



MFW-15

Enjoyment Guide

Picture of MFW 15
Subwoofer

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Safety Precautions

At AV123, we don't want to see any of our customers experience the inconvenience or unfortunate mishap of a precaution that was ignored. Please review the following precautions so you may enjoy your AV123 MFW-15 subwoofer without unnecessary damage or misuse.

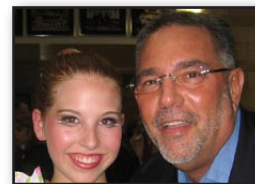
**IMPORTANT!
PLEASE READ THESE
INSTRUCTIONS
CAREFULLY**

- 1) If you suspect you have a component failure in your subwoofer (or any of our products for that matter) at any time, please call AV123 for help. Our experts can assist you in diagnosis and, if necessary, provide you with field repair parts where applicable. Our goal is your complete satisfaction.
- 2) Do not lift this subwoofer if you feel strain or it is just plain too heavy for you. The weight of the AV123 MFW-15 subwoofer is listed in the Technical Specifications section of this manual for your reference.
- 3) When lifting this subwoofer, do so with caution. If you need to use a cart or hand truck to move it around to its final destination, please do so with care and caution. Odd shaped boxes may require a 2 person lift even if the weight of the box does not seem prohibitive.
- 4) Do not install this subwoofer near water (or expose it to water) or any other liquids. If you have a place in the basement that floods or a leaky roof in certain spots, do not install your AV123 MFW-15 (or any other home entertainment equipment) in that location. Use good judgement, but if you are not sure if your chosen location is acceptable, chances are you should call us. It never hurts to ask.
- 5) Do not poke, prod, or "heavily pet" this subwoofer. Do not set drinks on it (or it's just about guaranteed the drinks will leave a ring and spill too). Do not use the subwoofer as a table or chair. Whenever possible, ask the kids and pets to play elsewhere than on (or directly in front of) the subwoofer. All of these suggestions come from many years of experience by our AV123 experts so you can trust the origin.
- 6) Do not install this subwoofer near a heat source such as a floor heater, space heater, fireplace, stove, heat register, active volcano, or any other device (including amplifiers) that may radiate heat.
- 7) Plug the electrical power cord included with the AV123 MFW-15 Subwoofer into a line conditioner or connect to an unswitched 110VAC wall outlet directly. Do not connect the MFW 15 power cord into a "power strip". This ensures the best performance of the subwoofer and avoids power delivery related problems.
- 8) This subwoofer along with companion main and surround speakers in a home entertainment environment can easily produce high sound pressure levels that can impair hearing if you (or other listeners) undergo extended exposure. Use caution when listening at high volumes and, by all means, please discontinue use if your ears are ringing. If you must play your speakers at extremely high volumes, we recommend the use of OSHA approved hearing protection.
- 9) Please read and follow the instructions in this manual. Keep this manual for future reference.

Thank You for your MFW-15 purchase

Dear Home Entertainment Enthusiast,

At AV123, our absolute highest priority begins and ends with you, the customer. As our valued customer, you can rest assured that if you're not 100% satisfied with your purchase within 30 days from your original receipt date, you may return your product(s) for a prompt refund in full (excluding shipping charges) with no explanation necessary. Coupled with the expert advice on our website and through our trained advisors, there is simply not a safer way or place to buy today.

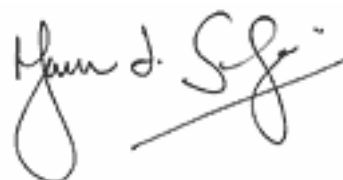


Mark with his pride and joy, Granddaughter Gracie, after her performance in the Nutcracker Ballet

We make every effort to make sure your home entertainment needs are met with the great products and unbeatable service we offer every single day. Not only do we give you the tools and the resources to fully evaluate your purchase before your order is placed, we back this up after the fact by allowing you a full month to audition our products in your own home before your final decision is made. AV123 simply does not engage in misleading and high-pressure sales tactics. In the long run, we know it's not the way either one of us wants to do business. We want customers for a lifetime.

With the MFW-15 powered subwoofer, we've created a subwoofer that has powerful performance and is an exceptionally good value. The 350 watt, 15" subwoofer features a folded, slot ported enclosure and a 2.5" voice coil to transfer energy from electrical signals to air moving bass! The free field frequency response of the MFW-15 is 18Hz-200Hz (+/- 4dB) and you can expect even better results in a room at home. Perhaps even better is that with the MFW-15, your subwoofer performance can grow with your own needs for more bass. The stackable design of the MFW-15 cabinet means that you can create an array of multiple MFW-15 subwoofers to satisfy just about any listening taste.

We've done our best to provide you with products and services meeting or exceeding your expectations. However as good as our products are, they do not match our dedication to each and every sale. Should you need any further assistance in the future with your A/V system, you can bet that AV123 will be there supporting and assisting you as you make your way to your next level of audio/visual enjoyment.



Mark L. Schifter
President

Unpacking and Product Registration

The AV123 MFW-15 subwoofer should reach you in absolutely perfect condition. If you notice any shipping damage or other issues upon unpacking the unit, please contact AV123 immediately. We have gone out of our way to ensure AV123 products are shipped with the utmost care, but if that is not the case when they arrive at your door, please do not hesitate to contact us.

Inventory

Your AV123 MFW-15 subwoofer is carefully hand packaged utilizing molded foam inserts to protect its fine furniture grade finish. When removing the subwoofer from the box, hold the wood sides of the cabinet, rather than the front and back. It is important to save all the packing materials and the box in case your AV123 MFW-15 subwoofer ever needs to be moved or shipped back to AV123 for service or repairs.

The MFW-15 subwoofer includes rubber mounting feet in the packaging to decouple the speaker from the floor.



Rubber Feet

Getting Started

Once you have established that all of your speakers and accessories are present and accounted for, we ask that you **PLEASE READ THIS MANUAL FIRST** before installing and positioning this subwoofer and any other system components that relate to sound system performance. We have thoughtfully assembled many useful tips to maximize the performance of your AV123 MFW-15 subwoofer in your home entertainment environment.

Limited Warranty Coverage

All products sold through AV123 carry a limited manufacturer's parts and labor warranty. All AV123 MFW-15 subwoofers are guaranteed to be free from manufacturer's defects for a period of one year from the date of purchase. Make sure that you keep your sales receipt. It is the only way for AV123 to establish the duration of your limited warranty and it may come in useful for insurance purposes if your AV123 subwoofer is ever damaged or stolen.

Register your AV123 subwoofer at AV123.com

Please take a moment to visit AV123.com and register your AV123 MFW-15 purchase. When you go online and register your product, AV123 will extend the warranty by an additional two years. This, in addition to the 1 year limited warranty is a total of 3 years! This extended warranty is free simply for registering within 60 days of your purchase. We urge you to take advantage of this offer. Warranties apply only to the original owner and are non-transferable. See page XX for limited warranty details.

Features and Descriptions

MFW-15 Subwoofer

Woofers

- 15" Long Throw, Low FS, "Mass Loaded" Woofer
- XX Ounce Magnet
- 18-200Hz Effective Frequency Response
- 2.5" inch Voice Coil

Enclosure

- 25mm and 19mm MDF Construction
- Robust Internal Bracing
- High Quality Veneer Finish
- Threaded Inserts for Floor Spikes or Rubber Feet

Built-in Amplifier

- 350 Watts RMS, High Efficiency Design
- RCA and Speaker Level Inputs
- Dedicated LFE Input
- Pass Through Outputs
- Variable Low Pass Filter (30-180Hz)
- Variable Phase (0-180 degrees)
- Adjustable Input Gain

Sample photos
shown for concept.
Please supply
actual photos



Enclosure Detail



MFW-15 Subwoofer

Subwoofer Placement Considerations

Achieving the best performance from your AV123 subwoofer and other audio system speakers requires several details to follow when setting up your speakers and placing your subwoofer. Tips and suggestions for the most desirable placement techniques are listed throughout this section. At the end of this section you will also find more information on fine tuning your MFW-15 subwoofer using the built in adjustments and features that may already be present in your home entertainment equipment.

Subwoofer Location

Unlike regular loudspeakers, subwoofers will often work best when placed in a corner, even if located a few feet to the side and/or behind the closest main speaker. Typically the front right and left corners sound the most natural, though rear corner placement is also an acceptable option. The driver can be facing you or be pointed along either wall. The low frequency sound waves emitted by the AV123 MFW-15 subwoofer are quite long and will therefore interact greatly with the walls of your room. As a result, even small placement adjustments can have a significant impact on the sound you hear. A room corner will provide maximum output at a given power level, and the maximum number of room modes will be excited, translating to a flatter response in most rooms. Often one rather large peak in the subwoofer's operational frequency range will stand out with corner placement.

Picture of
MFW 15
Subwoofer
in a corner
or typical
installation

Performance Considerations

The low frequencies played by your AV123 MFW-15 subwoofer tend to be non-directional due the extraordinarily long wavelengths involved. As a result, regardless of where your subwoofer is placed, it should not be easily localized, but should instead produce a balanced and enveloping response.

Factors that can affect performance in relation to placement and localization of the sound are rattles from shelves, walls, or other nearby objects, as well as distorted output. If you are having issues with subwoofer localization, try to isolate any rattling or buzzing objects, or place the sub in another corner of your room. If the sub's output is distorted, check to see that you are not at the maximum sub level setting on your receiver or preamplifier/processor. An overdriven output can induce audible distortion. To resolve, you may need to turn *down* the subwoofer level on your processor and turn the gain level *up* on the subwoofer itself to compensate.

Fine Tuning

One trick experienced home entertainment installers sometimes use is to feed a low frequency test tone to the subwoofer input while it's placed in the listening position and then as you walk around the room you will identify places where low frequency is greater (or less evident). This is easier than moving the subwoofer around. Once you determine a good location - both audibly and visually - you should be able to make the switch and place the sub where you've chosen the location and then you know the result you can expect.

Finally, you can use the control of the subwoofer's output level control (gain) and phase control (0-180 degrees) to further blend the sound into the other system speakers as a result of where you ultimately choose to position the MFW-15 subwoofer . If you are using the MFW-15 subwoofer in a home theater arrangement, the bass management functions of the preamplifier/processor will also help to compensate for some of the positioning issues, but remember that there is no substitute for correct speaker placement.

Multiple MFW-15 Subwoofers

The MFW-15 has been designed to be "stackable" so that multiples can be used in an array. In multiples the MFW-15 performance only increases. When you start having 3, 4, or more in an array - be warned; things will shake loose on the walls, shelves, and in cabinets from extended use of the multiple MFW-15 subwoofers.

When stacking the MFW-15, do so with the units on their side so the mouth of the port and the subwoofer cones form a vertical array. This yield the best mutual coupling while providing the most surface area for stacking.



Additional text to be provided by Sean.....

Connections

For the best sound quality and signal transfer, AV123 recommends a minimum of 16 gauge high quality, multi stranded, oxygen free copper speaker cables if using the speaker level inputs on MFW-15. For preamp level connections, use high quality, oxygen free copper audio cables.

MFW-15 Subwoofer Connections

Although there is technically no connection necessary to the driver itself (we've already done that part) you do have to choose connections for the audio input to the x-sub subwoofer. There are several ways in which to accomplish this:

Speaker Level Inputs

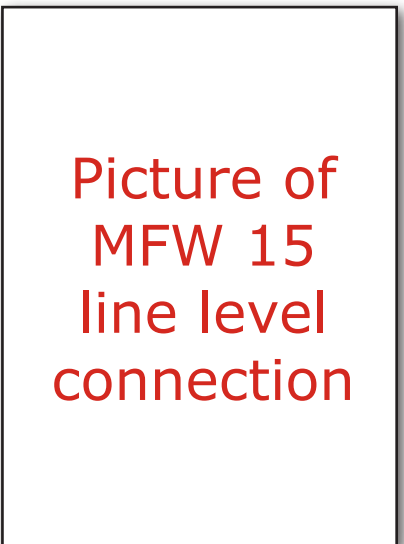
In situations where a line level out from your receiver or pre-amp is not available, **we recommend the following method** for connecting the x-sub or x-pls:

- 1) Connect the monitor or tower speakers **directly to the amplifier** outputs (both left and right channels).
- 2) Next, connect a second pair of speaker wires from each monitor to the **high level input** on the x-sub or x-pls.

The high level input allows speaker level signals for signal input and sums the left and right channels to a mixed mono input so the sub remains active whether balance is moved from left to right. By directly wiring the monitors or towers to the amplifier, the bottom octaves blend smoother with the output.

Line Level Inputs

If your receiver or preamplifier has a set of full range RCA line outputs that are not already being used, you can connect these into the LEFT and RIGHT Line Input jacks (pictured at right in the illustration). When using these inputs, the crossover is still active so a full range input will be filtered to allow only the lowest frequencies to reach the subwoofer. There are no line outputs on the x-sub so if there are multiple devices needing an input from only a single RCA preamp output on your preamplifier or receiver, you can use "Y adapters" to split the output. We do not recommend splitting it to more than two devices and both should have relatively high input impedances (20k Ohm or higher) so there is no significant signal loss.



Dedicated LFE Input

This is the recommended input to use if your x-sub is part of a multi-channel home theater with discrete outputs on the preamplifier/processor for an "LFE" (Low Frequency Effects) channel. There is only a single RCA for this input (pictured at left in the illustration) because the signal has already been summed into a mono channel in the preamplifier and it bypasses the crossover filtering because that function is controlled by the LFE processing functions upstream. Short of level matching with the gain and using the polarity switch (0 or 180°), this is the easiest method of connection for using the x-sub in a home theater application. The dedicated LFE input is labeled "Subwoofer Input". Remember that you must make sure the preamplifier/processor has been configured to enable the LFE channel output so the x-sub will have signal.

Picture of
MFW 15 LFE
connection

Calibration

Calibrating your speaker levels will ensure that the effort you've taken to correctly position the speakers themselves will pay off when you finally sit down to enjoy them.

SPL Measurements

To accurately calibrate levels, you'll need an SPL meter. Radio Shack sells a digital meter that works very well for this purpose (P/N 33-2055) and it's about \$50. Set the meter on 'slow' and "C" weighting. The dial should be set at either 70 or 80 depending on your preamplifier/processor or receiver's test tone reference output level. Consult your owner's manual to determine what reference point your unit uses (most use 75, so the 70 setting on the meter would be appropriate in that example). Each range setting on that particular meter will cover 20dB (10 above and 10 below). So a setting of 70dB would cover between 60-80dB range. If you are using another meter, consult the owner's manual for proper operation.



**Radio Shack
Digital SPL
Meter**

Configuration and Reference Settings

- 1) Begin by reviewing the calibration menu settings of your receiver or preamplifier/processor. In the speaker configuration menu (as a part of the set-up on your HT processor), be sure all your speakers are set to "SMALL" with subwoofer to "YES". (Please note that many processors require a "SMALL" setting for the main speakers to allow the LFE subwoofer output function, otherwise bass is directed to the front channels with the full energy when the speakers are set to "LARGE")
- 2) From the processor's speaker calibration menu, set the subwoofer output level to 0 dB. (Start with the gain on the MFW-15 subwoofer at about 1/4 of max. and make sure the power switch is in the "ON" position. The signal sensing Auto ON circuit will switch the amplifier in the MFW-15 on automatically)
- 3) The crossover on the MFW-15 should be set between 80 Hz or 100 Hz as a starting point unless you have used the LFE Input- in which case the crossover will be bypassed. After matching the level in Step 6, experiment with what you prefer on the MFW-15. Typically, higher crossover settings are used for systems in extremely large rooms or with very demanding low end material.

Setting Reference Levels of Full Range Speakers

- 4) Set the volume control on your receiver to the "00 dB" level. If your unit uses a positive number scale for volume instead of a minus-to-plus scale, just watch the meter until it reaches 75 or 85dB (depending on the recommended reference level of 70 or 80dB in the receiver or preamplifier/processor's owner's manual).

5) Begin by setting the levels of the main, center, and surround speakers one at a time. While pointing the meter toward the speaker active with the test tone, set each channel to the same reference level while the SPL meter remains about in the listening position. Your goal is to establish an even output level of each speaker from that spot.

Setting the MFW-15 Subwoofer Gain

6) Once finished with the other speakers in the system, direct the test tone to the subwoofer. Adjust its level using the gain control (labeled "VOLUME") on the MFW-15 subwoofer until it reaches the SPL level achieved by the other speakers. An assistant will be very helpful for this process because the meter location and subwoofer level adjustment location will be different. Some like to run their sub "hot" for movies by increasing the sub level by 5 dB or so above the main channel level. This can be very effective at lower listening levels, but be sure to use care when watching that big action movie for the first time - especially at or near reference levels.

7) Once the subwoofer is calibrated, small adjustments can be made easily using the subwoofer level control in your processor or receiver. If you find the need to go much above +2 or +3 consistently, we recommend adjusting the gain control on the MFW-15 upward instead and using a lower number for reference level on the processor.

MFW-15 Crossover and Phase Adjustments

After setting up the system reference levels on each channel, including the subwoofer, it's time to set the crossover (where applicable) and the phase switch (where necessary). This activity will round out the effectiveness of the subwoofer as an extension of the main speakers, rather than a box in the room making noise!



Setting Subwoofer Crossover

This adjustment is between 40-150Hz. If your preamplifier/processor has a dedicated "LFE" or "SUB" output, then you should be using the input jack labeled "**LFE**". This input bypasses the crossover because the filtering function is handled upstream in the Dolby Digital/DTS processor. When your processor is not on a Dolby or DTS source format, it will make the necessary filtering for the LFE output so this input configuration will yield the best result for that equipment. If you have a home theater system, this is more than likely the input you should use.

If you do not have a dedicated output for the subwoofer, you should be using the left and right "**LINE INPUT**" jacks. In this situation it is recommended to use the

adjustable crossover in the MFW-15. Begin at the highest setting (180Hz) and slowly dial it down until it seems as if the bass is anchored in the front speakers rather than just the subwoofer. We strongly recommend settings above 80Hz because this will allow a nice blend with the other system speakers without making them work too hard with reproducing the bulk of the low frequencies. If you are a traditional 2 channel enthusiast or are using components free of a dedicated LFE output, this method is then the correct choice.

The easiest way to test different methods and frequencies for crossing over your subwoofer is by using bass sweeps from the **AVIA Guide To Home Theater DVD**. Specifically, the tones that descend in frequency from the individual satellite speakers to the subwoofer are quite useful and effective. Using your SPL meter, watch for the smallest amount of overall needle fluctuation while you direct and descend the tones from the main speakers to the subwoofer going around your system. If you are not sure about how to do this or where to locate the AVIA disc, please call AV123 at (877) 543-7500 for assistance or email us at support@av123.com.

Setting Subwoofer Phase

The Phase Control controls the relative phase of the subwoofer to best reinforce the other loudspeakers in your system. Adjustments to this control will change the MFW-15 interaction with the rest of your speaker system, providing the least cancellation, and thus the best response in any room. With SPL meter in hand (or, better yet, on a tripod in the listening position), play an 80Hz tone (for this exercise the crossover point must be set to 80Hz if you are not using the LFE Subwoofer Input) and rotate the Phase Control from "0" to "180." Watching your SPL meter, select the setting that results in the biggest peaks in sound pressure levels (i.e. reads highest on the meter).

To verify your measurements, go back to the listening position and listen for yourself using music you know. If the bass from the MFW-15 subwoofer seems to be coming from the front speakers rather than noticeably separated from them and reduced in output level, you have got it right. The optimum setting indicates the least amount of bass wave cancellation, and should be left alone after setting until the subwoofer or other speakers in your room are moved, or placement is altered in any way. With typical front corner placement in most rooms you may very well find that the "0" setting is best.

Caring for your MFW-15 subwoofer

Your AV123 MFW-15 subwoofer does not need much exterior maintenance other than an occasional dusting. Please use care with the wood veneer finish and treat it as you would any other fine furniture finish. Wood veneer surfaces can be cleaned with a damp cloth (using water) if necessary. We recommend the 3M Yellow Detail Cloth (part # 39016) for dust on both the black and wood veneer surfaces as it does not scratch the finish.

Technical Specifications

MFW-15 Subwoofer

System Description:	2 Way (6.5" Long Throw Woofer and Treated Fabric Dome Tweeter)
Enclosure Type:	Vented, Rear Firing
Frequency Response (+/-3dB):	55Hz- 20 KHz
Nominal Impedance:	8 Ohms
Sensitivity:	87dB @ 1w/1m
Crossover:	1750Hz, 2nd Order
Raw Weight:	32 lbs pair / 14.5 kg pair
Shipping Weight:	40 lbs pair / 18.18 kg pair
Dimensions:	8.5" W x 13.5" H x 12.125" D / 216mm W x 343mm H x 308mm D

Sean please provide all specs
and exactly what you want to
include here

Performance Graphs

Performance Graphs

Limited Warranty and Return Policies

The AV123 MFW-15 subwoofer has been designed and manufacturer to perform flawlessly for many years with regular use. As a result of this quality and craftsmanship, AV123 is proud to offer the following warranty policies to our customers:

- All products sold through AV123 carry a limited manufacturer's parts and labor warranty. This is for the piece of mind that, no matter what your purchase, there is some type of limited warranty on which you can depend. These will always be clearly stated with the product.
- All AV123 MFW-15 subwoofers are guaranteed to be free from manufacturer's defects for a period of **one year** from the date of purchase. This warranty applies to the original purchaser of the AV123 MFW-15 product(s) and is non-transferrable.
- The AV123 MFW-15 subwoofer warranty does not cover damage by misuse, abuse, neglect, unauthorized product modification, failure to follow the instructions outlined in this owner's manual, failure to perform routine maintenance, damage resulting from unauthorized repairs, or claims based upon misrepresentations of the warranty by the seller.
- If you visit av123.com and register your AV123 MFW-15 subwoofer purchase, AV123 will **extend the warranty by an additional two years**. This, in addition to the 1 year limited warranty is a total of 3 years! This extended warranty is free simply for registering **within 60 days of your purchase**. We urge you to take advantage of this offer.

Service Assistance for AV123 MFW-15 Subwoofers

AV123 will exchange all defective merchandise, including shipping charges to the original shipment destination, at no charge for up to 60 days after the date of purchase. After 60 days the product must be returned to AV123 for repair only and return shipping costs are the responsibility of the customer. Please note that BEFORE sending your AV123 MFW-15 subwoofer in for repair or replacement, you MUST call AV123 and obtain a return authorization (R/A) number. Before contacting AV123 to begin the R/A process, please have as detailed a description of the problem(s) you are experiencing and the conditions under which the problem(s) occur. Once you have obtained the R/A number, you must print this clearly on the outside of the box so it will be possible to determine from whom the AV123 speaker(s) came once the parcel arrives. Parcels arriving without an R/A number will be refused and returned freight collect.

	Contact Information
Toll Free -	(877) 543-7500 (menu option 2)
Website -	www.av123.com
e-mail -	support@av123.com



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