





# Hawk 2102 EXL

Highly integrated multipurpose ultrasound scanner

Urology 

Surgery 

Radiology / General 

Vascular 

Obstetrics / Gynecology 



# Hawk 2102 EXL



Scanning System

True Echo Harmonics  
Spectral and CFM Doppler  
Simultaneous triplex  
Power Doppler  
Steerable Doppler  
Continuous Wave Doppler  
Fully integrated 3-D package

# Hawk: 2102 EXL



The new Hawk 2102 EXL gives you the tools you need to excel. A host of new and improved features makes it the ideal combination of high performance and ease of use. That way, you can focus on what is important: your patient and the diagnosis...

## 1 Transmitter:

B-K Medical has developed a unique means of utilizing the Doppler principle to its full advantage. The high Doppler signal-to-noise ratio is maintained through all depths and modes, including duplex and simultaneous triplex. **Your benefits:** unprecedented Doppler sensitivity, with extremely high and uniform sensitivity at all depths.

Too many focus zones can have a negative impact on the frame rate. This is why B-K Medical has perfected alternative focusing methods which are frequency-optimized, resulting in a vast improvement of contrast resolution and uniformity. **Your benefits:** optimal focus within a wider field without a decrease in frame rate.

## 2 Detector:

B-K Medical has developed a new frequency-controlled detector in cooperation with leading universities.

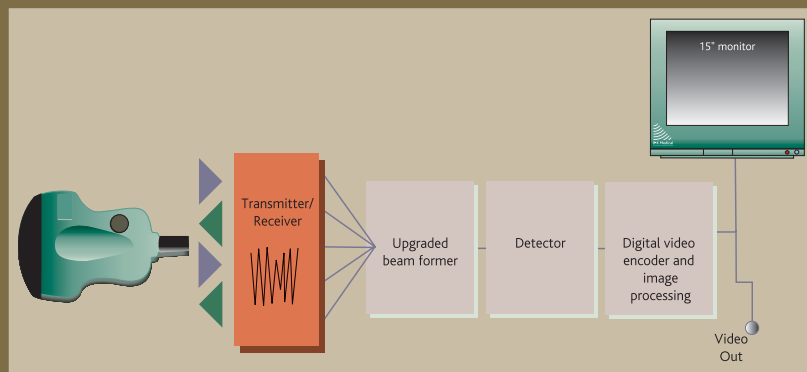
**Your benefits:**

- Vastly improved dynamic range
- Improved dynamic imaging, especially at low frequencies, for an improved ability to scan rapidly moving structures and compensation for patient motion artifacts.
- Improved contrast resolution

## 3 Video encoder and image processing:

The Hawk is equipped with a new standard industrial interface video encoder. **Your benefit:** more display devices can be connected at the same time.

The image based on the VGA signal quality is much clearer. Gamma correction and gray scale have also been improved to take full advantage of the new electronics and monitor. Image-wise, this provides particularly relevant clinical improvements, the likes of which, until now, have only been associated with much more expensive high-end systems. **Your benefit:** maintenance of high and low intensity details and optimal use of individual gray scales for sharper images and distinction of subtle nuances.

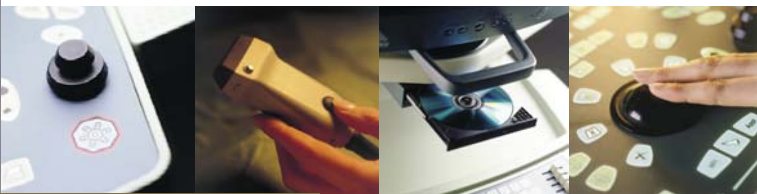


## True Echo Harmonics

Certain patients are technically difficult to scan. This difficulty can be attributed to acoustic noise, often stemming from reflections from surrounding tissue. The Hawk 2102 EXL's True Echo Harmonics (TEH) feature makes excellent imaging of these patients nevertheless a possibility.

By using the harmonic frequencies to eliminate noise and clutter, an image with an overall improved contrast resolution and clarity is produced.



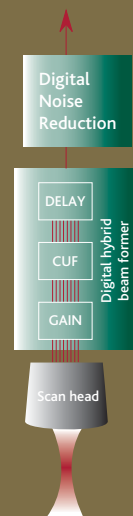


- The highest resolution in its class.
- Multitude of uses with an imaging frequency range of 1 to 15 MHz.
- Unprecedented CFM and Power Doppler sensitivity. CW is supported on imaging probes\*.
- True Echo Harmonics (TEH) feature, which is particularly useful for difficult-to-scan patients.
- Broad range of task-designed linear, convex and unique 360° rotating transducers for many special applications including ultrasound-guided biopsies.
- Full 15" flicker-free monitor provides optimum viewing.
- Ergonomic and compact design with height-adjustable keyboard and monitor and logically grouped controls.
- Fully integrated 3-D Package (option).
- Adjust and control ultrasound remotely with the PCU Palm Control Unit, e.g. within the sterile field (option).
- Convenient storage space on the unit itself, including a compartment under the keyboard for accessories.
- Simultaneous split screen feature lets you display two active ultrasound images on the monitor at the same time.
- Revolutionary PiP (Picture in Picture) video integration feature lets you view ultrasound images and external video signals on the screen at the same time (option).
- Upgradability ensures long-term investment security.
- Archive over a DICOM compatible network (option).



### Superb imaging

The Hawk is the latest in a new generation of high-definition, very high frequency ultrasound scanning systems from B-K Medical. The essence of the superb image quality lies with a patented digital hybrid beam former, which enables the Hawk to reach frequencies of up to 15 MHz. With its proven Continuous Uniform Focus (CUF) feature, the Hawk provides excellent image quality and secures optimal, uniform resolution throughout the entire image. The intelligent Digital Noise Suppression system continuously measures the signal noise inside the system and subtracts this from the image signal, resulting in clear images with low noise and excellent penetration.



\* not cleared for use in USA

# Application-specific features meet your specific challenges

By bringing over 25 years of expertise to the development of specialized ultrasound solutions, B-K Medical has firmly established itself as the # 1 ultrasound company in surgery and urology applications. We provide products with unique features, tailor-made to help you to do your work more effectively, easily and accurately.



## Urology

### Extraordinary prostate scanning

- 7 different transrectal transducers.
- Features ranging from endfire, multiplane, simultaneous biplane, CFM Doppler, to transperineal and transrectal biopsy.
- Unique urology calculation packages.
- Transitional zone index calculation.

### Simultaneous biplane

Transducer Type 8808 offers simultaneous transverse and sagittal views of the prostate – view both images at once on a split screen display. Thanks to the fine-pitch, high-density design, both images are always the same high quality.

### Prostate imaging and True Echo Harmonics

Harmonic imaging has proven its effectiveness in abdominal imaging of difficult-to-scan patients. We have also developed a means of taking full advantage of the harmonic spectrum with prostate

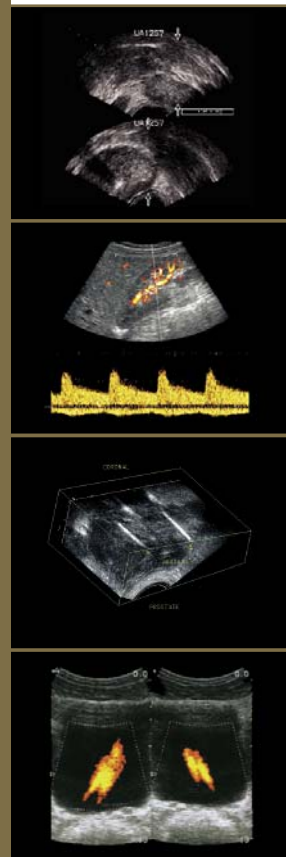
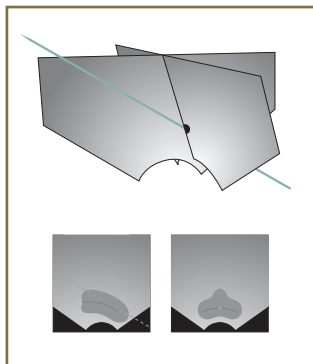
imaging. The compensation for the acoustic noise generated from tissue and reverberations from pelvic structures results in the enhancement of any hypoechoic structures, combined with a suppression of hyperechoic phenomena like shadowing.

### Brachytherapy

B-K Medical equipment is compatible with all brachytherapy products on the market. Features include user-programmable seed matrices and a new and unique feature to facilitate implantation, which allows you to mark the position of the pubic arch on the screen while doing the volume study.

### 3-D and urology

Perform fast and easy volume studies, reduce exam time and increase patient comfort. And, invaluable for diagnostics: the coronal view of the prostate.





## Surgery: does your ultrasound actually function as part of the OR suite?

### Providing the whole picture

The unique and dedicated Surgical Hawk package gives you instant connection to the surgical tower, integrating ultrasound into the OR as never before. The main advantage is the revolutionary video integration feature, Picture in Picture (PiP). It can have a substantial impact on an examination and diagnosis, because you can see two image modalities on the same screen at the same time. Ultrasound images can be viewed simultaneously with camera, microscope and endoscope images. You can swap views, position the PiP window in any screen corner and change screen sizes for optimal viewing.

### PCU

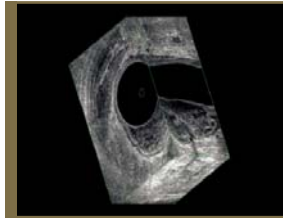
Our unique PCU palm control unit makes it easy for you to get a grip on ultrasound in the OR. This small, fully-sterilizable device permits you to control and manipulate the major scanner functions remotely from within the sterile field. You don't have to rely on additional personnel to do it for you.

### 3-D and surgery

The Hawk with the fully integrated 3-D package, 1850 transducer (true 360°) and the colorectal pullback mover comprise the best endocavity solution available. The 3-D views offer an unsurpassed source of information to use in evaluating and changing the surgical management of a patient. Because the examinations can be performed per- and postoperatively by a surgeon, they are less delicate, time-consuming and expensive than MR scanning.

### The right tools

B-K Medical has a range of transducers as specialized as surgery itself, each of which is compatible with a variety of modern sterilization techniques. The 4-way laparoscopic transducer with biopsy is a B-K exclusive.



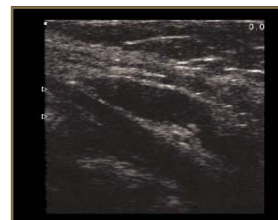
*You only have to look at one screen to get the information you need with the PiP feature*

# Versatility opens up a world of possibilities

The Hawk 2102 EXL is synonymous with high image quality and versatility, making it useful for a variety of applications. With features like intuitive interface and user-defined settings, the Hawk optimizes your imaging conditions as well as the use of your time. The sleek, compact and mobile design provides ultrasound where you need it, precisely when you need it. And, it is equipped with the right tools: a comprehensive collection of transducers with corresponding puncture and biopsy equipment.

## Radiology and General Ultrasound

- Excellent focalization in the far field ensures high-quality imaging for general abdominal applications.
- Extremely high frequencies provide superior near field focalization, making the scanner ideal for small part, breast, musculoskeletal and thyroid examinations.
- Optimal Doppler sensitivity at all depths.
- True Echo Harmonics (TEH) for difficult-to-scan patients.
- Widest range of transducers available.



*Simple Baker's cyst.*

## Obstetrics and Gynecology

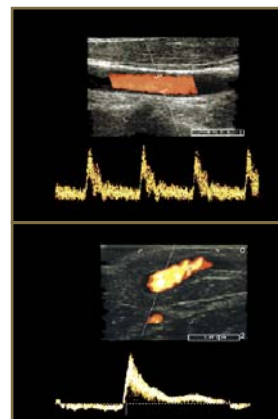
- Advanced calculation packages, offering a wide variety of internationally recognized measurement and calculation methods.
- Complete user customization of programs and tables
- Highly specialized ultrasound guidance for invasive procedures like cyst drainage or IVF treatments\*.



*Color flow image of a normal umbilical cord.*

## Vascular / Cardiac

- Large bandwidths retain the best resolution while at the same time, provide excellent Doppler performance at great depths in vascular examinations.
- Comprehensive packages with a range of user-defined options
- Velocity measurement and ratio calculation
- Manual and automatic measurements
- CW Doppler support on imaging transducers



*Normal CCA waveform.*

*Flow in a superficial varicose vein when squeezing the calf.*





By involving leading medical professionals like you in every phase of our product research, development and testing, we are able to provide equipment tailored to your needs. You cannot find a more versatile and practical scanner.



### **Interventional ultrasound**

A tissue biopsy is often an important part of the diagnosis. And, it is B-K Medical's strong commitment to and cooperation with leading specialists that have, with guarantee, resulted in the most effective tools available on the market today. For the entire spectrum of ultrasound-guided puncture and biopsy procedures, from cyst drainage, and breast biopsy to radioactive seed implantation, the Hawk and its broad range of transducers and accessories meet all of your ultrasound needs.

### **The 3-D system with real diagnostic value**

Compared with conventional scanning, 3-D gives access to a new, wider range of viewing planes. Lesions which may have gone undetected become clearly visible and spatial relationships much more tangible.

Unlike most other 3-D solutions on the market today, B-K Medical's package can offer you much more than just 'a pretty picture.' Our system actually permits quantitative examinations, with measurement capabilities that are second to none. Fast and precise volume studies have never been easier. Additionally, the 3-D images used for diagnosis are completely reproducible. The images can be reviewed time after time or shared among colleagues.

### **Mobility**

The compact, maneuverable design gives you the freedom to move the system from room to room - providing ultrasound where you need it, when you need it. With exclusive features like OR connectivity, the Hawk brings excellent imaging to places you maybe never thought possible.

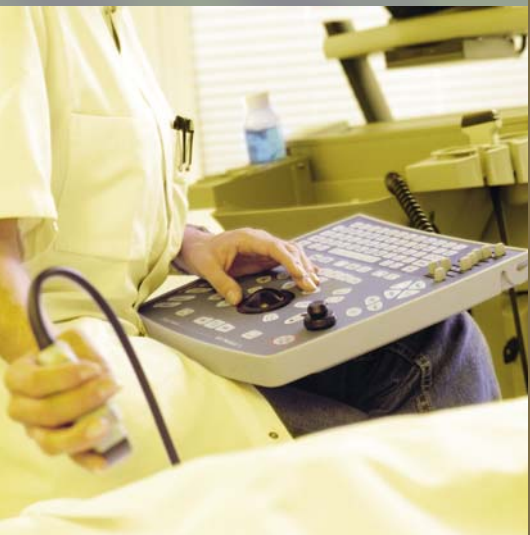
### **Flexibility**

The Hawk 2102 EXL offers many levels of flexibility:

- user-definable features
- choice from a wide range of transducers
- extensive puncture and biopsy capabilities
- compatibility with modern sterilization techniques
- possibility for wall-mounting the system

### **Ergonomics**

Personnel missing work because of repetitive stress injuries can be costly. The Hawk is specifically designed for ergonomically correct working positions, because it is adjustable in every way. Both the keyboard and monitor can be raised or lowered as necessary; the keyboard can even be detached. The transducers are also lightweight and ergonomically shaped, and feature unique handle-based controls.



*A range of unique features  
and qualities puts the  
Hawk 2102 EXL  
in a class of its own.*