



VIALINK Operating instructions

Document Change History

Vers.	Status:	Name:	Date:	Change:
V00	Released	MBe	25.8.2011	Document issued
V01	Released	IMe	30.08.2011	New name with part number
V02	Released	IMe	02.09.2011	Description compatibility pipettes & FW update
V03	Released	MBe	01.06.2012	Update for new VIALINK version 2.0
V04	In work	MBe	07.06.2013	Update for VIAFLO 384, other improvements
V04	Released	IMe	06.12.2013	Update for V3.0.x and ASSIST
V05	Released	MBe	13.08.2014	Update for V4.0
V06	Released	MBe	05.05.2015	Update for VIALINK V4.3, VIAFLO firmware 3.20 and ASSIST firmware 1.07
V07	Released	IMe	15.10.2015	Update for VIALINK V4.4, VIAFLO 96/384 firmware change
V08	Released	MBe	30.05.2017	Update for VIALINK V4.6.0, VIAFLO and VOYAGER firmware 3.40
V09	Released	MBe	12.12.2017	Update for VIALINK V4.7.0 and pipette firmware 4.01 (for new hardware generation 3).
V10	Released	MBe	28.03.2018	Update for VIALINK V5 and pipette FW 4.12
V11	Released	MBe	04.10.2018	Update for new FW: Pipette (4.15), V96/384 (3.12)

Table of Contents

Introduction	3
1.1 Purpose	3
1.2 Scope	3
2 System requirements	3
2.1 Personal computer / Laptop	3
2.2 VIALINK compatibility and connectable devices	4
2.2.1 Hardware Generations	4
2.3 Programming Stand for electronic pipettes	4
2.4 Bluetooth module for VIAFLO/VOYAGER electronic pipettes	4
3 Installation of VIALINK	5
3.1 Preparation	5
3.2 First time installation	5
3.3 Update VIALINK	5
3.4 Running VIALINK without installation	5
3.5 Installation of hardware	5
4 Establishing a connection	5
4.1 Connect INTEGRA Electronic pipettes to your PC	5
4.1.1 Connection via Programming (USB) Stand (#4211)	6
4.1.2 Connection via Bluetooth	6
4.1.3 Connection via ASSIST and ASSIST PLUS	6
4.2 Connect VIAFLO 96 / 384 to your PC	6
4.3 Connect ASSIST and ASSIST PLUS to your PC	6
5 Operation	7
5.1 Main screen	7
5.2 Creating and editing custom programs	7
5.2.1 Local program library	8
5.2.2 Program organizer	9
5.2.3 Creating a new program	9
5.2.4 List of available program steps	11

5.2.5	Position teaching in the program organizer -----	18
5.2.6	Creating an Automatic Mode program for VIAFLO 96/384 -----	18
5.3	Uploading new custom programs to the pipette -----	20
5.4	Uploading custom pictures -----	21
5.5	Service history -----	21
5.6	Updating firmware -----	21
5.6.1	VIAFLO and VOYAGER electronic pipettes -----	21
5.6.2	VIAFLO 96/384 -----	22
5.6.3	ASSIST and ASSIST PLUS -----	22
6	Settings -----	22
7	Trouble Shooting -----	24

Introduction

1.1 Purpose

VIALINK connects INTEGRA VIAFLO and VOYAGER electronic pipettes, VIAFLO 96/384, ASSIST and ASSIST PLUS to a computer. It allows creating and exchanging custom programs, uploading custom pictures for the start screen, creating a service history and upgrading instruments with the newest firmware.

VIAFLO 96 and VIAFLO 384 are separate instruments but for the purpose of these operating instructions they will be abbreviated with VIAFLO 96/384.

1.2 Scope

These operating instructions describe the installation and operation of VIALINK V 5.2.0 or higher.

2 System requirements

2.1 Personal computer / Laptop

CPU:	INTEL or AMD (not older than 5 years)
USB port:	2.0 / 3.0
Bluetooth:	optional
Memory:	> 2GB
Internet access:	highly recommended for installation and updates
Operating system:	MS Win XP (SP2 or later), MS Win 7, MS Win 8.x, MS Win 10
Framework:	Microsoft .NET 2.0 (or later)

2.2 VIALINK compatibility and connectable devices

	VIALINK 5.2.0 Compatibility	
Device and firmware:	Firmware update only	Full functionality
VIAFLO / VOYAGER (1 st hardware generation)	FW 1.xx and 2.xx Not connectable (use previous VIALINK version)	
VIAFLO / VOYAGER (2 nd hardware generation)	3.01 – 3.33	3.40
VIAFLO / VOYAGER (3 rd hardware generation)	4.01 – 4.14	4.15
VIAFLO 96/384 Control unit VIAFLO 96/384 Base unit (1 st hardware generation)	FW 1.xx and 2.xx Not connectable (use previous VIALINK version)	
VIAFLO 96/384 Control unit VIAFLO 96/384 Base unit (2 nd hardware generation)		3.xx 3.xx
ASSIST	≤ 1.06	≥1.07
ASSIST PLUS		≥1.00

2.2.1 Hardware Generations

VIAFLO /VOYAGER	Firmware	Serial number
1 st generation	2.xx	1xxxxxx
2 nd generation	3.xx	6xxxxxx
3 rd generation	4.xx	7xxxxxx

VIAFLO 96/384	Firmware	Serial numbers
1 st generation	2.xx	≤ 14090533 (V96) ≤ 14090226 (V384)
2 nd generation	3.xx	≥ 14090534 (V96) ≥ 14090227 (V384)

2.3 Programming Stand for electronic pipettes

The Programming Stand (PN 4211) needs to be connected to the USB port of your PC. It can be used to charge the pipette battery and enables the communication between the PC and the pipette.

2.4 Bluetooth module for VIAFLO/VOYAGER electronic pipettes

For a wireless communication the Bluetooth pipette module (PN 4221) and the Bluetooth PC module (PN 4225) can be used instead of the USB Programming Stand. Updating the firmware is not possible using the Bluetooth connection.

3 Installation of VIALINK

3.1 Preparation

- Download VIALINK from <http://www.integra-biosciences.com> in the download or product section.
- Unzip the ZIP-file into a temporary folder on your local drive (e.g. C:\temp\vialink or your desktop).

3.2 First time installation

- Log in to your computer with administrator log in.
- Run the setup routine and choose a directory where VIALINK should be installed (e.g. C:\Programs\Integra Biosciences AG\VIALINK). If you are not logged in as administrator, you may be prompted for the administrator login.
- VIALINK can also be installed on a network drive. Choose your network drive during installation.

3.3 Update VIALINK

- You can check for updates directly in the VIALINK application (Menu "Update") or you can reinstall by executing the setup of a new VIALINK version.
- Your actual pipette and custom program databases are resumed.

3.4 Running VIALINK without installation

- VIALINK can be run from a USB drive or any other program folder. Simply copy the installed directory (e.g. C:\Programs\Integra Biosciences AG\VIALINK) to your specific drive.

3.5 Installation of hardware

The Programming (USB) Stand, VIAFLO 96/384 or ASSIST require a hardware driver to be installed the first time they are connected to the computer.

- The driver is automatically installed on the computer if you are logged in as administrator and if you have an active internet connection.
- If you do not have access to the internet, you need to install the drivers manually. The required driver is packed in the setup file of VIALINK and is extracted to \Driver of your VIALINK installation directory.

4 Establishing a connection

4.1 Connect INTEGRA Electronic pipettes to your PC

- Start VIALINK.
- The following options are available to connect a pipette to your PC.

Connection type	Description
USB	To create and exchange custom programs, upload start up pictures and update the firmware. <i>See section 4.1.1</i>
Bluetooth	To create and exchange custom programs and upload start up pictures. <i>See section 4.1.2</i>
Via ASSIST / PLUS	To create and exchange ASSIST/ASSIST PLUS custom programs. <i>See section 4.1.3</i>

- Upon establishing the connection successfully the connector symbol turns green.



- To disconnect an active pipette, click on the green connector symbol and confirm.

4.1.1 Connection via Programming (USB) Stand (#4211)

- Connect the USB cable to the stand and a free USB port on your computer. Also connect the stand to the mains power supply. Then hang the pipette onto the stand.
- Go to the “Toolbox” of the pipette. In the menu “Communications” select “USB” on the pipette.

Note:

- The Programming Stand can work without power supply. The power supply is required if the pipette is charged with the Programming Stand. To avoid a pipette shutdown due to low battery during work with VIALINK, we recommend to always connecting the Programming Stand to the power supply, especially when updating the pipette’s firmware.
- Do not connect/disconnect the power supply during the use of VIALINK.

4.1.2 Connection via Bluetooth

- Pipette and PC need to be paired for the first connection. Please refer to MS Windows Help to learn how to pair Bluetooth devices. The following pairing code may be required: 12345.
- Go to the “Toolbox” of the pipette. In the menu “Communications” select “Bluetooth”.

4.1.3 Connection via ASSIST and ASSIST PLUS

- Connect the ASSIST with the delivered standard USB cable (type A to B) to a free port on your computer.
- Switch the ASSIST on.
- Go to the “Toolbox” of the pipette. In the menu “Communications” select “Via ASSIST (PLUS)”.
- The pipette now connects to the ASSIST base unit and confirms with a message “Communication mode active”. Do not exit the communication mode by pressing BACK.
- In VIALINK the pipette should display as actively connected while ASSIST appears disconnected.

4.2 Connect VIAFLO 96 / 384 to your PC

- Start VIALINK.
- Connect the VIAFLO 96/384 with a standard USB cable (type A to type B) to a free port on your computer.
- Activate the communication mode: Go to the “Toolbox” and enter the menu “Communications”. Press “OK” to enter the communication mode (on previous models turn “Serial” to “ON”).
- A successful connection is indicated by the green connector symbol.
- To disconnect VIAFLO 96/384, click the green connector symbol or simply switch off the unit.

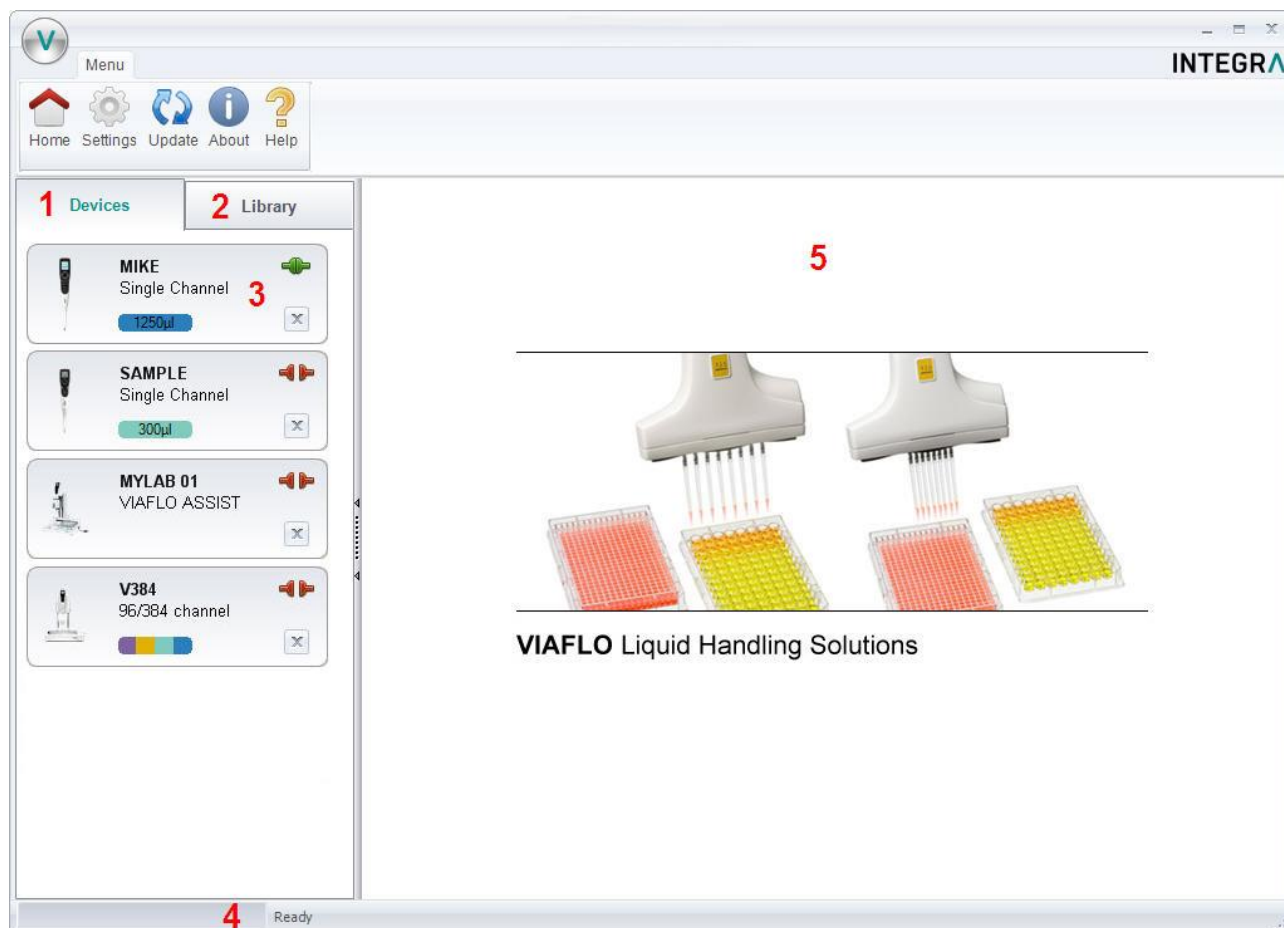
4.3 Connect ASSIST and ASSIST PLUS to your PC

- Start VIALINK.
- Connect the ASSIST with a standard USB cable (type A to type B) to a free port on your computer.
- Switch the ASSIST on.
- A successful connection is indicated by the green connector symbol.

- To disconnect ASSIST simply switch off the unit.

5 Operation

5.1 Main screen



- 1 **Devices:** Here you will see all instruments that have been connected to VIALINK. A green symbol indicates an actively connected instrument, the red symbol a disconnected instrument.
- 2 **Library:** This is the custom program library on your computer. New programs can be created or existing programs can be modified.
- 3 Click on the pipette field to see all pipette menus.
- 4 The status bar indicates the progress of an ongoing process.
- 5 **Main window:** Showing all pipette menus. You have to select a pipette from the left before menus are shown.

5.2 Creating and editing custom programs

With VIALINK you can create and store custom programs on your computer. This enables you to distribute a program to multiple pipettes or store programs in the local library as back up. It also makes creating complex programs easier.

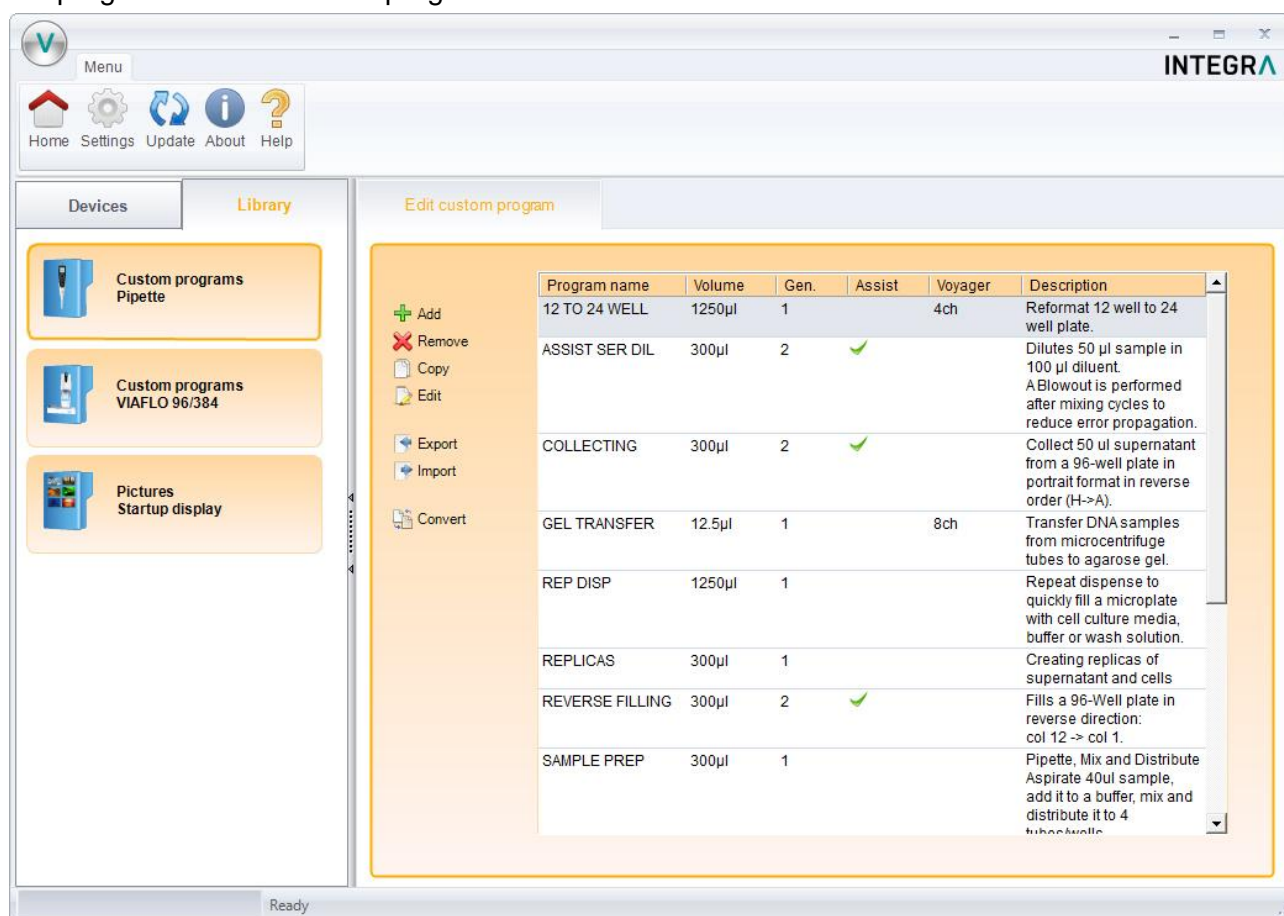
There are two options to create custom programs.

- In the library of VIALINK. Programs are stored locally in the VIALINK folder and can be edited any time.

- In the program organizer of the pipette. Programs are stored only on the pipette but they can be copied to the local library. This mode allows active teaching of positions for VIAFLO 96/384 and ASSIST programs.

5.2.1 Local program library

- The “Library” tab opens the custom program and picture library.
- Select the appropriate library: Pipettes or VIAFLO 96/384.
- Use “Add” to create a new custom program, “Remove” to delete a custom program from the library, “Copy” to duplicate an existing program or “Edit” to change parameters of an existing program.
- “Export” allows to export a custom program as *.xml file and “Import” lets you import a custom program from a *.xml file.
- “Convert” allows converting a custom program from one library to the other. E.g. a Pipette program to a VIAFLO 96 program.



Note:

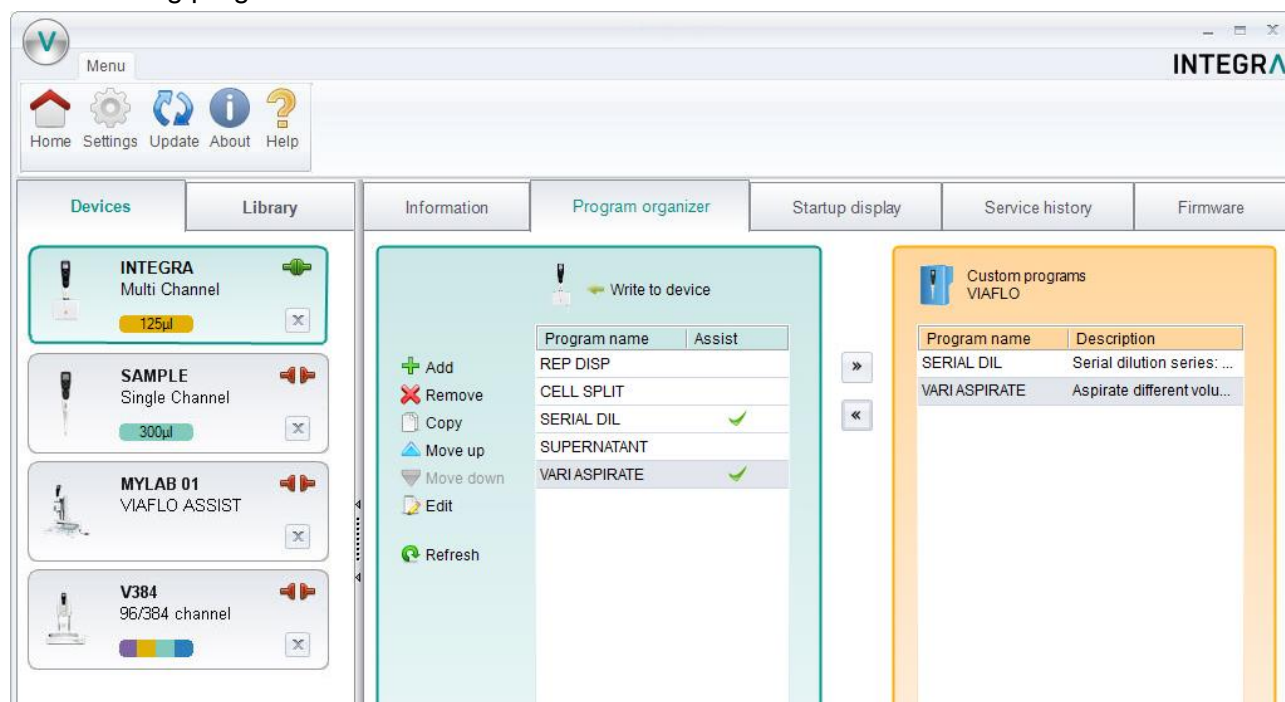
- VIALINK does not distinguish between VIAFLO 96 and VIAFLO 384 programs. The programs are compatible with both units and are stored in the combined VIAFLO 96/384 program library.
- The library for pipettes distinguishes between programs for pipettes of hardware generation 2 and 3, indicated in the column “Gen.” The generation needs to be defined when creating a new program. Programs can be easily converted from one generation to another by changing the flag.
- ASSIST and ASSIST PLUS custom programs are in the pipette library and are marked with a green check mark symbol in the column “ASSIST”.

5.2.2 Program organizer

The procedure to create a custom program in the program organizer is the same as in the local library. The same program steps are available but in addition the program organizer allows active teaching of positions (Move X/Z and Move Z steps) for VIAFLO 96/384 and ASSIST programs.

The instruments need to be actively connected (green plug symbol) as described in section 4 to allow editing in the program organizer.

- Select the active device from the device list: Pipette or VIAFLO 96/384.
- Use “Add” to create a new custom program, “Remove” to delete a custom program from the green Program organizer, “Copy” to duplicate an existing program or “Edit” to change parameters of an existing program.

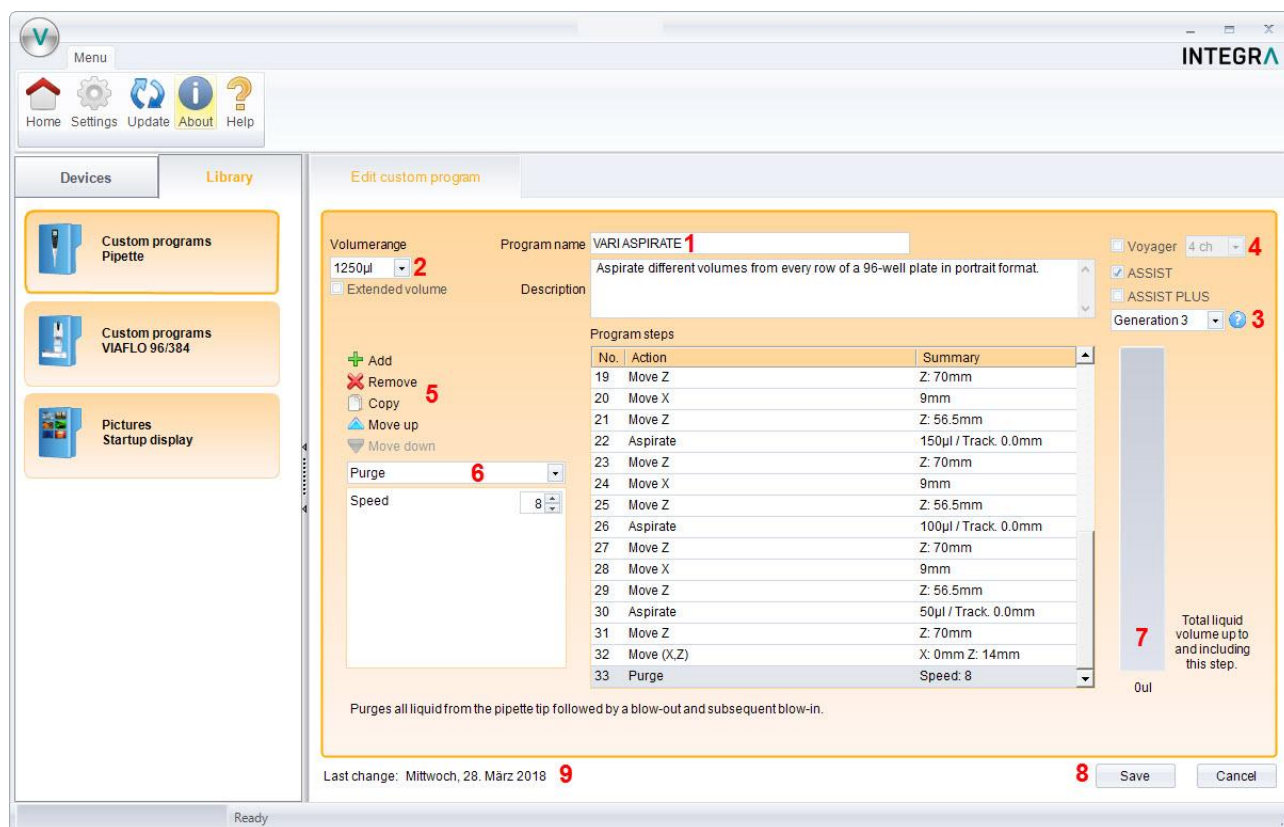


Note:

- Programs created in the program organizer (green box) are stored on the connected pipette. They can be copied to the local library (orange box) of your PC using the arrow buttons.

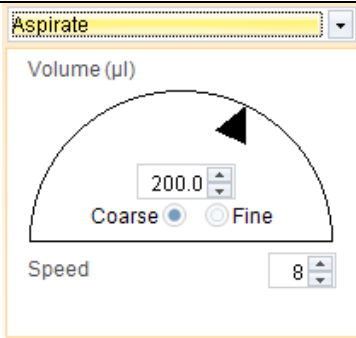
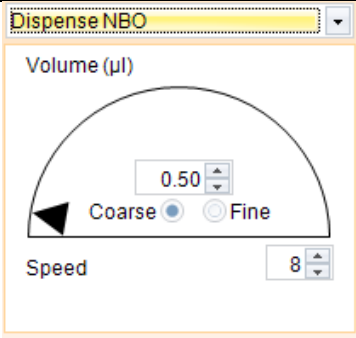
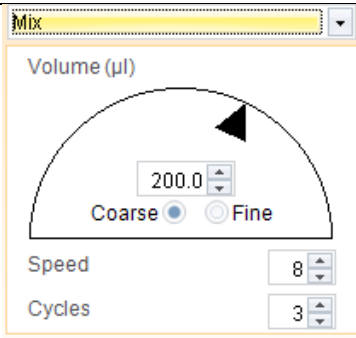
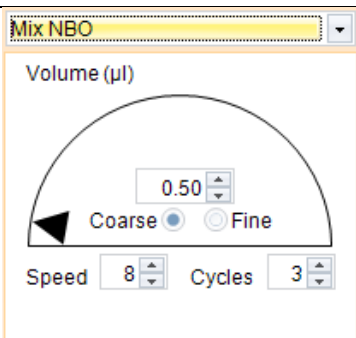
5.2.3 Creating a new program

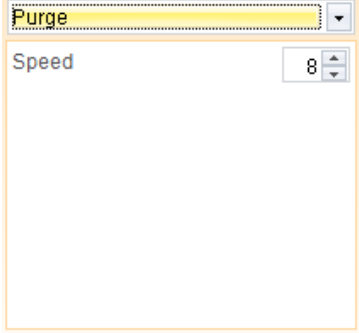
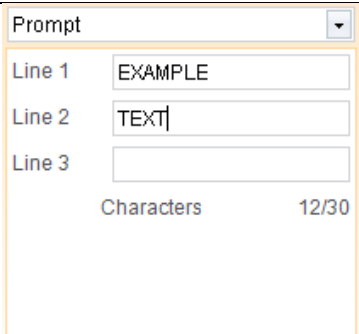
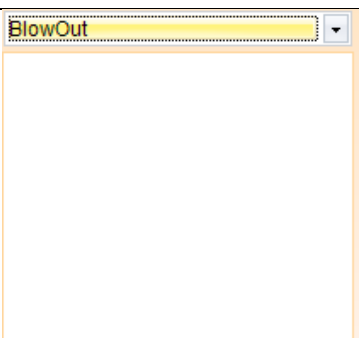
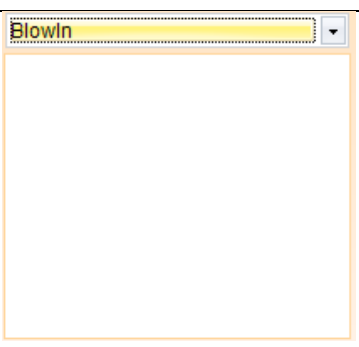
- In the **library** or in the **program organizer**, click “Add” to create a new program.
- Double click on the new program, which was given a generic name, e.g. “Program 1”.
- Follow the steps below exemplified for the library:



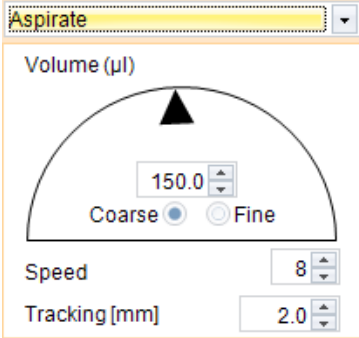
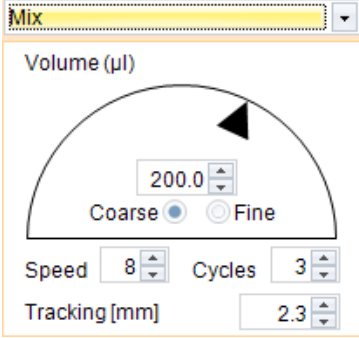
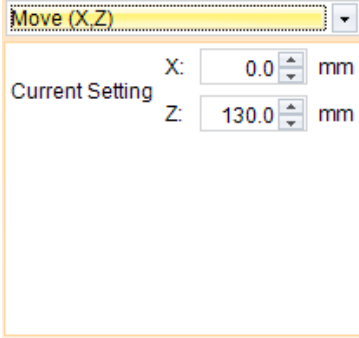
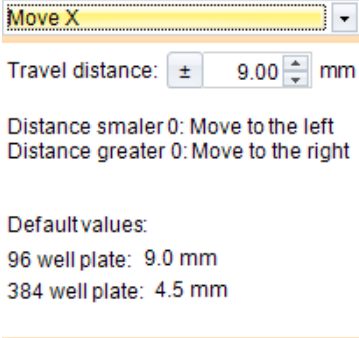
- 1 Enter a name for the program and add a description. The description is displayed only in VIALINK but not on the pipette itself.
- 2 Select the volume range of the pipette.
- 3 Choose the generation of the pipette:
Generation 2 for pipettes with firmware \geq V 3.x.x and serial number 6xxxxx
Generation 3 for pipettes with firmware \geq V 4.x.x and serial number 7xxxxx
- 4 Check applicable boxes:
a.) VOYAGER pipette. Also choose the number of channels.
b.) A program for ASSIST or ASSIST PLUS.
- 5 Add, Remove or Copy program steps. You can change the order of steps using “move up” or “move down”.
- 6 Select a programming step from the “Select action” drop down menu and enter the required parameters.
- 7 The green bar shows the amount of liquid in the tip up to and including the selected step.
- 8 Click “Save” to finish and save the program.
- 9 Shows the date when the program was last modified.

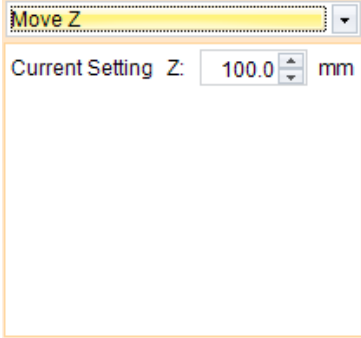
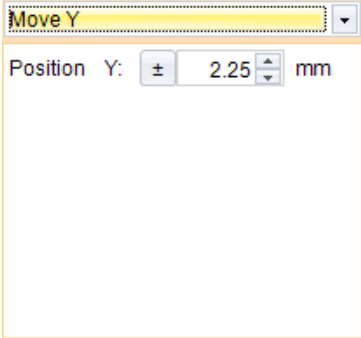
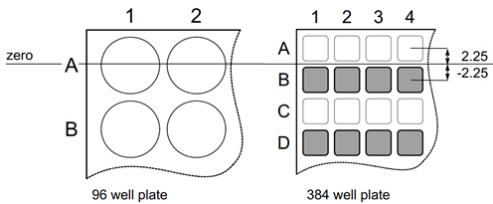
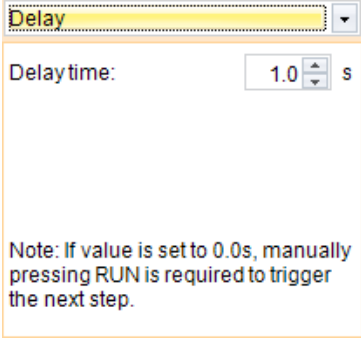
5.2.4 List of available program steps

Programming step	Description
Aspirate and Dispense	
	<p>Use the dial to change the volume. To increase the volume in smaller increments, select “fine”. Alternatively, you can enter the volume directly.</p> <p>Use the arrow keys to change the aspiration/dispense speed (1-10) or enter the number directly.</p> <p>The <i>Dispense</i> step includes a Blowout and Blowin.</p>
Dispense NBO (No Blowout)	
	<p>Sets the volume and speed for a dispense without blowout.</p> <p>Residual liquid may remain in the tip, resulting in inaccurate and imprecise liquid delivery. Select this step only if introduction of air into the sample must be prevented and accuracy and precision is not priority.</p>
Mix	
	<p>Selects the mixing volume by adjusting the dial or enter the volume directly.</p> <p>You can also change the mixing speed and the number of mixing cycles.</p> <p>The <i>Mix</i> step includes a Blowout and Blowin.</p>
Mix NBO (No Blowout)	
	<p>Sets the mixing volume and speed without a blowout after the dispense.</p> <p>Residual liquid may remain in the tip, resulting in inaccurate and imprecise liquid delivery. Select this step only if introduction of air into the sample must be prevented and accuracy and precision is not priority.</p>

<p>Purge</p> 	<p>Empties the tip, regardless of the amount of liquid in the tip.</p> <p>The <i>Purge</i> step includes a Blowout and Blowin.</p>
<p>Prompt</p> 	<p>The <i>Prompt</i> step will display a message during a pipetting protocol before continuing with the next step.</p> <p>Three lines with a total of 30 characters are available.</p>
<p>Blowout</p> 	<p>Performs a Blowout. A Blowout needs to be performed after the last dispense to expel residual liquid.</p> <p>Note: When using a standard <i>Dispense</i>, <i>Mix</i> or <i>Purge</i>, Blowout and Blowin are performed automatically to empty the tips and do not need to be programmed.</p>
<p>Blowin</p> 	<p>If a Blowout step was added, it needs to be followed directly with a Blowin. It brings the piston(s) back to the home position. Make sure to remove the tips from the liquid before starting the Blowin.</p>

Tip Spacing (VOYAGER pipette only)							
<div><div>Tip Spacing</div><table><tr><td>Min</td><td>Spacing [mm]</td><td>Max</td></tr><tr><td>9.0</td><td>9.0</td><td>14.0</td></tr></table><p>Default values:</p><p>9.0 mm</p><p>11.5 mm</p><p>14.0 mm</p></div>	Min	Spacing [mm]	Max	9.0	9.0	14.0	<p>Allows changing of the tip spacing.</p> <p>The maximum and minimum width of the spacing depends on the number of channels and the nominal volume of the pipette.</p>
Min	Spacing [mm]	Max					
9.0	9.0	14.0					
Loop							
<div><div>Loop</div><p>Loop to step: 2</p><p>Number of loops: 6</p></div>	<p>A loop repeats the steps between the selected step and the loop command.</p> <p>E.g. if the program reaches the loop step, it goes back to step 2 and repeats the steps until there 12 times.</p> <p>The number of steps in a program can often be shortened by adding a loop.</p>						
Timer							
<div><div>Timer</div><p>Delay time: 10 <input checked="" type="radio"/> sec <input type="radio"/> min</p><p>Note: After the delay time the next step is triggered automatically without pressing RUN.</p></div>	<p>Sets a timer from 0 s to 60 min. When the countdown is finished, the next step is performed automatically.</p> <p>If under Preferences - Sounds the option Messages is set to “On” a beep tone sounds.</p>						
Beep							
<div><div>Beep</div></div>	<p>Sets a beep.</p> <p>The sound is only active, if under Preferences – Sounds the option Messages is set to “On”.</p>						

Additional steps available in ASSIST & ASSIST PLUS custom programs	
Aspirate and Dispense with tracking function	
	<p>Defines the aspiration and dispense volume.</p> <p>The “Tracking”-Function enables a constant tip immersion depth by following the liquid level. The liquid tracking is based on the tracking distance (in millimeters) defined by the user. During aspiration the pipette moves the set distance down and during dispensing it moves up.</p>
Mix with tracking function	
	<p>Selects mixing volume, speed and cycles.</p> <p>The “Tracking”-Function enables a constant tip immersion depth by following the liquid level. The liquid tracking is based on the tracking distance (in millimeters) defined by the user. During aspiration the pipette moves the set distance down and during dispensing it moves up.</p>
Move (X,Z)	
	<p>The plate or pipetting arm moves to a desired position in X and Z direction, saved as “Current Setting”.</p> <p>Fill in the values if you know them. If the correct values are unknown, they have to be edited later on the instrument itself:</p> <ul style="list-style-type: none"> - Disconnect from VIALINK - Mount pipette on ASSIST and connect via Bluetooth - Choose the program and edit the Move (X,Z) step to teach the correct values. <p>Setting up the program in the program organizer is easier as this allows live teaching of positions. See 5.2.5.</p>
Move X	
	<p>The plate or pipetting unit travels the set distance in X-direction relative to the current position.</p> <p>To pipette into the left direction, set a negative value. To pipette into the right direction, set a positive value.</p>

<p>Move Z</p> 	<p>The pipette moves to the selected Z-Height.</p> <p>Fill in the values if you know them. If the correct values are unknown, they have to be edited later on the instrument itself:</p> <ul style="list-style-type: none"> - Disconnect from VIALINK - Mount pipette on ASSIST and connect via Bluetooth - Choose the program and edit the Move Z step to teach the correct values. <p>Setting up the program in the program organizer is easier as this allows live teaching of positions. See 5.2.5.</p>
<p>Move Y (only ASSIST PLUS)</p> 	<p>The pipette moves the defined distance in Y-direction.</p> <p>Example for a transfer between a 96 well plate and 384 well plate using an 8 channel pipette:</p> <p>Move Y: -2.25 / 2.25</p> 
<p>Blowout / Blowin</p>	<p>After the last <i>Dispense</i> step of an ASSIST program, the Blowout and Blowin need to be programmed.</p> <p>After a Blowout a Blowin has to follow at some point. It does not have to follow immediately and can have steps in between. E.g. after the Blowout a move step can be programmed to move the tips out of the liquid, and is then followed by the Blowin.</p> <p>Note: When using <i>Purge</i> to empty the tips, a Blowout and Blowin are performed automatically and do not need to be programmed.</p>
<p>Delay</p>  <p>Note: If value is set to 0.0s, manually pressing RUN is required to trigger the next step.</p>	<p>The program pauses for the set time before proceeding to the next step.</p> <p>Setting a value of “0.0” seconds requires the RUN button to be pressed to continue.</p>
<p>Call</p>	

<div> <div>Call</div> <div> <div>Call</div> <div>Tip Touch</div> </div> </div>	<p>This step calls another custom program resulting in a program inside a program.</p> <p>It can be used to shorten custom programs with a set of steps that occur repeatedly in the program. An example would be the tip touch after a dispense was made.</p> <p>Example:</p> <pre> ... Dispense x µl Call: Tip Touch Move X 9 mm ... </pre>
Tip Load and Tip Eject (ASSIST PLUS only)	
	<p>Automatically loads tips from the tip rack and automatically ejects tips into the tip waste bin. Coordinates for these 2 positions do not have to be programmed.</p>

Additional steps available for VIAFLO 96 and VIAFLO 384 custom programs

Set Z-Height

Set Z-Height

Current Setting ☒ A ☐ B mm

To clear the Z height, set value to 0.0mm.

This will set a minimal Z-Height that limits vertical movement to that height. The Z-Height is activated when this step is reached in the pipetting program.

Choose on which position the Z-Height should be active and set the desired height. Setting the height value to 0.0 mm will deactivate it.

Tip Align

Tip Align

Position A ☐ On ☒ Off

Alignment Strength A

Position B ☐ On ☒ Off

Alignment Strength B

Column Detents ☐ A ☐ B ☒ Off

Activates tip align for the selected position. Tip align is an active positioning help to guide the pipette tips into the microplate wells.

Choose on which position Tip Align should be active. Both positions can be activated/deactivated at the same time.

For serial dilutions, Column Detents can be activated. Choose the position on which the target plate is.

Then select the strength of the tip alignment: 1=weak, 2=moderate, 3=strong.

5.2.5 Position teaching in the program organizer

- Ensure you have an active connection to the instrument as described in section 4.
- In the program organizer double click on the new program and add a “Move” step.
- ASSIST/ASSIST PLUS: Insert a pipette with attached GripTips into the pipette holder. Move the pipette on the ASSIST to the desired position using the arrow keys on the ASSIST instrument.
- VIAFLO 96/384: Move the pipetting head into position.
- “Actual Position” (1) shows the current coordinates.
- Clicking the blue arrow (2) applies these coordinates. “Current Setting” (3) are the coordinates which will be used by the program.

The screenshot shows the 'Program organizer' window for a program named 'VARIASPIRATE'. The volume is set to 1250 µl. The 'Program steps' table lists 13 steps, including 'Move (X,Z)', 'Aspirate', and 'Move Z'. On the left, the 'Move (X,Z)' step is selected, showing 'Current Setting' (X: 81.5 mm, Z: 56.5 mm) and 'Actual Position' (X: 50.2 mm, Z: 105.6 mm). A red '1' points to the 'Actual Position' fields, a blue arrow '2' points to the 'Current Setting' fields, and a red '3' points to the 'Current Setting' fields. A vertical bar on the right indicates the 'Total liquid volume up to and including this step' is 0 µl.

No.	Action	Summary
1	Move (X,Z)	X: 81.5mm Z: 56.5mm
2	Aspirate	100µl / Track. 0.0mm
3	Move Z	Z: 70.0mm
4	Move X	9.0mm
5	Move Z	Z: 56.5mm
6	Aspirate	150µl / Track. 0.0mm
7	Move Z	Z: 70.0mm
8	Move X	9.0mm
9	Move Z	Z: 56.5mm
10	Aspirate	200µl / Track. 0.0mm
11	Move Z	Z: 70.0mm
12	Move X	9.0mm
13	Move Z	Z: 56.5mm

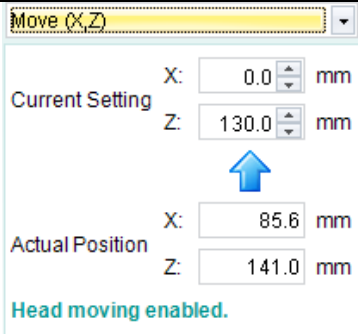
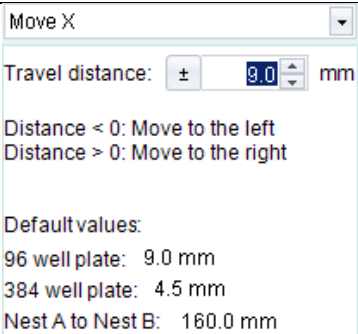
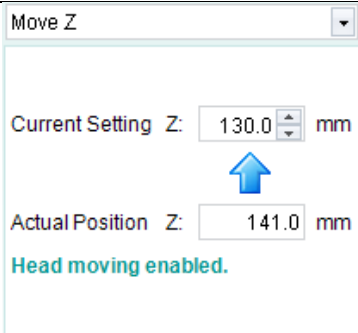
5.2.6 Creating an Automatic Mode program for VIAFLO 96/384

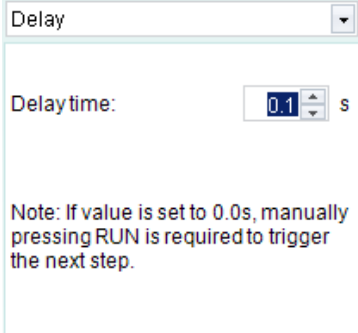

The Automatic Mode is a special mode for VIAFLO 96/384 which performs a pipetting protocol automatically.

To create an Automatic Mode program, connect your VIAFLO 96/384 with VIALINK, go to the “Program organizer”, create a new program and select “Automatic Mode” (1).

The screenshot shows the 'Program organizer' window for a program named 'AUTOMATIC'. The volume is set to 1250 µl. The 'Automatic Mode' checkbox is checked, indicated by a red '1'.

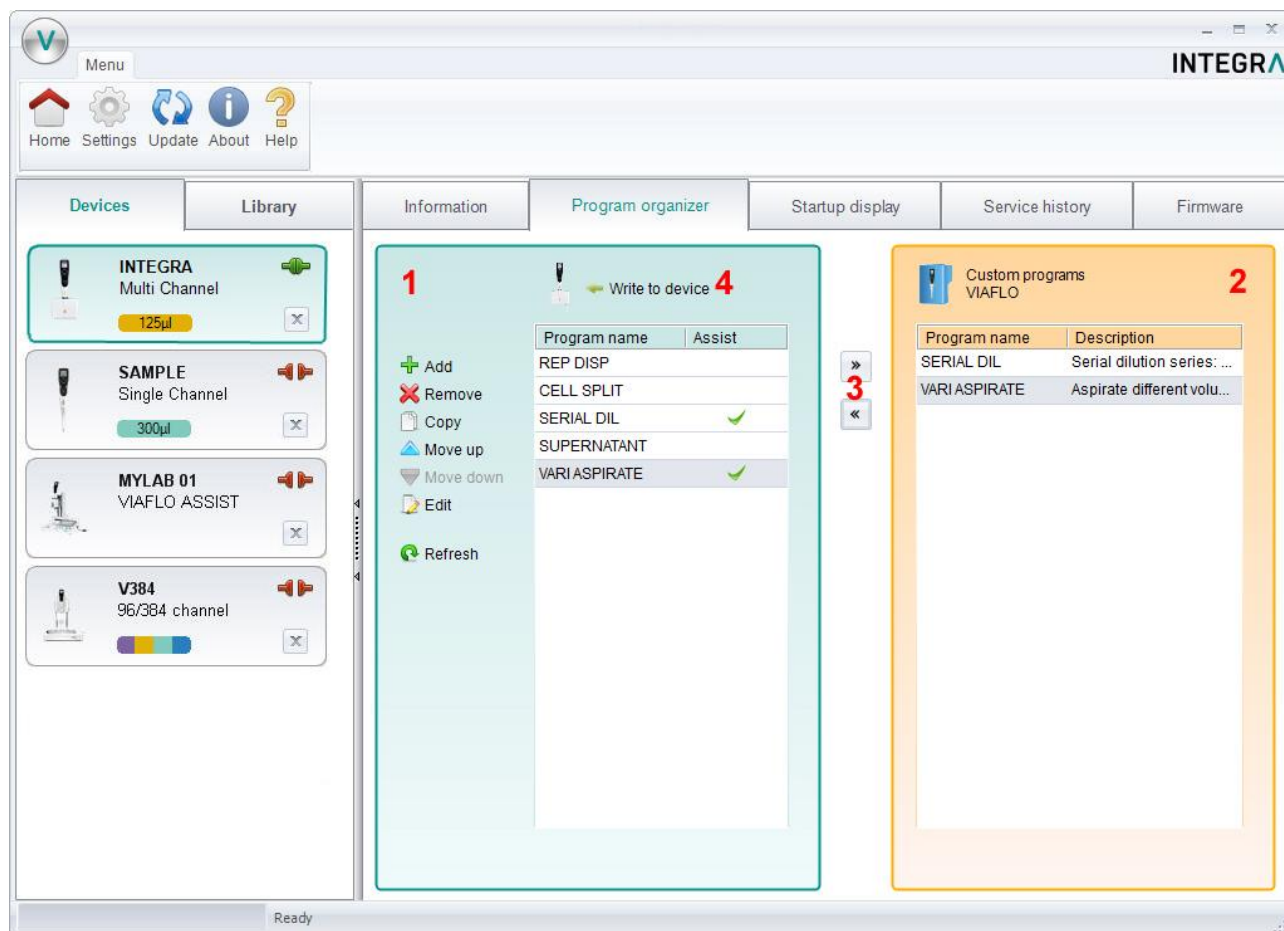
Automation Mode specific programming steps:

Programming step	Description
Move(X/Z)	
	<p>The pipetting unit moves to a desired position in X and Z direction, saved as “Current Setting”.</p> <p>Teach the position by moving the pipetting unit to the desired position and then clicking the blue arrow.</p>
Move X	
	<p>The pipetting unit travels the set distance in X-direction relative to the current position.</p> <p>Setting a negative value moves the unit to the left, setting a positive value moves the unit to the right.</p>
Move Z	
	<p>The pipetting unit moves to the selected Z-Height.</p> <p>Teach the Z-Height by moving the pipetting unit to the desired height and clicking the blue arrow.</p> <p>The value of “Current Setting” will be used by the program.</p>
Blowout / Blowin	
	<p>After the last <i>Dispense</i> step of an automatic program, the Blowout and Blowin need to be programmed.</p> <p>After a Blowout a Blowin has to follow at some point. It does not have to follow immediately and can have steps in between. E.g. after the Blowout a move step can be programmed to move the tips out of the liquid, and is then followed by the Blowin.</p> <p>Note: When using “Purge” to empty the tips, a Blowout and Blowin are performed automatically and do not need to be programmed.</p>

Delay	
	<p>A delay is a pause between the last and the next step.</p> <p>If it is set to 0.0 s, pressing the run button is required to trigger the next step.</p>
Tip change	
	<p>Allows to change the tips during an automation program.</p> <p>The program stops and prompts you to change the tips. Tip ejection and loading is initiated by the user.</p>

The VIAFLO 96/384 library of VIALINK includes examples of automatic programs. Parameters can easily be adjusted to your protocol in the program organizer of VIALINK.

5.3 Uploading new custom programs to the pipette



- 1 Program organizer: Shows programs that will be transferred to the pipette.
- 2 Custom program library: Shows custom programs from the library on your computer. Only programs that are compatible with the connected pipette are displayed. In this case only programs that work with a 125 µl hand held pipette are shown.
- 3 Use the arrow keys to copy the selected program to the program organizer or the library.

4 Click “Write to device” to write all programs from the program organizer to the pipette.

- Choose a program from the library (2).
- Copy it to the program organizer (1) by pressing the arrow key (3).
- If you like, you can edit the programs also directly in the program organizer without changing them in the library on your computer.
Note: To create/edit programs in the library, select the “Library” tab.
- Click “write to device” (4) to confirm any changes you made and save it to the pipette. Otherwise the changes will not be applied to the pipette. The program organizer reflects a temporary image of the pipette content.
- Do not disconnect the pipette until the transfer is completed. Check the status bar.

5.4 Uploading custom pictures

Two custom pictures can be defined for each VIAFLO/VOYAGER pipette. Custom pictures are not available for VIAFLO 96/384.

- To upload a new picture, go to the “Startup display” tab.
- Select the desired picture and use the arrow keys to copy it to the pipette organizer (green).
- Click “write to pipette” to upload the picture to the pipette.
- You can download a picture from the pipette into your library by clicking “read from pipette” and use the arrow key to copy it into the library.
- To actually set the startup screen on your pipette, go to the “Toolbox” -> “Preferences” -> “Display” -> “Start up Screen”. Scroll down to “Custom 1” or “Custom 2”. By clicking “view” you can preview the picture and to select it click “save”.

5.5 Service history

The service history allows you to save information about maintenance of the pipette.

- Go to the “Service history” tab and click “New entry” to add a new entry. Enter the text into the pipette screen in VIALINK. Click “Write to pipette” to save it. After writing it to the pipette, an entry cannot be deleted. It is permanent to ensure an authentic service history. The option to delete a new entry is only available before saving it to the pipette.
- Some entries, such as firmware updates or change of calibration factors, are created automatically.

5.6 Updating firmware

Firmware updates can be installed on your devices. This adds improvements and new features to the firmware. To install a firmware update the Programming (USB) Stand must be used.

➔ Please read first the “Software and firmware update” history found in the Update menu tab.

5.6.1 VIAFLO and VOYAGER electronic pipettes

- Go to the “Firmware” tab and click “Select”.
- Choose the newest firmware file “Firmware_VIAFLO_XX_Pipette_XXX.vdl” or “Firmware_VOYAGER_XX_Pipette_XXX.vdl”.
- Click “Start installation”
- Follow the instructions on the screen.

Note:

- Firmware updates are not possible in “Bluetooth” and “Via ASSIST (PLUS)” communication mode.

5.6.2 VIAFLO 96/384

- Go to the “Firmware” tab and select either “Control unit” or “Base unit” to update. If a new firmware is available for both, update the Base unit first!

- Click “Select” and choose the corresponding firmware file:
 - Firmware_VIAFLO_96_384_Control_Unit_XXX.vdl
 - Firmware_VIAFLO_96_384_Base_Unit_XXX.vdl
- Click “Start installation” to begin.
- Carefully follow the VIALINK instructions given on the screen.

5.6.3 ASSIST and ASSIST PLUS

- Go to the “Firmware” tab and click “Select”.
- Choose the newest firmware file
“Firmware_VIAFLO_ASSIST_XXX.vdl” or “Firmware_ASSIST_PLUS_XXX.vdl”.
- Click “Start installation”.
- Follow the instructions on the screen.

6 Settings

The Settings menu allows you to specify which COM ports VIALINK is using.

VIALINK will check the selected COM ports if a Programming Stand or instrument (VIAFLO 96/384/ASSIST) is connected.

If the connection between a pipette and VIALINK cannot be established (make sure the pipette is in communication mode), click the “Refresh” button on the “Settings” menu. This might be necessary if the Programming Stand or VIAFLO 96/384 have been connected to the computer when VIALINK was already running.

Options under “Service functions” are intended for service personnel only and require a password.

7 Trouble Shooting

Topic	Issue	Remedy
Connection between pipette and computer	I can't get a connection between pipette and VIALINK.	<ul style="list-style-type: none"> • Make sure the pipette is in communication mode (see chapter 4). • Make sure the Programming Stand or device is connected to the computer. • Try to refresh the COM ports (see section 6). • Bluetooth: The pipette Bluetooth module and PC need to be paired if connected for the first time. Refer to Windows Help to learn how to pair Bluetooth devices. The passcode 12345 may be required. • Make sure the drivers for the Programming Stand, VIAFLO 96/384 or ASSIST have been installed correctly. While the Programming Stand or VIAFLO 96 is connected, go to your System Settings -> Device Manager. Check under Ports (COM & LPT) if there is an entry "USB Serial Port (COM X)". If there isn't, reinstall the drivers manually.
Custom programs	I'm in the program organizer and can't edit my programs in the library.	Programs in the library cannot be edited here. Exit the program organizer and select the Library tab. You can however copy a program from the library to the program organizer and edit the program in the organizer. This will not affect the original program in the Library.
	VIALINK does not read the current position for movement steps (Move (X,Z) and Move Z).	To use live teaching of positions you need to create the custom program in the program organizer. See 5.2.5.
Start Up Pictures	I've uploaded a new start up picture but the pipette does not show it on start up.	You need to activate the desired start up picture, see section 5.4.
Service History	I can't delete my entry.	This is on purpose. Once written onto the pipette, the entry cannot be deleted.