

Gas chromatograph

Dani Master and UniChrom

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Instrument control aspects

Dani master GC is a three-channel chromatograph. Up to three analytical lines can be installed. Data acquisition supported over three channels.

Instrument connected via TCP network. Physical connection provided by built into GC Lantronix X-Port TCP/Serial port server. Default TCP port number for Lantronix is 10001.

Instrument configuration determined automatically on connection.

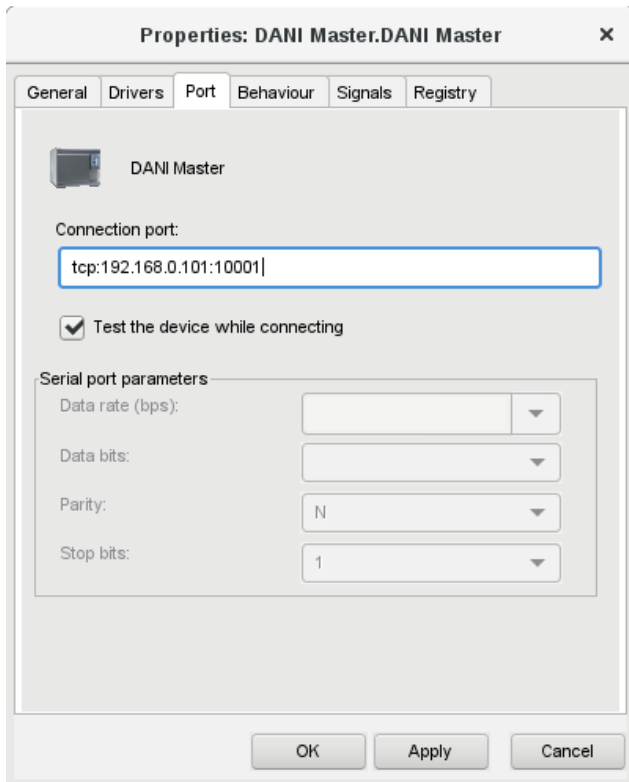
Instrument support level

Current driver implements:

- protocol parser (reads and understands instrument protocol and checksums)
- understands basic inlet and detector setpoints
- parses the signal data from all the detectors

Instrument driver setup

Driver installation is the stock operation of UniChrom «Configuration Editor». To get this - drag the «Dani» icon from the list of available instruments to the list of installed instruments. Specify the connection port name at “Port” page.



Driver supports two communication levels
Serial and TCP.

Serial comm defined by system name **COM1** or
/dev/ttyS0

TCP connection specified in style

tcp:IpOrHost:TcpPort

tcp – mandatory prefix, defines the
communication resource class

IpOrHost — decimal representation of IP
address or DNS-registered host name for GC.

TcpPort – TCP port number (default value is
9100) so for Dani/Lantronix **10001** have to be
specified.

It is highly not recommended to un-check the “**Test the device while connecting**”. Un-checking this assumes device is forcibly found (regardless it is actually there) in this communication resource and instrument configuration is default.

Configuration parameters

The GC driver supports set of configuration parameters which may be altered at corresponding pages of «Configuration Editor» or at the «Registry» page. The parameters marked with [T] are technological and intended only for instrument tuning. The page of driver properties is mentioned in brackets as: [Detectors].

Parameter	Type	Designation and applicable values range
ComName	S	Communication port name have to be defined in style, which is common for all UniChrom-supported networked GCs. Can be specified at [Port] page.
WaitTime	S	GC system equilibration time before going to ready state. Is being defined at [Behaviour] page.
DebugLevel	T	Level of debug diagnostics printed to log. Can be in range: 0 – print nothing except critical or GLP messages 6 – print all including read data hex dump

Setting the Dani master GC IP address

Lantronix X-Port IP address can be specified by GC setup or using **DeviceInstaller** utility provided by Lantronix.

Checking the network connection

Network connectivity

To verify if the instrument IP address is determined right and instrument responds to network connection the stock **ping** program can be used. Open the Windows command line (cmd.exe) or Linux console, and type:

ping IpOrHostName and press [Enter],

where IpOrHostName — decimal representation of IP address (e.g.10.2.128.5) or DNS-registered instrument host name.

If the IP connection is possible the **ping** utility will show ICMP-message exchange dialogue between PC and GC with approximate time required to get answer in milliseconds (microseconds).

When instrument does not respond to **ping** it is required to check if the GC and PC are in single IP subnet or check the routing between subnets. Routing have to be managed with qualified IT administration personnel.

The existence in single IP subnet means that IP addresses of GC and controlling PC are **DIFFERENT** (at least in single number which is not falling into network mask range), and the network masks are **IDENTICAL**.

For instance:

Chromatograph is configured to IP address **192.168.0.2** , and network mask **255.255.255.0**

Controlling PC has IP address **192.168.0.5** , and network mask the same as GC **255.255.255.0**

When the GC and PC are in common IP subnet, the **default gateway** parameter is not mandatory.

Application connectivity

Use UniChrom or at least **telnet GC_IP_Addr 10001**

Specialities in Dani Master GC controlling

Temperature control

Never laid hands on

Gas flow and pressure control

Never laid hands on

Detector activity control

GC detectors can be turned ON and OFF. This means for instance, the FID detectors turned OFF would not be controlled for flame presence. This functionality allows creation of special instrument “Modes” for “Cooling” instrument after work for maintenance. For OFF-lined FIDs is possible set the hydrogen and air flows to 0.

Valve control

Never laid hands on

Diagnostics

UniChrom writes per-application (uclog.txt) and per-instrument (i0.log ... i32.log) into **unichrom/log** directory. Per-application logs are rotated each start of the program. Instrument problems can be easily diagnosed by providing the logs with problem description to the developers.