

# IntelliVox

**Model  
V-90**

**Shaping the Future of Sound Reinforcement™**

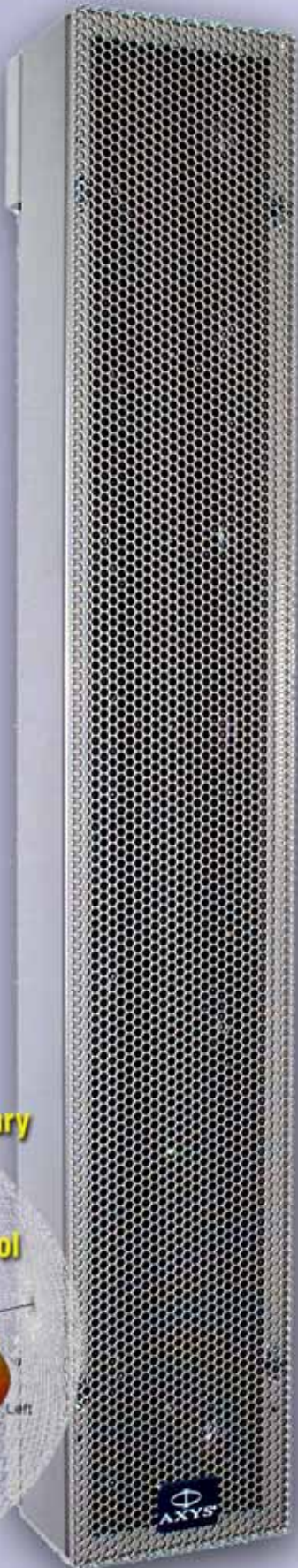
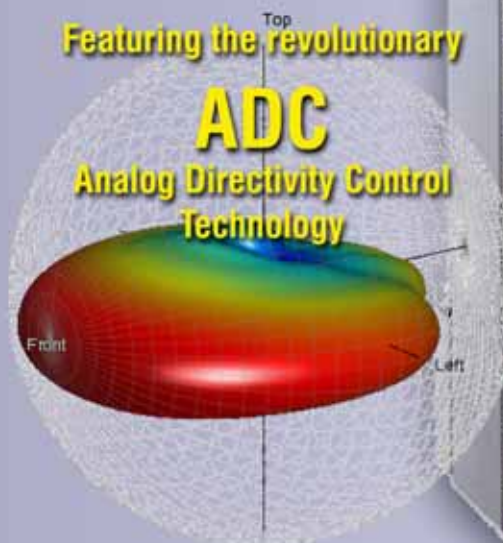
**Features:**

- Superb Speech Intelligibility
- Optimized Directivity Pattern
- Unobstrusive Design
- Wide Horizontal Dispersion
- Pilot Tone Detection LED
- Designed to comply with VA standards
- Supported by DDA

Featuring the revolutionary

**ADC**

**Analog Directivity Control  
Technology**



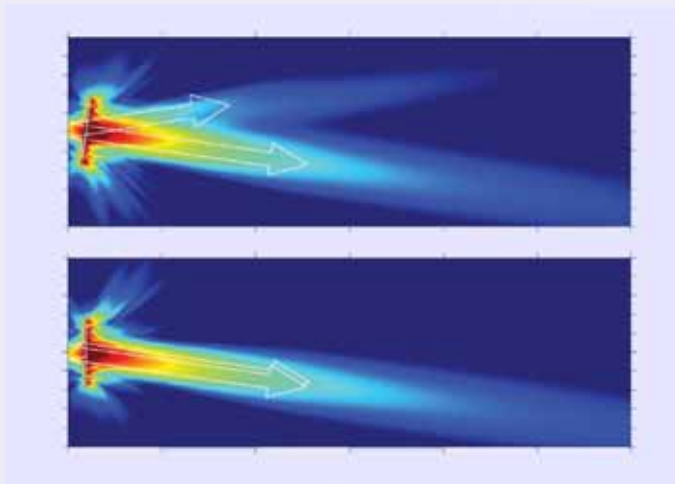
  
**AXYS®**  
TOTAL TRANSPARENCY

## INTRODUCTION

The AXYS® Intellivox V-90 array is a compact vertical loudspeaker array (column loudspeaker) designed for use in 70V/100V Public Address and Voice Alarm (PA/VA) systems.

Like all Intellivox products, the V-90 is designed to maximize listening comfort and provide highly intelligible speech reproduction even within difficult, reverberant spaces. The precisely defined vertical dispersion aims the acoustic signal at the listener, minimizing the unwanted reflections from ceilings and floors. This dramatically improves the direct to reverberant sound ratio, which is essential for achieving high levels of speech intelligibility.

Duran Audio's revolutionary Digital Directivity Control algorithm was used to optimize the performance of the Intellivox V-90. The unit utilizes a preset vertical opening angle with a  $-4^\circ$  beam steering angle to accurately address the listening plane. The column is mounted vertically and does not need to be mechanically aimed, thus reducing incoherent reflections from walls behind the unit, further improving the direct to reverberant sound ratio within the space.

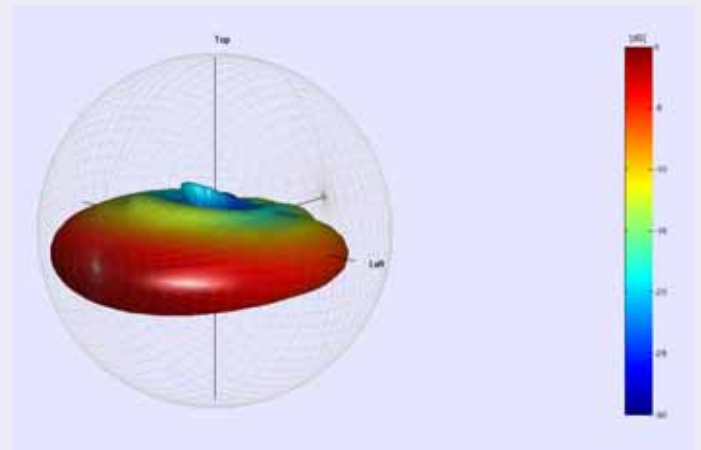


An additional advantage of vertical or even recessed mounting is that the V-90 is architecturally unobtrusive, unlike mechanically aimed conventional loudspeakers columns.

The loudspeaker array itself is housed within a steel enclosure and consists of six carefully aligned 4" full range loudspeakers. The specially designed drivers are highly efficient and have an extended flat frequency response, providing natural and uncoloured reproduction of both spoken word and music. In order to obtain the desired vertical dispersion and true constant directivity behaviour over a broad frequency range, the unit is equipped with a complex set of passive filters. These filters were defined by using the DDC algorithm and the outcome has precisely been transferred into the analog domain resulting in ADC (Analog Directivity Control). The passive filter network provides time alignment for the individual drivers, equalization of the complete array as well as creating a constant wavelength line source,

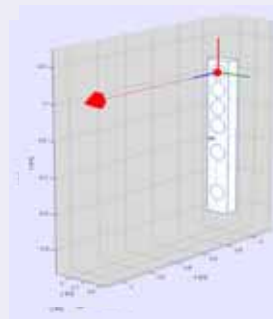
## APPLICATIONS FOR THE PRODUCT INCLUDE:

- Transport Hubs
- Places of Worship
- Atriums
- Shopping Malls
- Any reverberant space where highly quality speech reproduction is required.



## QUICK DESIGN GUIDE

It is important to note that unlike other Intellivox products the acoustic centre of the V-90 is reference to the centre of the highest driver in the array.



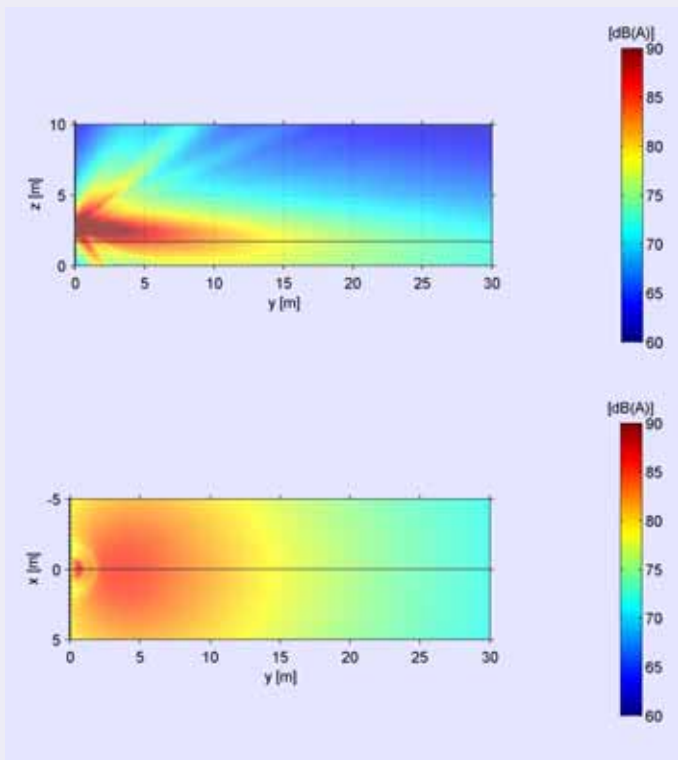
The Intellivox V-90 is designed to evenly cover a distance of between 10-15 meters.

It has a fixed horizontal dispersion of 150 degrees. The vertical opening angle is 30 degrees which is steered downwards by 4 degrees from the acoustic centre of the unit. The focus point for the vertical beam is at 15 metres.

As a rule of thumb the following table can be used to judge the correct mounting height for the unit.

Listener Height	Max. Coverage Distance	Height to Acoustic Center
Seated, 1.2m	10 - 15m	2.5m
Seated, 1.2m	15 - 20m	3m
Standing, 1.7m	10 - 15m	3m
Standing, 1.7m	15 - 20m	3.5m

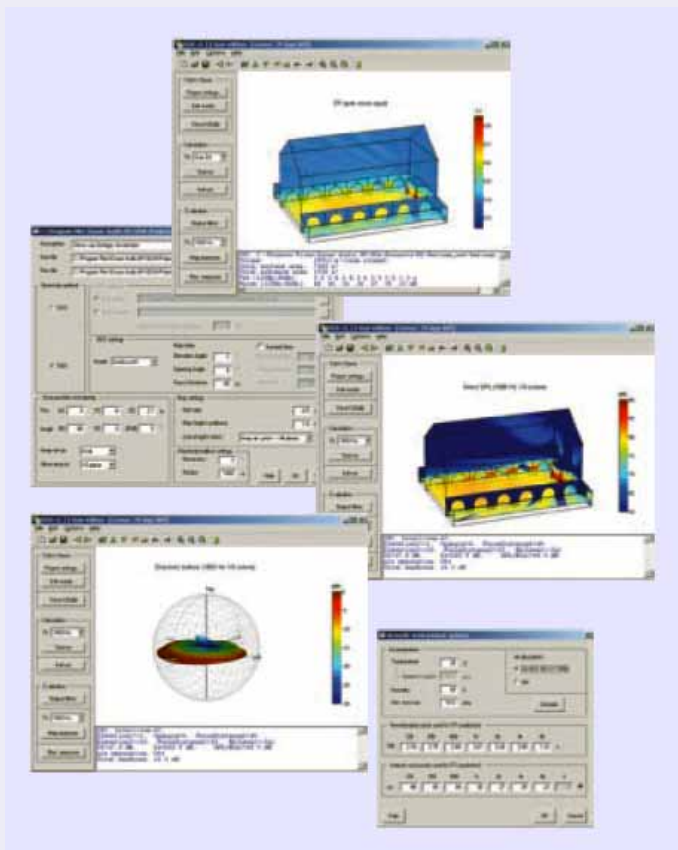
Please note that this is only as a rule of thumb guide and should not be used in design, installation and specifications without thorough investigation!



## PREDICTING THE PERFORMANCE

Duran Audio's Digital Directivity Analysis (DDA) software can be used to predict the performance of the Intellivox V-90 ADC controlled array. DDA allows the user to visualise and predict the direct SPL distribution from an array. For more detailed analysis users can transfer the directivity, calculated in DDA, to CATT-Acoustic or EASE4.0.

DDA licence applications are welcomed via [www.duran-audio.com](http://www.duran-audio.com).



## FEATURES

The Intellivox V-90 was conceived to be used within PAVVA systems. Several features have been included to provide for easy installation and ensure that the unit complies with the most stringent of standards.



Cable Entry.

The Intellivox V-90 cable entry is via a recessed PG13.5 gland on the rear of the unit. Once the cable has been passed through the gland the connections and tap selector can be accessed from the front of the unit making the V-90 easy to connect and configure whilst in position.



Connection bay with cover removed.

The unit is fitted with a ceramic connector to ensure that the terminal will not melt in a fire situation and short out the audio line. To further protect the integrity of the audio line the unit is fitted with a thermal fuse to ensure that the internal wiring is disconnected should the V-90 be exposed to severe temperatures.



Threaded bushings for grill fixation

The Intellivox V-90 comes with retaining screws to prevent the grill from being removed.

A pilot tone indicator is visible through the front grill of the Intellivox V-90. When a pilot tone is present on the line the LED will light showing that the connection between the V-90 and the amplifier is intact. This feature has been designed to work with our IndustryAmp series of 100V line amplifiers; however, it can also be used with 3rd party amplifiers provided that the pilot tone properties fall within the specification.

## SHORT FORM SPECIFICATIONS:

### Intellivox V-90

#### Acoustical:

Max. SPL : 88dB(A) @ 10 m (pink noise)

Frequency range : 200 - 5k Hz (-3 dB)  
: 150Hz - 12k Hz (-10dB)

Coverage  
horizontal (fixed) : 150° (-6dB)  
vertical (fixed) : 30° (-6dB)  
vertical steering angle (fixed) : -4°

#### Electrical:

Nominal Input Power : 100W/50W/25W @ 100V  
: 70W/35W/17W @ 70V

Transformer Impedance : 100Ω @100W  
: 200Ω @ 50W  
: 400Ω @ 25W

Internal Correction EQ : jumper enabled

Frequency Pilot Tone Detection : 19k Hz - 25k Hz

Threshold Pilot Tone Detection : 5V<sub>rms</sub> (100W tap)

#### Mechanical:

Material : Steel, Powder Coated

Mounting Points : 2 x 4 x M5 (on top and bottom)

Default Color - enclosure : RAL 9007 (grey)  
- baffle : RAL 9011 (black)

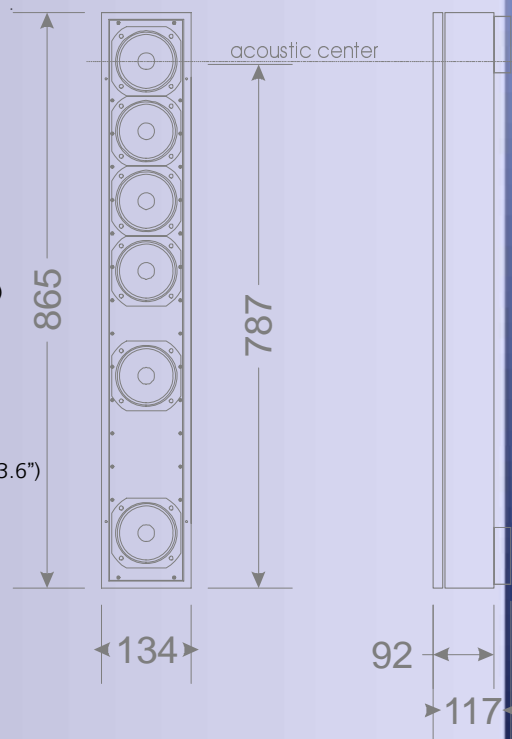
Transducers : 6 x 4" cone driver

Dimensions (H x W x D) : 865 x 134 x 92mm (34"x 5.3"x 3.6")

Default colour : RAL 9007

Weight : 13 kg (28.7 lbs)

IP Rating : IP65



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