



## AGILENT ICF FOR GC

Clarity Control Module

ENG

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To facilitate the orientation in the **Agilent ICF for GC** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

**Instrument** (blue text) marks the name of the window to which the text refers.

*Open File* (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name (when you already are in the topic describing the window).

WORK1 (capitals) indicates the name of the file and/or directory.

*ACTIVE* (capital italics) marks the state of the station or its part.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, some sections are written in format other than normal text. These sections are formatted as follows:

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**Note:** Notifies the reader of relevant information.

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**Caution:** Warns the user of possibly dangerous or very important information.

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**Marks the problem statement or trouble question.**

**Description:** Presents more detailed information on the problem, describes its causes, etc.

**Solution:** Marks the response to the question, presents a procedure how to remove it.

# 1 Agilent ICF for GC

This manual describes the use of the **Agilent ICF for GC** (Instrument Control Framework) with the **Clarity** software. The list of ICF versions that **Clarity** comes with is available on [www.dataapex.com](http://www.dataapex.com) website on ICF control product page.

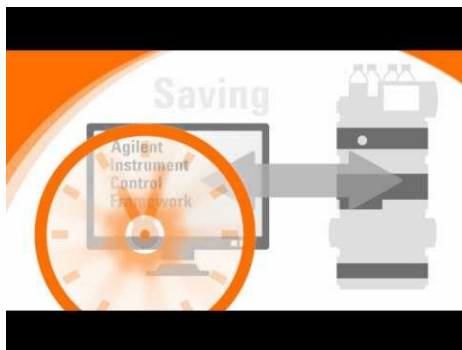


Fig 1: Agilent ICF

The **Clarity** chromatography station enables to control various laboratory equipment from **Agilent** using the **Agilent ICF for GC**. It is library developed by **Agilent** which can be run within the **Clarity** Chromatography Station environment. This manual describes the basic use within the **Clarity**.

Thus the **Agilent ICF** dialogs and setup windows are displayed within **Clarity**, the manuals are supplied by the Agilent company both for the instrument and the configuration dialogs of the **ICF**. For the detailed help of the respective controlled instruments and functions of the **Agilent ICF** dialogs, press the *Help* or *F1* button in the displayed dialogs. Remember that some of the dialogs embedded into the **Method Setup** window are also part of the **Agilent ICF** library and pressing the **F1** key also displays the Agilent ICF for GC **Help** which is not created by **DataApex Ltd.**

For complete list of controlled instruments by the **Agilent ICF** library, see the **Clarity** Controls web-page: [www.dataapex.com/controls](http://www.dataapex.com/controls).

## 2 Requirements

### 2.1 Software requirements

**Agilent ICF for GC** requires **Microsoft .NET version 3.5** for correct installation and **Microsoft .NET version 4** or higher for operation. Both of the versions are already installed on majority of PCs. Nonetheless you will be notified during the installation if your PC is missing any version of **Microsoft .NET** - then follow the instructions there.

Required operating systems:

- **Windows 7 SP1 (32/64 bit)**
- **Windows 8.1 (32/64 bit)**
- **Windows 10 (32/64 bit)**

For complete list of .NET requirements, see the **.NET Framework System Requirements** on Microsoft web page.

**Caution:** Before installing **Clarity**, make sure that your **Windows** are updated to the latest version.

### 2.2 Hardware requirements

- Version of firmware must be compatible with the **Agilent ICF GC** installed with **Clarity**.
- LAN interface installed on PC is required.
- Latest available firmware version of the module should be used to ensure maximum compatibility.

Tab 1: Supported Agilent GC hardware:

	Module type	Inlets	Detectors
<b>8890</b>	G3540A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3542A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3543A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3545A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
<b>8860</b>	G2790A	S/S, P/P, COC, PCI	TCD, FID, NPD, $\mu$ ECD, FPD, FPD+

	Module type	Inlets	Detectors
<b>Intuvo 9000</b>	G3950A	S/S, MMI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, XCD
	G3952A	S/S, MMI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, XCD
	G3953A	S/S, MMI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, XCD
<b>7890B</b>	G3440B	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB, XCD
	G3442B	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB, XCD
	G3443B	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB, XCD
	G3445B	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB, XCD
<b>7890A</b>	G3440A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3442A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3443A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G3445A	S/S, P/P, COC, PTV, PCM, VI, MMI, HT-PTV	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
<b>7820</b>	G4350A	S/S, P/P, COC, PCI	TCD, FID, NPD, $\mu$ ECD, FPD, FPD+
<b>6890A</b>	G1530A	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
<b>6890Plus</b>	G1530A	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB

	Module type	Inlets	Detectors
<b>6890N</b>	G1530N	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
	G1540N	S/S, P/P, COC, PTV, PCM, VI	TCD, FID, NPD, FPD, ECD, $\mu$ ECD, DualWFPD, AIB
<b>6850</b>	G2630A/B	S/S, P/P, COC, PTV	TCD, FID, NPD, FPD, ECD, AIB

*Note:* Communication between **Clarity** with **Agilent ICF GC** and listed instruments is handled via LAN. All available GC valves are supported.

Tab 2: Supported Agilent Sampler, Autosampler and Tray hardware:

	Hardware	Module type
<b>Intuvo 9000 Series</b>	7693A	G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector
<b>7890Series</b>	7693A	G3430A GC ALS Controller
		G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7683A	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7683B	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector
<b>7820 Series</b>	7693	G3430A GC ALS Controller
		G4513A Injector
	7650	G3430A GC ALS Controller
		G4567A Injector



	Hardware	Module type
<b>6890</b>	7693	G4516A ALS Controller
		G4513A Injector
		G4514 A Tray
		G4515A BCR/Mixer
		G4517A 6890 Plus ALS Card Upgrade
		G4521A LVI Syringe Carriage
		G4522A Colling Accessory
		G4520A Tray with BCR/Mixer
	7693B	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
		G2616A Tray
		G2615A BCR/Mixer
	7683A	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
	7673C	G2615A BCR/Mixer
		G1512A ALS Controller
		G1513A Injector
		18596C Tray
	7673B	G1926A BCR/Mixer
18593B Injector		
18596B Tray		
<b>6850</b>	G2615A BCR/Mixer	
	7683B	G2613A Injector
	7693	G4513A Injector
	6850	G2880A Injector

*Note:* Communication for GC samplers and trays is handled through the GC.

Tab 3: Supported Agilent Headspace Sampler hardware

	Hardware
<b>7697A</b>	G4557A
<b>8697</b>	G4511A
<b>G1888</b>	G1888

For complete list of supported Windows OS, instrument firmware and Agilent ICF for GC, see Agilent webpages.

## 3 Installation procedure

Agilent ICF for GC is not part of the **Clarity Typical** installation. To install it, select the **Full** installation or the **Agilent ICF for GC** in the **Choose Components** dialog during the installation of **Clarity**.

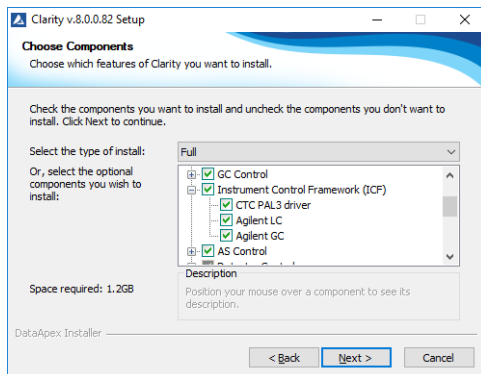


Fig 2: Full installation of Clarity

### 3.1 Installing Correct Version of Agilent ICF

Clarity expects a specific version of Agilent ICF. Because other programs may also be using Agilent ICF, it is possible they've installed a different version than is supported by Clarity. In that case in the installation you will be prompted to reinstall it in order to install correct version. Going forward with this step is crucial for correct functionality of Clarity and Agilent ICF. This situation may also occur during Clarity update when the new version contains updated ICF version.

**Note:** This reinstallation of Agilent ICF may cause that other programs using it, may not function properly.

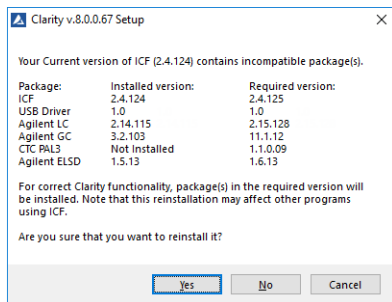


Fig 3: Installing correct version of Agilent ICF

## 3.2 Network connections

The instruments supported by **Agilent ICF GC** has to be connected to a site network by LAN. It is recommended to attach the **Agilent** hardware directly to the PC avoiding hubs, switches etc. When using a switch or a hub, multiple **Agilent** hardware can be connected to one PC. Always contact your local LAN administrator who can make the appropriate settings.

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**Caution:** Do not use the **Agilent 68xx** or **Agilent 7890** DHCP server feature.

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**Caution:** **Cross LAN** cable is primarily used for the direct connection of the instrument and the PC. This cable can also be used for the connection of the device to the switch or network socket, but with older switches, the **straight LAN** cable might be necessary.

### LAN Settings

PC: LAN card, TCP/IP protocol.

Both PC and supported **Agilent** hardware should be configured on the same IP range.

Tab 4: Recommended IP settings:

	Agilent Hardware	LAN card
<b>IP</b>	192.168.0.200	192.168.0.1
<b>Port</b>	80	---
<b>Subnet Mask</b>	255.255.255.0	255.255.255.0
<b>Default Gateway</b>	192.168.0.1	192.168.0.1
<b>Accept From IP</b>	0.0.0.0	---
<b>Accept From Subnet Mask</b>	0.0.0.0	---

**Firewall**

Ensure that the firewall does not block communication from the **Agilent** hardware.

**Internet connection**

Be aware that many Internet connections are provided using the LAN card. If this is the case a separate LAN card must be configured for each Internet and connected **Agilent** hardware.

### 3.3 Clarity Configuration

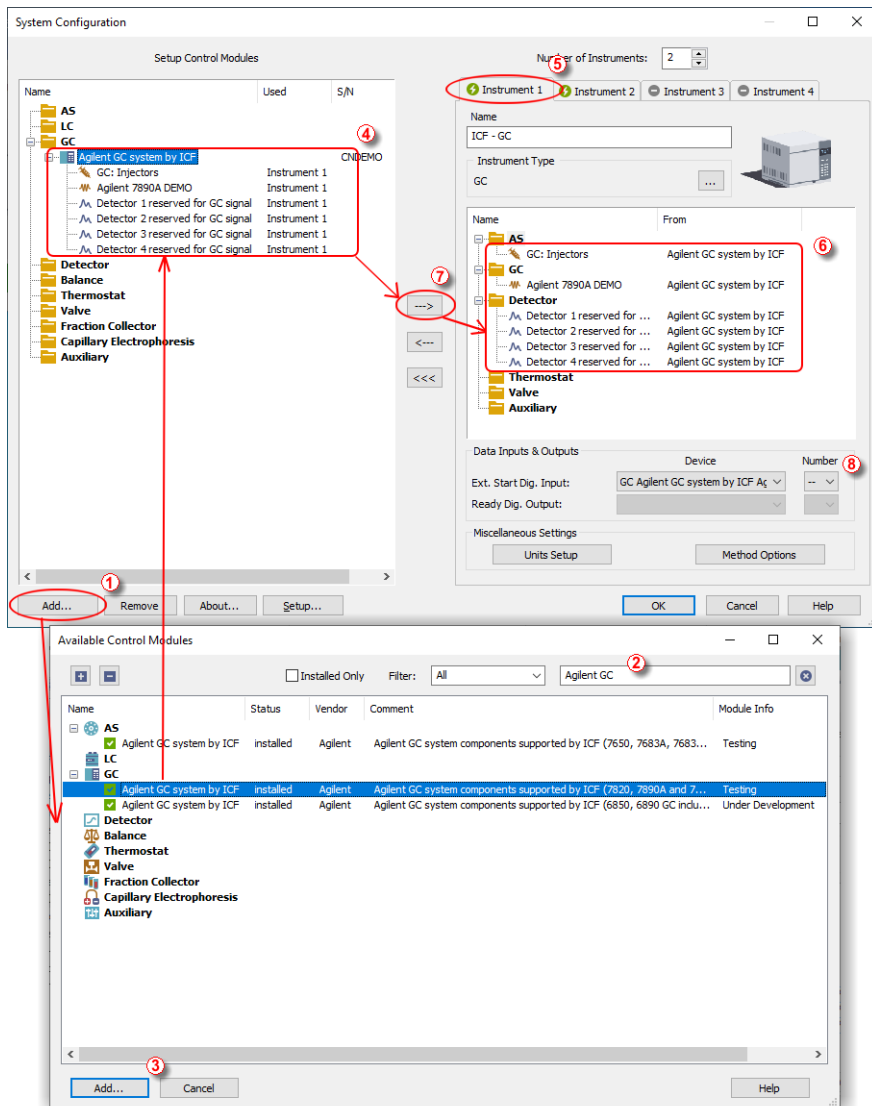



Fig 4: System Configuration

**Caution:** Before you start **Clarity**, ensure there is not any other application controlling the **Agilent ICF GC** instruments active (for example *Virtual Keyboard* software applicable for some **78x0** GC types).

- Start the **Clarity** station by clicking on the  icon on the desktop.
- Invoke the **System Configuration** dialog accessible from the **Clarity** window using the *System - Configuration...* command.
- Press the **Add** button ① (See 3.3 on pg 9.) to invoke the **Available Control Modules** dialog.
- You can specify the searching filter ② to simplify the finding of the driver.
- Select the **Agilent ICF for GC** item and press the **Add** ③ button. The **ICF Setup** dialog will open.

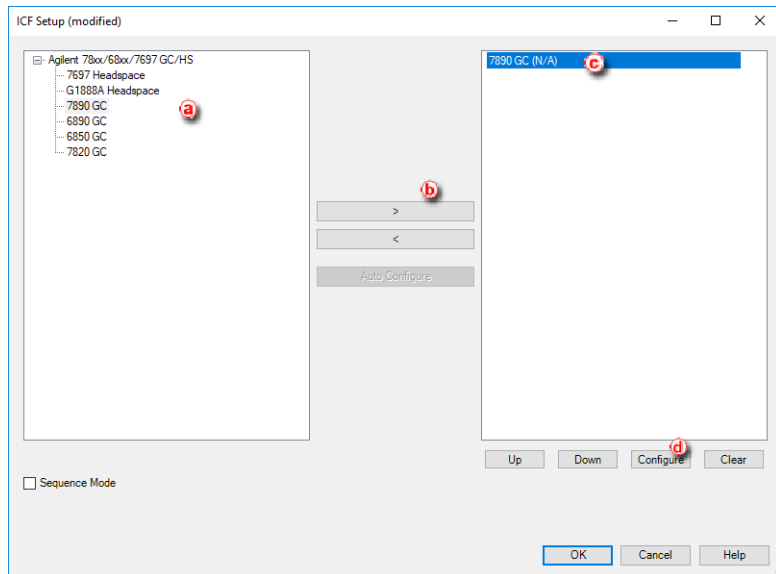
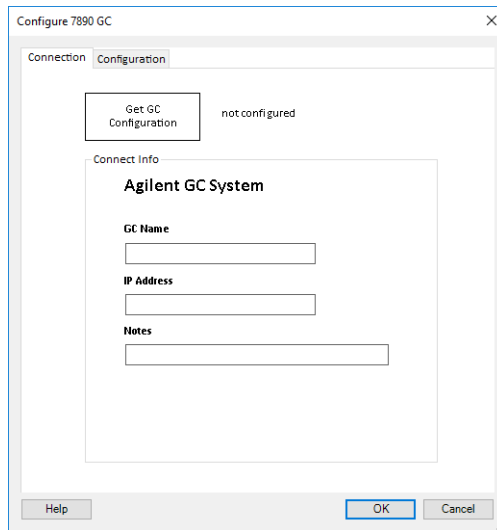


Fig 5: Agilent ICF Setup

- Select appropriate instrument type ① transfer it from left side using respective button ② to the right side ③.
- Click on the **Configure** button ④ in the **ICF Setup** dialog and the **Configure** dialog is displayed for entering the connection parameters.



*Fig 6: Connection parameters dialog*

- After insertion of the *IP address* or *GC Name* click *Get GC Configuration* button.
- On the *Configuration* tab is loaded configuration from the instrument. Additional behavior of the instrument can be preset here.

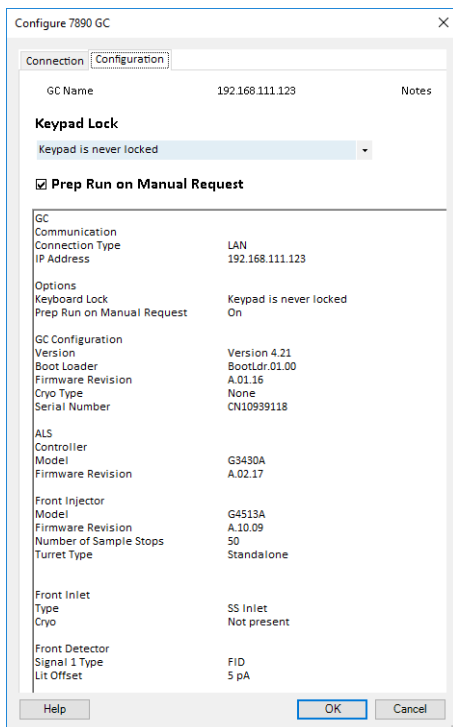


Fig 7: Configuration parameters dialog

- Then click **OK** button in the lower part of the **ICF Setup** dialog and the instrument will then appear in the **System Configuration** including all modules of the instrument (detector, autosampler etc.).

**Caution:** If you change the configuration of the **Agilent ICF** system (for example remove and add another instruments), the communication parameters like *IP address* will be lost and it is necessary to set them again.

**Caution:** When the **ICF Setup** dialog is open for extended time, communication between **Clarity** and the GC may be lost. In such case an error message will be displayed. After accepting error message is necessary to start with the GC configuration from very beginning starting with clicking the **Add** button ① (See 3.3 on pg 9.) in the **System Configuration** dialog.

- After previous steps drag and drop the **ICF** icon from the **Setup Control Modules** list ④ on the left side of the **System Configuration** dialog to the desired **Instrument** ⑤ tab on the right side ⑥ (or use the **---** button ⑦ to do so).



- Set the *Ext. Start Dig. Input* (8) on the right bottom side of the **System Configuration** dialog if you wish synchronize **Clarity** with **Agilent ICF GC** instrument over LAN. If the settings of the *Ext. Start Dig. Input* is set to default value (8) the analysis start will be detected by **Clarity** by receiving data from the **Agilent ICF GC** configured detector on this **Agilent ICF GC Instrument**. If this **Agilent ICF GC Instrument** has no **Agilent ICF GC** detector signal configured then it is necessary to set *Ext. Start Dig. Input* value (8) to value "1" - (8) to assure correctly synchronized start of the analysis with the **Agilent ICF GC** autosampler's injection.

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**Caution:** The *Sequence Mode* enables autosampler to prepare next sample during previous run (sequence will lock one row ahead). For correct operation in the *Sequence Mode* there have to be set corresponding parameters (Enable Sample Overlap) in the **ICF GC Method Setup** dialog (GC tab, section ALS, item Tray/Other).

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**Note:** The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

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**Note:** Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

### 3.4 Headspace Sampler configuration

To properly setup the **Headspace Sampler**, it should be configured as separate ICF control (not within the GC ICF setup described in "Clarity Configuration" on page 9).

**Caution:** Before you start **Clarity**, ensure there is not any other application controlling the **Agilent ICF GC** instruments active (for example *Virtual Keyboard* software applicable for some **78x0** GC types).

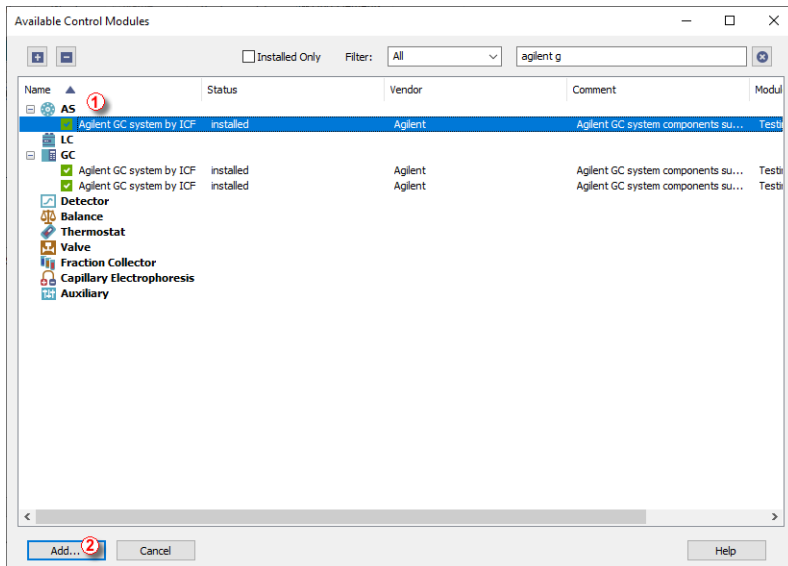


Fig 8: Available Control Modules

- Add a new module in the **System Configuration**. Select the **Agilent ICF for GC** from the **AS** section ① and press the **Add** ② button. The **ICF Setup** dialog will open.

**Note:** For more information about adding new modules in the **System Configuration** refer to the chapter "Clarity Configuration" on page 9.

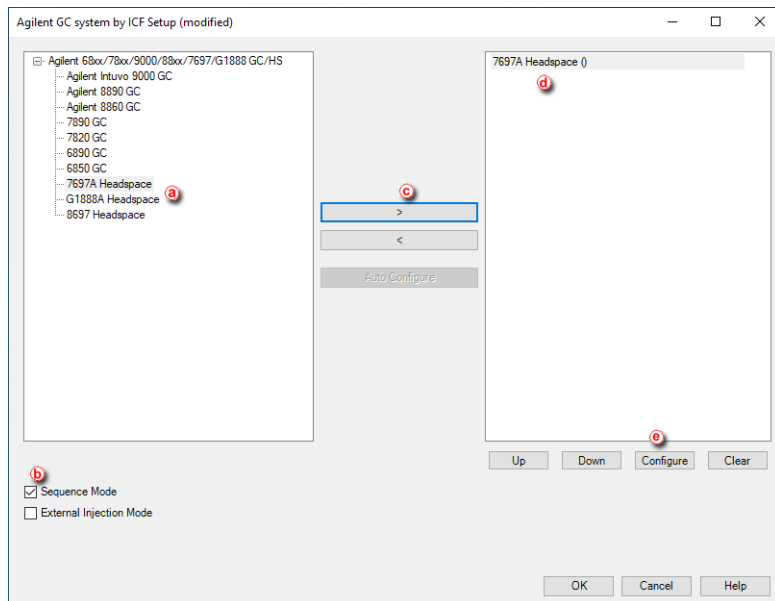


Fig 9: Agilent ICF Setup

- Select appropriate instrument type **a** transfer it to the left side using respective button **c** to the right side **d**.
- Make sure that the **Sequence Mode** **b** is selected for the **Headspace** only.
- Click on the **Configure** button **e** in the **ICF Setup** window and the **Configure** dialog will appear.

**Caution:** The **Sequence Mode** enables autosampler to prepare next sample during previous run (sequence will lock one row ahead). In case that GC is used in combination with a **Headspace** the **Sequence Mode** must be disabled in the GC setup and enabled in the **Headspace** setup.

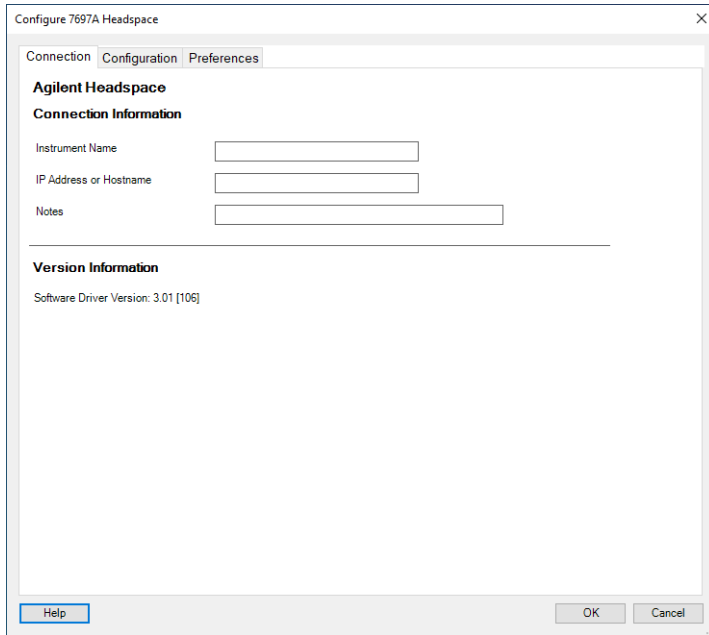


Fig 10: Connection parameters dialog

- On the *Connection* tab insert the *IP Address* or *Instrument Name*.
- Switch to the *Configuration* tab and click the *Upload Config from Instrument* button.

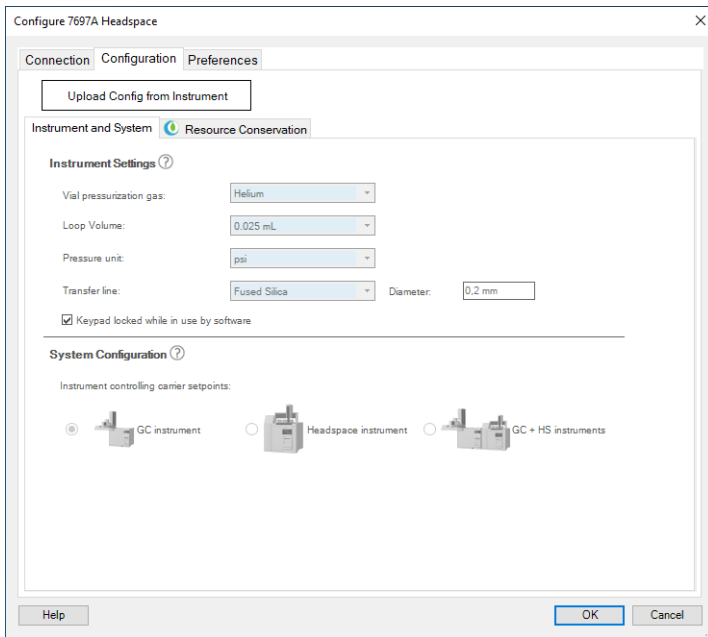


Fig 11: Configuration parameters dialog

- The configuration from the instrument is loaded on the *Configuration* tab.
- Additional instrument behavior can be preset on the *Preferences* tab.

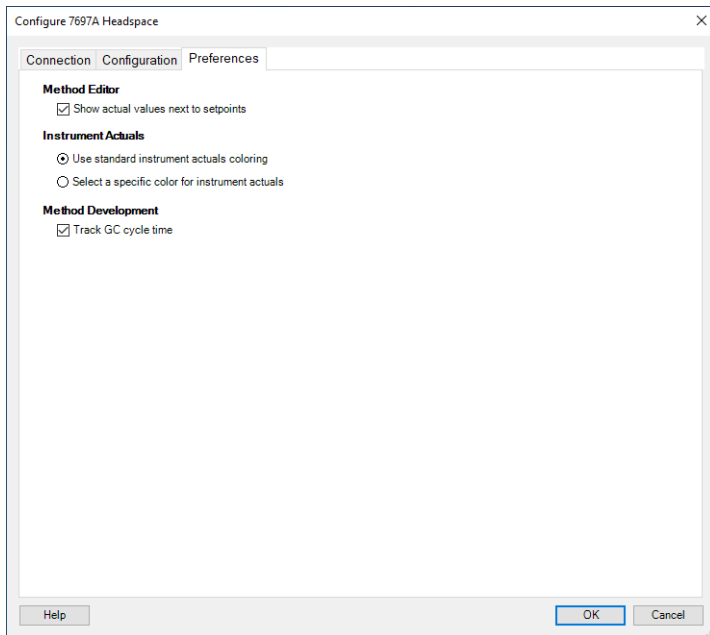


Fig 12: Preferences parameters dialog

- After the configuration is finished, click the *OK* button to return to the [ICF Setup](#) dialog.
- Then click *OK* button in the lower part of the [ICF Setup](#) dialog and the module will then appear in the [System Configuration](#).

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**Caution:** If you change the configuration of the **Agilent ICF** system (for example remove and add another instruments), the communication parameters like *IP address* will be lost and it is necessary to set them again.

---

**Caution:** When the [ICF Setup](#) dialog is open for extended time, communication between **Clarity** and the instrument may be lost. In such case an error message will be displayed. After accepting error message it is necessary to start with the instrument configuration from very beginning starting with clicking the *Add* button (See "Clarity Configuration" on page 9) in the [System Configuration](#) dialog.

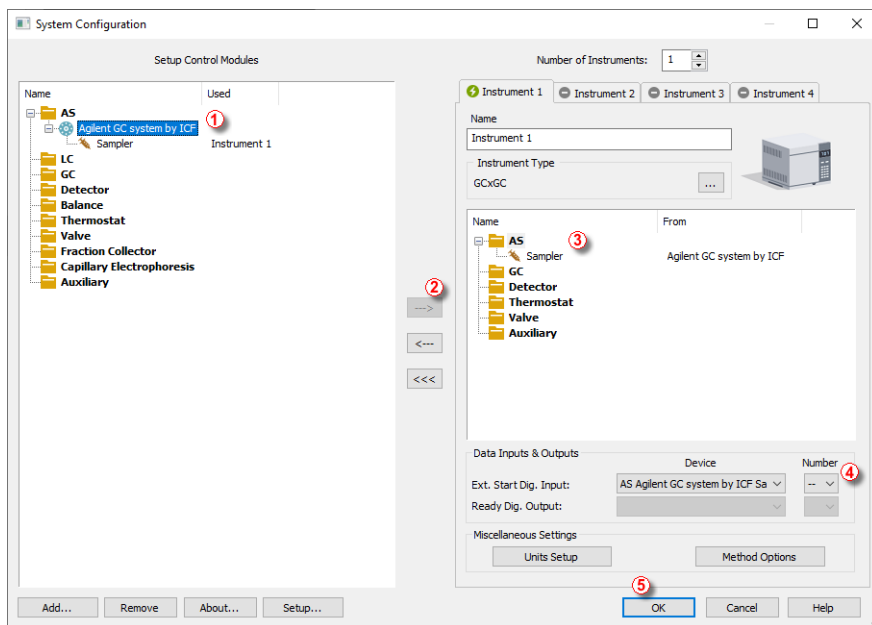


Fig 13: System Configuration

- After previous steps drag and drop the **ICF** icon from the *Setup Control Modules* list ① on the left side of the **System Configuration** dialog to the desired *Instrument* tab on the right side ③ (or use the <--> button ② to do so).
- Set the *Ext. Start Dig. Input* ④ on the right bottom side of the **System Configuration** dialog to the default value -- if the sampler is connected to the GC by synchronization cable. The sampler will trigger the run in the GC and it will propagate to the **Clarity**.
- When the synchronization cable is not present between the GC and the Headspace, the *Ext. Start Dig. Input* ④ should be set to value "1" - 1. In this case the Headspace triggers the run in **Clarity** and it will propagate to the GC. For some GC it is necessary to choose the option *Clarity starts this device* during the setup.
- When all modules have been configured the **System Configuration** dialog can be closed by clicking the **OK** button.

*Note:* The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

*Note:* Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

### 3.5 Installation Qualification of Agilent ICF

**Agilent ICF** is an external program developed by Agilent and for that reason it must be validated using their utility. If you have installed Clarity with Agilent ICF, **the IQ is valid only if successful validation of ICF is attached.**

The validation of ICF can be performed directly from the [IQ Report](#).

**Caution:** When Clarity expects *Agilent ICF* is installed then **IQ** expects the same. If (due to any reason) the *Agilent ICF* installation is not found within Clarity, the *Installation Qualification Test* status is set by default to *FAILED*. To resolve this, it is necessary to re-install **Agilent ICF** through Clarity reinstallation and then perform **IQ** again.

**Installation Qualification Report**

Date	27.03.2018, 16:28
Serial number of application	000-00000+000/255
User Code	Serial number could not be found.
Version of application	Clarity version 8.0.0.67
Build date of application	25.03.2018, 23:37
Instruments	
Extensions	
Controls	
Certification file	C:\Clarity\Bin\iq.chk
Checksum of cert. file	
Date of cert. file	26.03.2018, 01:27
User	kana
System	Microsoft Windows 10 Professional version 10.0 (Build 16299)
Acquisition and hardware devices	Key Rockey 4ND 088-00888+38910/000 id:179B4ECF ICF CN10939118

**Installation Qualification Test: Passed**

⚠ Agilent ICF is present in your system, it is necessary to perform its validation separately, the IQ result is valid only if successful validation of ICF is attached. To perform validation [click here](#) ①

**Files**

File	Path	Version	Size	File date	Status
AdvionCMS.dll	C:\Clarity\Bin	5.0.20.1	385536	26.03.2018, 01:11	Passed
advioncommon.dll	C:\Clarity\Bin	5.0.20.1	16384	26.03.2018, 01:11	Passed
AdvionData.dll	C:\Clarity\Bin	5.0.20.1	321536	26.03.2018, 01:11	Passed
AdvionObjects.dll	C:\Clarity\Bin	5.0.20.1	628176	26.03.2018, 01:11	Passed
ASPEN.dll	C:\Clarity\Bin	1.2.4.0	185344	26.03.2018, 01:11	Passed
aspI4.sys	c:\clarity\bin\hw_drivers\aspI2	4.7.0.8	84832	26.03.2018, 01:11	Passed

Fig 14: IQ Report with ICF installation present

Press the link "[click here](#)" ① and after that click the *Run* button to generate reports. They will be automatically opened in the in your default internet browser. There is a total number of 5 reports.

Address field of the generated report displays the location of the actual report ②.



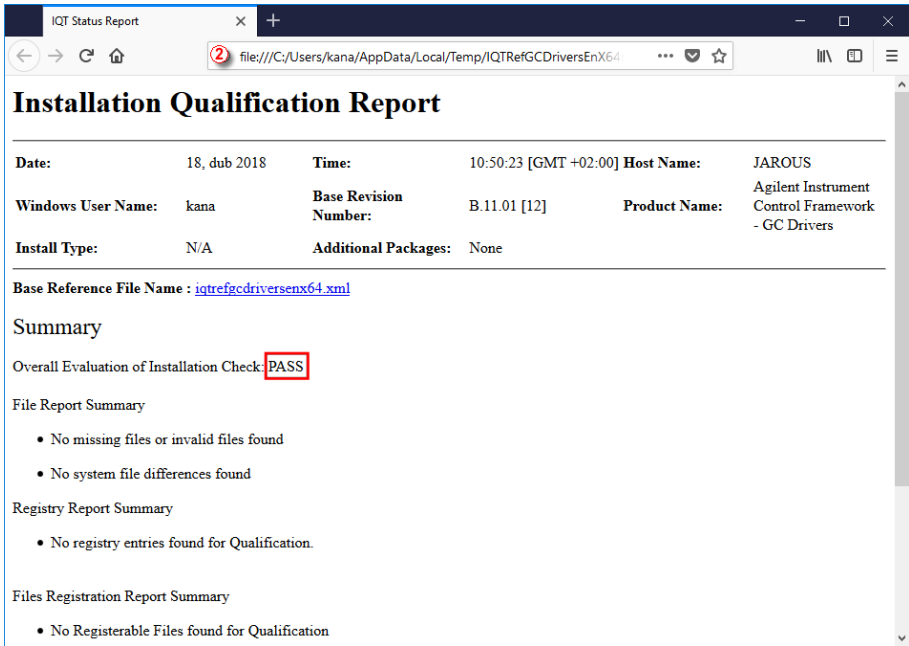


Fig 15: ICF Report - PASS

# 4 Using the Agilent ICF GC

There are multiple places for setting the parameters of the **Agilent ICF for GC** in the **Clarity**:

- the **Method Setup - GC tab**

**Caution:** Before opening the **Instrument** window with configured **Agilent ICF** devices, ensure there is not any other PC connected to GC. Otherwise there will be raised an error during the connection.

## 4.1 Method Setup - GC

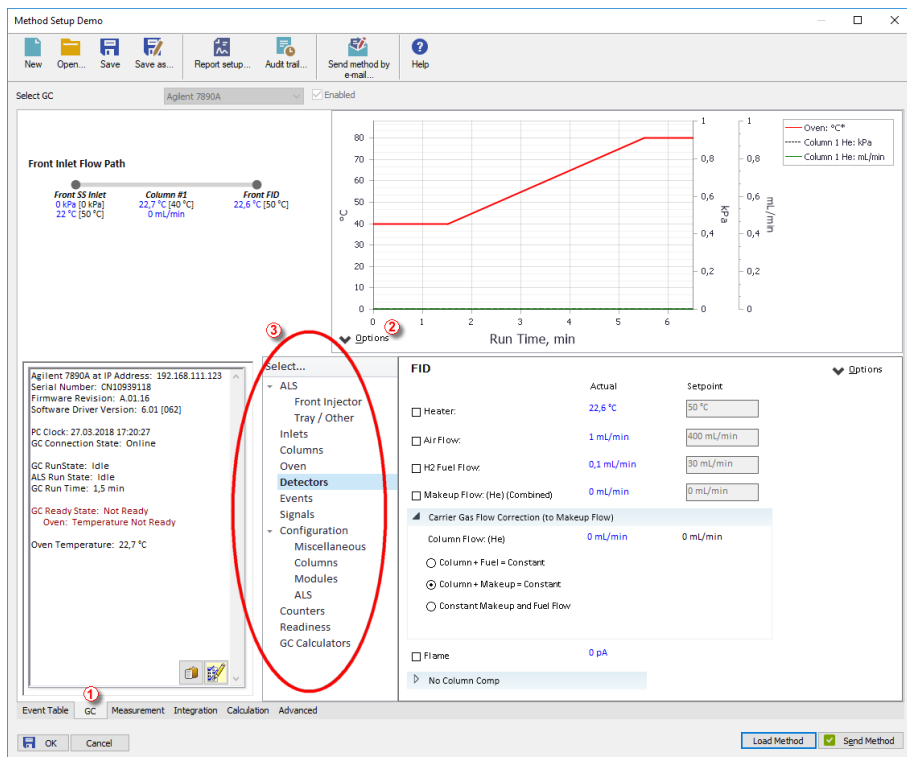


Fig 16: Method Setup - GC

**Note:** Press the **F1** key to display the **Agilent help** with detailed description of the dialog.

From **GC tab** ① you can set all parameters for GC or AS control and instrument configuration.

- A window providing graphical plots or curves that represent selected method parameters during the run is located in the upper part of the **GC tab**. The setting of the plots can be made through dedicated button ②.
- For advanced setting of all other parameters use all tabs ③ in the row.

**Note:** Actual parameters downloaded from GC are used for new method or method adaptation instead of default parameters.

**Note:** When there is an autosampler used it is necessary to follow numbering rules for vials' positions in [Sequence](#) and [Single Analysis](#) dialog. Numbers of vials' positions are dependent on used type of tray. When autoinjector without external tray (for example 16 position autoinjector turret) is used the vials' positions numbers inserted to software have to be from interval <101, 116>. A number for vial position equals to vial position +100, for example for vial placed in position 8 a position number is 108. In case that a 100-position tray is used the vials' positions are from interval <1, 100>, for example for vial placed in position 38 a position number 38 has to be used.

**Note:** Autoinjector turret without external tray does not support identification of missing vials. In case there will be requested to inject from position where vial is not placed the injection will take place as usual. This injection will result in chromatogram with unexpected signal pattern (for example).

## 4.2 Method Setup - AS

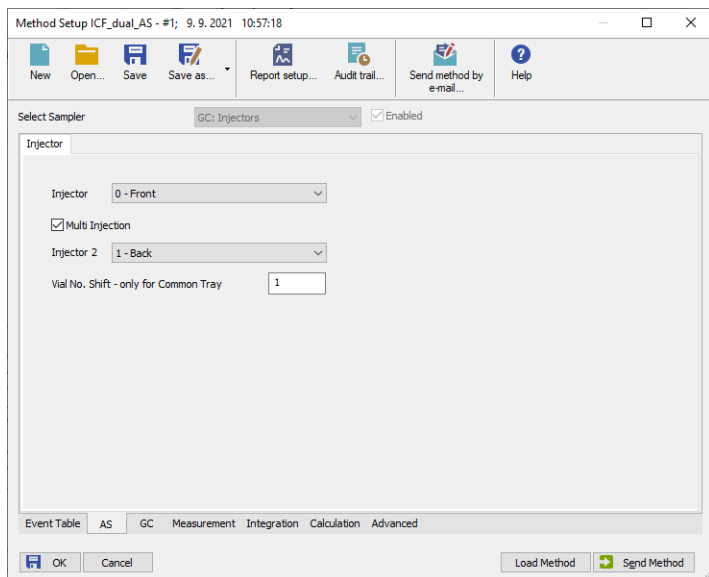


Fig 17: Method Setup - AS

**Injector**

Default option where the type of the injector can be selected, i.e. front or back.

**Multi Injection**

By checking this checkbox, both selected samplers are injecting simultaneously.

---

*Note:* Such option is visible only when dual tower samplers are used.

**Vial No. Shift**

Vial number shift will be applied for second sampler's vial, selected number will be added to the vial number stated in Sequence.

---

*Note:* Only when the tray is common for both samplers.

### 4.3 Device Monitor

The **Device Monitor** window can be invoked by the *Device Monitor* command from the *Analysis* menu or using the **Device Monitor** icon in the **Instrument** window. You may use icon for accessing *Device Monitor* from all **Clarity** windows. For the **Agilent ICF**, it displays the states of configured **Agilent** system and enables the user to monitor and/or change states of this **Agilent** system.

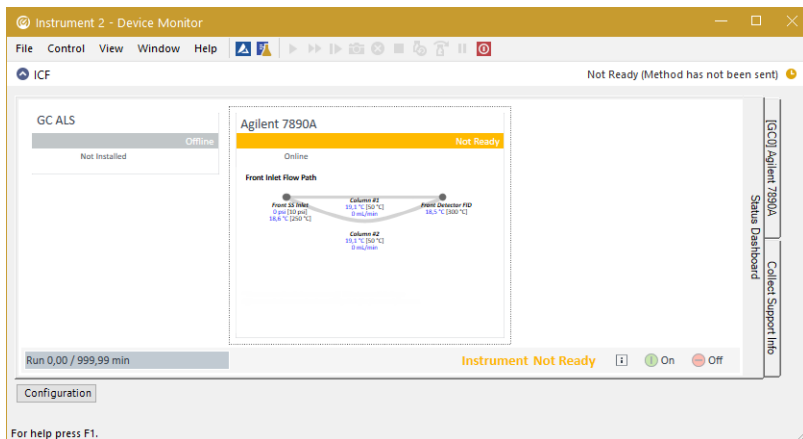


Fig 18: Device Monitor

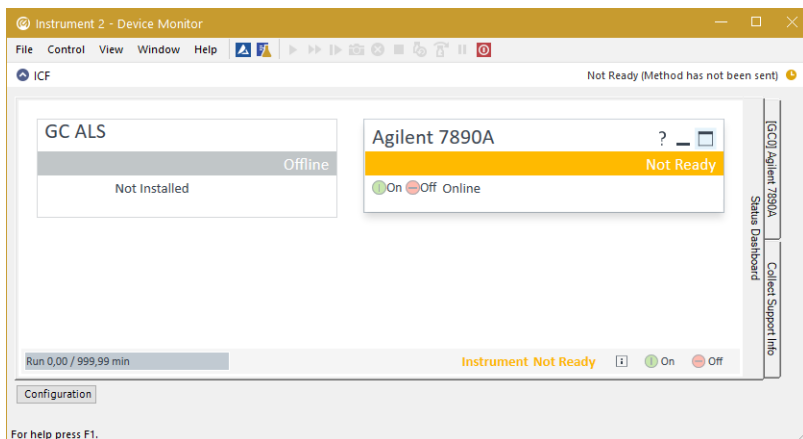


Fig 19: Device Monitor - simplified view

Button *Configuration* allows to enter and modify configuration of GC directly from the *Device Monitor*. Modifications of configuration may cause that method might need an adaptation before its use in analysis. The *Configuration* feature is not accessible during running analysis or running [Sequence](#).

---

*Note:* Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

---

*Note:* Tabs on right side of the *Device Monitor* allowing setting collection of diagnostic information are displayed only when **Clarity** is started under Administrator Windows account. For other Windows accounts, when running **Clarity**, there are displayed fewer tabs on the right side of the *Device Monitor*.

## 5 Troubleshooting

When the remedy for some problem cannot be discovered easily, the recording of communication between **Clarity** and *Agilent ICF* control module can significantly help the **DataApex** support to discover the cause of the problem.

The recording can be enabled by adding or amending the LOGGING.INI file in the **Clarity** installation directory (C:\CLARITY\CFG by default). The file can be edited in any text editor (e.g. Notepad). Following section should be edited:

```
[Log]
echo = ON
filename = log_%D.txt
reset = OFF
; Sections List:
AuditTrail = ON
BadTrace = ON
CommandLine = ON
Acquisit = ON
AgilentICF = ON
SST = OFF
Internet = OFF
FractionCollector = OFF
```

---

*Note:*        %D (or %d) in the filename parameter means that the log will be created separately for each day. The *reset = OFF* parameter disables deleting the content of the log each time the station is started during the same day.

The created \*.TXT files will greatly help in diagnosis of unrecognized errors and problems.

In case you cannot establish communication with Agilent instruments, please review the following issues:

### **Check the network connection using the Ping command**

The problem in communication between **Clarity** and Agilent instruments may be caused by wrong network configuration, firewall preventing the connection, etc. Run the command line in Windows (for example by pressing the **Windows key** together with the **R** key, in the displayed **Run** window type *cmd* and press *Enter*).

---

In the command line type ping <ip-address-of-instrument> and press *Enter*. The *IP Address* is the same you entered in the [ICF Setup](#) dialog.



## 5.1 Specific Problems

### Clarity can't be run and it displays "Agilent ICF is not installed correctly." message.

**Cause:** The cause of the problem is that the Agilent ICF has a different version than expected by Clarity. It can typically happen when other software also using Agilent ICF decides to reinstall it. Thus next time Clarity expects different version than is installed.

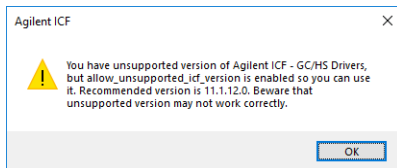


Fig 20: An Agilent ICF error dialog during Clarity start

**Solution:** Solution is to reinstall Agilent ICF during Clarity installation. Follow steps described in the chapter "**Installation procedure**" on pg 6.

### Headspace autosamplers have not been tested.

**Cause:** There have been implemented *Sequence Mode* and *Enable Sample Overlap* functionality but their usage with Headspace autosamplers has not been tested yet.

**Solution:** We are working to fix this situation.

### Print of *Injection Control* is not functional.

**Cause:** Agilent ICF is incompatible with some Clarity printing procedures.

**Solution:** Method parameters of autosampler control are printed together with another GC control method parameters using *Instrument Control* item within *Method* section in *Report Setup* dialog.

### ICF problems during installation or operation.

**Cause:** The cause of the problem might be that *Microsoft .NET Framework 3.5* is not enabled. Agilent ICF requires *Microsoft .NET Framework* enabled for its function.

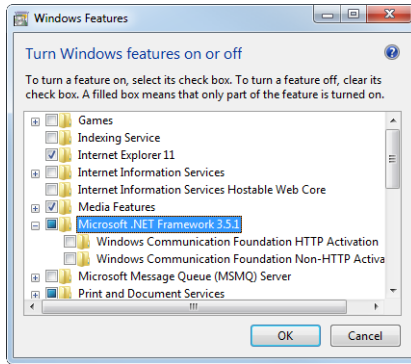


Fig 21: Turn Windows features on or off - Windows 7

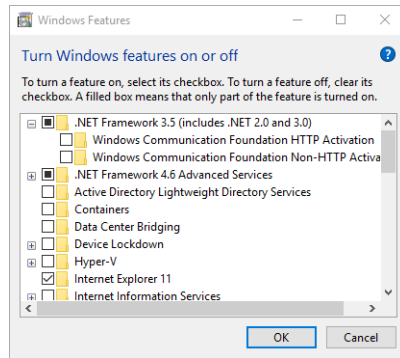


Fig 22: Turn Windows features on or off - Windows 10

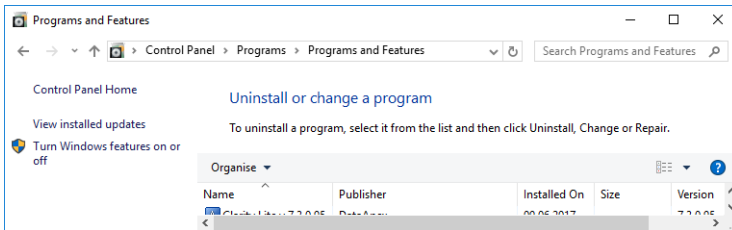


Fig 23: Location of Turn Windows features on or off in Windows 10

**Solution:** Check if Microsoft .NET Framework 3.5 is enabled in Turn Windows features on or off dialog. If Microsoft .NET Framework 3.5 is not enabled enable it. Turn Windows features on or off dialog is accessible in Control Panel window under section Programs in its subsection Programs and Features. The Microsoft .NET Framework 3.5 is disabled by default in some Windows versions.

Signal #X not available.

---

*Cause:* Incompatible version of the method.  
*Solution:* Change the signal number in the method from X to the different one or create a new method.