

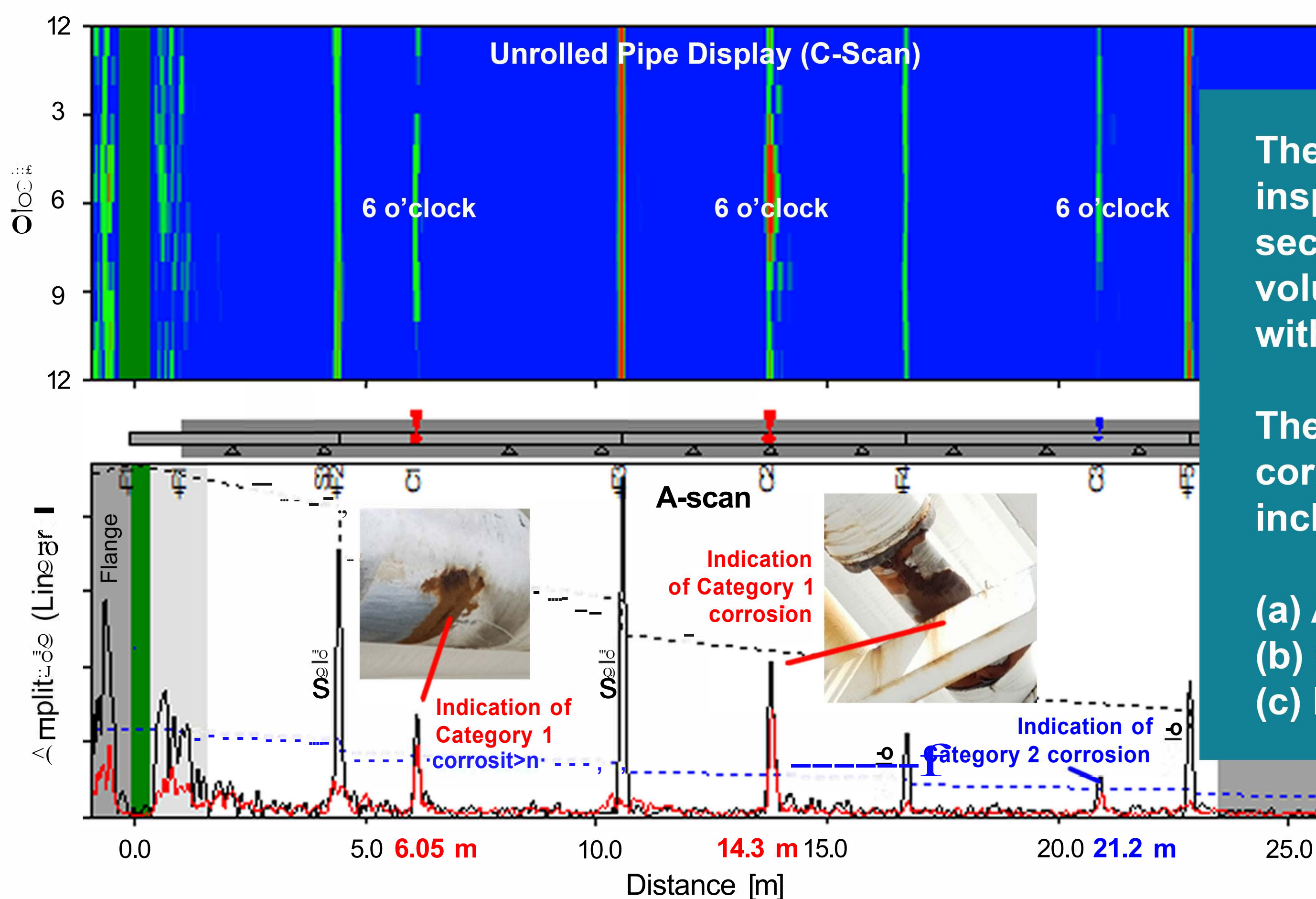
Compact[®]

The most advanced guided wave tool for pipe corrosion detection.



Only with the Wavemaker[®] G4 or G4mini system & WavePro[™] software.

Fast, accurate & reliable pipe corrosion detection solution for the oil, gas and chemical industry.



The Compact[®] can inspect several pipe sections with 100% volumetric coverage, within minutes.

The results on corrosion indications include:

- (a) Axial position
- (b) Circ. position
- (c) Defect severity

The Compact[®] tool is the fastest, most accurate and reliable tool for detection of both internal and external corrosion in pipes, when used with the Wavemaker[®] system. It uses patented technology developed by true technology experts with more than 30 years of experience.

GUL provides guided wave testing solutions that covers a wide range of pipes and applications

Applicable on seamless and seamed (spiral or longitudinal welded) pipes, made from:

- | | |
|---------------------|---|
| 11 Carbon steel | 11 Cast Iron |
| 11 Galvanized steel | 11 Ductile Iron |
| 11 Copper | 11 Duriron |
| 11 Stainless steel | 11 Other metals (e.g. platinum, titanium) |

Here is a non-exhaustive list of pipes that GUL Screening is applicable to:

- 11 ANSI/ API SL: X42 - X120 pipes
- 11 ASTM A53 / ASME SA53 carbon steel pipes
- 11 ASTM A106 / ASME SA106 carbon steel pipes
- (1 ASTM A135/ ASME SA-135 Electric-Resistance-Welded (ERW) steel
- 11 ASTM A312 Stainless Steel pipe (e.g. 304/304L and 316/316L)
- (1 ASTM A790 Duplex and Super Duplex pipe (e.g. UNS S32205/31803)
- (1 **ASTMA335Alloy** pipe (e.g. P11, P22 and P91)

Pipe Diameters: 0.75 inch (19.05 mm) and above (via Compact® & other GUL Screening rings)

Nominal Wall Thicknesses: 3 mm to 40 mm

Allowable Paint Coating Thickness: Up to 1 mm

Pipe Temperature: Up to 150°C (Compact®) / Up to 350°C (HT rings)



Inspection applications of Compact®

(1) Petrochemical, gas processing & oil refinery

- [I] Corrosion under insulation (CUI)
- [I] Corrosion at wall interface
- [11] Internal corrosion & erosion
- [11] Elevated pipes in racks
- [I] Corrosion at pipe supports



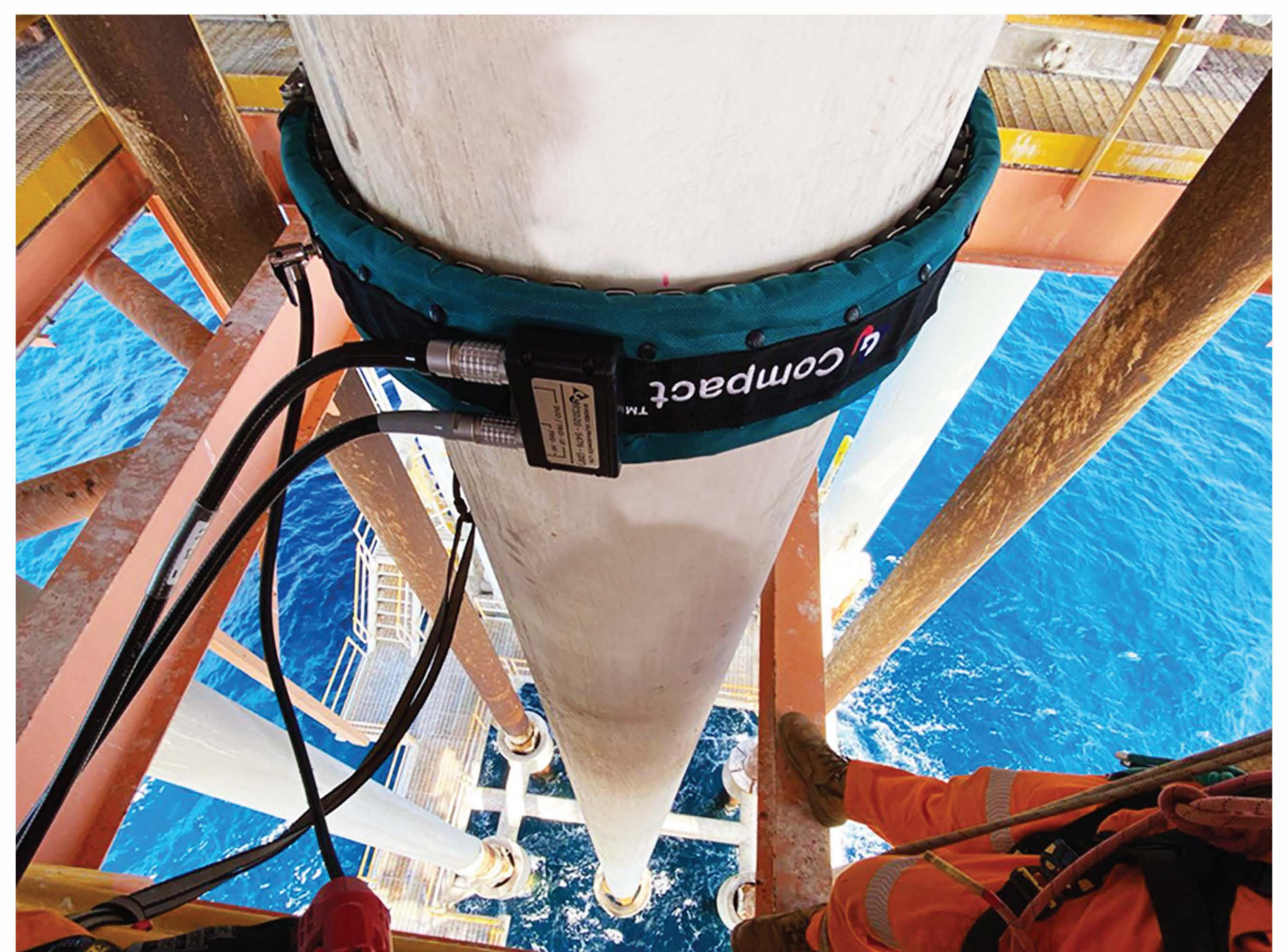
(2) Midstream oil & gas transportation pipelines

- [I] External & internal corrosion
- [I] Buried pipes (soil, sand)
- [I] Road crossing pipes
- [I] Stray current corrosion
- [I] Microbiologically induced corrosion (MIC)



(3) Upstream, offshore pipes and structures

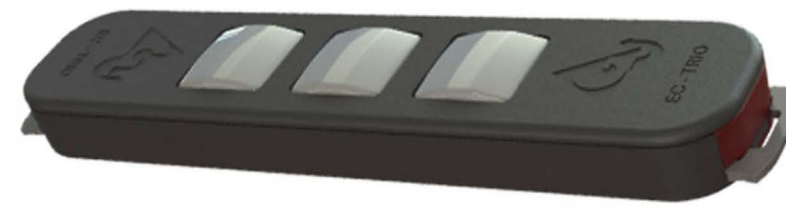
- [I] Risers
- [I] Caissons
- [11] Header lines
- [I] Splashzone corrosion
- [I] Internal corrosion and erosion



Why choose Compact® with the Wavemaker®?

The fastest system with maximised probability of detection.

The fastest system to inspect using an **ultra wide frequency band** at a **350V output**. This **maximises the probability of detecting corrosion** ranging from small pits to extensive patches.



EC-Trio module for low to high frequencies. Suitable for generic pipes, CUI, general corrosion, CUPS, attenuative pipes (e.g. bitumen, concrete, soil).



EC-HD module for very high frequencies. Recommended for CUPS, welded supports and interface corrosion (e.g. soil, concrete).



The most accurate system using reverberation algorithm.

We use patented technologies that enable **Absolute Calibration & Simulated Reverberations** to deliver test results with **cutting-edge accuracy** and **false echo detection**.

(12) **United States Patent**
Vogt

(10) **Patent No.:** **US 9,927,405 B2**
(45) **Date of Patent:** **Mar. 27, 2018**

(54) **PROCESSING SIGNALS ACQUIRED DURING GUIDED WAVE TESTING**

(75) Inventor: **Thomas Vogt**, Richmond (G8)

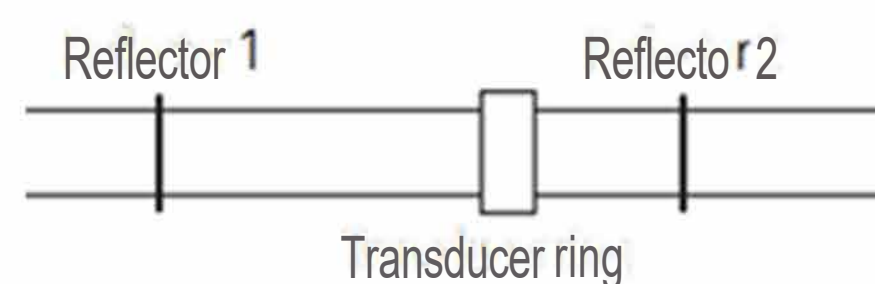
(73) Assignee: **GUIDED ULTRASONICS LTD.**, Nottinghamshire (G8)

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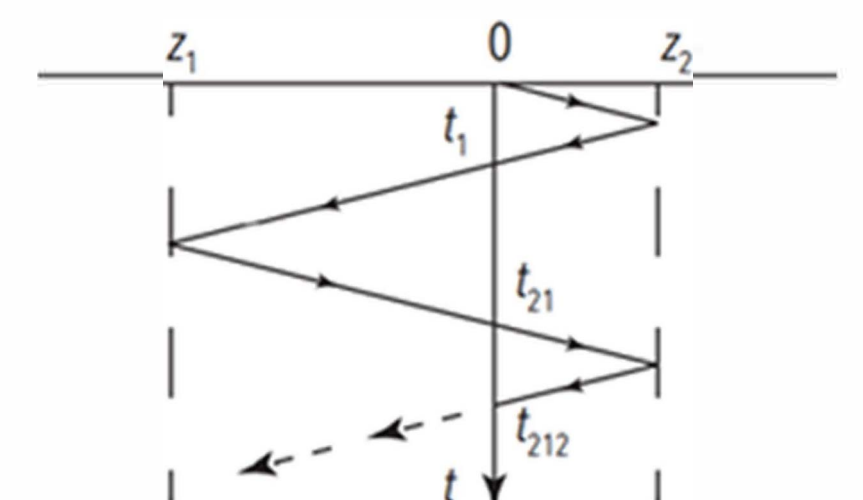
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U.S. PATENT DOCUMENTS

6,092,420 A 7/2000 Kimura et al.
6,624,628 9/2003 Kwun C01N 29/11



$$A_1 = A_0 R_1 e^{-2\alpha|z_1|}$$



The most reliable system with proven industry track record.

The reliability of GUL systems come from expert designs incorporating more than **30 years of guided wave experience** and as the **original inventor of pipe guided wave testing**.

(12)UK **Patent Application** (19)GB {11}2 **311 610** (13)A

(43) Date of A Publication 01.10.1997

(21) Application No 9709289.4

(22) Date of Filing 20.10.1995

Date Lodged 07.05.1997

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