

EasyView User Manual

From Version 5.7 onwards

EasyView V5.7 User Manual SP104022.103 October 2012

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You can send your comments to:-

MKS Instruments, Spectra Products Cowley Way Crewe Cheshire CW1 6AG U.K. +44 (0) 1270 250150 Tel.

+44 (0) 1270 251939 Fax.

Email – manual_info@mksinst.com www.mksinst.com

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I. Getting Help

Much of the application software suite has online context sensitive help. Please use this along with the reference material in this manual as a starting point for getting help.

We are always pleased to provide personal assistance where we can. If you are experiencing difficulties or need further help, feel free to call your local MKS Spectra facility and ask for the Customer Support Group. Please have the following information ready so that our technical staff may help you quickly and effectively:

The serial numbers of the analyser and control unit; each of these numbers begins with the letters "MKS" or "LM"

The Process Eye or EasyView software version number; this is written on the software CD ROM and can also be found on screen by selecting **Help | About** from the menu-bar.

The operating system used and any Service Packs which have been applied.

Support Contact Telephone Numbers:

United Kingdom +44 (0) 1270 250150

North America +1 (408) 778-6060 1-800-VAC CHECK

Chapter 1 - Introduction

The MKS software covered by this manual is designed to operate with the full range of MKS Spectra "smart head" instruments such as Microvision2, e-Vision and HPQ2.

The software will run under Windows 2000, XP, Vista (32/64) and Windows7 (32/64) desktop operating systems and Windows Server 2003 and 2008. No other versions of Windows are suitable.

Note: This manual is to be used in conjunction with version 5.7 onwards of EasyView. If you are currently using an earlier version please contact your local MKS Spectra representative to discuss upgrade options.

EasyView Overview

The EasyView package is designed to provide an easy-to-use working environment in which to use an MKS RGA. While sharing the features of the Process Eye Professional package such as acquisition speed and wide dynamic range, the package is also fully interactive. EasyView contains all the same capabilities of data acquisition, storing to disk, sensor calibration and degassing the ion source as Process Eye Professional and is compatible with external hardware such as a Remote Vacuum Controller or a Cirrus bench top system.

Topics Covered by this Manual

The manual starts with the installation of the software and hardware. There are sections on Getting Started, acquiring data and displaying data in ways that suit your pattern of work.

An RGA as a Source of Data

This manual uses client server concepts to describe the mechanism of acquiring data and displaying it for the user. The application software (Process Eye Professional or EasyView) is the client. The control unit is the server, since it is the source of data. Network enabled instruments, such as the e-Vision, and Microvision Plus-IP and Microvision2 have their data servers built in. Serial instruments such as the Microvision Plus must be connected to a PC that runs server software that is capable of multiplexing more than one serial instrument and acting as the data server to the connecting client. This Windows software is referred to as the 'Local RGA Server'.

The client application and the data server communicate using a proprietary MKS ASCII protocol. If you want to write your own client software, or to integrate RGA's into your existing system control software, MKS provides a software development kit (SDK) for application developers as a separate product.

Connecting Control Units

The Microvision Plus and HPQ2 smart head control unit connects to the PC using a serial interface that may be RS232 or RS422. **RS485 is not supported**.

Microvision Plus-IP and HPQ2-IP control units, connect via a standard network interface. **The serial RS232 connection on the rear panel of these instruments should not be used** for general data acquisition. On very rare occasions it may be necessary to use it for diagnostic purposes.

The Microvision2, e-Vision, and e-Vision Plus and eVision2 control units connect exclusively using a standard network interface.

For the greatest security and reliability of data MKS recommends that networked instruments are on their own physical network and that the computer that controls them have a dedicated separate network card. However, this may not always be practical or desirable, and it is quite possible to run these control units on a business or office network.

The control unit must be one suitably configured to run with Process Eye Professional or EasyView. If the control unit was supplied with another software package or a previous version of Process Eye or was not obtained directly from MKS or one of its agents or distributors, please contact your local MKS Spectra facility for upgrade instructions.

1.1 Software Installation Pre-requisites

EasyView software runs on any of the following operating systems:

Windows XPServer (2003/2008) Windows 20007 (32/64bit) Windows NT4 with service pack 6Vista (32/64bit) Windows MeXP Windows 98se2000

Before you start to install your RGA application software make sure you have fitted and pre-configured any plug-in communication cards you may require.

You must be an administrator of the computer to install the software. However, once the software has been installed you can run it with simple 'user' privileges. MKS recommends that you do so, since this is a key component in any strategy for preventing malicious software infecting the system.

The following sections detail the software installation, creating an RGA User account and configuration of the main application program.

Chapter 2 – Software Installation

Insert the CD-ROM in the drive; if it does not auto-run, click the *setup.exe* application in the root folder. From the CD browser select the option to install the software. This will launch the **Administrative Assistant** that will guide you through the complete installation process.

2.1 Administrative Installation Using the Administrative Assistant



The Administrative Assistant contains full context-sensitive on-line help.

You can access this help at any time either by clicking the **Help** button or simply by pressing the **F1** function key on your keyboard.



🛃 MKS RGA Software Setup 🛛 🔀
Quick Setup Code The setup code is printed on the CD label
Please enter the Quick Setup Code that is printed on the CD label. easyview This code identifies the components that need to be installed for your particular hardware and software requirements.
< Back Next> Cancel Help

You must agree to the terms of the software license in order to proceed with the installation. The license terms are printed in the preface of this manual.

When prompted, enter the quick set-up code "easyview".

You must enter the code on this page of the Assistant. The code is not case sensitive.

The pages that follow depend on the Windows operating system installed on your computer. This manual shows the most common dialogs from a Windows XP install. Your set-up may include others, which should be self-explanatory. Remember that you can refer to the on-line help for any pages not shown in this manual.

nstall Location The program and data f	iles will be installed in the locations that you specify
different location, edit the tex nstall Location	be installed to the location shown below. If you want to choose at accordingly.
C:\Program Files\Spectra	
Choose a location whe	re data that is shared by all users will be stored Browse
Provide State Stat	

You can choose the file locations for program files and system data.

You should always install the program files to your locale specific Program Files location since Windows prevents any changes to this area of the disk by any users other than administrators.

In contrast, the location for data needs to be accessible to everyone who will use the RGA because these settings will need to be changed at run-time.

If either of these folders needs to be created, the Assistant will do this for you.

	Ilation Features ou can install either a full or limited set of features
¢	e one of the following installation types Complete install. This installs the full suite of programs. You will be able to connect to RGA instruments, acquire data in real time, and review data stored on this or other computers. Off-fine install. This installs only the components necessary for reviewing data acquire on other computers. With this type of install you will not be able to acquire real-time da using this computer.

A **Complete Install** allows you to run RGA's on this computer and to save the data that is generated.

Sometimes you will want to install the software on a computer that will only be used to recall and review data files that were stored somewhere else.

In this case you do not need all the real-time applications and you can elect to perform an **Off-line Installation**.



MKS recommends that you keep your computer up-to-date with the latest service packs from Microsoft.

If you do not have the latest Windows service packs installed for the operating system and for Internet Explorer, the Assistant will optionally apply them for you.



Once the Assistant has completed the initial checks it is ready to install the correct software for your chosen set-up code.

🗸 MKS RGA Software Setup	
MKS RGA Software The Assistant is ready to perform the following tasks	
The Assistant is ready to - install the Process Eye Professional suite of programs. - apply the configuration settings that are appropriate for your setup code	
< <u>Back</u> Cancel	Help

The complete installation process may require the Assistant to perform several tasks which are itemised on this screen.

Some set-ups may involve a reboot of the computer part way through. All these steps will be handled automatically.

2.2 Administrative Options

Having completed the installation of the necessary files to your hard drive, the final stages of the set-up process involve the configuration of several administrative set-up options.



You can re-run this section of the Assistant at any time after installing the software, so any choices you make now may be changed later.

🖶 MKS RGA Software Setup 🛛 🛛 🔯
Demonstration Mode Choose between Normal (Real) mode and Demonstration mode
The software has a 'demonstration mode' that allows it to run with 'virtual RGA's'. If you wish to run the software in this mode, choose the second option. Otherwise, to run real hardware, you are recommended to select the first option.
Normal (real) mode. The software will connect to real hardware but will ignore any vitual RGA's installed on your system.
C Demonstration mode. The software will connect to virtual RGA's installed or created on this computer. It will ignore all real RGA's, if they exist.
Mixed mode. The software will connect to both real and virtual RGA's. This mode is intended mainly for recipe authors and experienced application developers.
Note: if you change the setting, the new setting will not take effect until the next time you log on to this computer.
< <u>B</u> ack Next> Cancel Help

The first option on this page is to choose the data acquisition mode. Usually you will select the first option as indicated.

In Normal (real) mode the software connects to real hardware to acquire real RGA data.

In **Demonstration** mode the software connects to any number of 'Virtual RGA's' that, although they exist purely in the computer's memory, behave exactly like a real instrument

If this option is selected, the software will only connect to virtual RGA's.

(Note: strictly this is true only for Windows XP with the firewall enabled. Where no firewall is in place you would be able to connect to real network instruments in Demonstration mode.)

In **Mixed** mode the software will connect to both real and virtual hardware. This option is primarily intended for RGA software developers.

hese settings affect the way that multipl	e users of this computer interact	with the RGA softwar
C. Each user of this computer has	their own private storage locatior	for data and
recipes as part of their 'My Docu		nor data and
Settings and data are stored in a	a location that is accessible to all	users
C:\Process Eye		Change
Specify a common set of p	ressure units for all users	Event Log
C Pascal	C Torr	
mbar	C milliTorr	

If multiple users log on to this computer, you can choose how they interact with the RGA software.

If you want each logged on user to have a separate location where they can save their data and settings, choose the first option on this page.

The Assistant will set up folder locations beneath each user's 'My Documents' folder.

However, it is perhaps more common that you will want to work in such a way that all the individual log-on users will share access to common data and settings. In this case you must select a folder that is accessible to all users.

The default location for this choice is the same folder that you chose earlier for the common system settings. You can change this selection by clicking the **Change** button.

If you elect to have a common location, you may choose the common units you will use for pressure. The **Event Log** button allows you to change some advanced settings that are also common to all users.

ot	ecify the location for storing RGA recipes
	and the REA and data are always stored locally on this computer, recipes that control the the REA acquires data can be stored on a remote computer.
locatio you sp	
	Store recipes locally on this computer
	C Store recipes in a folder on a remote computer on my network
	Browse
	Recipe and View definitions will be stored in folders beneath the folder you specify.

If you chose to have a common location for all users, Process Eye Professional users can then choose whether to maintain 'recipes' on this computer (the default) or to maintain a common set of recipes for multiple computers at one central location.

This is an advanced feature, which will be of interest only to users who are installing the software in a factory environment.

The Process Eye Professional software comes with several Security Features. By default these are usually un-checked (off). If you have never used MKS RGA software before, you are advised initially to leave the options un-checked. You can re-run the Administrative Assistant at a later time when you are more familiar with the product. These features are not part of the EasyView package.

	strative Options: Security Features cess Eye is equipped with several advanced security features
	vatures can enhance the security of your RGA software. Choose the security features would like to enable.
	he first time that the RGA software has been installed, the checkboxes show the ended options for your setup code.
	Activate the Process Eye Watchdog to monitor the continual effective operation of the data acquisistion software
	Install a restricted user interface without the ability to create or launch recipes. (Select this option only if the RGA Product Group has supplied you with fully automatic recipes.)
Г	Disable the ability to save changes to recipes when using the editing tools.
Г	Apply a password protected software lock to the computer, mouse and keyboard

The **Watchdog** is a system tray application that continually checks that the main Process Eye application is running correctly. If it detects that it is not, it can shut it down and restart it.

The **Restricted user interface** does not include menus and buttons for changing or launching recipes.

You can prevent users from **Changing recipes** using the recipeediting wizard.

You can **Lock down** the computer so that only authorised users can interact with the computer through the mouse and keyboard.



The RGA software continuously attempts to connect to an RGA instrument on all of your computer's serial ports unless you identify particular ports as being 'RGA-disabled'.

If you plan to connect RS232 or RS422 serial instruments to this computer, you will want to ensure all the serial ports to which you *might* connect an RGA are 'RGA-enabled'. By the same token be sure to 'RGA-disable' any ports to which you connect other devices

If you only use RGA's with network connectivity, you should click the **Uncheck All** button to prevent the RGA software from continuously checking to see if there is an instrument attached.

If you have Windows installed, the Assistant will display the Windows Firewall page.

The Windows firewall became a default feature of Windows XP with the release of service pack 2 and is a standard feature of Windows Vista and Windows 7.

The Assistant will configure your firewall automatically so that the correct network ports are enabled to allow the RGA software to run correctly.

The Setu	r ewall p Assistant v	will adjust the W	indows Firewa	II settings	40
				he Windows Firewall. T	he help window
		ffected and prov			
You can spec	fy which cor	mputers or netw	ork instrument	s will be granted access	to these ports.
C Ar				ng those on the internet)	
	mputers or n	network instrume the best option	ents on one or	more of my local netwo	rk subnets only.
	10.10	0.54.0			
	1/201				
	1				
				not want other compute uncheck all listed entries	
	-			heck the subnet item to	

If you have Windows XP but do not have service pack 2 installed, the Assistant will show this page but will not make any changes to the firewall settings.

If you install service pack 2 at a later date, be sure to re-run the Assistant so that the firewall can be set correctly.

You may need to open the firewall to allow one or more of the following.

- Allow network instruments to communicate to this computer
- Allow other computers to which serial instruments are attached to pass data to this computer
- Allow an instance of the RGA software installed on another computer to access serial instruments connected to this
 one.

You can choose to allow any computer to have access to the network ports required by the MKS software, or you can choose to restrict the access to your local subnet(s) only. If you are familiar with the management of the firewall through Control Panel, you will recognise this restricted access as being the settings behind the Security Center 'Scope' button.

The default setting is to allow restricted scope.

Note that the Assistant will only set up the Windows XP firewall. It cannot configure any other firewall software. If using a third-party firewall, the following ports will need to be opened manually:

 10013
 UDP

 10014
 UDP & TCP

 10015
 TCP

 10016
 UDP

 10020
 UDP

Save Settings				1
The Setup Assistant is re	ady to save yo	our settings.		$ \ge $
If you want to r save the settin	eview your set gs, click 'Next'.	ings, click the 'Ba	ack' button. If you a	re ready to

This screen indicates that the Assistant has finished requesting information from you and is ready to apply the settings that you have entered.

If you choose **Cancel** at this point, none of the Administrative Options that you have entered will be applied.



The Administrative Assistant has finished.

You can re-run the Assistant and change any of the optional settings by selecting **Start | Programs | MKS RGA Applications | Tools | Administrative Assistant**.

If you are installing the software for the first time, this completes the first, administrative part of the procedure. You will complete the entire installation when you run the software as the RGA User for the first time.

MKS strongly recommends that you create limited user privilege accounts for users of the RGA software. This procedure is detailed in the following section.

2.3 Creating User Accounts

2.3.1 Overview

The following section describes how to create a new local user and assign local user rights using the Windows XP environment as a guide.

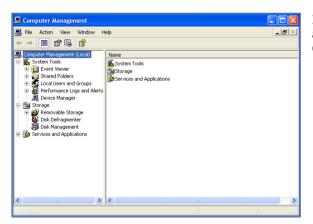
This is not common for all Windows operating systems; advice from your I.T representative or MKS Spectra should be sought if you are unsure of how to continue, or the PC is part of your company network.

You will need to be logged on to the PC with an administrative account to create the **RGA User** account with assigned **User** rights.

If your PC is on a network, the RGA User will require a Domain account. Seek advice from your IT Staff if this is the case.

12.3.2 Create the "RGA User" Account





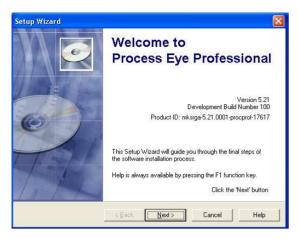
In the **Computer Management** dialog, click on the **Local Users and Groups** entry to expand the list and show the **Users and Groups** folders. Right-click on the **Users** folder and select **New User** from the list.

New User	
User name: RGA User	It is recommended that you use the name RGA User to easily identify the account.
Full name:	
Description:	You can enter a full name, description and password if you wish.
Password:	Check the User cannot change password and Password never expires boxes as shown.
Confirm password:	
User must change password at next logon	
✓ User cannot change password	
Password never expires	
Account is disabled	
Create Close	

Click on the **Create** button and then click the **Close** button to return to the **Computer Management** dialog.

At this point, you should now log-off as the Administrator and log-on as the RGA User to continue with the **Software Setup** section.

2.4 User Set-up

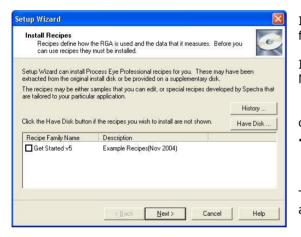


You can run the **User Set-up** application at any time by selecting **User Set-up** from **Start | Programs | MKS RGA Applications | Tools**, but it will launch automatically the first time that you run a new or upgraded version of the RGA software.

Once again you will notice that there is full context-sensitive on-line help available by pressing the **F1** function key or by clicking the **Help** button.

The pages that follow depend on the main set-up code and also on some of the options selected by the administrator when the Administrative Assistant was run.

The **User Set-up Wizard** will install 'recipes' to the relevant target location. If the recipe collection that you want to install is listed, simply check the relevant box.



If you have been provided with a collection of recipes on a separate floppy disk or CD-ROM or by e-mail, click the **Have Disk** button.

Insert the disk and select it from the drop-down list, then click **OK**. Now the recipe collection will appear in the list.

If the recipe collection has been e-mailed to you and the attachment is on your hard drive, select **Browse** from the drop-down list and find the **.lst** file that holds the recipe collection information.

The **User Set-up Wizard** can launch the **RGA Device Manager** application.

You use this for all aspects of hardware set-up. This application is described in full detail in chapters 2 and 3.

tup W	/izard
Т	ware Setup he Wizard can search for IP® or e-Vision® contol units, or serial instruments on is or other computers.
Do yo	u want to install new hardware, or to change your existing hardware setup?
	Run hardware auto-detection now. The Wizard will only be able to detect instruments that are switched on.
	$\ensuremath{\mathbb{C}}$ Skip hardware auto-detection. The existing hardware setup is correct.
	ardware auto-detection if you need to change the configuration of a control unit, or to a control unit for the first time.
	< Back Next > Cancel Help

If you are installing the software for the first time by working step by step through this manual, it is easiest to select **Skip hardware auto-detection** at the present time. You will learn how to install hardware in the next chapter.

Pressure Units				
Choose the pressure u	inits to be used	throughout the I	uli sottware suite.	
Process Eye Professi	ional can calcu	late and display (pressures in any of t	he following units
Select one of				
C Pascal				
• mbar				
C torr				
C milliTor	r			

If the administrator elected to have each log-on user define their own personal settings, you may choose the units that you would like to use.

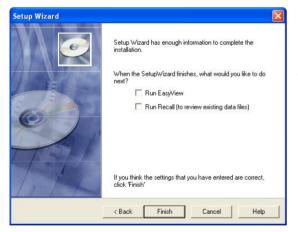
etup Wizard				
Custom File Locatio Define a root folde	n r for data, recipes and vie	BWS.		
Each user of this comp	uter stores their own data	a in a folder within	their Personal F	older.
Root storage locati	on			
Process Eye				Change
Actual location C:\Documents and	Settings\Administrator\M	ly Documents\Pro	icess Eye	
			Event Lo	
			EVenueu	
				og

If the administrator elected to have each log-on user define their own personal settings, you may choose the location for recipe and data files.

You must choose a location somewhere beneath your personal **My Documents** folder.

The **Event Log** button sets some advanced settings relating to the maximum file size for the Process Eye master log file. This file records information such as when the application runs, when hardware was calibrated and when recipe errors are found. The default is to limit this file size to 100 Kb.

The last page of the **User Set-up Wizard** offers you the choice of running one of the main applications directly when the installation completes.



If you have not yet installed your hardware, leave these checkboxes unchecked.

When you click the **Finish** button, the selections that you have made in the Wizard are installed.

Chapter 3 – RGA Device Manager

3.1 Device Manager Overview

The RGA Device Manager is the main application for all aspects of hardware management including:

Installation Configuration Access control Network configuration RGA communications

The RGA Device Manager application can be found in: Start | Programs | MKS RGA Applications

Or from the relevant page in **User Set-up**, accessed from **Start | Programs | MKS RGA Applications | Tools**

🖶 RGA Device Mana	iger [spec04	0075.spectra.c	om - Mult	iple Network Ca	r ds] 📃 🗖 🔀
Servers Details Confi	gure Help				
Serial Number	Name	Address	Туре	Access	Status
 LM92-00708012 MKS104-A0109 MKS104-U0009 MKS104-D0109 MKS113A0009 LM76-91109003 LM76-91209001 	Test Cirrus MKS104-A0 Discovered MKS104-D0 MKS113-A0 MV Plus MV Plus	10.10.54.44 10.10.54.58 10.10.54.119 10.10.54.61 10.10.54.60 10.10.54.41 Local RS232	DHCP Auto-IP Auto-IP Auto-IP Auto-IP Serial Serial	No preconnection Exclusive No preconnection No preconnection Shared No preconnection Shared	In use Ready In use In use Ready Ready Ready
Double-click an item to v Additional registered c There are no additio	onnections				Details
				Broadcast: On	Unicast: Off

Here is a typical view of the Device Manager application displaying details of all discovered instruments.

3.1.1 Servers Menu

Device Manager can employ two protocols for the discovery of connected instruments, Broadcast and Unicast. A Broadcast message is "heard" by all instruments on the same subnet as the host computer. Instruments installed beyond a Gateway are not discovered in this mode.

A Unicast message is targeted to a specific instrument installed on the remote side of a Gateway for example.

Unicast Servers

Use this menu to Add / Edit or Remove instruments that are installed on the remote side of a gateway. To add an instrument, enter the IP address assigned to it, select the relevant network adaptor and click OK. You will need an entry for each instrument you wish to use.

Refresh

Causes Device Manager to perform a re-discovery of attached instruments and display the results.

Broadcast Mode

Selecting this option limits Device Manager to discovery of instruments connected on the same subnet as the host computer.

Unicast Mode

Selecting this option limits Device Manager to discovery of instruments already defined in the Servers menu.

Both modes can be used simultaneously to discover remotely and locally installed instruments, in a large installation with many instruments it may be better to filter the discovery to instruments of interest. This can be done by adding these instruments as Unicast Servers (even if they are not installed on a Gateway) and selecting only the Unicast Mode. Device Manager will return results for these defined instruments only.

Exit

Closes the Device Manager application.

3.1.2 Details

More Details

The More Details item becomes available once an instrument is highlighted in the list and provides a more detailed description of the instrument.

View Auto-discovery Log

Provides information on the discovered instruments.

My Computer IP Configuration

Provides detailed, network specific information on the host computer, such as installed network cards and IP Address information.

3.1.3 Configure

Browse to This Instrument

Starts the default internet browser and opens the highlighted unit's home page (if applicable).

Change the IP Address

Allows changes to the instrument's current IP Address, or how the instrument is assigned an IP Address, see Section 3.1.3.

Package Download

Downloads the full suite of embedded server software to the instrument if needed. This function is unavailable for certain instrument types.

Download

Latest Embedded Core - downloads only the embedded core software (not available for certain instruments).

Latest Embedded Application – downloads only the embedded application software (not available for certain instruments).

Latest IP Server Application – downloads only the embedded Sever application software (not available for certain instruments).

Select a File – Allows the user to choose the file for download (not available for certain instruments).

Install or Configure This Instrument

Allows the user to: Define the units of pressure Configure the instrument – See Section 3.1.3.

Access

Connect to this instrument when the application software	
is launched.	

Process Eye makes no connection to the instrument when started, a connection will be defined when a measurement is run.

Process Eye makes one of the following connections to the instrument;

Connect to this instrument when the application software is launched.
 Share this instrument with other users

Process Eye will make only an information connection leaving the instrument available for other users – Shared.

Connect to this instrument when the application software is launched.

Allows the user to select if Process Eye will make a control connection to the unit when the program is started – Exclusive

Share this instrument with other users

Attempt to gain exclusive access to this instrument

3.1.4 Help

Help On Device Manager – starts the on-line help.

Troubleshoot Connections – starts the connections troubleshooter to aid in situations where communications with the instrument cannot be made.

About Device Manager – displays the version of Device Manager installed.

3.2 Using Device Manager

Here is a typical view of Device Manager running with several different RGA's connected via TCP/IP and RS232. The green check next to each unit signifies that each unit is correctly configured and ready for use.

Serial Number	Name	Address	Туре	Access	Status	
LM92-00708012	Test Cirrus	10.10.54.44	DHCP	No preconnection	In use	
MKS104-A0109	MKS104-A0	10.10.54.58	Auto-IP	Exclusive	Ready	
MKS104-U0009	Discovered	10.10.54.119	Auto-IP	No preconnection	In use	
/ MKS104-D0109	MKS104-D0	10.10.54.61	Auto-IP	No preconnection	In use	
MKS113-A0009	MKS113-A0	10.10.54.60	Auto-IP	Shared	Ready	
LM76-91109003	MV Plus	10.10.54.41	Serial	No preconnection	Ready	
LM76-91209001	MV Plus	Local RS232	Serial	Shared	Ready	
ouble-click an item to	view more details					
Additional registered o	onnections					
There are no additi					Details	

Apart from the application name itself, the title bar indicates the name of the computer running Devce Manager and its full IP address and subnet mask unless you have more than one network card installed.

If more than one network card is fitted, you can find the network properties of each card by clicking **Details | My Computer IP Configuration**.

If you need to connect to network RGA's it is important that you know the IP address of this computer.

The main window lists of all the RGA's discovered, they may be: Serial instruments connected to COM ports on this computer Serial instruments connected to a different computer Network instruments

The list box displays:

The Serial Number of the instrument - This is a unique ID always prefixed with either "LM" or "MKS".

The **Friendly Name** - You choose this name, it is easier to locate a specific RGA by name rather than its serial number, the name given must be unique.

Address – The current IP address of the instrument if connected via TCP/IP, or the type of serial link if connected via a Com Port.

Type – If connected via TCP/IP then the protocol used to obtain an IP address is displayed (Auto-IP, DHCP or Static.

Access – whether the instrument is configured for Exclusive" use or as a Shared resource.

Status – whether the instrument is In Use, Ready to accept a connection, or requires configuration.

Additional registered Connection - If you have previously set up access rights to a control unit that cannot now be discovered, the unit's details are indicated in the additional registered connections panel. The Details button inside this panel gives more information.

Other aspects of the main window are described later in this chapter.

If you are installing a control unit for the first time, it is unlikely an instrument will appear in the list with a green check indicating it is ready for immediate use. It is much more likely to have a red cross beside it as shown in the next example.

Serial Number	Name	Address	Туре	Access	Status	
LM76-91109003	MV Plus	10.10.54.41	Serial	No preconnection	Ready	_
LM76-91209001	MV Plus	Local BS232	Serial	Shared	Ready	
				enarea		
LM92-00708012	Test Cirrus	10.10.54.44	DHCP	No preconnection	In use	
MKS104-U0009		10.10.54.119	Auto-IP	No preconnection	In use	
MKS104-A0109		10.10.54.58	Auto-IP	Exclusive	Ready	
		10.10.54.60	Auto-IP	Shared	Ready	
KS104-D0109	MKS104-D0	10.10.52.61	Fixed	No preconnection	Requires new IP address	
puble-click an item to v	view more details					
Additional registered c	oppections					
Ruditional registered c	onnections					

Whenever you see an item with a red cross you should double-click the instrument in the list to bring up the **More Details** dialog.

More Details		×
Instrument		
	MKS104-D0109011 MKS104-D0109011	
Connection Status	This control unit is not accessible to this computer because it is on a different subnet. Click the 'Configure Now' button to bring the unit onto 0.0.0.0 network.	
Access	When the Process Eye / EasyView software runs it will ignore this instrument.	
	Configure Now	
Network Connection	1	
Subnet	10.10.52.61 255.255.255.0 Not fitted	
Boot mode	The control unit has a fixed IP address with a Gateway at 10.10.54.10.	
🔀 Inaccessible to th	is computer.]

This dialog displays much more information about the state of the instrument than can be displayed in the main window list.

If the instrument needs some form of installation or configuration, the **Configure Now** button will be enabled. When you click this button, RGA Device Manager will guide you through the procedure necessary to get you going.

Configuration changes to Microvision2 and eVision2 are carried out via the Web Interface. The Configure Now button will be unavailable for these types of instruments.

Here are some examples of what may be required:

Give the control unit a 'friendly name'.* Assign the control unit a new IP address (network instruments only) Download an upgrade to the embedded software.* Set the pressure reduction factors for associated inlet hardware.*

*Carried out via the Web Interface on Microvision2 and eVision2 instruments

Sometimes it may be necessary to do more than one of these things. If so, simply double-click the instrument in the list and click **Configure Now** again to perform each task in turn.

Login	
Enter a Login password, or leave the box blank to login as a guest with	OK
read-only priviliges.	Cancel
Any password is valid in Demo Mode.]
Password:	

Some control units will require a password in order to change these important settings.

If asked for a password use the Quick Set-up Code that you used to install the software initially.

If you are using browser software to browse to a network instrument, the password is also the Quick Set-up code.

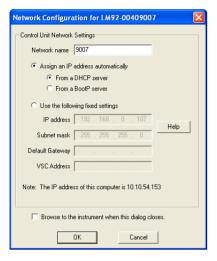
This control uni	it is not yet installed.	
	a 'friendly name'. You can t ame rather than by its serial	
Serial number	LM76-90805001	

If you are requested to enter a friendly name for the instrument in a dialog such as the one shown, you must enter a name of your choice that describes the location or function of the RGA system.

If you have multiple RGA's, you can then easily to distinguish one from another. Use simple alphanumeric characters for the name. You are prohibited from using characters such as @ # % [] or any quote marks.

If you have to enter a new IP address for the control unit, it is important that you understand how this address is chosen. There should be someone in your organisation that is responsible for networks and the assignment of IP addresses.

Please be sure to discuss with your network administrator what you plan to do.



You have a basic choice between assigning a fixed IP address and having a computer on the network assign one for you. This latter case is called DHCP addressing, but please ensure that you only select this option if you have a DHCP server on the same network as the instrument.

By selecting the Assign an IP Address Automatically option, you must then decide by which protocol an IP address will be assigned to the instrument. The two methods are either from a DHCP server or a BOOTP server. Choose the option that matches the protocol used on your network.

If you do not have, or do not want to use a DHCP or BOOTP server, you must assign a unique fixed address that 'matches' the address of the computer that will control it.

Network Configura	tion for LM92-00409007	/ 🛛			
Control Unit Network	Settings				
Network name	9007				
C Assign an IP	address automatically				
💿 From a	DHCP server				
C From a	BootP server				
Use the follow	ving fixed settings				
IP address	192 . 168 . 0 . 107				
Subnet mask	255 . 255 . 255 . 0	Help			
Default Gateway					
VSC Address					
Note: The IP address of this computer is 10.10.54.153					
Browse to th	e instrument when this dialog clo	ises.			
	DK Cancel				

For example;

If your computer's address is 10.20.30.41 with a subnet mask of 255.255.255.0, you should choose a fixed address that is 10.20.30.xxx, where xxx is a number between 1 and 254 that is not used by any other device on the physical network. Never use 0 or 255 for the fourth number. These numbers have a special meaning on a network. The subnet mask for the control unit will almost always be the same as the subnet mask of your computer.

If you are in any doubt about IP addressing, please read Appendix 1 of this manual or read the on-line help on the subject by pressing the F1 key.

Microvision2, eVision2 and HPQ3 Instruments

These instruments offer the "Auto-IP" protocol for obtaining an IP Address. Auto-IP can be used when your network assigns IP Addresses automatically (DHCP or BOOTP), or when connecting the instrument directly to your PC. When connected directly to a PC also configured to have an IP Address assigned automatically, the instrument will work co-operatively with the host PC to assign compatible IP Addresses.

As a general rule, set the instruments IP configuration to match the host computers configuration. If the host has a static IP address, obtain a free address to use from your IT Administrator. If the host is configured to receive an IP address, configure the instrument to do the same.

Network Configure	ation for MKS104-D0109011
Control Unit Network	Settings
Friendly Name	MKS104-D0109011
-	address automatically wing fixed settings
	10 . 10 . 54 . 61
	255 . 255 . 255 . 0
DNS Server	· · · ·
WINS Server	
	J ess of this computer is 10.10.54.153
🔲 Browse to th	e instrument when this dialog closes.
	OK Cancel

If connecting to a network, you have a basic choice between assigning a fixed IP address and having a computer on the network assign one for you.

By selecting the Assign an IP Address Automatically option, the instrument will attempt to contact your DHCP server for a compatible address. If a DHCP server is not found, then Auto-IP, through arbitration with other network devices, will attempt to define an IP Address compatible with the network.

If you do not wish to use Auto-IP, you must assign a unique fixed address that 'matches' the address of the computer that will control it.

Network Configura	ation for MKS104-D0109011	×
Control Unit Network	Settings	
Friendly Name	MKS104-D0109011	
C Assign an IP	address automatically	
Use the follow	wing fixed settings	
IP address	10 . 10 . 54 . 61 Help	
Subnet mask	255 . 255 . 255 . 0	
Default Gateway	10 . 10 . 54 . 10	
DNS Server	· · · ·	
WINS Server	· · · ·	
VSC Address		
Note: The IP addre	ss of this computer is 10.10.54.153	
Browse to th	e instrument when this dialog closes.	
	OK Cancel	

For example;

If your computer's address is 10.20.30.41 with a subnet mask of 255.255.255.0, you should choose a fixed IP Address that is 10.20.30.xxx (where xxx is a number between 1 and 254 that is not used by any other device on the physical network) and use the same Subnet.

Never use 0 or 255 for the fourth number. These numbers have a special meaning on a network. The subnet mask for the control unit will almost always be the same as the subnet mask of your computer.

If you are in any doubt about IP addressing, please read Appendix 1 of this manual or read the on-line help on the subject by pressing the F1 key.

Once your hardware is installed the RGA Device Manager will show it as ready for use.

The main window of the RGA Device Manger is a live real-time view of all the RGA's on your system. The list updates every few seconds. Please wait a few seconds after installing a new control unit, or after changing its configuration. You must allow the unit time to reboot and for RGA Device Manager to acquire the new information about it.

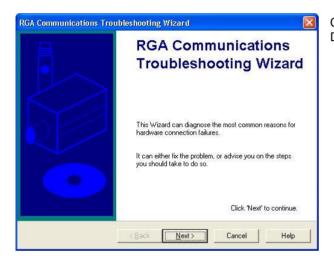
3.3 Finding Undiscovered Control Units

Although the RGA Device Manager will usually find any control unit, there may be occasions when you expect to find one in the list but it is absent. There will usually be a simple reason for this; use the Help | **Troubleshoot Connections** feature to launch a Wizard to help you get up and running quickly.

Examples of likely reasons for failing to discover control units are that the Windows firewall is blocking communications or that the serial port is not 'RGA-enabled'.

The Troubleshooting Wizard can diagnose these and other problems for you and can usually bring network instruments online. But before you run the Wizard, please check that the cables are installed correctly and that the instrument is powered up. Also, if you have used the control unit successfully before, take a moment to consider what might have changed recently with your computer's set-up. Have you changed your network settings? If so, please run the Administrative set-up first. This will ensure that your firewall settings are up-to-date.

3.3.1 The Troubleshooting Wizard



Clicking the **Troubleshoot Connections** button on the RGA Device Manager dialog starts the **Troubleshooting Wizard**.

GA Communications Troubleshoo	ting Wizard	
Identify the control unit to trouble: The unit is identified by its serial num		0
The serial number is prefixed with LM and analyzer. Please be sure to enter the serial nu		end of the control unit nearest the
Select one from the list	Enter the 8-digit a previous numb	
LM76-	90805002	<u> </u>
LM76 is a Microv	vision Plus instrumer	nt
Clear History		
< <u>B</u> ac	k <u>N</u> ext>	Cancel Help

Enter the serial number of the instrument that you want to locate.

Be sure to enter it carefully. You do not want to re-configure the wrong instrument!

If you have used the troubleshooting wizard with this instrument before, you will find its serial number already present in the drop down list.

If you chose a serial instrument, you will have to enter the COM port number where the serial cable is connected.

Network In: Connecti	s trument on details				0
f an instrumei given?	nt with the specifi	d serial number is	found, what IP	address do yo	u want it to be
The	instrument shoul	l get its IP address	s automatically I	from a network	DHCP server.
C The	instrument shoul	l be given a fixed	IP address defi	ned below	
	IP address	11	1) (4		
	Subnet mask	255 . 255	. 255 . (2	
The Wizard w	ill automatically (r)program the IP a	ddress of the co	ontrol unit acco	rdingly.
- If this is	a new control uni	this will probably	fix your connec	tion problem.	
		unit that has been er be able to acce			

If you chose a network instrument, choose from one of these options:

The control unit should get its $\ensuremath{\mathsf{IP}}$ address from a DHCP server on its network.

The control unit should have a fixed IP address which you must enter in the form of an address and a subnet mask.

Please understand that the information that you enter here is the information that you <u>want the control unit to end up with if</u> <u>it is found</u>. It is not necessarily the information that the control unit has now. You may not even know what address the control unit currently has.

RGA Communications Troubleshooting Wizard
Instrument Status The COMMS LED can provide additional diagnostic information
If you can see the CDMMS LED on the rear panel of the control unit, which of the following best describes its state?
slowly blinking on and off once or twice per second
C permanently off
C permanently on (bright green)
Continuously flickering a dull green colour
C mostly off, but flickers briefly every five to ten seconds
🤆 don't know
< Back Next > Cancel Help

If you can do so, enter the instruments status by checking the LED's on the instruments rear panel and indicating the state of the LED's on this page.

Note: the wizard may display a different page from the one shown here depending on your particular control unit.

Ready to test The Wizard is ready to test	the connection	0
	'Back' to change the information you trol unit, the test may take up to a mir	

Click Next to begin the test, which, depending on the type of instrument, may take up to a minute.

The Wizard has The results are	completed its shown below	s tests			(C
HARDWARE TRO Serial Number: LM Date: 08/08/2005 Result: The specif found to be conne LM76-9 Suggested correct Run the	76-90805002 15:42:09 ied instrument w cted to the serv 0805001	as not fou er:	nd, although	-		
the connected point of the CO	t is enabled. MMS LED suggi Open		ne control un Iways open t		ge is display	ved
		< Back	Einich	 Cancel	He	

When the test is complete, the Wizard displays a report comprising of the following information:

The overall result Suggested corrective actions The individual test results Additional diagnostic information that could be useful in further dealing with the problem

The **Save** button allows you to save a copy of the report to show it to your system administrator for example. You can choose between one of two different report formats – plain text or html.

The **Open** button displays the report in html format in your browser making it easier to read. You can have the wizard always open the report in your browser by checking the check box.

This completes the introduction to the management of RGA hardware. The next chapter examines the **RGA Device Manager** application in more detail.

3.4 The Hardware Set-up Utility

This utility is not used with e-Vision, e-Vision+, the configuration is set at the factory. Microvision2 or eVision2 instruments are configured via the instrument's home page.

If you have just taken delivery of your control unit from MKS, it will have been configured correctly at the factory. You should not need to use this utility in order to get you started.

This utility is the means by which you modify the hardware configuration of your control units. You will need to enter a password in order to make changes to control units. However, if you leave the password box blank, you may view all the settings without changing them.

The configurable options are broken down into eight 'pages' of settings shown below.

The eight tabs are: General Trips Analyzer Inlets Analog I/O Digital I/O Delays Tools

The Process Eye Professional view and the counterpart web-page views are displayed in the following pages, the functionality, unless otherwise stated, remains the same.

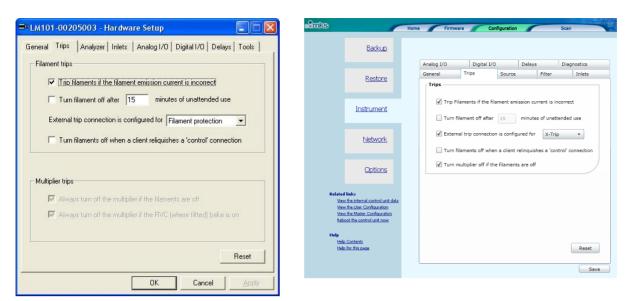
3.4.1 General

Control unit and Sensor	Analog I/O Digital I/O Delays	Diagnostics
More Details Serial number: LM101-00205003 at 10.10.54.253 Instrument type: HPQ-IP with Smart head RF	General	Filter Inlets
Multiplier supply voltage: None External hardware: No external hardware MAC Address: 02:80:AD:20:72:6F	Seriel Number Mrs 104-00000 Product ID 104 Instrument Control Unit Use Sandard RGA Series Type Standard Qea S instruction System: None	
Embedded software: Control Unit CORE V5.00a and MicroVision Process Eye/RGA V5.04 CPU: MC68HC000 runing at 16 MHz Memory: 256 KB ROM and 256 KB RAM Download	Network Networ	
Options	Options Mass Range: 300	
'Friendly' name	Related links Wey the internal control unit data	
Mains frequency 50 Hz	Weet the User Configuration Weet the Mater Configuration Reboot the configuration Reboot the configuration	
Filament type Tungsten	Filament Type Tungsten •	
	Hep Contents Help for this page	

The General tab displays many fixed items of information, including the embedded software versions. The three userconfigurable settings are the name assigned to the control unit, the mains frequency and the filament type. You may also use this page as another way to download new embedded software to the control unit.

Be sure to set the mains frequency to the correct value for your locale. Selecting the wrong value can give rise to unwanted noise on the spectra acquired.

3.4.2 Trips



This tab allows you to set the behaviour of the filament and multiplier protection trips.

The electron emission current is continuously monitored by the control electronics. Checking the first check box ensures that the filament is turned off if the emission current cannot be maintained.

If left un-checked, the filament will remain on but the peak data acquired may be subject to considerable error.

You can elect to have the filament turn off automatically after a predetermined number of minutes of unattended use.

It is recommended that the external X-trip jack socket is used to provide some interlocking of the filament circuit to an external hardware contact.

In this case you would select the Filament protection option from the drop-down list.

In some installations the external contact is used to actually turn the filament on or off. If this is the case, choose the **Filament control** option. You should not normally choose the **No protection** option.

Your choice for the final filament trip check box selection probably depends on the local conditions of the way you work. Sometimes it is advisable for the software to turn off the filaments automatically when you quit the RGA application. In other cases, you may prefer that they be left on all the time. You should only adopt this approach if you are sure that the filaments are well interlocked at the hardware level.

The two options for multiplier trips are checked by default. The first turns off the multiplier if the filament is not on. The second automatically turns off the multiplier during a bake on a system with an MKS Remote Vacuum Controller (RVC) or an MKS Cirrus system.

3.4.3 Analyzer

Configuration Base Pressure RGA	•		General	Trips	Source	Filt	er Inlet	
n source		Restore	Analog I/O	C	Digital I/O	Delays	Diagnostic	
Electron energy (eV) 70 Emissio	on current (mA) .39		Total Pr	essure —				
Ion energy (eV) 7 Extract	tor potential (V) -110	Instrument	Obtain Total Pressure reading fro					
	modernere		External software input Granville-Phillips Micro Ion Gauge (High pressure mode) Pascal					
Maximum recommended pressure 1.33e-004 m				licro Ion Gauge (High ;				
Faraday Fil 1 detector settings Default sensitivity 4,50e-005 A/mbar		Network		Granville-Phillips Micro Ion Gauge (High pressure mode) Torr				
			MKS	MKS Baratron 10 mTorr capacitance manometer gauge				
		Options		Properties			Algorithm	
ter			Analog					
Alignment Resolution	Related links	Index		Average count	Read time	Enabled		
Low mass 32767 32767	Default sensitivity 4.50e-005 A/mbar Current sensitivity 4.50e-005 A/mbar Detector gain 1.0 at 0V Alignment Resolution	View the internal control unit dat View the User Configuration	a 0	AI	1	1000	√ √	
		View the Master Configuration	2	AI	1	1000	 ✓ 	
High mass 32767 32767	Copy To All	Reboot the control unit now	3	AI	1	1000	×	
		Help	4	AI	1	1000	V	
		Help Contents						

This tab shows the ion source and mass filter configuration properties for each of six possible groups of settings. You select the information displayed by choosing a **Configuration** from the drop down list at the top of the page.

In the example shown the settings relate to the **Base Pressure RGA** configuration in which the electron emission current is 0.39mA and the ion energy is 7eV.

The calibration sensitivity in units of Amps per unit of pressure is shown for the Faraday detector using filament #1.

You can view the sensitivities of the other detector settings by clicking repeatedly on the More Detectors icon.

The **Filter Configuration** is shown in the lower panel. There are four integer numbers that set the alignment and resolution at low and high mass.

Click the **Copy to All** button to apply the alignment and resolution settings indicated for the current configuration (Base Pressure RGA in the example shown) to the other five ion source configurations.

Click the **Reset** button to reset the settings for the current ion source configuration to the factory default values. Click **Reset All** to reset all six ion source configurations to their factory default values. In both cases you can select which features to reset as shown here.

Rese	et Options - Base Pressure RGA 🛛 🛛 🛛
	ect one or more of the following analyzer reset options. The options you select will be reset to the factory default values.
•	Reset the ion source parameters such as emission and ion energy
1	Reset the ion source sensitivity to the indicated default value
Г	Reset the three multiplier detector sensitivity and voltage settings
	Set the sensitivity to the factory default value
	f C Set the gain to the factory default value
Г	Reset the filter alignment and resolution settings
	OK Cancel
	Carlos

You can individually reset:

The source parameters, such as ion and electron energy. The basic ion source (Faraday) calibration sensitivity. The filter alignment and resolution settings. Where a multiplier is fitted you can reset the multiplier detector sensitivities. Depending on your choice of options, you may be able to reset either the multiplier sensitivity or gain to the factory default.

3.4.4 Inlets

nfiguration					Analog I/O	Digital I	I/O Dela	ys	Diagnostic
- Inlet Sustem: None			Rest	tore	General	Trips	Source	Filter	Inlet
mici system. Hone	Inlet System: None e inlet Pressure reduction ccess Chamber direct 1.0 Allow calibration litional Inlet #1 Allow calibration			Inlets Description		Default Factor	Factor	Allow Char	
			Instrum	<u>ient</u>		mber direct 👻		1	
Base inlet Process Chamber direct			Netw	rork					
Additional Inlet #1		Allow calibration	Opti	ons					
Additional Inlet #2	-	Allow calibration	Related links View the internal cont View the User Config. View the Master Config.	ration	•				
			Reboot the control un Help Help Contents Help for this page	it now					

This tab will only be relevant if you have an RGA with an inlet system. Where this is the case you must configure each inlet so that its inlet factor (pressure reduction factor) is correct. If you obtained the complete system from MKS, you will have been informed what the inlet factors for your system are.

Select an item from the drop down list that describes as closely as possible the inlet that is fitted – for example a 'x10 orifice'.

In the pressure reduction box enter the actual reduction factor to use, which may be a more precise figure – for example 10.6.

If you want to be able to calibrate the inlet at run-time, check the **Allow calibration** box.

Please be aware that calibrating an inlet requires that you know both the upstream pressure and the ion source pressure of the RGA analyser.

3.4.5 Analog I/O

and the freedom interval and the second structure	iols	Backup							
Rollover correction			General	Trips	Source	Filte	er Ini	nlets	
ain Total Pressure reading from ternal software input ernal software input ernal lon Gauge arrville-Phillips Micro Ion Gauge (High pressure mode) Pascal arville-Phillips Micro Ion Gauge (High pressure mode) Torr S Baratorn 100 mTorr capacitance manometer gauge S Baratorn 100 mTorr capacitance manometer gauge Properties Algorithm tal Purpose I/O iilable 16-bit (-10V to 10V) analog inputs: 3		Restore	Analog I/O	Dig	jital I/O	Delays	Diagnost	tics	
External software input		<u></u>	Total Pres	sure —					
Internal Ion Gauge Granville-Phillips Micro Ion Gauge (High pressure mode) Pascal			Obtai	n Total Pre	ssure reading fro	m			
Granville-Phillips Micro Ion Gauge (High pressure mode) nascan	n Gauge (High pressure mode) mBar n Gauge (High pressure mode) Torr capacitance manometer gauge r capacitance manometer gauge			External software input					
Granville-Phillips Micro Ion Gauge (High pressure mode) Torr			Granvilk	-Phillips Micr	ro Ion Gauge (High p	ressure mode) Pa	scal	1	
MKS Baratron 10 mT or capacitance manometer gauge MKS Baratron 100 mT or capacitance manometer gauge	<u>v</u>	Network	Granville	-Phillips Micr	ro Ion Gauge (High p ro Ion Gauge (High p	ressure mode) To			
Properties Algorithm			MKS Bar	atron 10 mTo	orr capacitance man	ometer gauge		•	
Algolium			Pro	perties			Algorithm		
General Purpose I/O		<u>Options</u>	- Analog In	ute					
Available 16-bit (-10V to 10V) analog inputs: 3			Index		Average count	Read time	Enabled		
Available 12-bit (0V to 10V) analog outputs: 1		Related links View the internal control unit data	0	AI	1	1000	V		
		View the User Configuration	1	AI	1	1000	1		
		View the Master Configuration Reboot the control unit now	2	AI	1	1000	\checkmark		
			3	AI	1	1000	\checkmark		
Output 1: pin 15 relative to OV on pin 8		Help	4	AI	1	1000	1		
If enabled at run-time, inputs are measured by default every 100ms and	540	Help Contents							

This tab displays the configuration of the Analog I/O connector on the rear panel of the control unit.

If, as in the example shown, the control unit is one with a pressure gauge attached, select the type of gauge from the list in the top panel.

Note that only HPQ2S RGA's are equipped with an external gauge for rollover correction. All other instruments will show **not applicable** in the gauge type list.

Total Pressure Analog Inpu	it
Total pressure gauge input is connected to analog input #4 on	OK
pins 10 (signal) and 2 (return).	Cancel
A/D converter resolution is: 16-b	uit 🦳
Take a reading every 🔟	milliseconds
Use an average of 10	readings
Apply calibration factor	-

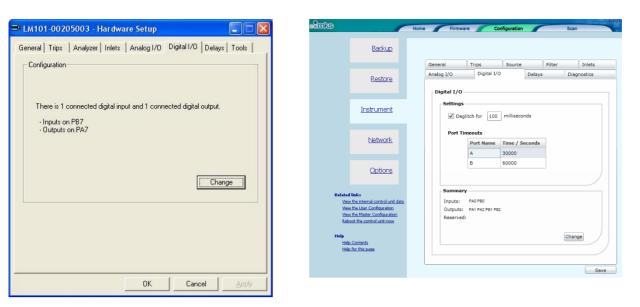
The **Properties** button shows a dialog in which you can change the acquisition frequency/accuracy. The software automatically converts the voltage to a pressure according to the manufacturer's calibration. You can change this calibration with a factor in v5.21 onwards. Values in excess of one increase the pressure relative to the manufacturer's calibration and values less than 1 reduce it.

The dialog also displays the connector pins used by the gauge.

When a gauge is used for rollover correction you can modify or reset the algorithm by clicking the **Algorithm** button. This is an advanced feature that is not described further in this manual. You should only ever use non-default settings if instructed to do so by MKS support personnel.

If you do not have an external gauge, all the four inputs and one output are available for use within your data acquisition recipes. The **General Purpose I/O** panel indicates the pins that can be used to connect I/O to the control unit.

3.4.6 Digital I/O



This tab lists the inputs and outputs that have been enabled on the Digital I/O connector on the rear of the control unit.

By default there are no I/O channels enabled but you can set individual channels to be configured as inputs or outputs by clicking the **Change** button.

This opens a new dialog as shown here.

	Bit	Status	Pin	When the control unit powers up, set the TTL
×	PA0	Not used	14	levels of connected outputs to
×	PA1	Not used	2	High
×	PA2	Not used	15	C Low
×	PA3	Not used	3	\$ LOW
×	PA4	Not used	16	
×	PA5	Not used	4	Deglitch for 100 milliseconds
×	PA6	Not used	17	
₽	PA7	Reserved output	5	If PB6 and / or PB7 are connected outputs
×	PBO	Not used	18	
×	PB1	Not used	6	Set the maximum permissible 'On' time to
×	PB2	Not used	19	900 seconds.
×	PB3	Not used	7	1
×	PB4	Not used	20	
×	PB5	Not used	8	Pin 10 0V Digital Pin 22 +5V
×	PB6	Not used	21	Pin 11 OV Analog Pin 23 Not Used
+	PB7	Reserved input	9	Pin 12 -15V Pin 24 24V Return Pin 13 +15V Pin 25 +24V

There are usually sixteen available channels of I/O, although if you have an external gauge on the analog input (as shown in this example), one or more channels may be marked as reserved.

You cycle through the options of **Not Used**, **Input** and **Output** simply by left mouse clicking on the icon in the left-most column of the list.

The pin associated with the channel is indicated in the fourth column. The additional pins are described at the bottom of the dialog.

The **Options** panel has the following features:

You can choose whether the outputs boot high or low – See below. You can modify the deglitch time – See below.

When PB6 and/or PB7 are configured as outputs, you can optionally set a maximum permissible 'on' time for these outputs only. Typically this is used for the control of a calibration gas sample bottle, in order to ensure that the bottle contents are not inadvertently drained.

The **When the control unit powers up, set the TTL levels of connected output** option is used to determine the state of the digital outputs at switch on. You will usually want to ensure that this corresponds to your 'safe' state, which will depend on the nature of the circuit driven by the TTL output.

Note: Setting an output line in a recipe script to 'False' or zero always sets the TTL level low; setting it to 'True' or non-zero will set the level high. This is true whether the default **On Power-up set output TTL levels** is high or low.

The digital lines, PB6 and PB7 differ from the other lines as they can be configured to revert to the selected power-up state after a predetermined amount of time. This can be configured by checking the **If PB6 or PB7 are connected outputs** box and entering the required time in seconds.

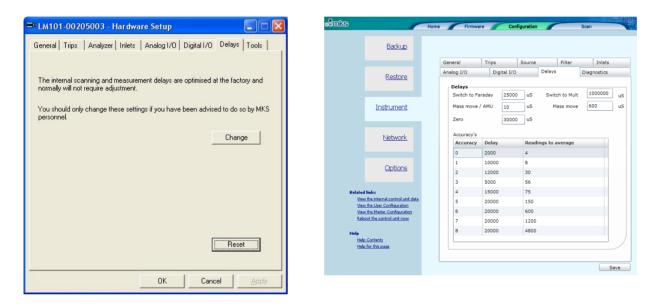
When enabled, the deglitch filter works by monitoring the data line for changes in state. If a change is detected a timer will start, if no further changes of state are detected by the time the timer has reached the deglitch time, the digital input line will change state.

If a change in state is detected before the timer has reached the deglitch time, no changes will be made to the digital input line.

Note: If the digital input is continually changing state at a frequency faster then the set deglitch time, then no changes in state will be reported.

Please read the relevant section of the control unit manual to find out how to wire external hardware to the control unit.

3.4.7 Delays



This tab is an advanced feature. The control unit has a table of software delays that control the length of transition states – for example how long to wait when switching between a Faraday and multiplier detector.

You should never normally need to change the delays from the standard factory defaults. However, in exceptional circumstances an MKS support engineer may recommend changes to one or more of these standard settings.

This topic is not covered any further in this manual.

3.4.8 Tools

Using the features of this tab you can set options that apply to the application itself and you can perform tasks such as backup and restore of control unit settings.

nerai Trips Analyzer	Inlets Analog I/O Digital I/O De	lays Tools
Options		
	ally using the current log in password. will allow all users to make changes to al	ll instruments
	oar. Freadings are common throughout the su be changed with the application Setup W	
Tools		
10015		
Create a recovery file for	r this control unit by backing up the the tabs in this dialog to disk.	Back-up
Create a recovery file for settings displayed on all		Back-up Restore
Create a recovery file for settings displayed on all Restore settings from a p	the tabs in this dialog to disk.	

If you want to bypass the password screen you can set this option using the checkbox.

Usually in the context of Process Eye or EasyView you do not have a choice of pressure units – they default to the option chosen in the main set-up.

The tools available are:

Back-up – save all the control unit settings to a file*.

Restore – restore all the control unit settings using a previously saved back-up*.

Report – create a complete documented report on the current settings. You can save this to disk and/or view it using your browser.

Please note that the back-up and report options act on the settings currently displayed on the pages of the dialog. If you have made changes to the dialog and you do not commit these changes to the control unit by clicking the OK button, the action will not reflect the true state of the control unit.

* These tools are available via the instrument's home page for Microvision and eVision2. Please see the online help for details.

3.4.9 Commit Changes

You commit any changes to the control unit by clicking the **OK** button. All the configuration settings are downloaded to the control unit and it will then reboot. If you want to leave the control unit unchanged, click **Cancel**.

6. Using EasyView

Overview

All the standard view modes are available including Analog Scan, Barchart, Peak Jump and Leak Check. These modes are fully interactive allowing changes to the scanning parameters to be made in real-time.

There is also the ability to perform a Disk Store, where the scan data is saved to disk for viewing at a later date using the Recall program.

The following pages describe the main areas of interest to get you started using EasyView. The later sections, describe each area in greater detail as well as explaining the Diagnostics and Calibration modes available.

6.1 Starting EasyView

To start the main EasyView program, click on **Start/Programs/MKS RGA Applications/EasyView**.

m MKS RGA Applications	•	🛅 Help 🛛 🕨
🛅 SECSIM Pro 2.0	🧰 Tools 🔹 🕨 S	
🛅 SnagIt 6	•	BasyView
🛅 Spectra	•	😭 Recall

Or by clicking on the desktop shortcut The CD is not required to run EasyView. Easyview

The EasyView information page now loads giving information on the currently connected head.

6 80	NKS EasyView LM	76-00399001 New Head - LM	76-00399001		×
4	huh 12 🖂				
(2)	Instrument Status	Ide			^
i	Active Filament	1	Sensor Identification	Standard Open Source	
V	Filament Status	On	Detector Type	Faraday + Channel Plate	
TUNING			Total Pressure	N/A	
TUNING	Multiplier Status	Off	Maximum Mass	200 AMU	
1.0	RF Configuration	Smart Head	Control Unit Use	Standard RGA	
	External Hardware	None	Embedded Version	V3.70	
1 ma					~
14 4	▶ ▶ A Main A EasyWig	w LM76-00399001			

6.2 Toolbars

Each mode of operation can be accessed through the tool bar.

Use the following buttons to start or stop a scan mode, or to access the other functions

of the program. For detailed information on each function, see the relevant section shown in brackets.



Analog scan mode. (7.3)



Barchart scan mode. (7.4)



Leak Check scan mode. (7.5)



Peak Jump scan mode. (7.6)



Disk Store. (7.7)

Filament Select. Use this button to toggle between the filaments.



Filament Status. Red – Filament ON, Blue – Filament OFF.



Run Diagnostics. Performs a diagnostics check on the RGA head.

Show Information Page. This button switches from the Status display to the Information display.



Tuning Mode. Enter the instrument tuning mode.



Calibration Mode.



Peak Jump Settings. Only visible when in Peak Jump mode.

6.3 Analog Mode

5	
EasyView - EasyView LM76-00600013	- a 🛛
Recipe View Window Help	
X ╈╬ 중 Ø E N 4 4 > > N / 2 E E O E S 4	
a EasyView LM76-00600013 [Analog]	
EasyView Analog Mode	
	138 139 140
Scan 9 [//13/2004 11:10:16]	
2 3 miks Easyliew UN75-0000013 <i>Easyliew RG4</i>	×
Acquisition Control 🏨 125 🕂 🛄 16 🕂 🛕 32 🔹 Accuracy 8 👻 💩 6.667e-007 mbar 💌 F 6.667e-007 mbar 💌	^
Low Mass Algoment 32767 Emission (0.5mA) 1.00 > High Mass Algoment 41279 Electrons Energy (0:1004/) 70.00 >	3
TUNENS Low Mazz Resolution 35839 4 b Ion Energy (0-10eV) 5.5 4 b	_
High Mass Resolution 28671 Etract (0-130V) 112.0	~
[4] 4 > > [Main] EasyView LH764000013	ressure in mbar
Done Pr	essure in mbar

The Analog view is displayed and the interactive analog control toolbar will appear in the status window.

Acquisition Control 🛍 1 🕩 🖳 50 💀 🛕 32 🔹 🔻 Accuracy 5 💌 💑 1.333e-004 mbar 💌 투 1.333e-004 mbar 💌

Use this toolbar to change the scan parameters, each of the functions are explained below.

Start Mass control.

To change the start mass of the scan, either enter a number directly into the box, or click on the arrows to increase or decrease the mass number.

Note that the first mass cannot be less than 1 and that the first mass plus the mass span, cannot exceed the maximum mass allowed by the control unit.

1.4

<u>⊾</u> 50<u>·</u>·

Mass Span control.

To change the mass span of the scan, either enter a number directly into the box, or click on the arrows to increase or decrease the mass span.

Note that the first mass plus the mass span cannot exceed the maximum mass allowed by the control unit.



Accuracy Control.

Scan accuracy determines the amount of averaging carried out for each reading. A high accuracy number provides a clean scan but increases scan time. The accuracy ranges available are from 0 to 8.

A 32 Points per peak control.

The number of measurements each full mass is divided into 8,16 or 32. The higher the number of points-per-peak selected, the better the representation of peak shape. However, scan time and the amount of data generated will increase. If the data is to be imported into Excel for instance, choose a lower value.

100 1.333e-004 mbar

Electronic Gain control.

The electronic gain of the pre-amplifier can be changed by selecting one of the values from the drop down list. Depending on the type of instrument, the allowed values are 1,100 and 20000. The higher the gain selected, the smaller the partial pressure that can be measured, this may cause peaks of a higher partial pressure to saturate.

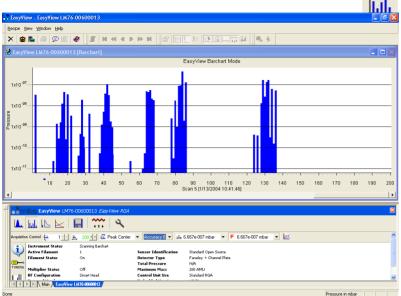


Detector control.

The detector type used for the scan can be changed.

Depending on the type of instrument, the options are Faraday, Multiplier 1, Multiplier 2 and Multiplier 3. Multiplier 1, 2 and 3 refer to the same physical detector, but using three separate calibration values.

6.4 Barchart Mode



The Barchart view is displayed and the interactive Barchart control toolbar will appear in the status window.



parameters, each of the functions are explained below.

tal. 1.1. Start Mass control.

To change the start mass of the scan, either enter a number directly into the box, or click on the arrows to increase or decrease the mass number.

Note that the first mass cannot be less than 1 and that the first mass plus the mass span, cannot exceed the maximum mass allowed by the control unit.



Mass Span control.

To change the mass span of the scan, either enter a number directly into the box, or click on the arrows to increase or decrease the mass span.

Note that the first mass plus the mass span cannot exceed the maximum mass allowed by the control unit.

🕅 Peak Center 👻 Scan Mode control.

The scan mode is the method used to report the peak height. The options are - Peak Centre, Peak Max or Peak Average.



Accuracy control.

Scan accuracy determines the amount of averaging carried out for each reading. A high accuracy number provides a clean scan but increases scan time. The accuracy ranges available are from 0 to 8.

100 1.333e-004 mbar 👻 Electronic Gain control.

The electronic gain of the pre-amplifier can be changed by selecting one of the values from the drop down list. Depending on the type of instrument, the allowed values are 1,100 and 20000. The higher the gain selected, the smaller the partial pressure that can be measured, this may cause peaks of a higher partial pressure to saturate.

F 1.333e-004 mbar 👻 Detector control.

The detector type used for the scan can be changed.

Depending on the type of instrument, the options are Faraday, Multiplier 1, Multiplier 2 and Multiplier 3. Multiplier 1, 2 and 3 refer to the same physical detector, but using three separate calibration values.



Add Trend control.

The add trend button adds a default trend in addition to the Barchart view. This tend can be edited in the same way as any normal trend view see Section 7 – Changing/adding Views

6.5 Leak Check Mode

S EasyView - EasyView LM76-01603006	
Recipe Yew Window Help	
╳╈╬╋╒╬ᢀ┇и┽┽┝┝╜╔╢┋╢╔╓╖╜╢╺╣╡	
EasyView LM76-01603006 [Leakcheck]	\geq
LIVE hass 4.00 Cav /00 00013.09 0.22xe/010	
EastView Leakcheck View	-
1x10 ⁻⁰⁴	
1x10 ⁻⁰⁶	
23 C	
89 89 110 00 	
а	
1x10 ⁻⁰⁷	
00.00.30 00.01.00 00.01.30 00.02.00 00.02.30 00.03.00 00.03.30 00.04.00 00.04.30 00.05 Elapsed Time	:00
	₽
mks EasyView LM75-01603006 New Head - LM76-01603006	
📗 և 📖 📭 🗠 🔚 🖙 🐨 🔍	
Acquisition Control 🚛 4 00000 🕂 Accuracy 5 🖛 👘 1.333e-004 mbar 💌 투 1.333e-004 mbar 💌 🎝	-
Instrument Status Scanning Leskcheck	
Active Filament 1 Sensor Identification Standard Open Source Filament Status On Detector Type Fandsy + Channel Plate	
Total Pressure N/A Multiplier Status Off Maximum Mass 200 A/NJ	
The process of the construction of the constru	
I till Kr Comparation Smarthead Control unit use Curtain	-
one Pressure in mbar	

The Leak Check view is loaded and the interactive Leak Check control toolbar appears in the status window.

Acquisition Control 4.00000 Accuracy 5 🔹 150 1.333e-004 mbar 💌 F 1.333e-004 mbar 💌 4.0000 Use this toolbar to change the scan parameters, each of the functions are explained below.

4.00000 · Probe Mass control.

To change the probe mass of the scan, either enter a number directly into the box, or click on the arrows to increase or decrease the mass number.

Note that the first mass cannot be less than 1 and that the first mass plus the mass span, cannot exceed the maximum mass allowed by the control unit.



ı<u>İ</u>ıl.

Accuracy control.

Scan accuracy determines the sampling amount carried out on each reading. A high accuracy number provides a clean scan but increases scan time. The accuracy ranges available are from 0 to 8.

100 1.333e-004 mbar 👻 Electronic Gain control.

The electronic gain of the pre-amplifier can be changed by selecting one of the values from the drop down list. Depending on the type of instrument, the allowed values are 1,100 and 20000. The higher the gain selected, the smaller the partial pressure that can be measured, this may cause peaks of a higher partial pressure to saturate.



The detector type used for the scan can be changed.

Depending on the type of instrument, the options are Faraday, Multiplier 1, Multiplier 2 and Multiplier 3. Multiplier 1, 2 and 3 refer to the same physical detector, but using three separate calibration values.



Audio control. Not support on certain sensor configurations.

Switches the audio tone on or off.

The tone changes in frequency as the measured peak height changes.

This is a useful feature if you are unable to see your monitor while leak checking.

6.6 Peak Jump Mode

	RC.
• 😚 EasyView - EasyView LM76-00600013	X
Recipe Yew Window Help	
╳┇╬╔╝╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔╔	
2 EasyView LM 76-00600013 [Trend]	
L/LE Notes 2 Notes 18 Notes 28 Notes 2 Notes 32	
Easyview Trend Display	
1×10.47	
Prove the second	_
1110 00-	
1x10 ⁻¹⁰ 00:03:30 00:04:00 00:04:30 00:05:00 00:05:30 00:06:00 00:06:30 00:07:00 00:07:30 Elapsed Time	00:08:00
	X
Acquisition Control 🔣 Peak Center 👻 Accuracy 5 💌	^
(i) (i) <th>Ξ</th>	Ξ
✓ 4 129 · j· j· dw 6.667e-007 mbor ▼ F 6.667e-007 mbor ▼ Ξ 3 · j· j Change Color	_
Lipdate Scen	~
▲ ► ▷ (Main) EasyWiew LM7840000013	<u> </u>
Ready Pressure in mbar	

The Peak Jump view is loaded and the interactive Peak Jump control toolbar appears in the status window.

L.

Acquisition Control 🔣 Peak Center 💌 Accuracy 5 💌

Use this toolbar to change the scan parameters, each of the functions are explained below.

Scan Mode control. 🚾 Peak Center

The scan mode is the method used to report the peak height. The options are - Peak Centre, Peak Max or Peak Average.

Accuracy 5 🔻

Accuracy control.

Scan accuracy determines the sampling amount carried out on each reading. A high accuracy number provides a clean scan but increases scan time. The accuracy ranges available are from 0 to 8.



Peak Jump settings.

Use this button to open the Peak Jump settings window shown on the next page.



particular channel.

Check the box to enable the channel. V

In the above example only channels 1 to 7 are enabled, channels 8 to 15 are disabled.

Scan Mass control. ф. 2.

Set the particular channels scan mass.

Note that the mass cannot be less than 1 and cannot exceed the maximum mass allowed by the control unit.

100 1.333e-004 mbar

Electronic Gain control.

The electronic gain of the pre-amplifier can be changed by selecting one of the values from the drop down list.

Click on the channels tab to

edit the settings for that

(1) Mass 2 Depending on the type of instrument, the allowed values are 1,100 and 20000.

The higher the gain selected, the smaller the partial pressure that can be measured, this may cause peaks of a higher partial pressure to saturate.

F 1.333e-004 mbar - Detector control.

The detector type used for the scan can be changed.

Depending on the type of instrument, the options are Faraday, Multiplier 1, Multiplier 2 and Multiplier 3. Multiplier 1, 2 and 3 refer to the same physical detector, but using three separate calibration values.



Line Thickness control.

The thickness of the plotted line can be changed to aid visibility

Change Color

Colour control.

The colour of the plotted line can also be changed, select a colour then click <OK> to apply it to the channel.





Changes made to the channels properties are not immediately made to the scan. When all changes required have been made click <Update Scan> The new settings will then be applied to the current scan.

6.7 Disk Store

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Disk Store is available in the Peak Jump, Analog and Bar Chart modes and can be accessed by clicking the button shown.

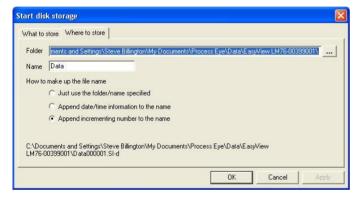
rt disk storage 🛛 🛛 🔀
hat to store Where to store
3uffering scans 1 (15/10/2003 11:39:46) to 106 (15/10/2003 11:41:10)
Start Storing
From now onwards
○ From buffered scan 1 → at time 15/10/2003 ▼ 11:39:46 →
Finish Storing
Continue indefinitely
C At bulfered scan 103 🛃 at time 15/10/2003 💌 11:41:08 🛁
OK Cancel Apply

What to store options:

"From now onwards" stores each buffered scan to disk until stopped by the user.

"From buffered scan" allows *start* and *end* scan configuration.

Note: The buffer is reset if any changes to the current scan are made, otherwise the last 500 scans are stored in the buffer. If disk storage is started at a buffered scan, then it is possible to stop disk storage at a defined buffered scan as well.



Where to store options:

"Folder" enter the path, or browse to the folder where the scans are to be stored. The default path is:

\..\EasyView\Data\EasyView "Head Serial Number\

"Name"

Enter a name for the saved data file, by default this is "data" but it can be anything you choose.

As well as the name, the file can be amended with other information:

"Just use the folder name specified" will create the file "data.SI-d".

"Append date/time information to name" adds date and time information to the file and would create the file "DataYYYYMMDDHHmmSS.SI-d".

Where YYYY is the current year, MM is the current month, DD is the current day, HH is the current hour, mm is the current minute and SS is the current second.

"Append incrementing number to the name" adds a sequential number to the name and would create the following file "Data000001.SI-d", the next would be "Data000002.SI-d" and so on for each file.

While storing to disk, the Disk Store toolbar will be visible in the status window.

EasyViev	w LM98-00104252 <i>No Name</i>		
🔟 հոհ հե	2 🕅 🕅 🗛		
Allow Changes 🗔	File: 'C:(Documents and Settings(John Hi	ckson.MKS_SPECTRA (My Documents(Easy View (Data	Easy View 1M98-00104252 (Data20040430140853.51-d'
Acquisition Control	1 🔽 📖 50 🔽 🛦 32	🔹 🗸 🗐 🗸 🗸 🖉 🗸 Accuracy 5 💌	▼ F 6.673e-007 mbar ▼

pauses the disk store and re-enables the scan toolbar.

 Images
 File: Paused. (Undeck to restart).

 Allow Changes
 File: Paused. (Undeck to restart).

 Acquisition Control
 1 1 1 1 1 5 1 1 1 3 2 4 Accuracy 5 2 0 6.673e-007 mbar 7 F 6.673e-007 mbar 7

Note: The name of the file will still change.

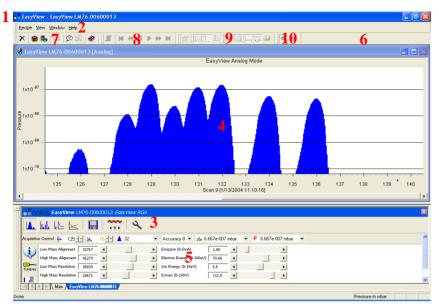
Notice that the disk store icon is no longer available and the path to the disk store file is displayed.

Checking the "Allow Changes" box,

You can then change the scan properties, un-check the "Allow Changes" option and continue with the Disk Store without having to run through the "Start Disk Storage" dialog.

6.8 The Main EasyView screen

The main EasyView screen is where most of your time will probably be spent. The picture shows the main screen in Analog scan mode.



1 Title Bar

The Title Bar shows the application name, EasyView. The Close, Minimize and Maximize button on the right-hand side of the title bar operate in the normal manner.

2 Menu Bar

EasyView is no different to other Windows programs, all the available function are available via the menu bar.

3 EasyView Control Icons

EasyView can be controlled from these icons, use them to select the required mode.

4 Views Windows

The Views windows are where the data acquired in EasyView is displayed. Any number of trend windows many be added to the default views.

5 EasyView Control Window

The EasyView control window contains all the controls to run EasyView. From here select the scan mode, control disk store, set the control unit parameters, calibrate and run diagnostics

6 Toolbars

The Toolbars appear as one row of buttons below the menu bar and immediately above the recipe list and views windows. The twenty-five buttons consist of four separate toolbars. Each of the toolbars may be hidden by selecting <View / Toolbars> from the menu bar and un-checking those you wish to hide. The default setting is visible for all four toolbars.

7 Default Toolbar

The first seven buttons make up the Default Toolbar.



The "Close" recipe button is use to halt a recipe that is currently running. The Close Recipe button will not be available unless a recipe is running and the Status window has focus (click in the status window to give it focus). Also, the recipe needs to have been configured to include the ability to end the recipe prematurely.

The "Run Recall" button will run the recall program to allow review of stored data

The "Run Software Setup" button will launch the software setup wizard to allow changes to the installation

- The Print button will print the data from the active data window.
- (*) The "Add Annotation" button can be used to add annotation to a trend at a particular time.
- The add annotation at selected time button is used to mark a place on a trend

Click on the "Help" button to open the EasyView help file. Use EasyView Help just as you would any other Windows help document.

8 Scan Navigation Toolbar



These seven buttons control the viewing of live and stored data.

When the Historic Data button is not depressed, the active continuous mass scan view is displaying the live data currently being acquired. While the button is depressed, the continuous scan window will display historic data. New data is still being acquired in this historic mode, you will see the total number of scans figure increasing while the current scan number remains the same.

The six navigation buttons will only become available when historic data is being viewed, e.g. The Live Data button is not depressed.

- Click on the "First Scan" button to view the oldest scan stored in memory.
- Click on the "Jump Back" button to view the scan 10 scans previous to the current one being view.
- The "Previous Scan" button allows you to view the last scan.
- The "Next Scan" button allows you to view the next scan.
- Click on the "Jump Forward" button to view the scan 10 scans subsequent to the current one being view.
- Click on the "Last Scan" button to view the newest scan acquired in the current recipe run.

9 Chart Display Toolbar

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[

These nine buttons that make up the Chart Display Toolbar control certain aspects of the active recipe windows.

- Click on the "Properties" button to display the settings for the currently active recipe view.
- Click on the "Grid" button to display a Y-axis grid in the currently active view window. Default is disabled.
- Click on the "Log/Lin" button to switch between a linear and logarithmic Y-axis. Default is linear.
- Click on the "Y-axis Minor Ticks" button to enable the display of minor ticks on the Y-axis. Default is major ticks.
- Click on the "Time" button to switch between real and elapsed time on the X-axis from the start of the recipe. Default is elapsed time.

[3] Click on the "Days" button to display the date and time on the X-axis. Default is time only.

Click on the "X-axis Minor Ticks" button to enable the display of minor ticks on the X-axis. Default is major ticks.

Click on the "Add Scroll Bar" button to add a scroll bar to the X-axis. Default is no scroll bar.

Click the "Add Cursor" button to add a measurement cursor to the active Bar chart display. The cursor can be moved to the required mass and will display the mass number and partial pressure. As many cursors as are required can be added.

10 Trend Display Toolbar

These two buttons constitute the Trend Display Toolbar



The "Key Display" button controls the display of the key table for the active trend views. The button will not be available if no trend view is available.

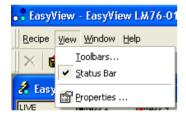
The "Key Mode" button changes the key table view between vertical and horizontal views.

Customizing Toolbars

ð,

You can customize the toolbars as required, you can choose which Toolbars are visible, or you can create your own toolbars with your own choice of buttons.

From the view pull down menu, select <Toolbars>.



This will bring up the toolbar dialog. Check the box for the toolbars you wish to have displayed. Checking the <Cool Look> check box will change the appearance of the toolbars.

Toolbars 🛛 🔀					
Toolbars:	Close				
✓ Menu bar ✓ Default ✓ Scan Navigation	New				
Chart Display	Customize				
 ✓ Window Arrangement ✓ Interactive Scan 	Reset				
Toolbar name:					
Menu bar					
	Cool Look				
Large Buttons					

To create a new toolbar, click on the <New> button.

New Toolbar	
Toolbar name:	ОК
test	Cancel

Give the new Toolbar a name and click <OK>.

This will create a blank Toolbar that you can then customize. From the toolbar dialog box click on the <Customize> button to bring up the customize dialog.

Toolbars: Menu bar Default Scan Navigation Chart Display Torol Display Window Arrangement Interactive Scan Itest	Customize		X
	✓ Menu bar ✓ Default ✓ Scan Navigation ✓ Chart Display ✓ Trend Display ✓ Window Arrangement ✓ Interactive Scan	Cool Look	
Menu bar	Toolbar name:		
	Menu bar		
OK Cancel Apply			_

Click on the <Command> tab to see the buttons currently assigned to the new Toolbar you have created.

💦 Process Eye - Barchart W	ith Trend Interactive					- I 🖉 🔀
Becipe Edit Yew Window He	ip di					
□ 🥖 🗙 🖨 🔒 🛷				mbar 👻 F 3.944e-004 mb		L 50 1 1
No halle (con 1) [Divodobo	-			- Y		
Nee Note Intraction Control Interaction Bechart Interaction Bechart Interaction Bechart Low Vaccum With Bechart Low Vaccum With Press Area (Law Vaccum With Press Area) (Law	Image: Section 2014 (Section 2014) France 2014 Memory Marginson Memory Marginson Marginson Memory Marginson Memory Marginson Memory Memo	Cestomize Control Cont	ass 12 Mass 14 arbon 12 Nitropan 14	1vin ⁶⁴	rend lateractive: 1 & 1 10 15 20 25 Scan 24	20 25 40 45 50
Recipe Status	Recipe Inforn		OK C	Cancel Apply		×
Instruments	Alarms					
- El: Ne name (COM1) LA77-00501010 Filorent No: 1 Filorent Status: On Status: Scanning Barchort1	Category Ack	EventText Wizard Message		UserText ame (COM1) (LM75-00501010)	StartTim e 16/07/2002 11:36:47	EndTime Mo Time Specified
Barc	Always Show lates thart With Trend Intera		owledge All			Record 1 of 1 🖵
Ready					Press	ure in mbar NUM
🛃 start 📲 🔳 Demo.	dod - DemoSh 🗾 🛄 Der	ilgner	DemoShield Capture	Process Eye - Barch	Recipe Wizard - Proc	

You can then drag one of the buttons (in this case the "Create New Recipe" button) onto the toolbar.

You can add as many buttons are you like from different toolbars. To save this new Toolbar, click<OK>.

This new Toolbar can then be positioned next to the other toolbars.

					-	đΧ
.]=		ъ.				
104 mbar	▼ [‡] uL	1	· • 🔟	50 🕩 🛕	•7	
ith Tre/	nd Inter	active:1	l As Bai	rchart		

Adding Annotations

Time stamped annotations can be added to a trend in two ways:

The first is to click on the "Add Annotation" button which will cause the

Annotations		\mathbf{X}
Time of annotation:	28/11/2002 💌 14:48:02 🕂	
Note:		^
	J	\sim
	OK Cancel	

Here you can specify a time for the annotation to appear on the trend, add the text you wish to appear in the "Notes" field.

The second way to add an annotation is to click on the "Add annotation



at selected time" button.

that you want to add the annotation and

The screen cursor will change to a pen, select the point on the trend click.

LIVE Dav 00 00:04:48	Mass 2 Hydrogen 1.75e-008	Mass 4 Helium 1.91e-008	Mass 12 Carbon 12 3.18e-008	Mass 14 Nitrogen 14 2.14e-006	
Mass 15 Hydrocarbon 15 -1.59e-009	Mass 16 Oxygen 16 7.74e-007	Mass 17 OH group 2.48e-007	Mass 18 Water 1.37e-006	Mass 28 Nitrogen 8.65e-005	
Mass 32 Oxygen 1.44e-005	Mass 36 Argon 36 -9.54e-009	Mass 40 Argon 1.45e-006	Mass 44 Carbon dioxide 5.56e-008		
1x10 ⁻⁰²		Ģ			1
1x10 ⁻⁰³ —					
1x10 ⁻⁰⁴	Ø				
1x10 ⁻⁰⁵					
⊨					
00:00:0	0	00:05: Elapsed		00:10:0	0

The annotations dialog appears again, allowing you to add text to the annotation, with the date and time determined by the point at which the annotation was added to the trend.

Each annotation added is marked by a symbol along the top of the causes the entered text to be displayed as a tool tip.

trend, moving the cursor over this symbol

You may add as many annotations as you wish, these will also be visible when using Recall.

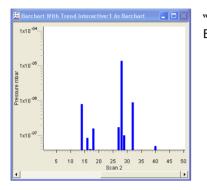
"Annotations" dialog to appear.

7. Changing/Adding Views

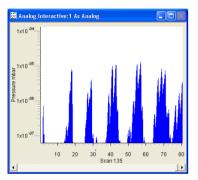
The RGA data gathered by the instrument can be displayed on screen in a number of different views.

To modify any view manually, highlight the view and either right-click, or click on the properties button on the chart display setup toolbar.

View types



"Swept Measurement" view, this is a display of partial pressure versus mass. Bar chart shown below, where there is a single bar shown per mass.



Another form of the swept measurement view is the Analog view, where there are a number of bars per mass, giving a pseudo-analog view.

"Trend" view where a variable versus time can be plotted.

🦉 Analog In	teractive:2 A				×
LIVE Day 00 00:00:08	Mass 2.00 Hydrogen 7.09e-007	Mass 4.00 Helium 2.04e-009	Mass 12.00 Carbon 12 2.01e-008	Mass 14.00 Nitrogen 14 7.85e-008	
Mass 15.00 Hydrocarbon 15 1.83e-007	Mass 16.00 Oxygen 16 1.59e-007	Mass 17.00 OH group 1.90e-006	Mass 18.00 Water 7.89e-006	Mass 28.00 Nitrogen 1.11e-006]
Mass 32.00 Oxygen 9.46e-008	Mass 36.00 Argon 36 5.87e-008	Mass 40.00 Argon 4.67e-007	Mass 44.00 Carbon dioxide 5.71e-007	Mass 64.00 Photoresist 64 5.96e-008	
Mass 69.00 Fluorocarbon 8.37e-006					
1x10 ⁻⁰⁴					
1x10 ⁻⁰⁵					
1x10 ⁻⁰⁶					
1x10 ⁻⁰⁷					
00:05:	00	00:00 Elapsed 1			
•					►

This type of view is more flexible as any user variables can be plotted.

7.1 Swept Measurement Properties Settings

The following section outlines the various changes that can be made to views using the "Properties for Continuous Mass Scan View" dialog.

We will look at each function in turn.

					1. Mar. • 1. Mar.
	the data acqui:	sition pr	operties to set	he X-axis prop	perties
	the following				Ē.
First	Mass 1		Last Mass 5	iU	Annotation
☐ Mas	s cursor	∏ SI	now elapsed ti	ne in addition	to scan number
Mine Mine	r ticks	∏ SI	how real time in	addition to so	an number
nitial Y-Axi	Properties				
	the data acqui: 4- or 5-decade				
🖲 Use	the following e	xplicit se	ettings (Currer	it maximum vai	lue is 1.3e-004)
Ma	value 0.000	133	Min value	1.33e-008	🔽 Log scale
Г	Restrict these	values I	to the maximum	h bounds of the	e acquired data
-	🔽 Mir	nor ticks			
☐ Grid					
			trategy		
ubsequer	t Y-Axis Autora			1	
ubsequer If the bo	unds of the dat	ta subse	quently chang	e during the lif	etime of this view
ubsequer If the bo C	unds of the dat Leave the Y-a	ta subse xis unch	quently chang nanged	_	
ubsequer If the bo C	unds of the dat Leave the Y-a Force the Y-ax	ta subse xis uncł kis scale	quently chang nanged within the nev	v recommende	

X-Axis

Use the data acquisition properties to set the X-axis properties

Creates a view with the X-axis properties governed by the measurement on which the view has been based. For example, if the view was based on a Bar chart scan, measuring from mass 5 up to mass 45 then this view will show mass 5 to mass 45 along the X-Axis.

Use the following

Bases the X-axis range on the values entered in the text boxes, with the following limitation:

Although you can choose not to display masses that are being measured, you cannot choose to display masses that are not being measured.

For example, you create a Bar chart measurement scanning from mass 5 to 45, you can base a view displaying from mass 10 to 40, but not from mass 5 to 50. If this is attempted, the view will revert to displaying the measurement's range.

Minor Ticks

Displays minor ticks on the X-axis.

Show elapsed time in addition to scan number

Displays the elapsed time from the start of the recipe.

Show real time in addition to scan number

Displays the real time, governed by the PC clock.

Note: Both the above options cannot be enabled at the same time.

To edit the Annotations icon click on <Annotations>

Annotations dialog

Annotations Stream Name	Display	Shape 1	1
	10.00	Shape 2	1
		Shape 3	
		Shape 4	
		Shape 5	-
		Shape 6	
		Shape 7	
		Shape 8	
		Shape 9	
		Shape 10	
		OShape 11	
Check or uncheck the stream: view. Double click the shapes hape/colour of the currently s	list to chan	ge the display	

Any annotation streams defined in the recipe will be listed, check the display box to show the annotation on the view. To change the icon displayed on screen, select one of the others from the list.

Click <OK> to return to the properties page

Initial Y-axis Properties

In a swept measurement, the Y-axis is always shown as pressure, the units of which are determined in the EasyView preferences, Section 13 - Preferences.

Use data acquisition properties to set Y-axis

Creates a view with the Y-axis properties governed by the measurement on which the view is based.

4- Or 5- decade log scale

Changes the Y-axis from a linear scale with its origin at zero, to a logarithmic scale, with a minimum on which is dependent on the accuracy of the measurement. The higher the accuracy, the lower the minimum pressure will be displayed.

Use the following explicit settings

Allows manual entry of the maximum and minimum displayed pressures. The display can be either linear or logarithmic determined by the check box.

Restrict these values to the maximum bounds of the acquired data Causes the Y-axis maximum pressure setting, to be governed by the maximum pressure obtained from the measurement associated with the view.

Note: You cannot display zero or negative values in logarithmic mode.

Grid

Displays a horizontal grid, aligned with the ticks of the Y-axis.

Minor Ticks

Displays minor ticks on the Y-axis.

Subsequent Y-Axis Auto-Ranging Strategy

If a view's Y-axis limits are based on an "interactive" measurement, these limits can be changed during the lifetime of the view.

Three options determine how the axis will react to changes in the measurement such as electronic gain range, or detector changes for example.

Leave the Y-Axis unchanged

The Y-Axis settings remain unchanged when the measurement changes. The settings will be based on the measurement when the view is loaded.

Force the Y-Axis scale within the new recommended bounds

Changes the Y-Axis settings to match the new measurement settings.

Expand the Y-Axis scale to include the new recommended bounds

Change either the maximum or the minimum Y-axis settings to incorporate the new settings.

For example:

If you increase the electronic gain, the minimum displayed pressure would be changed to match the smaller pressure that could now be measured. The maximum pressure displayed would remain the same. If the electronic gain was then reset to its previous value, the Y-Axis would not change.

Once the changes to the view settings are complete, the view can be saved. Click on the <Next> button to bring up the "Save View" dialog box.

7.2 Trend View Properties Settings

Trend views

A trend view can be associated with any measurement. Along with the RGA data, it is also possible to display signals from the analog / digital inputs and other user variables. The only limitation is that the X-axis is always time.

Adding a Trend view

To add a trend view simply click on the new trend button on the

EasyView control page.

Alternatively select <New Trend Window> from the <Window> pull down menu

<u>W</u> indow <u>H</u> elp	
wew Trend Window	

The first dialog displayed is the "Trends Display Pane and Channel Properties". By default, 13 of the 15 masses are enabled, but you can enable and disable channels by checking the box next to the channel.

Clicking on the "Use standard view" will set the channels to be the same as those in the default trend.

		Trend Pane 1	-	
Channel	Display	Name	Measurement	Add Pane
🗸 Mass 2	\sim	Hydrogen	BarChart1	
🗹 Mass 4	\sim	Helium	BarChart1	Remove Pane
🗹 Mass 12	\sim	Carbon 12	BarChart1	
🗹 Mass 14	\sim	Nitrogen 14	BarChart1	Edit Channel >>
🗹 Mass 15	\sim	Hydrocarbon 15	BarChart1	
🗹 Mass 16	\sim	Oxygen 16	BarChart1	
🗹 Mass 17	\sim	OH group	BarChart1	
🖌 Mass 18	\sim	Water	BarChart1	Lise Standard
🗹 Mass 28	\sim	Nitrogen	BarChart1	View >>
🗹 Mass 32	\sim	Oxygen	BarChart1	
🗹 Mass 36	\sim	Argon 36	BarChart1	
🗹 Mass 40	\sim	Argon	BarChart1	
🗹 Mass 44	\sim	Carbon dioxide	BarChart1	
Mass 64.00		Photoresist 64	< <auto>></auto>	
Mass 69.00	\sim	Fluorocarbon	< <auto>></auto>	
<			>	

The list of common gases can be edited to suit your needs, see Section 12 – Preferences for details.

Editing a Trend channel

You can edit a channel by either double-clicking it, or by highlighting the channel and then clicking the "Edit channel button".

This displays the "Channel Properties" dialog, which allows set-up of each channel independently. The Channel Properties options are explained below.

Channel I	Properties 🛛 🔀
Entry for cl	nannel 1
Type N	fass 🔽 Value 2.00
	enter a measurement name, or leave uto-selection when this view is used
Channel	Name or Alias Hydrogen
Color 📕 For mass c	Line thickness
Mass	Name
1	Atomic hydrogen
2	Hydrogen
4	Helium
12	Carbon
14	Nitrogen(2)
14	CH2 group
14	Atomic nitrogen
15	CH3 group
15	Methane(2)
16	Methane 📃 🚽
16	Atomic ovugen
	OK Cancel

Туре

"Mass" refers to one of the partial pressure

Type Mass measurements.

Editing a mass channel

If "Mass" is selected as the channel type there are a number of ways of editing the channel.

One way is to select one of the pre-defined channels in the selection table.

Mass	Name	~
1	Atomic hydrogen	=
2	Hydrogen	
4	Helium	
12	Carbon	
14	Nitrogen(2)	
14	CH2 group	
14	Atomic nitrogen	
15	CH3 group	
15	Methane(2)	
16	Methane	
16	Atomic ovugen	×

Clicking on one of the lines will set the mass value and channel name.

Value 2

Alternatively, you can type in the value of the mass you wish to display in the "Value" text box.

Channel Name or Alias	Hydrogen

Then type the name that you wish to appear on the trend key in the "Channel name or alias" text box.

If you leave this box blank, the channel name will be displayed as "Mass ??.??" where "??.??" is the value entered in the "Value" text box.

The measurement name is the name of the measurement that you want to use to provide the partial pressure data. If the box is left blank, the measurement selection will be "Auto".

Optionally enter a measurement name, or leave blank for auto-selection when this view is used

This does not mean that the best data will be selected, only that the software will look for a mass with the value entered for each measurement in the measurement list. The first measurement that contains this mass value will be the one that is used.

For example:

You have two Bar chart measurements, Bar chart 1, that is a mass 1 to 50 Faraday measurement and Bar chart 2, which is a mass 1 to 100 multiplier measurement.

If the channel has a mass value of 4.00, the data would be taken from Barchart1 because this is the first measurement that contains a mass with a value of 4.00.

This will be true, even if the peak height on mass 4 is so small that it is lost in the noise level and mass 4 in multiplier is a good stable peak.

If the value is mass 84 the data would be taken from Barchart2, even if the peak is so large it is off-scale. This is because Barchart2 is the first measurement that contains mass 84.

If the measurement name entered is not a valid measurement name in the current recipe, then the measurement selection defaults to auto.

Editing the channel display

Color To change the colour of a trend line, click on the "Colour" list box.

This will bring up a standard Windows colour selection dialog, where you can choose a new colour.

Line thickness	È	'	'	'	'	'	'	'	<u> </u>	
----------------	---	---	---	---	---	---	---	---	----------	--

To change the thickness of the displayed line, move the slider on the "Line Thickness" control.

Moving the slider to the right increases the thickness. Moving the slider to the left decreases the thickness.

Draw Stepped

The "Draw Stepped" check box can be used when displaying digital information on a trend.

Instead of each point on the trend being joined by a straight line, the points are joined only by horizontal and vertical lines.

The data is forced to be a value of either zero or one. This feature is particularly useful for displaying digital channels on a trend.

Channel	Display	Name	Measurement
🗹 Mass 14.00		Atomic nitrogen	< <auto>></auto>

Adding a Trend pane

Although you cannot define multiple Y-Axis scales to allow display of different data on the same trend, you can create multiple trend panes, which allow you to display a number of different Y-Axis on the same trend.

🗮 Test Views:2 As Trend	
UVE Channel 1 Channel 2 Day 00 006 97 8 284-005 9 50e-001	
00:05:37 08:28+-005 92:50++001	
1x10*62	
2 1v10*00	
5	
월1x10 ⁻⁰²	
Star 10 000	
1x10-00	
1×10 ⁶⁴	
5 1v10-46	
§ 1x10-40	
F 1x10 47	
00:00:00 00:01:00 00:02:00 00:03:00 00:04:00 00:05:00 00:06:00 00:07:00 00:08:00 00:09:0	0 00:10:00
E 1110 66 F 1110 67 0000000 000100 0002200 0002200 0004400 0005500 0005600 0007500 0006600 00056	5 00.10.00
	Þ

This is a 2-pane trend with channel 1 displayed on trend pane 1, with its own measurement units, and channel 2 displayed on trend pane 2 with different measurement units.

On the "Trend display pane and channel properties" dialog, click on the <Add pane> button to add a new pane.

to be asso selection	ciated with this Tre of channels from a	nd View. Individ common list of 1	ual panes display 5 items.
	Trend Pane 1	•	
Display	Name	Measurement	Add Pane
\sim	Hydrogen	BarChart1	
\sim	Helium	BarChart1	Remove Pane
\sim	Carbon 12	BarChart1	
\sim	Nitrogen 14	BarChart1	Edit Channel >>
\sim	Hydrocarbon 15	BarChart1	
\sim	Oxygen 16	BarChart1	
\sim	OH group	BarChart1	
\sim	Water	BarChart1	Use Standard
\sim	Nitrogen	BarChart1	View >>
\sim	Oxygen	BarChart1	
\sim	Argon 36	BarChart1	
\sim	Argon	BarChart1	
\sim	Carbon dioxide	BarChart1	
	Photoresist 64	< <auto>></auto>	
\sim	Fluorocarbon	< <auto>></auto>	
		>	
hat are no	t acquired are auto	matically exclude	d
	< Back	Next>	Cancel
	Display	selection of channels from a irend Panel Display Name Carbon 12 Ninogen 14 Hydrocarbon 15 Orygen 16 OH group Water Ninogen 36 Argon 36	Display Name Measurement Hydrogen BarChart Heium BarChart Cabon 12 BarChart Cabon 12 BarChart Hydrocarbo 15 BarChart Orgon BarChart Orgon BarChart Orgon BarChart Ninogen BarChart Orgon BarChart Argon BarChart Argon BarChart Cabon dioxide BarChart Cabon dioxide BarChart Fluorocarbon < <4uto>

Trend Pane 1

The settings for each pane can be modified. Select the pane that you wish to edit from the Trend Pane Pull-down list box.

•

The two-pane view at the start of this section was created in the following way.

		Trend Pane 1	•
Channel	Display	Name	Measurement
🗹 User defined	\sim	Channel 1	UserMeasure.
User defined	\sim	Channel 2	UserMeasure.

 Trend Pane 2

 Channel
 Display
 Name
 Measurement

 □ User defined
 ✓
 Channel 1
 UserMeasure.

 ☑ User defined
 ✓
 Channel 2
 UserMeasure.

Channel 2 was enabled on trend pane 2

Channel 1 was enabled on trend pane 1

Configuring the Trend's Y-Axis

Once the channels have been set, click on the <Next> button causing the "Properties for Trend View Pane Y-axis" dialog to appear.

operties for Trend View Pane Y-axis	×
Each pane has a set of properties that define its Y-axis scale and its appearance.	-
Show Properties for Trend Pane 1	
Scale properties for the selected pane Use the individual measurement properties to set the Y-axis scale Ico scale (range determined by the measurements / accuracy)	
Use the following explicit settings (Current maximum value is 1.0e+002) Max value 0.000133 Min value Vote for the following explicit settings Units of pressure	
Restrict these values to the maximum bounds of the acquired data C Stack channels of digital data	
General properties for the selected pane	
Y-axis Minor ticks Percentage of total window for this pane Form	
Subsequent Y-Axis autoranging strategy for the selected pane If the bounds of the data subsequently change during the lifetime of this view C Leave the Y-axis unchanged Force the Y-axis scale within the new recommended bounds C Expand the Y-axis scale to include the new recommended bounds	
< Back Next > Cancel	
how Properties for Trend Pane 1	~

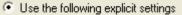
Each trend pane can have a different Y-Axis setup. To set up each pane, elect the pane you want to edit from the pull-down list box.

Y-Axis Scale Properties

The scale can be set in a number of ways.

Use the individual measurement properties to set the Y-axis scale
 Log scale (range determined by the measurements / accuracy)

By selecting the above option, the scale will be defined by the measurements that the displayed channels use. E.g. full scale on the axis will be equal to the full-scale pressure of the measurement.



Checking the "Use the following explicit settings" option allows the maximum and minimum limits on the Y-axis to be defined manually.



Enter the maximum and minimum values you wish to display in the text fields.

Min value 6.35e-008

✓ Log scale To display a Log scale, check the box.

Note: The software cannot display negative numbers or zero when set to Log scale.

If the "Units of pressure" check box is enabled, the axis will change scale if the pressure units are changed in the preferences.

✓ Units of pressure

Restrict these values to the maximum bounds of the acquired data

By checking the above option, the scale is limited by the maximum limits of the measurements being used. For example, if the only data to be displayed is mass channels from Barchart1, the limit of the maximum value you can have, will be the full-scale pressure on Barchart1.

Stack channels of digital data

With this option selected, the Y-axis does not have a scale as such. All enabled channels are given a value of either zero or one and are then plotted against their channel name.

🧧 test45:1 As Tr	end hput 1 Digital Input	2								
LIVE Digital Day 00 00:02:10 0.00e+I		2								
Digital Input 2										
Digital Input 1			ß							
00:00:1	00 00:01:00	00:02:00	00:03:00	00:04:00	00:05:00 Elapsed Time	00:06:00	00:07:00	00:08:00	00:09:00	00:10:00
•										▶

This option is only useful for displaying digital data. In the above example, there are two digital input channels with both channels configured to "draw stepped".

Y-Axis General Properties

Grid Enabling the grid check box will draw a horizontal grid on the trend.

 Y-axis Minor ticks
 Enabling the minor ticks check box will display minor ticks. If grid is enabled, grid lines for the minor ticks are also displayed.

 Y-axis Title
 Enter a label for the Y-axis in this text box.

 Percentage of total window height for this pane
 If there is only one trend pane on the trend this box is set to 100% and unavailable.

 Percentage of total window height for this pane
 If there is more than one trend pane, you can set the proportion of the trend window that the particular pane will occupy.

Y-Axis Auto-range Properties

- C Leave the Y-axis unchanged
- Force the Y-axis scale within the new recommended bounds
- C Expand the Y-axis scale to include the new recommended bounds

If the view uses an interactive measurement to set the Y-Axis limits, then those limits can change during the lifetime of the view. Changing the electronic gain, or type of detector for example.

You can select one of three options to control how the view will react to a change in the measurement:

Leave the Y-Axis unchanged

Leaves the Y-Axis settings unchanged when the measurement changes. The settings will be based on the measurement settings when the view is loaded.

Force the Y-Axis scale within the new recommended bounds

Changes the X-Axis settings to match the new measurements settings.

Expand the Y-Axis scale to include the new recommended bounds

Changes either the maximum or minimum Y-axis setting, to incorporate the new settings.

For example, if you increase the electronic gain, the minimum displayed pressure would be changed to match the smaller pressure that could now be measured. The maximum pressure displayed would remain the same. If the electronic gain was reset to its previous value the Y-Axis would not change.

Configuring the trend time axis

Click <Next> on the Trend properties dialog to bring up the "Time axis and legend properties" dialog.

ne Axis Display and Leg	end Properties
Each pane shares	a common set of properties for the Time Axis
C Display clock time	Clock start 30/04/2004 v 10.21:40 v Elapsed 0 dd 0 hh 0 mm 0 sstart
 Display elapsed time 	Span 0 dd 0 hh 10 mm 0 ss
🔽 Scroll display	Display days Minor time ticks
Elapsed Time Origin © View creation time	
C Time of my choice: C Specific data source st	30/04/2004 10:21:40
Key Legend	Top legend C Side legend
	< Back Next > Cancel

Time axis properties

C Display clock time This option will display the time axis using real time as calculated by the PC clock.
• Display elapsed time This option displays the time axis as an elapsed time. The origin of the elapsed time will depend on how the time origin is defined (See the next section on configuring the elapsed time origin).
Elapsed 0 dd 0 hh 0 mm 0 ss start 0 dd 0 hh 0 mm 0 ss
Span O dd O hh 10 mm O ss Amount of time that will be displayed on screen, in this case the last 10 minutes of data will be displayed.
Scroll display Scrolls the Trend to keep the latest data displayed. If unchecked, the trend will only display data for the first x minutes. Where X is the number of minutes set in the span.
Display days Displays the number of days, as well as the time the Trend has run.

Minor time ticks Displays minor ticks on the time axis.

To edit the Annotations icon click on <Annotations>

Annotations 🖂 👦	Shape 2 Shape 3 Shape 4
9	phape 3 Channa 4
P	
	Shape 4
	Shape 5 Shape 6
	Shape 7
	Shape 8
	Shape 9
	Shape 10
	Shape 11

Any annotation streams defined in the recipe will be listed, check the display box to show the annotation on the view. To change the icon, select one of the icons from the list.

Click <OK> to return to the properties page

Elapsed time origin properties

C View creation time

Displays the creation time of the view.



Sets the elapsed start time, to the same time that the measurement was created. Type the name of the measurement in the text box.

 Specific data source start time

Key Legend properties

None – No legend is displayed Top Legend – Display the legend at the top Side Legend – Display the legend at the side

Editing a live Trend

Trend views can be changed by using the following toolbar buttons, these only affect the currently active view.

Alternatively, right-clicking the Trend will show the "View Properties" dialog.

- Click the Y-axis "minor ticks" button to turn minor ticks on or off for the Y-axis.
- Click the Y-axis "grid" button to turn the grid on and off for the Y-axis.
- Click the Y-axis" log/lin" button to change between log and linear mode for the Y-axis.
- Click the "display days" button to switch on and off the "display days" function.
- Click the "true/elapsed time" button to switch between displaying the "real time" and the "elapsed time".
- Click the "X-axis minor ticks" button to turn minor ticks on and off for the X-axis.
- Click the "X-axis scroll bars" button to turn scroll bars on and off for the X-axis.
- Click the "legend key" button to make the legend key visible or invisible.
- Click the "table view" button to move the legend key either to the left of the trend or above the trend.

Adding annotation to a Trend

To add annotation, click the <Annotation> button, this will bring up the

Annotations		
Time of annotation:	15/08/2002 💌 09:47:05	÷
Note:		~
		$\mathbf{\mathbf{v}}$
	OK Ca	ancel

"Annotations" dialog box.

Here you can enter text into the "Note" text box, when your annotation is complete, press the <OK> button. By default, the time of annotation will be the current time, although you can select a new time, by using the "time" and "date" list boxes.

🧱 Trend - Peaks / Exte	nal Total Pressure	
Argon / External Total 3.54e+000 Nitrogen / External Total 2.14e+002 Carbon Dioxide / External Total 5.94e-001	x10 ⁴⁰³ Peaks / External Total Pressure x10 ⁴⁰² x10 ⁴⁰¹ x10 ⁴⁰⁰ x10 ⁻⁰¹ x10 ⁻⁰² 09:25:00 09:30:00 09:35:00 09:40:00 Time	09:45:00 09:50:00
•		•

To add an annotation to a trend, click the <Trend Annotation> button,

this will change the cursor to a pen.

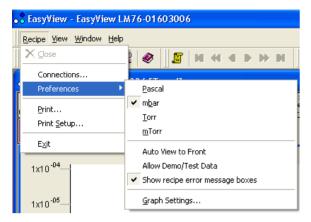
You can move the cursor along the trend line, until the event that you want to annotate, has been selected. Clicking on the trend at this point will bring up the annotation dialog, but now the time will be set to the time at that position on the trend. Currently, the only way to view these annotations is to recall a saved file with annotations, and then save this file as a text file.

The annotations cannot be viewed in any of the EasyView programs.

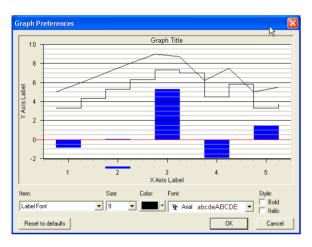
Once added, annotations cannot be removed as they become part of the measurement data.

View Global Properties

You can set the global properties of the views from the "Graph Settings" under "Preferences".



The "Graph Preferences" dialog will appear.

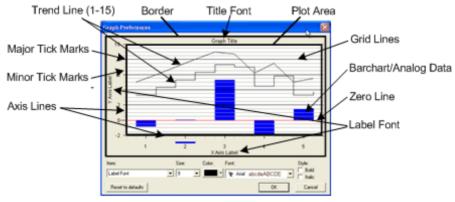


Here you can manipulate the various options used in the graphs, size, colour, font and the style of each item.

The dialog changes to reflect any changes that are made.

Clicking on the <Reset to Defaults> button will return all the settings, to their factory defaults.

The following diagram shows all the options that can be set. If the properties cannot be changed for a selected item, they will remain "greyed-out".



Trend Key Font (not shown)

8. Other Menus

View Pull-Down Menu

	<u>T</u> oolbars
•	<u>S</u> tatus Bar
ß	Properties

This menu can be used to set up the appearance of EasyView.

Toolbars

Selecting "Toolbars" from the menu, will bring up the Toolbars edit dialog.

Toolbars	
Toolbars:	Close
✓ Menu bar ✓ Default ✓ Scan Navigation	New
Chart Display	Customize
 ✓ Frend Display ✓ Window Arrangement ✓ Interactive Scan 	Reset
Toolbar name: Menu bar	
, ▼ Show Tooltips ▼ Large Buttons	Cool Look

Status Bar

The Status Bar appears at the bottom of the screen.

R	٨	۰	A	'n.	
ĸ	H	л		nr.	

Pressure in mbar

To make the Status Bar visible/invisible, click on the "Status Bar" item in the pull-down menu. If a check is visible, then the Status Bar will be visible.

Properties

The Properties item will only be active if a mode is running with a view loaded.

Click on the properties button to bring up the view properties of the active view. If the view is a trend, you will get the trend properties dialog

If the view is a swept measurement view then you will get the swept measurement view properties dialog.

Window pull-down menu

The "Window" pull-down menu is where you can add a new trend view or arrange the view windows you already have.



New Trend Window

Clicking on new trend window will bring up the trend properties window for a new view.

Arrange All Windows

This item will bring up an additional list.

<u>C</u> ascade	
<u>T</u> ile Horizontally	
Tile <u>V</u> ertically	
<u>A</u> rrange Icons	

From here, you can arrange the windows in the usual way. In this menu however, all the currently open views from all the currently running measurements will be arranged.

The other arrangement methods in this pull down menu, apply only to the active recipe.

Bring Recipe to Front

Selecting Bring Recipe to front will bring the views for the current active measurement to the front

Cascade Recipe

Selecting cascade recipe will bring the views for the currently active measurement to the front and arrange them in a cascade fashion.

EasyView - EasyView LM76-01603006					- 6 🛛
Becipe Yew Window Help					
× 📾 🛼 😂 👂 🔙 🛷 📘 H et et b	▶ ■ ■ ■ ■ ■ ■		4.4		
EasyView LM76-01603006 [Trend]	11-1-1-1				
EasyView LM76-01603006 [Barchart]					
E	Eas	vView Barchart Mode			
1x10 ⁻⁰⁴		,			-
1x10-05					
1x10 ⁴⁹					-
				-	
1x10 ⁻⁰⁷				da 🛛	
1x10					
		·····			-
2 4 6 8 10 12 14	16 18 20 22	24 26 28 30 32 r1000 [1/15/2004 13:48:42]	34 36 38 40	42 44 46 48	50
	Scan 20 c	r1000 [1/15/2004 13:48:42]			
Sinks EasyView LM76-01603006 Alson Head - LM	76-0.1603006				23
և 🖬 🗠 🔄 🗐 📅 🔍					
Acquisition Control & 1 1 4 1 50 1 2 Peak Center	■ Accuracy 5 ■ 1do 1	.333e-004 mbar 💌 🗜 1.333e-0	04 mbar 💌 🔀		^
Instrument Statur Statur Statur			- Bas		
Active Filament 1 Filament Status On	Senser Identification Detector Type	Standard Open Source Faraday: + Channel Plate			
	Total Pressure	NiA			
Multiplier Status Of BF Configuration SmattHead	Maximum Mass Control Unit Use	200 AMLJ Vision 10006 Baseline Monitoring			
A service LM75-01903006		Guttan			×
Done				Pressure in mbar	

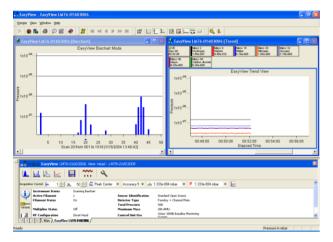
Tile Recipe Horizontally

Selecting tile recipe horizontally will bring the views for the current active measurements to the front and tile them horizontally.

EasyView - EasyV	yView LM 76-01603006		
Becipe Yerr Window	он Вер		
X 😫 🛼 🚳	> 🖉 🖉 И «< < > и и Ш Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц		
EasyView LM76	6-01603006 [Barchart]		- 0 ×
	EasyView Barchart Mode		
1x10 ⁻⁰⁴			
1x10 -05 1x10 -06 1x10 -07		-	
£ 1x10 **			
2	4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38	8 40 42 44 46	48 50
•[]	Scan 20 from 501 to 1014 [1/15/2004 13:48:42]		
	6-01603006 [Trend]		
UNE Mass 2 Day 00 Hydroai 00:52:02 1,694-00	2 Mags 4 Mags 16 Mags 28 Mags 20 Mags 40 Mags 44 jam Marm tighten 1724000 1294000 02946 Mags 00 Carton 600566 2.914-009 4.224-009 6.534-009 4.224-009 6.534-009		
	EasyView Trend View		
1x10-46 9 1x10-47			
2 1010	00:48:00 00:49:00 00:50:00 00:51:00 00:52:00 00:53:00 00:54:00 0	00:55:00 00:56:00	00:57:00
	Elapsed Time		00.01.00
٠.			
mks Fary	sylView LM76-01603006 New Head - LM78-01603008		8
	⊆ 🛛 🔒 📅 🍕		
Acquisition Control 64			
Instrument			
Active Filar	lament 1 Sensor Identification Standard Open Source		
TUNING Multiplier S	Tetal Pressure NUA		
Hultiplier S			
	EasyView LH/IS-0100006		
eady		Pressure in mbar	

Tile Recipe Vertically

Selecting tile recipe vertically brings the views for the currently active measurements to the front and tiles them vertically.



Selecting Individual View

The bottom section of the pull down list contains a list of the currently open views. The currently active view is highlighted by tick next to it. To make a different view active, click on that view

9. EasyView Diagnostics



To run the diagnostics mode click on the diagnostics button

The diagnostics mode is only available when no scan mode has been selected.

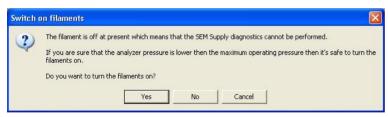
Running diagnostics produces the following report:

	24				ostic Inform	nation	
m	2C			11:41:4			
	nJ		lumber:		76-00399001		
Technology for Pro	oductivity	User De	efined Na	ame: Ne	w Head - LM76	-00399001	
3, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10		Process	Eye Ve	rsion: 4.0	0000420		
Instrument Info							
Sensor Identification	Sta	andard Op	en Source	•			
Detector Type	Fai	raday + C	hannel Pla	ate			
External Hardware	No	ne					
RF Configuration	Sm	art Head					
Maximum Mass	20	D AMU					
Control Unit Use	Sta	andard RG	A				
Embedded Software V	ersion V3	.70					
Active Filament	1						
Diagnostics Result	s						
Diagnostic	Min	Max	Reading	Passed			
-450V Supply	-533.80	-355.90	-409.99	\checkmark			
-15V Supply	-16.50	-13.50	-15.01	\checkmark			
-130V Supply	-143.40	-116.20	-131.80	~			
+5V Supply	4.75	5.35	4.96	\checkmark			
+15V Supply	13.50	17.50	14.90	~			
elestres estates	0.70	0.50	0.44	1			
Source Settings							
			Electron I		Ion Energy (eV)		
Standard Electron Ene	ergy	1.00		70.00	5.50	-112.00	1.50e-004
Low Electron Energy		1.00		40.00	5.50	-112.00	1.50e-004
User defined 1		1.00		70.00	5.50	-112.00	1.50e-004
User defined 2		1.00		70.00	5.50	-112.00	1.50e-004
User defined 3		1.00		70.00	5.50	-112.00	1.50e-004
EasyView		1.00		70.00	5.50	-112.00	1.50e-004
Mass Alignment/R	esolution	Settings					
	Low P	1ass Align	ment Lov	v Mass Res	olution High Mass	Alignment I	High Mass Resolutio
Standard Electron Ene	ergy		2767		32767	32767	3276
Low Electron Energy			2767		32767	32767	3276
User defined 1			2767		32767	32767	3276
User defined 2		3	2767		32767	32767	3276
User defined 3		3	2767		32767	32767	3276
EasyView		3	2767		32767	32767	3276

The report contains information about the control unit configuration, ion-source settings and mass alignment/resolution settings as well as power supply levels.

This information can help in fault diagnosis if your RGA is not performing as expected.

In order to test the multiplier power supplies, the filament needs to be switched on. If you run diagnostics without switching the filament on the following dialog appears.



Click <Cancel> to exit without running diagnostics

Click <No> to run diagnostics with the filament off, in which case the multiplier voltage will not be tested.

Click <Yes> to switch the filament on and then run diagnostics.

10. EasyView Tuning

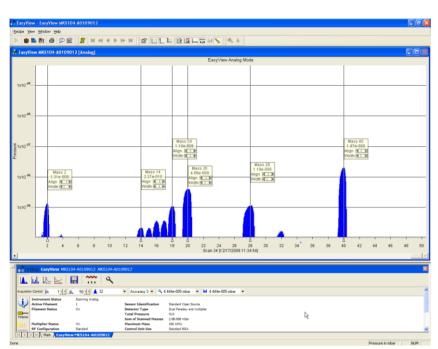
Easy Tuning Mode

Changes to the alignment and width values made while in this mode apply only to the current ion source configuration file.

Be sure to open the Advanced Tuning page and use the **Copy To All** function if needed.

As the quality of the scanned spectrum is one of the parameters that needs to be monitored for tuning and mass alignment, the mass tuning functions are only available during an Analog scan.

To enter mass tuning mode, use the screwdriver icon form the toolbar



2 🔯 📖 🐺 🚧 🍾

While in the mass tuning mode mass alignment flags are placed on screen. The vertical position of these flags can be adjusted if needed.

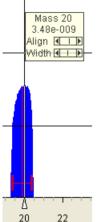
Mass14							
2.25e-010							
Align 🖪 🗆 🕨							
Width 🛛 🗆 🕨							

Each mass flag offers adjustment controls for the mass alignment and peak width. Clicking the arrows offers small adjustment, while clicking within the slider offers a larger adjustment.

The mass number and the partial pressure are also displayed.

Remember you can choose to display any mass span you like, simply change the start and end mass parameters in the Acquisition Control toolbar.

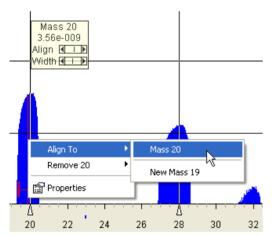
Acquisition Control السلد	1 · · · 🖳	50 🕐 🛕 32	-
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Left-clicking on a particular mass causes a red cursor to appear. Use this cursor to align and resolve the chosen mass.

Adjusting peak alignment

To align a specific mass, move the red cursor to the centre of the mass and right-click to access the mass tuning menu (you can also drag the cursor with the right mouse button which opens this menu as you release the right mouse button).



In this example, the red cursor has been positioned at the centre of mass 20.

To position the peak accurately to the mass 20 point on the axis, right-click and from the **Align To** menu choose mass 20.

The peak is shifted, right or left, so its centre is positioned directly at the mass 20 point on the axis.

Adjusting peak width

A correctly resolved peak is 1amu wide at 5% of its total height, this formula provides decent separation between adjacent peaks without adversely affecting the partial pressure.

To aid with correctly setting the resolution (peak width), the cursor also has a resolution guide which looks like the letter "H". This guide positions itself at 5% of the total peak height and is 1amu wide.

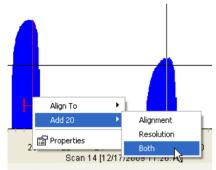
Use the Width slider to adjust the chosen peak so it just fills the boundaries of the resolution guide.

If the "H" is not visible it is because the 5% point is below the minimum of the current measurement. Adjust the measurement by right-clicking and selecting **Properties**.

Adding mass flags

If your control unit was purchased with an analyser, the most common masses will already have mass flags assigned and will already be resolved and aligned, but there will be times when a mass of particular interest does not have a mass flag assigned and may have incorrect alignment and resolution values.

Again this is done via the right-click menu of the red cursor. Drag the cursor to the centre of the new mass and choose **Add 20** in this instance.

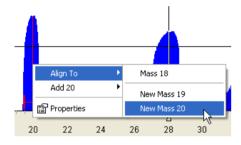


You have the option to add an Alignment point, a Resolution point or both.

The adjustment controls of the mass flag reflect the choices made here.

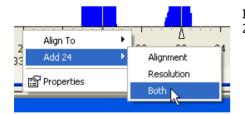
You can always add an Alignment point first and add a Resolution point later if needed.

You can also use the **Align To** command which will align the peak and add a mass flag in one operation.



You can see that you are also presented with a choice to add the peak as mass 18 or19. This is because Process Eye bases the selection available on the approximate position of the mass at the time.

If you wish to add a point for a particular mass that is more than 2amu off alignment Process Eye may not give an accurate selection of the intended mass. In this case, right-click on the mass axis and use the **Add xx** option.

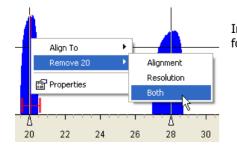


In this example we are adding both an Alignment and Resolution points at mass 24.

You can also manually add masses in the Advanced Tuning menu, see later in this chapter for details.

Deleting mass flags

To delete a flagged mass, right-click and choose **Remove xx**.



In this example we have chosen to remove both the Alignment and Resolution points for mass 20.

Advanced Tuning

The Advanced Tuning page can be used in conjunction with the Easy Tuning mode if needed. Along with the alignment and resolution values for all the added masses (needed if you wish to revert back to your previous settings) it allows direct deletion of masses and the ability to copy the mass alignment and resolution settings to all ion source configurations (those made while using the Easy Tuning mode are applied to the currently selected ion source configuration).



To view the advanced page, click the screwdriver icon from the vertical toolbar in the lower pane.

•°m	nks Ea	syView	MKS104-	A0109012 <i>MKS1</i>	04-A0109012					
	ևսև և	L 📐			۹ 🔪					
i	Alignm	ent				Peak W	idth			
	Mass		€ <u>C</u>	opy to all ᄥ		Mass		Ð	<u>Copy to all</u> 🔶	
TUNING	Mass			Value		Mass			Value	
	1 [64	•		▶ 😣	1	1536	•		▶ 😣
SOURCE	2	269	•		▶ 😣	2	1792	•		• 😣
	14 [2600	•		• 😣	14	1408	•		• 😣
	20	3762	•		▶ 😣	20	2056	•		<u> </u>
Degas										

You can see that this view provides certain details the simplified view does not.

You can add a mass flag for Alignment, Resolution or both in the text fields shown below. Once entered, click the green plus icon to add.

Alignment			Peak Width	
Mass 21	•	<u>Copy to all</u> 🔶	Mass 21	Copy to all

In the example above, you can see that mass 21 is to be added to the mass table, once added the entry appears in the main view along with the current values for Alignment and Width.

	lul l			<u>۹</u>						
(į)	Mass 21 Copy to all Mass 21									
	Mass			Value		Mass	s	_	Value	
SOURCE	1 [64	•		🕞 🔁	1	1536	•		▶ 🕄
	2	269	•		▶ 😣	2	1792	•		▶ 😣
	14 [2600	•		• 😣	14	1408	•		• 😣
	20	3762	•		• 😣	20	2056	•		▶ 😣
Degas	21	3963	•		• 😣	21	2164	•		▶ 🕄

Entries for the alignment, width or both can be deleted using the red "X" icon.

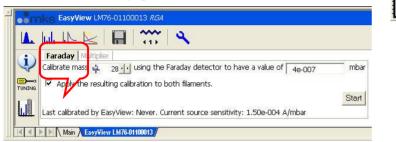
Use the **Copy To All** button to copy either the alignment, width or both sets of values to all ion source configurations if required.

11. EasyView Calibration

Mass spectrometers measure an ion-current and not an actual pressure. In order to convert this ion-current to a pressure, we need to calculate a calibration factor.

In calibration mode, the user supplies the actual partial pressure of a given gas and EasyView calculates the calibration factor required to convert the measured ion-current to this pressure.

To view the calibration page click on the calibration button



Click on the <Faraday> tab to enter the Faraday calibration setup page.

Choose a mass that you know the actual partial pressure of to calibrate on, and enter the partial pressure of that mass. To start the calibration click on <Start>

The date of the last calibration using these settings is displayed at the bottom of the window.

Calibration can only be performed if the instrument is not in one of the scanning modes.

The calibration routine will then measure the zero, the peak maximum value and the peak centre value of the mass chosen and then perform a stability check of 10 scans.

📕 Calibration Wizar	rd	
Starting Faraday cali	bration using Easy¥iew sou	irce settings.
RGA Zero is 60.1 ppm of Peak center calibration : Peak maximum calibration	6.23e-004 A/mbar	
Status: Running stability	check (3 of 10) Back Next	Cancel

Click <Next> to view the results of the calibration



To exit without writing the new calibration information, click <Cancel>. To apply the factory default calibration click <Default>. Otherwise choose <Apply> to write the calibration information.

🧱 Calibration Wizard	
Your selected calibration factor has been applied!	
The application logfile holds the details	
Click 'Finish' to exit the Calibration Wizard	
Back	Cancel

The calibration is now complete click on <Finish> to exit.



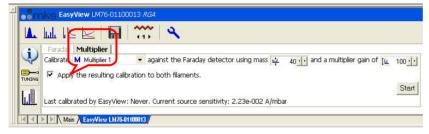
The date and sensitivity value of the calibration just performed is displayed at the bottom of the EasyView window.

:MESSAGE Time="2003-10-28 13:52:58" Value="Calibrating RGA (Source: EasyView, Faraday detector" />
:MESSAGE Time="2003-10-28 13:52:58" Value="Parameters: mass=28;pkht=1.00e-007" />
:MESSAGE Time="2003-10-28 13:52:58" Value="Existing sensitivity: 2.18e-004 A/mbar" />
:MESSAGE Time="2003-10-28 13:53:05" Value="Filaments have been on for 2.8 minutes" />
:MESSAGE Time="2003-10-28 13:53:08" Value="Gain: 100, fsp: 9.16e-005 mbar, RGA Zero is 60.1 ppm of full scale reading" />
:MESSAGE Time="2003-10-28 13:53:10" Value="Reading: 2.91e-007 mbar" />
:MESSAGE Time="2003-10-28 13:53:10" Value="Peak center calibration: 6.23e-004 A/mbar" />
:MESSAGE Time="2003-10-28 13:53:29" Value="Peak maximum calibration: 6.55e-004 A/mbar" />
:MESSAGE Time="2003-10-28 13:53:48" Value="Calibration succeeded. The stability test result was excellent." />
MESSAGE Time="2003-10-28 13:53:57" Value="Calibration applied: EasyView: New factor = 6.55e-004 A/mbar" />

The details of the calibration shown above, are also be logged to the log file, located in \...\EasyView\Logs\Process.xml.

Multiplier Calibration

To calibrate the multiplier click the <Multiplier> tab on the calibration page.



Select the multiplier setting to be calibrated from the drop down list, the mass to calibrate on and the multiplier gain required. The multiplier will be calibrated at the mass chosen, so that the pressure reported in faraday and multiplier at this mass will be the same.

Click <Start> to begin the calibration.

🧱 Calibration Wizard	
Starting Faraday calibration using Easy¥iew sourc	e settings.
Starting multiplier calibration. Required peak height is 1.6 using a detector gain of 100	2e-009mbar
Peak height is 1.63e-009 mbar at -699V	
Status: Running stability check (3 of 10)	
Back Next	Cancel

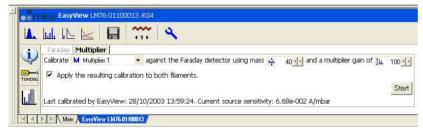
The calibration will do a zero, measure the peak height in faraday, adjust the multiplier voltage so the peak height in multiplier with the gain specified matches and then check the stability.



When the calibration finishes, click <Next>.

🗮 Calibration Wizard
Calibration result
Calibration succeeded. The stability test result was excellent.
The current sensitivity is 2.23e-002 A/mbar at -695 Volts The new calibration is 6.68e-002 A/mbar at -699 Volts
Click 'Apply' to apply the new calibration, or 'Cancel' to ignore the result.
Back Apply Cancel

Details of the previous and current calibration will be displayed, click <Apply> to apply the current calibration.



The date and sensitivity of the current calibration will be displayed at the bottom of the EasyView window

<MESSAGE Time="2003-10-28 13:52:58" Value="Calibrating RGA (Source: EasyView, Faraday detector" /> VHESSAGE Time="2003-10-28 13:57:01" Value="Peak height of mass 40.03amu using Faraday detector: 1.62e-009mbar" />
<MESSAGE Time="2003-10-28 13:57:01" Value="Starting multiplier calibration. Required peak height is 1.62e-009mbar using a detector</p> opin of 100"/> CMESSAGE Time="2003-10-28 13:58:16" Value="The current sensitivity is 2.23e-002 A/mbar at -695 Volts The new calibration is 6.68e-MESSAGE Time="2003-10-28 13:58:32" Value="Calibration applied: EasyView: New factor = 6.68e-002 A/mbar"/> MESSAGE Time="2003-10-28 13:58:32" Value="Calibration applied: EasyView: New factor = 6.68e-002 A/mbar"/>

The details of the calibration shown above, are also be logged to the log file, located in \..\EasyView\Logs\Process.xml.

12. Preferences

The Preferences menu can be accessed from the <recipe> pull-down menu.

SeasyView - EasyView L	M76-01603006
Recipe View Window Help	_
	• • • • • • • • • • • • • • • • • • •
Connections	
Preferences 🕨 🕨	Pascal
<u>P</u> rint Print <u>S</u> etup	✓ mbar Iorr mTorr
E <u>x</u> it	Auto View to Front
	Allow Demo/Test Data
1x10 ⁻⁰⁵ ප	✓ Show recipe error message boxes Graph Settings

Units of Pressure

EasyView supports the following pressure units, Pascal, mBar, Torr and mTorr.

The internal units used by EasyView are Pascal and all internal pressure values are stored in these units. This enables EasyView and Recall to use different units to display pressures, depending on the preference set in the particular program. Pascal is simply converted to the required unit, before displaying the information.

~	<u>P</u> ascal m <u>b</u> ar
	Torr
	mTorr

A "tick" in the selection indicates the currently used pressure unit. All pressure axis will be labelled with the selected unit.

Auto View to front

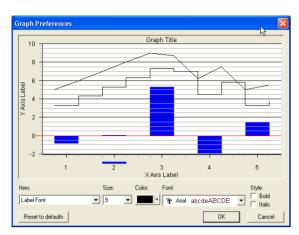
When EasyView is running a measurement, the view for that measurement is displayed in the Views Window. When more than one recipe is running however, not all views are displayed.

With the <auto view to front> the view for the currently selected instrument is visible.

Main EasyView LM76-01603006	
Done	

To select a recipe click on its tab in the EasyView control window

Graph Settings



From the <graph settings> option, the global properties for the views can be adjusted.

Common Gases List

The list of common gases which is used throughout the program when editing Trend channels for example, can be tailored to suit your application using Notepad.

This file is located in:

C:/Program Files/Spectra/RGA Applications/Workstation

13. Printing

Both <print setup> and <print> can be accessed from the recipe pull-down menu. Unless a measurement is running, the <print> option will be greyed out.

In addition there is a print button on the tool bar.

	-	-		٠	
1	-	=	1	c	
х.	-	-		ō	c

X <u>C</u> lose
Connections Preferences
Print Print <u>S</u> etup
E <u>x</u> it

Printing a View

You may print any active view, if the view is not currently active, click on the view you wish to print, so it becomes the active view.

Then either click on the <print> button or select <print> from the recipe pull-down menu.

If you click on the print button, the print will start immediately with the default settings. If you select <print> from the recipe pull-down menu, the standard Windows print dialog appears giving you the option to change the default printer settings.

You may only print swept measurement views and trends, other views within EasyView cannot be printed. If you do require a hard-copy of these other views, use <print screen> from the keyboard.

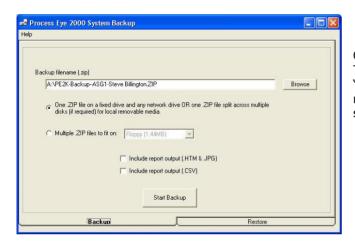
14. EasyView Tools

Under the "Tools" menu, there are three programs available as shown. The following section explains each program in turn.

14.1 Backup and Recover

The Backup and Recover tool is used to backup the current EasyView installation. The tool will backup the views and registry settings for the current user.





Choose the location and name for the backup file. To make a spanned backup across a number of disks click the "Multiple Zip files to fit" option and then select the type of media. There is also a custom size option where you may specify the file size of each spanned file.

When ready, click <Start Backup> to begin.

🖻 Status	
Operation Complete	
Status	~
✓ 5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
5: Processing file: 'C:\Documents and Settings\Ste	ve Billington\My Documents\Proces
✔ 4: Zip complete. File processed: 22 Compression: 7	8%
2: Process Eye 2000 system Backup for 'Tool Numl	ber=, Computer=ASG1, User=Steve 🤝
<	8
Close	

When the operation has completed, click the <Close> button to exit.

To restore from a back-up file, click on the <Restore> tab.

🚽 Process Eye 2000 System Backup	
Help	
Restore filename (.zip)	
A:\PE2K-Backup-ASG1-Steve Billington.ZIP	Browse
Start Restore	
Backup Restor	e

Use the <Browse> button to select the backup and on <Start Restore> to begin.

🖻 Status
Operation Complete
Status 🔼
✓ 5: Processing file: 'C:\Documents and Settings\Steve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Steve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Steve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Steve Billington\My Documents\Proces
✓ 5: Processing file: 'C:\Documents and Settings\Steve Billington\My Documents\Proces
🖌 6: Unzip complete. File processed: 22.
✓ 7: Loading file 'C:\DOCUME~1\STEVEB~1\LOCALS~1\Temp\SICU.Reg' into the Reg
✓ 7: Loading file 'C:\DOCUME~1\STEVEB~1\LOCALS~1\Temp\SILM.Reg' into the Reg
2: Process Eye 2000 system Restore for 'Tool Number=, Computer=ASG1, User=Steve 🜄
< No. 100 No.
Close

When the restore is complete click the <Close> button.

14.2 Computer Lock

EasyView has the ability to lock the computer to prevent unauthorised use.

Note: If you misplace the account information, MKS cannot recover it.

The first time the utility is run a dialog appears detailing the functions of the lock program, click <Yes> to continue.

MKS_PA	INFORTANT WARNING: This is the first time you have used this application. The purpose of the application is to lock out unauthorised access to all applications running on this computer. Users will be required to enter a Username and Password to use the computer. Furthermore the ability to close down the computer will be restricted to "Super-Users".	
	Are you sure you want to proceed and install this application?	
	Yes No	



The above dialog displays the initial username of "admin" and a blank password, as the dialog suggests, you should give this "admin" account a new password as soon as possible.

Click <Yes> to continue.

🔒 RGA PC	Password Lock	_ 🗆 🗙	
This computer is currently locked. To use the computer please provide a valid UserName and Password.			
Press Alt+Tab to show/hide this dialog.			
UserName			
Password		Logon	

The computer is now locked, to unlock enter "admin" in the UserName text box and then click on <Logon>.

🔒 RGA PC Password Lo	ick 📃 🗆 🔀		
Lock PC	Configure		
PC Will be locked in 5 minutes			

Click on <Configure> to begin adding users, or change the admin password.

E	ctended Pass	word Confi	guration	X
	No Key/Mouse a	activity lockout	time (mins) 5	
	UserName	SuperUser	Shutdown	
	admin	Yes	Yes	
				Edit
				Delete
				New
			Cancel	OK

In configure you can create, edit and delete users. You can also change the inactivity time before the computer is locked.

Click on <Edit>

Add/Edit User 🛛 🔀			
UserName admin			
Permissions			
Administrator. This user can create/edit/delete users. Typically only one user has this permission			
 Enable shutdown. This user can close down the password application. On certain Windows versions a user without this permission cannot shut down Windows using Task Manager or Ctrl+Alt+Del. A user with all permissions can optionally un-install all stored user and password information on exit from the password application. 			
Password			
Password			
Confirm password			
Cancel OK			

To create a new user account, click the <New> button.

Add/Edit User 🛛 🛛 🔀			
UserName			
Permissions			
Administrator. This user can create/edit/delete users. Typically only one user has this permission			
 Enable shutdown. This user can close down the password application. On certain Windows versions a user without this permission cannot shut down Windows using Task Manager or Ctrl+Alt+Del. A user with all permissions can optionally un-install all stored user and password information on exit from the password application. 			
Password			
Password			
Confirm password			
Cancel OK			

Add a "Username", select the permissions and enter a password for the account. Click <OK> to save the account.

Permissions

"Administrator" – can add, edit and delete users.

"Enable Shutdown" – allows the account to close the password application.

Checking both options gives the account the option to not only end the computer lock, but also to either save, or delete the current list of users on exit.

You must always have at least one Admin account with the options shown selected.

Add a password for the admin account.

Click <OK> to save the settings and exit.

Exiting Computer Lock

Log on using your admin account.

🔒 RGA PC F	assword Lock	_ 🗆 🛛
This computer is currently locked. To use the computer please provide a valid UserName and Password.		
UserName	o show/hide this dialog.	
Password		Logon

Click on the close button at the top right-hand corner of the dialog.

🔒 RGA PC Password Lo	ick 🗖 🗆 🔀			
Lock PC	Configure			
PC Will be locked in 5 minutes				

Click <Yes> to exit the lock, if no user action is taken, the program will revert back to a locked state.

Exit MKS_PASSWORD ?			
Are you sure you want to exit the MKS extended password application. Doing so will allow unauthorized use of the No will automatically be chosen in 16 seconds			
	Yes No		

At this dialog, clicking <No> will delete any users, except for the default admin account, you have created.

Clicking <Yes> saves any new accounts you have created.

Preserve	e User Information ?	×
?	Do you want to retain all stored username and password information? Choosing No effectively resets the application to a never-used state Yes will automatically be chosen in 17 seconds	ite
	Yes No	

15. Java Web Applet

All "IP" based instruments along with the Microvision2, eVision2 and HPQ3 can be operated via you web browser.

The applet is highly intuitive and includes all the data display routines required for troubleshooting, including leak detection mode.

All that is required is a Java enabled Web browser and the IP address of the unit you wish to view.

Simply enter the IP address of the sensor you wish to view into the "Address" field of your browser and you are taken to the sensor's home page. A Java applet can be downloaded from this page to enable access.

For help on using your instrument via a web browser, please see the context sensitive on-line help.