



Our mission is to innovate,
design and deliver superior
audio products that form the
bridge between an artistic
vision and a realized dream.



ROKIT POWERED SERIES
NEAR FIELD
STUDIO MONITOR/SUBWOOFER
GUIDE



IMPORTANT SAFETY INSTRUCTIONS



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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



The lightning flash with an 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 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 product.



Do not place this unit on an unstable cart, stand or tripod, bracket or table. The unit may fall, causing serious injury to a child or adult and serious damage to the unit. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the unit. Any mounting of the device on a wall or ceiling should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

1. "An apparatus with Class I construction shall be connected to a mains sockets outlet with protective earthing connection."
2. "Where the mains plug or an appliance coupler is used as the disconnect device, the disconnection device shall remain readily operable"
3. "If a fuse is used to US market, voltage will be set to 115V before shipment; 500mA fuse is used to European market, voltage will be set to 230V before shipment."

Read and follow all the safety and operating instructions before connecting or using this unit. Retain this notice and the owners manual for future reference.

All warnings on the unit and in its operating instructions should be adhered to.

Do not use this unit near water; for example, near a bath tub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool.

The unit should be installed so that its location or position does not interfere with its proper ventilation. For example, it should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet, that may impede the flow of air through its ventilation openings.

The unit should be situated from heat sources such as radiators, heat registers, stoves or other devices (including amplifiers) that produce heat.

The unit should be connected to a power supply outlet only of the voltage and frequency marked on its rear panel.

The power supply cord should be routed so that it is not likely to be walked on or pinched, especially near the plug, convenience receptacles, or where the cord exits from the unit.

Unplug the unit from the wall outlet before cleaning. Never use benzine, thinner or other solvents for cleaning. Use only a soft damp cloth.

The power supply cord of the unit should be unplugged from the wall outlet when it is to be unused for a long period of time.

Care should be taken so that objects do not fall, and liquids are not spilled into the enclosure through any openings.

This unit should be serviced by qualified service personnel when:

- A. The power cord or the plug has been damaged;
- B. Objects have fallen, or liquid has been spilled into the unit; or
- C. The unit has been exposed to rain or liquids of any kind; or
- D. The unit does not appear to operate normally or exhibits a marked change in performance; or
- E. The device has been dropped or the enclosure damaged.

ATTENTION

POUR ...VITER LES CHOC ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT FULLY INSERT.

If an indoor antenna is used (either built into the set or installed separately), never allow any part of the antenna to touch the metal parts of other electrical appliances such as a lamp, TV set etc.

CAUTION POWER LINES

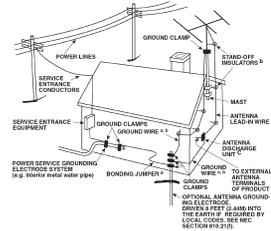
Any outdoor antenna must be located away from all power lines.

OUTDOOR ANTENNA GROUNDING

If an outside antenna is connected to your tuner or tuner-preamplifier, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

- a. Use No. 10 AWG (5.3mm²) copper, No. 8 AWG (8.4mm²) aluminium, No. 17 AWG (1.0mm²) copper-clad steel or bronze wire, or larger, as a ground wire.
- b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4-6 feet (1.22 - 1.83 m) apart.
- c. Mount antenna discharge unit as close as possible to where lead-in enters house.
- d. Use jumper wire not smaller than No.6 AWG (13.3mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used; see NEC Section 810-21 (j).

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 - RADIO AND TELEVISION EQUIPMENT.



NOTE TO CATV SYSTEM INSTALLER: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code that provides guidelines for proper grounding and, in particular, specifies that the ground cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

DO NOT ATTEMPT SERVICING OF THIS UNIT YOURSELF. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

Upon completion of any servicing or repairs, request the service shop's assurance that only Factory Authorized Replacement Parts with the same characteristics as the original parts have been used, and that the routine safety checks have been performed to guarantee that the equipment is in safe operating condition. REPLACEMENT WITH UNAUTHORIZED PARTS MAY RESULT IN FIRE, ELECTRIC SHOCK OR OTHER HAZARDS.

An Uncommon Value in Studio Reference Monitors

KRK's new Rokit Powered studio monitors provide a level of precision and performance unheard of in monitors in this class. Rokit Powered monitors feature several of the key design elements found in KRK's premium models, many of which have become the "studio standard" for the world's finest engineers, producers and musicians. Now, you can have that same KRK sound, attention to detail and commitment at a price that makes Rokit Powered a truly uncommon value.

Contents

	Page
Introduction - Unpacking	1-2
Design Philosophy - Design Elements	3-4
System Highlights - Connecting Your System	5-6
Installing and Positioning Your Monitors	7-14
Troubleshooting	15-17
Specifications	17-18

Introduction

Congratulations on your KRK purchase! Welcome to the growing family of KRK owners.

Growing demands on music recording industry professionals have created the need for better monitor performance at more affordable prices. The RoKit Series class of Powered Studio Monitors was created to address these needs. Please take a few moments to review the information in this guide.

Safety

For your safety and to ensure correct operation of this product, please take a moment to read the safety precautions opposite this page.

Caution

Never remove the rear panel of these powered monitors. To do so could result in electric shock. A qualified technician should preform any repair or service to the electronics.

This product is capable of producing sounds at a volume that could be damaging to hearing and result in permanent hearing loss over an extended period of time.

Unpacking and Visual Inspection

It is rare that a unit is damaged during shipping. However, if this does happen, contact shipping company immediately. Keep the original carton and packing material for future shipping, and to preserve your warranty!

IMPORTANT NOTE: Your Rokit Powered monitor was originally packaged in a specially designed carton and indicated special packaging materials. Please save these items. They should be used when transporting or shipping your Rokit Powered monitors.

Unpacking

Your Rokit Powered subwoofer has been carefully inspected and tested before packing and shipping. After unpacking your monitor/subwoofer, carefully inspect it for exterior damage and immediately report any physical damage during transit to your shipping carrier. Save the shipping boxes and all packaging materials in case the unit needs to be returned to your local dealer or KRK Systems, LLC.

Please read the warranty card that was included in the shipping carton for your product before shipping to KRK Systems. A return authorization number from KRK Systems is also required before shipping a product to KRK Systems for repair. After obtaining a return authorization number from KRK Systems, all KRK Systems products in need of repair can be returned to the dealer where they were purchased or sent directly to KRK Systems.

- For the safest possible return to KRK, please use the shipping carton and packaging that your monitor was originally shipped in.
- KRK cannot be responsible for any damages incurred during the shipping process due to poor packing. Make certain to insure your shipment.
- If your monitor is out of warranty and you would like a quotation before servicing your product, please include a note with your contact information on it and we will contact you with a service quote. Service will be performed once your method of payment has been established and approved.
- Replacement carton and packaging can be purchased from KRK Systems, LLC for \$18.00 each.
- For replacement part quotes call KRK Customer Service at 818-534-1580.

Design Philosophy

A studio monitor is really a tool used to aurally “measure” the changes in an audio path. Ask any pro or semi-pro recordist what they think makes a great studio monitor and you’ll get basically the same answers: “Accuracy, transparency, “flat response”, and “the truth”.

Everybody is saying the same thing – they want the electrical signal going in to a monitor to be reproduced mechanically by the transducers and they want that to happen without any degradation to the original signal. Professionals need to trust a speaker to deliver their artistic vision in a way that will translate to a variety of audio mediums. How you get there from a technical stand point is by designing a speaker that eliminates or minimizes several damaging conditions. The KRK design philosophy is manifested by paying very close attention to what we call the three cornerstones:

1. Spectral Balance (Timbre)

What people tend to think sounds good is not necessarily “flat response.” A perfectly flat monitor tends to sound harsh and abrasive – technically correct but not very musical. Research shows us that a speaker with the proper spectral balance is most often considered “a great studio monitor”.

Spectral balance is defined by:

- Smooth on-axis response (not necessarily flat)
- Smooth octave to octave response
- Smooth off-axis response (not flat)

From years of listening to feedback from some of the top engineers and producers we’ve come to understand how a properly tuned monitor can become a valuable recording tool.

2. Distortion Management – Physical (Non-linear) and Electronic

Distortion: Any deviation of the original audio signal is a distortion. Various amplifier distortions have been identified; the most commonly measured being intermodulation and harmonic distortion.

Distortion can be present in an amplifier circuit but can really be a problem when the acoustical waveform is impacted by physical conditions such as port turbulence and driver distortion. KRK engineers implement design concepts that eliminate or minimize these damaging conditions.

3. Resonance Management

Resonance: The prolonging of the sound at a certain frequency and the tendency of something to vibrate at a particular frequency after the source of energy is removed.

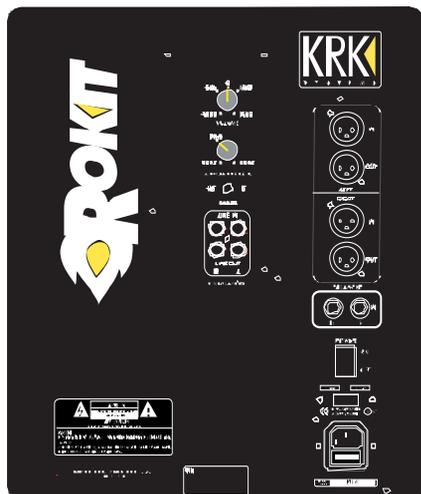
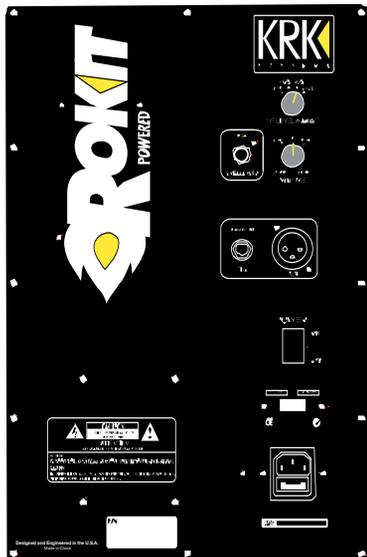
Resonances also play a major role in impacting the performance of a speaker. KRK design elements minimize cabinet vibration, speaker frames and cones resonating or standing waves inside the cabinet that impact the performance in a negative way.

Design Elements

Radiused Edges - All cabinet edges and port openings are Radiused to reduce diffraction resulting in better detail and stereo imaging.

Slotted Ports – Slotted ports reduce the port turbulence and distortion commonly found in poorly designed round ports.

Custom Made Drivers - KRK is renowned for designing high performance studio monitor drivers. Your Rokit Powered is no exception. Our Proprietary Signature Yellow Woofers made of a woven glass aramid composite deliver articulate midrange and tight clear low end response.



Systems Control

SYSTEM VOLUME

The input sensitivity is adjusted (counterclockwise reduces sensitivity) with the rear panel mounted System Gain control. Adjustment range is from -30dB to +6dB. Factory preset gain is +6dB, which should suffice for most conditions. Normally adjustments would only be made if you're using your monitor in a surround system and need to balance levels or if your monitor send is too hot and not adjustable.



HF ADJUSTMENT (TWO-WAY SYSTEMS)

High Frequency Adjustment is through a rear panel mounted 4-position rotary switch. Range of control is +1dB, Flat, -1dB, or -2dB shelving above 2 kHz. Factory setting for your Rokit Powered Monitor is flat (switch is in 0dB position). Room acoustics may dictate which type of adjustment you need to make to retain a flat frequency response from the monitor. (See additional information in Installing Your Monitors section on page 4.)



Connecting Your System

POWERING ON

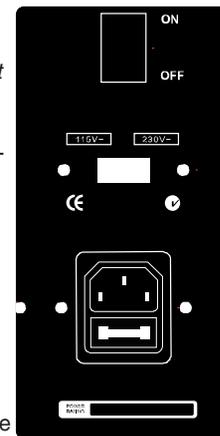
All connections should be made, all fader and controls should be set at their minimum levels, and all other equipment should be powered on prior to powering on your Rokit monitors.

The power On/Off switch is located on the rear panel. A yellow LED illuminates the trademarked KRK Triangle on the front baffle when power is applied.

NOTE: MAKE SURE THAT THE VOLTAGE INDICATOR FOUND IN THE VOLTAGE SELECTOR IS SET TO THE CORRECT VOLTAGE SETTING FOR YOUR VOLTAGE.

CHANGING VOLTAGE

To change the voltage, remove the power cord, slide voltage selector to desired voltage setting. Please note when making voltage changes, the fuses will have to be replaced. (see Changing Fuses section below)



CHANGING FUSES

Under normal operation the fuses should not blow. A blown fuse usually indicates an overload or fault condition. To change the fuse, remove the power cord, pry off the fuse block with a small flathead screwdriver and change the blown fuses.

Refer to specifications page 8 for fuse current ratings.

If the fuses blow immediately upon power up, this indicates a fault condition and the monitor should be returned to KRK for repair.

AUDIO INPUTS

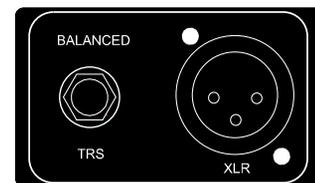
The XLR and TRS are balanced inputs where as the rca input is an unbalanced input.

UNBALANCED



RCA

BALANCED



TRS 1/4"

XLR

AUDIO INPUT
 10K OHMS BALANCED
 PIN 2 + TIP = HIGH
 PIN 3 + RING = LOW
 PIN 1 + SLEEVE = GROUND

Installing Your Monitors

The close-field monitor, by definition, reduces room interaction. This can be compared to the conventional stereo configuration or the large monitor arrangement in a recording studio where sounds emanating from the monitor or reflecting off ceilings, walls, and floors greatly affect the sound quality. By shortening the path to the ear, the close-field monitor offers a tremendous amount of flexibility, allowing the sound to become less susceptible to differing room conditions. The ability to adjust the high and low frequency characteristics is equally important to help compensate for room irregularities and achieve the highest sound accuracy. (See *HF Adjustments sections on page 2. Note- These adjustments are only available on the Rokit Powered Series.*)

A room that is heavily dampened would typically require a high frequency boost. Likewise, reducing the high frequencies can alter a reverberant room. The low frequency can be adjusted to compensate for the first reflection (bounce) off the woofer, whether it comes from the floor, as in the typical stereo setup, or from the surface of the mixing board (when the monitor is placed atop the meter bridge).

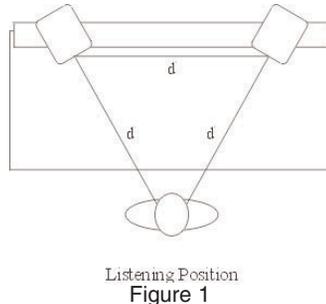
Placing the monitor close to a rear wall, sidewall, or a corner will reinforce the low frequencies. Generally speaking, if you move them two to three feet away from walls and corners, you'll hear less low frequency interaction (excluding any interaction with the mixing console). But when ideal positioning isn't practical, low frequency control is the solution. Lets say you have two different studios in your facility; in one room the monitors are close to the wall, in the other they're further away from the wall. Simply adjust the low frequency on each monitor and you'll have the same sound in each room. This comes in handy if you're tracking in room A and mixing down in room B.

Positioning Your Monitors

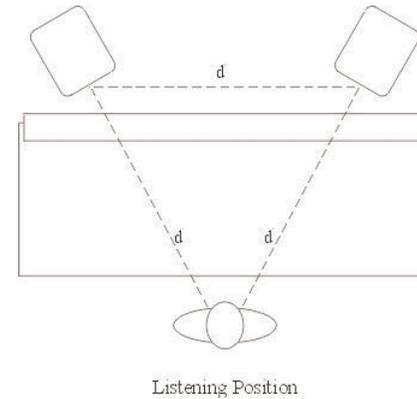
Positioning your monitors correctly in the studio is critical to their performance. Typically, they should be placed so that that the listening position is fully "covered" with all monitors resting on the same horizontal plane. A great way to test a monitor for its imaging capability is to play back a CD or DVD recorded acoustically in stereo (or one recorded in surround sound if you have a surround sound set-up). We recommend acoustic music because it represents the spectrum of sound.) You can adjust the angle of each monitor by listening for dead spots. Keep in mind, changing the angle or position of a monitor will change the sound.

2-CHANNEL SET-UP

Close-Field Configuration - In a control room situation, the monitors are often times placed on the meter bridge or in a close-field listening position. Initial placement starts by measuring out a simple equilateral triangle (all three sides equal in length) with the apex at the center of the listening position (as shown in Figure 1) as an "overlay" for the stereo installation. In this configuration, the Left and Right monitors are each placed at a 60° angle equidistant from the listening position.



Mid-Field Configuration – This configuration is basically the same as the Close-Field set-up. (see Figure 2) It is normally used with larger monitors or when the monitors are too large or heavy for the meter bridge. This set-up has the potential for a larger sweet spot and better spatial imaging. Make sure that the height of the woofer is above height of the console.

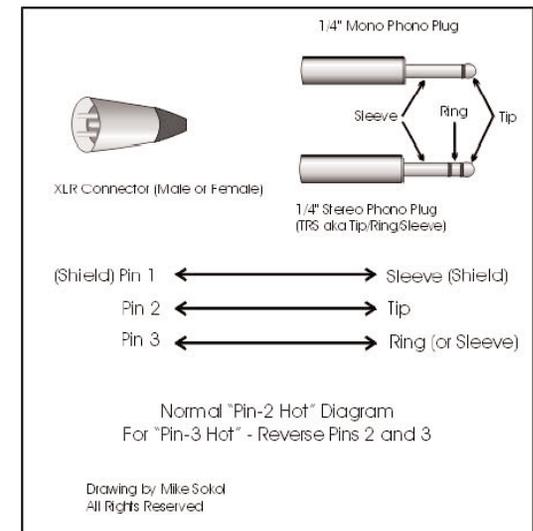
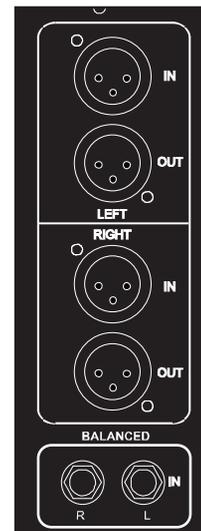


Hooking Up Your Subwoofer: Stereo Systems

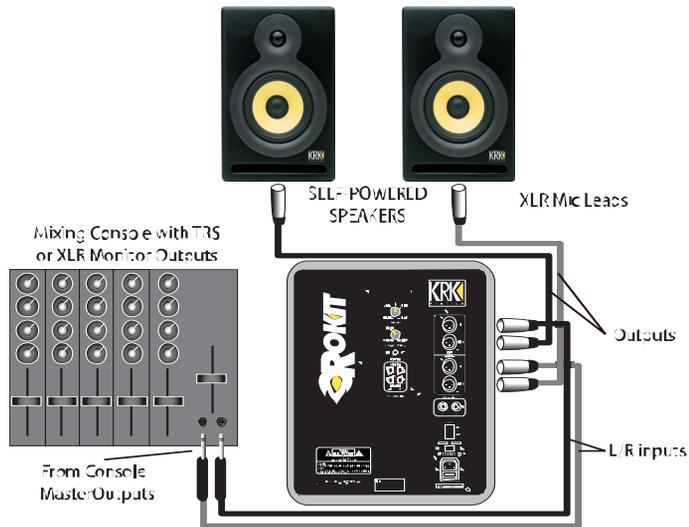
Hooking Up Your Subwoofer (Stereo)

The KRK subwoofers include a built-in crossover and amplifier, so you only need the appropriate hookup cables to integrate it into your existing monitor system. First, you need to connect a pair of cables from the stereo monitor outputs of your console to the left and right XLR, 1/4" or RCA input jacks on the subwoofer.

Next, if you are using the internal 80-Hz high-pass filter built into the subwoofer for the existing full-range monitors (and most of you will), hook the XLR, 1/4" or RCA output jacks on the subwoofer to the line-level inputs of your full-range speaker

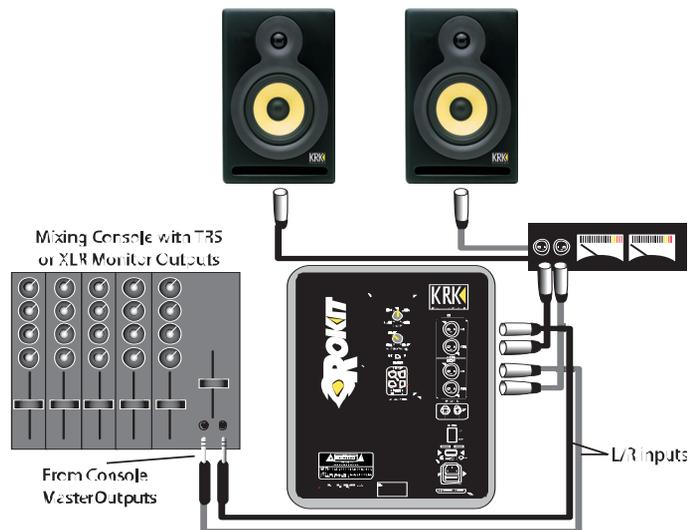


Hookup with Active Speakers



If you are using active (powered) speakers, simply use an XLR 1/4" Phono or RCA to connect the output of the subwoofer directly to the input of the speaker. The output marked "Left" should go to your left speaker, and the output marked "Right" should go to your right speaker

Hookup with Passive Speakers

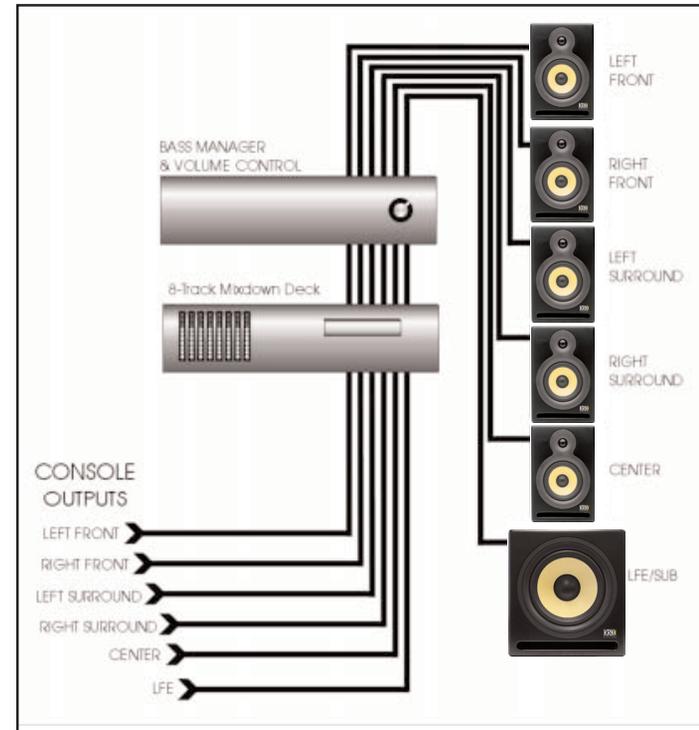


If, on the other hand, you are using passive (non-powered) monitor speakers that require an external amplifier, hook the two outputs of the subwoofer up to the inputs of the stereo monitor amplifier. Typically this would also be an XLR connector, but if need be, you could use the other connections providing the amplifier will accept them at the amp. input. Connect the power amplifier to the speakers as you normally would. **Do not attempt to hook the speaker output of the monitor amplifier to the input of the subwoofer, you run the risk of damaging the equipment.**

Rotate the subwoofer's gain control counterclockwise and set the low-pass filter control to the 80Hz position. Power up the subwoofer prior to the other speakers (shut down in reverse order); note that the power light is illuminated. Play back some music and turn the console output up to a moderate listening volume. At this point, the bass should sound quiet. Then, slowly rotate the gain control until the bass seems appropriate for the mix. If you are used to using near-field monitors with limited bass response, the difference will be quite startling. Once you have the system up and running, go to the section on subwoofer placement and adjustment (Section 7 — Subwoofer Placement and Setup and Section 8 — Bass Management Theory) and learn some of the finer points of subwoofer application.

Hooking Up Your Subwoofer for 5.1 Surround

This is a bit more complicated than a stereo hookup since there are now six speakers involved — as well as something called Bass Management (see Section 8 —



Bass Management Theory). Note from the diagram that for professional use a separate 6-channel level control box is required between the mix-down deck and the monitor speakers. This is because few small format mixing consoles have provisions to switch and level-manage a 6-channel audio signal. The simplest and perhaps best way to accomplish this is to use an external, 5.1 level controller. It is placed between the outputs of the mix-down deck and the monitor speakers, allowing it to control the playback level while the mix-down deck receives full-level recording signal.

Another option is to use a consumer, home-theater receiver in place of a professional level controller. Many of the current generation receivers have separate analog inputs that can be used for directly monitoring your mix from the console. If you are using unpowered, full-range speakers, then you can utilize the onboard power amps in the receiver itself to power them. If, on the other hand, you are using self-powered speakers for the full-range monitors, be sure to pick out a receiver that has preamp line-level outputs in addition to speaker-level outputs. Be aware that some inexpensive home theatre receivers disable bass management for the analog line inputs.

Subwoofer Placement and Setup

A properly set up subwoofer system extends the bass response of the main speakers (Either stereo or 5.1 surround) down into the 30-Hz range, but without exaggerating bass response in the room. Improper setup may cause an exaggeration of bass response in the room, which in turn may cause the engineer to mix in less bass energy than desired.

There are three basic steps to take to ensure you have a subwoofer operating in top form: 1) Room treatment; 2) Proper placement of the sub in the room; and 3) Proper electrical settings. The first step (which is beyond the scope of this manual) means you should hire a qualified studio acoustical consultant who can identify and rectify the acoustical shortcomings of your control room. You will hear a lot of talk about standing waves, flutter, decay time, absorption and reflection, and it may be expensive, but if you run a commercial recording space, consider it the cost of doing business. If, of course, you dealt with the necessary room treatment before purchasing a subwoofer, then you are already in great shape to move forward.

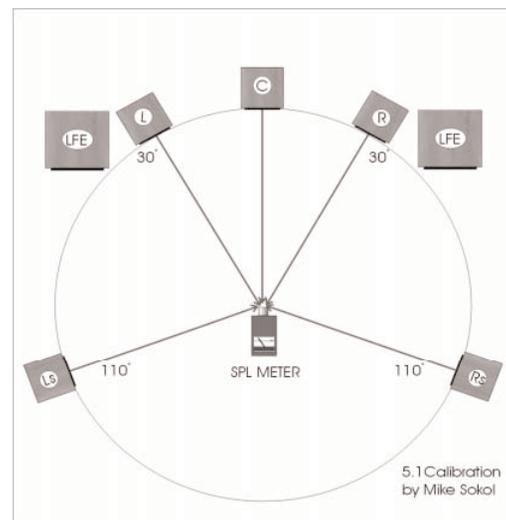
If room treatment is not in your plans, then focus on the other two basic ways to accomplish proper setup of your subwoofer. These are: 1) via proper subwoofer placement within the room; and 2) via electrical settings that affect levels, low-pass filter frequency and phase

Proper Physical Placement of Subwoofer

Just because bass frequencies are largely non-directional does not mean that you can ignore the subwoofer's placement in the room. In fact, a sub's physical position in the room in relation to the floor, walls and other surfaces radically influences its bass response. In a monitoring situation, it is desirable to place the subwoofer so that it produces the smoothest frequency response at the listening position. In addition, since the subwoofer's output will interact with the other monitor speakers in the room, it is important to consider the subwoofer and near-field speakers as a total system. If you have access to a Real Time Analyzer and a calibration micro-

phone, then setting up the room can be fairly painless. However, it can also be done with a generic SPL meter, or even your own ears, once you know what to listen for.

At this stage, you have only the subwoofer operating. Once you find its optimum position and settings, then it will be time to turn on the complete monitoring system to see that all components interact properly. What you are attempting to do is find a place in the room where the subwoofer interacts smoothly with the acoustics to even out the bass response at the listening position. One novel way to do this is to reverse the normal position of the subwoofer and listening spot by temporarily moving the subwoofer to your seat position in front of the console. Then play back pink noise in the 30 to 80 Hz range or music with robust bass information. Now by moving the SPL meter (or your ears) around the various potential speaker positions in the room, you can listen for where the bass sounds the loudest. That is where the



speaker loading would potentially be at its greatest.

Once you find the optimal spot, place the subwoofer at that position and listen to it from the console position. Even without an SPL meter you can then use stepped band-pass, pink noise and sine-wave sweeps to evaluate how even the bass response is. Move the subwoofer around a foot at a time until the bass response is as even as possible at the listening position. Remember that you do not want any single frequency to be exaggerated during monitoring, as that will result in the final music mix having too little bass. One caveat: if your subwoofer's optimum position is under your console, make sure to protect it from your (and your client's) feet. You do not want to repeatedly kick holes in the sub....

Finally, go to the next section on setting the level and determining the proper position of the phase switch on the subwoofer.

Setting Subwoofer Levels

Once the subwoofer is in position, its level needs to be matched with the near-field speakers. For stereo systems, the process is straightforward. Obtain an SPL (Sound Pressure Level) meter. Set the low-pass filter on the KRK subwoofer back plate to 80 Hz (12 o'clock position) — if you will be using the internal high-pass filtered outputs from the subwoofer to the near-field speakers.

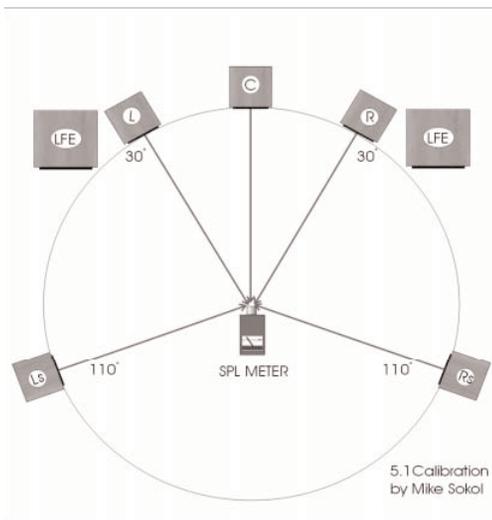
Now, route 1-octave wide, band-pass pink noise to the monitor system, which will be sent to the main speakers through the subwoofer or bass-management filters. A good choice is 500 to 1,000 Hz band-passed pink noise, which is within the fundamental frequency range of many vocalists, and minimizes high-frequency problems but doesn't excite the subwoofer. Set this to a comfortable monitoring level. (Typically 85 decibels SPL using the C response curve on the SPL meter)

Next, route 1-octave, band-passed, bass pink noise to the subwoofer via the same filter path. A good noise choice is 35 to 70 Hz, which is below the 80-Hz frequency of the subwoofer high-pass filter, but sufficiently high enough that most subwoofers will have adequate response in that band. Set the gain of the subwoofer level control until it matches the same 85-decibel SPL level.

Then, turn up the low-pass filter control on the subwoofer to 130 Hz. This allows the bass energy between the near-field speakers and subwoofer to overlap. While listening to it from the console mixing position, route pink noise with a band-pass of 80 Hz to 130 Hz to the speaker system. Have someone flip the phase switch between 0 and 180 degrees, and then back, and note which position sounds loudest. The loudest position is correct and in phase. Now return the low-pass filter to the 80-Hz position (or another frequency if you are using external high-pass filters for the near-field speakers). Your subwoofer should now be properly aligned for phase, level and spectral response.

Beyond Stereo to 5.1 Surround

When using a subwoofer for the LFE channel in a 5.1 surround monitoring system, note that the LFE channel is set with an additional 10 dB of monitoring gain. To set this level, we recommend using 2-octave-wide, band-passed, pink noise from 20 to 80 Hz for the LFE channel and 500 Hz to 2,000 Hz for the near-field speakers. After adjusting each near-field speaker one at a time to 85 dB SPL, adjust the LFE channel 10-dB louder or 95 dB SPL. Use the LFE level trim for this adjustment rather than the subwoofer gain control, which would corrupt the subwoofer bass management levels set in the previous section.



Bass Management Theory

Bass Management

Bass management is a method for extending the bass response of small, near-field speakers used in 5.1 surrounds sound systems (familarly called Home Theatre systems). This is done by routing frequencies below a cutoff point to a separate subwoofer (Sometimes called "bass redirection" in home-theater receivers, the process can usually be enabled by selecting "Small Speakers" from a speaker-setup menu.) This process places a group of two-way filters in the speaker output path, typically at 80 Hz. (See Figure 1.) These filters route all sonic energy above this given frequency (e.g., 80 Hz) to the Left, Center, Right, Left Surround and Right Surround speakers. In turn, the process redirects the low-frequency energy from the five full-range channels to a single subwoofer, which also reproduces the separate LFE channel.

Bass management is used in practically every consumer home-theater system. Therefore, audio engineers mixing for modern listeners should realize that their studio monitoring systems must be able to reproduce sufficient low frequencies so they can avoid recording undesirable subsonic information. Without such studio monitoring, it is possible to release a mix with infrasonic problems, such as plusive pops, air conditioner rumble, traffic noise, footsteps, etc. These subsonic noises will be eliminated (masked) by the natural high-pass filter effect of using near-field monitors with a response that goes down only as low as 40 or 50 Hz. Thus, infrasonic problems may not be recognized (heard) in the studio. Since, however, virtually all home-theatre systems use subwoofers with bass management; consumers will hear these infrasonic problems at high volume levels in their home.

Bass management effectively extends the low-frequency response of near-field monitors down into the 20-30 Hz range (depending on the subwoofer used). This allows the engineer to take evasive action in the studio, such as engaging high-pass filters on input channels and microphones, adding pop filters and suspension mounts to microphones and correcting HVAC and other rumble problems.

Troubleshooting

Problem: If there is no power, check to see if...

- The power cord is plugged into both the IEC socket on the rear panel of the unit and into the AC mains
- The AC mains voltage is matched to the operating voltage requirements (See Changing Voltage in the Connecting the System section on page 3). If the AC mains voltage is higher than the Rokit is selected voltage it is possible that the fuse needs to be replaced. (See Changing Fuses in the Connecting the System section on page 3).
- The power light is illuminated on the front panel of the Rokit. If not, turn the power switch OFF and check the A/C mains fuse(s). NEVER USE A LARGER AMPERAGE FUSE THAN IS SPECIFIED! Turn the power switch back on. The power light should illuminate.
- If a fuse change was needed and upon powering the monitor back up the fuse(s) blow again, the monitor needs to be returned to the dealer you purchased it from or to KRK for servicing.

Problem: If you can't hear any sound...

- Repeat steps in the previous troubleshooting section above before continuing to the next steps.
- Check to see if all other audio devices using the same AC outlet are still operating.
- Make sure that:
 - The audio source cable is plugged into both the source output and the monitor input.
 - The System Gain pot is turned up fully clockwise (+ 6 dB).
 - The signal source (E.g. mixing console, work station, CD player, etc.) is turned up to a level that can properly send a signal to the monitors.
- If one of the monitors is working. Exchange the audio input cable from the non-working monitor to the working unit. This will determine whether it's really the monitor, a faulty cable, or some other glitch in the audio chain.
- If the monitor is still not responding, it should be returned to the dealer that you purchased it from or to KRK for servicing.

Problem: If the monitor suddenly stops working...

- Turn the monitor send down or off.
- Repeat steps in the troubleshooting sections above before continuing to the next steps.
- Carefully check to see if the amplifier's back plate is hot! If the monitor has been running at highest power output for an extended period of time, it could be that the unit has become overheated and the protection circuitry has shut the system down momentarily. The Rokit provides maximum circuitry protection against AC power surges, amplifier overdrive, and overheating of the amplifiers. Turn the monitor off then wait 30 minutes to allow the back plate to cool down. Turn the power switch back on.
- Increase the volume to check for normal operation.
- If the monitor is still not responding, it should be returned to the dealer that you purchased it from or to KRK for servicing.

Problem: The sound quality changes...

- Repeat steps in the previous troubleshooting section above before continuing to the next steps.
- Disconnect the signal cable at the input of the monitor. With power on, place your ear close to each driver (tweeter/woofer) and listen for noise (i.e., a slight hiss or hum). If there's absolutely no sound whatsoever, it could be that one or more of the drivers (woofer or tweeter or both) is at fault. It's also possible that the problem lies somewhere in the electronics.
- Play some non-distorted source material at a low volume. Carefully cover the tweeter (to block the sound) without touching the diaphragm. Is the woofer producing a clean sound? If there is not a clear tonal quality or any sound at all then the woofer probably needs to be replaced.
- Cover the woofer so you can hear mostly the tweeter. Is the tweeter producing a clear sound? If there is not a clear tonal quality or any sound at all then the tweeter probably needs to be replaced.
- Once you have a better idea of what may be at fault then call us and speak with someone in the service department. They will help you determine the best solution to correct your monitors. The service department can be reached at 818-534-1580,

Problem: The monitor hisses, hums or makes other loud noises...

Here are some suggestions that will help you eliminate these undesirables from your system:

- Make sure that the power cord is plugged snugly into the IEC socket on the rear of the monitor.
- Check the connections between the signal source and the monitor. The Rokits XLR and TRS connector is a completely balanced system. If you're connecting an unbalanced output to the monitor, be sure that you're using PIN 2 for signal and have PIN 1 and PIN 3 tied together at the source end.
- Refer to the Connecting the System section on page 4 of this manual to ensure that the AC mains is matched to the operating voltage requirements.
- All audio equipment should use the same ground point. Check all other devices using the same AC output in the building like dimmers, neon signs, TV screens, and computer monitors. These devices should not be using the same circuit. .

For updated Troubleshooting information please visit our Web Site www.krksys.com

Please read the warranty card that was included in the shipping carton of your monitor prior to shipping it back to KRK Systems, LLC. All products in need of repair can be returned to the dealer where it was purchased or to KRK Systems, LLC.

Before shipping your unit back to KRK for service you must acquire an "RMA" from KRK. Your unit will not be received by the company, nor will any work be done on your unit without this very important number. Please call KRK at 818-534-1580

Shipping Instructions

- For the safest possible return to KRK, please use the shipping carton and packing that your Rokit Powered was originally shipped in.
- KRK cannot be responsible for any damages incurred during the shipping process due to poor packing. Make sure to insure your shipment.

- If your monitor is out of warranty and you would like a quotation prior to servicing your product, please call for an "RMA" number. No service will be performed on your unit without this number.
- Replacement carton and packaging can be purchased from KRK Systems, LLC. for \$18.00 each.
- For replacement part quotes call 818-534-1580.

Specifications

RP5

RP6

Frequency Response	53Hz -20kHz +/- 2.0dB	49Hz -20kHz +/- 1.5dB
High Frequency Driver	1" Soft Dome	1" Soft Dome
Low Frequency Driver	5" Aramid Glass Fiber	6" Aramid Glass Fiber
Cabinet Dimensions(HxWxD)	10 7/8" x 7 1/4" x 8 7/8" 28 cm x 19 cm x 23 cm	12 11/16" x 8 7/8" x 10 1/2" 38 cm x 27 cm x 31 cm

Net Weight (each) 16 lbs. 23 lbs.

AMPLIFIER

Power Rating (HF/LF)	15 watts / 30 watts	18 watts / 50 watts
Signal to Noise (HF/LF)	82dB / 90dB	84dB / 95dB
T.H.D (HF/LF)	.05% / .02%	.09% / .01%
Input Impedance		
Balanced	10K Ohm	10K Ohm
Unbalanced	10K Ohm	10K Ohm

CROSSOVER

Crossover Frequency	3.0KHz	2.6KHz
Subsonic Filter	45Hz	40Hz
FUSE 5mm x 20mm		
100V - 120V	1A	1.6A
220V - 240V	500mA	800 mA

FEATURES

XLR & 1/4" TRS Connectors
RCA Connector
IEC Mains Connector
System Volume Control
LED Power Indicator

Specifications

RP8

RP10S

Frequency Response	45Hz -20kHz +/- 1.5dB	36Hz -50kHz +/- 1.5dB
High Frequency Driver	1" Soft Dome	10" High Excursion Glass Aramid Composite Woofer
Low Frequency Driver	8" Aramid Glass Fiber	
Cabinet Dimensions(HxWxD)	15" x 10 7/16" x 12" 38 cm x 27 cm x 31 cm	15" x 14" x 15 11/16" 38.2 cm x 35.5 cm x 39.8 cm

Net Weight (each) 30 lbs. 42 lbs.

AMPLIFIER

Power Rating (HF/LF)	20 watts / 70 watts	150 watts RMS
Signal to Noise (HF/LF)	86dB / 97dB	98 dB
T.H.D (HF/LF)	.09% / .01%	.05%
Input Impedance		
Balanced	10K Ohm	10K Ohm
Unbalanced	10K Ohm	10K Ohm

CROSSOVER

Crossover Frequency	2.4KHz
Subsonic Filter	35Hz

FUSE 5mm x 20mm		
100V - 120V	2A	3.15A
220V - 240V	1A	1.6A

FEATURES

XLR & 1/4" TRS Connectors
RCA Connector
IEC Mains Connector
System Volume Control
LED Power Indicator