



# V+ SERIES OPERATIONS MANUAL

***The Choice of Professionals®***

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## DIAGRAMS

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**Please record the following information for your records:**

Serial Number:
Date of Purchase:
Dealer Name:
Dealer Address:
City/State/Zip:
Country:
Invoice Number:

## 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) Do not defeat the safety purpose of the polarized plug. A polarized plug has two blades with one wider than the other. The wide bladed is provided for your safety. If the provided plug does not fit into your outlet, consult an 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 the 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.
- 3) 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 rain or moisture, does not operate normally, or has been dropped.
- 15) The equipment shall be used at maximum 35 degree C ambient temperature.
- 16) Do not open the equipment to reduce the risk of electrical shock. For safety reasons it is only allow to the opened by qualified service personnel.
- 17) WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. And the apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- 18) The MAINS plug is used as the disconnect device and shall remain readily operable.
- 19) The product shall be used on open bench.
- 20) No naked flame sources, such as lighted candles, should be placed on the apparatus.



	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 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.

## Consignes de sécurité importantes

- 1) Lisez ces instructions.
- 2) Conservez ces instructions.
- 3) Observez tous les avertissements.
- 4) Suivez toutes les instructions.
- 5) N'utilisez pas cet appareil à proximité de l'eau.
- 6) Utilisez uniquement un chiffon sec pour le nettoyer.
- 7) Ne bloquez pas les ouvertures de ventilation. Installez conformément aux instructions du fabricant.
- 8) Ne l'installez pas à proximité de sources de chaleur telles que des radiateurs, des bouches de chaleur, des poêles ou d'autres appareils (amplificateurs compris) produisant de la chaleur.
- 9) Ne pas contourner le dispositif de sécurité de la fiche polarisée. Une fiche polarisée possède deux lames dont une plus large que l'autre. La grande lame 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, surtout au niveau des fiches, des prises et des points où il sort de l'appareil, pour éviter qu'on ne marche dessus ou qu'on ne le pince.
- 11) Utilisez uniquement les accessoires spécifiés par le fabricant.
- 12) Utilisez uniquement avec le chariot, le socle, le trépied, la table ou le support spécifié par le fabricant ou vendu avec l'appareil.
- 13) Débranchez cet appareil lors d'orage avec foudre ou lorsque vous ne l'utilisez pas pendant des périodes prolongées.
- 14) Faites-le réparer et entretenir par un personnel de service qualifié. Il est nécessaire de faire réparer l'appareil lorsqu'il a subi des dommages quelconques du type suivant : cordon ou fiche d'alimentation abîmé, liquide renversé ou objets tombés dans l'appareil, exposition de l'appareil à la pluie ou à l'humidité, mauvais fonctionnement ou chute.
- 15) La température ambiante lors de l'utilisation ne doit pas dépasser 35 degrés Celsius.
- 16) Afin de réduire les risques d'électrocution, n'ouvrez pas l'équipement. Pour des raisons de sécurité, seul du personnel d'entretien qualifié est autorisé à l'ouvrir.
- 17) ATTENTION: Pour réduire le risque d'incendie ou d'électrocution, n'exposez pas cet appareil à la pluie ou à l'humidité. De plus, l'appareil ne doit pas être exposé au dégouttement ou aux éclaboussures et aucun objet rempli de liquide, tel qu'un vase, ne doit être posé sur l'appareil.
- 18) La fiche d'alimentation CA sert de principal dispositif de déconnexion et doit toujours être capable de fonctionner correctement.
- 19) Ce produit doit être utilisé sur une surface ouverte
- 20) Aucune source de flamme nue, telle, que des bougies allumées, ne doit être placé sur l'appareil.



En le fabricant ou vendu avec l'appareil. Cas d'utilisation d'un chariot, faites attention lorsque vous déplacez l'ensemble chariot / appareil de ne pas le



	<p>Le symbole de l'éclair avec une flèche à son extrémité, dans un triangle équilatéral, a pour but de vous avertir de la présence d'une « tension électrique dangereuse » et non isolée à l'intérieur de l'enceinte de l'appareil, qui peut être suffisamment puissante pour constituer un risque d'électrocution pour les personnes.</p>
	<p>Le point d'exclamation dans un triangle équilatéral vous avertit de l'existence d'instructions importantes de fonctionnement et d'entretien (intervention) dans la documentation accompagnant l'appareil.</p>



## FCC Warning Statement

This Class B digital apparatus complies with Part 15 of the FCC rules and with Canadian ICES-003 and RSS-247. Operation is subject to the following two conditions:

1. This device may not cause interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

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 Federal Communications Commission (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 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 to 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.

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :*

*(1) l'appareil ne doit pas produire de brouillage, et*

*(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the exemption from the routine evaluation limits in section 2.5 of RSS 102.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

### FCC/IC RF Radiation Exposure Statement:

**CAUTION:** This Transmitter must be installed to provide separation distance of at least 20cm from all persons.

### *FCC / IC RF Radiation Déclaration d'exposition*

**ATTENTION:** *Cet émetteur doit être installé pour fournir une distance de séparation d'au moins 20 cm de toute personne.*

## THX Certified performance classes

The V12+ subwoofer is THX Certified Select and the V15+ subwoofer is THX Certified Ultra

**THX**  
CERTIFIED

**SELECT**

**THX RECOMMENDED USE**

Medium Home Theaters or Living Rooms

**THX CERTIFICATION FEATURES**

Extended Bandwidth and Flat Frequency Response.

High Output, Low Distortion Design at 10 ft Listening Distance.

Conforms to THX Bass Management Requirements.

**THX PERFORMANCE NOTES**

Capable of THX Reference Level in a room up to 2,000 cubic feet (57 cubic meters).

THX.COM

**THX**  
CERTIFIED

**ULTRA**

**THX RECOMMENDED USE**

Large Home Theaters or Living Rooms

**THX CERTIFICATION FEATURES**

Extended Bandwidth and Flat Frequency Response.

High Output, Low Distortion Design at 12 ft Listening Distance.

Conforms to THX Bass Management Requirements.

**THX PERFORMANCE NOTES**

Capable of THX Reference Level in a room up to 3,000 cubic feet (85 cubic meters).

THX.COM

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### 3. INTRODUCTION

CONGRATULATIONS! You have just made perhaps the most exciting and dramatic addition that you could possibly make to your audio system. The new dimension of deep, powerful bass provided by your M&K Sound powered subwoofer will positively thrill and excite you.

We encourage you to read this owner's manual, as there is a great deal of information provided here to help you get the best possible performance from your new subwoofer. This manual will give you basic set-up instructions and a system overview followed by more detailed information.

If you still have questions about your subwoofer or your system installation after you have read this manual, please contact your M&K Sound dealer.

### 4. VOLTAGE SELECTOR AND POWER CORD

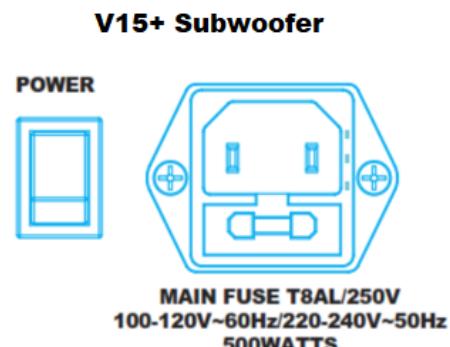
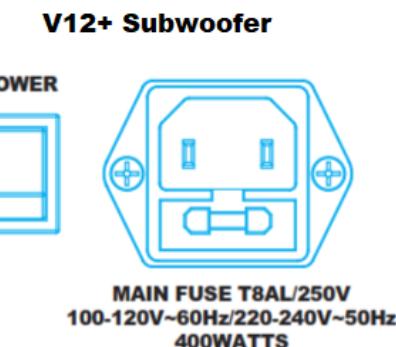
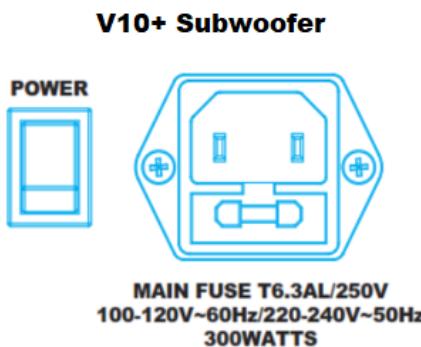
Adjacent to the AC power cord receptacle on the back of the subwoofer you will find a voltage selector switch pre-set at the factory for the proper local voltage. USA, Canada and Taiwan standard voltage is 120 volt.

Europe, the UK and Asia standard voltage is 230 Volt.

Always check to make sure that your subwoofer is set to your country's voltage.

If you have questions about this, contact your M&K Sound dealer.

**The voltage input can be changed to the correct local voltage by sliding the selector to correct position.**



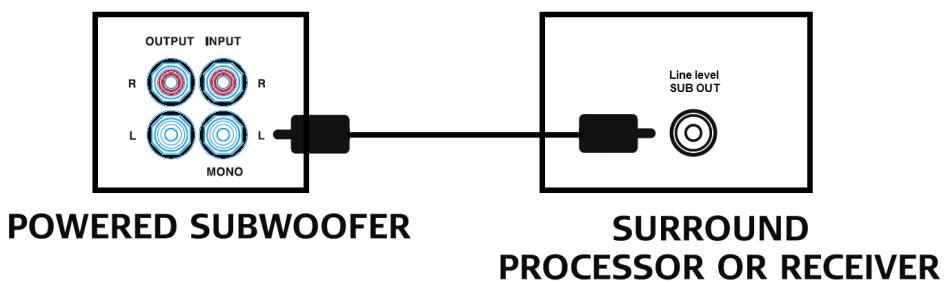
#### DETACHABLE POWER CORD

Your new subwoofer is provided with a detachable power cord. **ALWAYS** attach the cord to the subwoofer first, **BEFORE** plugging it into the AC wall socket.

## 5. SUBWOOFER HOOK-UP

M&K Sound subwoofers come with line-level phono (sometimes referred to as RCA) connectors. If your receiver or processor has a line-level subwoofer output (sometimes labeled "Sub", "Sub Out", "SW" or "LFE") with phono connectors, use it. This is the preferred connection for your M&K Sound subwoofer.

**FIGURE 1. CONNECTING TO A COMPONENT'S SUBWOOFER OUTPUT**



### PLUGGING IN THE SUBWOOFER

Once your audio connections are complete, you are ready to make **the electrical connection**.

**Set the "VOLUME" control to "MIN",** attach the power cord to the receptacle on the subwoofer's back panel and plug the other end of the power cord into an AC outlet.

Do NOT use the "switched" power outlet found on the back of some receivers, processors and amplifiers.

**Set the switch** on the back of your subwoofer to either the "AUTO" or "ON" position.

	<p>With "AUTO ON", your subwoofer is in Standby until it receives an audio signal. At that point, it automatically switches on and continues operation as long as an audio signal is detected. After a few minutes without an audio signal, it will power down to Standby.</p>
	<p>With the power switch in the "ON" position, the subwoofer is fully active whether or not your other components are switched on.</p>

Now, play some music through your system to make sure that the satellite (main) speakers are working properly. Once you confirm that they are, slowly advance the "BASS VOLUME" control. The subwoofer should begin to play. Set the "BASS VOLUME" control to where the subwoofer sounds in balance with the satellite speakers. If the system is not working properly, unplug the subwoofer and check all of your connections. If you still have no success, contact your M&K Sound dealer.

**Note the V12 model has a fixed gain marked as "THX MODE" at volume control.**

In this position the volume is intended to be adjusted by the receiver or processor bass management only.

**By simply rotating (clicking) the volume control out of the fixed THX mode** – the function will be as a normal adjustable control for volume.

**NOTE:** Once you have achieved a rough subwoofer level setting, refer to the system set-up guide found later in this manual.

**NOTE: When your subwoofer is switched to the “AUTO ON” position, it will use a slight amount of electricity when in Standby. If you are concerned about power usage, you may want to switch the subwoofer off instead. Switching the unit off is also a good idea if you know that you will not be using it for some time.**

## 6. WHERE TO PLACE YOUR SUBWOOFER

M&K Sound subwoofers perform well in most room locations. With a properly tuned speaker system, you should hear deep bass coming from the front of your system as if your satellites and subwoofer were one big system rather than separate speakers.

One proven way to find the best location for your subwoofer is to first place the subwoofer at the *listening position*. Run music with good bass content through it and then go over to the area where you believe the final subwoofer placement will be. Listen to how the room reacts to deep bass being played. As you walk around that area, you should find places where the bass sounds deep and well defined and places where the bass sounds weak and less well defined. The place where you hear the tightest bass with the most impact is probably the best location for your subwoofer.

We recommend that you place your subwoofer as close to a solid wall as possible. Avoid placing your subwoofer farther than a few inches away from any wall surface as the reflected sound from the wall will interfere with the direct sound coming from the subwoofer and create phase anomalies that will be destructive to good bass performance. Also try to avoid corners that are near doorways or openings.

Sometimes the best sound results from aiming the subwoofer’s drivers directly into the wall (1” to 2” away from the wall itself.)

If you are using multiple subwoofers, sometimes putting them in the same location provides the best solution. Stacking them is also a possible solution or you could place them side-by-side.

Alternatively, when using multiple subwoofers, you could try placing them in different locations. This may be appropriate when you have limited choices for placement and none of the available locations seem to work well. Try to place your subwoofers at equal distances from the listening position to avoid phase problems.

Ultimately, the amount and quality of deep bass you get in your room are dependent on the room itself. Low frequency sounds are affected most by the size of the room and construction used to build it. All rooms are different when it comes to reproducing bass, and in any given room, bass quality and quantity change when the subwoofer is moved from one location to another.

In some rooms, a corner location may excite resonance modes resulting in a muddy or boomy sound. In this situation, a more central location along a wall, away from a corner may give better results. It’s a good idea to experiment with your subwoofer location or locations. Try to find a placement or placements that provide an overall sound that is powerful and well defined throughout the audio bandwidth, where no one bass note or notes overpower others.

Because the subwoofer generates so much sonic energy, its output may cause objects in and around the listening room to vibrate. If this occurs in your room, you may need to damp the vibration of these objects.

One subwoofer is usually sufficient in a two-channel stereo system for the same reason that one subwoofer works well with multi-channel systems. Our ear-brain hearing physiology is unable to locate the direction of low frequencies below approximately 80 Hz. The directionality of low frequency sounds (bass drums, bass instruments, etc.) is determined by the higher frequency overtones and harmonics that are reproduced by the satellite speakers.

Some people believe that we can determine directionality from frequencies down to 60 Hz. In any case, M&K Sound satellite speakers are tuned to crossover to an M&K Sound subwoofer at 80 Hz. This is also the Dolby Laboratory and THX specification.

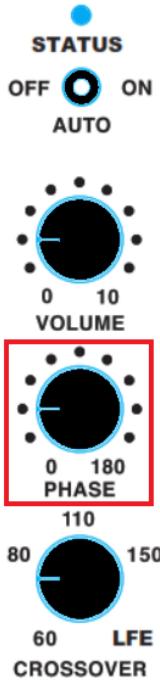
No matter where you place your subwoofer, you must allow room for ventilation of its heat sink and back plate. The subwoofer’s power amplifier is mounted on the back plate and it generates heat. Please observe the following:

1. Leave adequate clearance around the subwoofer's heat sink. Do not cover it with drapes or close it up in an unventilated cabinet.
2. Do not place the subwoofer near baseboard heaters or forced air heating outlets.
3. Do not use your subwoofer outdoors or in an overly humid environment.
4. Do not plug the subwoofer into an AC outlet until all system wiring is complete.

## 7. USE OF THE PHASE CONTROL (V10+ Sub without BLE)

M&K Sound V10+ subwoofers feature a phase control variable from 0 to 180 degrees. This control can help you to fine tune the transition between sound sent to your main speakers and your subwoofer.

In order to optimize the integration of your subwoofer with your main speakers, you should perform a phase test. This test will help you to achieve a seamless transition between your main speakers and subwoofer(s). A phase test is helpful, because when satellite (or main) speakers are located in a different location from the subwoofer, each speaker is located at a different distance to the listener. Even small differences in distance mean that the arrival times of sound from the various speakers to the listener are also different. These time differences can cause phase anomalies, which are destructive to the reproduction of sound in your room. Be sure to re-do this test if you move your speakers.



To begin, select something to play through your speakers that you are familiar with. A stereo CD is a good choice since surround sound material with its complexity can make this test more difficult. While playing the CD through your left and right front speakers along with your subwoofer, listen to the mid-bass region (70 - 100 Hz) – that part of the audio spectrum where instruments like bass and drums need both the satellites and subwoofer for accurate reproduction.

Adjust the phase control or switch from 0 degrees to 180 degrees. Note the difference between the two settings. If you hear a tighter, more defined quality to the sound with better low bass reproduction with one of these options, then this is probably the best setting. If you are using two or more subwoofers, perform this test with each subwoofer individually with the others turned off.

When you hear the best balance between stereo image localization, maximum low bass impact and well-defined output in the mid-bass, you have found the correct setting.

If you hear little or no difference when adjusting the phase control knob between 0 – 180, set it to the 0-degree (default) position.

A more accurate method of establishing the phase relationship between your satellites and subwoofer or subwoofers is to use a pink noise generator and a spectrum analyzer. Place the microphone at the listening position and run pink noise through the system. Take note of the mid-bass region (70 - 100 Hz) on the analyzer's display. The setting that shows the most output in that region and also shows the best low bass response has the correct phase.

## 8. CROSSOVER CONTROL (V10+ Sub without BLE)



All modern **Home Theater receivers and processors** provide the necessary high-pass and low-pass filtering (bass management) to ensure proper integration of satellite/subwoofer speaker systems. When using your subwoofer with one of these components it is recommended to set the “CROSSOVER CONTROL” on the back of the subwoofer to the “**LFE**” position. This leaves the full control for crossover settings to be handled by the receiver/processor build in bass management functions and will in most setups provide the best integration between satellite/subwoofer.

If your receiver or processor does not have an internal crossover, you can use the “CROSSOVER CONTROL” to variable set the upper roll-off point of the subwoofer to match your satellites. The control of fine-tuning the transition of sound between satellites and subwoofer is defined to set “CROSSOVER CONTROL” to 80 Hz when using larger main speakers and 110 Hz when using smaller satellite speakers.

The overall system is expected to reproduce frequencies at the entire bandwidth, but as the subwoofer will be rolling off above the crossover point, it is therefore recommended to look at the main speakers or satellite speaker's specification sheet for frequency response, in order to choose the best working crossover frequency at subwoofer.

Setting the Sub-woofer crossover control to the same frequency as the lowest given value for a main speaker or satellite speaker, is a good start setting. The satellites, or main speakers, which reproduce the upper frequencies, need only small cabinet and small drivers to do their job, while the subwoofer, which reproduces the low frequencies, requires a larger cabinet, a larger driver and sufficient power in order to do its job.

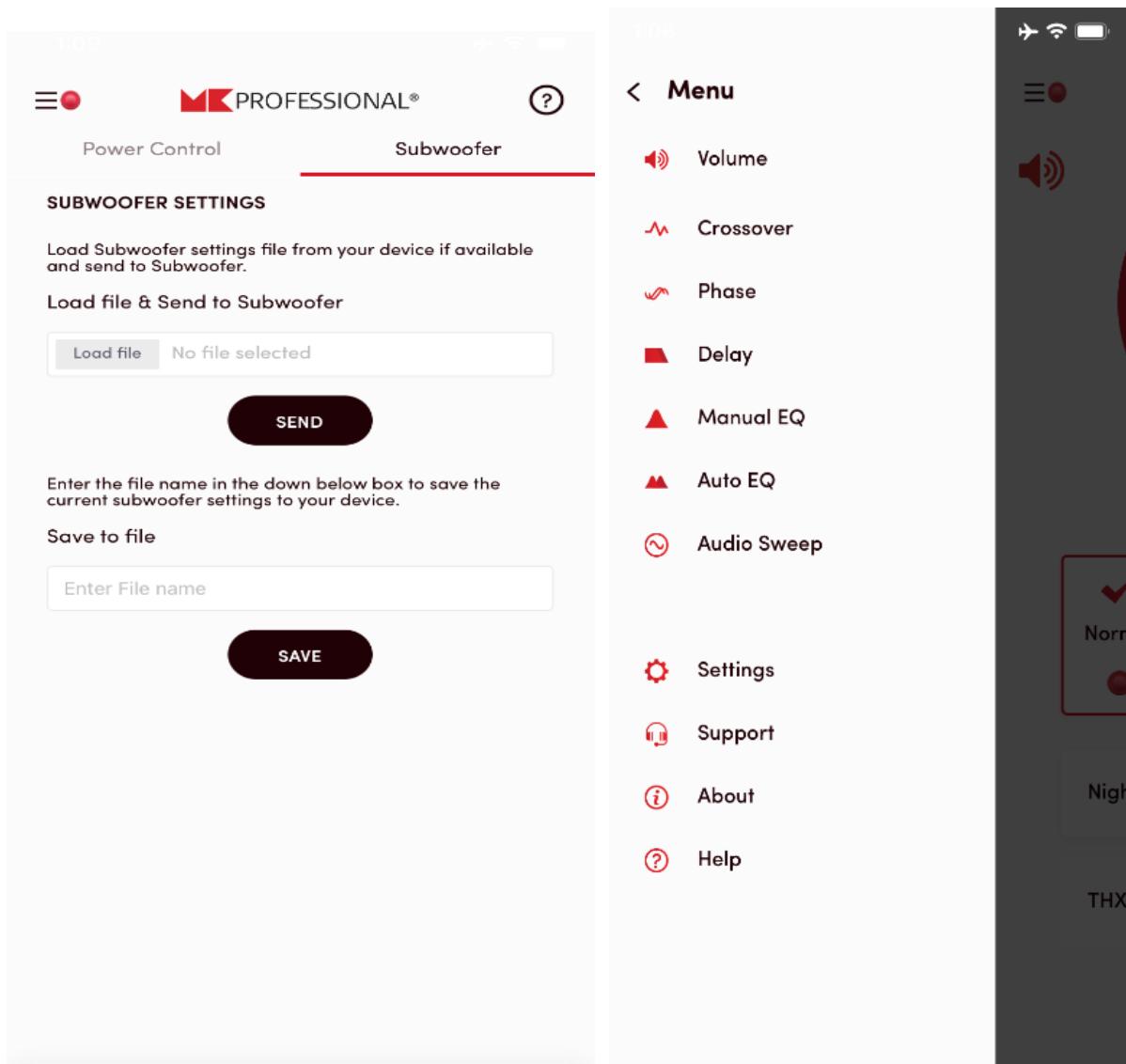
Properly tuned, your M&K Sound satellite/subwoofer system will provide you with the highest quality sound reproduction available today.

## 9. Configuring your Subwoofer for V12+ and V15+ with BLE

The companion smartphone app allows you to setup and configure your V12+ and V15+ Subwoofers from the comfort of your seating position. Download the app from the Apple App Store or Google Play Store. Adjustments like Volume, Crossover frequency and Phase, etc. as well as the Auto EQ function, can be adjusted within the App.

### 9.1 Connect to your Sub-woofer

1. Ensure that the Subwoofer is Powered ON and the status light is Red or Blue.
2. Launch the smartphone companion app and on the home screen select peripherals.
3. Select “Scan for devices” and hit “Connect” if prompted.
4. Repeat steps 1-3 for additional subwoofers. It is highly recommended to rename each subwoofer so that it can be easily identified by its name when multiple subwoofers are installed.
5. Your subwoofer(s) is now connected and can be controlled from the companion smartphone app.





**M&K** PROFESSIONAL®

**HELP**

Quick Set up

Power Options

Input Select

Crossover Setup

Phase - Delay

Gain Matching

Manual Equalization

Automatic Equalization

Audio Sweep

## 9.2 Volume

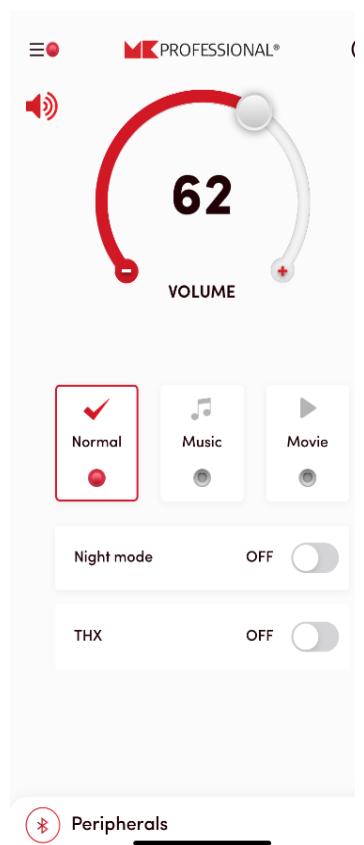
1. Volume - Adjusts the Subwoofer level and may be changed in three different ways.

The easiest way is to slide the controller dot around the volume adjust ring. For the fine adjustments, press the '+' and '-' buttons at the end of the control ring. If you know the exact value for the volume, you may click on the value reading and enter a value with the pop-up keyboard. Press ENTER for the value to be accepted.

2. Preset – buttons are preconfigured user equalization modes. They are not related to manual or auto EQ equalization. Choose NORMAL for flat subwoofer frequency response or MUSIC or MOVIE for enhanced boosting of some frequencies for a more enjoyable listening experience.
3. Night Mode – functions as a way to reduce bass at night when you don't want to disturb family members or neighbors those are resting. It reduces the subwoofer maximum power by 75% and reduces subwoofer level by half. Optionally, you could turn the VOLUME to zero at night.
4. THX Mode – locks both the volume and the crossover settings to be compliant with THX standards. The THX philosophy is to create an audio system that is already optimized and requires no adjustments by the end user. The User presets and Night mode still work in THX mode.
5. Peripherals - Turn on Bluetooth. Toggles Bluetooth on and off.

Bluetooth must be turned on to configure the subwoofer with the smartphone companion app.

Peripherals - Device name- Displays the current subwoofer name. Can also be used to set a new subwoofer name.



### Note: -

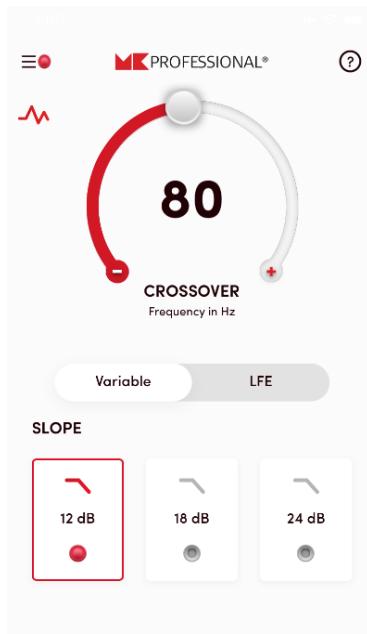


For **V12+** and **V15+** have manual Volume control knob on Amplifier panel, apart from control by App. For THX use Center position.

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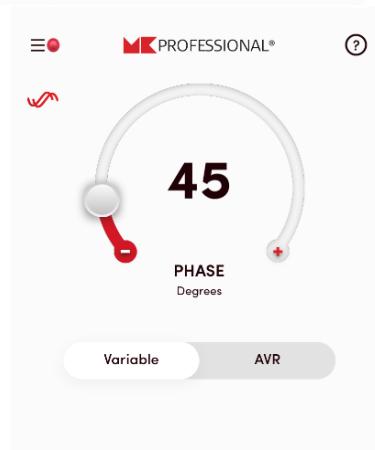
### 9.3 Crossover

1. Crossover - Selects the low pass filter frequency and is adjustable from 42Hz to 500Hz.
2. Variable/LFE - Toggles between using the app to select the low pass filter frequency and the AV Receiver selecting the low pass filter frequency.
3. Slope - Adjusts the slope of the crossover frequency. The higher the value, the steeper the cutoff.



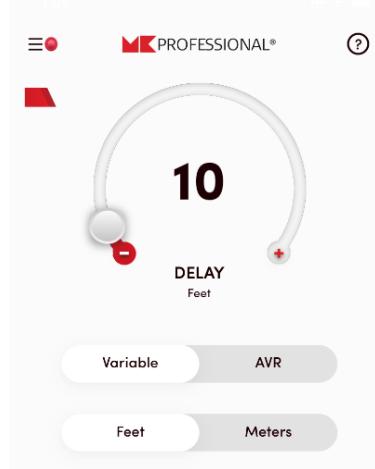
### 9.4 Phase

1. Phase - Adjusts the signal delay of the incoming audio signal and is used to better blend the audio from the subwoofer to other speakers in the installation.
2. Variable/AVR - Toggles between using the app to select the phase frequency and the AV Receiver selecting the phase frequency.



### 9.5 Delay

1. Delay - Sets the distance that the subwoofer is located from the listening area and applies an acoustic delay to compensate for the time that the audio from the subwoofer takes to reach your ear. Adjustable from 5-80ft (1.5~24M)
2. Variable/AVR - Toggles between using the app to select the delay and the AV Receiver selecting the delay.
3. Feet/Meters - Toggles between measurement in Feet and Meters.



## 9.6 Manual EQ

Manual EQ - Allows you to manually adjust the Frequency, Gain and Q of 4 independent EQs.

Select the EQ you would like to adjust using the radio buttons labeled “EQ1, EQ2, EQ3, EQ4” then choose the frequency, amount of gain or cut and Q using the sliders.

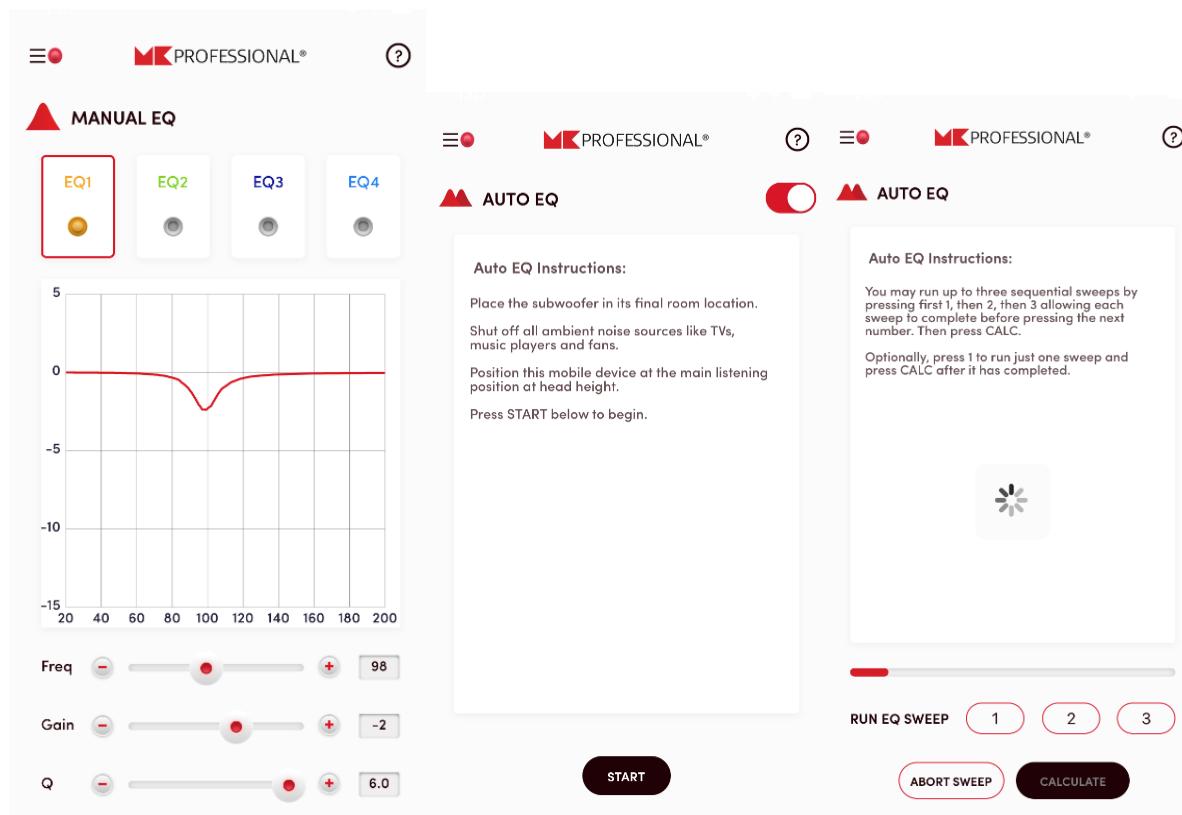
## 9.7 Using Auto EQ

Auto EQ is used to compensate for and correct for acoustic room anomalies that can cause inferior bass performance. Auto EQ takes a series of measurements in and around your primary listening position, makes complex calculations and applies those acoustic corrections- all from the comfort of your listening area.

1. To begin Auto EQ, make sure that the Auto EQ toggle is turned on, then press the Start button.
2. Choose up to 3 locations near your listening area and run each sweep.
3. Once finished select “calculate” to apply the Auto EQ room correction to the subwoofer.
4. Repeat steps 1-3 for each additional subwoofer in the system.

## Settings

1. Audio Sense. Sets the approximate time it takes before the subwoofer goes into Standby mode when no audio signal is present. You can select between 5, 10, 20, 30 minutes or always on
2. Reset to Default. Puts the subwoofer back to its factory default settings.





## 10. USING MULTIPLE SUBWOOFERS

Using two or more subwoofers in your system will give you the ultimate in low bass performance. You will hear improved impact and definition, as well as greater output and dynamic range.

While all the information in section 4 WHERE TO PLACE YOUR SUBWOOFER should be observed, additional considerations need to be taken into account when using multiple subwoofers.

First, try to place all subwoofers at equal distances from the listening position. This will help to avoid phase anomalies.

Check the phase relationship between each subwoofer and your main speakers by using the phase test discussed earlier.

Since your receiver or processor may only have one phono subwoofer output, you may need to use a "Y" connector to feed the additional subwoofers.

## 11. HOME THEATER USAGE

The subwoofer in a home theater system has a critical role to play in the enjoyment of your system, which makes perfect sense, as the subwoofer is the only speaker in your system capable of accurately reproducing low bass. All the bass from the main channels is reproduced by the subwoofer, including Low Frequency Effects (LFE) that creates the dramatic low end frequencies we hear in movies.

In the electronics bass management setup, a choice of "large speaker" mode or "small speaker mode" will appear. Your M&K subwoofer is designed to operate in both modes, and the choice of large / small speakers is a concern of size for satellites only.

In either setting, make sure you have connected the "line level Phono subwoofer output" from your home theater receiver or processor, to the line level Phono input on your subwoofer.

Make a final check of your receiver or processor that subwoofer is selected as "On" or "Yes" in the setup menu, to ensure all low frequency material from your receiver or processor is sent to your subwoofer through this connection.

The routing of signals for satellites and subwoofer is internally distributed to the 5.1 or 7.1 system by the surround receiver or processor build in bass management system, where the .1 is referring to the subwoofer output channel. In cases where a setup with multiple subwoofers is wanted, it will still be the receiver or processor .1 output that will drive the added numbers of subwoofers.

**NOTE: For maximum enjoyment of your M&K Sound satellite/subwoofer system, we recommend to set your receiver or processor to "Small" for speakers.**

## 12. TROUBLESHOOTING

Your M&K Sound subwoofer amplifier provides high reliability and, in the rare event service is ever required, easy modular replacement of parts. This section of the manual will help you to solve or diagnose most problems that can occur with your subwoofer. In the event that a fuse blown. **ALWAYS** replace it with a fuse of the correct value to avoid malfunction of the unit or even a fire hazard. Use of an incorrect fuse value will void your warranty.

### **A. Your subwoofer has no output.**

1. Make sure that the subwoofer is plugged into an AC outlet that you know is active and that is the power cord is securely plugged into the back of the subwoofer.
2. Make sure that the “POWER” switch is set to the “AUTO” or “ON” position. If you hear no output with the switch set to “AUTO”, move the switch to the “ON” position.
3. Check the “BASS LEVEL” control and make sure that it is set above the “MIN” position. Rotate it clockwise, if it is set to the “MIN” position.
4. Check the Power ON LED on the subwoofer’s back panel. If the LED is not lit (usually blue), check the fuse. **ALWAYS** unplug the subwoofer before changing the fuse. If the element inside the fuse is broken, replace the fuse with a new one of the same value. If the new fuse blows immediately, contact your M&K Sound dealer.
5. If the Power LED is lit, but you still hear no sound, try this test: Disconnect the phono interconnect cable from the back of the receiver or processor. Touch the tip of the connector. If you hear sound coming from the subwoofer when you touch the connector, the subwoofer is working. You need to look elsewhere in your system to solve the problem.
6. Make sure that all the cables in your system are OK. Double check all your connections. If necessary, replace any defective cables.

### **B. After operating the subwoofer at high volume levels for a long time, the subwoofer cuts out or Stops working or becomes intermittent:**

1. Your subwoofer has a protection circuit that protects it from overheating. After hours of continuous operation at extremely high-volume levels, this circuit may shut off the power to the subwoofer. When it activates, the sound may switch in and out rapidly, with a fluttering sound. If this happens, unplug the unit and let it sit for at least half an hour.
2. After that time, plug it back in. It should operate normally. If you find this happens frequently, contact your M&K Sound dealer.

### **C. If the mid-bass range the area of transition between your subwoofer and satellite speakers Sounds weak:**

Refer to the section on phase testing discussed earlier in this manual. Try reversing the phase switch from plus (+) to minus (-) (or vice versa.)

### **D. If you hear a persistent hum or buzz through the subwoofer:**

1. Because the subwoofer is able to reproduce the 60 Hz hum frequency, it is often blamed for causing hum that originates elsewhere in the system. Always avoid running all speaker wires and Phono interconnects cables near to AC cords and component power supplies.  
Wires and cables running close to AC lines are a common source of hum. If necessary, reroute your cables.

2. To identify the source of a perceived hum or other noise, remove all input cables to the subwoofer, but leave it plugged into the AC outlet. Carefully turn the “BASS LEVEL” control up towards the “MAX” position. If you hear hum or other noise coming from the subwoofer, then the subwoofer is the source of the noise. If you hear little or no hum



coming from the subwoofer, then the subwoofer is working properly, and the problem is coming from another component.

3. Hum can also be caused by AC ground loops. If the subwoofer is plugged into a separate AC outlet, try plugging it into the same outlet used for your receiver or processor. You might also try reversing the polarity of the AC plug. If none of these suggestions solve the problem, contact your M&K Sound dealer.

#### **E. If unusual sounds come from the subwoofer with no music playing:**

Try removing the input cable. If the sound disappears, the noise is coming from one of your other components. If it does not go away, the subwoofer may have a problem. In this case, contact your M&K Sound dealer.

### **13. IF YOU NEED SERVICE**

Contact your M&K Sound dealer. Do not send your speaker to M&K Sound directly without obtaining prior authorization.

### **14. SYSTEM SET-UP GUIDE**

#### **The 5 Most Important Items in System Set-up:**

- 1. Find the best location for the subwoofer for maximum output and flattest response (Possibly the corner closest to the listening position)**
- 2. Aim the front speakers (and the surrounds, if possible) for the flattest response and the best imaging**
- 3. Set all speakers to the “Small” setting for proper High-Pass and Low-Pass Filter Operation to get the lowest distortion and maximum dynamic range**
- 4. Calibrate all speakers and the subwoofer to the identical level for proper imaging And balance**
- 5. Make sure all speakers are in phase for proper imaging and impact**

These instructions will help you making sure that you cover all steps in setting up a multi-channel surround system. In addition to following this list, make certain that you study and understand the owner's manual for each and every component used in the system, especially the processor/receiver. Have fun and good luck!

### **15. SPEAKER SET UP**

#### **1. Front Speaker Placement**

The left, right, and center speakers should be equidistant from the main listening position. Try to set up the speakers so that they are reasonably symmetrical to room surfaces. A tape measure may be very helpful.

#### **2. Subwoofer Placement**

One possible location for the subwoofer is the corner with the best structural strength. If the corners are roughly equal in construction, use the corner nearest the listening position. If the listening position is in the front half of the room, place the subwoofer in a front corner. If it is in the back of the room, place the subwoofer in a back corner. If possible, avoid corners near doorways or openings.

If you are willing to experiment, another option is to place the subwoofer at the listening position and walk around the room. Stand in and near each corner. The location where you hear the tightest bass with the most impact is probably the best location in the room for the subwoofer. If multiple subwoofers are used, place them in the same location. Stacking is best, but you can also put them side by side.

Another option for multiple subwoofers is to place them in different locations. This is appropriate when you have limited choices in locating the subwoofer and none of the available locations work well. Try to place multiple subwoofers at equal distances from the listening position to avoid phase cancellation.

**3. Surround Speaker Placement**

Determine the best position in the room. It will probably be the position directly to the right and left of the main listening position on the side walls (so that a listener in the center seat is directly between the speakers). If that doesn't work or is not practical because of the room, try these locations: on the ceiling; on the back wall.

**4. Install all wiring and interconnects.**

**5. Connect the subwoofer.**

Always use the processor/receiver's subwoofer output.

**6. Aim the front left and right speakers in both the horizontal and vertical planes.**

Horizontal toe-in may help to achieve the best possible imaging.

**7. If you have a Dolby or DTS processor/receiver, follow these instructions.**

*"Always check the processor/receiver's owner's manual"*

**8. Channel Calibration**

Take the measurement at the listening position to establish the reference level. Set all channels to exactly the same level (usually 75 dB for home theater systems.)

Use a Sound Level Meter either analogue or digital. Point it directly at the speaker being measured. Set all channels to the same level, using your receiver or processor's internal test signal.

All major receivers / processors are today equipped with high quality measurement systems, as well as microphones. This can also be used in order to make the final audio calibration of your system.

And a final recommendation is to use your own judgment "Your Ears".

**9. Check phase for the five main channel speakers are wired correctly in phase.**

**10. Make sure that the subwoofer and main speakers are in phase at the 80 Hz crossover point.**

Listen to something with a consistent bass line around 80 Hz while a partner switches the "Phase" control on the Subwoofer from "+" to "-".

The switch position that results in the greatest bass at the listening position is the correct setting.

**11. Play something that is familiar to you through the system to verify the system's overall performance.**

If something does not sound right, recheck your connections and settings.

**12. Switch the processor/receiver to each input that you will use.**

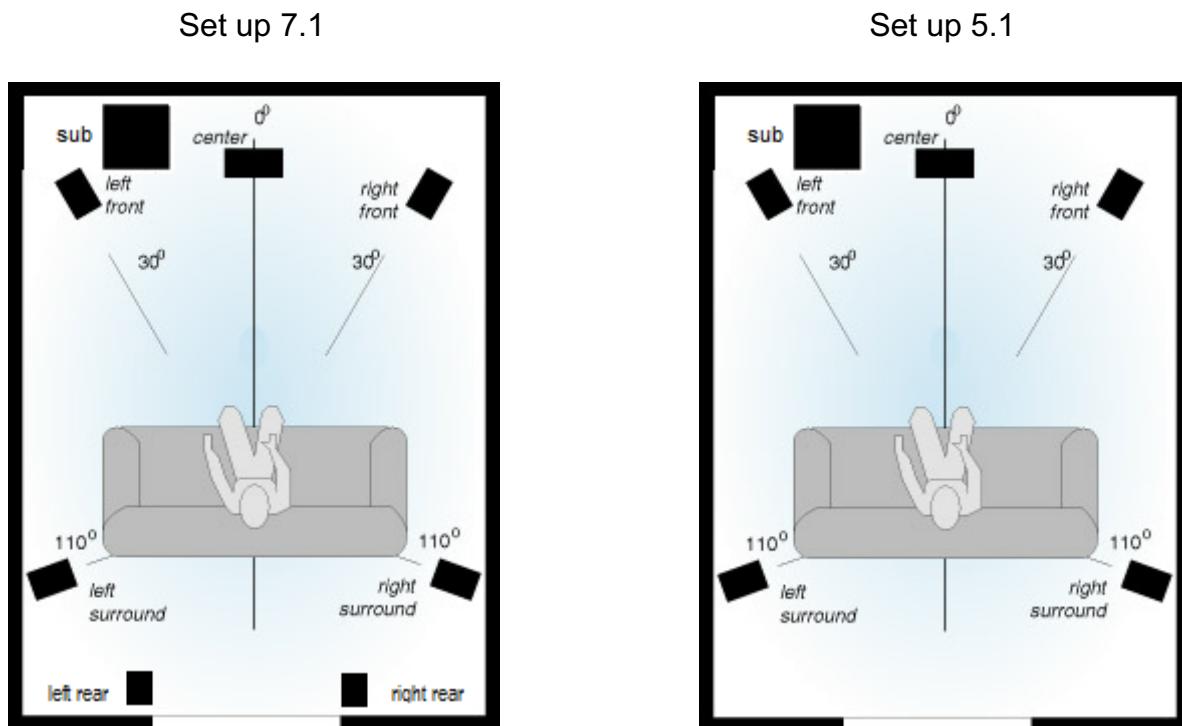
Check your settings for each input and each mode, some processor/receivers require that you enter settings Separately for each mode and/or input.

**13. Before playing the system check levels and speaker alignment one last time.**

Make sure that you write down all processor settings for future reference.

## Appendix A - Speaker Placement Diagrams

**FIGURE 2. Typical Surround System Speaker Placement**



## Appendix B - Specifications

### V10+

**ENCLOSURE TYPE:** Sealed cabinet

**WOOFER:** Single 10"

**POWER AMP:** 300W RMS at 4 ohms / 600W Peak

**FREQUENCY RESPONSE:** 20 Hz to 200 Hz (+/- 2 dB in band tolerance)

**AMP THD:** Less than 0.5% at 300W into 4 ohms

**DIMENSIONS:** H 34.5cm x W 34.5cm x D 34.5cm / H 13.6 x W 13.6 x D 13.6 inch

**WEIGHT:** 10.3 Kg / 22.7 lbs

**AC POWER CONSUMPTION:** 0.5W standby, 30W average, 150W max

### V12+

**'THX CERTIFICATION' (with BLE) Auto EQ**

**ENCLOSURE TYPE:** Sealed cabinet

**WOOFER:** Single 12"

**POWER AMP:** 400W RMS at 4 ohms / 800W Peak

**FREQUENCY RESPONSE:** 20 Hz to 200 Hz (+/- 2 dB in band tolerance)

**AMP THD:** Less than 0.5% at 400W into 4 ohms

**DIMENSIONS:** H 39.5cm x W 39.5cm x D 39.5cm / 15.6 x 15.6 x 15.6 inch

**WEIGHT:** 16.3 kg / 35.9 lbs

**AC POWER CONSUMPTION:** 0.5W standby, 40W average, 200W max

### V15+

**'THX CERTIFICATION' (with BLE) Auto EQ**

**ENCLOSURE TYPE:** Sealed cabinet

**WOOFER:** Single 15"

**POWER AMP:** 500W RMS at 4 ohm / 1000W Peak

**FREQUENCY RESPONSE:** 20 Hz to 200 Hz (+/- 2 dB in band tolerance)

**AMP THD:** Less than 0.5% at 500W into 4 ohms

**DIMENSIONS:** H 47.0cm x W 47.0cm x D 47.0cm / H 18.5 x W 18.5 x D 18.5 inch

**WEIGHT:** 21 kg / 46.3 lbs

**AC POWER CONSUMPTION:** 0.5W standby, 50W average, 300W max



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