

Product Data Sheet

AES3 Substrate Exciter

Application:

The Amina AES3 exciter is designed to bond to the surface of glass panes or other substrates when it is not suitable for them to be driven by other Amina invisible loudspeaker solutions, such as the AIWX Series. By creating distributed modes in the chosen substrate, the AES delivers a diffuse and ultra-wide dispersion of sound with excellent room filling capabilities and high intelligibility. The black circular foot of the AES3 bonds to the substrate via a supplied pure acrylic adhesive pad and is then a self supporting device in static applications. For additional mechanical support the rear positioned M3 tapped hole may be utilised.

Suitable substrates:

Almost any material with a flat, smooth surface can be “driven” by the AES3, but it is best to use it with materials that are no more than 6mm thick (1.5mm if steel).

General rules:

The higher the density the substrate, the lower the sound pressure for a given input power.

The larger the substrate the lower the bass response.

The stiffer the substrate the better the high frequency response.

Suitable materials include: glass, acrylic, fibreglass, steel, aluminium, polycarbonate.



Top View (Showing exciter foot)

Achieving Optimum Results:

For optimum sound quality, hold the AES3 against the substrate in different positions whilst measuring the resulting frequency response with an audio analyser. Note that the high frequencies will not couple, so this method can only accurately optimise mid and low frequencies. Make note of the preferred position(s).

To achieve sufficient sound pressure level it may be necessary to use 2 or more AES3 exciters on a single active area of substrate. These can be wired in series (2 exciters) or series/parallel (4 exciters).

We recommend an EQ device (graphic or parametric) be used in the drive system to optimise sound quality when tuning via exciter position does not yield suitable results.



Rear View (showing tapped M3 hole)

Installation Guidelines:

Attach suitable speaker cable to the AES3 by either soldering to the tags or using a push on adapter. Ensure the surface where the AES3 will be bonded is completely smooth and flat.

Clean the surface where the AES3 will be bonded of all dirt and grease.

Apply the acrylic adhesive pad to the substrate and apply pressure to ensure a good bond.

Remove the backing from the adhesive pad and position the black circular foot of the AES3 centrally on the adhesive.

Apply moderate pressure to the rear of the AES3 to ensure a good bond.

The AES3 is self supporting in static installations. Where additional mechanical support is required the rear M3 tapped hole can be utilised.

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Specifications	AES3
Nominal impedance	4 Ohm
Power handling	15W
Frequency response (tile mounted)	Substrate properties and size dependant
Efficiency	Substrate properties and size dependant
Dimensions	Ø 57mm (exluding terminal) Ø 66mm (including terminal) 18.5mm height
Product weight	130g
Required external fitering	24dB/octave high pass filter at 80Hz or higher (e.g. Amina AF2/80 or equivalent)
Fixing method to substrate	Use supplied acrylic adhesive pad (spares available on request)
Fixing method to external structure	M3 tapped hole on rear (usage optional)
Connection terminal	2.5mm solder tags for wire or push on connector
EQ	Graphic or parametric EQ is recommended to optimise system response. Typically a gradual attenuation of frequencies below 500Hz is required

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