



Master Control MC500 Manual

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MC500

Purpose of the program „Master Control MC500“ is recording movement data with Articulograph AG500.

The system works with two computers, running these different programs:

- Maggen – generating the magnetic fields.
- Senrec – collecting sensor signals.
- AGMaster – coordinating Senrec and Maggen.

Master Control MC500 offers a user interface for easy access to AGMaster sweep recording functions.

Installation

Please copy the program “MC500.exe” from the installation CD-ROM to any computer that fulfils the following suppositions:

Operating system: Windows 9x (Win95, Win98, Win98SE)

Network connection to the AG500-System

Installed TCP/IP-network protocol

IP-address 192.168.1.xx/255.255.255.0 where xx ?? must be a value between 1 and 99.

At least 4MB free space on hard disc.

Start of the program

By starting the program, the following window appears:

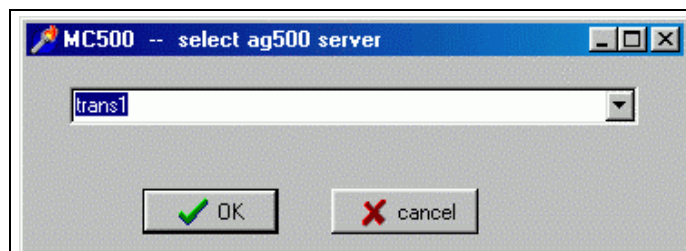


Figure 1: Start menu asks for a computer name

Please enter the name of the computer running AGMaster. Usually this is the Trans-Computer of your system.

MC500 now automatically connects to the AG500-System. When the connection is established, the MC500 main window appears:

MC500 main window

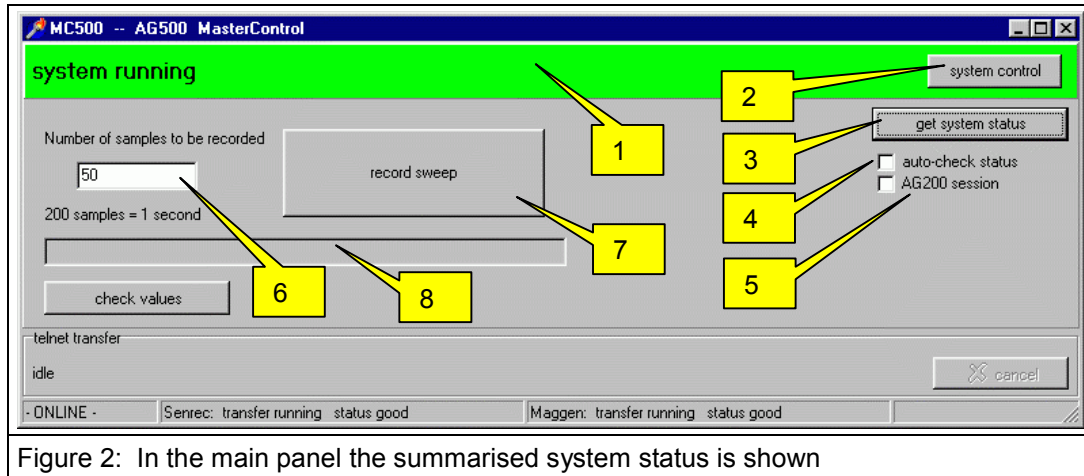


Figure 2: In the main panel the summarised system status is shown

1. Articulograph AG500 system status bar

The large green status bar indicates a normal system condition – on error the bar becomes red

2. open the system control window

Offers the system functions:

close session - re-synchronise - switch AGMaster - shut down AG500

Refer to the [“system control”](#) chapter for details

3. update system status

To update the status display, push this button

4. update system status every two seconds

If the system is waiting for connection, this check box allows to update the status automatically.

Attention: make sure that “auto-check status” is deactivated during sweep recording.

5. perform a 2D session

changes the MC500 operating mode to perform two dimensional data recording. See chapter “2-D Measurement [“AG200 session”](#)” for details.

6. set the sweep length

Enter the number of samples that are to be recorded in the next sweep. The system works with a fixed sampling rate of 200 Hz.

Although it is possible, you should not exceed the amount of 120.000 samples per sweep, which corresponds to 10 minutes of data recording.

7. start sweep recording

Push this button to start the next sweep recording .

8. recording status

This line says “please wait while recording” when data recording is active.

Afterwards it shows the filename of the recorded sweep:



Figure 3: recording status shows filename of the latest recorded sweep

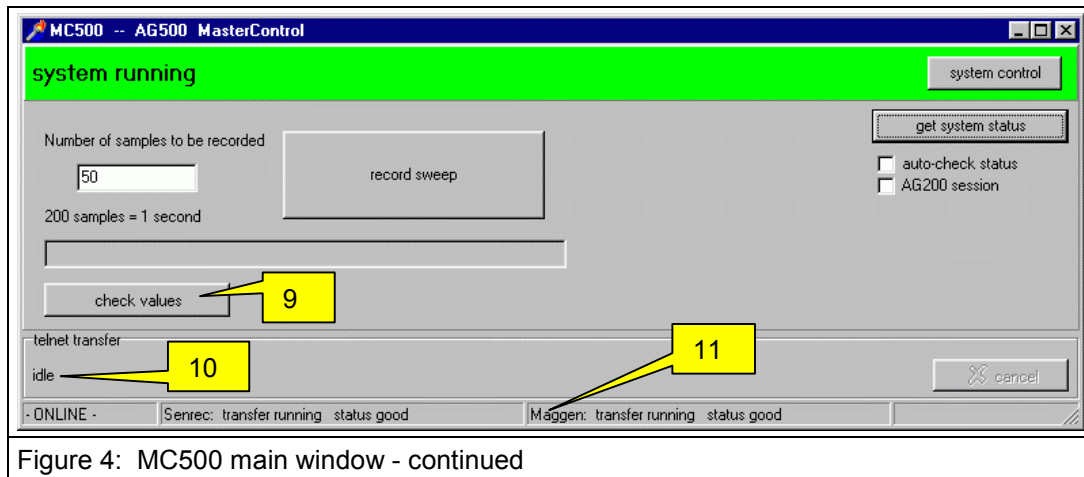


Figure 4: MC500 main window - continued

9. Check values

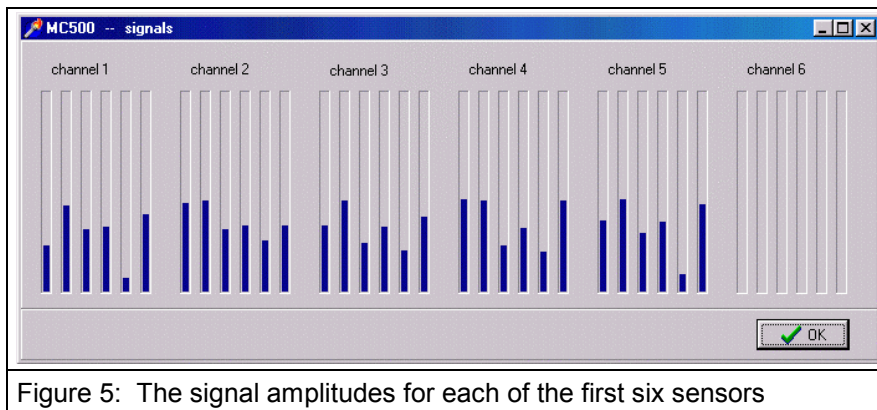


Figure 5: The signal amplitudes for each of the first six sensors

The actually measured signals from sensor 1 – 6 are shown in a graphic. No other MC500 functions are available when this window is active.

Press ESC key or push OK button to close the online display.

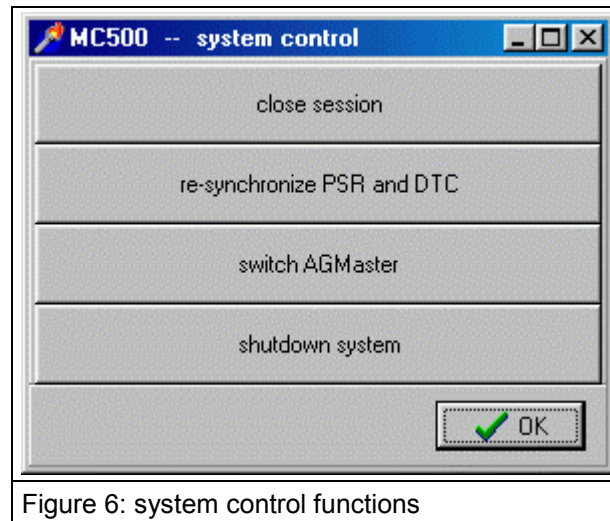
10. telnet status

The MC500 program communicates with the AGMaster program over a telnet connection. The telnet commands are shown in this status field

11. Senrec and Maggen status

the bottom status line shows the state of the two connected slave programs

system control



close session

After all sweeps are recorded, press this button to write all protocol information to ag500.ini-file. This also stores the log- and debug-information from AGMaster's "TCP-Connector" window into the files:

ag5log.txt

ag5debug.txt

The close session clears the fields in TCP-Connector window.

re-synchronize transmitter DTC 6 and Receiver PSR 12

The Maggen program (on Trans-Computer) and the SenRec program (on PSR-Computer) are stopped and synchronously restarted.

switch AGMaster

To switch system control from one AGMaster to another it is necessary that MC500 is connected to the active (clients are connected) AGMaster.

Please enter name or IP-address of the computer where AGMaster is already started and waiting for client connections.

IMPORTANT: after switching to another AGMaster it is necessary to prepare the new AGMaster with angle adjust and complex offset!

shut down AG500

The Trans-Computer and the PSR-Computer shutdown themselves and switch off their power. After a minute the power for the whole system should be switched off.

Switch Master

With the Switch Master procedure the Articulograph AG500 system control is transferred from one computer to another.

To transfer the control it is unconditionally necessary that there is one active AGMaster program inside the network that has a "status good" connection to the maggen and to the senrec program.

Normally the AGMaster will start on your Tans-Computer and all connections are established some minutes after power on.

Assuming there is already one AGMaster program running and complete connected, you can Switch the Master with the following steps:

start AGMaster on your computer

The AGMaster program comes up with 2 red "waiting..." bars and all grey question marks in the status section.

start MC500 on your computer

The window "MC500 - - select AG500 server" appers.

enter the name of your Trans-Computer

Enter the name of the computer where the running and complete connected AGMaster program is.

In case there are problems with the name server or hosts files, please enter the IP address instead of the computer name.

wait for green "system running"

The green bar "system running" confirms that the actual AGMaster program has all connections and is able to transfer the control to another AGMaster program.

In other conditions, the switch Master procedure will fail.

click system control

An additional window MC500 - - system control appears. Here click the "switch AGMaster" button.

enter the name of your computer

Please enter the name of the computer where the AGMaster is waiting for control.

2-D Measurement "AG200 session"

Make sure, the system is online like shown in figure 2.

in AGMaster prepare for data recording (complex offset and angle adjust)

in MC500 click AG200 session

option for AG200 session

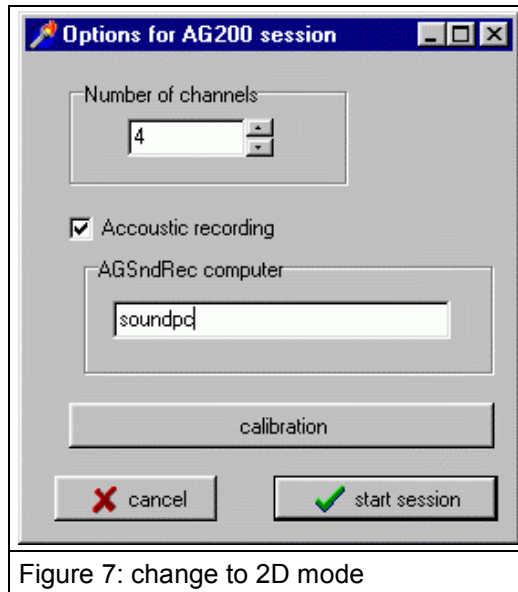


Figure 7: change to 2D mode

choose the numbers of channels you will use

in case you are working with a soundcard on any other computer, fill in the name of the "acoustic" computer (see AG500 Sound Recording manual "Sound_rec.pdf")

start calibration

After clicking the calibration button (fig.7)

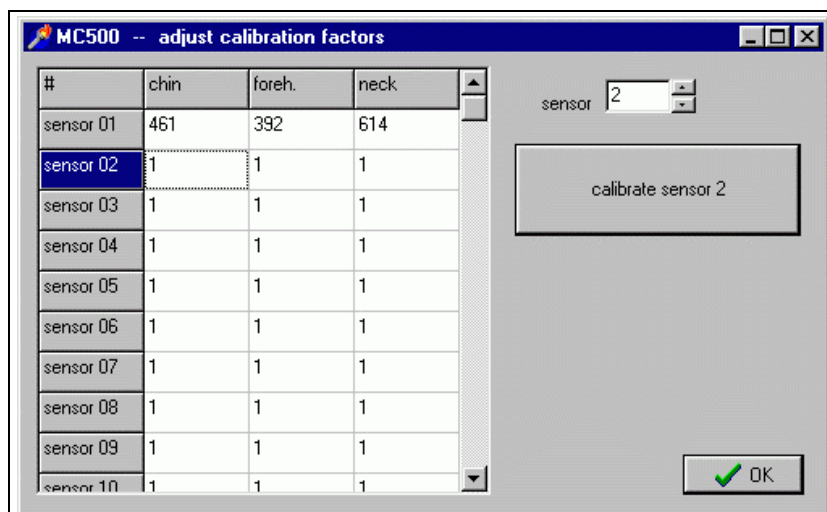


Figure 8: calibration window for 2D mode

- select the sensor to calibrate
- put this sensor into the center of the measuring are

- twist and tilt the calibration mechanic until the signal (look to the AGMaster window) has its maximum.
- click the calibrate sensor button
- calibrate next sensors
- finish with ok

start session

The “start session” button (fig.7) will open a “save as” window.

- create a new folder for your data
- enter a filename with maximum 6 characters
- click the OK button

Now only the main window is on screen. The AG200 check box is grey and there is a new “close AG200 session” button.

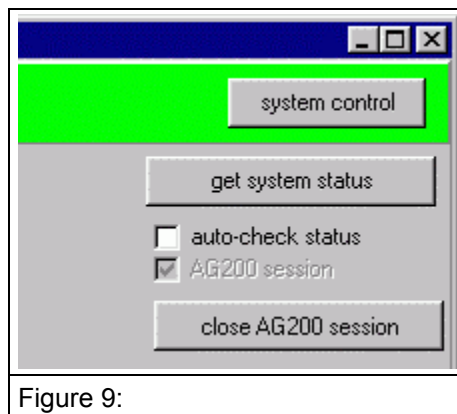


Figure 9:

- choose the number of samples (fig. 2 [6])
- start sweep recording (fig. 2 [7])
- wait until the “please wait while recording” message disappears
- repeat sweep recording for up to 99 sweeps
- press “close AG200 session” button.

Now the data are stored in the new folder. The data format is compatible to the Articulograph AG100 format and can be opened with Emalyse, Tailor or MultiCV

Troubleshooting

Restart system



Figure 10: error condition

If you see this message, try to re-synchronize the system using “system control”/“re-synchronize” button. Activate “auto-check status” and wait for a minute or two.

If the panel still keeps red, please shut down the system using “system control”/“shut down”.

Attention: It is important to switch off system power for at least 1 minute before turning power on again.