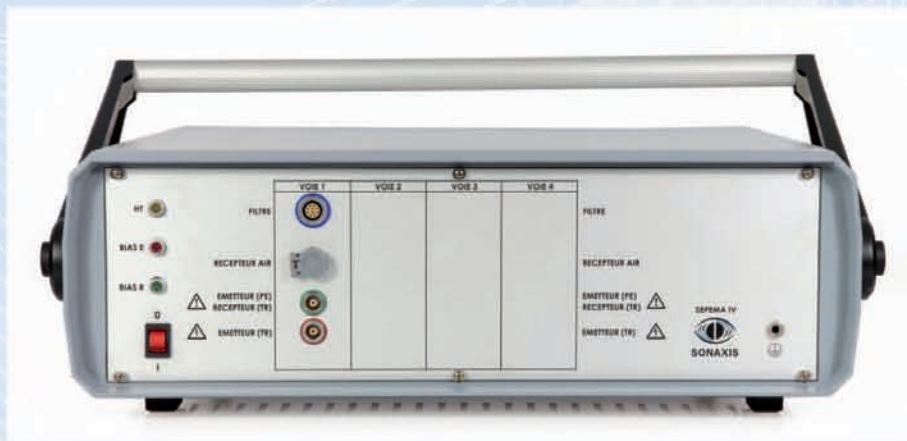


The Sepema IV ultrasound system

For air-coupled ultrasound probes



Sepema IV air-coupled generator

- The Sepema IV system by Sonaxis is the result of a 3 years development in the framework of the Locomachs European project, and the successor of the Expert device, whose analog qualities were very appreciated in the aerospace industry.
- It represents the latest generation of ultrasound control devices and is dedicated to exciting and acquiring signals from air-coupled, piezo-electric or capacitive probes.
- Available in single channel or multichannel (up to 6 channels), it operates within a wide frequency range from 25 kHz to 20 MHz, offers a 12 bit digitalization at 200 MHz and manages 2 encoder axis in addition with numeric and analog Inputs/Outputs in the standard configuration.
- Easily transportable, equipped with a USB 2.0 interface which can migrate to USB 3.0 if needed, and with a powerful dedicated programmable logic (FPGA), this device is Windows-compatible 7 and 10 and can be upgraded to other OS.



Electrocapacitive transducers

The Sepema IV ultrasound board



Sepema IV ultrasound board

The ultrasound board of the Sepema IV system (1 board per channel) benefits from a particularly strong shielding which protects it from its environment.

Main features :

Transmitter Type : Single-pulse or tone burst Number of pulses : 1 to 256 Frequency band : Adjustable from 25 kHz to 20 MHz Pulse width resolution : 5 ns Pulse voltage : Adjustable from 0 V to -400 V Voltage resolution : 1 V Rise and Fall time : < 10 ns (under 50 Ω) Damping : Active or passive 400 Ω , or 50 Ω Load : 50 Ω Protections : Power + Temperature Others features : Anti-Aliasing filter Bias voltage tunable from 0 to 240 V for Electro-capacitive probe	Receiver Input : Straight or Pre-amplified, and Bias for Electro-capacitive Probe Bandwidth (-3dB) : 25 kHz to 20 MHz Amplifier : -10 to +100 dB Attenuation : 0, -6dB, -12dB, -18dB Gain resolution : 0.1 dB Gain accuracy : ± 0.5 dB Entrance level : 1,1 Vpp (without attenuator) Filters : Broad band 8 Band pass filters. Any combination of 7 High pass and 7 Low pass filters External filters Tunable Bias Voltage from 0V to 240V Others features :
Multiplexer Type : Dynamic multiplexing up to 50 kHz Channels : 1 up to 6 Gain : 0 to 48 dB Bandwidth : 25 kHz to 20 MHz Anti-Aliasing Filter : For 12 bits/ 200 MHz Digital Processing	Variable Gain Ultrasound board : 0 to 80 dB Multiplexing board : 0 to 40 dB Trigger level : Positive or Negative -100% to +100 % of full screen Gain slope : 50 dB/ μ s
DAC Resolution : 12 bits Maximum Frequency : 200 MHz Memory : 256 MB Interface : USB 2.0 (upgradeable to USB 3.0)	Input/Output Encoders : 1 to 2 axis (optional 1 to 6) optically isolated, 100 kHz : 32 bits per axis Digital Input : 2 optically isolated, up to 8 Digital Output : 2 optically isolated, open collector, up to 8 Analog I/O : 4 Inputs / 4 Outputs 0-10 V Synchronisation : Trig In and Trig Out Analog Output : RF signal Analog Input : External Others I/O : On request
Environnement Power supply : 220-240 V / 50-60 Hz (600W Max) Protection : Fuse 2,5 AT Cooling system : 2 fans Lighting : On/Off, High Voltage, Bias Weight : 13,2 kg	