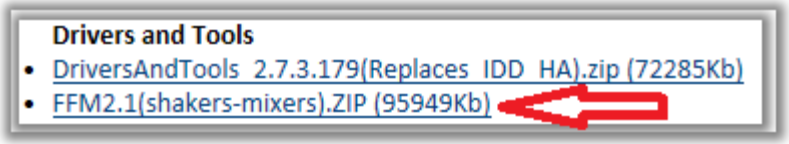
IDEX CORPORATION

FAST & FLUID
THE TINTING COMPANY

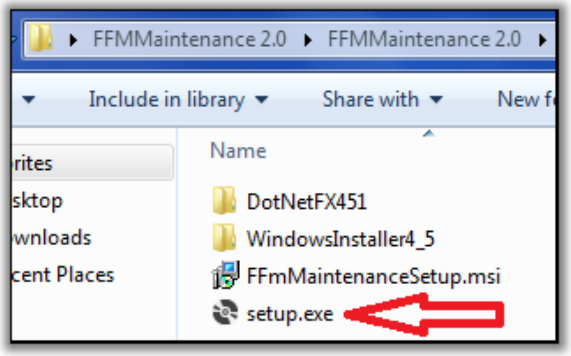
FFmMaintenance + SK 550 1.1

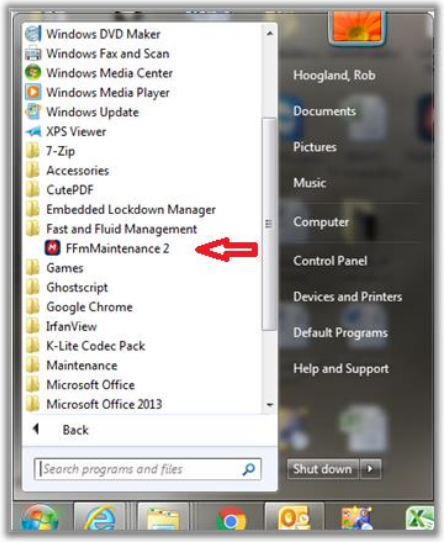
Download and Installation of the newest version of the program.

As of mid-2016 the newest version of this program (made necessary because of proceeding mixer developments) has become available: FFmMaintenance 2.1. This is a separate installer that can be downloaded from www.my.fast-fluid.com



Installation takes place by unzipping the folder and running the setup.exe " as Administrator" (rightclick with mouse) If neccesary (at first use or when no PrismaPro is installed) the USB-serial driver needs to be installed separately to enable communication via one of the USB ports.

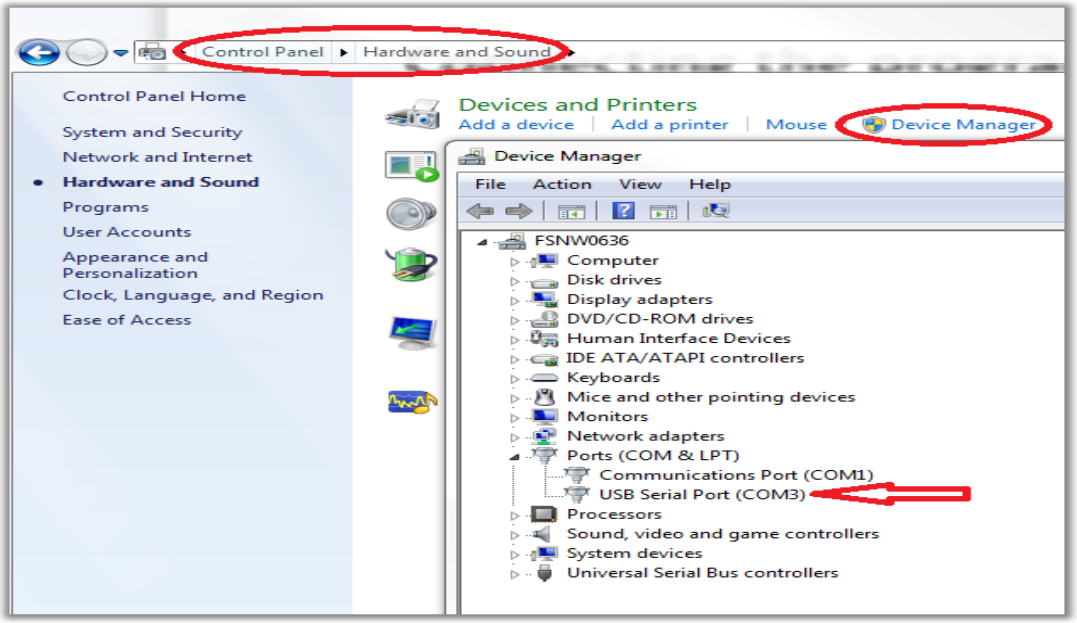




It will not create a shortcut on the desktop and installs itself in the folder "Fast and Fluid Management" under "Start"

Download and installation of the newest version of the program:

Successful installation of the USB/Serial driver is shown under “Device Manager/Ports” in the Control Panel of Windows. This port is shown when the machine is connected with a USB cable, and hides when the cable is pulled. It is recommended to use only this driver for connectivity with USB boards of FFM machines.



(Previous) version 1.7.xxx of the FFM Maintenance program comes as a part of two larger installers that can be downloaded from my.fast-fluid.com:

1. Drivers and Tools installer 2.7.3.174 (non-PP users)
2. PrismaPro installer 2.6.3.518 (PP users)

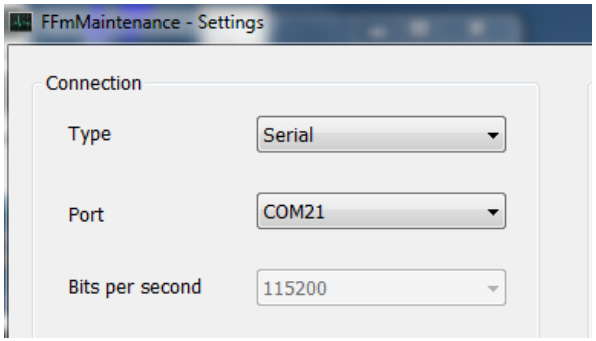
The use of this previous version of the program is still valid on the SK550 1.1

Connecting the program with the machine

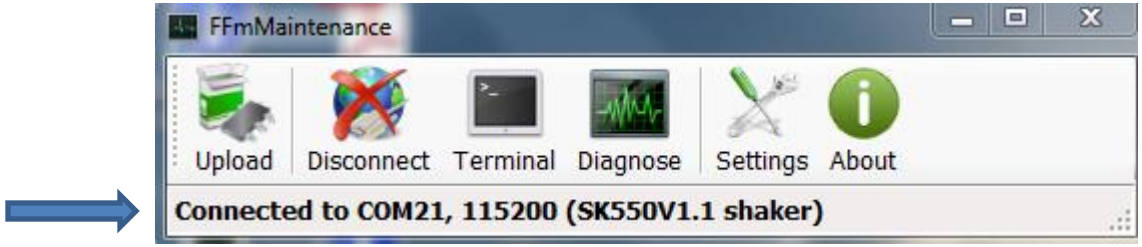
To approach the machine (logic board) with the service program FFmMaintenance, you need to connect it with a USB cable.
The USB connector is located at the back of the machine,
next to the net-entry.

Connection FFmMaintenance- SK550 1.1

After you have started the program and set the comport right (under “Settings”) the SK550 1.1 is connected with FFmMaintenance.

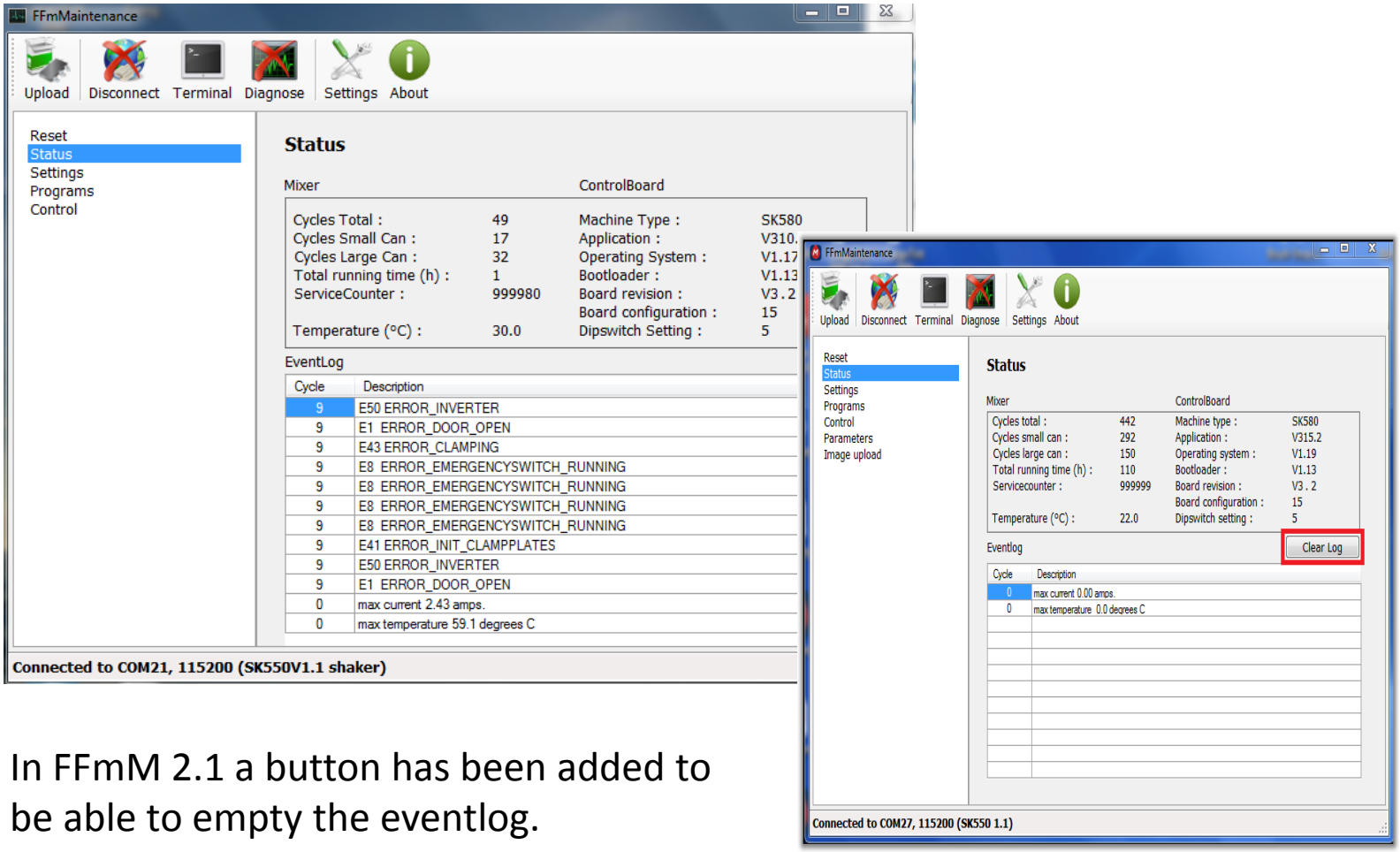


The board will answer back to the program.



Status

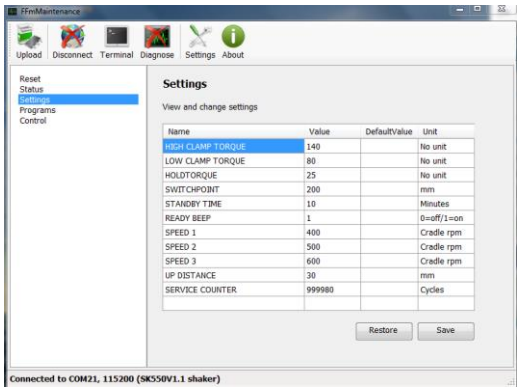
To check the Status, including eventlog of the machine:
Select “Diagnose” ⟶ “Status”.



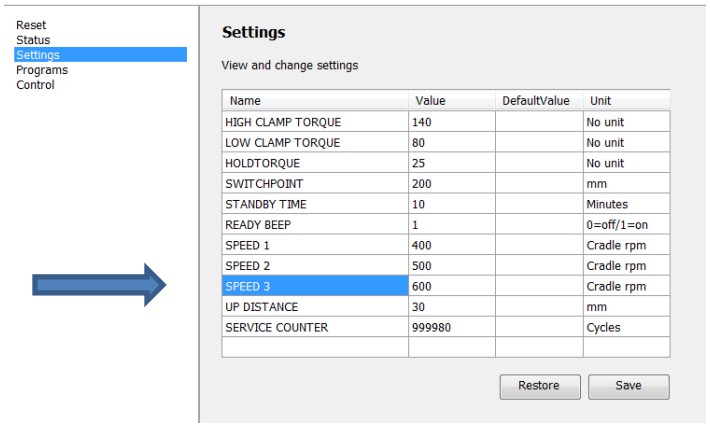
In FFmM 2.1 a button has been added to be able to empty the eventlog.

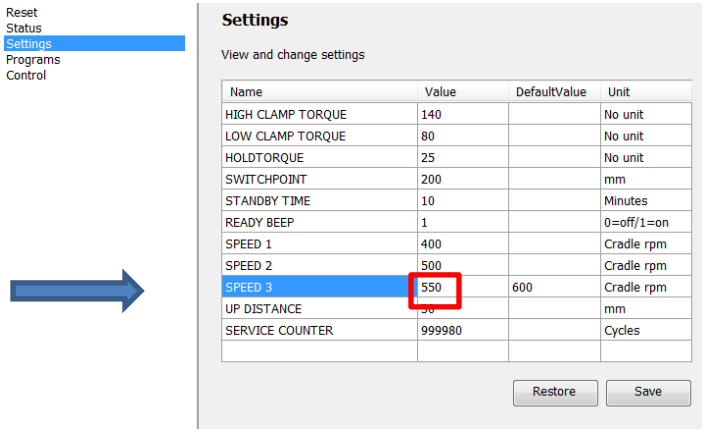
Parameter value change

To change a Parameter select “Settings” under “Diagnose”:



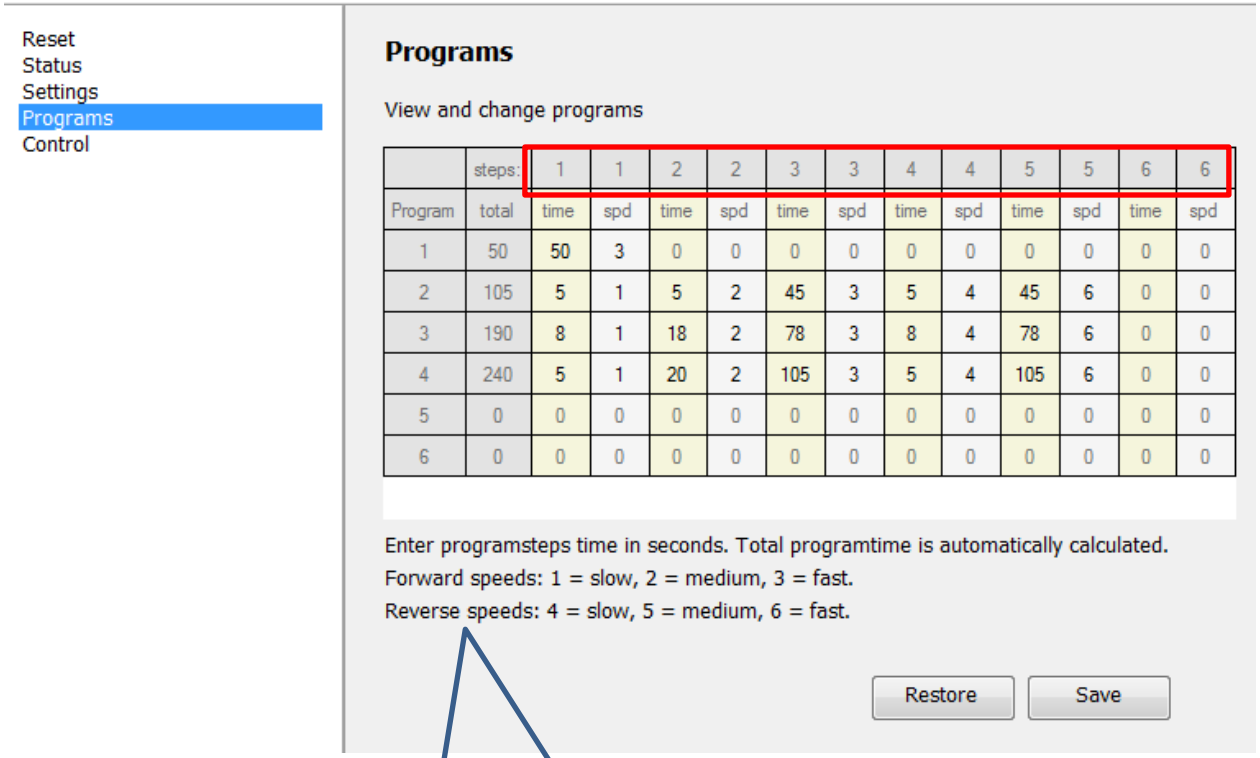
To change Speed 1,2 or 3:
Example: Change: “Speed 3” from 600 Cradle rpm to speed 550 Cradle rpm.
Change 600 into 550 in the column “Value” and then “Save” the changed value.
The 600 will move to the column “Default Value”.



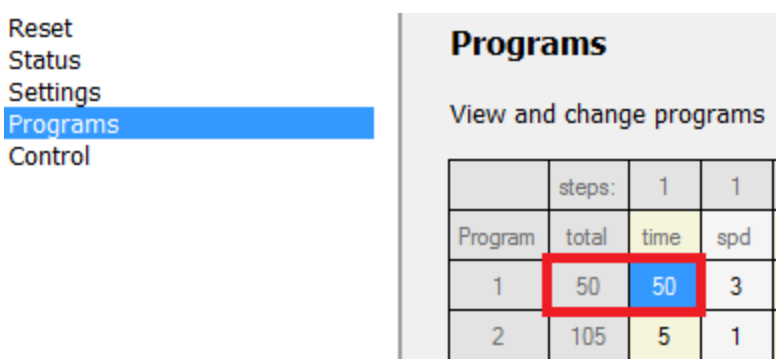


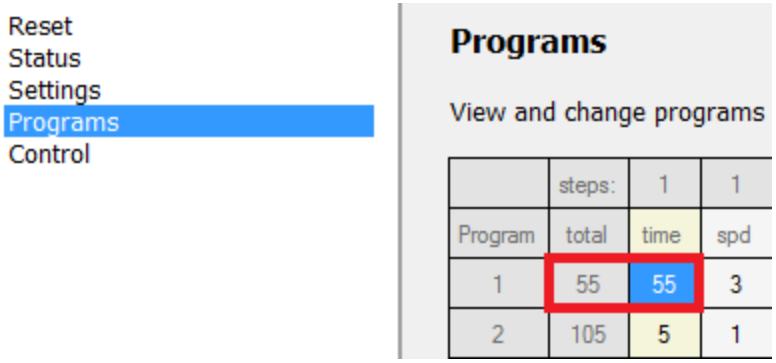
Program settings change

The values for time and speed can only be changed in columns 1,2,3,4,5,6.
The total time will change with the changed time settings in the time columns.
The value in the blocks is in seconds and the time showing on the display of the machine is shown in minutes.



Example:
Changed Program 1 the time from 50 to 55 seconds

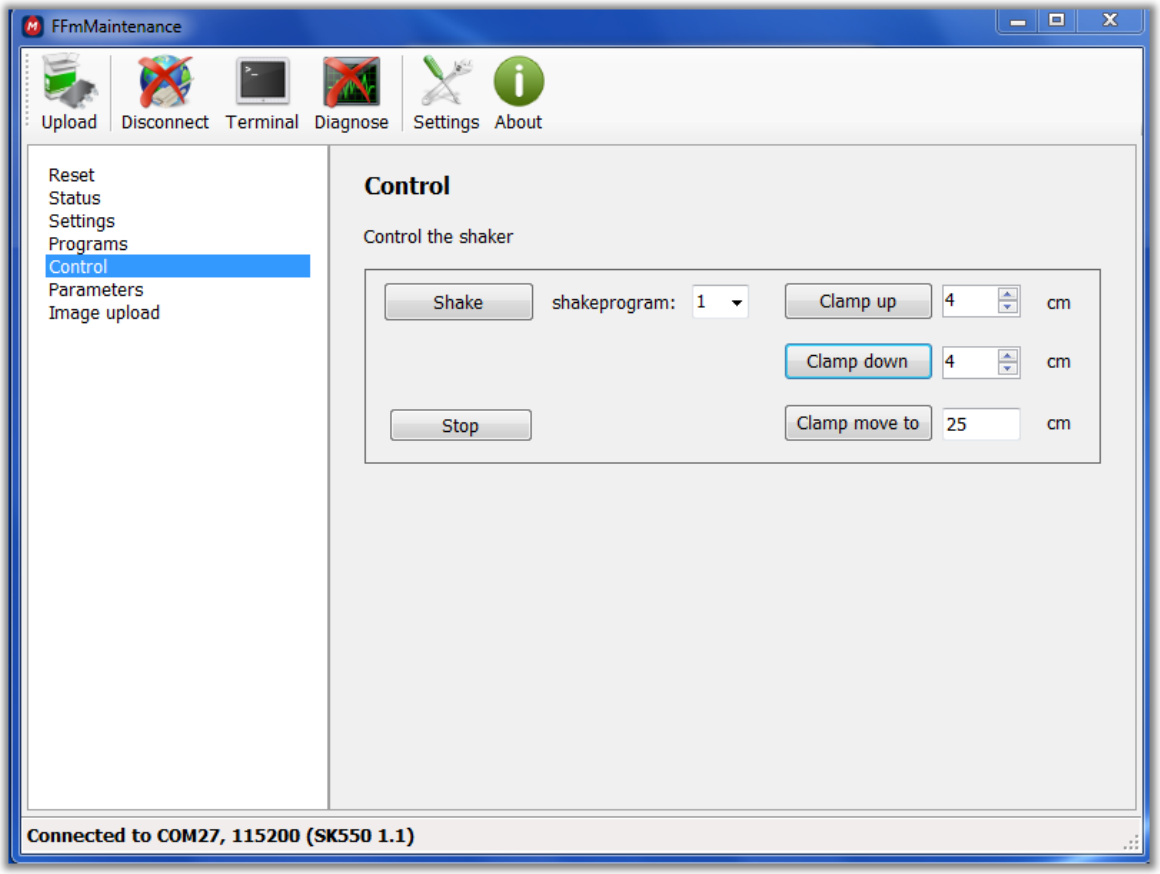




After changing the time you have to Save it.

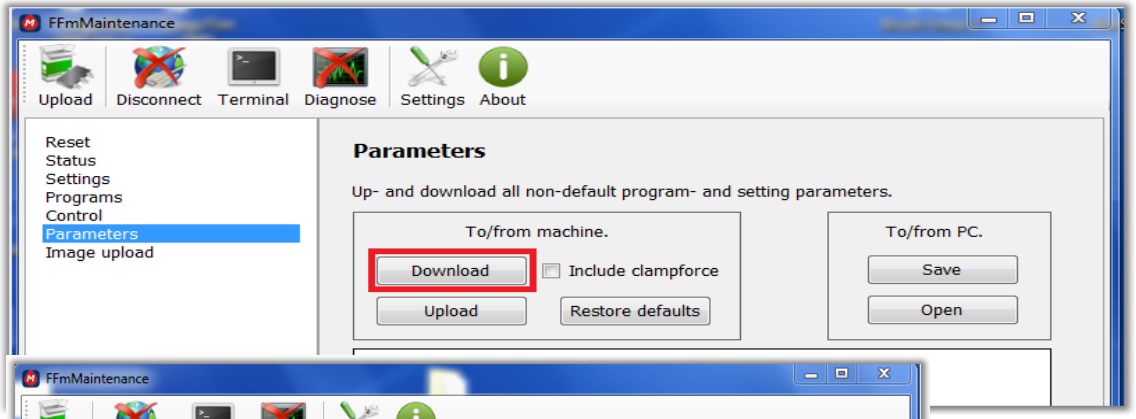
All the “set times” in each time column accumulated, make the total shake time in seconds in the column “ total”.

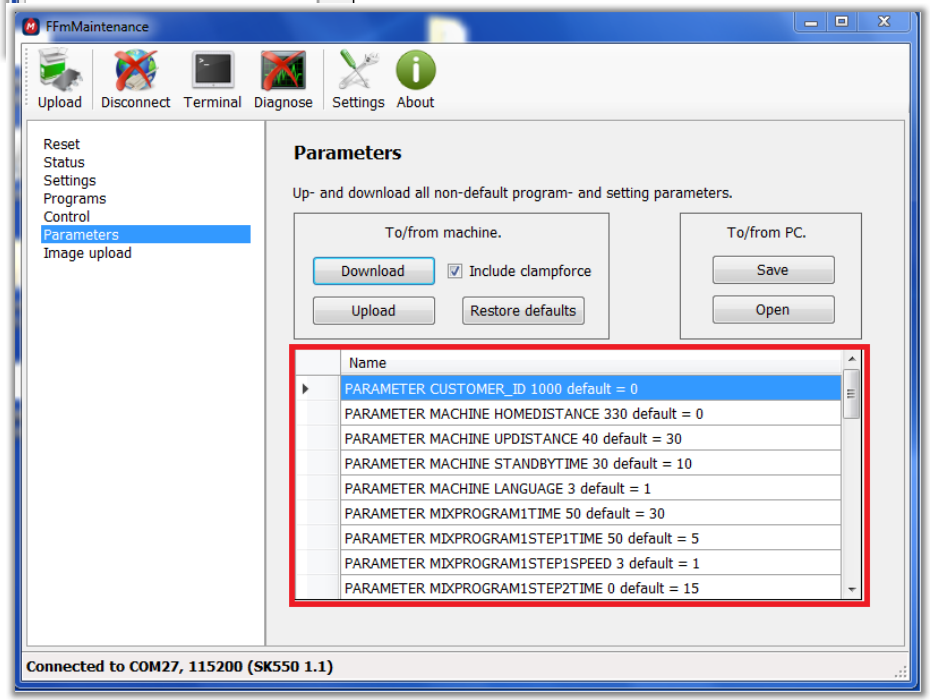
Control



With this functionality, the clampplate can be moved manually over a certain distance (“Clamp Up” and ”Clamp Down”) or to a certain position (“Clamp move to”), measured from the lowest position upward. Furthermore, the shakeprograms can be chosen, run and stopped manually.

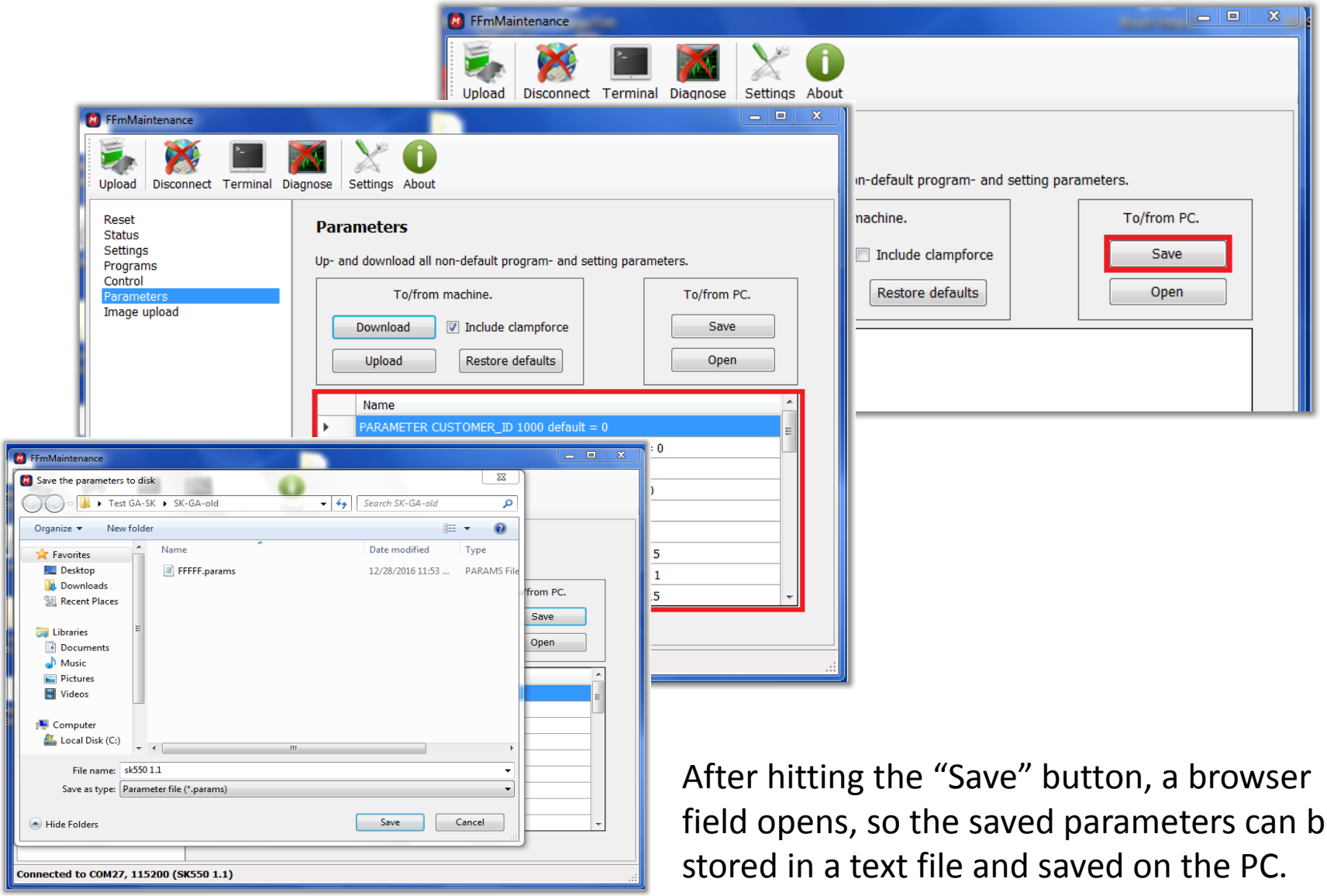
Up/download possibility between machine and PC, FFmM 2.1





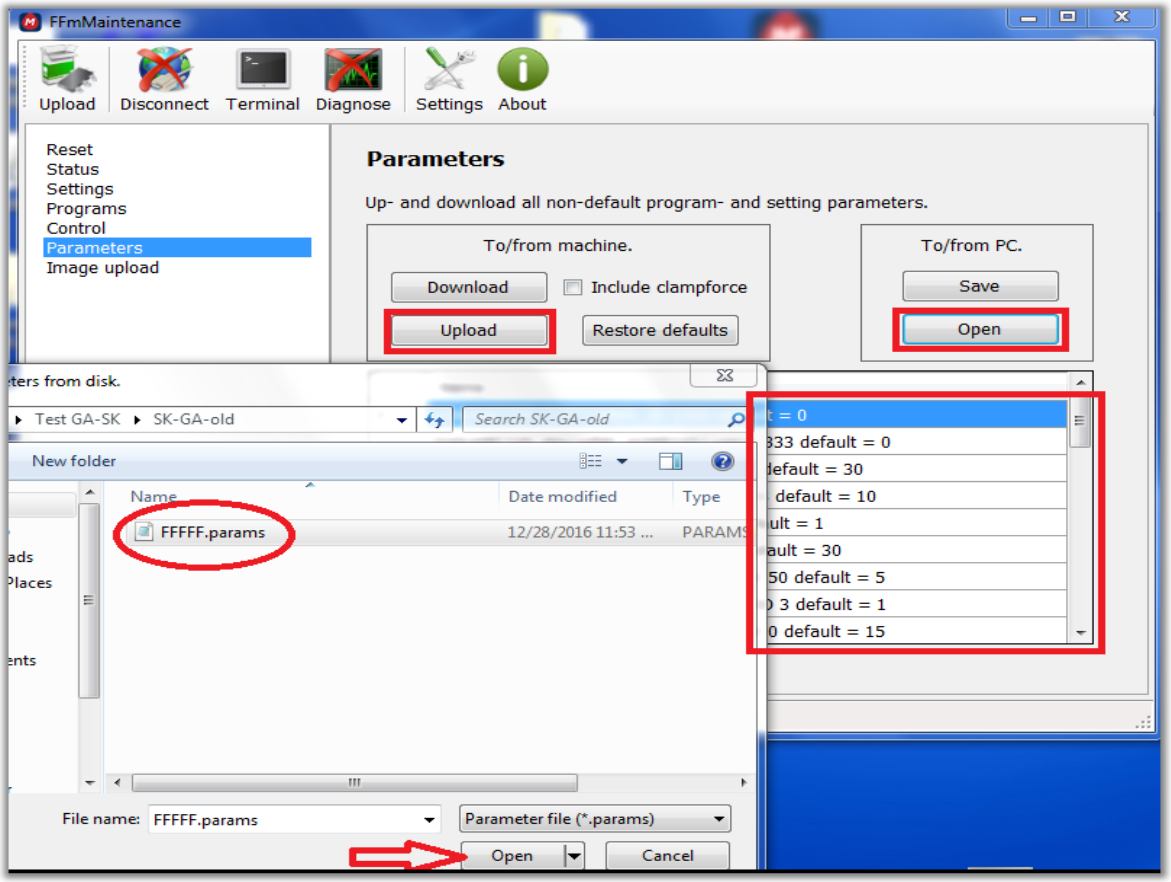
Clicking the “download” button results In listing the non-default program-and parameter settings in the field below. The clampforce can be included or excluded by (un)checking the little box next to the download button

Up/download possibility between machine and PC, FFmM 2.1



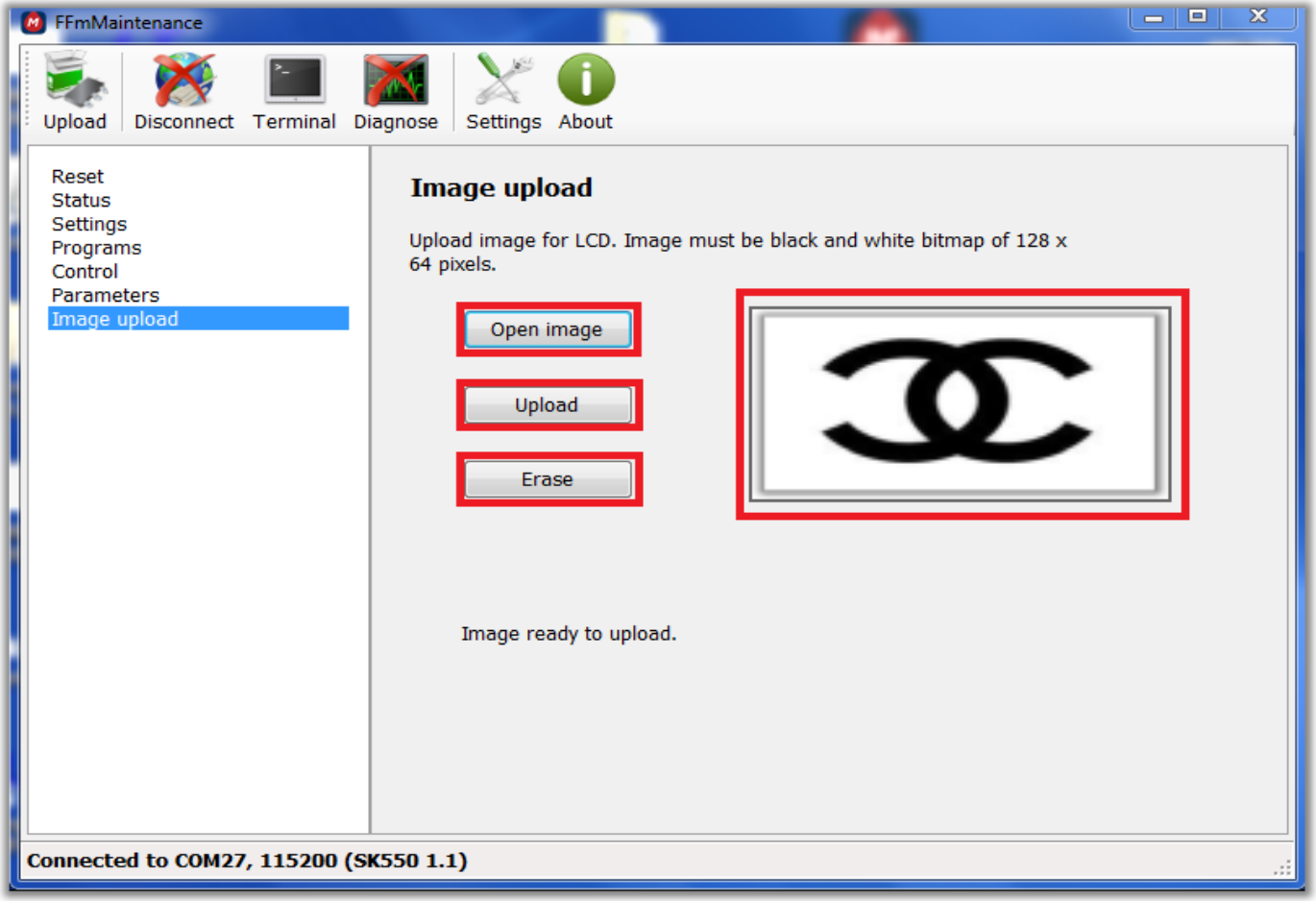
After hitting the “Save” button, a browser field opens, so the saved parameters can be stored in a text file and saved on the PC.

Up/download possibility between machine and PC, FFmM 2.1



Uploading a textfile with the requested non-defaults to the machine, begins with hitting the “Open”-button to browse to the file. The browser screen opens to be able to locate and select the file. Doubleclicking or hitting "Open" in the browserscreen loads the list with non-defaults into the FFmMaintenance field.
Hitting “Upload” causes the selected file to be uploaded to the machine.

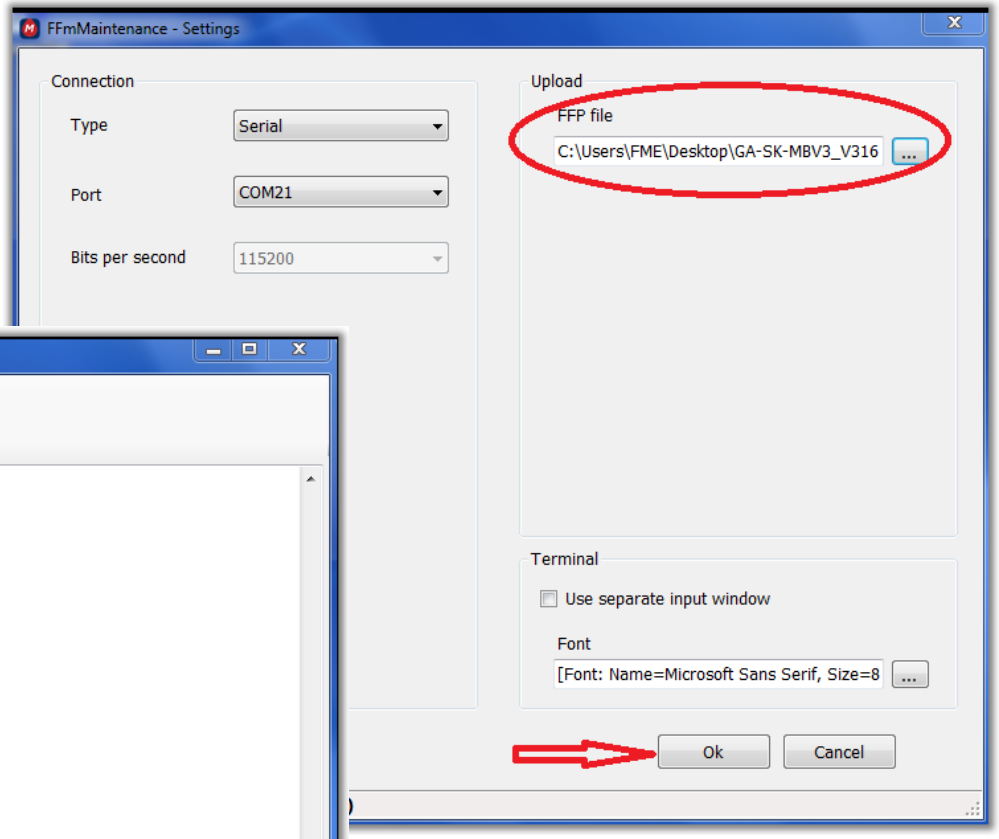
Image upload

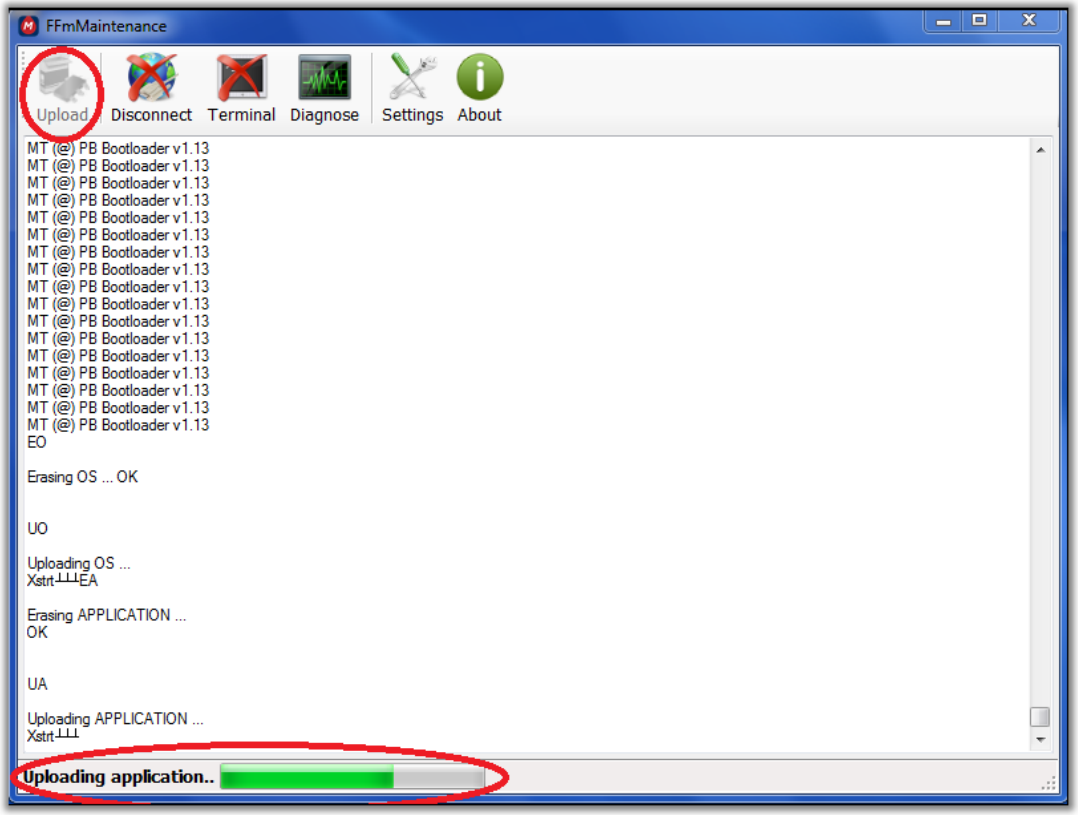


This feature allows the user to select and upload a chosen image to the machine. This feature only works in combination with firmware version 3.16 The image **must** be a black and white bitmap-picture of 128 x 64 pixels. "Open Image" shows it in the screen, "Upload" sends it to the logic board (where it is shown in the machine display during stand by) and it can be deleted from the machine by hitting the "Erase" button.

Uploading the logic board with new firmware

After opening the program and establishing connection, indicate the path to the firmwarefile *.ffp





Hit “OK” and in the main screen “Upload”. The upload sequence will show itself in the main screen when “terminal” is opened.

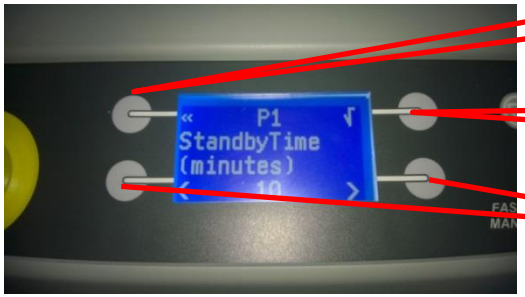
Service mode

To enter the service mode via the keypad/display unit, press P4 and the UP button together till

Relevant information regarding firmware, its OS and and display software, as well as shake cycles.

The actual service mode is entered after one of the buttons had been pushed

Leave Service mode

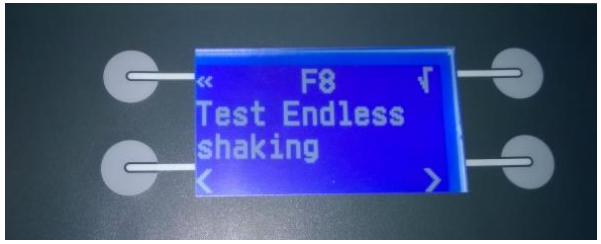


Enter Parameter
Save changed parameter

Scroll thru the menu forwards or backwards.
Change parameter.

Test programs SK550 1.1

There are three test programs to check the functionality of the machine, mostly used for production and R&D purposes.



F8 Endless shaking using speed settings of the program T3.
F9 Endless shaking and clamping and unclamping also program T3
F10 Endless Clamping test.

The speed settings compare to T3 can be used by changing the time.

Check and set High/Low clampcurrent.

Go in the “Service Menu” to F6-F7

Enter with right upper button.

Change the value if necessary (+/-), to check the value place your measure equipment between the plates. Use the CLAMP button to clamp and check the value.(and the up-button to unclamp.) The plates will move and clamp but there is no shake motion.

Press the SAVE button to save a value.

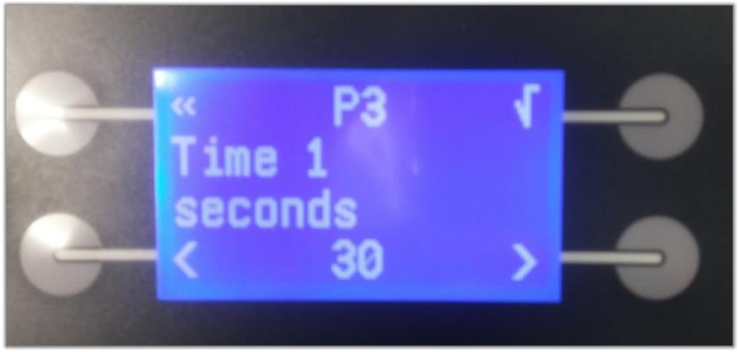
Clamping-related settings:

P12: The updistance is the distance the clampplate will be raised after shaking.

P13: The hold current is a certain amount of electrical current through the clamping motor to hold the clampplate in position during shaking. This prevents the clampplate from coming loose during shaking.

P14: The switchpoint distinguishes between the high clampcurrent being applied (large cans) or the low clampcurrent. (small cans) The value is measured from the bottom table upwards.

Change program times and shaking speed



The 6 program times can be changed under **P3-P8** and the 3 shaking speeds can be changed under **P9-P11**

Here only the total program times can be changed. To define the sub-stages of each program, you must connect with FFMmaintenance first.

Be aware that manual changes made here are not being read by FFMmaintenance when connected. FFMmaintenance holds its own program settings that can be transferred to the board if necessary.

General display settings:

F2: The contrast of the dislay can be adjusted.

P15: The display can also be used inverted.

P2: The choice can be made to have a beep, indicating that the shake process has finished. The beep sounds at the moment the door is released for opening.

General machine settings:

F3: The language selection can be made: english(1), dutch(2) or german(3)

F4: The program defaults can de restored

F5: Customer specific program settings can be loaded by entering a 4 digit customer ID

P1: standby-time (standstill-time before the machine goes into power saving mode) can be changed

Errormessages: general machine errors

E01: Error Door Open. Appears when doorswitch circuit is opened during machine operation. Closed door/repair circuit, and hit any key to return to program selection menu.
E08: Error Emergency Switch. Appears when emergency switch is pressed during startup and/or machine operation. Release switch and hit any key to return to program selection menu.
E11: Error No Can Found. Appears at exceeding “max down” setting when touching a can before clamping/shaking. Press any key to reinitialize the clampplate.
E200: Error Autostart Reset. Appears when the logic board is reset during one of the testprograms.

Errormessages: firmware related errors

E99: Error Parameter Not Available. Appears when software fails to read parameters from parameterlist to send to memory or inverter.

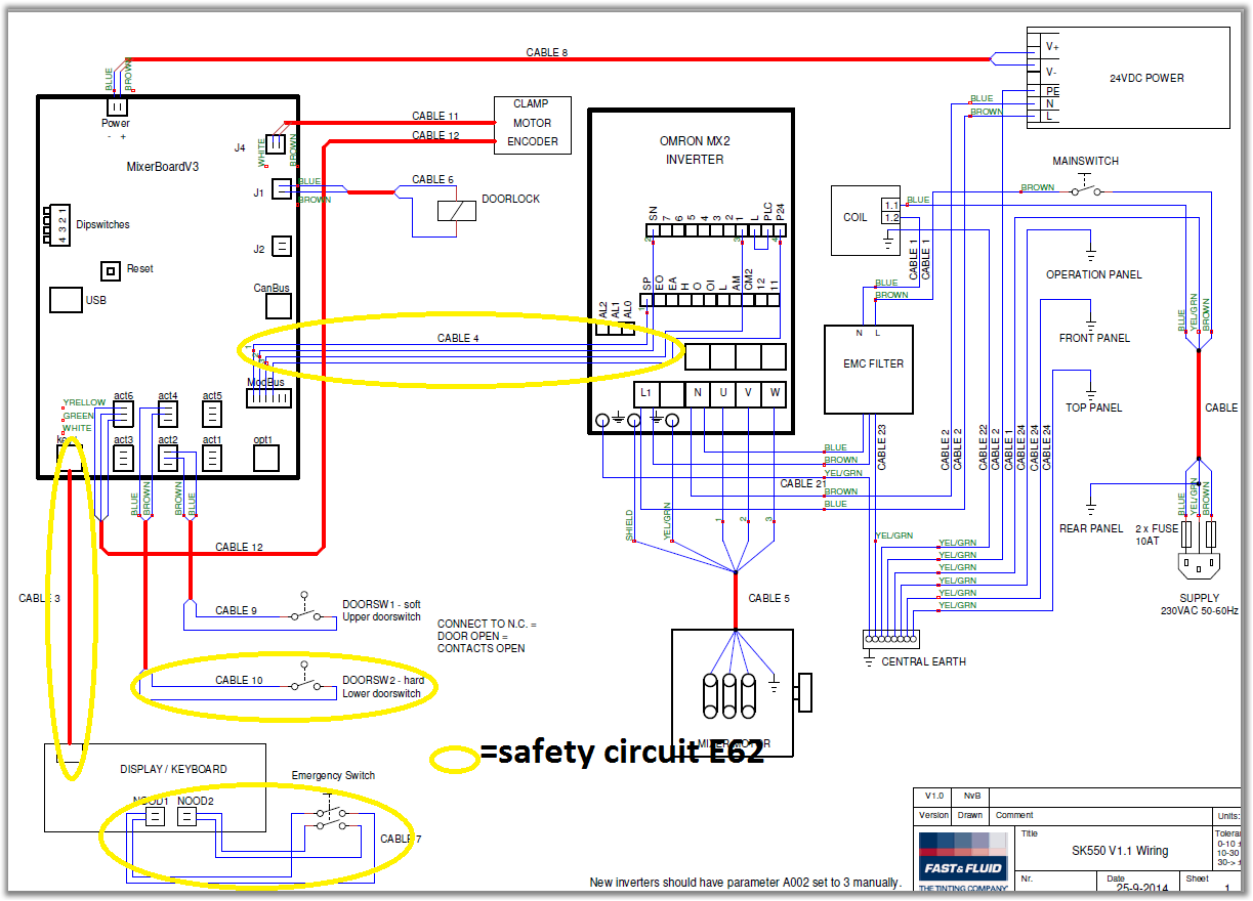
Errormessages: clamping process errors

E09: Can crushed. Appears when the clampplate moves down 6mm during shaking.
E38: No Encoder Pulses. Appears during clampplate movement when no encoder pulses are detected. (Encoder integrated in clamping motor)
E39: No clampmotor current. Appears during clampplate movement when no clampmotor current is detected.
E41: Error Init Clampplates. Appears (only) during intialization of clampplate when homeposition is not found. (No decrease of encoder pulses and/or increase of clampmotor current)
E42: Error Clampplates Up. Appears only at clamp up when shaking is done, when clamp tries to reach “updistance” setting. Either no encoder pulses or no clamp current is detected.
E46: Error Clamp Current Not Reached. Clamp current setting too high.
E47: Error Clampplates Sticking. Appears when there is too little distance between clampplate and can when shaking command is given. Too little movement of clampplate and/or no proper current measurement possible.

Errormessages: inverter related errors

E50: Error Inverter. Appears when logic board doesn't get an answer back from the inverter on its first "ping" at start up.
E51: Error Inverter Init. Appears when logic board doesn't get an answer back from the inverter at its "inverter init" command at start up.
E52: Error Inverter Communication. Appears when the logic board doesn't get an answer from the inverter at general communication during mixermotor movement.
E54: Error Inverter Forward. Appears when the inverter fails to start the shake motor (In forward or backward direction; the message is the same)after logic board command.
E56: Error Inverter Stop. Appears when the inverter can't stop the shake motor (motor voltage 0) after having decreased the speed of the motor to home speed.
E60: Error Inverter Send Parameter. Appears at start up when the logic board fails to send the list of motor and processparameters to the inverter.
E61: Error Inverter Home. Appears when the inverter fails to deccelerate the shake motor to home speed (= frequency 0 at existing motor voltage) after shaking.
E62: Error Inverter Emergency. Appears when security circuit is opened during machine opertion.(lower doorswitch, inverter, emergency switch, via logic board)
E63: Error Inverter Alarm. Appears when the inverter is in alarm state. Practically only when overheated. (Approx 80 deg. Check with FFMMaintenance for inverter temperature.

Errormessages: inverter related errors, E62



Responsible for errormessages E62 are the components and wiring connections encircled in yellow. The reason is, that machine safety has to be executed in a double fashion. Responsible for errormessage E1 is the upper doorswitch circuit.

Errormessages: inverter related errors

E96: Error Inverter Get Temperature. Appears when logic board is unable to read the inverter temparature.
E97: Error Inverter Get Value. Appears when logic board is unable to read parametervalues from the Inverter.
E98: Error Inverter Get Speed. Appears when the logic board is unable to read the mixmotor speed from the inverter.