



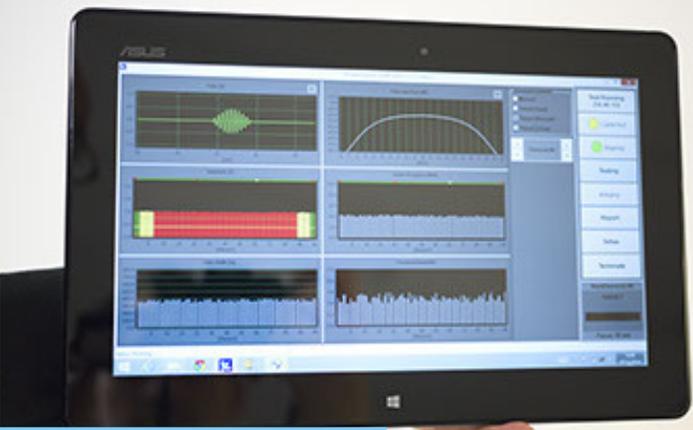
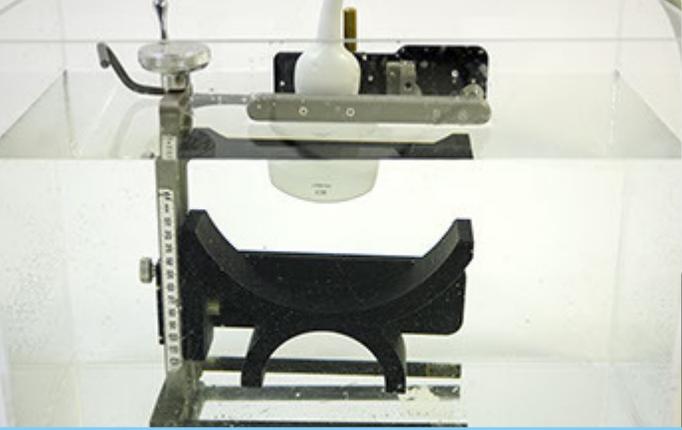
**New
Generation
of Probe
Testing**

**Quality Assurance
Patient Safety**

**Validation of
multi brand
ultrasound probe
performance**

**PROBE
HUNTER®**

WWW.PROBEHUNTER.COM



QUALITY ASSURANCE OF ULTRASOUND PROBES

PROBE HUNTER[®] Controlled System

- ▶ *ProbeHunter software solutions are based on an advanced highly programmable platform.*
- ▶ *The Software is **easily upgradable** over time.*
- ▶ *Designing new adapters will be dramatically simplified. This will enable a repair*

*facility to test probes **shortly after new releases** of transducers.*

- ▶ *Control functions over Internet makes it possible to **perform testing remotely** have repair centers connected and controlled log in functions*

PROBEHUNTER CONNECTORS

Adapter Connector

ProbeHunter Adapters and First Call Adapters as they are, include all features.

GE E8/9 Connector

Transducer tested directly into the ProbeHunter System including muxing

Other OEM muxed adapters and multielements transducers available soon.

Every test with ProbeHunter is traceable

ProbeHunter Features

*Multi-Brand • Ultra Fast • Dynamic • Real Time
First Call Compatible • New Generation*

Quality Assurance
of Ultrasound Probes
for Patient Safety.

ProbeHunter USER CLUB

Remote & Chat support
Probe file validation
Report analyzing
Training & seminars
Beta testing

Real Time Performance Dynamic

Multi Brand testing

Ultra Fast Reporting

The number and location of dead
or weak crystals within the array

Changes in acoustic performance
parameters of the array

Acoustic lens delamination

Dynamic Cable Test

Broken wires within the probe
cable or at the flex circuit within
the probe

Defective electronics

Image Validation

Doppler Validation

Color Validation

PW Doppler

Walking Channel Test

256 channel system direct
addressing up to 256 element
transducer/muxed >512

3D Matrix transducers (work in progress)

Microsoft and Linux based system

ProbeHunter a Product Line

*The ProbeHunter solution is portable,
scaleable and a product line:*

- ▶ **ProbeHunter Stand Alone System 256**
- 512 channel, multi brand tester built
in Muxed, with ProbeHunter / First
Call Connector and GE E8/9 connector
directly in to system
- ▶ **ProbeHunter Simulator** Touch-screen
or PC version for Sales & Marketing
or Education & Training, to
demonstrate the clinical impact
- ▶ **ProbeHunter R&D** version is the
ultimate tool for universities and
research centers. Interface to
Ultrasonix RP system.
- ▶ **ProbeHunter Editor**, by hospitals
decided probefiles
- ▶ **ProbeHunter Community**, hospitals
shared probe profile library freeware

Options

*The ProbeHunter user options available
for hospitals:*

- ▶ **ProbeHunter control** string Phantom
- ▶ **Impedance check** for each channel
- ▶ **MUSIC software** quality assurance
- ▶ **Interface to Ultrasonix** RP system

All functions totally controlled by owner.

What is behind the ProbeHunter Product ?

“The high error frequency and the risk for incorrect medical decisions when using a defective transducer indicate an urgent need for increased testing of the transducers in clinical departments.” - Study authors at **KTH Royal Institute of Technology**

ProbeHunter is a Multi Brand Ultrasound Transducer Tester. Behind the development there are a number of contributing factors, such as: The understanding of the technology behind First Call and the adapters, how to create probe files etc; The understanding of most of the technology behind all new ultrasound transducers; The advanced hardware platform is highly programmable, and is used for the continued compatibility of ProbeHunter with new transducers that emerge on the market; a dedicated R&D Team, globally distributed very skilled hard- and software engineers with a great know how about ultrasound.

BBS Medical AB has 13 years of experience of First Call usage and transducer testing on the Nordic Market.

Additionally, the company has more than 30 years of Ultrasound know how and experience from the European market. BBS has developed a sales and marketing strategy over the years which has been proven very successful. The product is tailored to meet the needs of the global market. Input from the Stockholm Royal Technical Institute and other outstanding Scandinavian universities has contributed to the functionality of this product. The daily usage of First Call by BioMed Engineers, with its advantages and limitations, has also served as input in developing ProbeHunter, in addition, their input regarding new clinical aspects for modalities like Elastography and new advanced Doppler technology, probably creating a new type of faults on transducers.

Quality Assurance

According to a study made by the KTH Royal Institute of Technology in Stockholm:

In a previously non tested hospital 35-40% of the ultrasound transducers were faulty

Coming back after approx one year 15% of the transducers are faulty

Ref: "Eur Echocardiogr(2008) doi 10.1093/ejehocardi/jen295"

**PROBE
HUNTER®**



ProbeHunter means Patient Safety first

Studies have shown that 35-40% of the ultrasound transducers in a non tested hospital have to be attended to. The handling, the gel or the cleanser used are the most common reasons for faulty probes. The problem is that you rarely can detect these problems on the screen. This is where the ProbeHunter can secure the quality and detect the flaws of the probes in an instant.



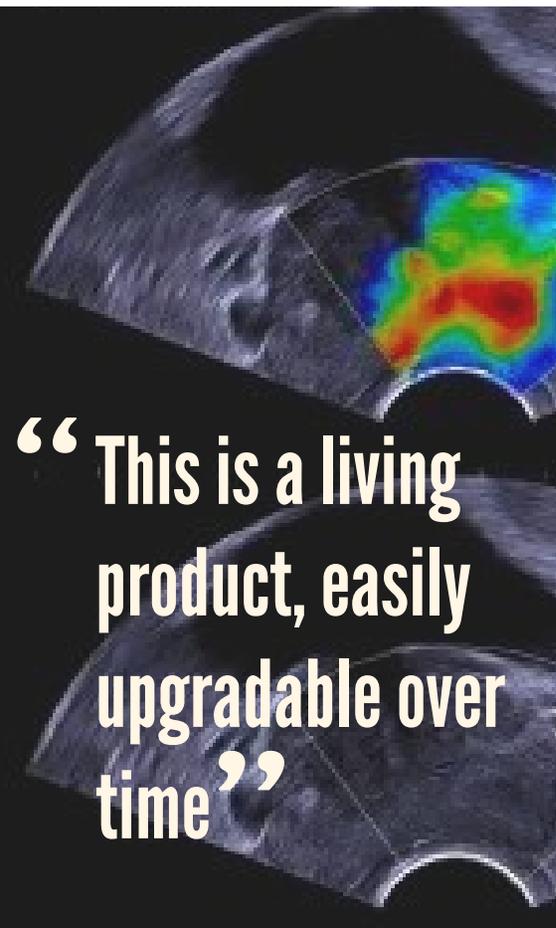
The ProbeHunter System is designed for just to change the Generator for First Call* and to make use of all the new features like Dynamic testing, validation of color, doppler and image through existing First Call adapters. No modifications of the adapters are needed. ProbeHunter is the natural upgrade to First Call.

ProbeHunter is Multi Brand Ultrasound Transducertest System already now tuned for future transducer technology like 3D Matrix (work in progress). Control functions makes it possible to have global control functions. ProbeHunter on the field version meets the requirements to perform the "Man in the Van Concept", OEM service staff on the field performing Pro Active Testing. ProbeHunter is the perfect tool for BioMed Engineers to frequently test probes. Recommendations are

- ▶ ***ProbeHunter is a living product easily upgradable over time***
- ▶ ***As soon as a new transducer is on the market ProbeHunter will be able to test it!***
- ▶ ***High-end innovative solution, ultra fast real time with easily accessible Software***

to test probes every 6-12 months depending on work load. Every test with ProbeHunter is traceable. With ProbeHunter it is also possible to drive the specifications for Fleet Tenders, very hard for others to follow due to the high quality of faulty diagnosis on transducers. Database for comparison of data can be controlled and used globally. ProbeHunter Reporting enables Quality Documents that can be enclosed with every probe.

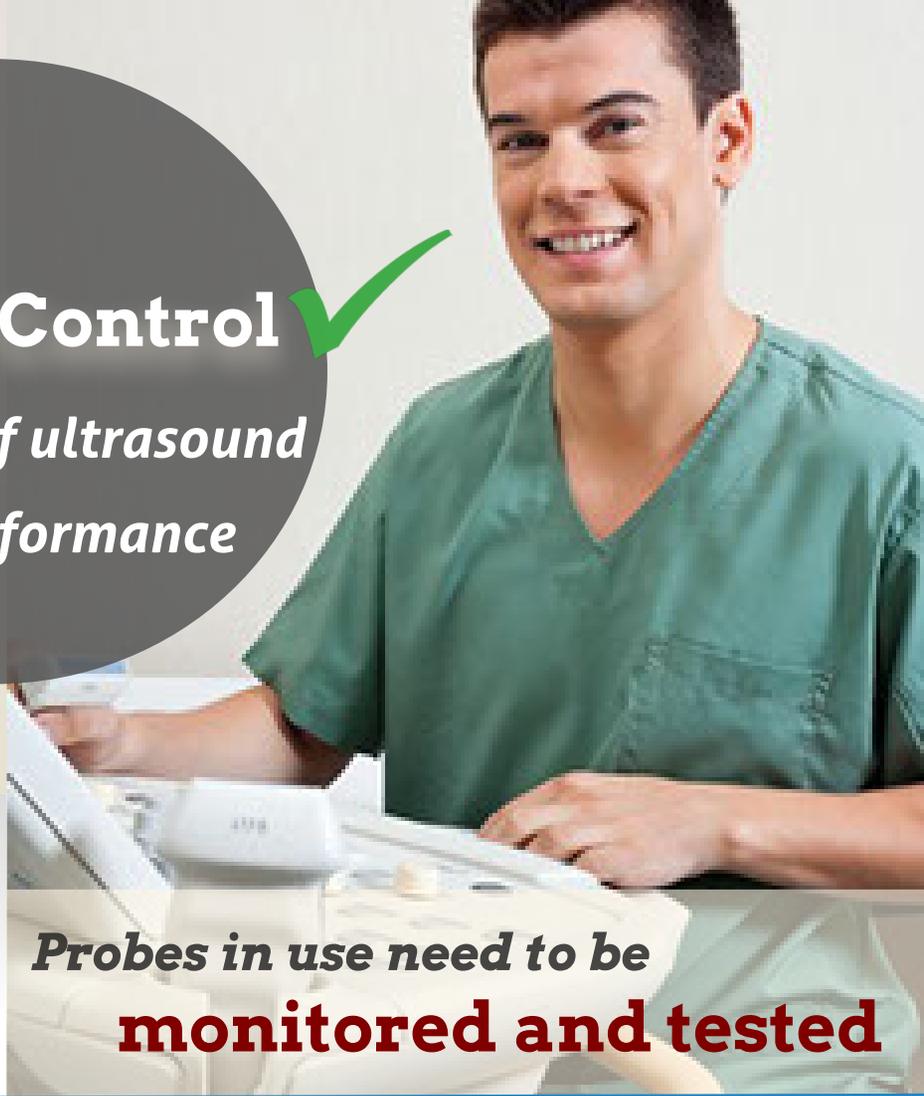
*FirstCall IP GE



“This is a living product, easily upgradable over time”



Quality Control ✓
Validation of ultrasound probe performance



We recommend testing transducers every 12 months. If the probe is used frequently, testing it every six months is recommended, depending on its application.

Service doesn't always guarantee the probe's functionality

Probes in use need to be monitored and tested

According to the study *“High incidence of defective ultrasound transducers in use in routine clinical practice”* by Mårtensson et al, the services provided by OEMs are not enough to ensure that your hospital is using healthy probes.

“In the present study, the functioning of transducers was evaluated in order to estimate the incidence of defective transducers used in clinical routine

practice,” the authors of the study at KTH Royal Institute of Technology in Stockholm stated. “They were tested with a validated commercially available system that the clinics did not use; they relied either on regular maintenance from the manufacturer or on evaluation of the ultrasound scanners by their own testing protocols. Despite these preventive measures, almost 40% of the tested

transducers were defective, according to the criteria used in the present study.”

Furthermore, the authors indicated that the clinical impact of relying solely on maintenance by manufacturers and not testing the probes: “The clinical consequence of this transducer error was that the correct clinical treatment for this congenital heart defect was involuntary postponed for more than a year.”

The creators of ProbeHunter

With a global network of soft- & hardware programmers, with a great know how of Ultrasound, the ProbeHunter is developed in the new way of cooperating called Wevolution. This makes it possible to stay in the forefront of medical technology to create high end innovations for the hospitals and industry in a cost effective way.

The development team behind ProbeHunter has 30 years of Ultrasound experience and 13 years of ultrasound probe testing. The company BBS Medical AB is based in Sweden and has brought many ultrasound related products to the market over the years.

As soon as a new probe is on the market ProbeHunter will be able to test it

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**PROBE
HUNTER**[®]
Patent Pending