set-Up procedure)*.

2 Carefully fine-tune the position of the sub in its recommended location (slightly behind and to the outside of the main speaker) listening for rich powerful room nodes, but focusing on speed and connection with the main speaker. Since there will be a preponderance of output available to a stereo G1 Mk II owner, focusing on connection with and blending with the main speaker becomes the primary focus, not merely raw output.





3 Once each sub has been carefully tuned, attach the cables for both subs. At this point, the output achieved will be too loud and will require re-setting the volume/gain control of each G1 lower. This is normal as the combined output is likely to be at least 3 db louder with both subs now being used. Using the supplied remote, carefully turn down each sub until perfect balance is achieved. While turning the left or right sub gain down, it is helpful to turn slightly and even lean slightly toward the side that is being adjusted to better achieve focus and a balanced sound level more quickly.

Note: ***RELs use massive power supplies that can require 3-4 days to fully charge. During this time, your G1 Mk II sub will begin to play louder. This is normal. It may require the user to lower the volume slightly during this period.***

G1 Mk II is designed to allow multiple units to be used in conjunction either as stereo pairs, or the ultimate: vertical tower stacks of stereo subs. Stacked towers extend and strengthen the performance.

Connectivity for Towers of G1 Mk II, Multiple Sub-Bass Systems

To render connectivity simple, G1 Mk II provides both inputs and outputs for all connections. Thus, a stack of G1 Mk II can be connected using only one high-level main cable from power amp to REL stack. In a .1 film sound configuration each channel will require a single main .1 cable as well, but additional units' .1/LFE connections in a tower may be daisy chained to minimize clutter. Stacked G1 Mk II subs have the ability to effortlessly energize even the largest of salons with huge wavefronts of air, from the most delicate cello pizzicato to the most crushing of pipe organs played at triple forte, G1 Mk II possesses the ability to convey the musical event or film sound spectacularly and with ease.

This connectivity allows for the same amplifier output signal to easily feed multiple Sub-Bass Systems.

Simply use the optional cable (Speakon-to-Speakon) to connect from the "HIGH-LEVEL OUTPUT" of the first sub-bass system to the "HIGH-LEVEL INPUT" of the second unit.

When "daisy chained" each Sub-Bass System retains its autonomy and each will need to have its output level, crossover point, phase, etc. adjusted individually.

For multi-channel home cinema systems, the same procedure is followed except a RCA-to-RCA cable is also used to connect the first sub-bass system ".1/LFE OUTPUT" to the ".1/LFE INPUT" of the second unit. As is typical for REL, both high-level and .1/LFE inputs can be used together and adjusted independently offering the ability to blend both signals to your taste.

Stacking Rails

To protect G1 Mk II's fine furniture grade cabinetry when stacking, stacking rails with felt coverings that replace the metal feet are required. The kit contains all hardware necessary to attach the rails, as well as a Speakon-to-Speakon high level jumper cables for daisy-chaining. Stacking G1 Mk II 's without these rails will void the warranty.

Using the Remote Control to Address Multiple Sub-Bass Systems

The address selection is accessed on the remote control unit by removing the bottom aluminum cover in the same way as outlined in the section Battery Installation. Removing the cover will reveal a small rotary switch labeled "ADDRESS" next to the battery holder. Factory setting is position "0". With the remote control unit powered off (locked mode), this switch can be rotated using a small slotted screwdriver to select one of sixteen possible address positions, "0" through "F". Once a selection has been made, replace the back cover and turn the remote control unit on (unlocked mode). At this point the remote control will not operate the G1 Mk II. In order to pair the remote control unit with the sub-bass system, point the remote control unit's emitter at the LED display and hold the PHASE switch for 5 seconds. The LED under the CROSSOVER control will flash once and the display on the Sub-Bass System will read "– – –" followed by a confirmation noting the selected address. The Sub-Bass System is now paired with the specific remote control unit and will not function with a different remote. In a system with multiple Sub-Bass Systems, change each address one unit at a time with the Sub-Bass Systems not being changed switched-off to avoid inadvertently changing the addresses of multiple units.

Theatre Applications

For Dolby Digital AC3 or other 5.1 theatre systems, once the standard set-up for two-channel outlined above is complete, the LFE output from the processor or receiver should be connected to the .1/LFE INPUT and appropriate volume adjustments made using the .1/LFE level control. For this configuration, you must set the processor to the “large” or “full range” setting for the left and right speakers in order for the REL to receive the bass signal via the high-level cable. In this configuration, the REL provides support for both the left and right speakers for two-channel listening, and support for the LFE when movies are playing. Most processors will allow you to defeat the subwoofer output when listening in the two-channel mode. The effect of this set-up is one of greatly increased dynamics in the mid-bass range, no bass bloat, and a greater degree of space and timing from the special audio effects. For an even greater sense of space and impact, a second REL connected in parallel to the centre channel will prove to be a dramatic improvement as well. And if that is not enough, a rear REL, both to support the rear channel speakers as well as to evenly distribute LFE through the room, truly completes the full-range sonic picture for state-of-the-art film reproduction.

Running In

Care taken during run in will be rewarded by many years of pleasurable use. Both the electronics and the drive unit will benefit from an initial period of carefully controlled use. Possible damage may be sustained by running in the unit at too high a volume setting over an extended period. On the other hand, by taking a little care over this initial period, about 24 hours of actual use, a longer life with a higher potential eventual performance is assured.

Care and Polishing

The cabinets are best maintained by using an automobile polish made by reputable manufacturers. Our favorites are those made by Meguiars and Mother’s. If objects are to be placed upon the top, it is advisable to use a small mat to protect the surface and to avoid the risk of rattles.

Technical

G1 Mk II employs an advanced filter circuit which provides exceptional performance when coupled to the rest of the signal chain of the Sub-Bass System. A second-order variable low-pass filter approximating a Bessel function was chosen for its linear phase response, which equates to flat group delay. This means that, unlike other filter functions, the amount of delay the signal is subjected to during processing is constant through the entire pass-band, which improves the frequency response and allows for better integration of the sub with the main speakers. An additional fixed second-order Bessel filter follows the variable filter, removing unwanted midrange signals that, if left unfiltered, cause the midrange of the main speakers to become muddy or congested. All filtering is performed in the analog domain using high-quality components with tight tolerances to ensure the highest possible performance and consistency.

The amplifier is fully DC coupled to avoid phase shifts and compromises in its low end performance. It is inherently stable and will retain its characteristics over very long periods of time – important in a unit designed for an exceptionally long working life. These amplifiers are designed to withstand reasonable abuse and overloads. If in doubt, please contact your dealer.

We believe that the importance of the electronics, cabinet and drivers being designed to work in harmony is paramount. This belief allows G1 Mk II to achieve the highest possible level of fidelity.

Overload Protection

All REL Sub-Bass Systems are designed as true Sub-Bass speakers. They are designed to reproduce those exceptionally deep notes that are felt as well as heard. This it will attempt to do at whatever volume level you set. If set too high no damage should result because the built-in electronics will limit the cone movement. This electronic control is called Set-Safe™. It constantly and instantaneously monitors the output from the power amplifier and is totally transparent in operation until required. This means it has absolutely no effect on the sound quality of your REL until an overload is detected.

Ordinarily an overload would cause the power amplifier to go into clipping with resultant loss of control over the drive unit. This can cause drive unit damage, and always sounds nasty. Set-Safe™ detects the point of incipient clipping and gently soft-clips the waveform of the signal to ensure actual clipping does not occur.

This is a necessarily simplified description of what actually happens, but in effect, Set-Safe™ controls the amplifier and ensures there is minimum risk of amplifier and driver damage caused by over-driving.

A thermal overload device is fitted to all G1 Mk II Sub-Bass Systems. If the unit is deliberately over-driven this device will sense the temperature rise and cut the output; recovery time is approximately five minutes. If this happens, it is a warning that the unit is being over-driven and the volume level control should be reduced to a safe level.

Although everything possible has been done to minimize risk of thermal overload failure, there can be no defense against those individuals who deliberately abuse the device. Such damage is NOT covered by warranty. Please remember your REL is there to supplement your main system, not overwhelm it!

Power Saving Efficiency

All REL Sub-Bass System designs utilize a true On-Off switch that affords the owner the ability to turn off their unit completely, without having to unplug the A/C mains cord. When a REL Sub-Bass System is switched off using the On-Off switch on the rear panel it draws ZERO power.

It is not necessary to switch off between listening sessions – it will not significantly shorten its life by leaving it switched on. On the other hand, it will not harm sound quality if it is always switched off. It is perfectly safe under all normal domestic circumstances as it is fully protected by internal fuses and an external mains fuse in the fuse holder of the mains input socket, with a spare inside this holder.

G1 Mk II Specifications

Type:	Closed box, front firing woofer
Drive Units:	12 in., 300mm long throw, carbon fiber cone with inverted carbon fibre centre cap
Lower Frequency:	-6 dB at 15Hz (in Room)
Input Connectors:	High-level Neutrik Speakon, low-level stereo RCA, LFE RCA
Gain Control Range:	80 dB
Power Output:	600 Watts (RMS) Ultra High-Current Power Supply
Phase Switch:	Yes, 0 or 180 degrees
Amplifier Type:	Class AB
Protection System	
Fully Electronic with SET-SAFE:	Yes
D.C. Fault:	Yes
Output Short:	Yes
Mains Input Voltage:	220-240 volts, 110-120 volts for certain markets
Fuses:	5 Amp semi delay 230 volts operation 10 Amp semi delay 115 volts operation
Dimensions (WHD):	Including feet and rear panel controls 22.5 x 18.2 x 26.8 in., (571.5 x 462 x 680.3mm)
Net Weight:	108 lbs. (49kg)
Finish:	Gloss Piano Black
Supplied Accessories	
Mains Lead:	Yes
Neutrik Speakon Interconnect:	Yes (10 Meters Nominal)
Users Manual:	Yes
Batteries (AAA x 2):	Yes
Spikes (x 4):	Yes
Allen Key (2.5mm):	Yes

REL Acoustics Limited
North Road, Bridgend industrial Estate . Bridgend, CF31 3TP . United Kingdom
Telephone: +44 (0)1 656 768 777 . Fax: +44 (0) 1 656 766 093
Web: www.rel.net