



**AMINA**

DATASHEET Revision 1.0

# SAPPHIRE Series 2<sup>50</sup>

2-EXCITER, 50W RMS HIGH PERFORMANCE  
FULLY COVERED INVISIBLE LOUDSPEAKER



## HI-FI, REFINED

The new Sapphire range of invisible loudspeakers represents the culmination of a quarter-century of research and development in Distributed Mode Loudspeaker (DML) technology. Building upon the legacy of its award-winning predecessors - the Mobius and Evolution ranges of fully covered invisible loudspeakers - The Sapphire Series 2<sup>50</sup> introduces a ground breaking approach to invisible audio.

Featuring the all-new proprietary 'Symphony Cell' resin-impregnated composite soundboard, a meticulously optimised aluminium frame and robust, proprietary drive units, the Sapphire range of invisible loudspeakers can be installed and operated under more extreme conditions of heat and moisture including saunas, steam rooms and exposed exterior locations.

Intentionally crafted for a rich, bass-driven sound, these advancements provide a hi-fi experience that stands robustly on its own, requiring subwoofer augmentation only in the most demanding applications.

## A LEGACY OF INNOVATION

Amina Technologies, the world leader in invisible speaker technology, brings The Sapphire 2<sup>50</sup> as the culmination of 25 years of expertise and a wealth of patented innovations. Building on the success of our renowned and award winning Mobius and Evolution series, the Sapphire 2<sup>50</sup> is a testament to our commitment to pushing the boundaries of audio excellence.

## WHERE THIS TECHNOLOGY SHINES

The Sapphire 2<sup>50</sup> is designed to fit between studs or joists on 400mm centres or greater with its slim profile allowing installation into cavity spaces where traditional speakers wouldn't fit. Suitable for high fidelity, full-range commercial, residential and marine background music applications, active music listening systems or as part of multichannel audio systems.

## OUR SOUND, YOUR FINISH

Transform your space with immersive sound, without compromising on aesthetics. Our fully covered loudspeaker ranges create endless possibilities for unique finishes: Some of the covering materials used have included marble, wood, leather, natural stone veneers, Dibond mirror finish composite panels, synthetic stone, micro-cement and, of course, a range of plaster finishes including Venetian plaster.

## FEATURES AT-A-GLANCE



### 50W RMS/100W PEAK

Providing a maximum sound pressure of 98dB SPL from 50W at four ohms



### 180° DISPERSION

Hemispheric dispersion throughout the speakers frequency range



### SONIC CLARITY

Room-filling sound with full-range Hi-Fi voicing and impeccable intelligibility



### INSTALL FLEXIBILITY

Install in wall, ceiling or cabinetry and cover with almost any material

# SAPPHIRE 2<sup>50</sup> SPECIFICATION

WITH 2MM PLASTER SKIM

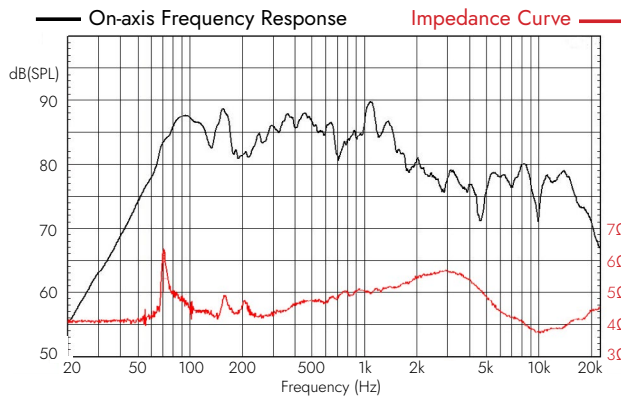


<b>NOMINAL IMPEDANCE</b>	4 Ohms
<b>SENSITIVITY</b>	84dB
<b>RATED MAXIMUM SPL</b>	98dB SPL
<b>FREQUENCY RANGE (-10dB)</b>	50Hz - 20kHz
<b>FREQUENCY RESPONSE (-6dB)</b>	60Hz - 20kHz
<b>COVERAGE (H/V)</b>	180°/180°
<b>POWER HANDLING (RMS/PEAK)</b>	50w/100w
<b>RECOMMENDED HIGH PASS FILTER</b>	30Hz, (24dB per Oct.)
<b>ELECTRICAL CONNECTION</b>	Wago Lever-Splice 16–10 AWG (1.5–6 mm <sup>2</sup> )
<b>PRODUCT DIMENSIONS</b>	450mm X 345mm X 31mm (17" <sup>3</sup> / <sub>4</sub> x 13" <sup>9</sup> / <sub>16</sub> x 1" <sup>1</sup> / <sub>4</sub> )
<b>PRODUCT WEIGHT</b>	1.8kg (3lb 15oz)

<b>DRIVERS</b>	2 x DML
<b>VOICE COIL DIAMETER</b>	1x 19mm, 1x 36mm
<b>VOICE COIL CONDUCTOR</b>	Dual Layer Wound Copper
<b>SUSPENSION DESIGN</b>	Spiderless Coupler
<b>DIAPHRAGM DESIGN</b>	Bending Wave Principle
<b>DIAPHRAGM MATERIAL</b>	Phenolic Honeycomb
<b>RADIATOR SURFACE AREA</b>	450mm X 345mm (17" <sup>3</sup> / <sub>4</sub> x 13" <sup>9</sup> / <sub>16</sub> )
<b>LOW-Z PROTECTION</b>	Guardian 2/8/16
<b>HIGH-Z TRANSFORMER</b>	Multitap Or Fixed Value Available
<b>MANUFACTURER WARRANTY</b>	10 Years
<b>MOUNTING HARDWARE</b>	CV345 Backbox / SW345 Back- box / Tab Mounting Kit
<b>FIRE BARRIER</b>	Firehood 345

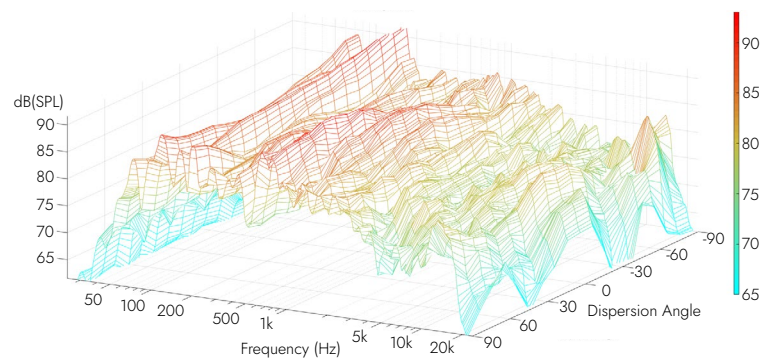
## PERFORMANCE FACTS

QUASI-ANECHOIC, 2.83V @ 1M, 1/6 OCT. SMOOTHING, 2MM PLASTER SKIM, NO FILTERS



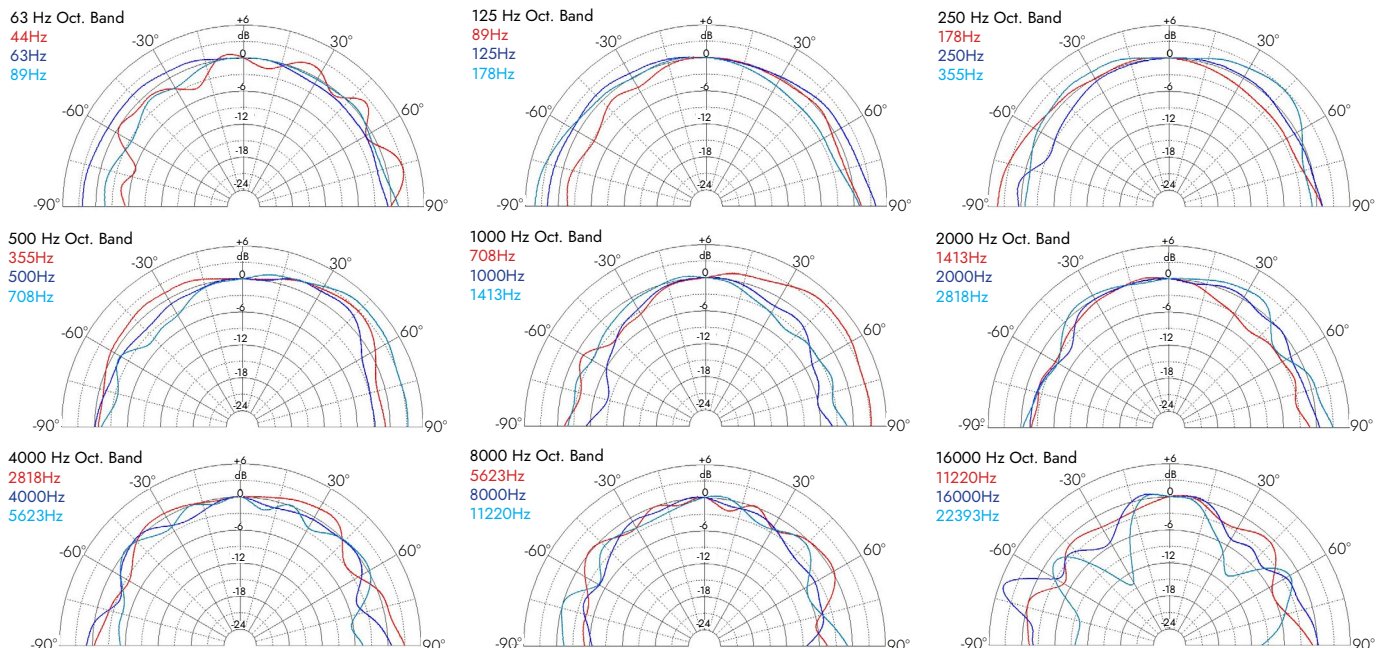
## SOUND POWER DIRECTIVITY

QUASI-ANECHOIC, 2.83V @ 1M, 1/6 OCT. SMOOTHING, 2MM PLASTER SKIM, NO FILTERS



## POLAR PLOTS

HORIZONTAL PLANE, NORMALISED TO 0dB ON-AXIS



Amina Technologies continually engages in research and the development of products. Specifications subject to change without notice. E&OE.

## DSP OPTIMISATION

FILTER	FREQUENCY	GAIN	Q / SLOPE
HPF	30HZ		BW48dB/Oct.
PEAK	372HZ	-2.0DB	3
PEAK	1104HZ	-1.7DB	4.5
HIGH SHELF	2424HZ	1.4DB	1



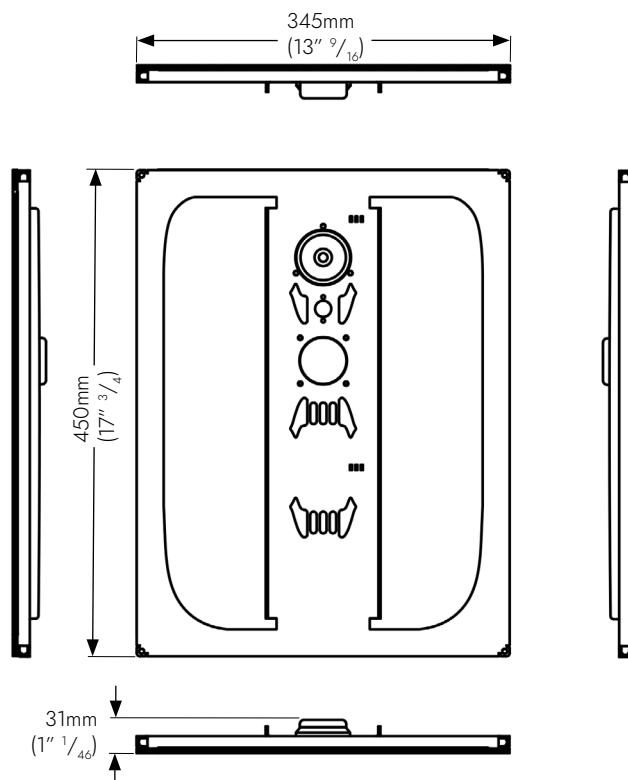
The filters shown in the adjacent table are the initial recommended acoustic filters for the Sapphire 2<sup>50</sup>. This represents an EQ starting point for all applications. Further equalisation must be primarily subtractive, and significant boosts in low frequency should be avoided.

## ARCHITECTURAL SPECIFICATION

The loudspeaker shall be a custom-install, fully-covered in-wall, ceiling or millwork model, comprising a low-profile, flat-panel form factor, designed to be covered with 2mm of plaster or other material.

The loudspeaker will be a DML panel utilizing one 36mm low frequency exciter and one 19mm high frequency exciter.

The loudspeaker shall have a nominal rated impedance of 4 ohms. The frequency response shall be 55Hz – 20kHz (-6dB). Total power handling shall be 50 Watts continuous pink noise. Sensitivity measured with 2.83 volts input at 1 meter on axis averaged between 60Hz – 20kHz shall be 84dB. The unit shall be equipped with an internal crossover network and shall be supplied with Wago lever-lock splice connectors for secure cable connection. External dimensions shall not exceed 450mm x 345mm x 31mm (17" <sup>13</sup>/<sub>16</sub> x 13" <sup>11</sup>/<sub>16</sub> x 1" <sup>1</sup>/<sub>4</sub>). The loudspeaker shall be the Amina Sapphire 2<sup>50</sup>. No other system shall be acceptable unless the above combined performance specifications are equalled or exceeded.



## LOUDSPEAKER PROTECTION

All low-impedance Amina loudspeakers must be effectively protected from being overdriven in application in order to qualify for the manufacturer limited 10-year warranty. The easiest way to do this is by using Amina's active Guardian protection devices in-line between the amplifier and the loudspeaker.

It is also possible to apply effective loudspeaker protection using password-protectable DSP where available, subject to specific requirements - please contact technical support for more details.

## INSTALLATION SUPPORT

Full and comprehensive installation instructions can be downloaded from the Aminosound.com website, here, along with a wealth of marketing, in-person and online training, animations, CAD file downloads, CPD's and more. Application notes are available covering a number of alternative covering materials, and our support team are on hand to advise around any difficult or unusual install circumstances.

## WARRANTY INFORMATION

Amina loudspeakers are designed to operate reliably for many years. Correctly installed in accordance with instructions, Amina warrants the loudspeakers against defective materials and workmanship for a period of ten years. Full warranty statement available at [aminasound.com/warranty](http://aminasound.com/warranty).



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