

# Capillary Electrophoresis Instrument Networking

Pub. No. MAN0028062 Rev. A.0

Our warranty and service contract terms exclude coverage for instrument system problems that are caused by the network connection (for example: computer virus, hacking, updates or patches that alter the compute environment). However, our field service team will respond during the warranty period and/or while the instrument is covered by our AB™ Assurance Plan to isolate the cause of any problem due to instrument hardware, software, chemistry, or to some external environmental cause including the connection to a customer-owned, internal network. Beyond this support, we can escalate issues to a product technical team that can review instrument logs and advise on the nature of the problem, which can help customers find and correct the source of the problem.

## Tips for connecting your instrument computer to your local network

Capillary electrophoresis instrument systems may include Dell™ computers that are outfitted with two network adapters:

- The motherboard adapter is used for communication with the instrument. This adapter usually is located on the back of the computer toward the middle of the tower, near the USB and other motherboard ports. In **Control Panel ▶ Network and Internet ▶ Network Connections**, this network adapter is named **AB Instrument – Motherboard NIC** by default. This adapter has a fixed IP address. Do not alter the IP address, or the computer will not be able to communicate with the instrument.
- The second adapter is available to enable our customers to work with their local IT department to connect to an internal network. This adapter port is located on the back of the computer and usually is near the bottom of the tower as an independent NIC card (Ethernet adapter). In **Control Panel ▶ Network and Internet ▶ Network Connections**, this network adapter is named **LAN Connection – 2nd NIC** by default.

The 3130/3130xl Genetic Analyzer, 3730/3730xl DNA Analyzer, and 3500/3500xL Genetic Analyzer include a co-located Dell™ computer that is required for instrument operation. The SeqStudio™ Genetic Analyzer and SeqStudio™ Flex Series Genetic Analyzer do not include a co-located Dell™ computer by default, as a co-located computer is not required for instrument operation. These instruments have a built-in, single-board computer for instrument operation. Customers may order an optional Thermo Fisher Scientific-supplied desktop or laptop computer, which may be connected to the instrument:

- The optional Dell™ desktop computer has two network adapters as listed above.
- The optional Dell™ laptop computer has one network adapter. If this adapter is used to connect to a SeqStudio™ Genetic Analyzer or SeqStudio™ Flex Series Genetic Analyzer, it should not be modified.

**Note:** This bulletin provides instructions based on a Windows™ 10 operating system. If your instrument computer has a different Windows™ operating system, access to Control Panel features may differ from these instructions.

We recommend the following when connecting the instrument computer to your local network:

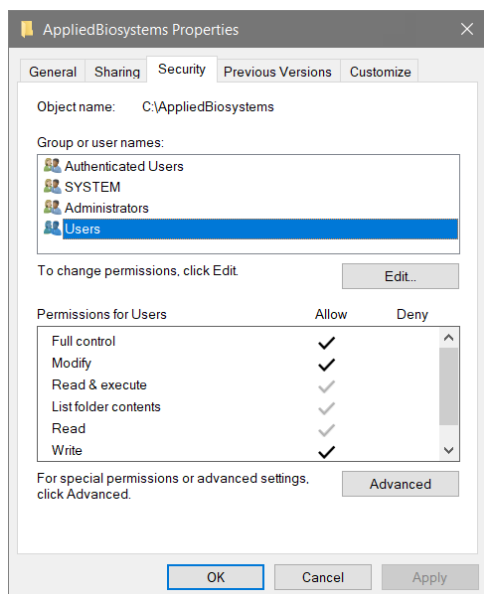
- When configuring the network settings, only configure the card for the Local Area Network (**LAN Connection – 2nd NIC**), not for the **AB Instrument – Motherboard NIC** network adapter. If you are modifying the LAN settings and see that **Use the following IP address** is selected, then click **Cancel** and modify the LAN settings for the other card. If you modify the **AB Instrument – Motherboard NIC** settings, it will break the connection between the instrument and computer.
- If your organization has a specific naming convention that is required to connect the computer to the network, please work with your local Field Service Engineer (FSE) to change the computer name *before* software installation. Changing the computer name after installation can break the connection between the instrument and computer.
- If the firewall is on, open **Control Panel ▶ System and Security ▶ Windows Defender Firewall**, then select **Advanced Settings** and turn off the firewall for the **AB Instrument – Motherboard NIC**, which connects the instrument to the computer. Any third-party firewall software should be set accordingly as well.

**Note:** Some anti-virus software packages have firewall settings as well. Please ensure that if they are turned on, they are turned on **only** for the **LAN Connection – 2nd NIC**.

- Norton™ Antivirus has been tested for use on Thermo Fisher Scientific-supplied instrument computers that are running the Windows XP™, Windows™ Vista™, or Windows™ 7 operating system. Norton™ Antivirus and McAfee™ Endpoint Protection has been tested for use on Thermo Fisher Scientific-supplied instrument computers that are running the Windows™ 10 operating system.
- If you install anti-virus software on an instrument computer that is not listed above, then please ensure that scan exceptions are in place for these folders:

Instrument model	Folders that require scan exceptions
3130/3130xl Genetic Analyzer 3730/3730xl DNA Analyzer	<ul style="list-style-type: none"> <li>- C:\AppliedBiosystems (if GeneMapper™ Software is installed)</li> <li>- C:\Program Files(x86)\Oracle (if GeneMapper™ Software is installed or if the computer is on Data Collection Software v.4.X or earlier)</li> <li>- D:\AppliedBiosystems</li> <li>- E:\Applied Biosystems</li> <li>- E:\AppliedBiosystems</li> <li>- F:\AppliedBiosystems</li> </ul>
3500/3500xL Genetic Analyzer SeqStudio™ Genetic Analyzer SeqStudio™ Flex Series Genetic Analyzer	<ul style="list-style-type: none"> <li>- D:\Applied Biosystems</li> <li>- D:\AppliedBiosystems</li> <li>- D:\3500 MicroSeq ID Data (if MicroSEQ™ ID Software is installed)</li> <li>- C:\AppliedBiosystems (if GeneMapper™ Software is installed)</li> <li>- C:\Program Files(x86)\Oracle (if GeneMapper™ Software is installed)</li> </ul>

- Instrument and analysis software packages have specific computer requirements to function optimally. **Updating the operating system or the service pack is not recommended.**
- Set Microsoft™ security updates for manual installation. Some updates force the computer to reboot automatically after installation. If this reboot happens during an instrument run, you can lose the data and will need to re-run the samples. Updates are installed at your own risk. We strongly recommend that you close all software before updating and that you take a full computer image before installing any updates or third-party software. Thermo Fisher Scientific does not recommend or suggest any specific software for creating an image. At a minimum, a Restore Point should be created before installing any updates.
- Please do not alter the pre-configured user accounts, and keep a record of the passwords for these accounts; for example, the instrument-specific user accounts 3130User, 3730User, 3500-USER, and the AB Service accounts. Changing the password for the 3130User and 3730User instrument accounts will result in a loss of communication between the instrument and computer, and the AB Service account is intended to allow access for the Thermo Fisher ScientificFSE.
- If logging in as the local administrator is not possible, then the user accounts in the Applied Biosystems and/or AppliedBiosystems folders must have **Full control** permissions (**[folder] ▶ Properties ▶ Security**).



- Although not recommended, if the data files are going to be saved directly to a network drive, the Results Group will need to be set up accordingly:
  - 3130/3130xl Genetic Analyzer and 3730/3730xl DNA Analyzer: Map the drive location and assign it a drive letter so the Results Group can browse to the drive.
  - 3500/3500xL Genetic Analyzer: The system will need to use the IP address of the server where the folders are located when setting up the Results Group.
  - SeqStudio™ Genetic Analyzer and SeqStudio™ Flex Series Genetic Analyzer: If exporting files to a network location, use the IP address for the server/computer where the files are going to be saved. Ensure that the folder permissions are set to share with *Everyone* and set to *Full Modify*.
- Do not change the regional settings – keep at US English. Changing the region or keyboard settings can cause unrecognized characters to be entered into the system and can corrupt files.

- A bridge computer between the instrument computer and the network may be required if any of the following are required by the local IT Network policy:
  - Domain users cannot have local admin privileges (required by the software).
  - Default admin provided by Thermo Fisher are prevented from being accessed or are moved from the Administrators group to the Users group.
  - If the compute environment is being heavily modified by extensive cyber security precautions, this may interfere with the operation of the instrument.

In those cases, a bridge computer may be required to stand between the instrument computer and the network, where the instrument computer remains “as is” and the bridge computer gets locked down with the domain IT policies and cyber security protocols that meet the institution’s network policy.



Life Technologies Holdings Pte Ltd | Block 33 | Marsiling Industrial Estate Road 3 | #07-06, Singapore 739256

For descriptions of symbols on product labels or product documents, go to [thermofisher.com/symbols-definition](https://thermofisher.com/symbols-definition).

Revision history: Pub. No. MAN0028062

Revision	Date	Description
A.0	20 July 2022	Initial release.

The information in this guide is subject to change without notice.

**DISCLAIMER:** TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

©2022 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.