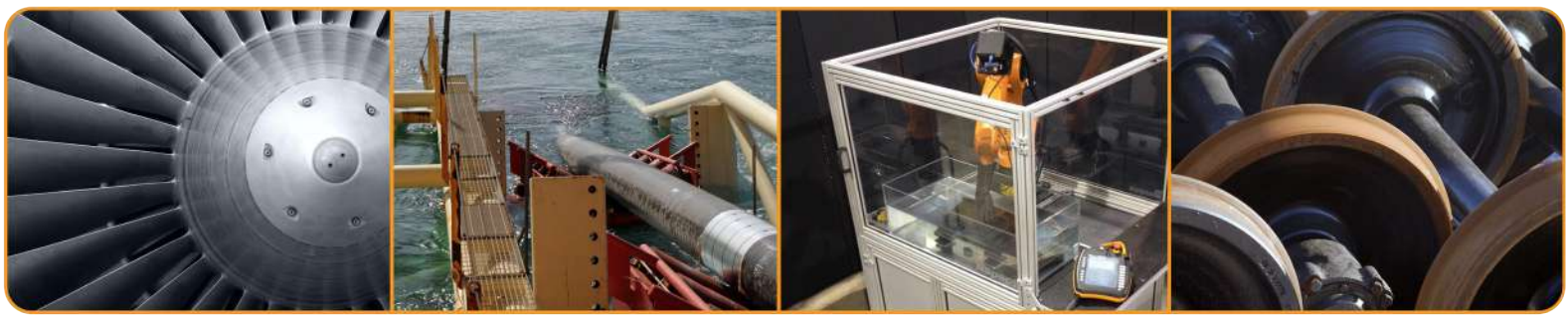
Advanced OEM Solutions

OEM Product Catalog



OEM-PA 64/64

OEM-MC 32 Ch

OEM-PA2 128 FMC

OEM-PA 32/128 Flat

Cutting Edge Ultrasonics

- Conventional UT
- Phased Array
- Full Matrix Capture (FMC)
- Total Focusing Method (TFM)
- Advanced TFM Techniques

OEM-PA Mini 64/128

Customize Your Solution Today!

www.aos-ndt.com | contact@aos-ndt.com

Who Can Benefit?

System Integrators

- Immersion Tanks, Robot Arms, Subsea ROV, Scanners, Tank floor robot, In-line systems…etc.
- High speed inspection, complex geometry and improved sensitivity.
- Small! Mount PA board on scanners/robots and save on expensive & long umbilical cables.
- Easy to use SDK and API library for developing custom software.
- Need off-the-shelf software? Contact us for more details.

Service Companies

- Beat competition with your own unique, advanced and self-branded solution.·
- Move past commodity inspection and earn more revenue!
- Small electronics, advanced FMC/TFM processing, matrix-probe technology.
- Work with our advanced application laboratory at TPAC to develop a unique solution.
- Time to embrace new technology: better results, reduce human error, a safer world!

Instrument Makers

- Have an idea for a dedicated & niche application using Phased Array technology?
- Make a portable UT instrument with PAUT and/or next-gen FMC/TFM
- Compact and low power electronics
- Reduce time to market and lower risk on R&D

Ultrasonics For Any Application

Conventional UT, Full Parallel & Standard Phased Array, Advanced FMC/TFM

OEM-MC
Parallel and Multiplex Multichannel UT
16, 32, 64, 128 Channels

OEM-PA Mini
Phased Array UT
16/16, 16/64, 16/128, 16/256
32/32, 32/128, 32/256
64/64, 64/128, 64/256
FMC Option

OEM-PA2
Advanced FMC/TFM
128, 256, 512...
Up to 8192 Channels!

Advanced OEM Solutions

Start Customizing Today!

OEM-PA Flat
Phased Array UT
16/16, 16/128
32/32, 32/128

OEM-PA
Phased Array UT
16/16, 16/128
32/32, 32/128
64/64, 128/128, 256/256

OEM-PA USB 3.0
Advanced FMC/TFM
Phased Array UT
64/64, 128/128, 256/256

Products

OEM-PA Mini: Phased Array

OEM-PA Mini 64/128:
• 195 x 115 mm

Small is the New Big!
Cutting-edge Phased Array and FMC technology in a device the size of a smart phone

- Perfect for demanding automated/robotic high productivity and high speed inspection needs
  - ◊ 14-Bit ADC! 100 MB/s with Gigabit Ethernet, low noise high resolution
- Small! Integrate inside a portable PA & FMC instrument
- Compact! Mount directly on AUT robot and save on expensive and long probe umbilical cable.
- From 16/64 To 128/256 (Choose Scanning/Focusing channel config)
  - ◊ Scanning CH: 64, 128, 256
  - ◊ Focusing CH: 16, 32, 64, 128

  Pulse/Echo, Pitch/Catch, Through-Transmission...etc.
- TFMToolBox DLL: add several advanced TFM algorithms to your software

OEM-PA2: Advanced FMC

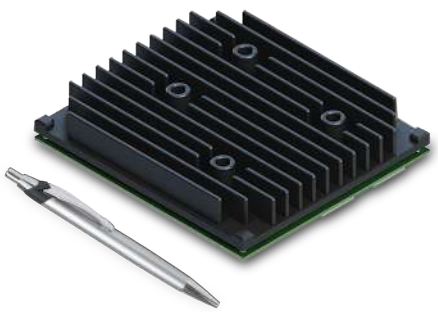
OEM-PA2 256

Super-High Performance!
For applications where you need to collect a lot of high quality FMC data at extreme data rates (up to 3 GB/s), advanced matrix probes or need a massive amount of parallel channels.

- Advanced FMC acquisition modes
- Super fast data throughput 1 GB/s to 3 GB/s !!
- Scalable channel count
  - ◊ 32, 64, 128, 256, 512, 1024... or more parallel acquisition channels
- PCIexpress over fiber optic cable
- Reach over 100 meter (328 FT) distances between OEM-PA2 and PC for remote applications

Products

OEM-PA Flat: Phased Array



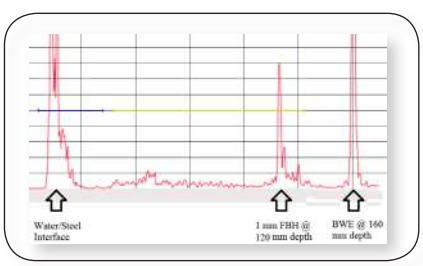
OEM-PA 16/16 Flat:
• 125 x 140 mm

Ultra Small Ultrasonics
Same technology as OEM-PA in a one-board form factor. Mount directly on your scanner and automated device and forget about those long, complex umbilical cables!
Here is what OEM-PA Flat has to offer:

- Compact and easy to integrate!
- Versions: 16/16, 16/128, 32/32, 32/128
- Fast data throughput: 10 MB/s
- Advanced and Standard Phased Array
- Any type of probe connector possible no need for any adaptor

InLine: Phased Array

19" Rack with 8x OEM-PA
32/128 Flat Units



Create high-end, fast inspection systems for InLine inspection:

- Solutions include HW and SW API/SDK
- Use as many synchronized units as you need
- Customizable GUI for your application:
  - ◊ Square Bar
  - ◊ Round Bar
  - ◊ Tube
  - ◊ Plate
  - ◊ Rail

Products

OEM-PA: Phased Array

OEM-PA 64/64 FMC:
- **110 x 80 x 70 mm**

OEM-PA 16/16:
- **110 x 80 x 40 mm**

Start Small, Think Big!

Our compact Phased Array devices allow you to tightly integrate with your scanners, robots, immersion tanks, inspection vehicles and much more!

Here are some more OEM-PA features:

- Scalable from 16/16 up to 256/256
- Advanced and Standard Phased Array
- Advanced FMC Available
- Fast data throughput:
  - ◊ Up to 160 MB/s (USB 3.0) for 64/64 128/128 and 256/256 configurations
  - ◊ Up to 10 MB/s (LAN) for all other configurations

OEM-MC: Multi-Channel

OEM-MC 32 Ch
One Board Format:
- **147 x 142 mm**

OEM-MC 32 Ch:
- **110 x 70 x 50 mm**

High Performance and Extremely Small

OEM-MC is a perfect solution for integration into automated inspection systems.

Key features:

- Conventional UT
- Small form factor
- Parallel and Multiplex
- Same software interface as OEM-PA
- Available in stack or one-board formats
- 16, 32, 64, 128 Channels

Accessories

Probe Adaptors

Hypertronics Adaptor
- Flexible OEM-PA to Hypertronics Adaptor

ITT Cannon Adaptor
- Use probes with ITT Cannon type connectors with OEM-PA

- Many more available, contact AOS

Splitters

Splitter 128 ch → 2x64 Ch
- Use two 64 Element Probes with one OEM-PA device

Splitter 64Ch →2x32 Ch
- Use two 32 Element Probes with one OEM-PA device

- Flexible splitter also available, contact AOS

Probe Switch

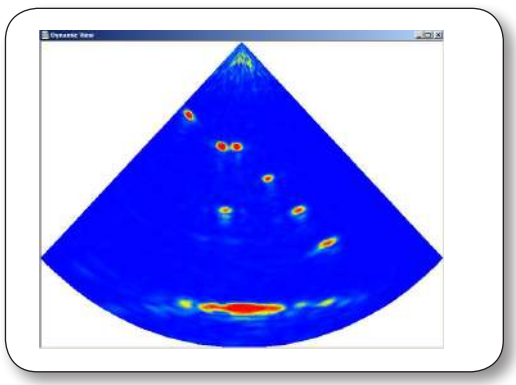
Probe Switch:
- 64 → 2 x 64
- 128 → 2 x 128
- Automatically switch between two different Phased Array probes connected to an OEM-PA instrument

Probes

Phased Array Weld Inspection Probes
- In contact without wedge
- Longitudinal Wave and Shear Wave
- 32 or 64 elements
- 5 MHz or 10 MHz

Software Tools

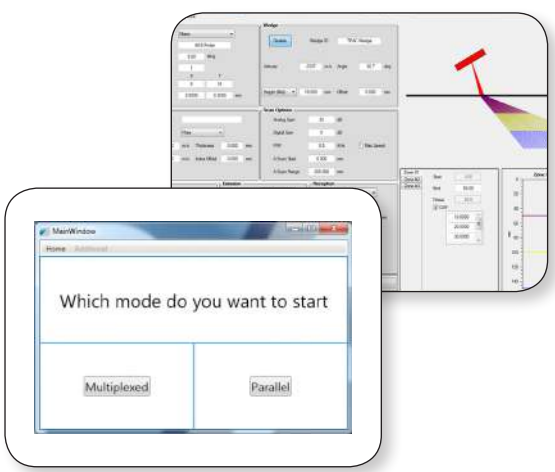
Build Your Own Application



Develop and test new technologies:

- Open concept: customize to application
  - ◊ Software Development Kit (SDK)
  - ◊ Dynamic Link Library (DLL)
- Setting, acquisition and visualization examples provided (open source)
- Low level control and access to all phased array parameters
- Well documented API and monitoring tools

Easily Create Your Own System!



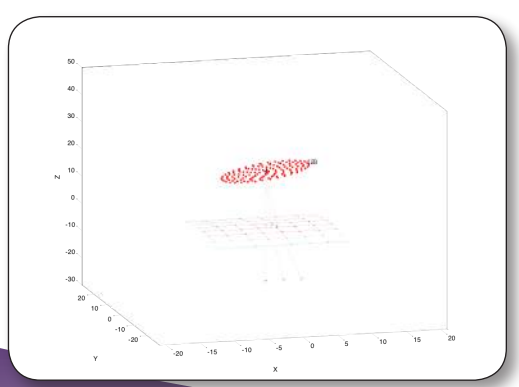
Easy to use API:

- Same for all electronics
- Manages multiple electronics
- Supported by any Windows language

Wizard:

- Wizard with GUI (Including Matrix and Pitch and Catch) available
- Square bar wizard available

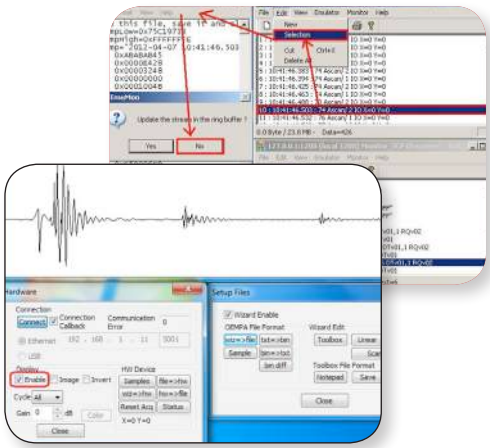
3D Focal Law Calculator API



- API to generate Matrix Phased Array Focal Laws
- Define custom matrix with probe definition file
  - ◊ XYZ coordinate of each element in the matrix
- Supports: dual 1.5D array, 2D, 3D TRL, Skew angles DDF, Wedges
- Flat and curved test specimens
- Wizard: Example GUI to input parameters and generate OEM-PA setup file

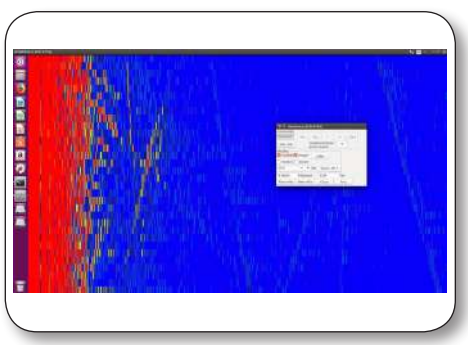
Software Tools

Windows API/SDK



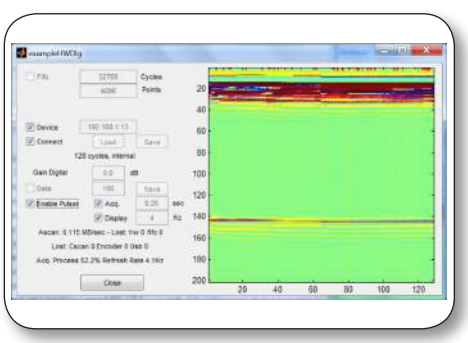
- API working at high, medium or low level
- Application examples with Ascan and Bscan display (OEM-PA Tool, OEM-PA Sector)
- Source code examples (C++, C#, Python...etc.)
- Receive each A-scan in a buffer that can be interfaced to your own software
- Single element GUI with source code provided

Linux API/SDK



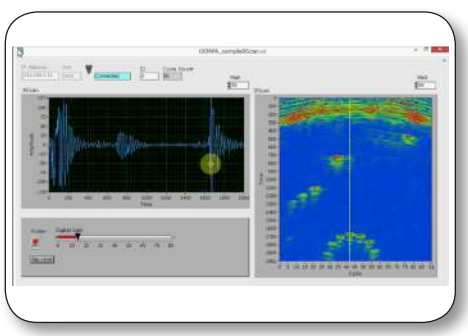
- Now you can develop your software for OEM-PA in a Linux environment!
- API functions for C++
- SDK tools: OEM-PA Tool
- Example Source Code

AOS Driver for MATLAB



- Get started quickly with easy to use DLL
- Native MATLAB functions for OEM-PA
- Comes with example .m scripts with GUI
- Stream conventional A-scan or FMC data real-time into MATLAB environment.

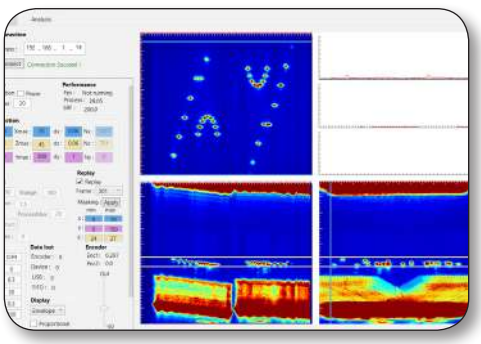
AOS Driver for LabVIEW



- Get started quickly with easy to use DLL
- Native LabVIEW functions for interfacing with OEM-PA
- Comes with example VIs
- Take advantage of LabVIEW's ease of use for rapid graphical development

FMC/TFM SDK

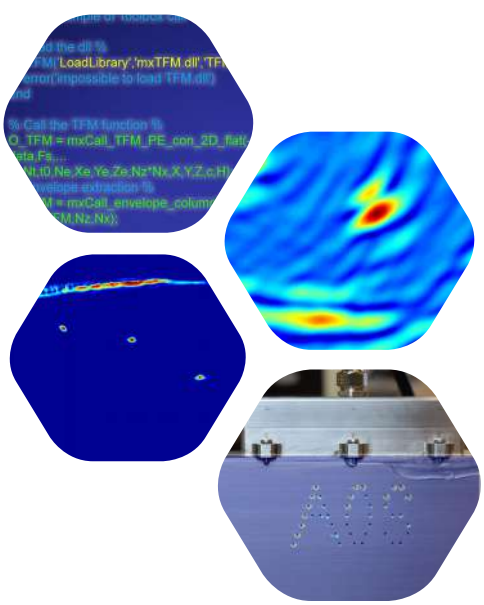
FMC/TFM High Level SDK



High Level API for configuring the Phased Array unit, acquiring FMC data (or other patterns) and performing real-time TFM imaging.

- Example code provided
- For use with OEM-PA 2, OEM-PA Mini and OEM-PA USB 3.0
- Perfect for use with robots or scanners, Ideal for fast inspection
- Create dedicated applications for advanced imaging
- Imaging is handled by TFM Toolbox (see below)

TFM Toolbox

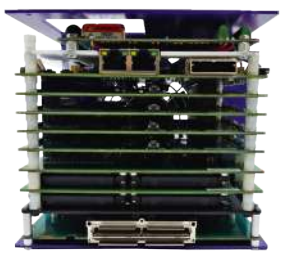


DLL for TFM and Advanced TFM Imaging:

- Programming for C, C++, C#, Matlab, Python, etc. in the shape of a DLL
- Many different algorithms available: SAFT, FMC/TFM, PWI Adaptive, and more!
- Fast imaging using Nvidia GPU parallel computing
- Usable with:
  - ◊ Real-time, open Phased Array hardware (typically OEM-PA)
  - ◊ Real time FMC
  - ◊ Post processing
- Usable without hardware for post processing analysis in any Windows environment
- Flexible reconstruction grid (size and resolution)
- All probe configurations: linear, matrix, PE, PC
- Direct/ Indirect/ Corner modes, with mode conversion
- 2D/ 3D computations

Solutions Made Easy

AOS Gives You More!



Advanced OEM Solutions (AOS) is the premier provider of customizable Phased Array, Full Matrix Capture (FMC), and Multi-Channel Conventional UT hardware, enabling clients and partners to create custom solutions and products for NDT.
We provide an “outside of the box” solution to your inspection needs.
Break into new markets, refresh current product lines, save time and money on expensive and risky R&D and expand your business.

- Source code provided
- Extensive documentation
- Dynamic Link Libraries (DLL)
- Tutorials and other Instructional Materials
- High performance, easy to integrate products
- Range of technology to support all needs from standard to advanced:
  - ◊ Conventional UT
  - ◊ FMC/TFM
  - ◊ Parallel beam forming
  - ◊ Many more!
- Tools to customize your own simple and dedicated application
- Flexible software

Use 3rd Party Software

TPAC The Phased Array Company

KOVID LUCID

InspectionWare NDE Development Platform

Advanced OEM Solutions

Advanced OEM Solutions

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OEM-PA Mini 64/128

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