I. Content

II. AG501 – Real Time Position Display

A. Program overview for the Realtime Position Display

There are two additional buttons for the Realtime Position Display (“realtime display” and “# sweeps recorded”) and 5 extra graphic objects.

Realtime Position Display

To activate the Realtime Position Display, it is necessary to fulfill the following requirements:

- The AG501 system (E-Box) must be up and running
- The cs5recorder program is opened
- The data transfer is active – the Cs5recorder shows a green bar saying “active since…”

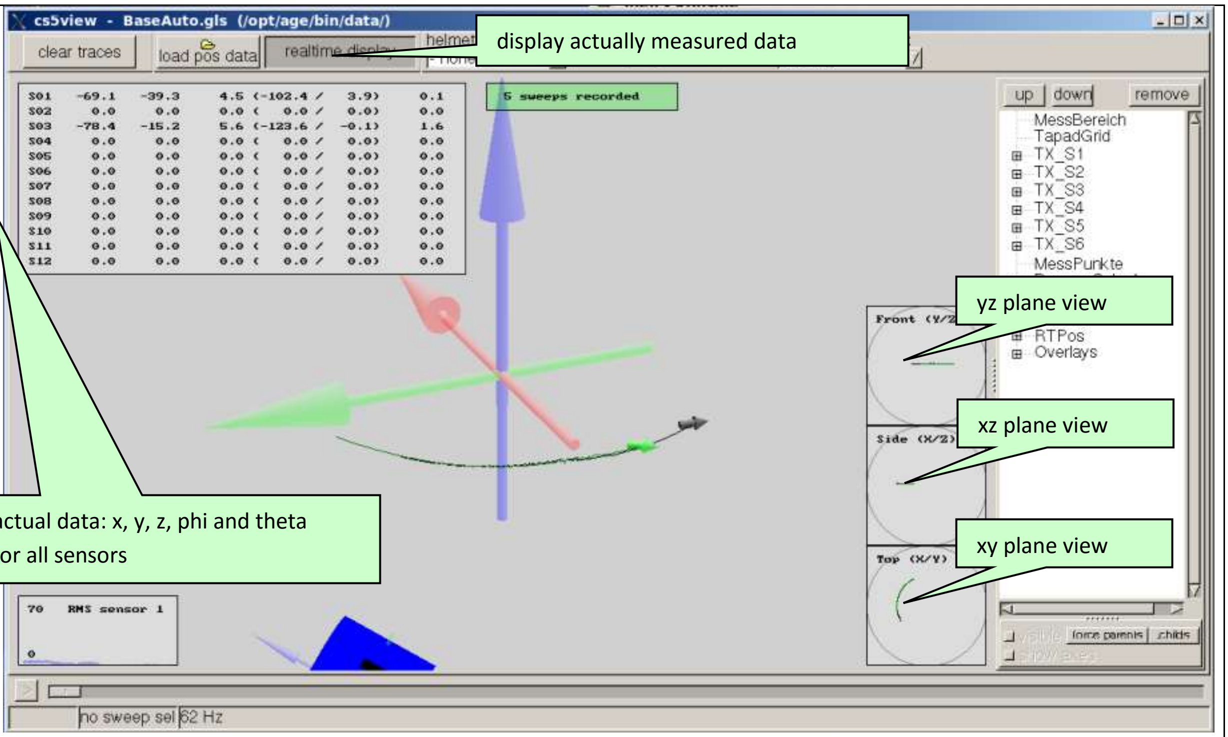


Figure 1:Cs5view in Real Time Display mode

The “realtime display” button activates the realtime display mode

A new button “sweeps recorded” appears in the top center of the main window.

With overlays visible, you will see the plane view, the RMS view as well as the actual data

i. start/stop sweep button

On top of the display a green button appears saying "n sweeps recorded" (n is the number of sweeps that are actually recorded). If you click this button, it changes its color to dark red and says "recording sweep n". Clicking this (now dark red button) again will stop the sweep recording. This button has the same function as the "start sweep/stop sweep" button in the cs5recorder program.

ii. Three graphic elements show the traces in 2D planes

On the left side, three transparent boxes with a circle inside appear. Each box has a two dimensional plane with the 3D traces mapped into it.

These boxes get larger when the mouse cursor is placed over them.

iii. Sensor co-ordinates

At the top left, you can find a box that shows the actual sensor position, the angle, and the RMS information. The first column shows the sensor number, the next three show the x, y, and z position in mm relative to the center of the measuring area. The next two columns in brackets show the orientation phi and theta. Phi is the rotation in the xy plane and theta is the elevation relative to the xy plane.

The last column shows the RMS value: a small value means a good compliance of the measured data with the expected result.

iv. Experimental window

This window shows the RMS over time for sensor 1. Its sole purpose is the demonstration of programming possibilities.

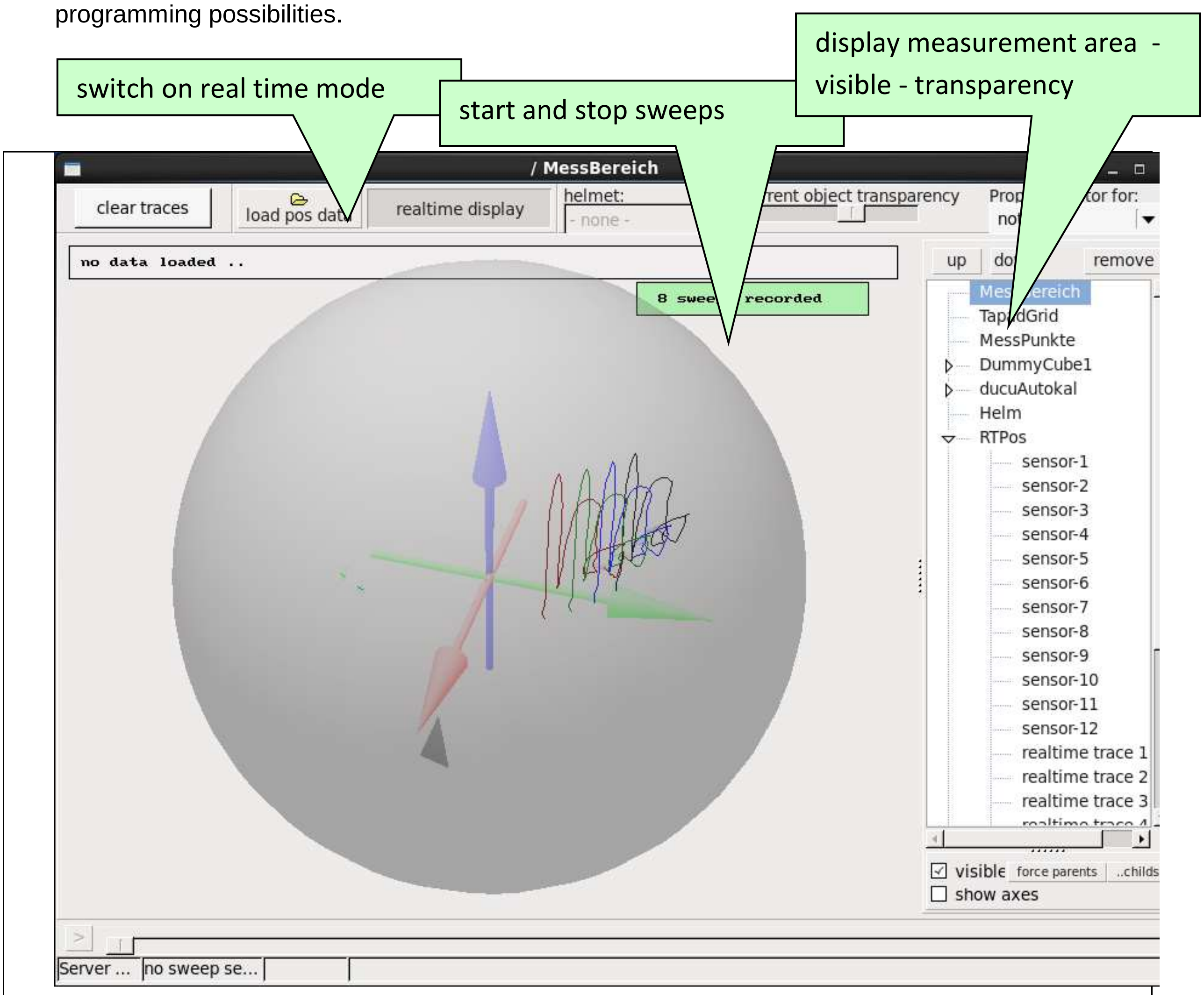


Figure 2:

B. Program overview for the display functions

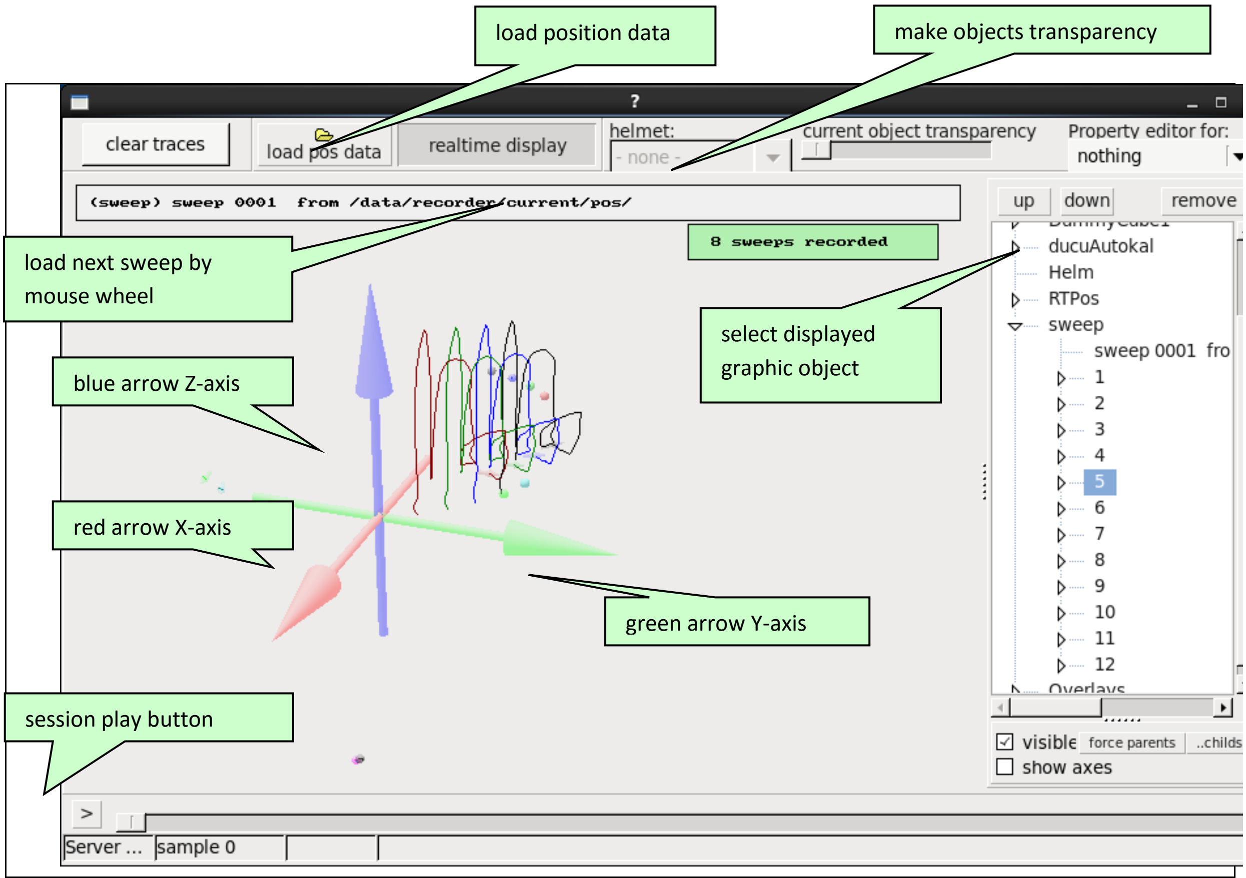


Figure 3:The Articulograph AG501 measuring environment as a 3D graphic screen

C. CS5View program description

a) Open measurement POS-data

- click the button “load pos data” (Figure 3)

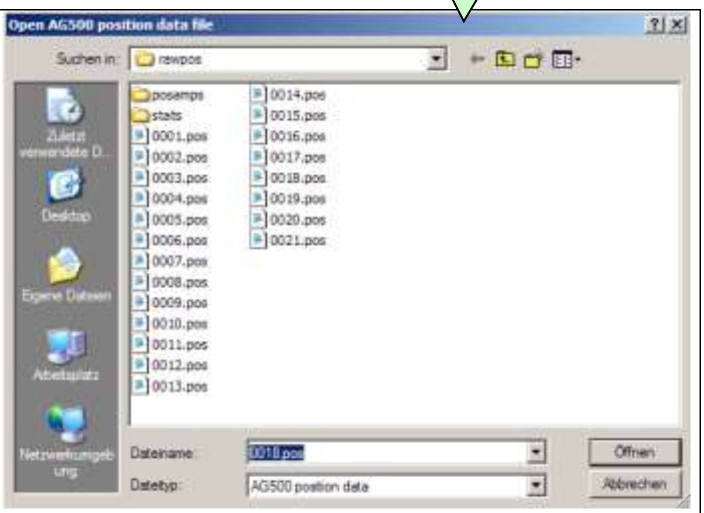


Figure 4:Open measurement data

- select the folder with AG 501 pos data
- select the “ag501.pos” file and click Öffnen (open)

b) Measurement view

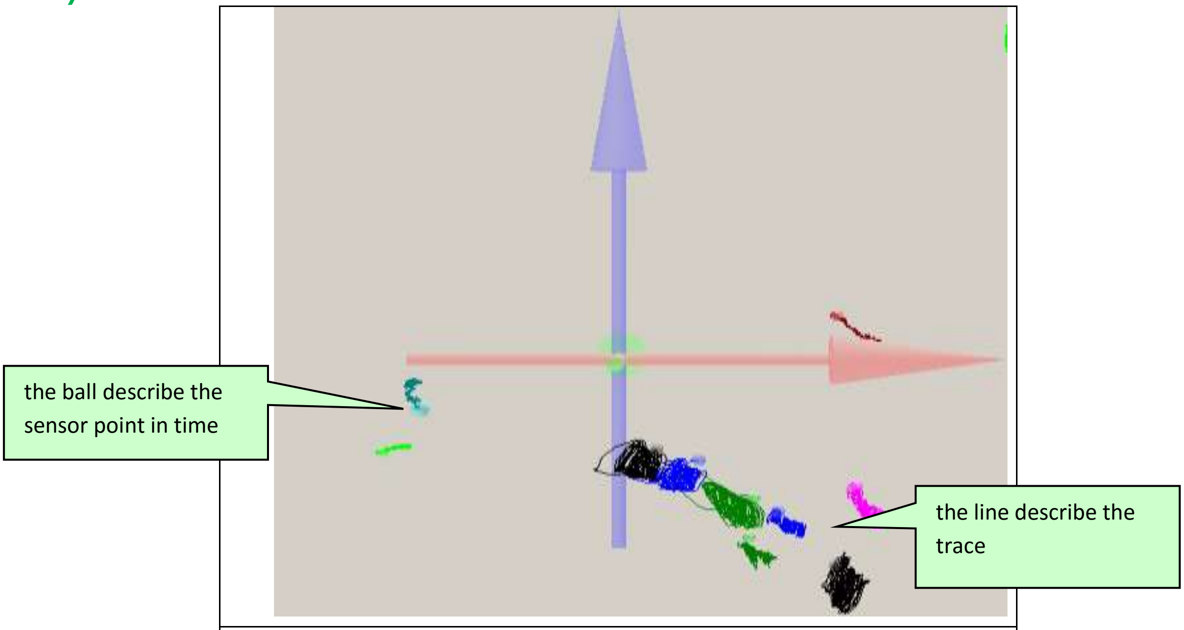


Figure 5: Measurement view

- You see the sensors and the sensor traces in different colors
- The ball describes the sensor point in time

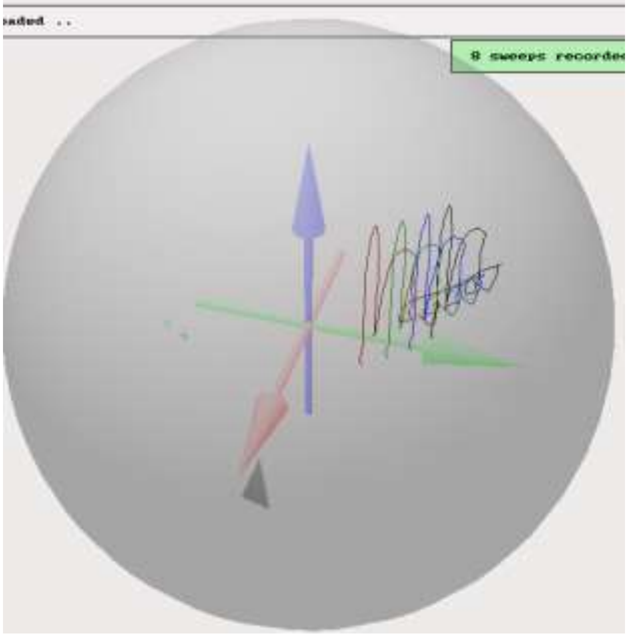
Mouse functions:

- Moving the mouse while the left button is pressed rotates and tilts the camera
- Pressing both mouse buttons simultaneously + moving the mouse up = zoom out

  + moving the mouse down = zoom in

- The setting range is on the right side ofs the display
- Click on the object to center it
- Double click on the object to make it visible or invisible, or click once and use the check box that can be seen

c) Measurement range



- to show the measurement range, click on the object “Messbereich” in the setting range
- all sensors should be inside the measurement range to get good results
- to change the transparency of the measurement range, use the scroll bar “current object transparency” (Figure 3)

d) Play recorded sweep

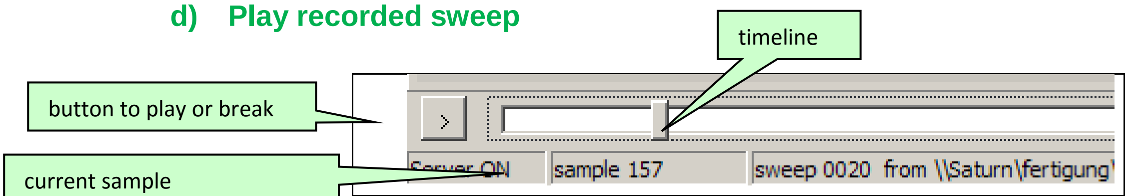


Figure 6:Play tools

- you can play the recorded sweep in real time. Just click on the object “sweep” in the setting range
- to play, click the button ‘play session’ (Figure 6)
- to stop, click the button ‘play session’ again
- use the scroll bar “timeline” to go forward or backward
- open the first measurement
- click on the current sweep with the left mouse button

- to rename it, click with the left mouse button for ca. 2 seconds
- the sweep name is highlighted blue
- rename the sweep and press enter
- continue with the next measurement
- repeat this procedure for other measurements (if needed)

III. Revision history - Cs5view Real Time Display

Date	Revision	Annotations
12.June 2012	1	Initial Carstens Release
6 February 2013	2	Grammar & spelling, readability (by Johannes)