



This Month:

- **Channels: Why do we need more...and more?**
- **Biosound unveils new high frequency transducer.**
- **Your most valuable investment**

We hope to see you at the 2007 ACP spring symposium in Palm Springs April 20-21



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Channels: The Key to performance

Since the arrival of the first modern ultrasound systems, one of the technological goals of ultrasound manufactures has been to steadily increase the number of channels in their premier systems while battling to keep them affordable. But, the question we're always asked is "why do we need more channels?" The answer is simple really and at the risk of oversimplifying, each digital channel is a processor that performs two basic functions, beam forming and signal processing. The former is a fairly common term so we'll mention that briefly first. The shape and characteristics of the ultrasound beam i.e...power, direction, frame rate, line density etc., are all functions of the "send" or "beam former" part of the cycle. The "signal processing" or "receive" cycle however, is perhaps the most important and least understood step to the ultrasound image we ultimately see. Each channel provides an "oversampling" of the returning signal. An oversampling deciphers the returning echo signal for actual information versus noise and other known artifacts. Numerous oversamplings can provide a higher signal to noise ratio i.e. a cleaner, more accurate and higher resolution image. Entry level ultrasound systems typically offer lower channel counts of 8—128 channels while higher performance sys-

tems are in the range of 256 to 1024 (or more). High resolution ultrasound systems are extremely dependant on higher channel counts, especially when used in duplex or triplex (B-mode, Color Flow, Pulsed Doppler) modes. For every mode the system is engaged, the channel count is evenly distributed thus sacrificing slightly (or significantly, in lower channel counts) the quality of each mode. To be sure, it is recommended to start with a system of at least 256 "true" or individual channels by where the oversampling process occurs simultaneously for accuracy (vital for any dynamic study). Some systems will attempt to improve image quality (not resolution) through a process called "folding" by where a system with limited channels will oversample the signal and then serially repeat 2, 4, 6 or even 8 times and then average the information. This can create a more aesthetically pleasing but very likely, inaccurate image with a significant loss of Doppler sensitivity, frame rate and sharpness. The MyLab™ systems offer revolutionary advancements in ultrasound technology. Featuring 192 Element, High-Density transducers and up to 1024 "true" channels of digital processing, the MyLab™ systems deliver unparalleled resolution and Doppler sensitivity, while still costing less than.. Continued.... Pg 2



Biosound unveils new transducer

Biosound announces the addition of the new LA435 Hi-Definition linear transducer to its already impressive lineup. Designed specifically for near-field ultrasound guided procedures, the new LA435 offers up to 18 MHz. imaging with an ideally matched, short focal point for ultra-crisp resolution and extremely precise needle placement. The LA435 is the perfect addition to the MyLab™ series for Phlebology to assure total coverage from deep studies to treatment in the subcutaneous layers. Some Phlebologist have been turning to a very expensive but disappointing vein illumination device for subcutaneous veins however, the new LA435 offers a more accurate, versatile and affordable alternative.

For more information on the new MyLab™ series ultrasound systems and the LA435, please contact your Biosound representative, Mark Mollenkopf, RDMS, RVT at 918-770-2627 or 800-428-4374 ext. 6409.



Your most valuable investment

Whether you have been a long practicing Phlebologist or just entering your practice, your choice of diagnostics may well be one of your biggest investments in cost as well as confidence. Your ultrasound equipment can sometimes be the determining factor in choosing your course of treatment as well as carrying it out. As a professional, you need the confidence of your findings to determine the best course of action for every patient. We get dozens of calls from physicians who don't feel confident with their present equipment. Ironically, most were quite pleased with their systems initially, but as they became more experienced, discovered their equipment had been inadequate. Their overall confidence in determining venous insufficiency as well as ultrasound guided procedures had been severely compromised.

At Biosound, we help our clients with many other cost savings strategies so their investment in superior diagnostics, doesn't have to suffer. Remember, at the end of the week, your level of confidence in your ability to diagnose as well as treat, can determine your success. A sound image for a sound mind.

Listen to what professionals are saying..

"I have been performing lower extremity venous ultrasound for nearly four years now and have used a variety of ultrasound machines. Since purchasing the MyLab™ 25, I have been amazed at the quality of imaging which it provides. Its penetration is unmatched and its easy to use features make scanning in color flow and Doppler a pleasure. I don't believe there is anything within \$30,000 more than its price which can equal its abilities."

- Bruce B. Hill, MD, FACS

Channels...cont.

its entry level competitors. Rather than assessing a premium for our high demand, cutting edge technologies, we instead offer it at an exceptional value. In fact, Biosound offers more performance per dollar than any other manufacturer. From the latest generation digital beam formers to advanced Hi-definition transducers, the MyLab™ Series ultrasound systems deliver true expert level performance from compact systems weighing under 20 lbs.

Discover what other experienced Phlebologists have learned about the MyLab™ imaging systems. Let your first choice be your best choice. Choose from the MyLab™ 15, MyLab™ 25, MyLab™ 50 or the exciting new MyLab™ 70 for your venous ultrasound needs.

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