

Matrix Arrays are a leading-edge transducer technology that enable ultrafast acquisition of volumetric data.

The M3dV matrix array transducer utilizes 1024 elements in a 32x32 grid. Featuring a new monolithic design over previous versions of this transducer, users will appreciate uniformity of element position across the array, enhancing image reconstruction and offering improved image quality while reducing a calibration requirement. The M3dV is compatible with the Vantage *NXT* and Vantage 256 Research Ultrasound Systems.

Verasonics provides example scripts for multiplexed acquisition sequences, as well as scripts for direct acquisition for one-to-one channel-to-element connections.



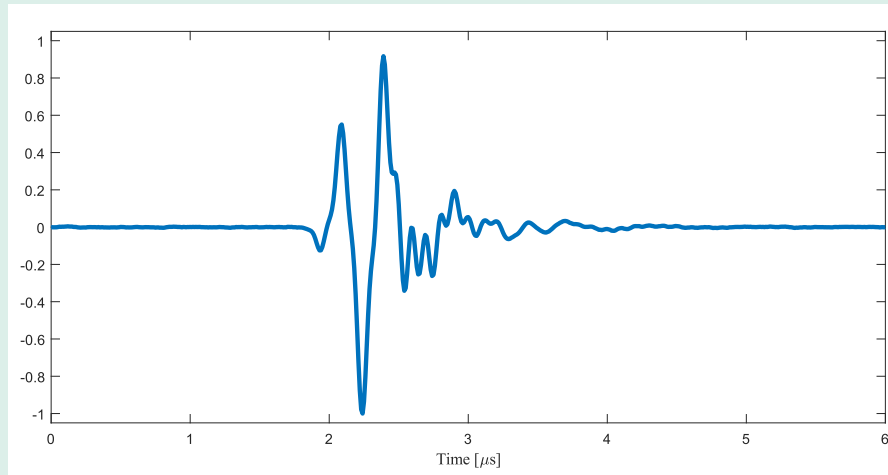
M3dV Matrix Array Transducer Specifications

Center Frequency	3.0 MHz
Bandwidth (-6dB)	> 50%
Elements	1024 (32x32)
Pitch	0.3 mm
Elevation Aperture	9.6 x 9.6 mm
Cable Length	Main cable = 1 m; sub cables = 1 m
UTA Compatibility	UTA 1024-MUX or UTA 256 Direct

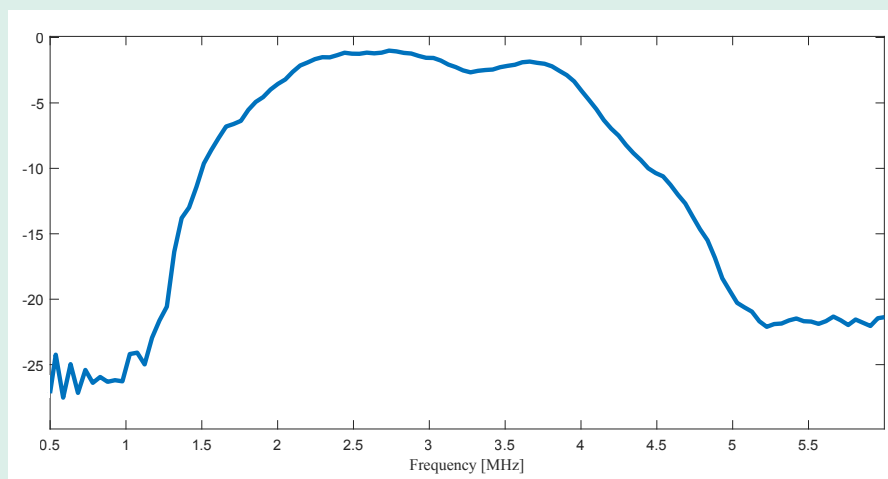
Performance specifications and graphics courtesy of:

vermon

Average 2-Way Impulse Response



Average 2-Way Frequency Response



MUX Adapters, Matrix Arrays, Vantage NXT Systems

Verasonics' UTA 1024-MUX allows a single 256 channel Vantage NXT system to drive a matrix array transducer with up to 1024 elements using 4:1 multiplexing.

Up to 256 channels of a Vantage NXT system can be connected to different subsets of matrix array elements on transmit and receive to obtain synthetic aperture ultrasound data. The data can be processed by the Vantage NXT system software to yield volume image reconstructions.

MUX switch topology allows for switching apertures between transmit and receive and for connecting each channel with up to four elements in parallel, which permits novel types of transmissions using larger apertures (e.g. plane wave).



Vantage NXT with
UTA 1024-MUX and
Matrix Array Transducer

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