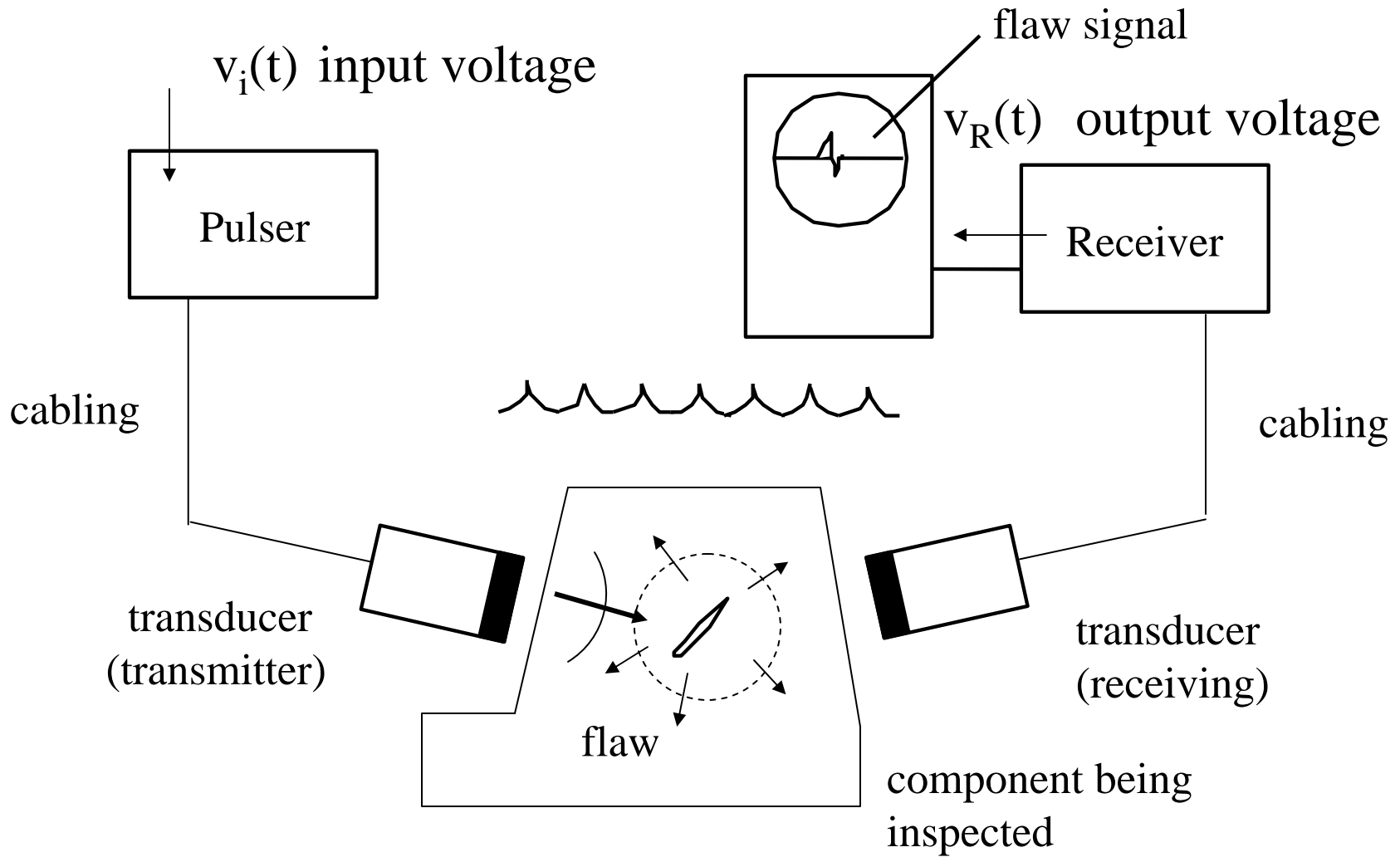




# Introduction to NDE Ultrasonic Systems

# Ultrasonic System Components

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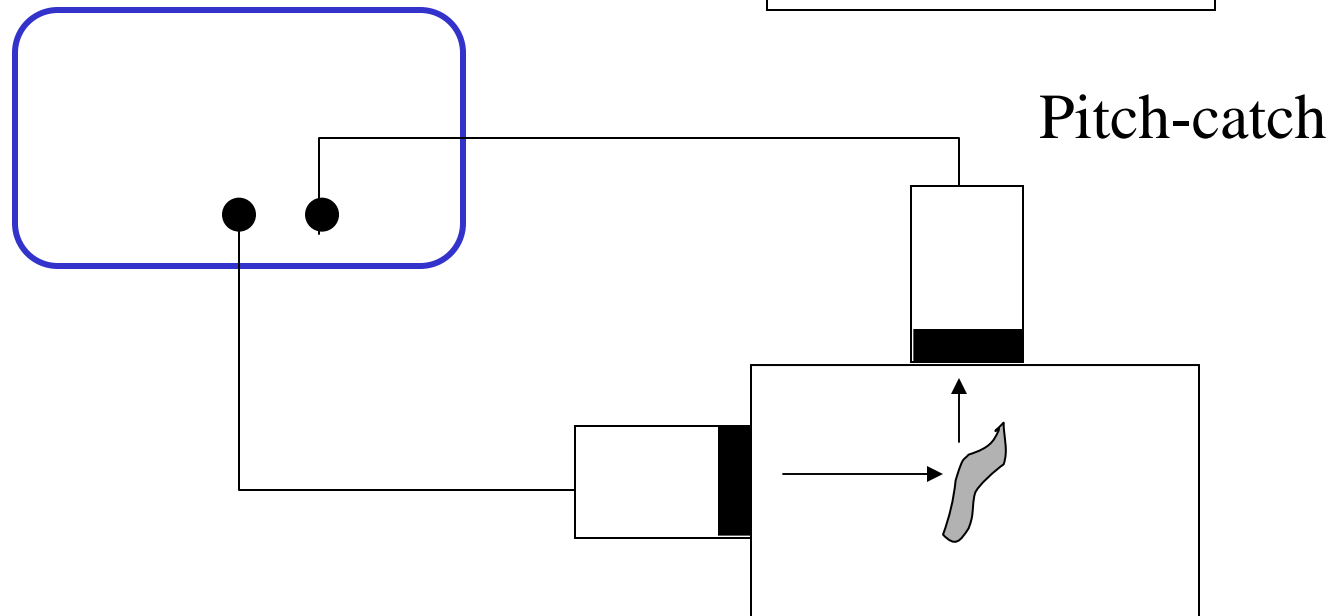
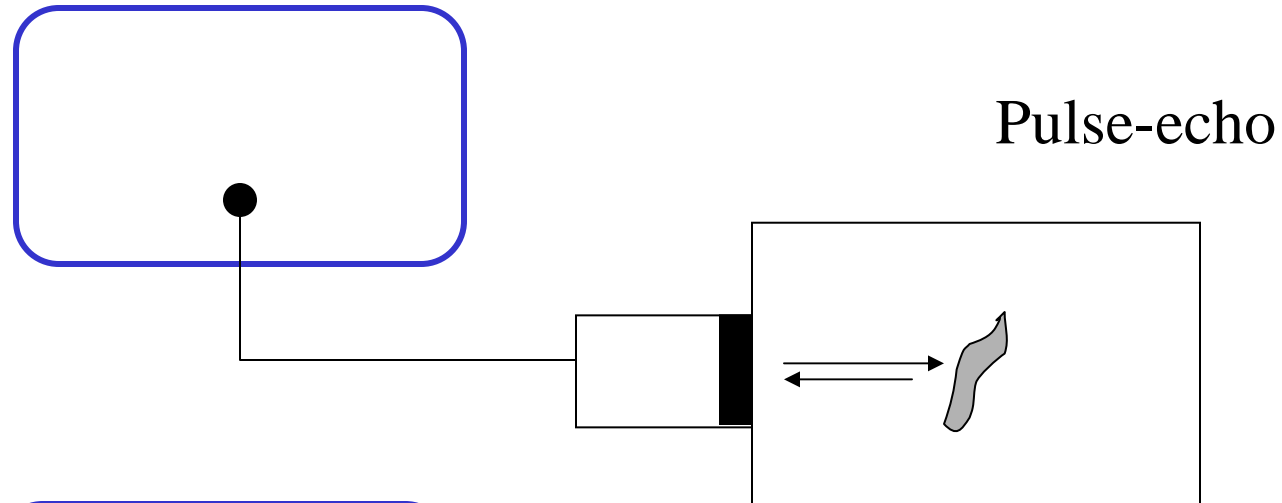


# Pulser/Receiver

MODEL 5072PR PULSER-RECEIVER

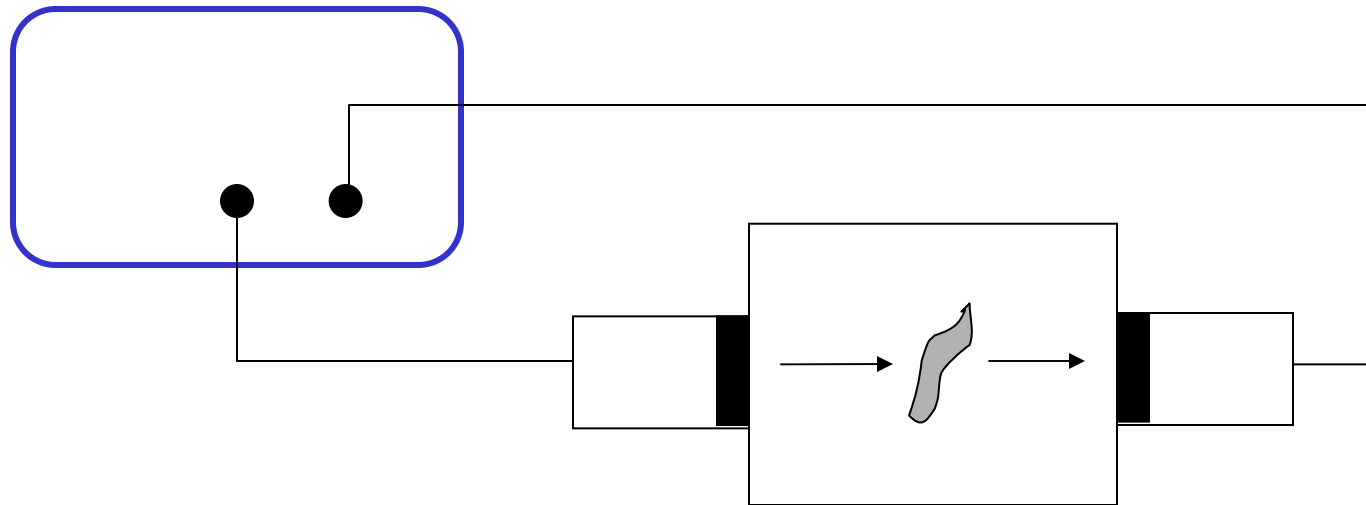


# Common ultrasonic testing configurations

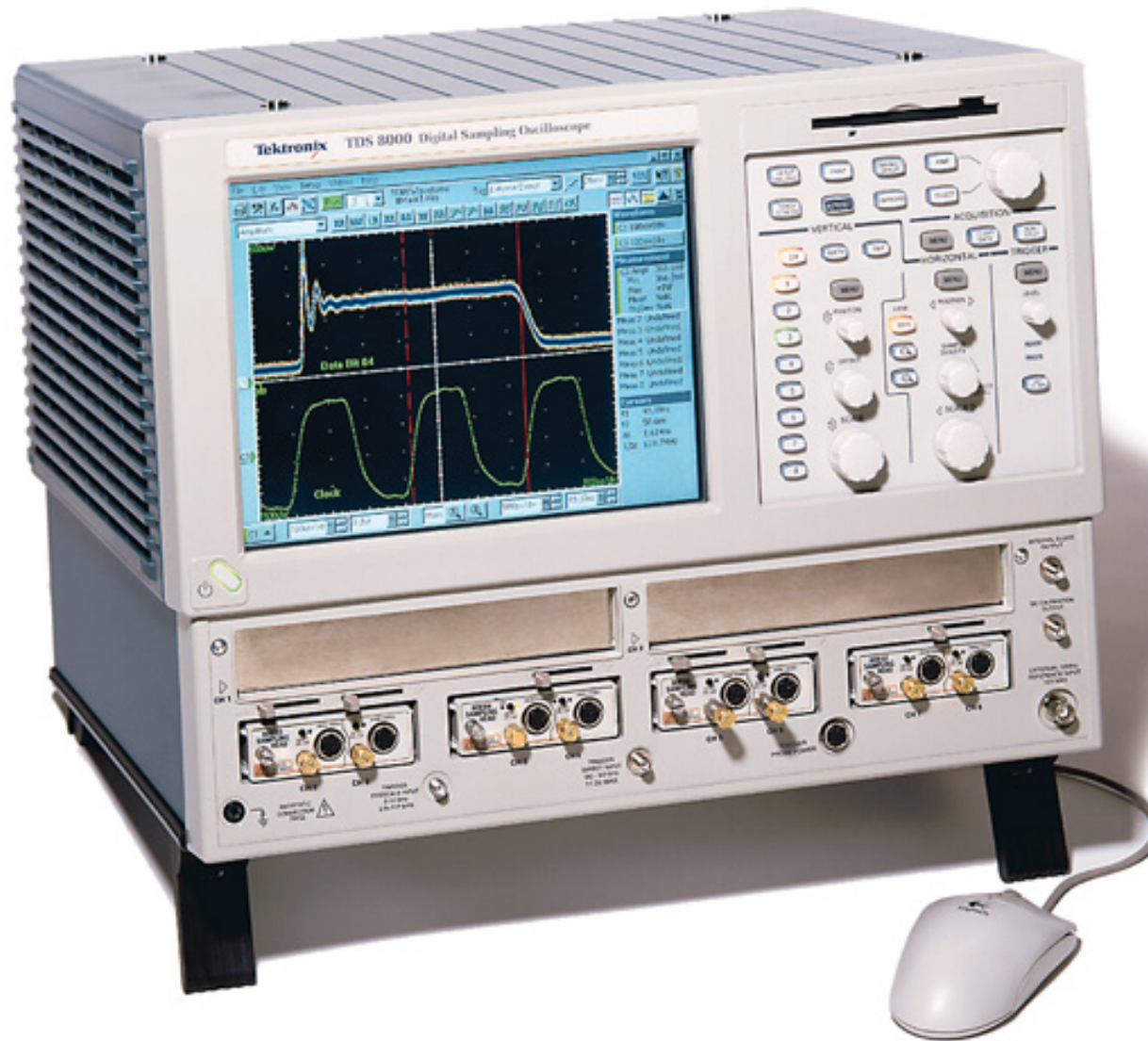


# Common ultrasonic testing configurations

## Through- transmission

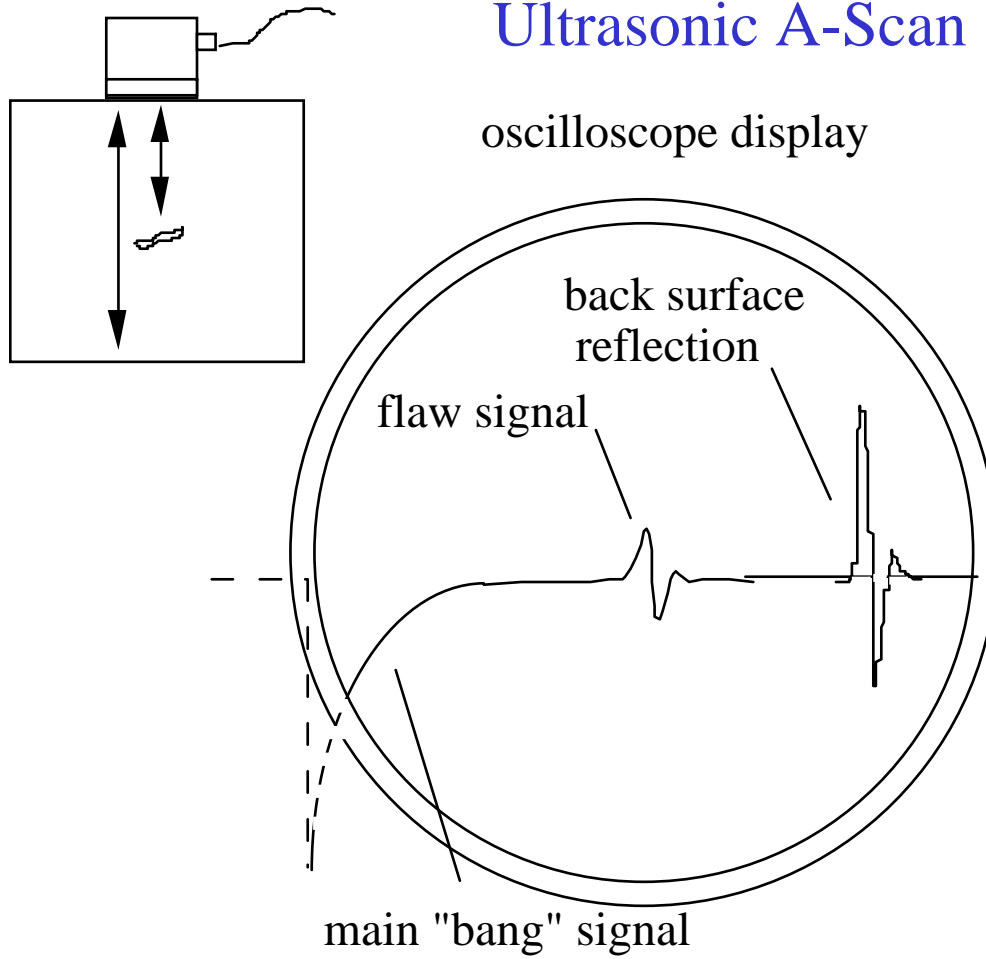


# Digital Oscilloscope



# Ultrasonic Signals

## Ultrasonic A-Scan



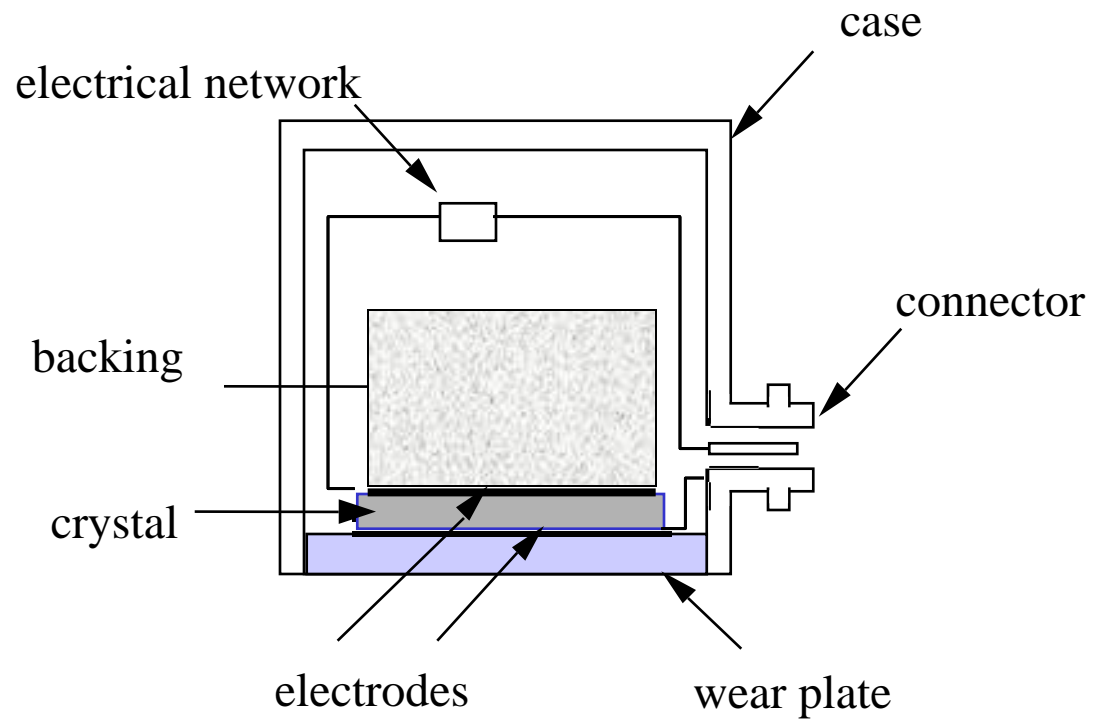
# Portable Flaw Detectors



# Ultrasonic System Components

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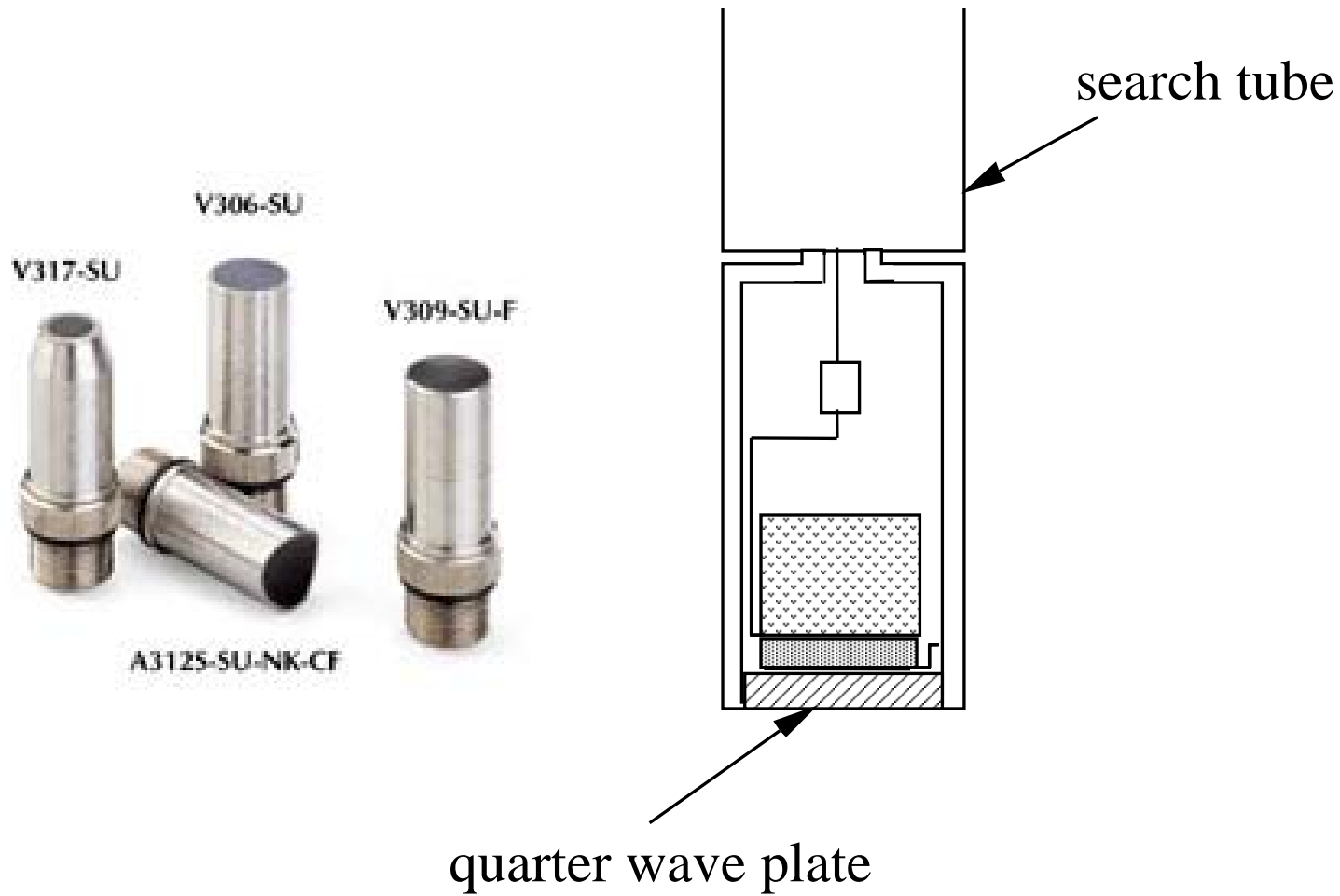
## Contact Transducer



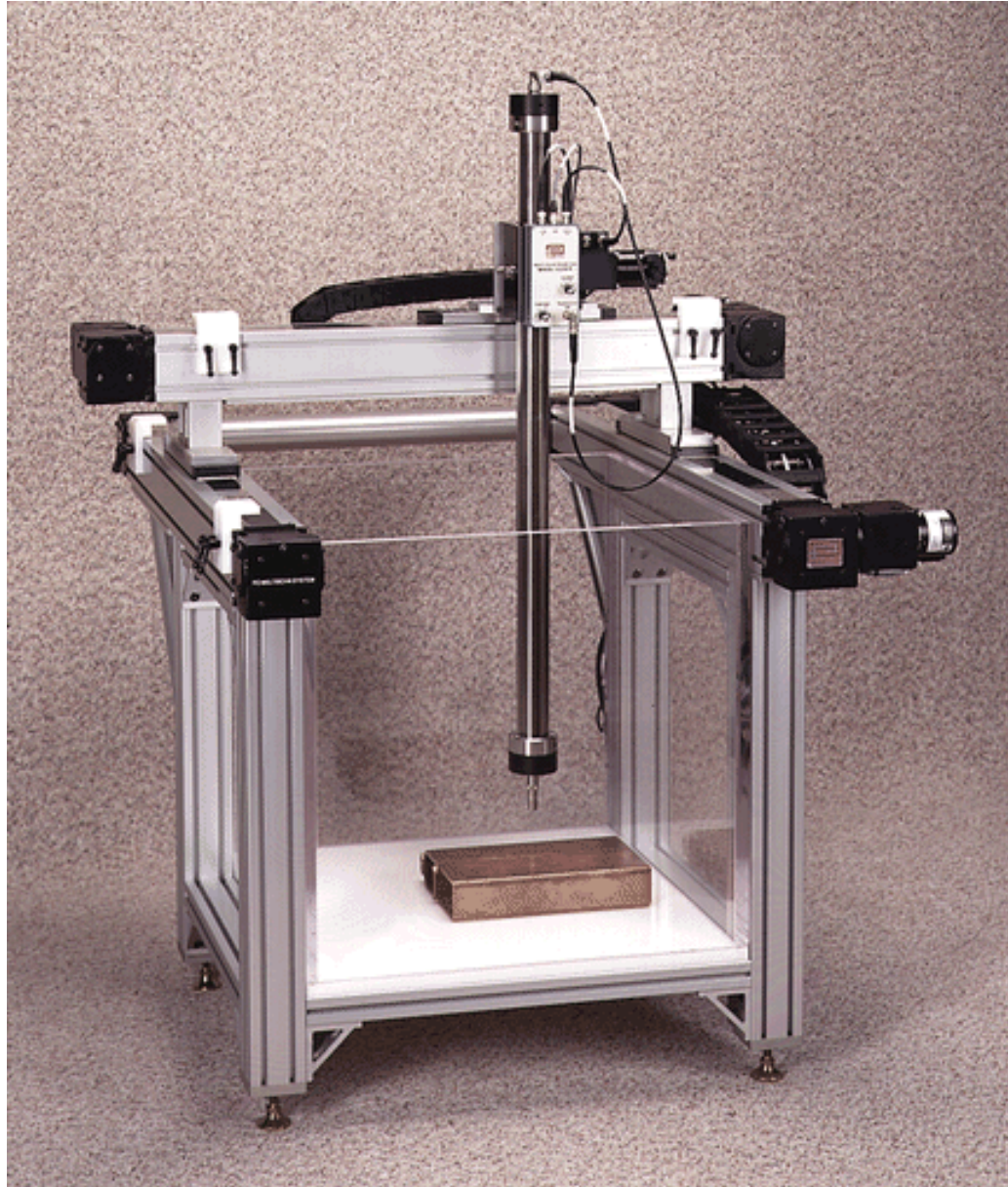
# Ultrasonic System Components

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## Immersion Transducer



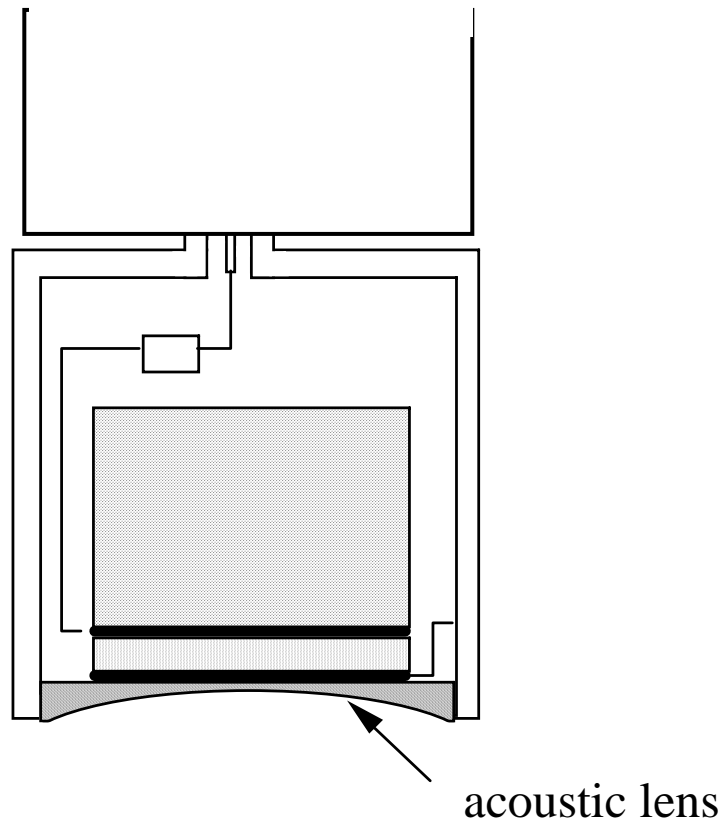
Immersion  
scanning  
system



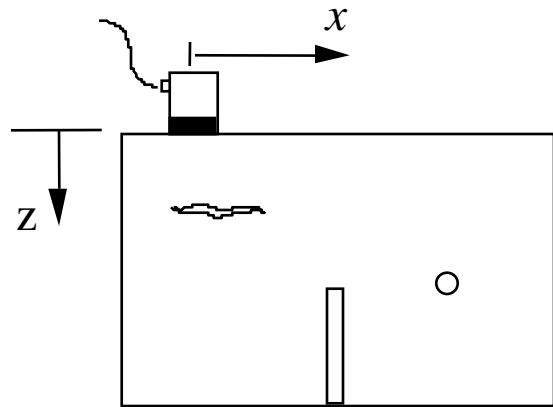
# Ultrasonic System Components

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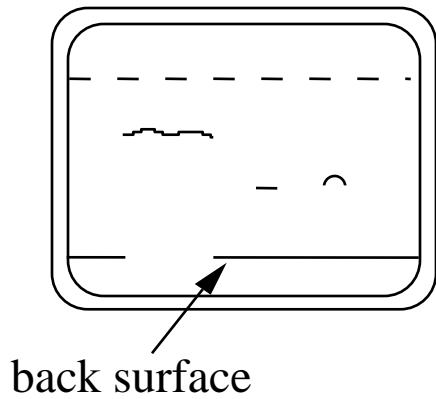
## Focused Transducer



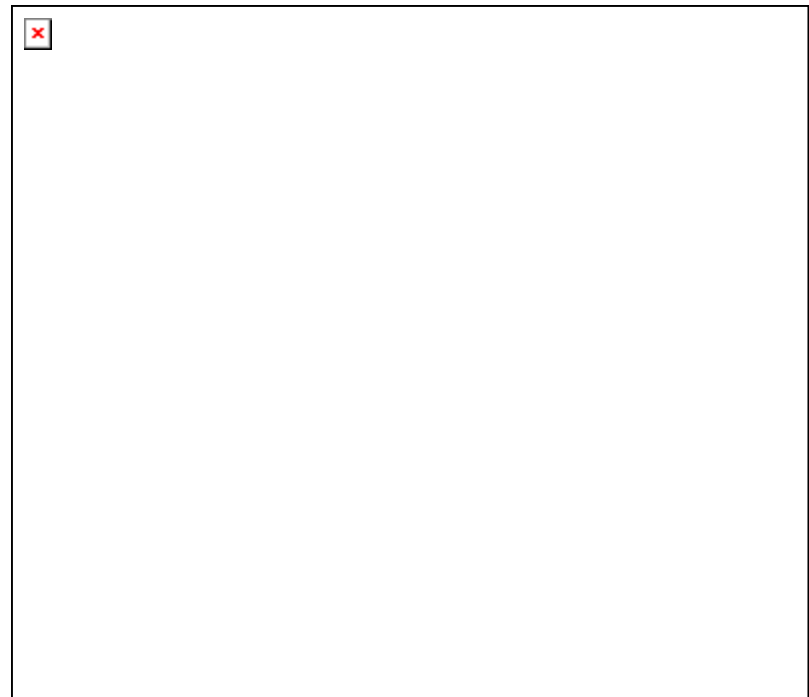
# Ultrasonic B-Scan



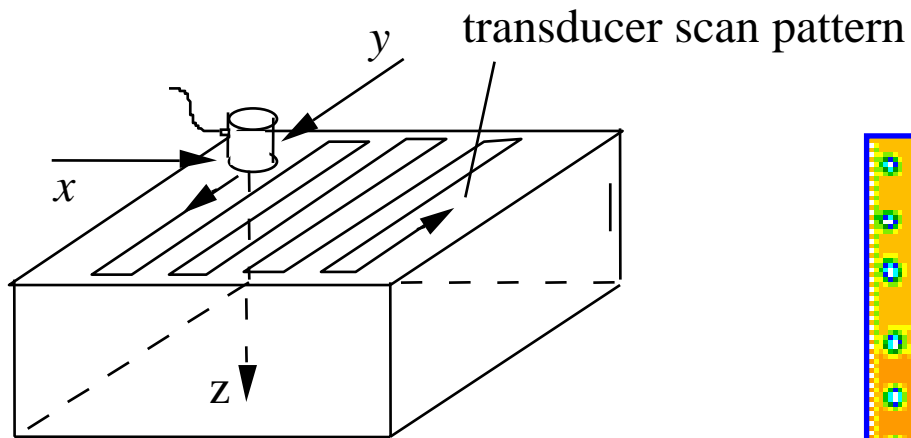
B-scan display



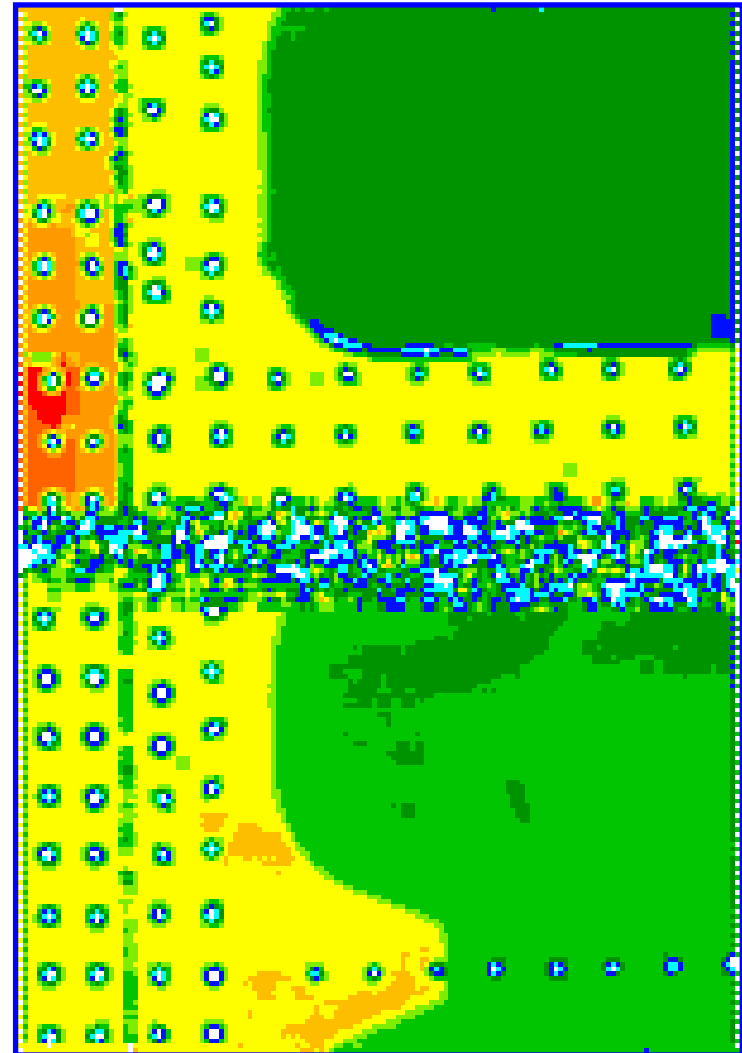
**20 MHz B-Scan of a composite,  
showing laminates**



## Ultrasonic C-Scan



**C-scan image of chem-milled panels at  
horizontal lap splice / vertical butt splice  
on a 727 fuselage**



# Ultrasonic System Components

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## References

Krautkramer, J. and H. Krautkramer, **Ultrasonic Testing of Materials**, Springer Verlag, 1990.

Blitz, J. and G. Simpson, **Ultrasonic Methods of Non-destructive Testing**, Chapman & Hall, London, UK, 1996.