High Performance Phased Array Ultrasonics



Features and Benefits

- **Source code** is provided with thorough documentation.
- Mountable on scanner for AUT, saves on cable costs and complexity. Only need DC power and LAN cable.
- Rugged, Low Power and Easy to Integrate!
- Configurations: 16/16, 32/32, 16/128, 32/128, 64/64, 128/128 and 256/256



Probe Connecto



Advanced FMC/TFM



Aluminum Block with 1mn Side-Drilled Holes

Advanced OEM Solutions OEMPA 64/64

LAN100/1000

- Easy to use
- Small
- Customizable
- Cost Effective

Start Customizing Your Solution With OEM-PA Today!

www.aos-ndt.com



System Integrators

Creating custom and seamless automated solutions has never been easier. OEM-PA is designed to be integrated into existing or new systems on the mechanical, thermal, electrical, and software levels. Our modules offer ultimate flexibility!

- Save time and money on integration and software development.
- Small, simple 24V (18~36V) or 12V (9~32V) DC powered. You can easily integrate or mount OEM-PA wherever you like.
- · Concentrate on the target application:
 - o In-Line: Create high-end fast inspection systems for manufacturing.
 - o AUT: Mount OEM-PA on your scanner to shorten the probe cable for better SNR and eliminate complex and expensive cabling.
 - o Systems: Whether it be an immersion tank or 6-axis robotic arm, OEM-PA can handle the most demanding NDT automation applications.
- Well documented API and monitoring tools to test your application during development. Example source code, online tutorial videos and so much more!
- Easily access all the parameters you need. The work of linking complex Phased Array parameters is already done for you.

LAN gives you the ability to deal with long distances between the acquisition unit and the PC with a reliable and low cost solution.

OEM-PA's ultimate flexibility allows you to expand your market reach in custom solutions or a new product line of standard inspection systems. This is a great opportunity for you to enter a profitable market where you don't have to worry about paying off the R&D costs of the base equipent.

Research Institutes/ Universities

OEM-PA is the perfect "Open Platform" system that promotes advancements in science and technology without denying you access. Do you have a limited budget, but don't want to compromise on features and performance for your academic and research goals? Do you need low level control and access to all the phased array parameters? OEM-PA is the ideal solution:

- To create your setup and get the data, you can either.
 Use the expert GUI that also serves as the API guide tool box.
 - Develop in C++, C# or other Windows languages. The setting, acquisition and visualization examples, mostly delivered with source code will make your life easier.
 - o Develop directly with MATLAB or LabVIEW.
 - o For ease of development, the API is supplied with examples, source code and monitoring tools.

Hard to Refuse Price without compromising on quality

Become a partner today to take advantage of key benefits!



Service Companies

Do you find existing Phased Array equipment too expensive, or perhaps difficult to be trained on with a lot of features that aren't necessary for your particular application? We can provide you with a simple yet powerful solution at a price that is difficult to refuse.

With today's advancement in technology, the NDT application is heavily about the software. You have the opportunity to develop your own dedicated software application, or one of our partners can develop custom software to fit your inspection at an attractive price. Either way, you own the software.

- Don't be bogged down by too many unnecessary features that slow down your operators.
- Save time on training with an easier instrument and interface.
- Add value to your services by offering your customers a unique inspection solution.
- Don't just compete on price by bidding on projects with others using the same inspection system. Create an overall better service experience for your customers by automating reporting, data collecting, and setup times.
- Stop limiting yourself with a closed system and get the inspection you really want!

Dramatically increase your productivity:

- Focus on your core services and business.
- Save time and money on development and customization.
- It's possible with OEM-PA where other solutions just don't work.

Why spend millions of dollars on R&D when you can get it for the equivalent of the manufacturing cost ?

Compact and Simple: Extremely Easy to Integrate







PULSER

Pulse Voltage Pulse Type Pulse Width Pulse Width Resolution Pulse Focusing Delay Pulse Focusing Delay Resolution Maximum PRF

RECEIVER

Receiver Sensitivity Receiver Gain Range Receiver Bandwidth Receiver DAC (digital) Receiver Focusing Delay Focusing Delay Resolution DDF 550mV 16~110dB 0.3 to 20MHz 80dB, Up to 64 points 0~40µs 5ns Up to 64 points

145V

4ns

4ns

0~40µs

20KHz

Negative Square

10~1000ns

GATES

Number of Gates Interface Echo Tracking (see below) Synchronization (same cycle) Synchronization (other cycle) Mode 4 Yes Yes Yes Max, Min, ABS, Zero before, Zero after

COMMUNICATION¹

LAN (100BT Connection) 5 LAN (1000BT, Gigabit Ethernet) 1 USB3.0 Interface (128/128 only) 1

5 MB/s (STANDARD) 10 MB/s (UPGRADE) 140MB/S (UPGRADE)

¹ The maximum data rate can vary according to the PC, the OS setting, and the Software environment.



Advanced Phased Array

- Small size- Hold in the palm of your hand
 - 💋 Open platform for easy integration
- Unbeatable prices

SIGNAL PROCESSING

FIR Filter Different Filter per Cycle A-Scan Sampling Decimation Compression A-Scan Video Acquire All A-Scans A-Scan Length Rectification Up to 64 taps Choose from 15 user defined filters 100MHz 50MHz, 33, 25, 16.65, 14.28, 12.5 Yes Yes Yes >32KB Yes

16/16, 16/128, 32/32, 32/128, 64/64, 128/128, 256/256

2048 (Optional 4096)

<u>SYSTEM</u>

Configurations Max Number of Cycles A-Scan Resolution A-Scan Mode 16/16 64/64 Weight Temperature Sensors Open Source SDK

Software Languages

Full-Matrix Capture

8, 12, 16 bits Lin, Log 110x80x40 mm3 for bare electronics 110x70x80 mm3 for bare electronics Starting at 380g for bare electronics Yes Yes (Fully Documented API) C++, C#, LabVIEW, MATLAB, and more Yes (Optional Upgrade) Yes (Optional Upgrade)

Power Consumption ² 16/16 32/32 64/64 16/128 32/128

3D Focal Law Calc for Matrix PA

²Measured at a 2kHz PRF with a 5MHz probe with all channels enabled

16.5W

23W

36W

21W

28W

I/O MANAGEMENT

Encoders Encoder Modes

Synch In Synch Out TimeStamps Pin Assignments Number I/O X, Y Quadrature, Quadrature4edges, Direction Count, Forward Backward Pulse trig, Sequence Trig, Encoders Pulse trig, Sequence Trig, Output Yes (Position and Line Speed) Programmable 6 Inputs, 6 Ouputs

www.aos-ndt.com