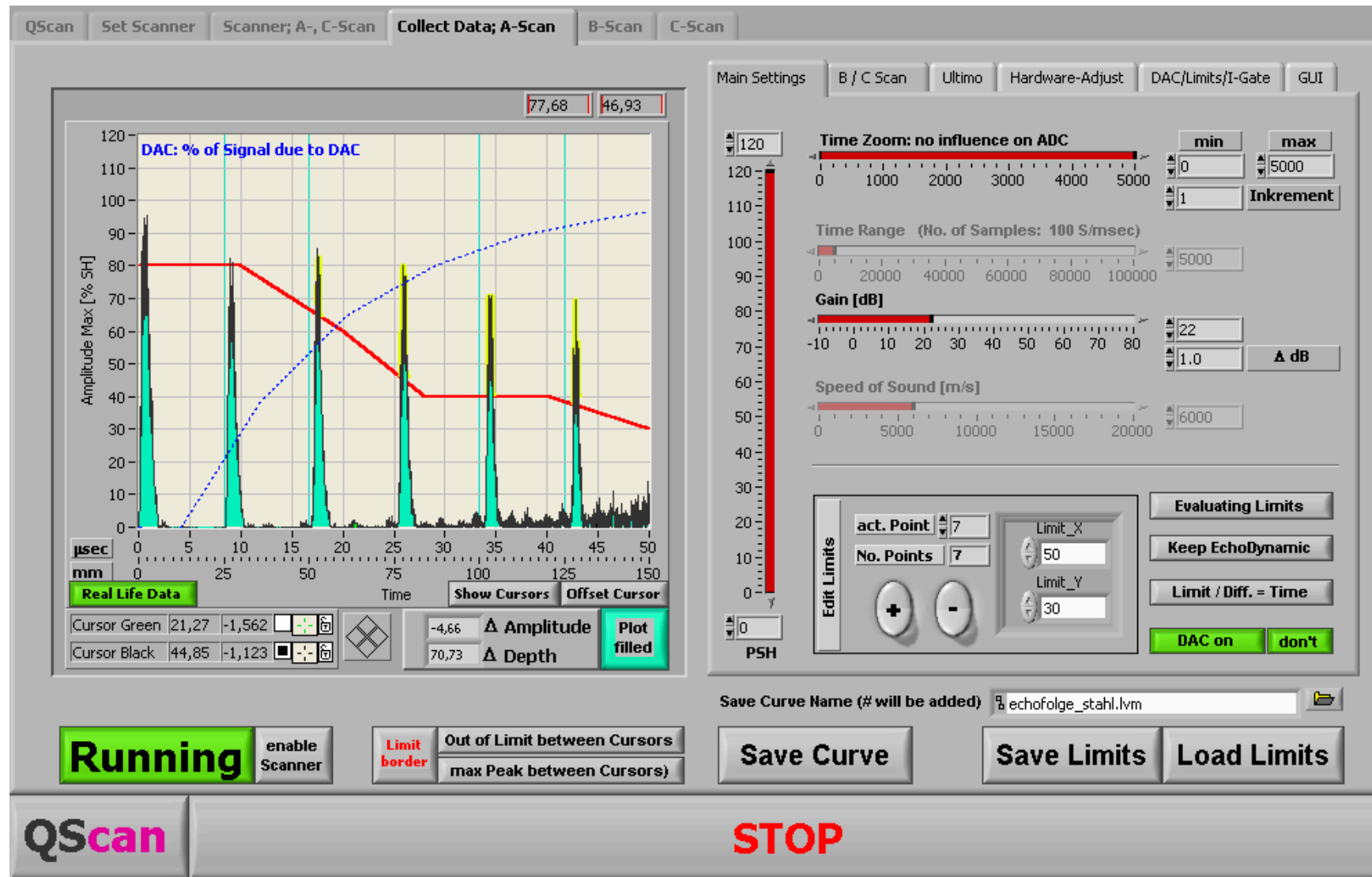


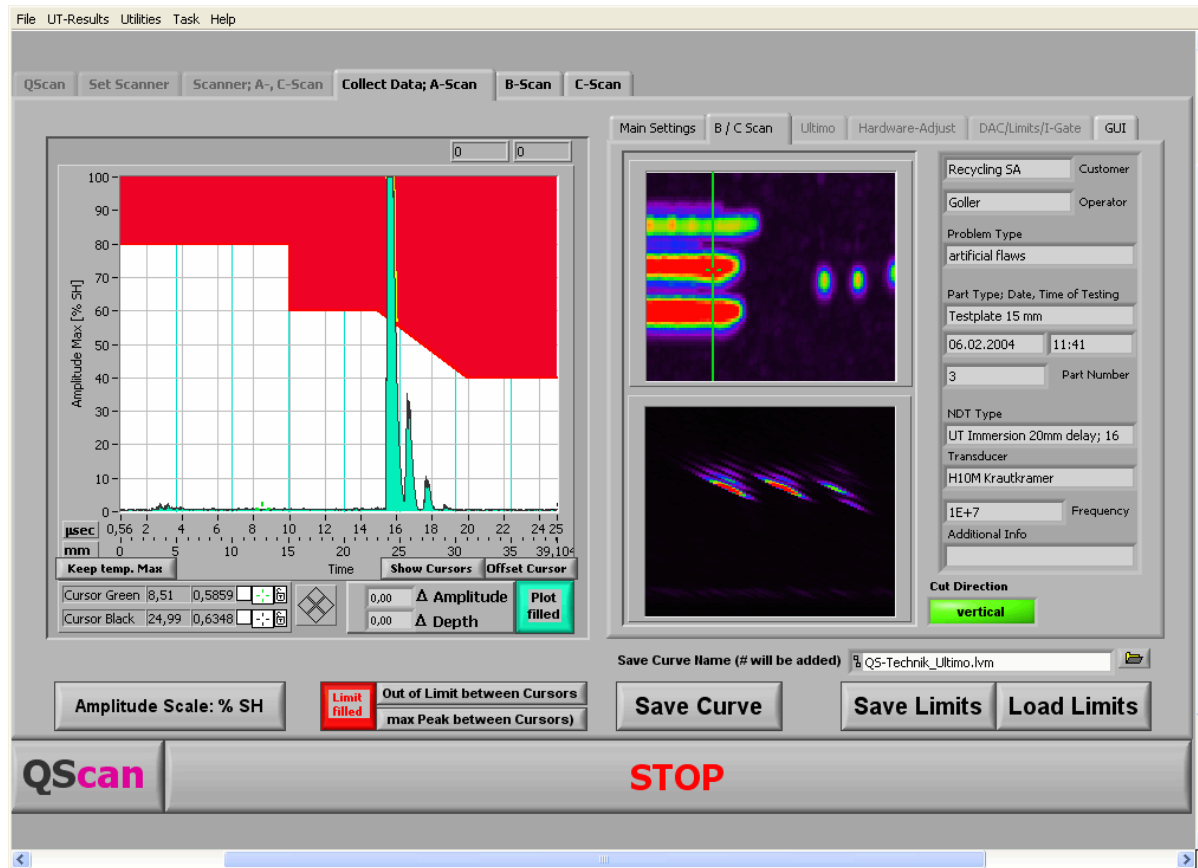
## QScan, NDT-Software

- **to control a Flaw-Detector**
- **to drive a X-Y-Z Positioning System**
- **to get High Resolution Ultrasonic A-, B-, C-Pictures**
- **to export data for 3 Dimensional Views**

# QScan : to get a first Impression...



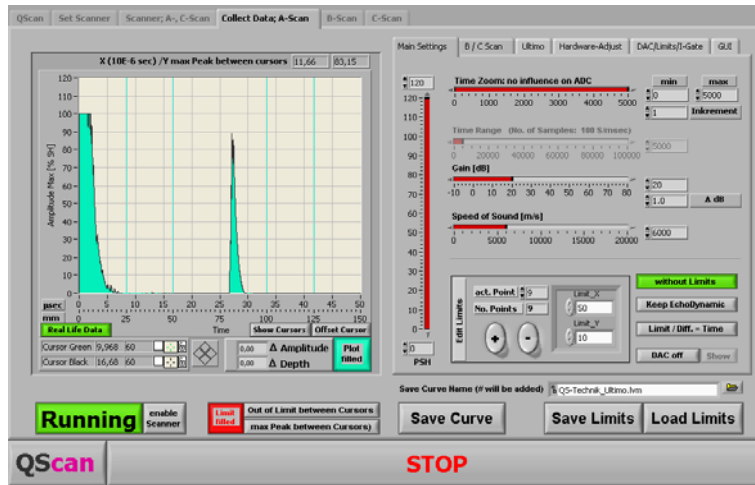
# QScan : to get a first Impression...



All of the following graphics are MS-Windows screenshots to catch menus etc.

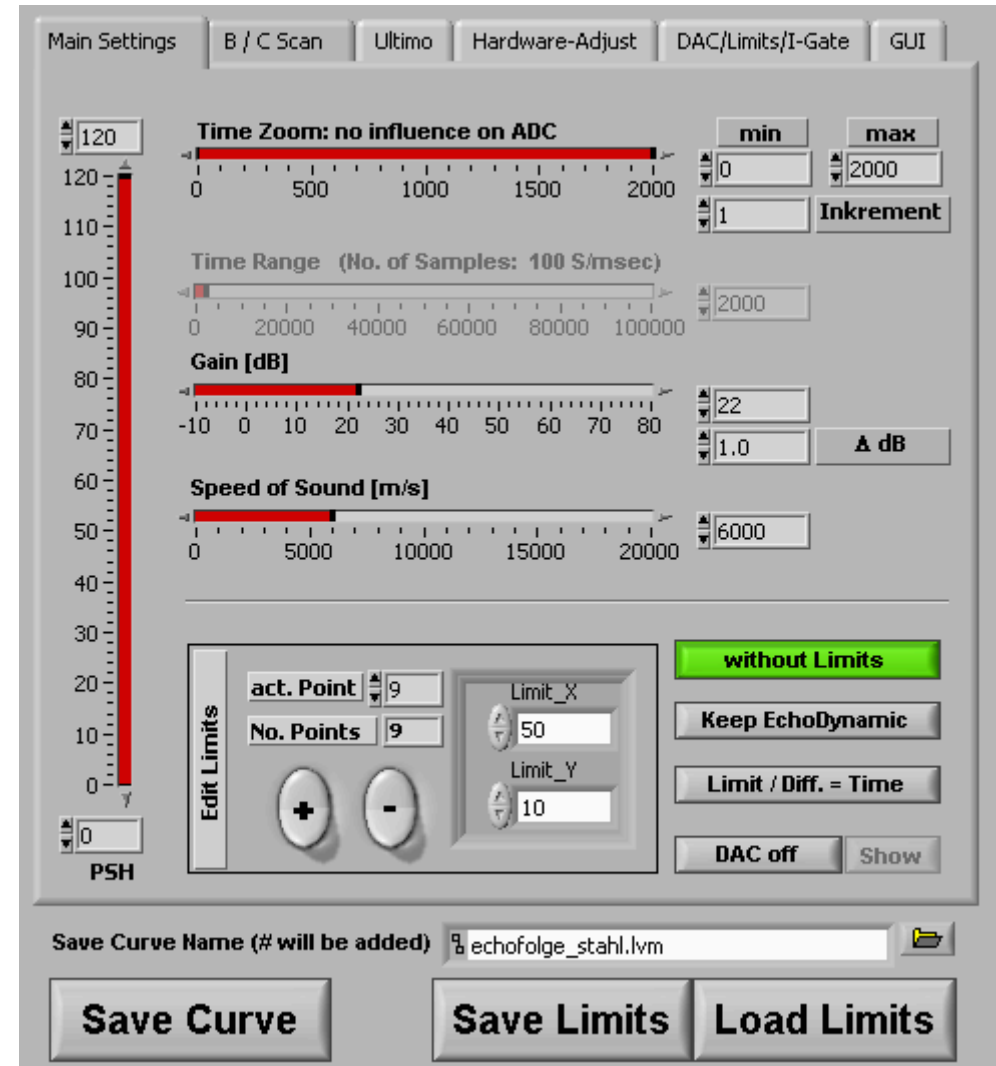
But it is possible to print or save a complete view direct out of the programm

# QScan : the Main Settings Tabstop

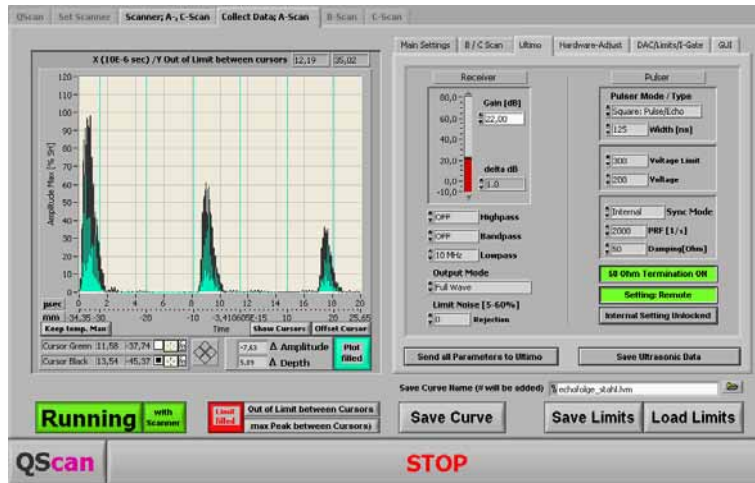


The most important parameters can all be set in one window, or on one tabstop

- Speed of Sound
- Gain
- Time/Depth Range
- Zoom: Time and Amplitude
- Limits, DAC ON/OFF

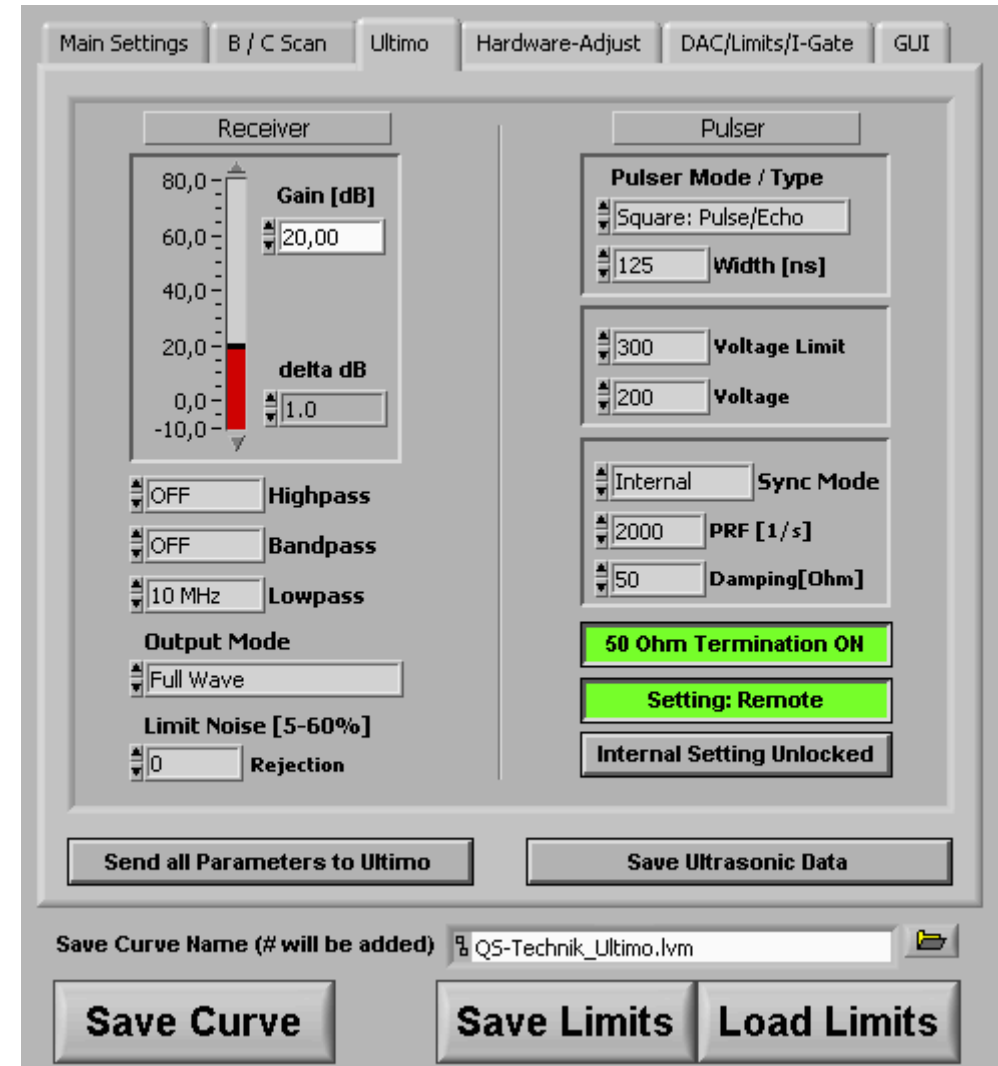


# QScan: Settings, Flaw Detector Tabstop

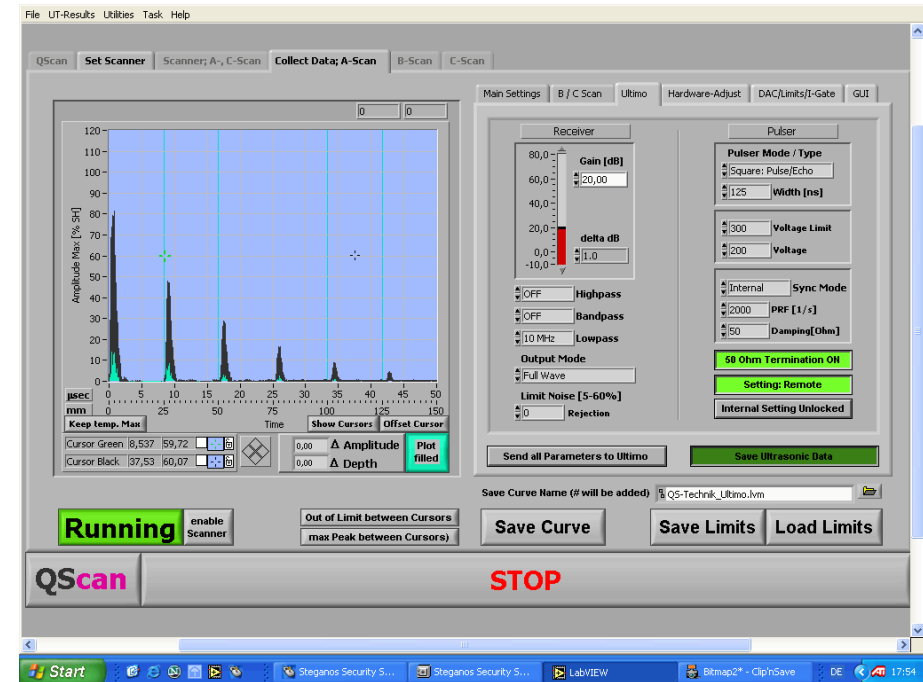
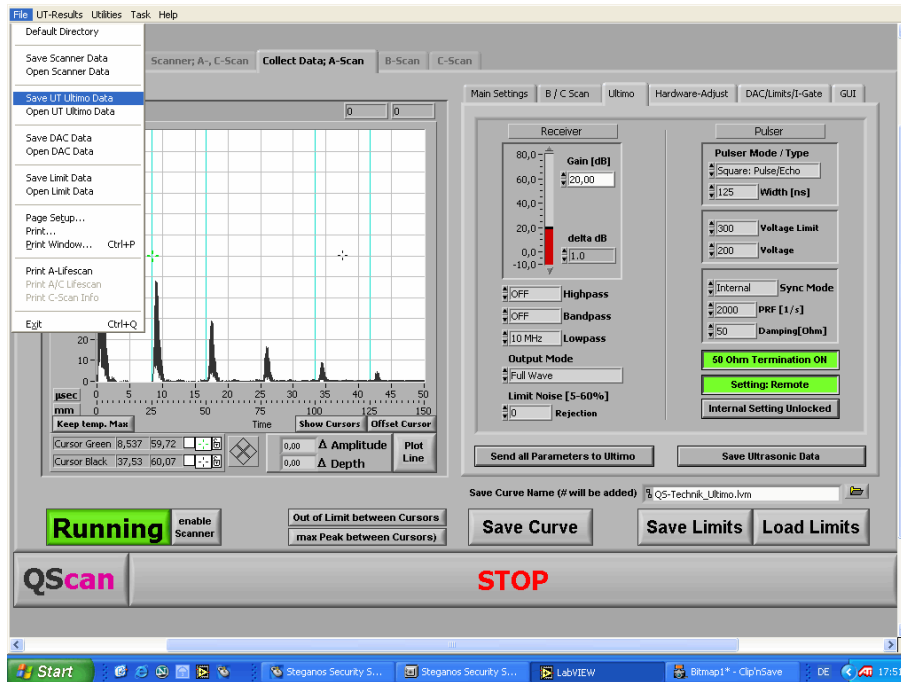


another tabstop for settings of the ultrasonic flaw detector

- Filters
- Damping
- Pulse Repetition Frequency
- Voltage
- Pulse Type (square/spike)
- Pulse/Echo – Dual
- RF, Full Wave, pos/neg Halfwave etc



# QScan : saving Parameters

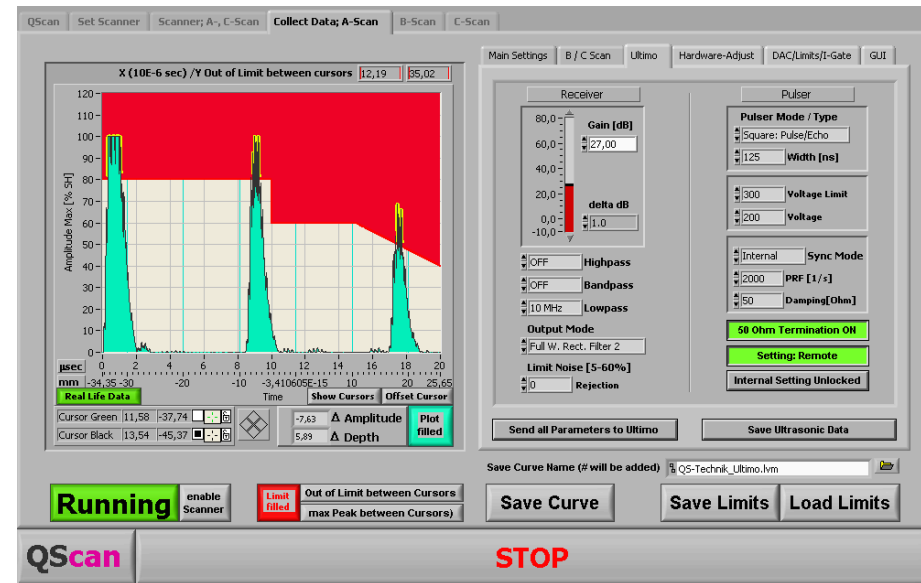
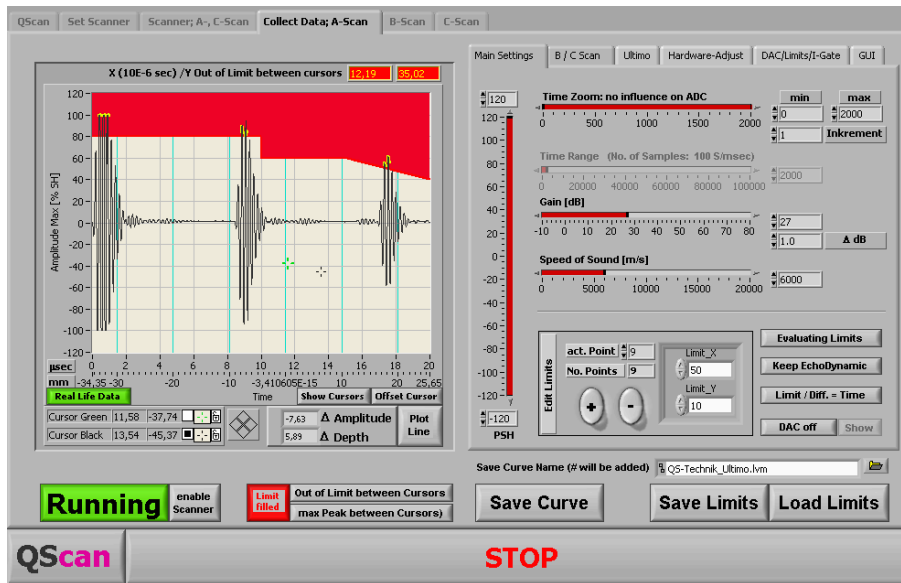


**all the parameters of the program can be stored and restored**  
(the most often used ones also with extra buttons)

**the Flaw-Detector-Parameters, the Limit Curve, the DAC-Curve.**

**Colours of Screens, Curves etc. can be changed**

# QScan : different Screens (RF, rectified)



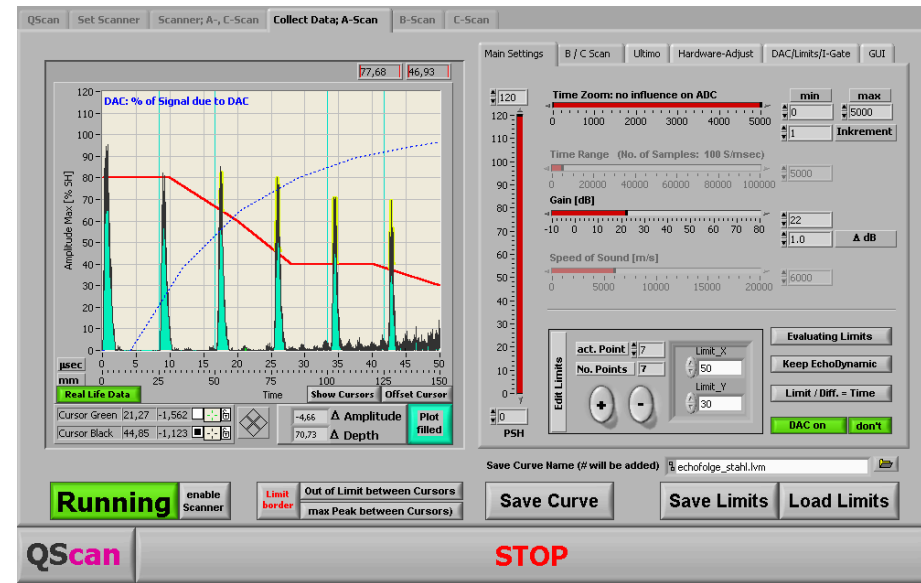
## Screen-View is switched

- from +- 120% for RF to 0-120% amplitude for Rectified or Full Waves
- from -120% to 0 % for negative Halfwaves .

for all the different screens Amplitude and Depth/Time can be zoomed =>

Time-Signals can be showed as filled or unfilled Curves

# QScan : DAC, Limit-Curves

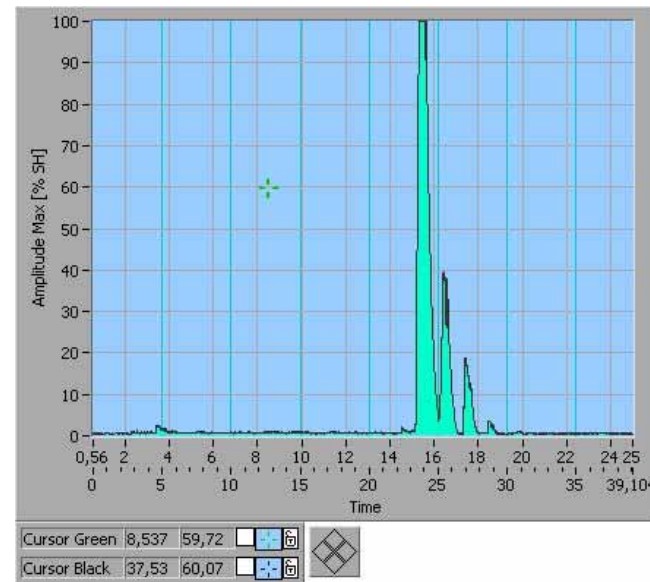
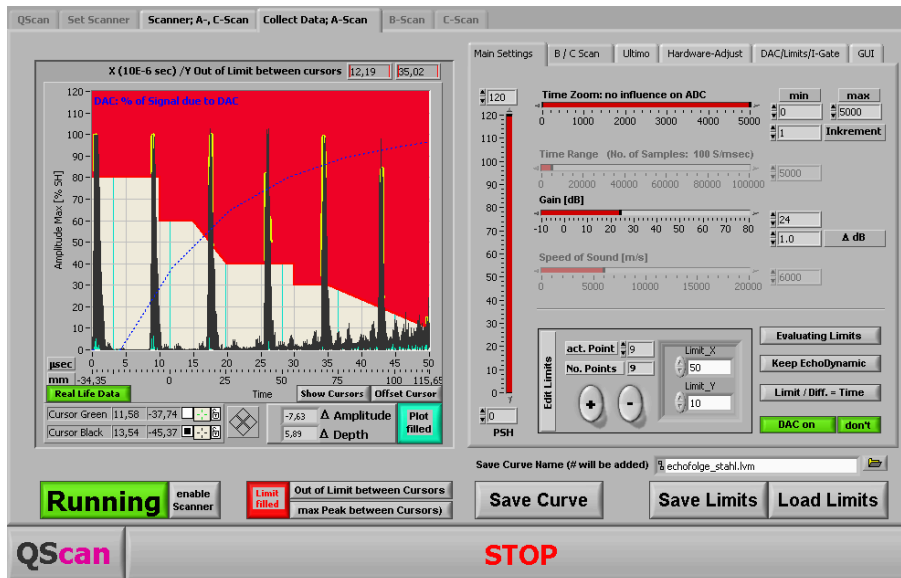
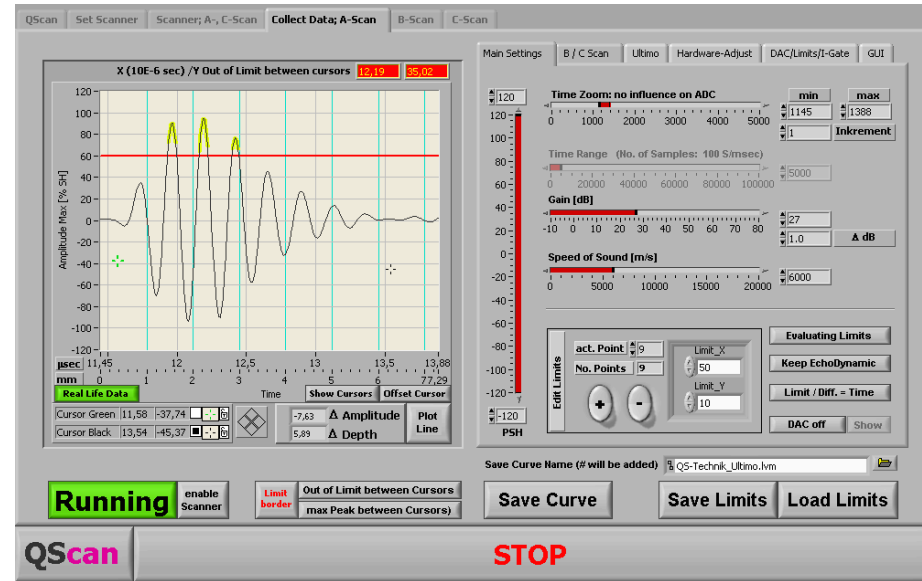
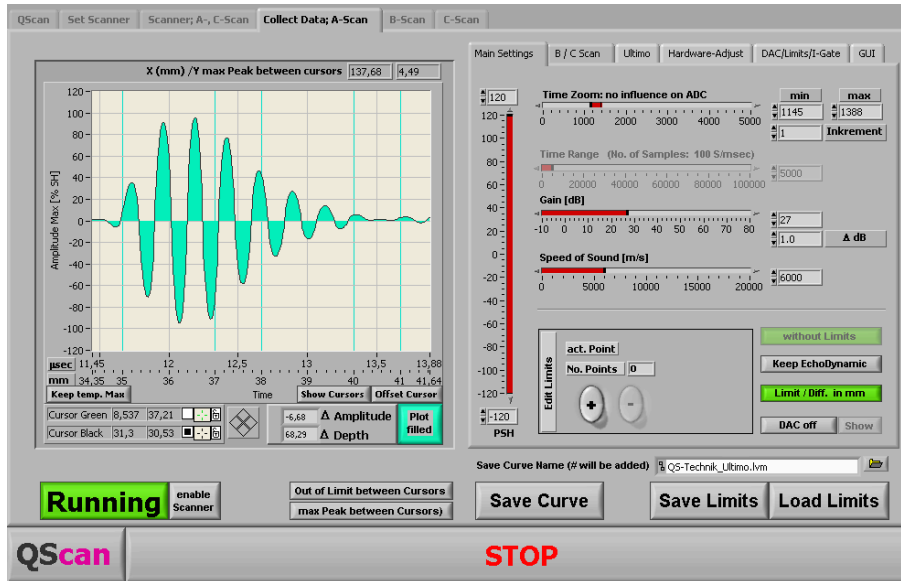


**DAC curves can easily made and edited; one click to shown/hide the curve (the number of defining points is 18 at the moment, but can be increased easily)**

**Limit-Curves can be created with unlimited No of Points and with any desired Shape**

**Limit-Curves can be shown as Simple Lines or Filled Areas**

# QScan : additional A-Scan Examples



# QScan : Scanner Settings

QScan Set Scanner Scanner; A-, C-Scan Collect Data; A-Scan B-Scan C-Scan

*Scan Data*

Coordinates / Distance in mm/s

Starting Point X / Y / Z  
0,00 0,00 0,00

Scan Width X Track Width X  
20,00 2,00

Scan Width Y Pixel Width Y  
20,00 2,00

Speed in mm/s

Scan Speed X Ref Speed X  
12,5 12,5

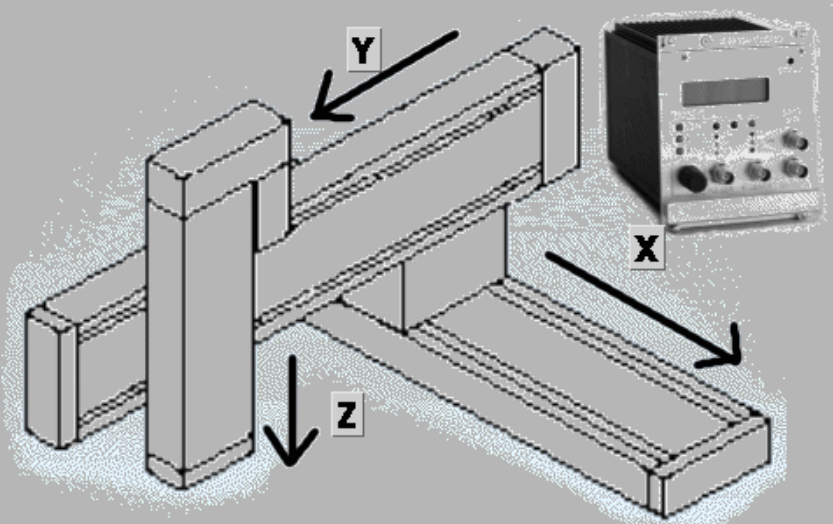
Scan Speed Y Ref Speed Y  
12,5 12,5

Scan Speed Z Ref Speed Z  
12,5 12,5

Save Scanner Data

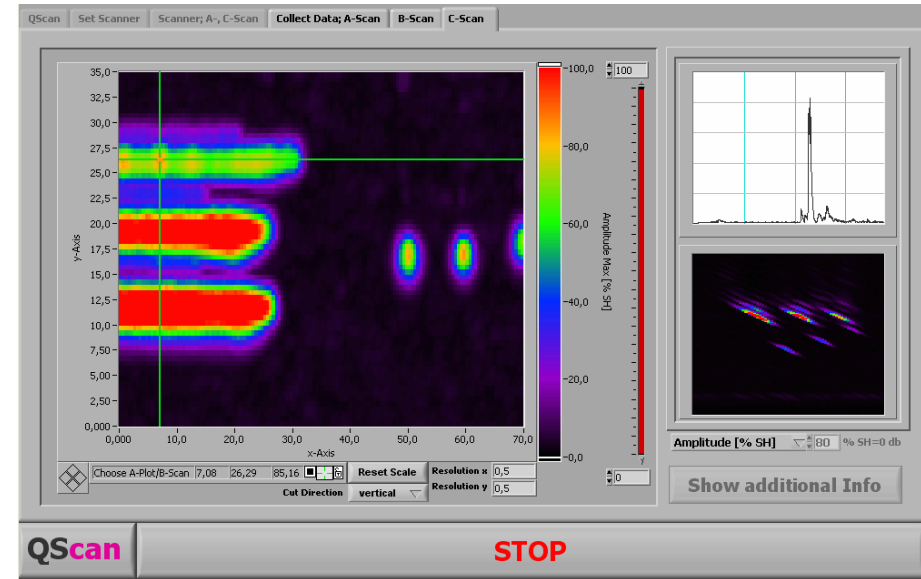
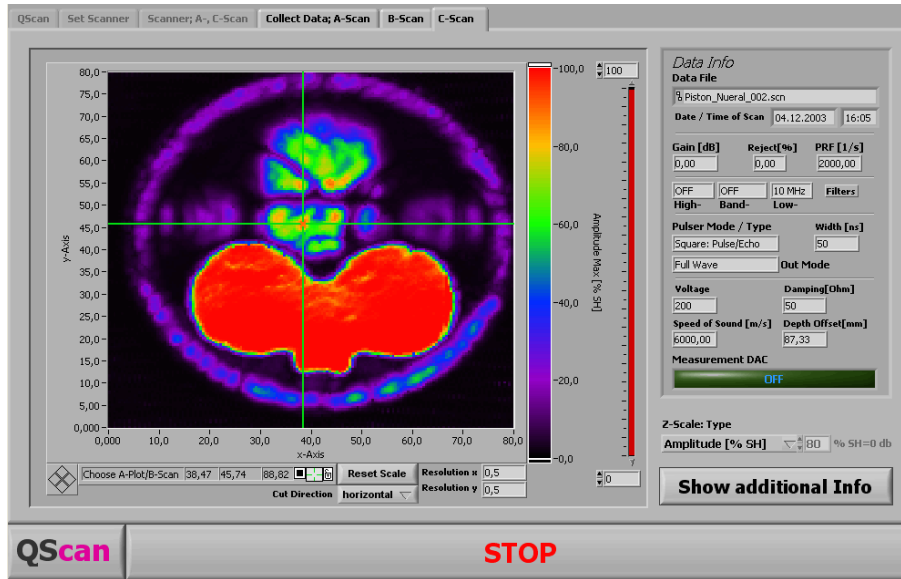
*Device*

Ultimo 2000  
with Scanner



The diagram shows a 3D perspective of a scanner's mechanical structure. It consists of a vertical column and a horizontal arm. Three coordinate axes are indicated: X (horizontal, pointing right), Y (vertical, pointing up), and Z (depth, pointing down). To the right of the structure is a control unit with a digital display and several knobs.

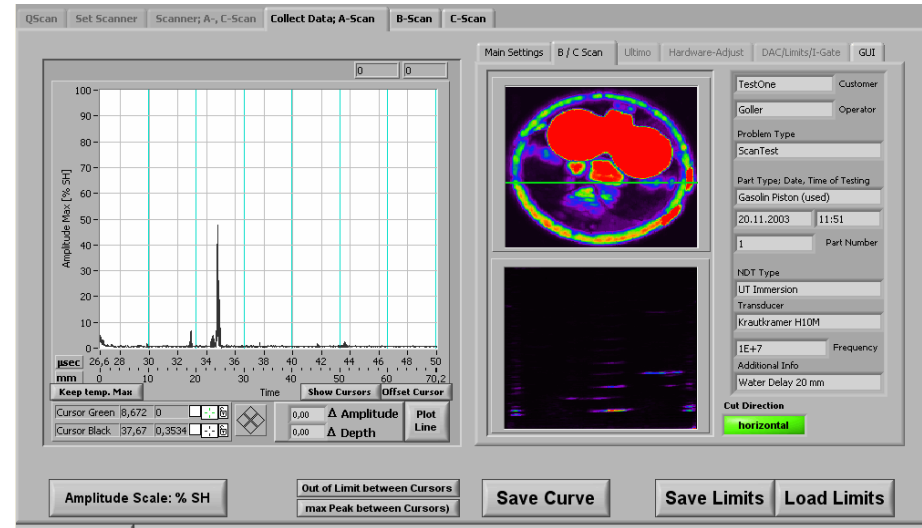
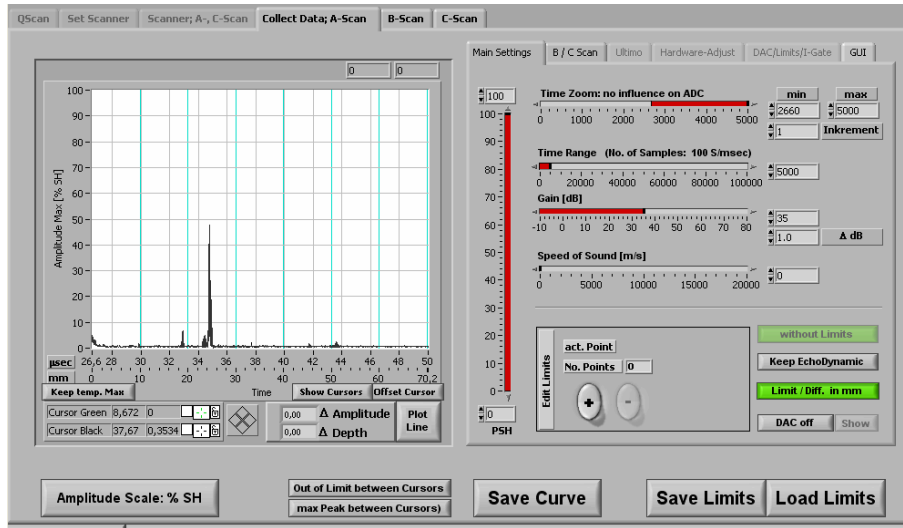
**QScan** **STOP**



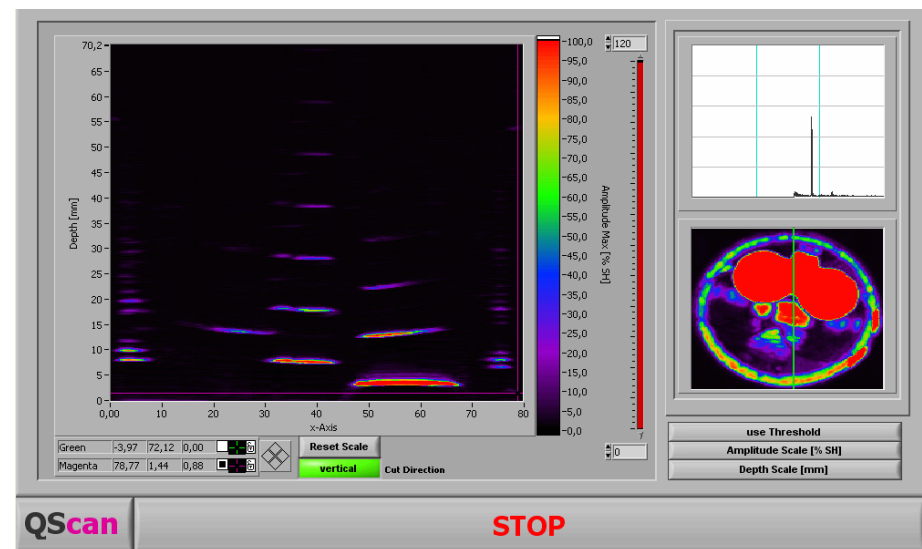
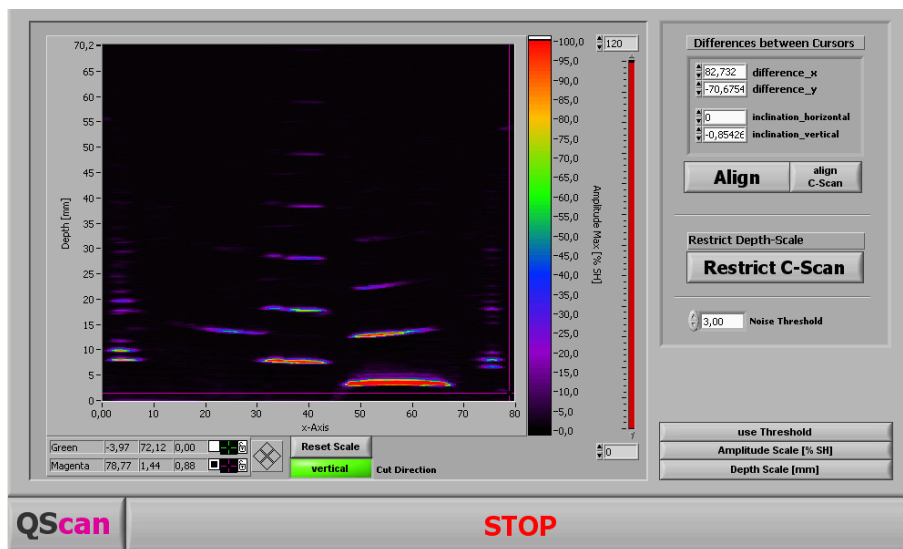
## C-Scan View without or with small A- and B-Scan

the same feature is possible for the A-Scan View and the B-Scan View, see next Page

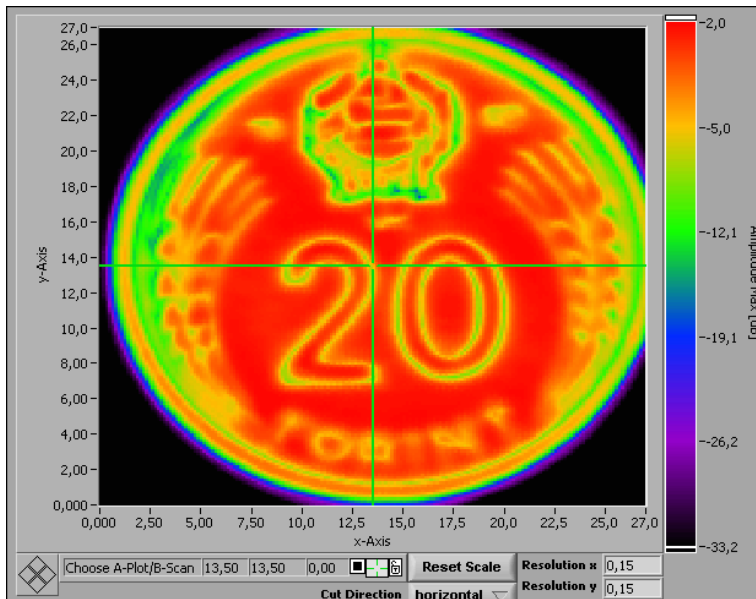
# QScan : A-, and B-Scan (from stored data)



**View without or with small other ones**



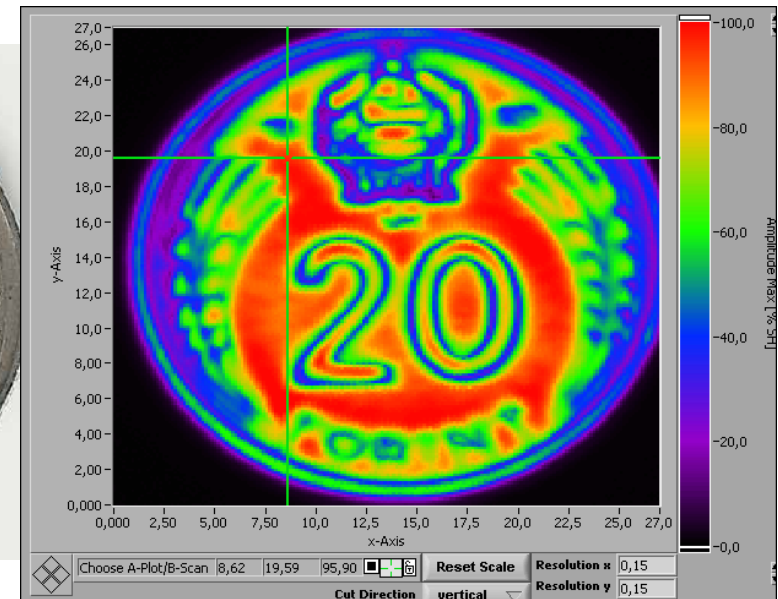
## 15 MHz Probe: $\varnothing 6$ mm, 40 mm focal length



**dB Scale**

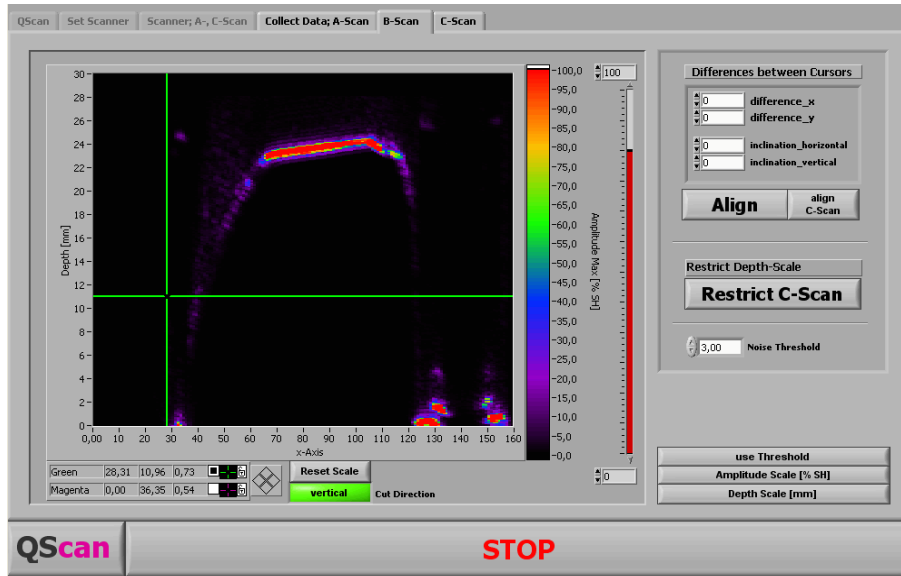


**26,5 mm**



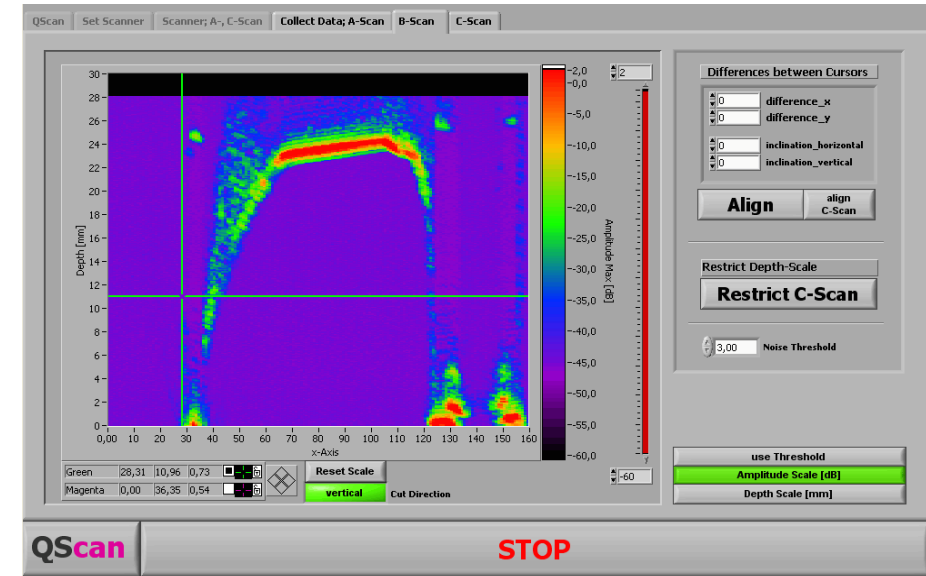
**linear Scale**

# QScan : linear or logarithmic Scales



**B-Scan linear Scale  
zoomed from**

**0 to 100% Screenheight**

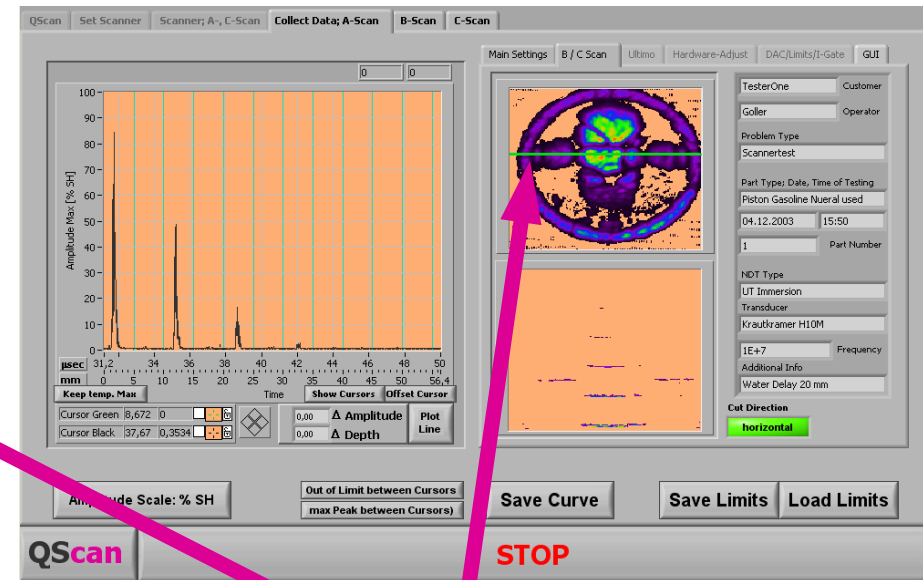
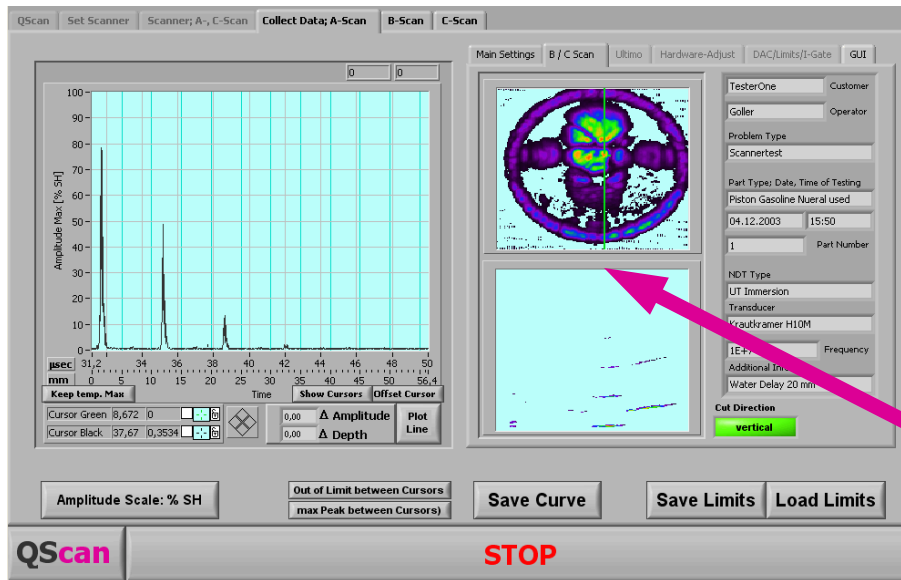


**B-Scan logarithmic Scale  
zoomed from**

**-60dB to 2 dB  
(0 dB = 80% Screenheight)**

**logarithmic Scale to find small Echo-Amplitudes**

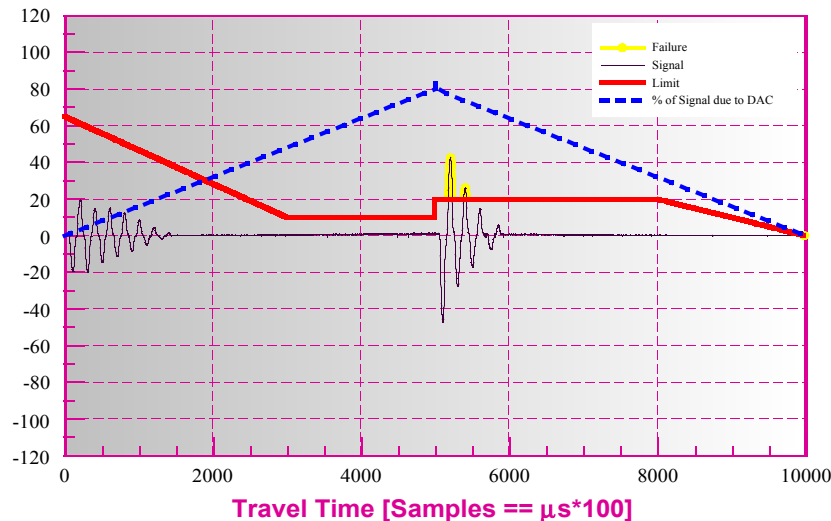
# QScan : Threshold, Cut Directions, Colours



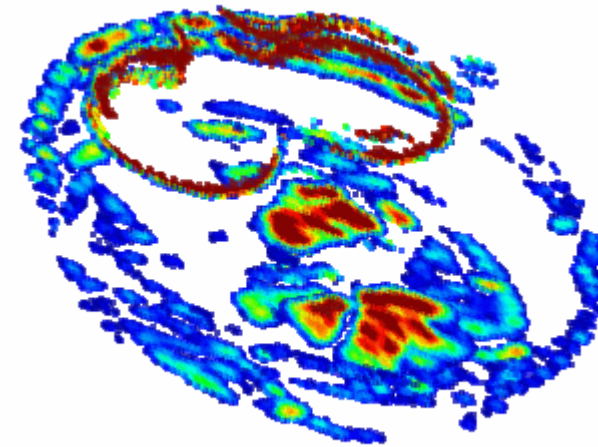
**user selectable thresholds  
to „see the important“  
user selectable backgrounds**

**2 „Cut-Directions“  
for the B-Scan  
horizontal / vertical  
selectable by C-Scan Cursor**

## QS-Technik\_Test01.dat



Despite of the fact that A-Curves can be stored and restored in **QScan** itself, it is also no problem to use saved data in other e.g. presentation programs



**Export of the complete data to postprocessing programs helps to understand the type and distribution of flaws**

**It's easier to distinguish between Geometry and Failure Echoes => also fully processed parts can be tested**