

## MULTI ELEMENTS PHASED ARRAY SYTEM

# US-ARRAY

V32.64



*Our latest multi-channel ultrasound device was designed to give maximum flexibility for the user to develop and test new beamforming techniques with simplicity. It can provide access to raw data from each channel by USB3 link to facilitate its integration in different applications.*

*Receivers and pulsers of each channel are completely independent.*

*Pulsers can generate different 1 bit arbitrary waveforms with voltage levels of +/- 50 Volts. A low noise preamplifier combined to a VGA gives a gain range between 0 and 80 dB. A 10 bits analog/digital converter with a sampling frequency of 80 MHz is used to digitize ultrasound signals.*

*This version is a 32 / 64 channels, 32 independent parallel channel and a 32 -> 64 channels multiplexer to drive 64 elements probes.*

*A GUI software package is delivered with the unit. It includes: Phased Array Focusing, TFM (Total focusing method) and single elements control.*

*DLL for Matlab, Labview and windows are included. Three Labview OPEN sources applications are delivered with the system.*

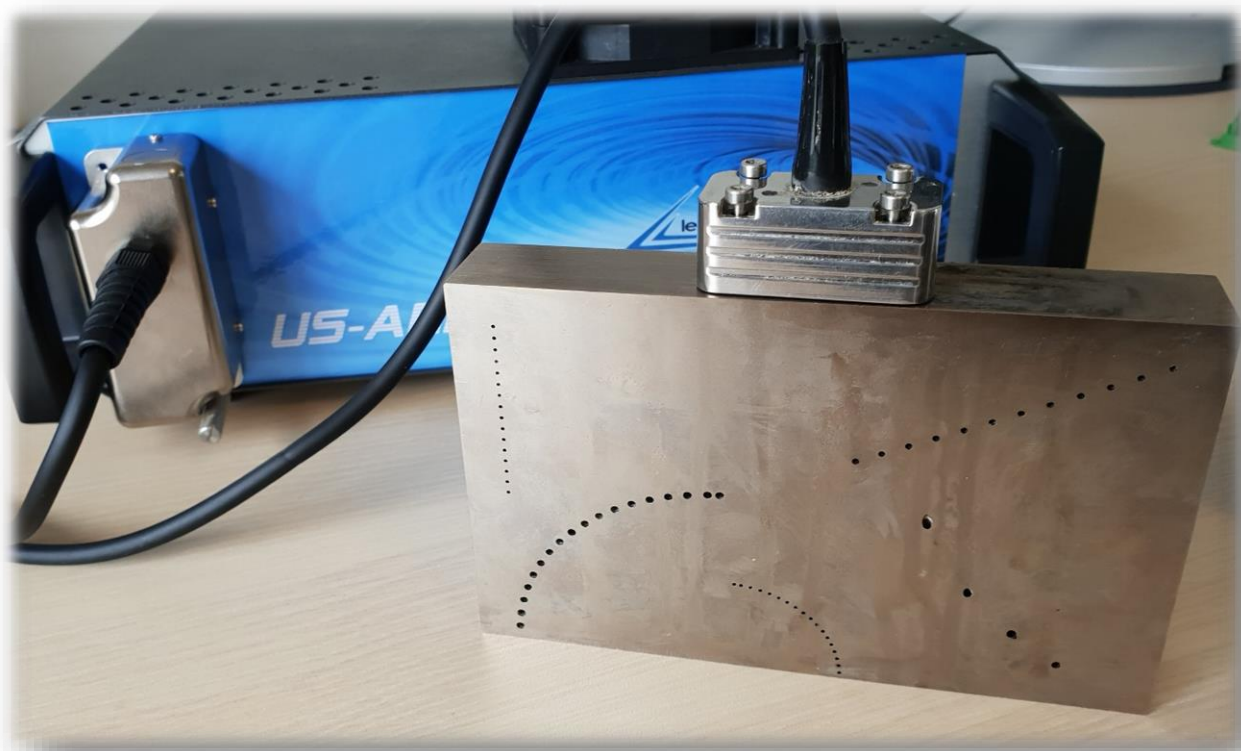
*An Excel / Visual Basic application is delivered for single element and focused b-scan presentation.*

# *TECHNICAL SPECIFICATIONS*

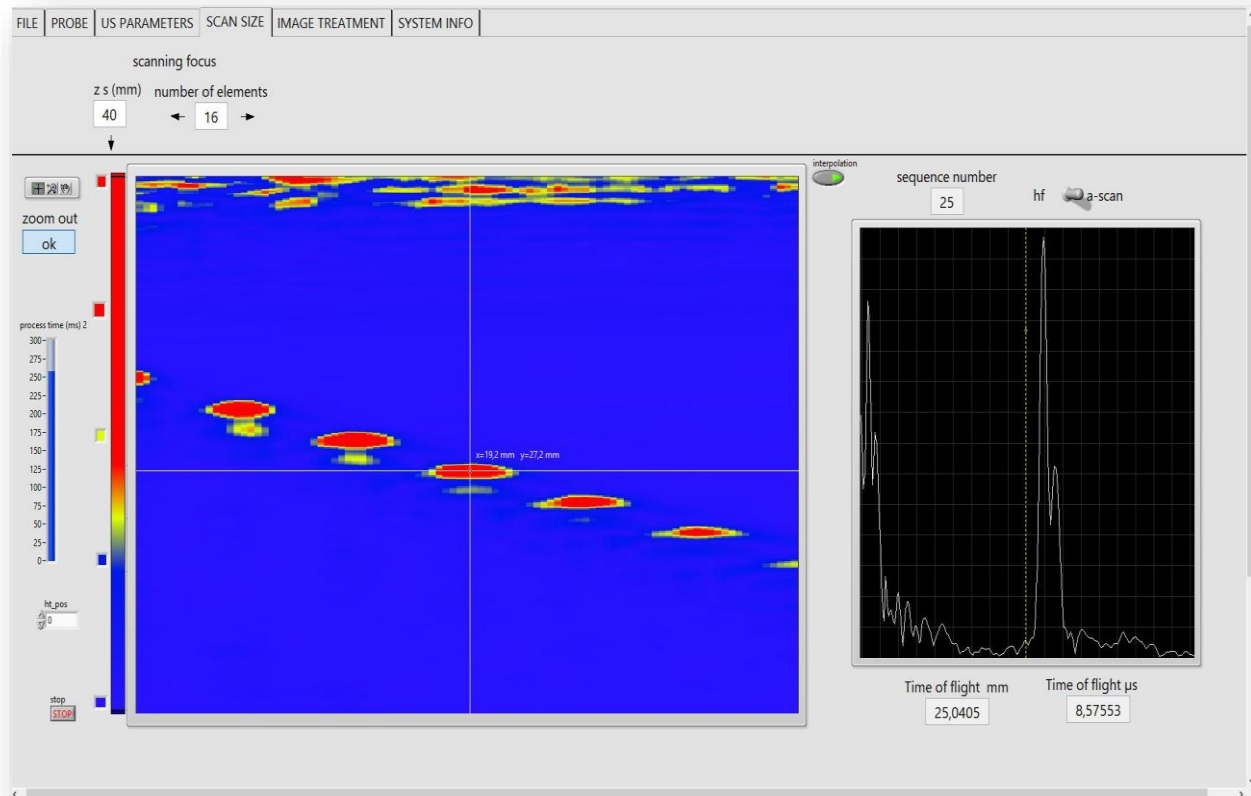
<b>Channels</b>	<b>Architecture</b>	32 / 64 channels
	<b>Definition</b>	32 independent parallel channel and a 32 >64 channels multiplexer to drive 64 elements probes
<b>Transmission</b>	<b>Voltage level</b>	Fixed +/-50V (100 Vcc)
	<b>Frequency range</b>	100kHz to 15MHz
	<b>Step</b>	25 nS
	<b>Type of pulse</b>	1 bit arbitrary waveforms (programmable)
	<b>Rise time</b>	12 nS (100 V step)
<b>Receivers</b>	<b>Bandwidth</b>	1 to 15MHz (modification possible to go from 0.1 to 15MHz)
	<b>Adjustable gain on each channel</b>	0 to 80dB
	<b>Step</b>	0.1dB
	<b>Min input signal (possible to measure)</b>	300 $\mu$ V
	<b>SNR</b>	Not given
	<b>Max input signal</b>	600 mV
	<b>Cross-talk between two channels</b>	80 dB at 1 MHz
	<b>Sampling Frequency</b>	10 to 80MHz
	<b>Step</b>	4 possible Sampling Freq --> 10, 20, 40 or 80MHz
	<b>Resolution</b>	10 bits
	<b>Input impedance</b>	50 Ohm
	<b>Beamforming for transmission/reception</b>	0 to 800us
	<b>Step</b>	12.5ns
	<b>Memory depth</b>	4000 Samples per channel
<b>I-O</b>	<b>Connectors for power supply</b>	Standard 230 V AC with power switch
	<b>Connectors for computer interface</b>	USB3 connection to PC
	<b>Connectors for sensor inputs</b>	Ipex Minidock 160 Pins
<b>Equipment Dimensions</b>	<b>Length</b>	250 mm
	<b>Width</b>	320 mm
	<b>Weight</b>	1 Kg
<b>Software</b>	DLL for Matlab, Labview and windows are included. Three Labview OPEN sources applications are delivered with the system.	

# ***PICTURES***

*P.A Calibration bloc*



## Standard imaging B-SCAN



## Total Focusing method imaging

