

# ICAM by Xtralis

## ICAM ASD Noise Emission Levels

### Application Note

May, 2018

Doc. 19602\_06

## Scope

This Application Note presents the results of the characterization of the noise emission levels of ICAM detectors. It is anticipated that the range of the presented noise levels will cover the majority of pipe network configurations used by ICAM detectors in the field.

## Results

The results pertain to ICAM detectors tested under different aspirator speeds and pipe flow rates. The following test conditions apply:

1. Noise level measurements conducted at the Xtralis Test Room.
2. ICAM detectors tested with maximum allowable pipe inlets.
3. The noise ranges of the testing detectors are shown in the table below. Configurations of the working conditions are:
  - Max – maximum fan speed, inlet & outlet inside;
  - Normal – maximum fan speed, 50% of open pipe flow rate, inlet outside & outlet inside;
  - Min – minimum fan speed, both inlet & outlet outside.

*Table 1: Noise measurements in A-weighted Sound Power Level (dBA)*

| Detector                             | Max* <sup>1</sup> | Normal | Min* |
|--------------------------------------|-------------------|--------|------|
| Pico 1 pipe                          | 83                | 64     | 37   |
| Pico 2 pipes                         | 82                | 57     | 38   |
| ILS 1, IAS 1 (1 & 2 point detectors) | 57                | 49     | 40   |
| ILS 2, IAS 2                         | 57                | 50     | 40   |

**Note:** Noise levels were measured in a laboratory environment and the results are restricted to the following conditions:

- Xtralis Test Room construction type, shape/size and wall/ceiling/floor fabric
- Xtralis Test Room ambient noise level
- Xtralis sound level measuring instrumentation
- Limited number of detector samples

## Conclusion

ICAM detectors noise level increase with aspirator speed.

PICO detectors noise level increase with decreased airflow rate (more evident at high aspirator speeds). Exhausting the sampled air outside the detector operating area assisted to reduce noise level.

ILS & IAS detector noise level remained constant with changing flow rate conditions for given aspirator speeds.

Noise levels presented in this Application Note should be used only as reference as detector noise levels for field installations will vary depending on factors associated with the detector operating room (shape/size, construction, presence of objects), detector mounting surface, etc.

---

\* Detector max and min values were obtained under high and low flow rates respectively.

## Recommendations – Noise Reduction

From the present analysis the following guidelines should be considered to assist with the reduction of ICAM detectors noise level in the field:

- Decrease the speed of the aspirator if sufficient margin exists on transport time
- Exhaust the sampled air outside the detector operating area
- Increase the flow rate

## Disclaimer on the Provision of General System Design Recommendations

Any recommendation on system design provided by Xtralis is an indication only of what is considered to be the most suitable solution to meet the needs of the common application environments described.

In some cases the recommendations on system design provided may not suit the unique set of conditions experienced in a particular application environment. Xtralis has made no inquiry nor undertaken any due diligence that any of the recommendations supplied will meet any particular application. Xtralis makes no warranty as to the suitability or performance of any recommendation on system design. Xtralis has not assessed the recommendation on system design for compliance with any codes or standards that may apply nor have any tests been conducted to assess the appropriateness of any recommendations on system design to a particular application environment. Any person or organization accessing or using a recommendation on system design should, at its own cost and expense, procure that the recommendation on system design complies in all respects with the provision of all legislation, acts of government, regulations, rules and by-laws for the time being in force and all orders or directions which may be made or given by any statutory or any other competent authority in respect of or affecting the recommendation on system design in any jurisdiction in which it may be implemented.

Xtralis products must only be installed, configured and used strictly in accordance with the General Terms and Conditions, User Manual and product documents available from Xtralis. Xtralis accepts no liability for the performance of the recommendation on system design or for any products utilized in the implementation of the recommendation on system design, aside from the General Terms and Conditions, User Manual and product documents.

No statement of fact, drawing or representation made by Xtralis either in this document or orally in relation to this recommendation on system design is to be construed as a representation, undertaking or warranty.

To the extent permitted by law, Xtralis excludes liability for all indirect and consequential damages however arising. For the purposes of this clause, 'consequential damage' shall include, but not be limited to, loss of profit or goodwill or similar financial loss or any payment made or due to any third party.

Recommendations on system design are provided exclusively to assist in design of systems using Xtralis products. Copyright and any associated intellectual property in any such recommendations on system design or documentation remains the property of Xtralis.

[www.xtralis.com](http://www.xtralis.com)

**UK and Europe** +44 1442 242 330

**D-A-CH** +49 431 23284 1

**The Americas** +1 800 229 4434

**Middle East** +962 6 588 5622

**Asia** +86 21 5240 0077

**Australia and New Zealand** +61 3 9936 7000

The contents of this document are provided on an "as is" basis. No representation or warranty (either express or implied) is made as to the completeness, accuracy or reliability of the contents of this document. The manufacturer reserves the right to change designs or specifications without obligation and without further notice. Except as otherwise provided, all warranties, express or implied, including without limitation any implied warranties of merchantability and fitness for a particular purpose are expressly excluded.

Xtralis, the Xtralis logo, The Sooner You Know, VESDA-E, VESDA, ICAM, ECO, OSID, HeiTel, ADPRO, IntrusionTrace, LoiterTrace, ClientTrace, SmokeTrace, XOa, XOh, iTrace, iCommand, iRespond, iCommission, IPIR, and FMST are trademarks and/or registered trademarks of Xtralis and/or its subsidiaries in the United States and/or other countries. Other brand names mentioned herein are for identification purposes only and may be trademarks of their respective holder(s). Your use of this document does not constitute or create a licence or any other right to use the name and/or trademark and/or label.

This document is subject to copyright owned by Xtralis. You agree not to copy, communicate to the public, adapt, distribute, transfer, sell, modify or publish any contents of this document without the express prior written consent of Xtralis.