# AMINA

IMMERSIVE INVISIBLE SOUND

COMMERCIAL SOLUTIONS

### CONTENTS

- 4. Introduction to Amina
- 6. Invisible Sound Solutions
- 7. Acoustic and Construction Benefits
- 8. Applications
- 12. Commercial Advantage
- 13. Low Impedance Transformers
- 14. Mobius Overview
- 15. Edge Overview
- 16. Mobius Specifications
- 18. Edge Specifications
- 19. The *i*B
- 20. The CT1
- 21. The Guardian Active Protection
- 22. Subwoofer Specifications
- 24. Support Products

### INFO

www.aminasound.com info@aminasound.com

#### HEADQUARTERS

Cirrus House, Glebe Road, Huntingdon, Cambridgeshire, UK, PE29 7DL

©Amina Technologies Ltd. 2023





### INTRODUCING AMINA

#### FILL YOUR SPACE WITH SOUND, NOT SPEAKERS.

The world's market leader in the design and manufacture of invisible speaker solutions, Amina Technologies Ltd is a UK based company who has been filling spaces with acoustic ambiance for the last 20 years.

By investing more than ever into R&D, Amina's patented technology provides continued acoustic excellence and is frequently specified by top designers and architects worldwide.

The constraints of the traditional speaker means that they are often too bulky and unattractive, not befitting for elegant and design inspired spaces. The benefit of Amina invisible speakers means there is no compromise between high quality audio and design. Regularly used in commercial spaces ranging from beautiful Board rooms, modern and historic exclusive Hotels, to Retail stores, Restaurants, Museums and Spa complexes, Amina invisible speakers produce a non directional, open sound that fills beautiful spaces.

This open sound is all thanks to the invention of DML (Distributed Mode Loudspeaker) which uses a cleverly designed panel, with Amina's next generation neo-magnet to create small vibrations to generate sound which can be heard, but not seen. The lightweight design can then be seamlessly integrated into any wall, ceiling or flat decorative panel with no visual impact or sound compromise, either during a new build or retrofit.

Amina speakers need no grille or cover and can be installed in a variety of places, depending on the model. The product can be completely plastered over and painted, covered with a thin wood veneer, wallpaper, fabric or even placed into cabinetry and other flat surfaces.

### INVISIBLE SOUND SOLUTIONS WHY INVISIBLE?

Increasing demand for integrated lifestyle technology combined with the associated 'aesthetic-clutter' that it brings has led to a rise in hidden technology solutions. With 30% of brain power dedicated to visual stimulus and only 2% dedicated to audio, it is clear that the way we 'see' sound has a huge impact on the way we perceive it. By removing the aesthetic aspect, it allows complete focus on audio art form as it was intended.

### HOW DOES IT WORK?

With the invention of DML (Distributed Mode Loudspeaker), Amina has been able to take the common speaker design and replace the cone with a flat panel. Instead of moving forwards and backwards visibly like a typical cone design, a DML panel uses small vibrations to generate sound, which can be heard, but not seen. This allows for seamless integration of a speaker into any wall, ceiling or flat decorative panel with zero visual impact

### DESIGN AND INSTALL FLEXIBILITY

With a range of different construction methods and finishing techniques globally, Amina uses two core-technologies to allow integration of invisible speakers into any room.

Both technologies are based on the principal of DML speaker design. Using an electromagnetic transducer, known as an exciter, to impart vibrational energy into a lightweight and stiff radiating panel. This vibrational energy radiates as high fidelity sound.

While it might seem like DML speakers to some extent 'reinvent the wheel', there are a number of key design and acoustic benefits to using a vibrational flat panel speaker over a more traditional design.

#### COMMERCIAL BROCHURE



### **ACOUSTIC BENEFITS**

DML speakers provide full-bandwidth 180° dispersion and generate what is known as an incoherent-phase waveform. These dispersion characteristics allow the speaker to produce smooth room filling sound across the entire listening position. Whether used for low level background music, noise masking, foreground listening or home theatre application, Amina has a range of high fidelity invisible speakers to match any scenario.



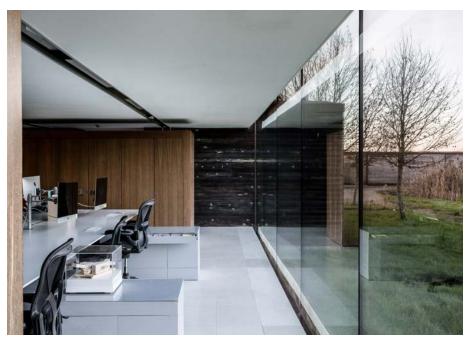
### CONSTRUCTION BENEFITS

Consisting of a flat radiating panel and a low profile exciter system, Amina speakers provide the opportunity to integrate seamlessly with the design of the property. The flat section of a wall, ceiling or piece of furniture can be used to generate roomfilling sound while becoming completely invisible once installed.

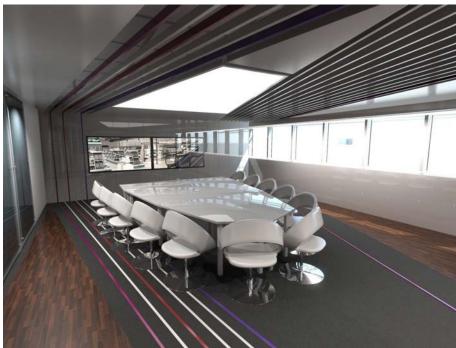
Part speaker and part construction material, Amina invisible speakers are designed to be just as much a rugged building material as they are a precise acoustic device.

Designed for acoustic excellence, engineered for construction.

AMINA TECHNOLOGIES







### WORKPLACE SOLUTIONS

### COMMERCIAL BROCHURE



### HOSPITALITY SOLUTIONS





### AMINA TECHNOLOGIES





## RETAIL SOLUTIONS



### COMMERCIAL BROCHURE



### LEISURE SOLUTIONS





## COMMERCIAL ADVANTAGE

Conventional point source speakers

### **1. ENHANCED SOUND MASKING**

Our invisible speakers are perfect for sound masking applications, helping to reduce noise distractions and enhance privacy in open office layouts, healthcare facilities, or co-working spaces. With their discreet placement and excellent sound dispersion, they provide a soothing and unobtrusive environment.

### 2. CONFERENCE ROOMS

Transform your conference rooms into immersive audio experiences with our invisible speakers. Seamlessly integrated into the ceiling or walls, they provide high-quality audio without compromising the aesthetics of the space. Your meetings and presentations will come to life with crystal-clear sound and minimal visual impact. Our technology allows increased microphone pickup sensitivity, creating a harmonious and balanced sound on both sides of a video call.

### **3. EASY INTEGRATION**

The flexibility of our invisible speakers allows for easy placement within ceiling tiles, turniture and cabinetry, behind fabric panels or plastered in. This feature makes them ideal for office spaces, retail stores, restaurants, hotels, or any commercial space where audio is desired without compromising the interior design.

### 4. ELIMINATING DISTRACTING HOTSPOTS

Traditional speakers can often cause discomfort for diners when placed too close to their tables. Our invisible speakers, discreetly integrated into the restaurant's interior, prevent any frustrating hotspots of sound that could interrupt conversations or disturb the overall dining experience. This ensures that guests can enjoy their meals without any audio-related disruptions.

## HIGH IMPEDANCE TRANSFORMERS

### 70/100 VOLTS DISTRIBUTED AUDIO SOLUTIONS

Providing a great solution for high-end commercial installations, all Amina invisible speakers can be supplied with high-quality toroidally wound transformers for both 100V and 70V line systems.

Available in either multi-tapped or fixed power variants for the most flexible commercial installation of invisible speakers.

For more information please visit: www.aminasound.com/accessories



#### AMINA TECHNOLOGIES

## MOBIUSi SERIES



### HIGHLY FLEXIBLE DESIGN INTEGRATION.

The Mobius*i* series provides the greatest flexibility for interior design integration and installation of any invisible speaker. Delivering incredible high frequency performance across the entire listening position, allowing for perfect reproduction with all the detail and clarity, no matter where in the space you are listening from.

Engineered to work behind a range of covering materials such as wet plaster skim (2mm), wood, leather, or high pressure laminate, to name a few, Mobius*i* series speakers offer the most flexible invisible audio solution available.

### EDGEi SERIES DRYWALL APPLICATION



### INNOVATIVE IN INVISIBLE SPEAKER TECHNOLOGY.

A new revolutionary design for invisible speaker technology, the Amina Edge*i* series offers smooth low frequency extension with increased power handling and sensitivity, resulting in a dynamic and engaging listening experience that has never previously been heard from an invisible speaker.

Building on the incredible performance of the Amina Mobius series, Amina Edge*i* series speakers incorporate OptiDamping<sup>™</sup>, OptiDrive<sup>™</sup>, Reduced-resonance exciter technology and Amina's new (patent pending) ToneRelief<sup>™</sup> technology, built into a plaster up-to design. Designed for application within drywall construction techniques, Amina Edge*i* series speakers incorporate a tapered perimeter. Once taped, filled, sanded and painted, the speaker becomes fully invisible. The Amina Edge*i* series can also be installed in post-plaster situation (retrofit) where there is a full wet skim (Amina Edge*i* series speakers should not be fully plastered over).



### Mobius5*i*

4 Ohms 50W/100W 86dB 1m/2.83Vrms 70Hz - 27kHz (- 6db)

1.4kg (3.08lbs) 450mm x 345mm x 30.7mm

> BackboxCV/SW345 APUi50C\_2



### Mobius3*i*

4 Ohms 30W/60W 85dB 1m/2.83Vrms 87Hz - 19kHz (± 6db)

1.1kg (2lbs 6oz) 400mm x 300mm x 30.7mm

> BackboxCV300 APUi30C

## MOBIUS*i* SERIES





### Mobius 7**i**

4 Ohms 75W/150W 87dB 1m/2.83Vrms 70Hz - 29kHz (- 6db)

> 1.8kg (3.96lbs) 450mm x 345mm

> > BackboxCV345 APUi70C\_2

### MobiusDual**i**

2 X 6 Ohms 2 X 30W/60W 83dB 1m/2.83Vrms 105Hz - 29kHz (- 6db)

2.1kg (4.6lbs) 450mm x 345mm x 30.7mm

> BackboxCV/SW345 2 X APUi30C



### Mobius5**i/\$200**

4 Ohms 50W/100W 84dB 1m/2.83Vrms 90Hz - 30kHz (- 6db)

1.1kg (2.7lbs) 50mm x 200mm x 32mm

> BackboxCV200 APUi50C\_2

## EDGE*i* SERIES



### Edge 7**i**

4 Ohms 75W/150W 90dB 1m/2.83Vrms 55Hz - 27kHz (- 6db)

> 1.8kg (3.96lbs) 450mm x 345mm

> > BackboxCV345 APUi70C\_2

### Edge 5**i**

4 Ohms 50W/100W 90dB 1m/2.83Vrms 60Hz - 26kHz (- 6db)

> 1.3kg (2.86lbs) 450mm x 345mm

> > BackboxCV345 APUi50C\_2



4 Ohms 30W/60W 86dB 1m/2.83Vrms 90Hz - 25kHz (- 6db)

> 1kg (2lbs 3oz) 400mm x 300mm

> > BackboxCV300 APUi30C

## THE IB



### THE NEW INTEGRATED BACKBOX

Building upon R&D at the cutting edge of invisible speaker technology, the 'iB' update to the Amina range not only provides significant acoustic upgrades, but introduces an entirely new installation technology for plaster finishes.

The all new integrated backbox ('iB') option combines any Mobius or Edge product with an acoustically tuned steel backbox and the patented Amina front mounting tab fixtures to provide a highly robust sealed unit for trouble free installation and lifelong operation. The Amina front mount process avoids any shimming requirements as of result of substrate depths, automatically ensuring the speaker is at the perfect level ready for skimming, resulting a faster installation times.

### **EN54 CERTIFIED**

The full range of Mobius and Edge 'iB' products are now available with EN54 certification for voice evacuation systems in Europe and beyond.

For more information and datasheets, please visit: www.aminasound.com

### CT1 COMMERCIAL SERIES



Offering a unique solution for office, healthcare and retail envirnoments, the new CT1 uniquely fits perfectly within the space of a standard ceiling tile, to provide the same invisible, dispersive sound, in a simple plug and play format.

With a higher microphone gain before feedback using the CT1, this is the perfect product to integrate into offices, Zoom rooms and Board rooms.

## NEW ACTIVE PROTECTION

The GUARDIAN ACTIVE APU 2 channel and 16 Channel (1U rack mount) is the all new active protection unit, providing the upmost safety measure for all Amina Speakers.

With this new Active design, you can virtually eliminate added distortion of passive devices. The 2 Stage voltage protection provides superior graduating limiting and the High Pass filter protects from excessive LF.



## **SUBWOOFERS**

Discreate integrated subwoofers using traditional sub coom shaking bass for multi-channel surround sound systems. Vented through a small por actually designed to be installed into walls, ceilings,

Images shown to scale

	ALF40	NewALF50CV	ALF80
Nominal Impedance	8 Ohms	4 Ohms	4 Ohms
Power Handling	60W	150W	150W
Sensitivity (1m / 2.83Vrms)	88dB	87dB	86dB
Frequency Response (± 6dB)	65Hz-155Hz	35Hz-160Hz	36Hz-40Hz
Electrical Connection	Sprung terminal binding post	Sprung terminal binding post	Sprung terminal binding post
Dimensions	359mm x 157mm x 134mm	546mm x 345mm x 99mm	605mm x 270mm x 156mm
	(14 <sup>1/8"</sup> × 6 <sup>3/16"</sup> × 5 <sup>1/4"</sup> )	(21 <sup>1/2"</sup> x 13 <sup>37/64"</sup> x 3 <sup>57/64"</sup> )	(23 <sup>7/8"</sup> x 10 <sup>5/8"</sup> x 6 <sup>1/8")</sup>
Weight	3.2kg (7lbs 1oz)	13kg (28lbs 6oz)	9.2kg (20lbs 2oz)
Fixing Requirements	L-brackets (supplied)	Isoltated brackets or Felt isolation pads	L-brackets (supplied)
Protection / Crossover	Built-in	Built-in	Built-in
Rack-mount Protection Unit	N/A	N/A	N/A
Warranty (Residential/Commercial)	2 Years	2 Years	2 Years

pwoofer technology to add extra warmth all the way to

t opening, Amina subwoofers and bass enhancers are cabinetry or even positioned in-room.





_			
_			
_			
	2		
	-		

ALF100CV	ALF100SM	ALF120
4 Ohm	4 Ohm	6 Ohm
200W	200W	50W
90dB	90dB	96dB
30Hz-160Hz (with DSP filter applied)	30Hz-160Hz (with DSP filter applied)	27Hz-120Hz (with DSP filter applied)
Sprung terminal binding post	Sprung terminal binding post	Sprung terminal binding post
1066mm x 409mm x 99 mm	1066mm x 409mm x 99 mm	1605mm x 345mm x 118mm
(41 <sup>7/8</sup> "x16 <sup>1/8</sup> " x3 <sup>7/8</sup> ")	(4 <sup>17/8</sup> "x16 <sup>1/8</sup> " x3 <sup>7/8</sup> ")	(63 <sup>3/16"</sup> x 13 <sup>1/2"</sup> x 4 <sup>3/4"</sup> )
20kg (44.2 lbs)	20kg (44.2 lbs)	17.5kg (38lbs 9oz)
Isoltated brackets or Felt isolation pads	Surface mounted, screw to studs	Felt isolation pads (supplied)
External DSP required (not supplied)	External DSP required (not supplied)	External DSP required (not supplied)
N/A	N/A	N/A
2 Years	2 Years	2 Years

#### AMINA TECHNOLOGIES

## SUPPORT PRODUCTS

#### **APU-RSiC**

### APUiC

Passive rack-mounted protection unit for Amina lowimpedance invisible speakers. For use in installations with higher numbers of low-impedance speakers with a centralised AV rack. Direct-to-PCB screw terminal-blocks allow for fast and easy permanent installation. Either 8 or 16 channel options available. Single channel in-line protection unit for use with all lowimpedance Amina speakers. Connected to the output terminal of the amplifier before the speaker cable to allow maximum speaker performance for a lifetime. Can be easily dressed back with any cable management system.

#### BackboxCV (cavity wall/ ceiling)

Cavity wall backboxes are an easy to install mounting option for Amina speakers into plasterboard cavity walls and ceilings (drywall). Creating an acoustically tuned cavity behind the speaker, ensuring both consistent audio quality as well as minimising rearward airborne sound transmission.

#### BackboxSW (solid wall)

The BackboxSW provides a mounting option for solid or block walls and ceilings with Amina invisible speakers [not suitable for installation of Edgei series speakers].







Firehoods	Mounting Blocks	Shims	TABS
Amina Firehoods by HoodyTM, allow you to easily meet fire rating requirements of a wall or ceiling with an inexpensive and easy to install solution, offering complete peace of mind. Constructed from an intumescent kevlar material, the Firehood comes in three different sizes, meaning that there is an option for each of the three speaker sizes that Amina has to offer.	For use when there is insufficient cavity space for an Amina cavity backbox (less than 75mm). Allows installation of Amina speakers into plasterboard with a rear cavity depth of just 30mm (rear of speaker should be covered using soft insulation material where mounting blocks are used to prevent ingress of debris over time.	Shims available to allow alignment of speaker and backbox with any thickness plasterboard other than 12.5mm (1/2") (or multi-layered build-up), ensuring that no more than 2mm plaster is applied to the front of a plaster-over speaker. Shims can be used for alignment in a retrofit installation or alignment of Edge <i>i</i> series speakers.	The Amina front mount tab process avoids any shimming requirements as a result of substrate depths, automatically ensuring the speaker is at the perfect level ready for skimming, resulting a faster and simpler installation times. [not suitable for installation of Edge <i>i</i> series speakers].









www.aminasound.com info@aminasound.com +44 (0) 1480 354 390

MINA

<sup>O</sup>Amina Technologies Ltd. 2023