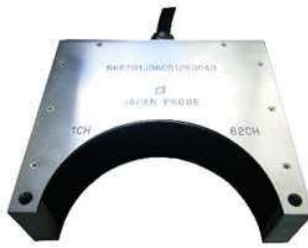


User-Customizable Ultrasonic Array Transducer



1D linear



Concave



Annular



2D matrix



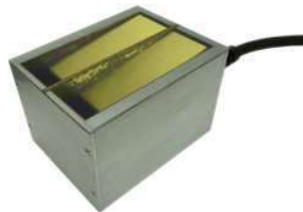
Convex



SR linear



Internal focus



Dual Angle



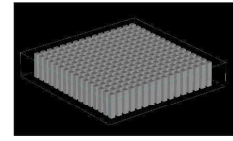
Flexible array transducer
"KYOKUTAN"

Ultrasonic Array Transducer

Utilizing our outstanding technical capabilities and experiences backed by our customers and numerous achievements, we manufacture customized array transducers swiftly.

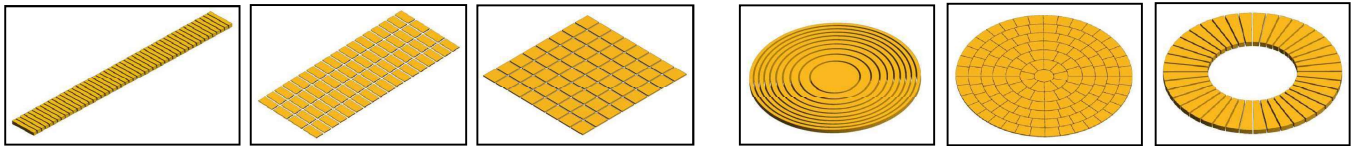
■ Elements

We produce 1-3 composite elements with high sensitivity characteristics, and transducers are also suitable for various kinds of experiments and research purposes.



1-3 Composite Structures

■ Element Shape • Transducer Appearance examples



1D linear

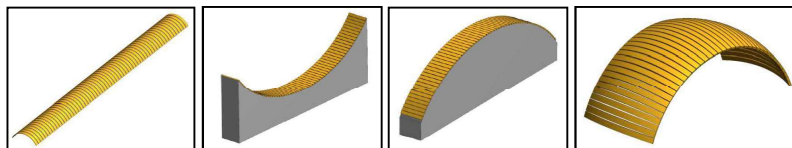
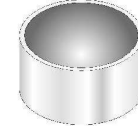
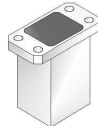
1.5D matrix

2D matrix

Annular

Rho Theta

Daisy

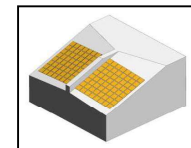
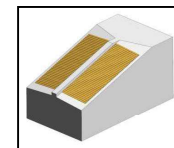


Internal focus

Concave

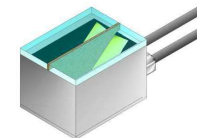
Convex

SR Linear



Linear, Dual Angle

Matrix, Dual Angle



※ If you have any requests, please feel free to contact us.

■ Element Model & Waveform

- Element type : 1-3 Composite
- Waveform : Broadband, small variation in terms of sensitivity
- Detection : All waveform data



Array Probe Waveform example

■ Specifications

- Frequency : 100kHz ~ 15MHz
- Element numbers : 8 ~ 1024

■ High Temperature Applications

- High temperature design for 120°C
- ※ Wedge material too

■ Quality

- Advanced micro soldering by skilled workers

■ Connectors

- HYPERTRONICS / TYCO / IPEX / ITT Canon
- ※ Besides, we also carry special connectors including Verasonics products.

■ Cables

- Multicore coaxial cable : 16 ~ 128Ch
- Track No : #30, #36, #40
- ※ Besides, we also carry radiation Tolerant & Robot Cable.

In addition to **Industrial applications**
used for a wide range of purposes
such as **Medical Research and Development**

Broadband High-sensitive
Ultrasonic Flexible Linear Array Transducer “KYOKUTAN”

■ Features

- This transducer is made of flexible materials and it is available to detect on a curved surface, concave-convex parts, gap, and rough surfaces.
- It allows to inspect with direct contact, and provides excellent cost performance.
- It is available to detect defects near the surface, proximity defects, CFRP, GFRP, aluminum diecasting, weld defect, etc.
- For clinical trials and R&D, enable to measure blood vessels and nerves directly under the skin surface as an example.

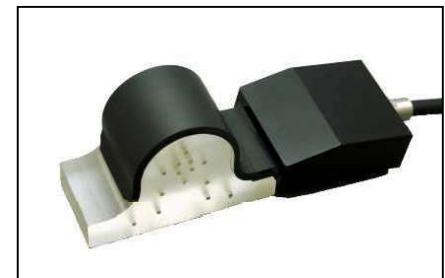
■ Specifications

- Frequency : 1 ~ 10MHz
- Element arrangement : Linear, 8~256 elements
※ For matrix arrangement, please feel free to contact us.
- Flexibility : R5mm ~
- Operating temperature : Room temperature
※ If you have any requests, please feel free to contact us.

Utility model patent No. 3191253



KYOKUTAN



Application on
protrusion surface

Practical example of Hemispherical Array Transducer

■ Features

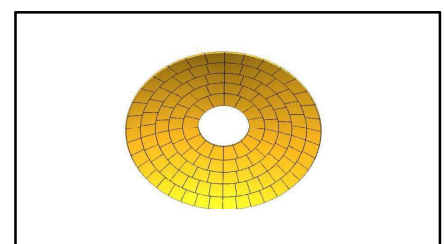
- For HIFU (High Intensity Focused Ultrasound) therapy;
 - The tumor is ablated (cauterized) with ultrasonic waves.
 - HIFU irradiation in healthy tissues is reduced.
- For receiving sensor of Photoacoustic imaging system, etc

■ Specifications

- Type : Rho Theta Phased Array
 - Frequency : 1MHz ~ 15MHz
 - Element type : 1-3 Composite
 - Element numbers : ~ 1,024 elements
 - Connector : Compatible with various connectors
- ※ If you have any requests, please feel free to contact us.



Array Transducer for HIFU

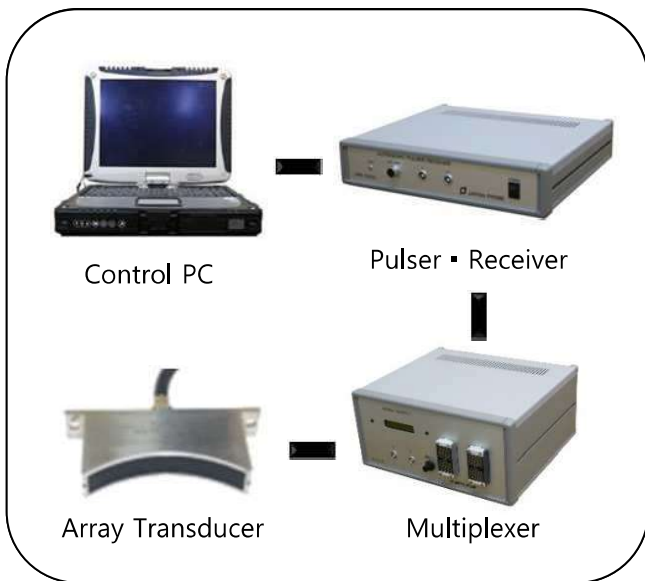


Element arrangement

■ Delivery Record

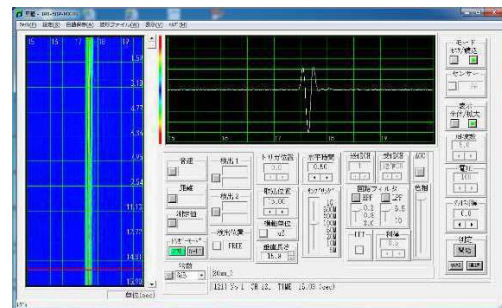
- For various industrial inspection, in-line, trial production, research (steel, automotive parts, aircraft related, etc.)
- For medical treatment, clinical trials and research (HIFU, Photoacoustic imaging system, etc.)
- For ocean trials and research (ports, deep sea, etc.)
- For university research (ultrasonic velocity profile, etc.)
- For development (Air coupled Ultrasonic Array Transducer, etc.)

■ Inspection Test at Factory



Example : Configuration of Inspection system for Array Transducer

We can collect all waveform data quickly using Pulser Receiver and Multiplexer. In addition, we will also check the image with the phased array device upon request.



Software waveform screen for Inspection

■ Main Inspection Items

- Frequency
- Frequency band
- Appearance, shape and dimensions
- Sensitivity variation
- Cable length, etc.

■ Array Transducer Accessories

■ Conversion & Extension Cable

- Connector or Receptacle : HYPERTRONICS / TYCO / IPEX / ITT Canon
 - Cable : Multicore coaxial cable (~128CH)
- ※ Besides, we also support special wiring.



HYPERTRONICS / TYCO Conversion

■ Wedge for Array

- Materials : Polystyrene / Acryl / SX materials (for high temperature) Polyetherimides, etc.



Wedge

