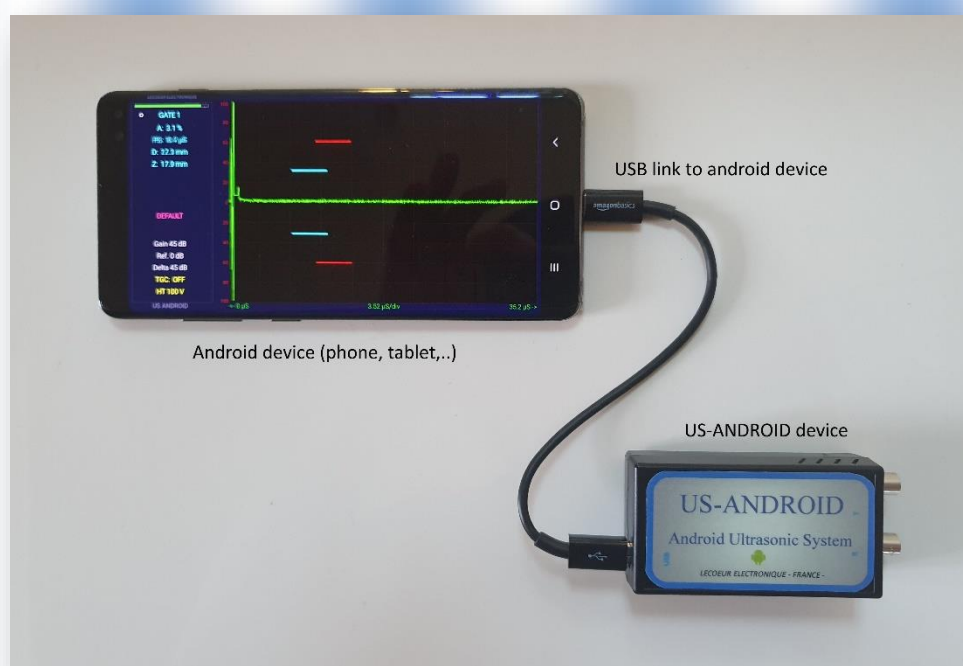




## ULTRASONIC DEVICE US-ANDROID

*On ANDROID systems*



*The US-Smart allows an ultrasonic control using the USB between the couple probe / US Android and your tablet or smartphone.*

*This device can also allows to realize various kinds of inspections such as welds, rails inspections, composite materials...*

## *General Description*

*This ultrasonic device is powered supply via USB .*

*His main quality is its small size and its 'ready to use' concept.*

*The US-ANDROID has been created to simplify the NDT controls.*

*The transmitter can generate pulses with a voltage level and a width programmed by the user. A low noise preamplifier combined to a VGA gives a gain range between 0 and 80 dB, a DAC curve is also available. A 12 bits analog digital converter with a sampling frequency of 80 MHz is used to digitize ultrasound signals.*

*The device has 2 working modes : Transmission or Reflection.*

## *Features*

*USB*

*Android System*

*Ultralow noise preamplifier : 0.74 nV /  $\sqrt{\text{Hz}}$  -6dB*

*bandwidth : 540 KHz to 18MHz*

*High voltage transmitting pulses*

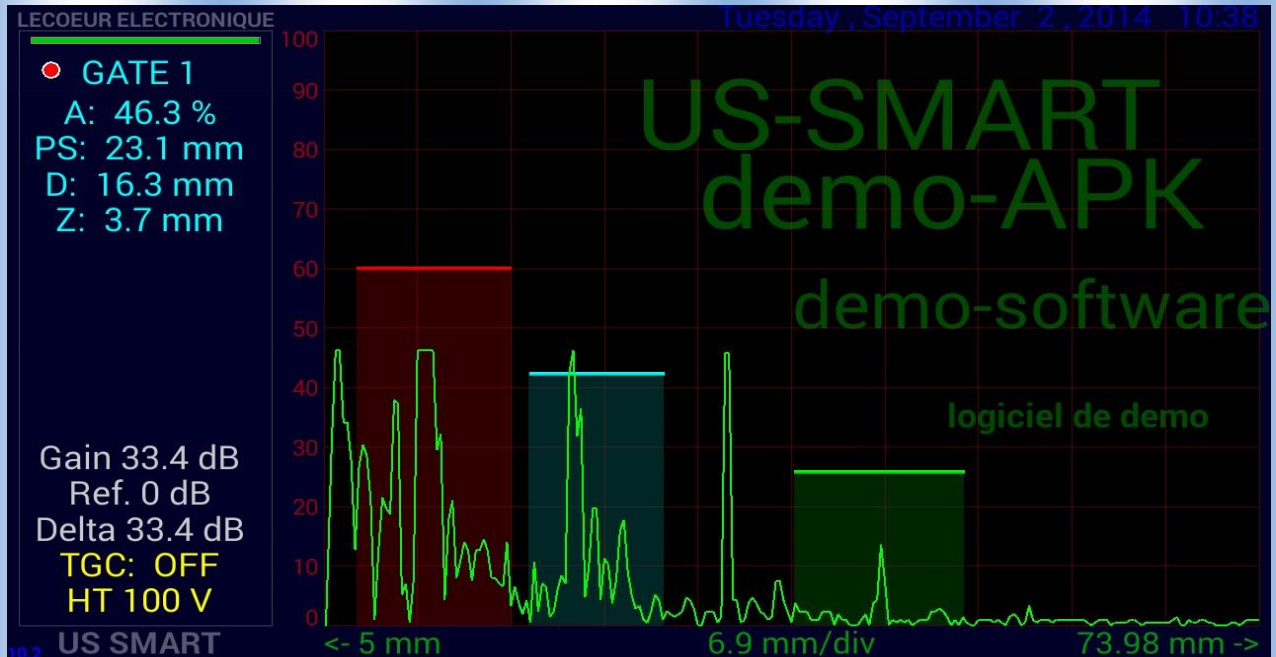
*50  $\Omega$  load drive*

*Digitizer 12 bits at 80 MSPS*

*Programmable gain : 0 to 80 dB*

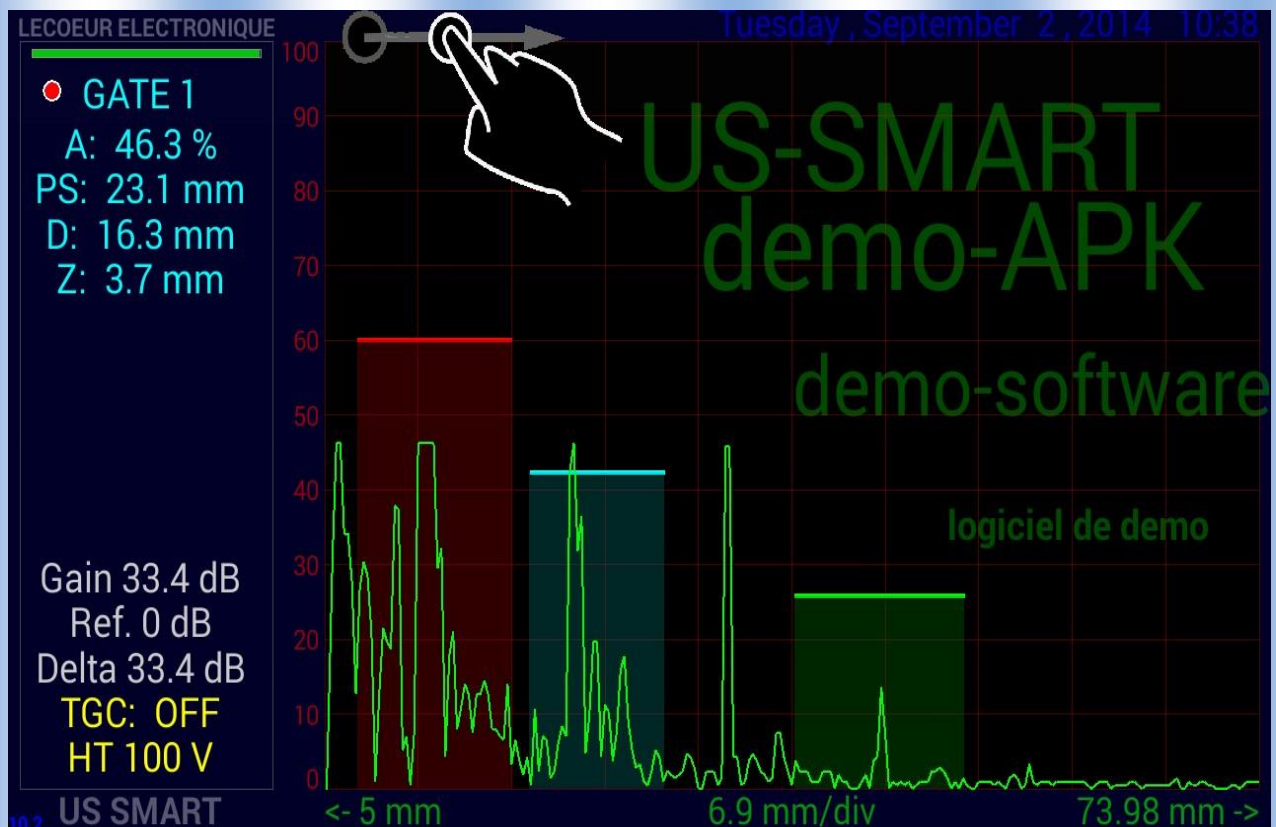
*DAC curve*

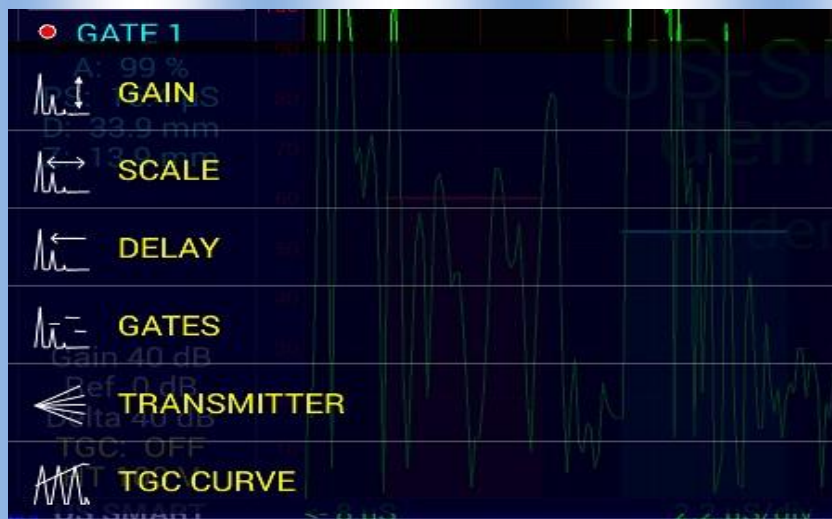
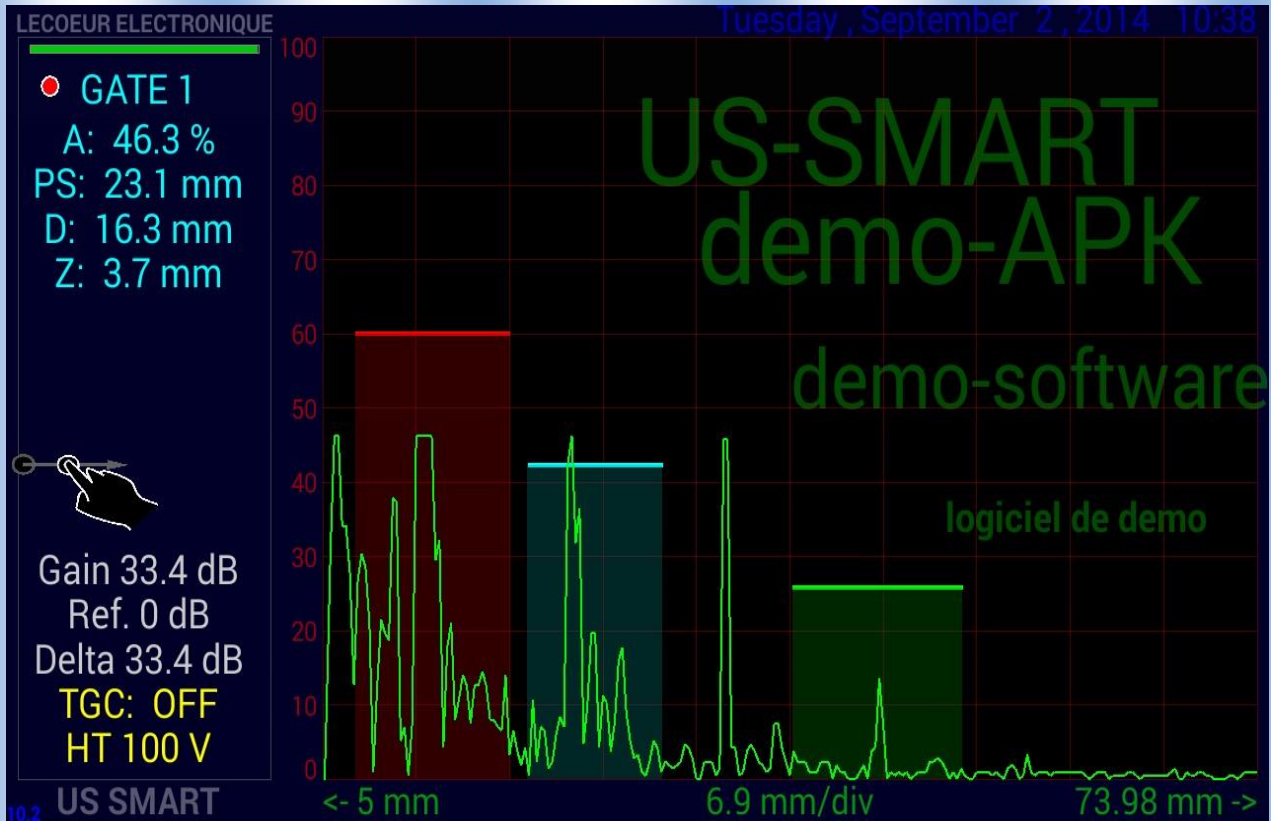
# Software



To get menu slide your finger from the left to the right

On the top of the screen or on the left-bottom part.



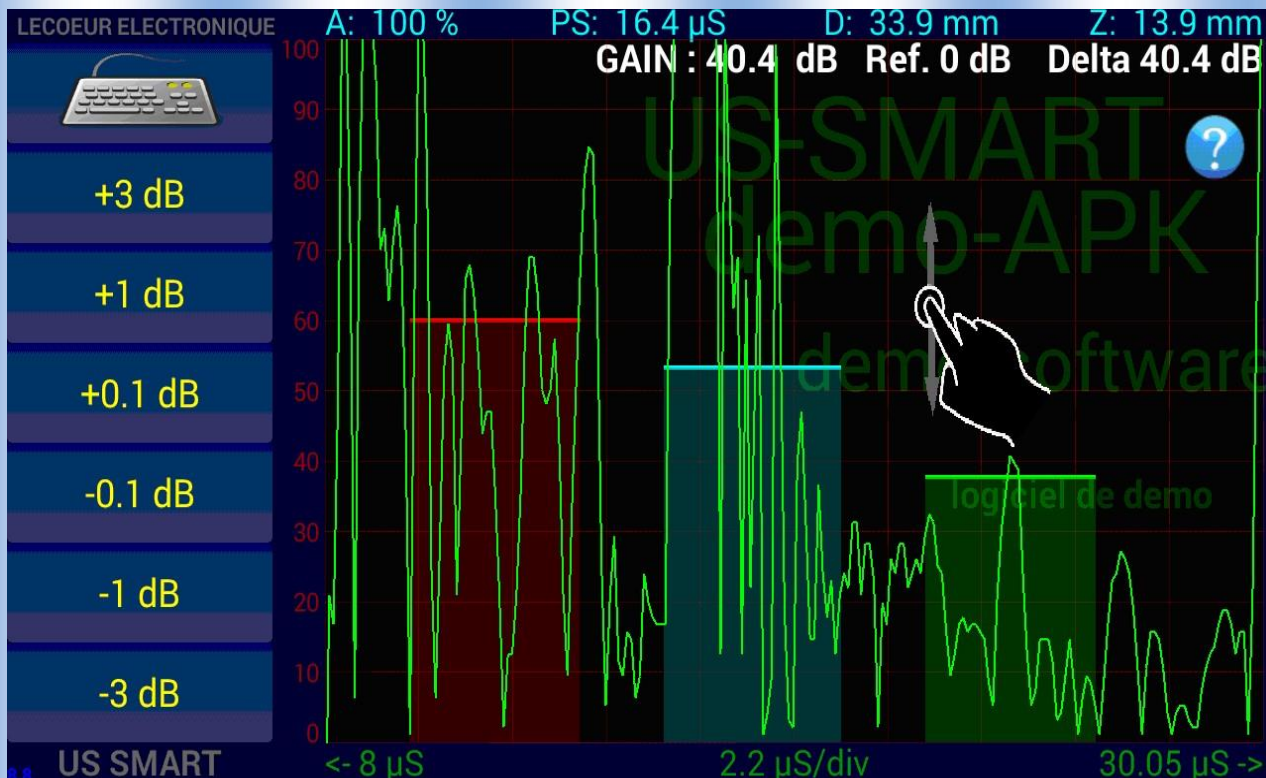


### Gain :

Control the receiver amplifier Gain

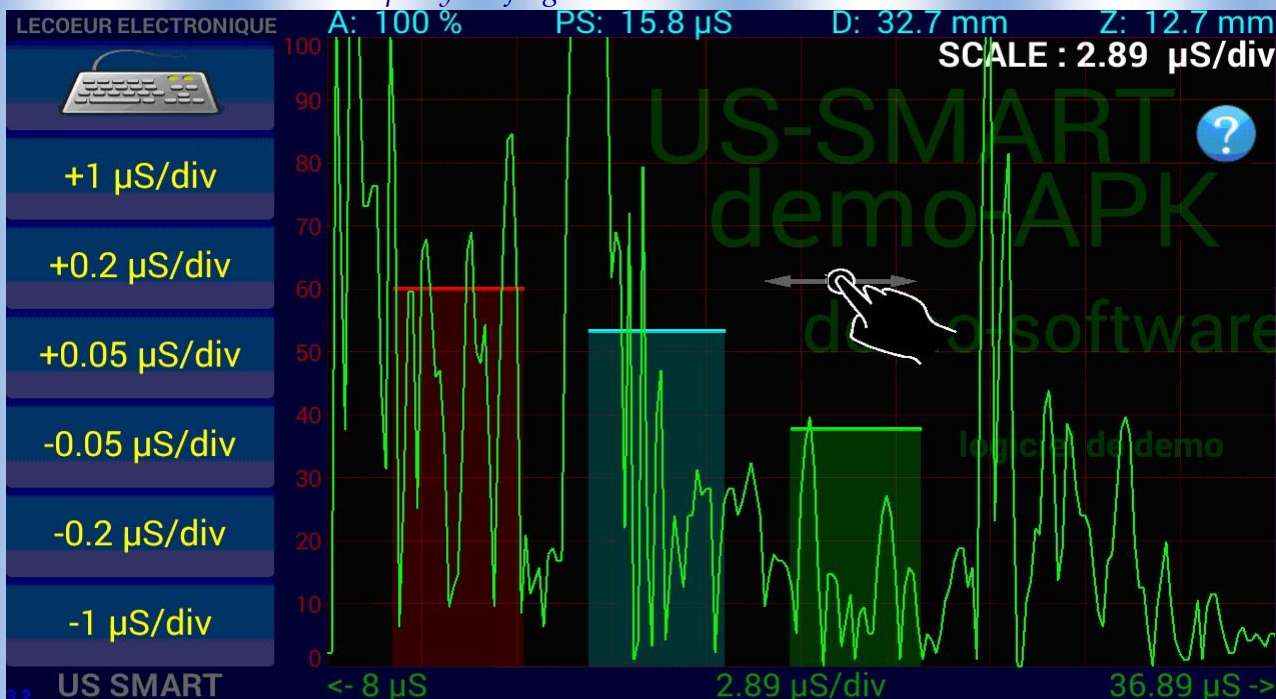


You can adjust the gain with the menu on left  
Add /take off 3 /1 /0.1 dB or give the gain  
Or put your finger on the screen and move it to the top.



### Scale :

Control the sampling time  
You can adjust the time/div with the menu on the left  
Add /take off 1 /0.2 /0.05  $\mu$ S/div  
Or put your finger on the screen and move it.



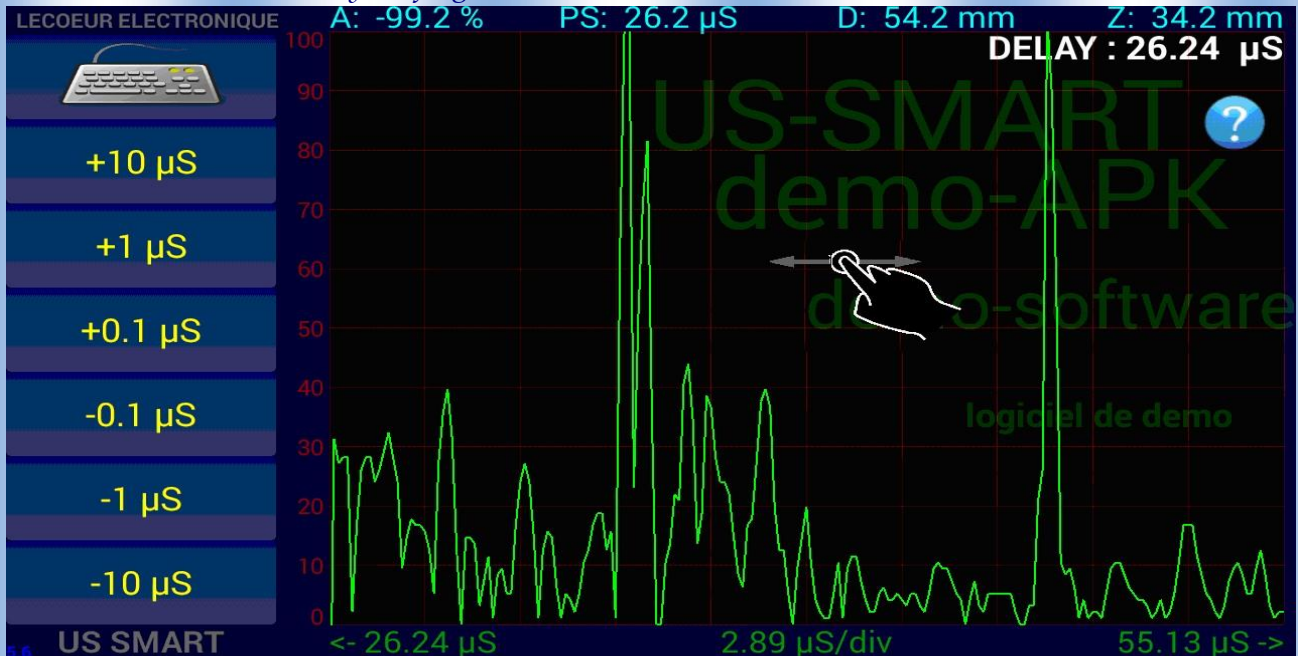
## Delay :

Control the sampling delay

You can adjust the sampling delay with the menu on left

Add /take off 10 /1 /0.1  $\mu\text{s}$  Or put

your finger on the screen and move it.



## Gates :

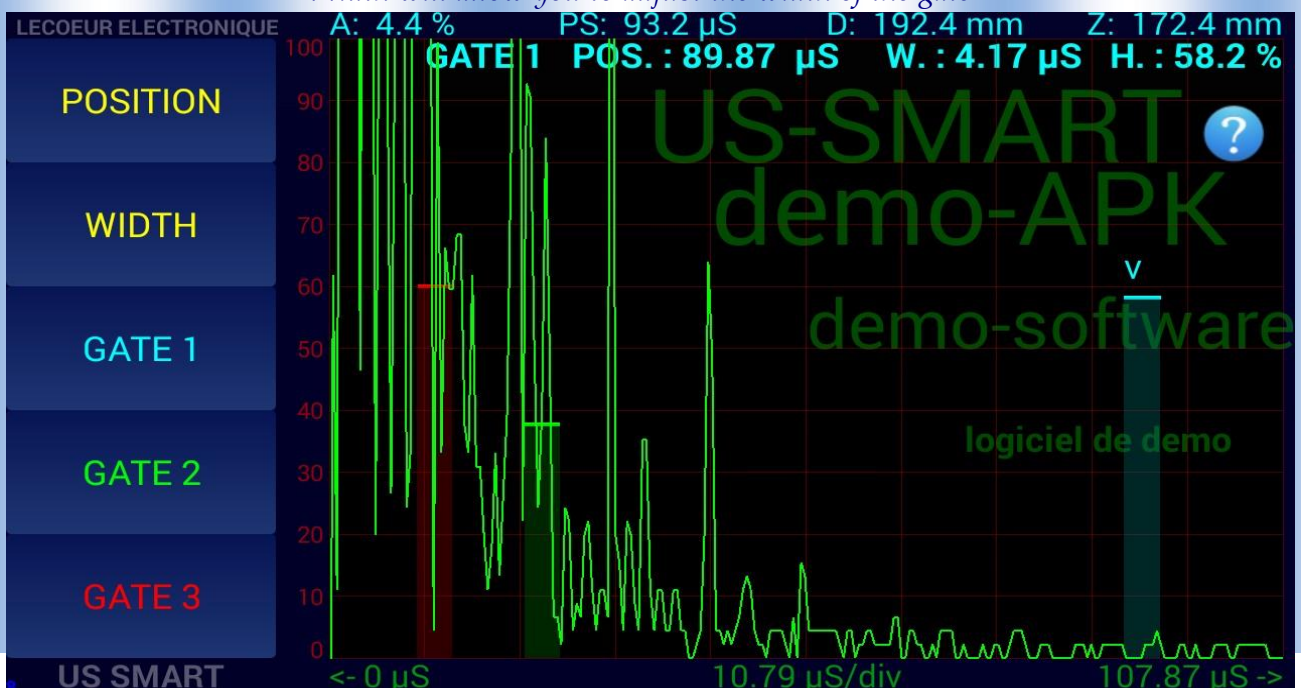
Give you access to the three gates of control to measure

- the amplitude into the gate
- the distance of the echo
- some alarme

You have access to three gate (1/2/3) that can be controle in position, width and height.

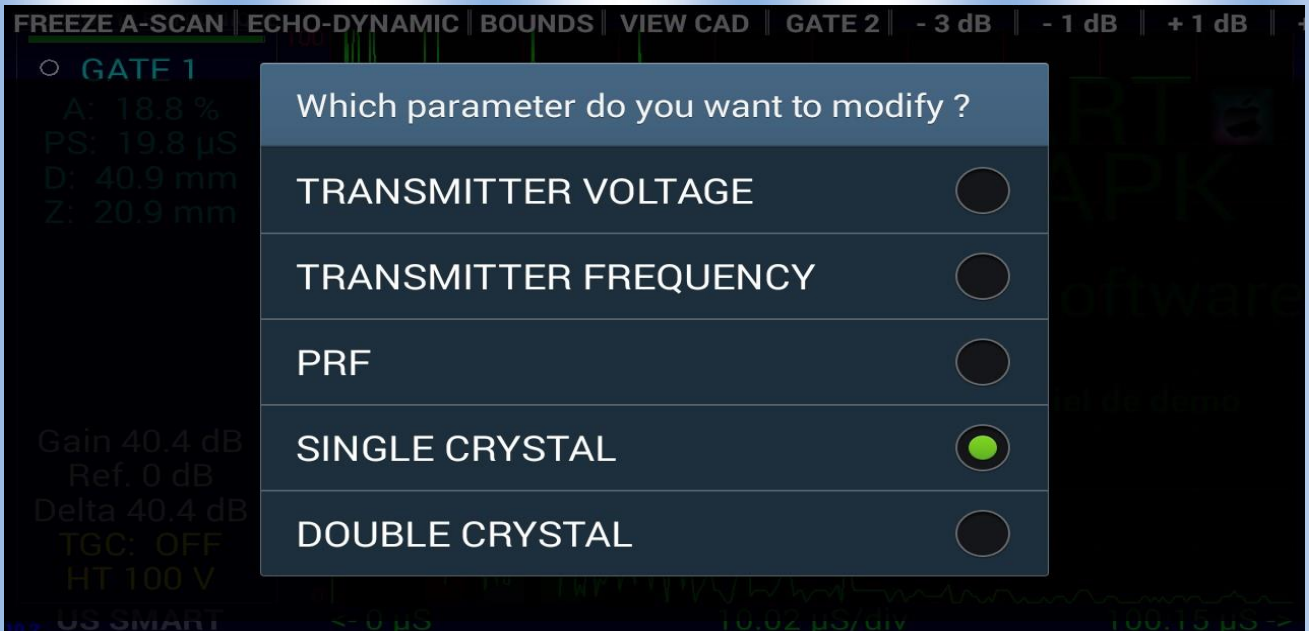
Position will allow you to place the start of the gate.

Width will allow you to adjust the width of the gate



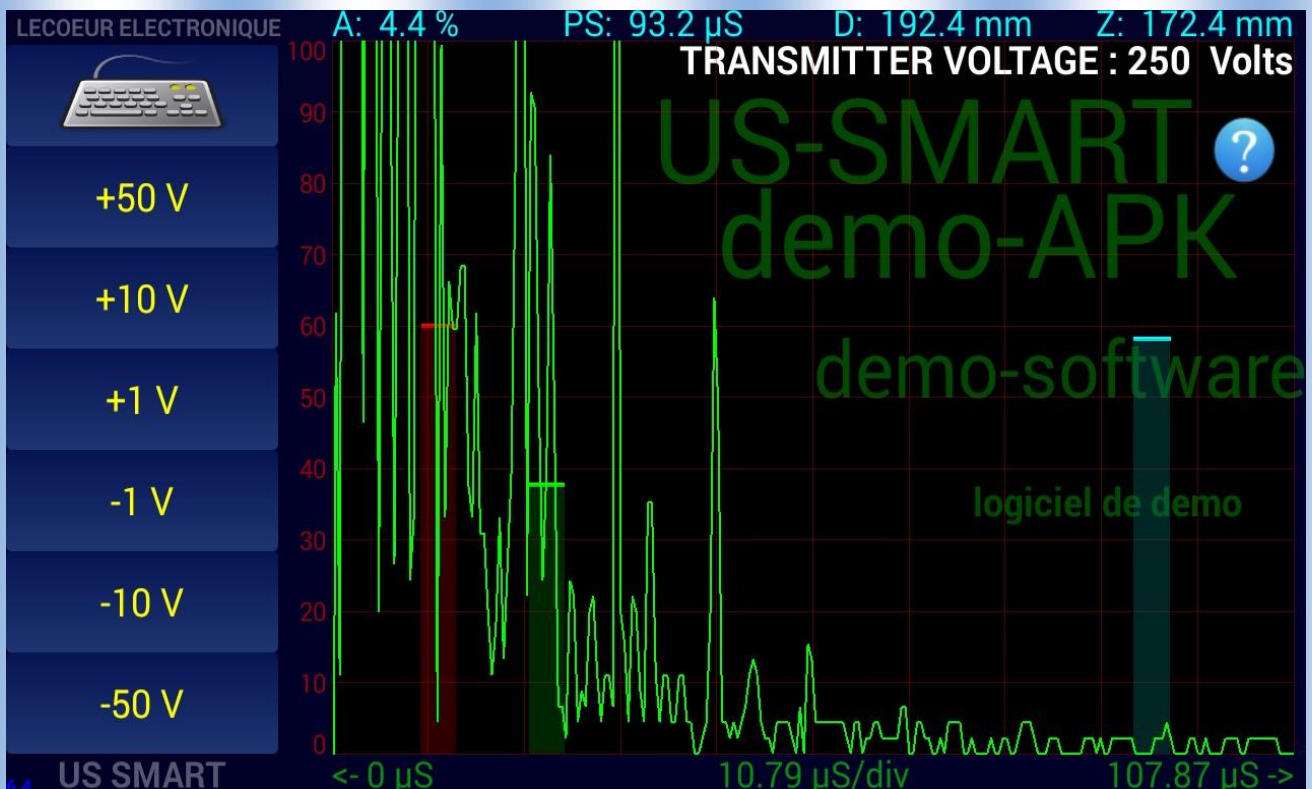
## Transmitter give an access to differant parameters :

- Voltage : amplitude of the transmitter pulse 0/-230V
- Frequency : 1 to 20 Mhz ( centrale frequency probe)
- Pusle Repetetivity Frequency ( 200Hz to 10Khz)
- Single/double crystal (depending of your application)



## Transmitter Voltage set the amplitude of the transmitter pulse

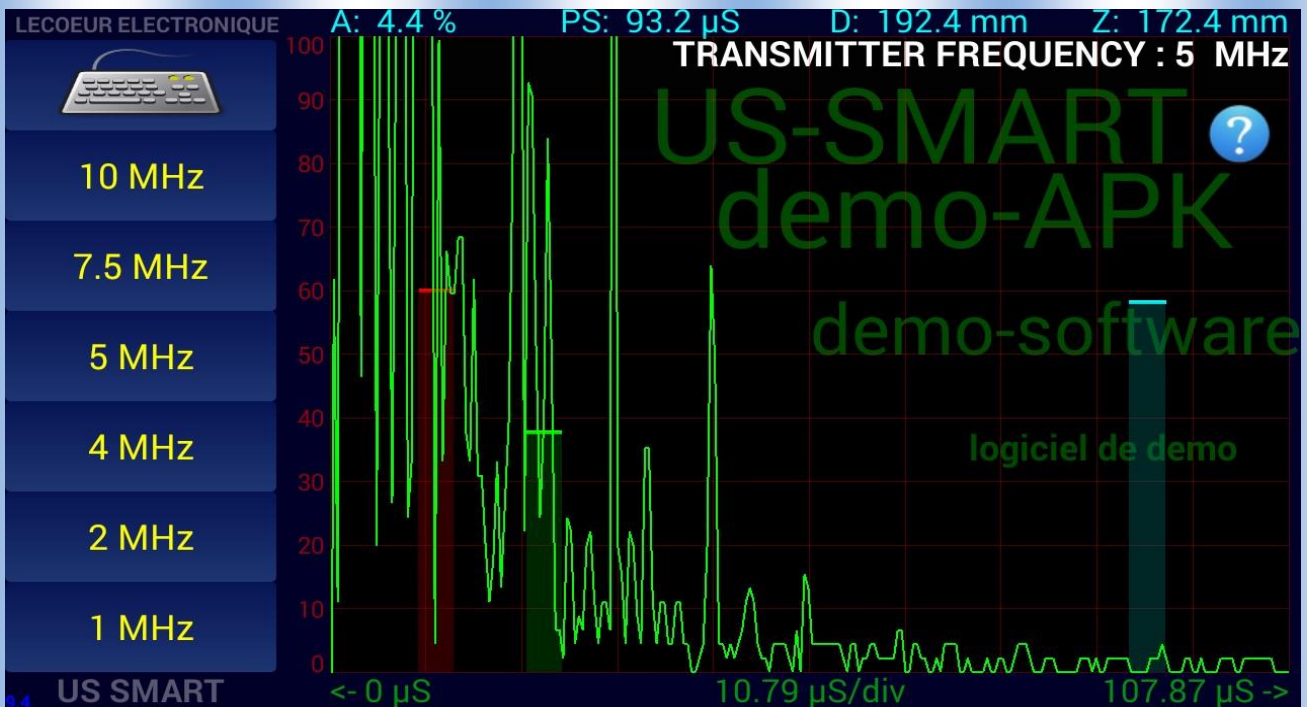
0 to -250 V





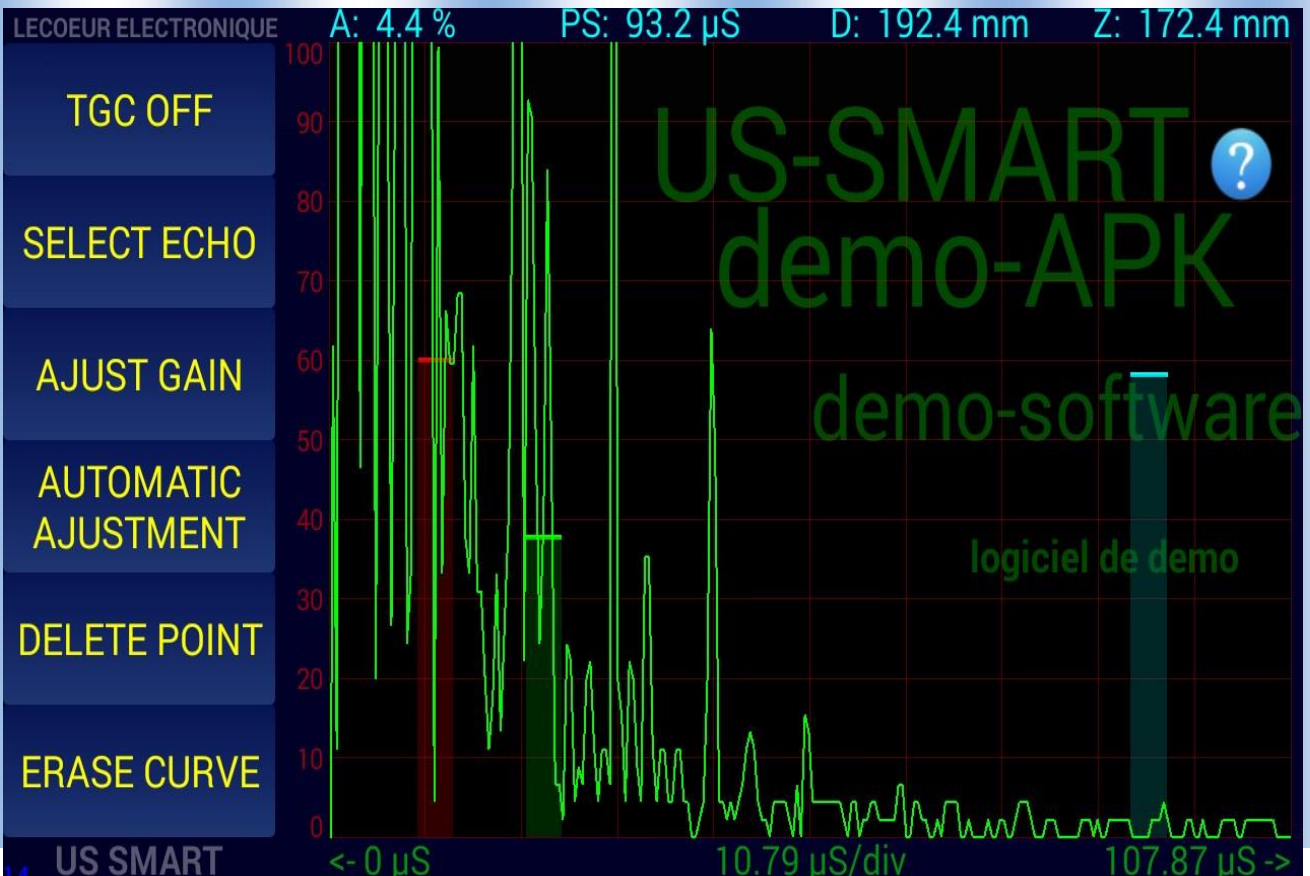
## Transmitter Frequency :

Set the width of the pulse in the centrale frequency of the transducer



## TGC curve :

Allow to change the gain during the acquisition





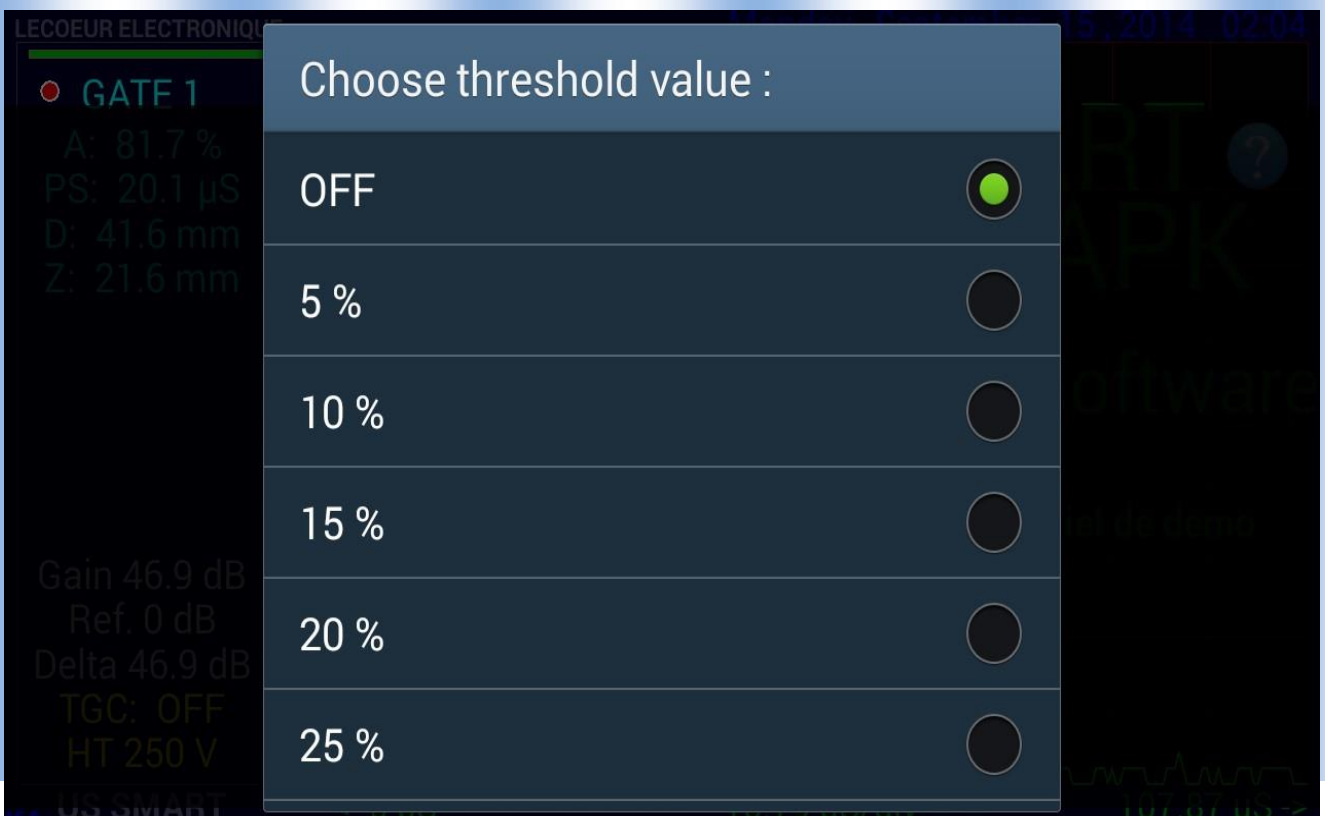
## CAD :

Display amplitude - distance curve



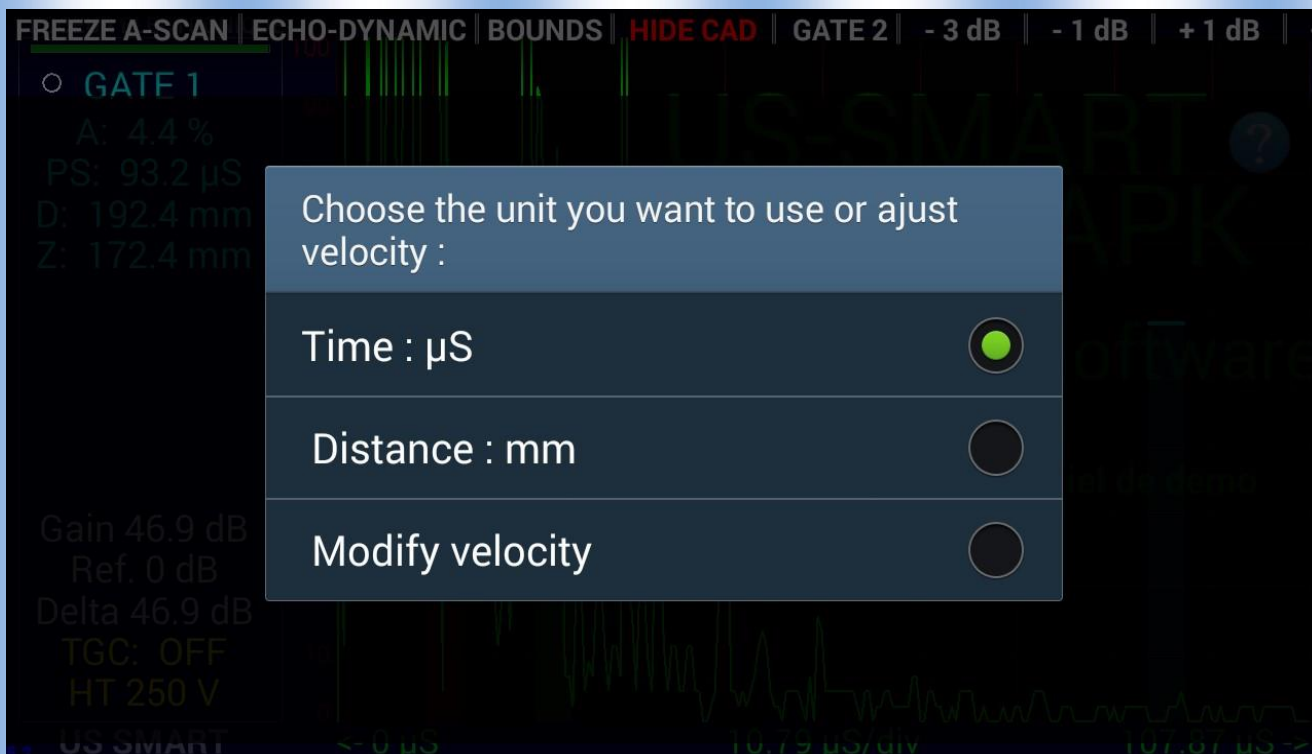
## THRESHOLD :

All the ascan data under a threshold will be set to 0. The threshold value can be adjust .



## MEASUREMENT UNIT/VELOCITY :

Set the ultrasound speed and specify the display unit (mm or  $\mu\text{s}$ )



## SIGNAL ANALYSIS TOOLS:

Allow you to add cursor to measure distance/amplitude on the ascans.



## SAVE/RECALL :

Save or recall some configuration.



## OPTIONS:

Control / Probe / Filter / Display Speed / Gate option / System option access





## Control :

Allow you to set the reference amplitude value, the reference gain and thickness



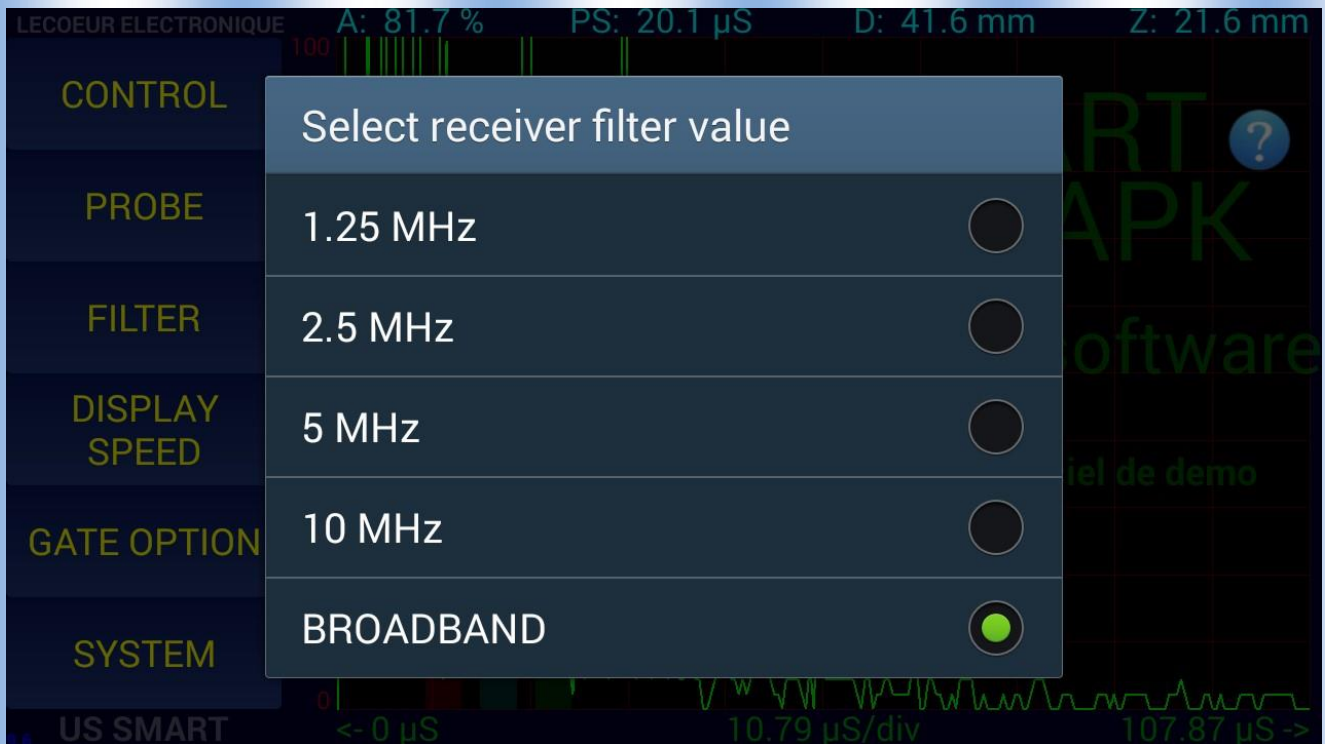
## Probe :

Allow you to set the angle of the probe , add some delay.

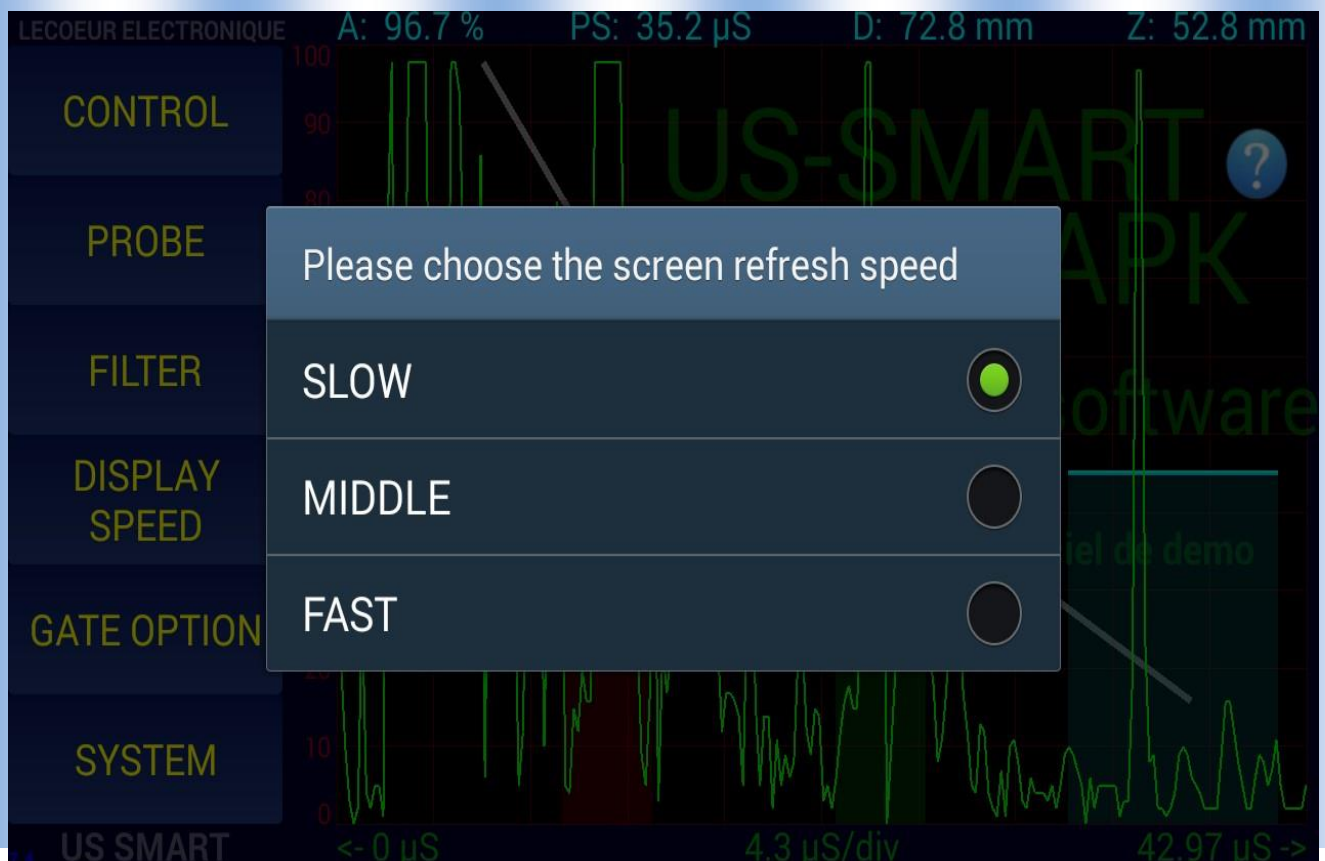


## Filter :

Select the filter for the receiver , a FIR filter will be applied on rf data.

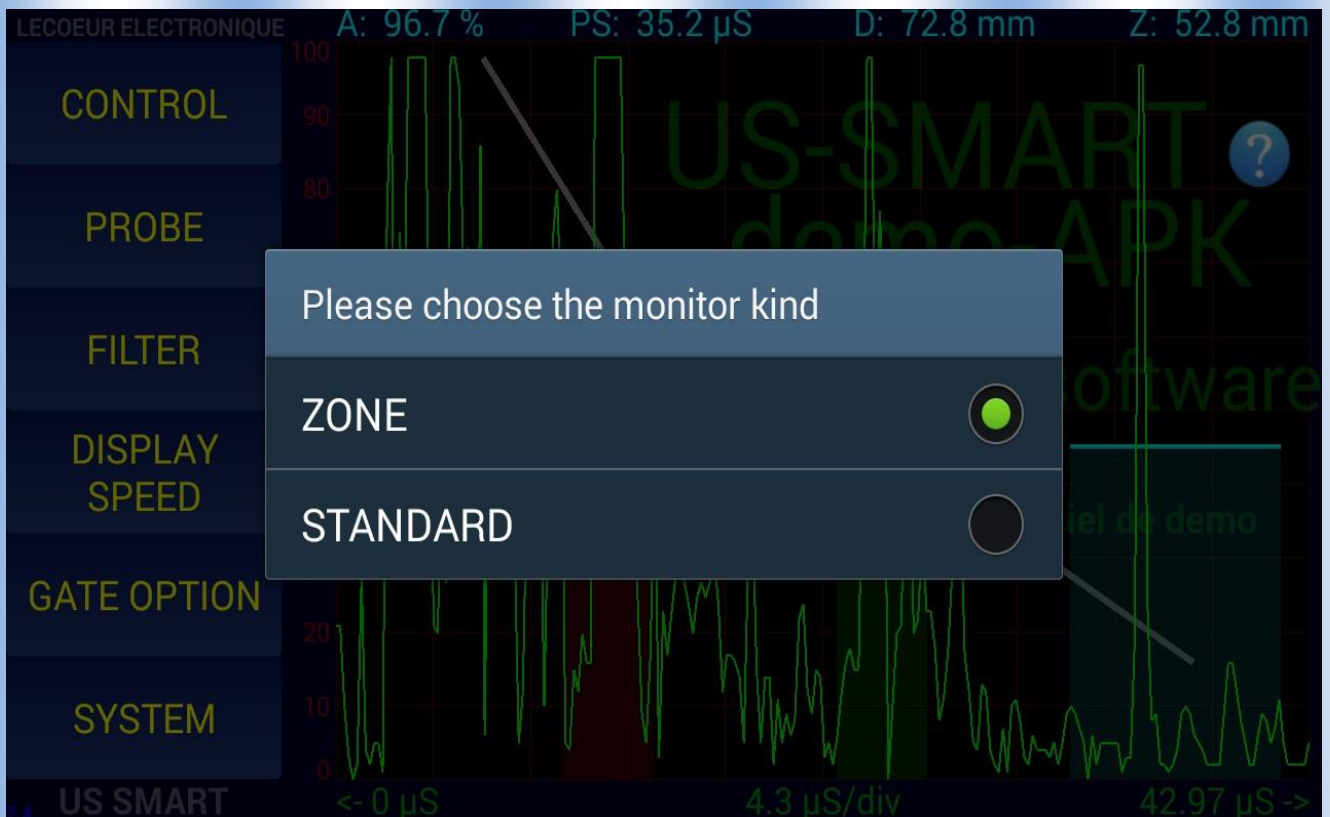


## Display speed



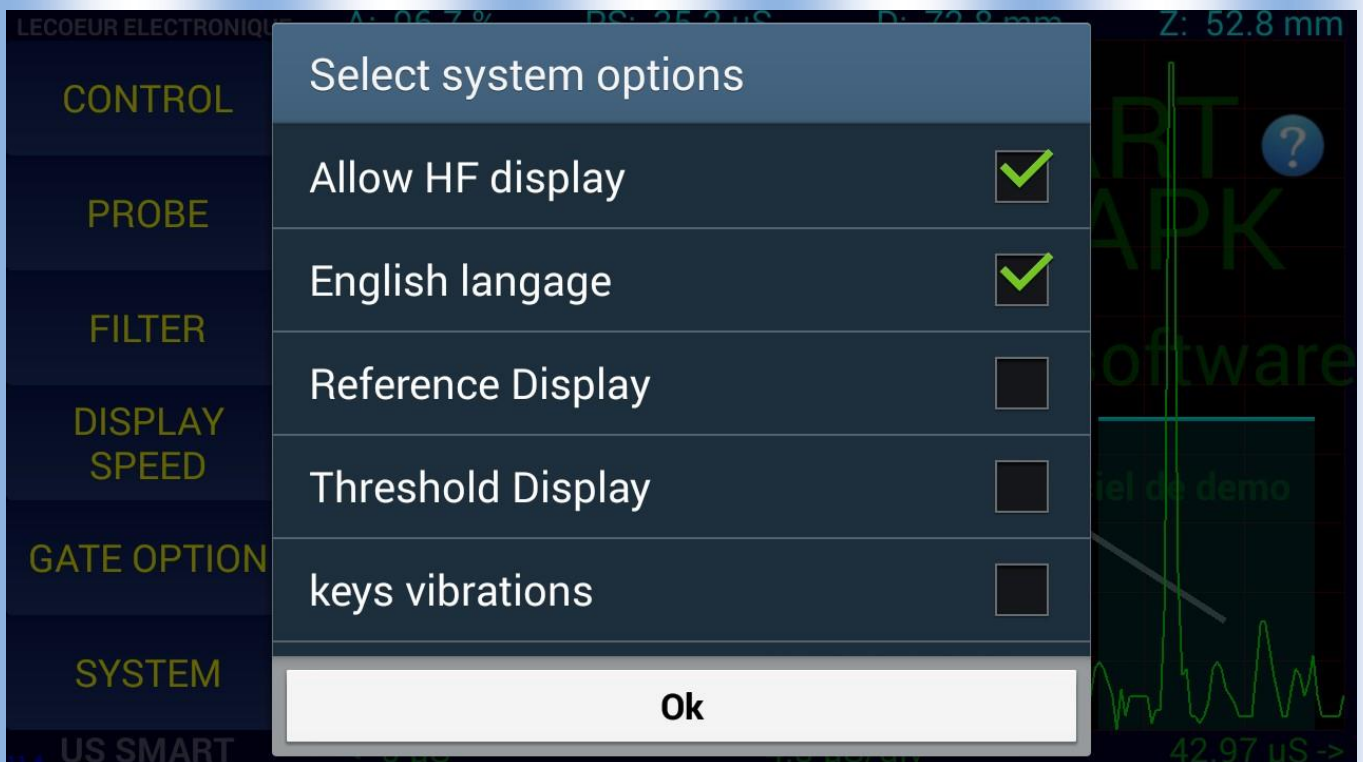
## Gate Option :

Fill the zone between the origin axis and the gate or between the two gate.



## System :

Allow to setup some option , color of the ascans or the langage.....





***QUIT*** : Leave the Us-Android apk.