

**imperium™**

**Aerospace**

**AvionTEq**

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**BARFIELD**

### The Problem:

In the Aerospace industry, composite materials are increasingly being used in the construction of commercial aircraft. These materials are lighter and stronger than their traditional aluminum equivalents, allowing newer aircraft such as the Boeing 787 to fly faster, farther and to carry more weight. One drawback is that unlike aluminum, composite materials do not show damage if there is any physical impact to the aircraft (BVID - Barely Visible Impact Damage).

Where previously defects were visible to the human eye, now complex inspection systems operated by highly trained technicians must be called to the scene to verify aircraft integrity. The resulting delay leads to lost revenue as aircraft must be removed from service in addition to the considerable equipment and personnel costs associated with existing ultrasonic test (UT) systems.

### Current Options:

Currently, the most common techniques to identify damage in composite Structures are tap testing or standard phased array. These techniques can identify potential problems require highly trained UT personnel who are not always readily available. The result is additional and unnecessary lost in-service time.

### The Imperium Solution:

Imperium developed the Acoustocam™ ultrasonic camera for use in the Aerospace industry and has been a widely accepted NDT technique for over 10 years. Based on Imperium's proprietary technology, Digital Acoustic Video™ (DAVTM), Acoustocam™ is meant as a first line defense in finding internal composite damage in aircraft structures. The Acoustocam™ captures high resolution ultrasound C-scan images that can be stored for quick detection and evaluation of delaminations as well as thermal and mechanical damage. The result is a simple, portable, low cost device that any inspector can use. With Acoustocam™, you'll be able to find hidden problems before they become catastrophic.



**ACOUSTOCAM™**

### Features:

#### Crisp Images

The Acoustocam™ allows users to see defects on its proprietary interface which supports Imperium's ultrasound camera. This camera offers an intuitive visual display that enables technicians to quickly detect defects and damage. Utilizing a patented imaging array that generates real-time ultrasound images over an area, the subsurface imagery is striking in its clarity and video appearance with quality similar to a visible light camera.



#### Simple set-up

The Acoustocam™ can be set up and providing images in less than five minutes for a typical inspection. A technician simply sprays some ultrasound gel on to the area in question and makes contact with the Acoustocam™ camera head. Images appear immediately on the control unit display. The compact, hand-held unit can be used at airport loading gates for quick inspection of commercial aircraft by a non-specialized technician. The camera's preset function allows users to get right to work and also ensure that the appropriate procedures are being followed each time. The Acoustocam™ also supports Wi-Fi web conferencing allowing remote NDT experts to immediately evaluate potential damage with complete confidence in their decisions. The result is faster evaluation and more reliable information.

#### Accurate Data

Undetected defects can have catastrophic results if not found before flight. Accurate data is of crucial importance and Acoustocam™ delivers the highest level of detail through its imaging system. Compared with traditional phased array UT equipment, the Acoustocam™ has higher image quality and resolution at the same frequency range. Acoustocam™ meets or exceeds accuracy and sensitivity performance standards across the board detecting more flaws before they can lead to a disaster.

**See what else you're missing. The data you expect. The images you want.**

**Barfield**

4101 N.W. 29<sup>th</sup> Street, Miami, FL 33142

Tel: 305.894.5400

[gste@barfieldinc.com](mailto:gste@barfieldinc.com)

**For more information**

**[www.barfieldinc.com](http://www.barfieldinc.com)**