



On Point Audio, Inc.

OPA 15 ACTIVE USER MANUAL



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance instructions.



High voltage

The lightening flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

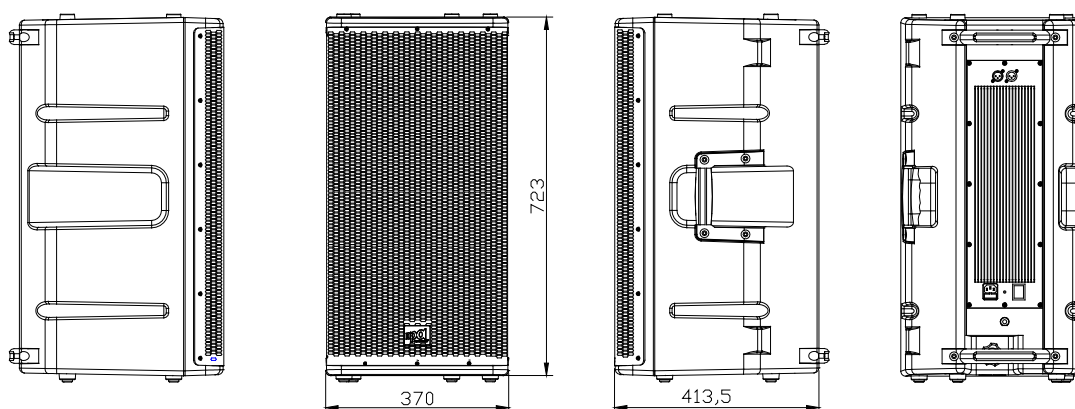


The On Point Audio OPA 15 Active was designed to bring very high performance sound reinforcement and very high output to size ratios. The OPA 15 Active was designed for use in both portable and fixed installation indoor environments such as night clubs, pubs, meeting halls and general live performance applications. The OPA 15 Active features a unique “narrow profile” integrated woofer and enclosure design that provide very high acoustic output with excellent sight line characteristics

Specifications

Frequency Response:	50 Hz – 18,000 Hz
Coverage Pattern:	60° H X 40° V
Input/Thru Connections:	3 Pin XLR-type (Pin 2 +)
Power:	
Peak - Total System:	2,000 Watts
Continuous- Total System:	1000 Watts
Peak Low Frequency:	1,000 Watts
Peak High Frequency:	1,000 Watts
Continuous Low Frequency:	500 Watts
Continuous High Frequency:	500 Watts
AC Mains Power: Autoswitching	115 V AC to 230 V AC (104VAC to 253VAC) (50 Hz – 60 Hz)
Input to achieve rated output:	1.5 V RMS
Max Acoustic Output (Peak):	131 dB*
Rigging:	M10 Stainless Steel (7 Points)
Supplied Accessories:	AC Mains Cable 2 each (3 pin USA and Euro)
Dimensions (H X W X D):	742 X 370 X 434 mm 29.2 X 14.6 X 17.1 inches
Weight (kg / lb):	29 kg / 64 lb
Operating temperature (C/F)	0C-43C / 32F- 110F

* NOTE: Max Acoustic Output is based on smoothed system response, not peak driver response.



Read all of the instructions included in this manual

Copies of this manual should be retained by the system's installer AND end-user.

This manual must be read and understood and ALL warnings must be followed.

Follow all instructions to insure optimal product performance.

The OPA 15 Active is a convection-cooled device and it requires at least 6 inches (152 mm) of clearance behind the enclosure to allow the heat sink to adequately cool the internal electronics.

DO NOT INSTALL NEAR ANY HEAT SOURCES!

Use **ONLY** the supplied AC Mains connector.

Protect the AC Mains power cord from being walked on or otherwise damaged and inspect for damaged connections and damaged insulation.

The OPA 15 Active may be suspended. **DO NOT SUSPEND ANY ITEMS OR OTHER ENCLOSURES BELOW THE OPA 15 ACTIVE.**

DO NOT SUBSTITUTE SUSPENSION HARDWARE.

SUSPENSION SHOULD BE ATTEMPTED BY A PROFESSIONAL THAT IS FAMILIAR WITH LOCAL AND NATIONAL CODES AND SAFE SUSPENSION PRACTICES!

There are **NO** user-serviceable parts inside the enclosure. **DO NOT REMOVE THE AMPLIFIER MODULE!** (See Service section for details OR contact On Point Audio.)

FCC STATEMENT

The OPA 15 Active has been tested and is compliant with the limits for Class B digital devices, per Part 15 of the FCC rules. Test data is available from On Point Audio.

INTRODUCTION

Thank you for purchasing the On Point Audio OPA 15 Active and for your faith in us and our products. The OPA 15 Active will provide you many years of useful service with proper use and care. Please read this manual completely and become familiar with the design and operation of this advanced active speaker system.

CONTENTS

The OPA 15 Active system is shipped in one carton. The contents of the cartons are as follows:

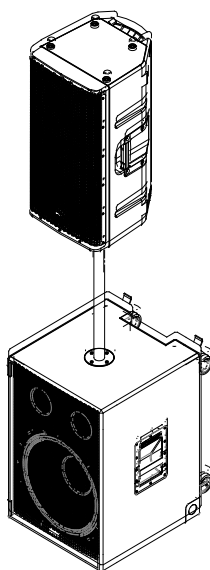
OPA 15 Active System

One OPA 15 Active, including a bi-amplified Class-D digital power amplifier system with onboard Digital Signal Processing (DSP) and two each AC Mains cables.

RECOMMENDED ACCESSORIES

Although not supplied with the OPA 15 Active System, On Point Audio recommends using the OPA 15 Active enclosures with a high-quality loudspeaker stand for use in portable applications. On Point Audio also produces the OPA Sub Active when additional low-frequency output and response is required. The OPA Sub Active includes A 35 mm / 1.375 inch diameter mounting pole that allows the OPA 15 Active to be safely elevated above the OPA Sub Active.

The OPA Sub Active's mounting pole is NON-adjustable. DO NOT substitute poles. Make sure that the OPA Sub Active is placed on a level surface.



OTHER ACCESSORIES

On Point Audio also offers the Eye Bolt Kit that contains 4 x 304-grade stainless steel, forged-shoulder eyebolts for suspending the OPA 15 Active.

FEATURES AND APPLICATIONS

The OPA 15 Active is a professional product and is designed to be used with a high-quality mixing console. The OPA 15 Active does not provide any additional, user selectable, equalization or gain. All equalization and gain functions should be provided by the mixing console. This design concept enables gain stages to be limited, thus reducing system noise as well as substantially reducing the possibility of gain stage overloads.

On Point Audio does not feel that adding additional EQ and gain functions are appropriate for truly professional products. The addition of redundant functions such as EQ and gain are usually the cause of clipping, distortion and greatly-reduced system performance. Any venue-specific equalization needs are best provided by high-quality outboard devices or high-performance EQ sections found on professional quality mixing consoles.

The OPA 15 Active features an onboard digital signal processor (DSP) that performs analog to digital conversion, equalization, high-order crossover, delay and system dynamics processing. The system's dynamics processing consists of a compressor/limiter function designed to provide ultra-fast threshold system protection and maximized system dynamics.

SETUP AND USE OF THE OPA 15 ACTIVE

AC MAINS CONNECTION

Prior to connecting the AC mains cable, insure that the AC mains switch on the OPA 15 Active is in the OFF position.



On/Off Switch

The OPA 15 Active will operate on AC mains voltages of 115 volts to 230 volts. The required AC mains frequency is between 50 Hz and 60 Hz. The acceptable voltage range is 104VAC to 253VAC.

The OPA 15 Active uses a standard IEC-type AC mains connector system. To mate the AC mains cable with the AC mains connector on the amplifier, simply align the plug with the panel's connector and press the AC mains cable into place. Always support the OPA 15 Active's enclosure with one hand while performing this operation. The AC mains connector is shown below. It is located on the lower portion of the OPA 15 Active input panel.

NOTE: The OPA 10 Active is supplied with two AC Mains cables. Select the cable with the proper termination for the country specific mating receptacle!



AC Mains panel connector

To disconnect the cable end of the AC mains connector pull back on the molded plug at the end of the cable, not the cable itself.



NOTE: ALWAYS turn off the AC mains power BEFORE attempting to disconnect the AC mains cable from the OPA 15 Active amplifier module!



DO NOT CONNECT THE AC MAINS END OF THE AC MAINS CABLE IN AN AREA THAT IS WET OR SUBJECT TO CONDENSATION OR DAMP CONDITIONS!

Once the AC mains cable is securely connected to both the amplifier and AC mains supply, the OPA 15 Active enclosure may be turned on. It is good practice to make certain that the audio levels on the mixer's output (or other source output) are reduced or muted prior to applying power to the OPA 15 Active.

NOTE: When power is applied to the OPA 15 Active and the unit is turned on, there is approximately a 5 to 15 second delay before the pilot light illuminates.



Pilot Light



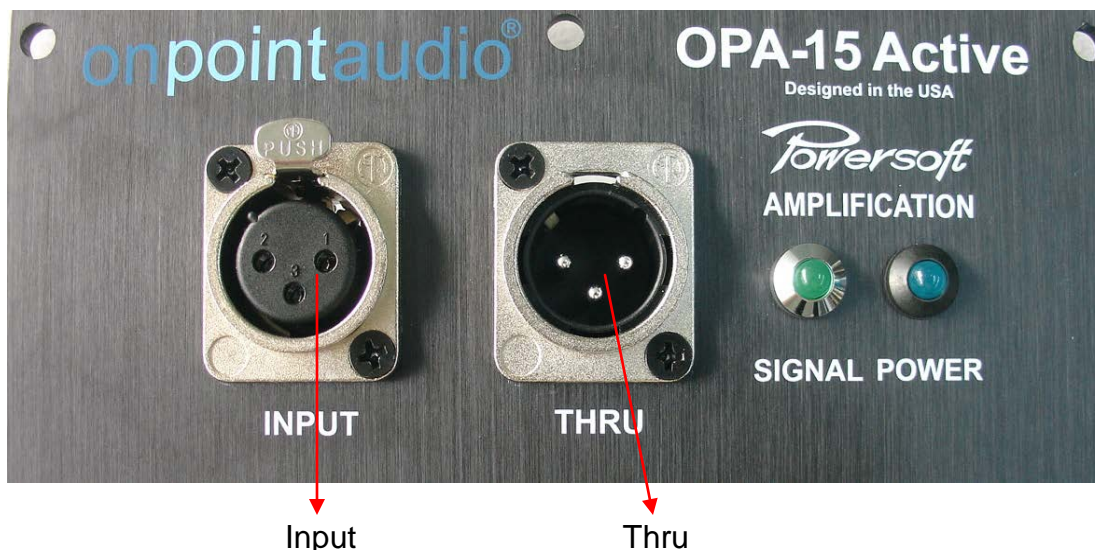
NOTE: If the pilot light does not illuminate within 30 seconds the unit may be in a FAULT CONDITION. If this occurs, the unit should be returned to On Point Audio for evaluation.

THERE ARE NO USER-SERVICABLE PARTS INSIDE. DO NOT REMOVE THE AMPLIFIER MODULE! (see the section below "Replacement of Components" for more detailed information)

AUDIO CONNECTIONS

The OPA 15 Active includes both a male and female XLR-type connectors. Any standard XLR-type cable end connectors may be used.

The image below illustrates the top portion of the OPA 15 Active's input plate. Both the audio input and audio thru connectors are shown.



An audio level of 1.5 V RMS will drive the OPA 15 Active's amplifier to full power.

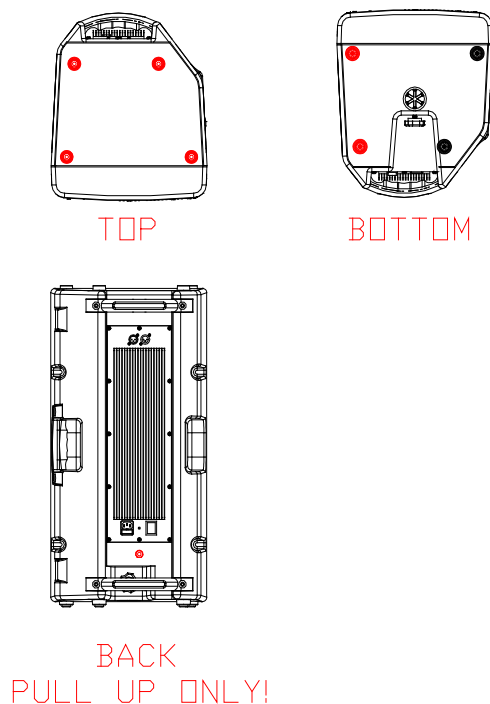
The OPA 15 Active input section also allows for “paralleling” multiple OPA 15 Active or other powered systems. This function is achieved by using the output/thru XLR-type connector located next to the input XLR-type connector on the OPA 15 Active's amplifier module.

RIGGING AND SUSPENSION OF THE OPA 15 Active

The OPA 15 Active features 7 x M10 (metric) stainless steel rigging points. The enclosure may be suspended for either temporary installation or permanent installation. There are four M10 points on the top of the enclosure, two on the bottom of the enclosure and a single “pull-up” point on the bottom portion on the rear of the enclosure.

WARNING: The single M10 point on the bottom portion of the rear of the enclosure is NOT intended for suspension of the enclosure and should NOT be used for suspension. The M10 point on the rear of the enclosure is designed for pull up and aiming ONLY!

The M10 rigging points are shown in the images below.



Rigging Points shown above



The OPA 15 Active may be mounted to any high-quality loudspeaker stand with a standard 1.375 inch (35 mm) diameter mounting pole. The mounting pole **MUST** be located on a level surface that is capable of safely supporting the weight of both the loudspeaker stand and the OPA 15 Active.

DO NOT ADD OR SUSPEND ANY ITEMS TO THE OPA 15 Active OR LOUDSPEAKER STAND.



WARNING

DO NOT ATTEMPT TO SUSPEND ON POINT AUDIO PRODUCTS WITHOUT UNDERSTANDING LOCAL AND NATIONAL CODES THAT APPLY TO OVERHEAD SUSPENSION OF PRODUCTS.

DO NOT ATTEMPT TO SUSPEND ON POINT AUDIO PRODUCTS UNLESS YOU ARE A PROFESSIONAL WITH KNOWLEDGE OF LOCAL AND NATIONAL CODES RELATED TO SAFE SUSPENSION AND ARE EXPERIENCED IN SUSPENDING PRODUCTS OVERHEAD.

ON POINT AUDIO IS NOT RESPONSIBLE FOR FAILURES RELATED TO NON-COMPLIANCE WITH LOCAL AND NATIONAL CODES AND SAFE SUSPENSION PRACTICE.

DO NOT ATTEMPT TO SUSPEND THIS PRODUCT WITHOUT READING AND UNDERSTANDING THE DOCUMENT "Suspension of On Point Audio Products". THIS DOCUMENT MAY BE FOUND AT: www.onpointaudio.com

ALL ASSOCIATED RIGGING IS THE RESPONSIBILITY OF OTHERS.

USING THE OPA 15 Active (Application and Trouble Shooting Tips)

The OPA 15 Active is a high-quality professional sound reinforcement system designed for use in indoor applications. Some basic precautions will insure long-term reliability.

EQUALIZATION AND GAIN

The OPA 15 Active has all the required equalization and gain functions included in its internal Digital Signal Processor (DSP). Both the equalization and gain functions have been optimized for flat frequency response and maximized system dynamics. The OPA 15 Active does not have user-settable external gain or EQ.

All system gain should be set via the outboard mixing console. The mixing console should be capable of providing sufficient output levels to supply the necessary voltage levels to drive the OPA 15 Active to full power and still insure adequate headroom in the mixing console.

The OPA 15 Active will produce full power with a 1.5 V RMS input signal.

If additional equalization is required, care should be taken to avoid excessive EQ in any frequency band, but particularly at low frequencies. Excessive equalization can produce "band selective" clipping and distortion. All EQ boost levels should be monitored if system distortion is present.

Applications that require excessive low frequency equalization are almost always an indication that a sub woofer is required. On Point Audio offers the OPA Sub Active. The OPA Sub Active is a companion product for use with the OPA 15 Active and it will provide substantial low-frequency acoustic output.

DISTORTED SOUND

When input levels to the OPA 15 Active exceed 1.5 V RMS, the internal dynamics processing functions will engage and provide protection for the system. However, it is still possible to "overdrive" the input section of the enclosure. If distorted sound is present the following steps should be taken:

1. Verify that the mixer's output is not clipping or overloaded. If the output metering section of the mixing console is continuously in the "red" then the output level should be reduced. (occasional "red" indications are usually fine and are dependent on the mixing console's output capability).
2. Verify that excessive equalization is not present anywhere in the signal chain.
3. Verify that AC mains levels are within the required range.



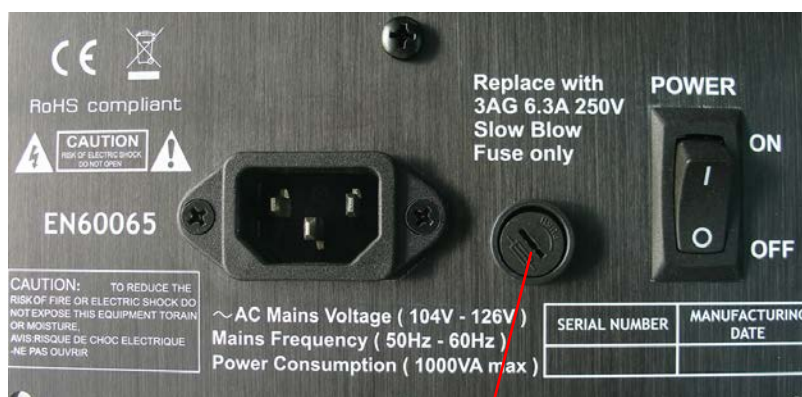
Voltage measurements on the AC Mains should be performed by a licensed electrician or individual trained in making high-voltage measurements.

NO SOUND

1. Verify that signal is present on the input of the OPA 15 Active.
The OPA 15 Active also includes a "signal present" indicator and is positioned immediately below the Pilot light. This indicator will illuminate when an audio signal is present at the input to the system.
The threshold is approximately -25dBV.
2. Verify that there is AC Mains voltage on the AC Mains input to the OPA 15 Active
3. If AC Mains voltage is present, verify that the OPA 15 Active's fuse is not blown.



NOTE: IF THE FUSE IS BLOWN REPLACE ONLY WITH THE SAME TYPE OF FUSE. THIS FUSE TYPE IS NOTED ON THE INPUT PANEL NEAR THE FUSE HOLDER. THE LOCATION OF THE FUSE HOLDER IS SHOWN BELOW. **NOTE: 115Vrms AC fuse shown below for example only. Fuse rating will differ based on AC mains voltage.**



FUSE HOLDER (located between the on/off switch and ac mains)

PRODUCT SERVICE



There are NO user-serviceable parts inside the OPA 15 Active amplifier. However, the amplifier does need to be removed in case of compression driver service. See notes below for compression driver service and repair (Replacement of Components).

The OPA 15 Active's amplifier module **MUST** be serviced by a company authorized by On Point Audio.

Replacement of Components



REPLACEMENT OF COMPONENTS MUST BE PERFORMED BY A QUALIFIED TECHNICIAN OR ONE KNOWLEDGABLE IN THE REPLACEMENT OF TRANSDUCER COMPONENTS!

DO NOT ATTEMPT ANY REPAIRS UNLESS THE OPA 15 ACTIVE AMPLIFIER HAS BEEN DISCONNECTED FROM THE AC MAINS SOURCE!

In the event of woofer failure, the woofer may be accessed by removing the front grille and then removing the woofer. This should be done by a qualified technician or contractor. There is no need to remove the amplifier panel in the event of a woofer failure.

In the event of a compression driver failure the amplifier module must be removed to gain access to the compression driver.



USE EXTREME CARE WHEN HANDLING THE OPA 15 ACTIVE'S AMPLIFIER MODULE. THE COMPONENTS ARE FRAGILE AND THE MODULE MUST NOT BE SET DOWN ON THE COMPONENT SIDE OR DAMAGE WILL OCCUR!

Care should be exercised when disconnecting the amplifier module from both the woofer and the compression driver. Be sure to observe the wiring polarity of both the woofer and the compression driver.

The compression driver is a "screw on" type and is easily removed once the amplifier module has been removed. Once the compression driver diaphragm has been replaced and re-mounted on the horn, the amplifier may be re-mounted.

Insure that both the woofer and compression driver are wired with the correct polarity observed.