

# Software Update

## Installed Computer Software

Type	Path	File / ini
x Windows Security Center		
x System Driver		
x Display Driver		
x Anfatec AMU2.x Driver version: 0.0.5.25	<a href="C:/Program Files/Anfatec/driver">C:/Program Files/Anfatec/driver</a>	sxm.inf / sxm.sys
x Anfatec AMU2.x Driver	<a href="C:/Program Files/Anfatec/driver">C:/Program Files/Anfatec/driver</a>	lockin.inf / lockin.sys
x Anfatec Scan	<a href="C:/Program Files/Anfatec/bin">C:/Program Files/Anfatec/bin</a>	sxm.exe / sxm.ini
x with source version: 17j	<a href="C:/Program Files/Anfatec/source">C:/Program Files/Anfatec/source</a>	
x Anfatec Present version: 1.02.35	<a href="C:/Program Files/Anfatec/bin">C:/Program Files/Anfatec/bin</a>	present.exe / present.ini

## Software update procedure

### Step 1): Safe your current version

- Check you current software version (number in history → *Nr*)
- Create a directory <C:/Program Files/Anfatec/driver/old>
- Copy the driver files sxm.sys and sxm.inf into this directory
- Rename the old driver files to sxm*Nr*.sys and sxm*Nr*.inf
- Create a directory <C:/Program Files/Anfatec/bin/old>
- Copy the file sxm.exe into this directory
- Rename the old file ../old/sxm.exe to ../old/sxm*Nr*.exe

### Step 2): Copying the new files to the system

- Copy the new files sxm.sys and sxm.inf into the directory <C:/Program Files/Anfatec/driver>
- Copy the files install.exe and setup.bat into the directory <C:/Program Files/Anfatec/driver>  
(if these file sare not yet there)
- Copy the new file sxm.exe into the directory <C:/Program Files/Anfatec/bin>

### Step 3): Updating the driver:

- execute the “setup.bat”
- reboot the PC

### Step 4): Add new entries to the used ini-files:

- check, which ini-files are used by your software (standard: sxm.ini)
- open these files in any text editor
- you might add the following entries manually, if you require them for your work:

### 1) How to disable the visual display of the channels for the linearisation of the scanner.

These channels are measured in systems with an implemented hardware linearisation, only. In version 18, they always are acquired and saved, independently on whether you need them or not. In version 19, their signals are used even if you do not acquire them directly. In order to make them “invisible” for the images acquisition, you need to close the sxm-program and make the following setting in the ini-file:

a) check, which channels are used for hardware linearisation:

```
[HardLin]
```

```
InX=14
```

```
InY=15
```

--> means, that the channels "14+1" and "15+1" are used.

b) make them invisible with this entry:

```
[WindowInvisible]
```

```
ADC15=0 ; this is for channel 14+1
```

```
ADC16=0 ; this is for channel 15+1
```

c) open the program and check in [Options/Acquire] that DMX and DMY are not acquired (they might have different names) anymore. If they are still shown as gray check boxes and you cannot disable them, then close the program, open the ini-file again, put all entries in [Window] to

2) In order to improve scan linearity, one might like to accelerate the scanner in each line before the data are acquired into the image. This function, a movement of the scanner outside the acquired scan range, is called “overscan”:

```
[scanpara]
```

```
overscan=10 → defines the “overscan” range as percentage of the image range  
default value: 10 %
```

3) In order to enable the **synchronous filtering for the AMU2.6 version** of the lockin amplifiers, you might add:

```
[Scanner]
```

```
SyncFilter=1 → 1 == enables; default: 0 ==> false
```

```
[dncopt]
```

```
SyncFilter=1 → 1 == enables; default: 0 ==> false
```

4) In order to improve the **approach**, one might increase a **delay time** that the system does not check the signal after a vertical coarse movement for

```
[FeedPara]
```

```
ApproachDeadTime=10 → is a number in  $\mu$ s. Default is 2  $\mu$ s.
```

5) If you come from an older sxm-version and have to update the driver as well, the following entries might be missing and need to be added (**Multi-LockIn Window missing?**):

```
[software] → these entries make parts of the software visible (→ 1) or  
invisible (→ 0)
```

```
OsziButton=1
```

```
SpectButton=1
```

```
CoarseButton=1
```

```
Crosshairsbutton=1
```

dncButton=1  
SelButton=1  
Oszi2Button=1  
ScanButton=1  
CameraButton=1  
SlidButton=1  
LockinButton=1

→ the multi-lockin window is invisible, if thi sentry is missing.

6) **Joystick problems after update?** → In order to enable joystick support for coarse movement, it now required to enable the joystick function with “use=1”:

[joystick]  
use=1

## Short review of new functions in Version 19

In general:

- The script language supports a switch for the laser power:  
command: 'SETLASER' >0 on/ =0 off
- The averaging during spectrum acquisition is enabled → DNC/Options → Acquire
- The Sync filter can be enabled for AMU2.6
- The Q-Control implemented in the hardware of the AMU2.6 is used in the software.
- Additional spectroscopy (closed loop and open loop) option have been enabled and require a new setting of the parameters for the spectrum acquisition.
- A “Dead time” allows to improve the approach for sensitive system or systems with cross talk.

Special customized function (not necessary for standard controller or AFM):

- Agilis-Stepper (from Newport) functions and their entries:  
[stepper]  
AgilisVoltageZUp voltage height for upwards steps  
AgilisVoltage44 voltage for stepper function 44  
AgilisVoltageZdown voltage height for downwards steps  
AgilisVoltage45 voltage for stepper function 45
- M825 motor (from Thorlabs)  
Z825B\_Speed47\_HighSpeed  
Z825B\_Speed47  
Z825B\_Time  
Z825B\_Speed48\_HighSpeed  
Z825B\_Speed48