

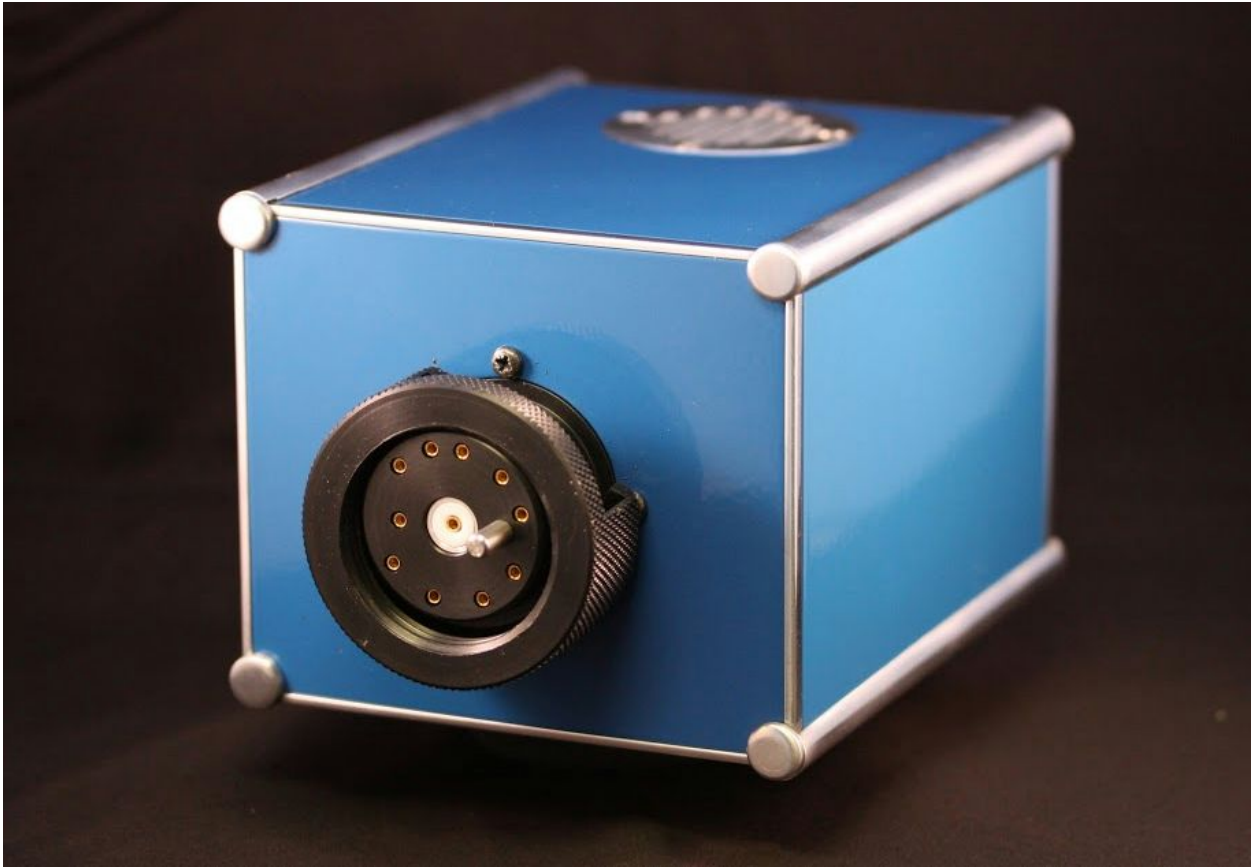
Hardware Setup

Iota has an integrated Lantronix XPort device which relays serial communication via ethernet. User should connect Iota to the local network using the supplied ethernet cable and the ethernet connector visible on the photo below.



The Iota power cable is pushed into place until it locks (it needs first to be rotated until the keys align). Below is a picture of an Iota front panel showing the power connector(s) and the ethernet port. When powered, ensure that the fan outlet is not blocked (on underside).

The photo below shows the quadrupole electronics connector.

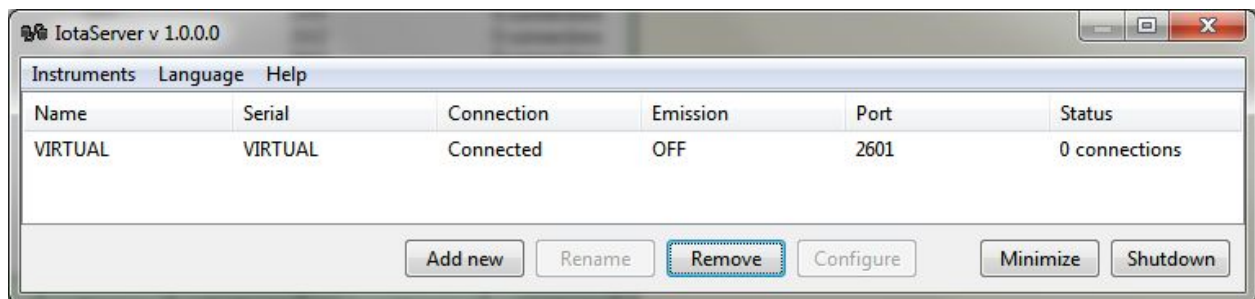


Software Setup

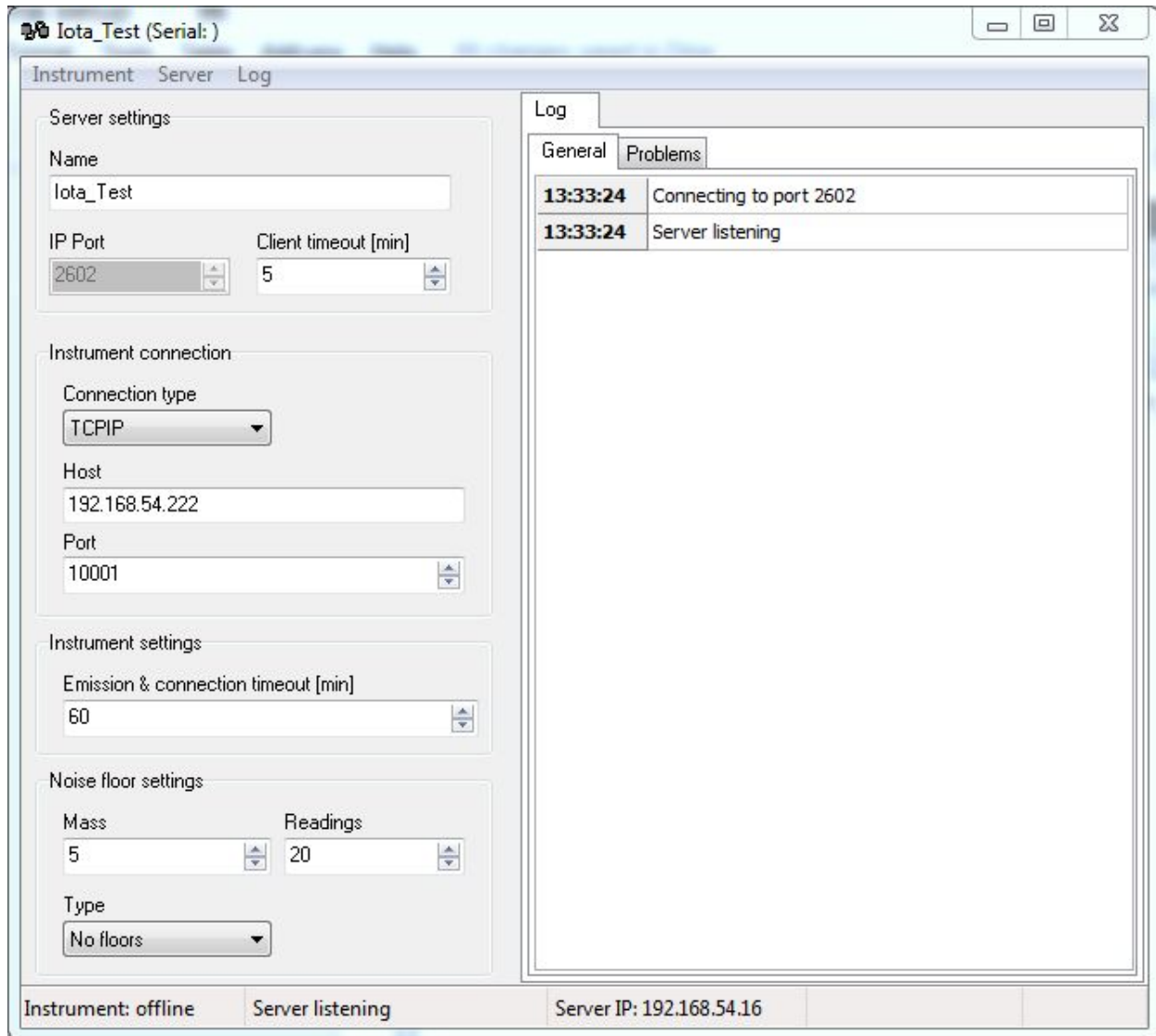
Iota Server connects directly to the electronics of one or more Iota RGAs and then provides access to applications that perform data acquisition, such as *Fragment Studio*.

Iota Server Configuration

Iota Server can be installed on any computer that has access to the local network. Install Iota Server from the supplied USB stick and run it. The program's main window will look like this:



Initially it only has the configuration of a virtual instrument used for testing purposes. In order to configure the connection to the actual Iota, user needs to click the "Add new" button.



On this window the connection to the instrument is configured:

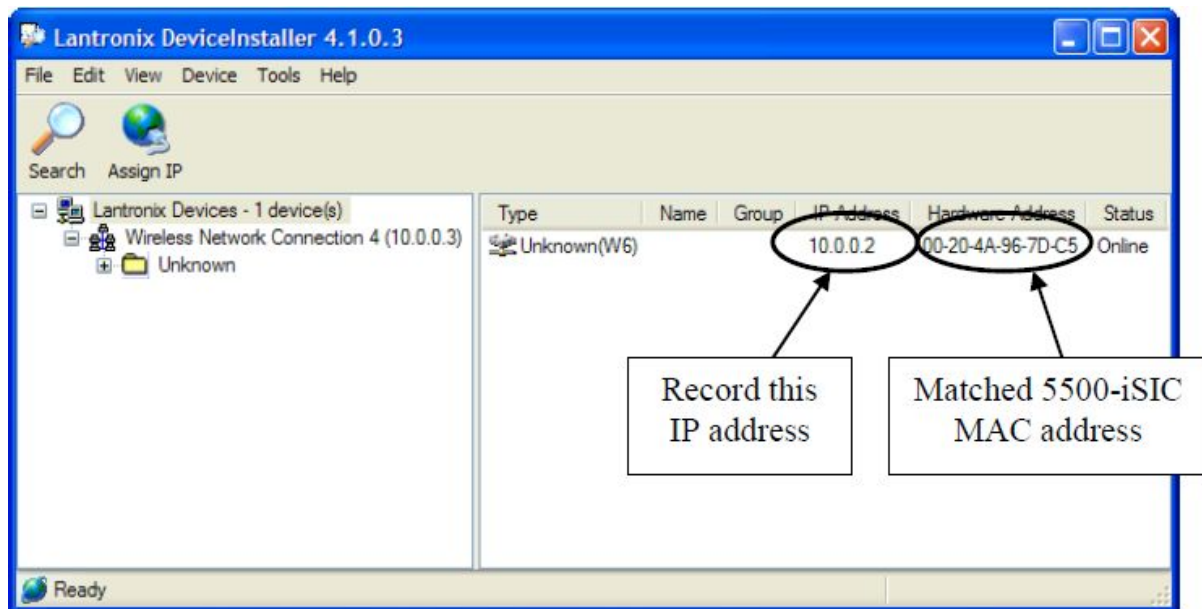
- Name can be anything you like and should uniquely describe the instrument, eg “Main Lab Chamber 1”
- IP Port defaults to 2602 and should be changed only if there are other applications using it already. In such case error messages in the log will indicate that the port is already in use, when user starts the server.
- Connection type should be TCPIP. The host field indicates the IP address of the device. Finding this address is explained in the next chapter.

Finding Out or Assigning IP Address to XPort

Iota is connected to a local network using Lantronix XPort device which relays serial communication via ethernet. XPort needs an IP address in order to be accessible via network. In order to find out (or change) the IP address of the XPort device, user must use the Lantronix DeviceInstaller application. If this application is not yet installed, it can be downloaded from the following web address:

<http://www.lantronix.com/products/deviceinstaller/>

After the DeviceInstaller application is launched, user can use the search button to find all (most likely just one) XPort devices on the network. In most cases, local networks have a DHCP server that allows new devices to be connected and assigns them IP addresses automatically. If so, the device will already have an IP address assigned. Otherwise, it will be displayed in red and will need the IP address set manually. To do that, the device needs to be selected in the list and “Assign IP” button needs to be pressed. User will be prompted to enter IP address, subnet mask and default gateway. User may need to contact the local network administrator to obtain this information - the subnet mask and gateway would be identical to those set in the user’s PC’s network settings, while IP address needs to be an available one.



An example screenshot of XPort
(matching the hardware address to the supplied one is needed if there are more XPort devices present)

Back in Iota Server, after the host address has been entered, the remaining settings should be left to default values. User can now try connecting to the instrument using the Instrument/Connect menu. If the connection works, server can be started using menu Server/Start Server (server is not started automatically only for new instrument configurations). After this, data acquisition software such as Fragment Studio should be able to connect.

Iota server normally starts during windows boot and once running it sits in the system tray using this icon:



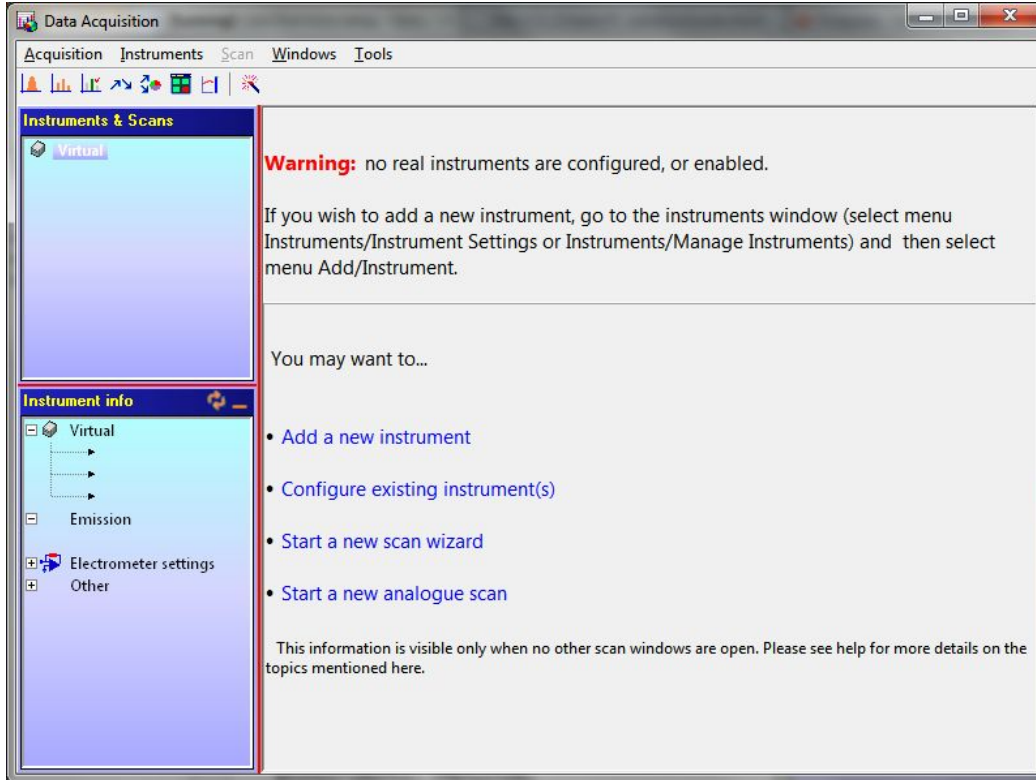
Once the Iota Server is configured, it should not require any changes or maintenance.

Iota Server also has a help file accessible in the usual way (pressing F1) when the program is active.

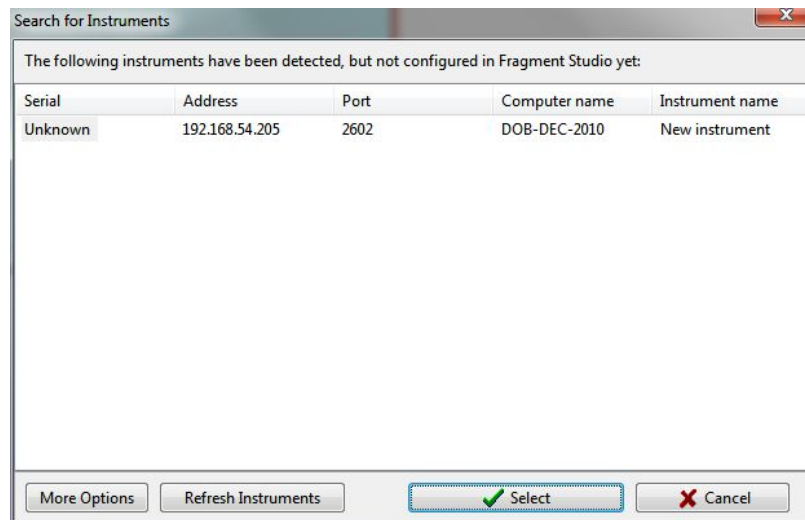
Fragment Studio Configuration

Fragment studio can be installed on any PC that can access the Iota Server application via local network or Internet. For the sake of simplicity we will discuss the scenario where all the software runs on the same computer.

Fragment Studio should be installed from the supplied USB stick and launched. In order to configure an instrument, “Advanced Mode” must be activated in Studio - using the **Tools/Activate Advanced Mode** menu on the main window. The required password is “studio_master”. Next, acquisition window should be opened. The program will offer the option to configure an instrument:

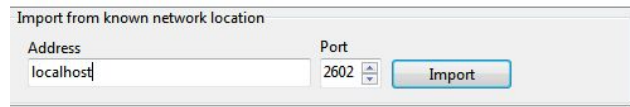


After clicking the “Add a new instrument” link a window will pop up with a list of instruments that are available. This list should include the instrument setup in Iota Server as explained in the previous paragraph.



Selecting the instrument will make Studio connect to it, import the settings stored on the head and complete the configuration.

If for some reason the instrument does not appear on the list, user can manually configure it by clicking the “More options” button and using the “Import from known network location” option by entering “localhost” and “2602” as address and IP port respectively, then clicking the Import button.

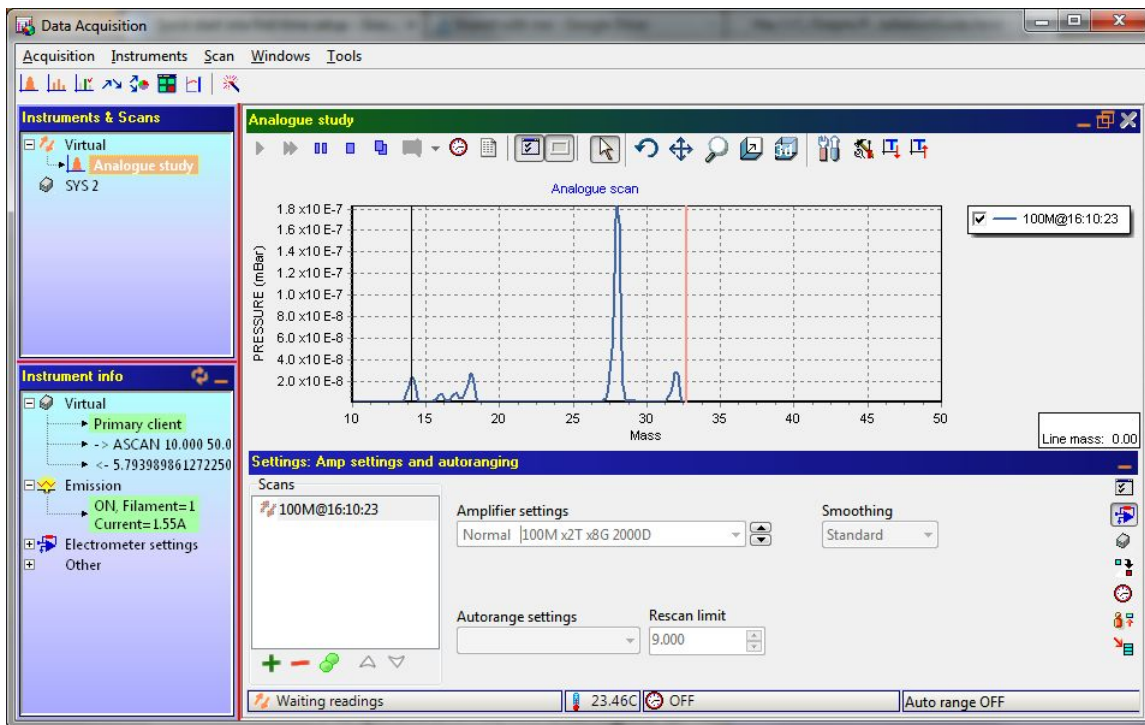


The image shows a dialog box titled "Import from known network location". It has two input fields: "Address" containing "localhost" and "Port" containing "2602". There is an "Import" button to the right of the port field.

This would, as in the previous case, import the settings directly from the instrument’s head. There is also a third option to import the settings from a file supplied on the USB stick, the file will be of XML type - please note that, in the instrument settings, the IP address and port will have to be entered manually after importing.

Once configured, the instrument will become visible and selectable on the Acquisition window. At that point double clicking it will establish a connection to the instrument and any type of acquisition scan can be started.

A simple test to see if everything is ok would be to select the instrument, then menu **Acquisition/New/Analogue** and run the scan.



(screenshot shows virtual scan)

Fragment Studio help contains much more information on these and other topics. Simply pressing F1 when Studio is active will present the user with the relevant help topic.

Notes on networking issues

(when Fragment Studio and Iota Server are not on the same PC):

- When configuring Studio's connection to an instrument, instead of "localhost" the address must point to the computer that is hosting the Iota Server application, either a local IP such as 192.168.54.155 or a global internet public IP or a domain name.
- The firewall must be configured in such a way that Iota Server is allowed to accept incoming traffic on all the ports it is configured to use. Users should consult their IT department on which ports can be made available for this purpose.

USB Stick Contents

Main files:

- **IotaServer_Setup.exe** - installer for Iota Server application
- **Studio_Setup.exe** - installer for Fragment Studio application

Other files:

- **[instrument_name].xml** - settings for the instrument, if a manual import is needed
- **Firebird-[version].exe** - installer for Firebird database engine, for users with a multi-user license
- **Maintenance_Setup.exe** - installer for a Maintenance application, for users with a multi-user license
- **EasyScan.exe (beta)** - free EasyScan application: this is not an installer, it is a standalone executable that can be simply started by double clicking it. Useful for quick connection to Iota and acquisition using default settings stored on the device or available on Internet (still in beta testing at this time, not a full release).
- **WebUpdate_Setup.exe** - installer for the Web Update application which allows easy updating of installed software via internet

Revision History

1.3	7th Feb 2013	Modified to reflect ver 1.3 studio release / minor changes
1.4	3rd August 2015	Ethernet information added.