

# ULTRASONIC PHASED ARRAY



FOR ALL YOUR INSPECTION NEEDS



Ultrasonic Phased Array originated as early as 1959 when Tom Brown at Kelvin and Hughes filed for a patent of an annular dynamically focused transducer system. This system latterly became known as phased array.

During recent years arrays have evolved from 4 piezoelectric elements to electronic beam manipulation using up to 512 individual piezoelectric elements in one transducer housing. Thus facilitating a complex electronic manipulation of the acoustic wave fronts.

Until the past decade industrial application of ultrasonic phased array technology has been rather scarce. Undoubtedly most of this has been down to a lack of computing power that is required for rapid excitation of the multiple element transducers and the need to process large data files that scans produce.

Phased array technology is the ability to modify electronically the acoustic probe characteristics. Probe modifications are performed by introducing time shifts in the signals sent to and recieved from individual elements of an array probe. Any ultrasonic techniques for flaw detection and sizing can be applied using phased-array probes.

Phased array provides high speed electronic scanning without moving parts, improved inspection capabilities through software control of beam characteristics, inspection with multiple angles with a single electronically controlled probe.

